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## Submission of Six monthly Environment & CRZ clearance Compliance Report October 2020 to March 2021; Adani Hazira Port Limited (EC/CRZ clearance for Forest Land Inclusion)

Nandan Kumar <nandan.kumar@adani.com>

Mon 5/31/2021 4:28 PM

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1 attachments (11 MB)

AHPL- Forest Land Inclusion Six Monthly EC Compliance Report Oct 20 to March 21.pdf;

Dear Sir,

This has reference to submission of Six Monthly Environment & CRZ Clearances Compliance Report for **Adani Hazira Port Limited (EC/CRZ clearance for Forest Land Inclusion)**, please find attached herewith point wise compliance status report of conditions stipulated in the following referred letters for the period of October 2020 to March 2021.

### Reference:

*Vide letter no.: File No.: 11-150/2010-IA.1H, Government of India, MoEF&CC (Impact Assessment Division), Development of Project Multi cargo port with supporting utilities and infrastructure facilities at Hazira, Surat, Gujarat by M/s Adani Hazira Port Limited dated 29th September, 2020 -for Forest Land Inclusion*

This is for your kind information and record please.

With regards,

Nandan Kumar

Dy.Manager – HSE (Environment) | Adani Hazira Port Ltd

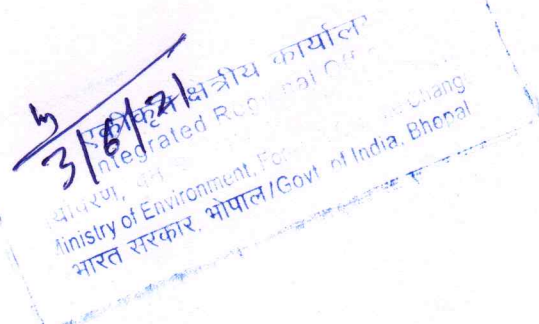
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adani

Growth  
with  
Goodness

Our Values: Courage | Trust | Commitment



**AHPL/MoEF&CC/2021-22/03**

**Date: 31.05.2021**

To  
Deputy Director General (Central),  
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](mailto:rowz.bpl-mef@nic.in), [eccompliance-guj@gov.in](mailto:eccompliance-guj@gov.in)

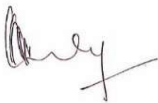
**Dear Sir,**

**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 2020 to March 2021 for Forest Land Inclusion.**

**Ref.:** Vide letter no.: File No.: 11-150/2010-IA.1H, Government of India, MoEF&CC (Impact Assessment Division), Development of Project Multi cargo port with supporting utilities and infrastructure facilities at Hazira, Surat, Gujarat by M/s Adani Hazira Port Limited dated 29th September, 2020 -for Forest Land Inclusion

Please find enclosed herewith point wise compliance report of conditions stipulated in the above referred letters regarding Environment Clearance and Coastal Regulation Zone Clearance for the period of **October 2020 to March 2021.**

For, **M/s Adani Hazira Port Limited**, (Earlier Known as Adani Hazira Port Pvt. Ltd)



**(Pranav Choudhary)**  
**Authorized 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, 8<sup>th</sup> 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, Parvayaran Bhawan, Sector - 10A, Gandhinagar-382 010 (Gujarat).
5. The Regional Officer, Gujarat Pollution Control Board, Belgium Square, Ring Road, Surat-395003, (Gujarat).

Adani Hazira Port Ltd.

At & Po Hazira

Choryashi

Surat 394 270

Gujarat, India

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## **SIX MONTHLY COMPLIANCE REPORT**

**OF**

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

**VIDE LETTER NO.:** File No.: 11-150/2010-IA.1H, Government of India, MoEF&CC (Impact Assessment Division), Development of Project Multi cargo port with supporting utilities and infrastructure facilities at Hazira, Surat, Gujarat by M/s Adani Hazira Port Limited dated **29th September, 2020 -for Forest Land Inclusion**

**SUBMITTED BY**

**M/s. ADANI HAZIRA PORT. LTD.  
HAZIRA, TAL-CHORYASI, DIST-SURAT  
GUJARAT**

## **BRIEF SUMMARY OF FOREST INCLUSION**

M/s Adani Hazira Port Private Limited had proposed the development of a Multi Cargo Port in Hazira, Surat District with supporting utilities and infrastructure facilities for its master plan spanning over an area of 873.27 ha which included forest land of 376.64 ha. The proposal was issued ToR on 07.04.2011 and the required EIA studies and Public Hearing (14.08.2012) was undertaken, project was recommended by Gujarat Coastal Zone Management Authority (GCZMA) vide letter No. ENV-10-2012-31-E dated 11<sup>th</sup> May 2012 and was appraised to the EAC for obtaining Environment and CRZ clearance. As the diversion of forest land was under process at the time of EC the same was excluded from the EC granted to AHPPL vide letter no. F.No.11-150/2010-IA-III dated 3<sup>rd</sup> May 2013. Hence the total area available for port development was 496.63 Ha. AHPPL commenced first five-year port development in the area available. In the first five years AHPPL has constructed 6 berths out of the proposed 12 berths, a total of 21.95 MMTPA of cargo was handled in the last financial year 2020-21 out of the approved 84.1 MMTPA.

Now out of 376.64 Ha applied forest land, the Stage-I forest clearance has been granted over an area of 301.0199 Ha vide order dated 17<sup>th</sup> October 2016(210.1594 Ha.) and 19<sup>th</sup> October 2016 (90.8605 Ha.) as mentioned below.

- In principle approval for diversion of 210.1594 ha of reserved forest land vide letter dated 17<sup>th</sup> October, 2016 bearing F.No. 8-36/2015-FC.
- In principle approval for diversion of 90.8605 ha of reserved forest land vide letter dated 19<sup>th</sup> October, 2016 bearing F.No. 8-35/2015-FC.

After obtaining the forest clearance, AHPPL approached MoEF&CC for inclusion of forest land in the approved area of port by expansion of earlier EC & CRZ clearance. MoEF&CC granted ToR for conduct of EIA studies on 13<sup>th</sup> December 2018 vide F. No. 10-80/2018-IA-III. EIA studies were conducted and the project was recommended by GCZMA vide letter number ENV-10-2020-172-Tcell dated 6<sup>th</sup> July 2020. Subsequently the proposal was appraised by EAC and EC&CRZ clearance was granted for inclusion of 301.0199 Ha area in the already approved area of AHPPL vide F. No. 11-150/2010\_IA.III dated 29<sup>th</sup> September 2020.

As the Stage-I forest clearance is now obtained hence the development of balance components would be carried out after obtaining Stage-II forest clearance.

The table below details on the approved (as per 2013 EC) and development as per forest inclusion EC & CRZ clearance obtained for expansion.



**Table 1 Summary of the Approved and Proposed Expansions**

S. No	Description	Unit	Approved development (as per EC of 2013)	Development (as per EC of 2020)	Cumulative after Forest inclusion	Remarks
1	Berths	No	12 <sup>1</sup>	-	12	EC was obtained for development of 12 berths. Currently, 6 berths have been developed. The remaining will be developed subsequently.
2	Cargo Traffic	MMT	84.1	-	84.1	No additional cargo traffic envisaged apart from the amount permitted as per EC.
3	Port Area	Ha	496.63	301.0199 (376.64 ha of forest land that was initially proposed for diversion by AHPPL, upon consideration and evaluation by the forest department, was later agreed for 301.0199 ha)	797.6499	301.0119 Ha of forest land has been approved for diversion as per Stage – I Forest clearance obtained vide letter No. F.No. 8-36/2015-FC. and F.No. 8-35/2015-FC. This land will be used for port back up and utilities.
4	Land to be reclaimed	Ha	225.30 Ha at the North Side of Port limit and 84 Ha at South side of port limit.	-	225.30 Ha at the North Side of Port limit and 84 Ha at South side of port limit.	No additional reclamation is envisaged beyond the permitted EC level.
5	Dredging Limit	MM <sup>3</sup>	Capital – 37 Maintenance- 11	-	Capital – 37 Maintenance- 11	No additional dredging beyond the permitted EC levels are envisaged.
6	Water	MLD	6	-	6	No additional water requirement is envisaged.

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<sup>1</sup> 6 berths have been developed in the first five-year development, and the remaining 6 will be developed.

S. No	Description	Unit	Approved development (as per EC of 2013)	Development (as per EC of 2020)	Cumulative after Forest inclusion	Remarks
7	Power	MW	10	-	10	66 KV grid power supply is drawn from state electricity board supply.
8	Effluent Treatment Plant	MLD	2.5	-	2.5	An ETP of 50 KLD is currently operating against the permitted level of 2.5 MLD.
9	Sewage Treatment Plant	MLD	2.0	-	2.0	STP of 75 KLD is operating which is well below the permitted level of 2.0 MLD.

The stage –II forest clearance is under process, hence all the development at present is being carried out as per the EC & CRZ clearance granted vide F.No.11-150/2010-IA-III dated 3<sup>rd</sup> May 2013. AHPL will be submitting the compliance of both the EC's henceforth.

**LIST OF ANNEXURES**

<b>ANNEXURE NO.</b>	<b>DETAILS</b>
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.
2.	Details Of The CSR Activities Along With Budgetary Provisions And Expenditures For The Financial Year: 2020-21
3	Details of status of Implementation of EMP of Environment and CRZ clearance issued by MoEF&CC, New Delhi Vide letter no.: 11-150/2010-ia.iii, dated 03rd may, 2013
4.	Environmental Monitoring / Analysis Results For The Period From October 2020 to March 2021
5.	Photographs of Air Pollution Control Measures
6	Photograph of Stand by DG set
7	Details of Liquid/Wastes Collection & Disposed off from Vessels by GPCB Approved Third Party During period October 2020 to March 2021
8	Organogram Of AHPPL - Environment Management Cell
9	The Letter of SMC for reception of our solid waste
10	Copy of QEHSE Environment Policy

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Sr. No.	EC Condition	Compliance Status
<b>A. SPECIFIC CONDITIONS</b>		
(I)	Since the proposal is for the inclusion of 301.0199 ha of forest land in the existing project, the existing EC, (F.No.11-150/2010-IA-III dated 3rd May 2013), be amended to include the 301.0199 ha of forest land without any change in any conditions and other approved configuration and cargo profile of the project:	Noted, The permission is only for inclusion 301.0199 ha of forest land in the existing earlier approved area for developing back up for storage of various approved cargo without any change in any conditions and other approved configuration and cargo profile of the project as per existing EC, (F.No.11-150/2010-IA-III dated 3rd May 2013).
(II)	The Environmental and CRZ Clearance to the project is primarily under provisions of EIA Notification, 2006 and CRZ Notification, 2011. It does not tantamount to approvals/ consent/ permissions etc required to be obtained under any other Act/Rule/regulation. The Project Proponent is under obligation to obtain approvals /clearances under any other Acts/ Regulations or Statutes as applicable to the project.	Noted. Environment and CRZ clearance issued by MoEF&CC, New Delhi Vide letter no.: 11-150/2010-ia.iii, dated 03rd may, 2013 for development of port and the Environment and CRZ clearance is obtained for developing back up area in the proposed forest land parcel.
(III)	The project proponent shall abide by all the commitments and recommendations made in the Form-II, EIA and EMP report, submissions made during Public Hearing and also that have been made during their presentation to EAC.	Noted, All the commitments and recommendations made in the Form-II, EIA and EMP report Shall be implemented letter and spirit. We will submit the compliance status of EMP after obtaining Stage II forest Clarence and commencement of work in the Forest land.  The earlier Environment Clarence, Vide letter no.: 11-150/2010-ia.iii, dated 03rd may, 2013 was obtained for Port and back up area development and we are complying all the stipulated conditions of the EC and status of compliance is being submitted to the authority.  The Public Hearing was exempted for this proposal.
(IV)	Construction activity shall be carried out strictly according to the provisions of the CRZ Notification, 2011. No construction works other than those permitted in Coastal Regulation Zone Notification shall	Noted, All the construction activities will be carried out according to the provisions of CRZ notification 2011.

	be carried out in Coastal Regulation Zone area.	
(V)	All the recommendations and conditions specified by the Gujarat Coastal Zone Management Authority (GCZMA) vide letter No. ENV-10-2012-31-E dated 11 <sup>th</sup> May 2012 and ENV-10-2020-172-Tcell dated 6 <sup>th</sup> July, 2020 shall be complied with.	Noted, The GCZMA has not imposed any additional condition in the CRZ clearance and directed to comply the existing recommendation ENV-10-2012-31-E dated 11 <sup>th</sup> May 2012. The compliance status of existing CRZ recommendation is being submitted with Six Monthly EC compliance report of existing EC, (F.No.11-150/2010-IA-III dated 3 <sup>rd</sup> May 2013). The compliance Status of the same is enclosed as <b>Annexure 1</b>
(VI)	The Project proponent shall ensure that no creeks or rivers are blocked due to any activities at the project site and free flow of water is maintained. Creek water monitoring program shall be implemented during the construction phase	No creeks, channels and rivers are situated in the proposed forest area.
(vii)	No storage of petroleum products	Noted AHPL is already permitted to handle petroleum products and store the same in the designated area as per the EC granted by MoEF&CC letter no. F.No.11-150/2010-IA-III dated 3 <sup>rd</sup> May 2013. It shall be complied during operation stage for the forest area.
(VIII)	Dredging shall not be carried out during the fish breeding season. Dredging, etc. shall be carried out in confined manner to reduce the impacts on marine environment. As committed, Silt curtains shall be used to minimize spreading of silt plume during dredging using online monitoring system. Turbidity should be monitored during the dredging. No removal of silt curtain unless baseline values are achieved	Noted, No Capital dredging is carrying out in the compliance period and the regular monitoring of physico Chemical parameters of sea Surface and bottom water is being carried out by a NABL accredited Laboratory and the results with respect to baseline is not showing any significant change in sea water quality. The Result of the sea water monitoring is attached herewith as <b>Annexure 4.</b>
(IX)	Wherever possible, dredged material shall be used for bank nourishment. With the enhanced quantities, the impact of dumping on the estuarine environment should be monitored and necessary measures shall be taken on priority basis if any adverse impact is observed.	Noted. There is no dumping of dredged material, The dredged material is using in area reclamation and levelling in the port area.  As per communication from MoEF&CC dated 12 <sup>th</sup> 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



(X)	An independent monitoring be carried out by any Government Agency/Institute to evaluate the impact during dredging. Impact of dredged material on estuarine environment along with shore line changes should be monitored by the PP and necessary mitigation measures be taken in case any adverse impact is observed. The details shall be submitted along with the six-monthly monitoring report.	Noted, Stage II forest clearance is under process no work is carried out in the forest area till now. No Capital dredging carried out as per result of monitoring no change is observed.
(XI)	Marine ecological monitoring and its mitigation measures for protection of phytoplankton, zooplanktons, macrobenthos, estuaries, sea-grass, algae, sea weeds, Crustaceans, Fishes, coral reefs and mangroves etc. as given in the EIA-EMP Report shall be complied with in letter and spirit.	<b>Being complied.</b> Marine ecological monitoring as per EMP of EC, Letter n0- - MoEF&CC letter no. F.No.11-150/2010-IA-III dated 3rd May 2013 is being carried out and there is no impact on marine life is observed.
(XII)	A copy of the Marine and riparian biodiversity management plan duly validated by the State Biodiversity Board shall be obtained and implement in letter and spirit.	<b>Being Complied</b> The wildlife conservation plan is framed and submitted in EIA report. Indian peafowl has been observed in the study area. The same plan has been submitted to Forest Department.
(XIII)	Sewage generated will be treated in STP of 75 KLD capacity. The treated water will be used for flushing, gardening and dust suppression within the port premises.	we have permission to install STP of 2 MLD out of which at present 75 KLD is operated and treated water from the same is used for gardening and other purposes .
(XIV)	A continuous monitoring programme covering all the seasons on various aspects of the estuarine environment need to be undertaken by a competent organization available in the State or by entrusting to the National Institutes/ renowned Universities/ accredited Consultant with rich experiences in marine science aspects. The monitoring should cover various physico-chemical parameters along with PHC coupled with biological indices such as microbes, plankton, benthos and fishes on a periodic basis during construction and operation phase of the project. Any deviations in the parameters shall be given adequate care with	Marine water Surface and bottom water for key physicochemical and biological parameters is being monitored on monthly basis. The results are attached herewith as <b>Annexure 4.</b>

	suitable measures to conserve the marine environment and its resources.	
(XV)	Continuous online monitoring of air and water covering the total area shall be carried out and the compliance report of the same shall be submitted along with the 6 monthly compliance report to the regional office of MoEF&CC.	Currently we are monitoring Ambient Air quality at 5 locations in which 4 inside port 1 near by village in down wind direction twice in week frequency and PM 10, PM 2.5, SO2, NOX, Pb, CO, Benzene, BaP, As, Ni, NH3 and O3 parameters. The results are attached herewith as <b>Annexure 4</b> . Continuous online monitoring of air quality shall be carried out after obtaining Stage II Forest clearance.
(XVI)	The actions shall be in accordance with proposed landscape planning concepts to minimise major landscape changes. The change in land use pattern shall be limited to the proposed port limits and be carried out in such a way as to ensure proper drainage by providing surface drainage systems including storm water network.	Noted. It shall be considered in planning during construction phase.
(XVII)	Suitable preventive measures be taken to trap spillage of fuel / engine oil and lubricants from the construction site. Measures should be taken to contain, control and recover the accidental spills of fuel during cargo handling.	Noted. No construction activity carried out during compliance period
(XVIII)	All the mitigation measures submitted in the EIA report shall be prepared in a matrix format and the compliance for each mitigation plan shall be submitted to the RO, MoEF&CC along with half yearly compliance report.	Will be Complied As per the EC granted by MoEF&CC letter no. F.No.11-150/2010-IA-III dated 3rd May 2013, the same is being submitted with six monthly EC Compliance report .
(XIX)	The company shall draw up and implement Corporate Social Responsibility Plan as per the Company's Act of 2013.	Being Complied. AHPL is conducting it's CSR activities through Adani Foundation in Four thrust area i.e. Education, Sustainable Livelihood, Community Infrastructure Development and Community Health. The details of CSR activities along with expenditure in CSR heads is being submitted to RO, MoEF&CC with Six Monthly EC compliance Report. The details of CSR activities along with expenditure is attached herewith as <b>Annexure 2</b>
(XX)	As per the Ministry's Office Memorandum F. No. 22-65/2017-IA.1H dated 1st May, 2018, project proponent has proposed that an	Noted, It shall be carried out after obtaining Stage II Forest clearance once the work commence in the forest area.

	<p>amount of Rs. 8.5 Crores (computed of slab basis for the project expansion cost of Rs. 1800 Crores) shall be earmarked under Corporate Environment Responsibility (CER) Plan with special focus on providing healthcare facilities to the government hospitals in light of COVID 19 pandemic. A small portion of the fund can also be used for the activities such as Health, Water supply, Sanitation, Road development, Solar lights in nearby areas and Education etc. The activities proposed under CER shall be restricted to the affected area around the project. The entire activities proposed under the CER shall be treated as project and shall be monitored. The monitoring report shall be submitted to the regional office as a part of half yearly compliance report, and to the District Collector. It should be posted on the website of the project proponent.</p>	
<b>B. Standard Conditions:</b> <b>I. Statutory compliance:</b>		
(I)	<p>The project proponent shall prepare a Site-Specific Conservation Plan &amp; Wildlife Management Plan and approved by the Chief Wildlife Warden. The recommendations of the approved Site-Specific Conservation Plan / Wildlife Management Plan shall be implemented in consultation with the State Forest Department. The implementation report shall be furnished along with the six-monthly compliance report (incase of the presence of schedule-I species in the study area).</p>	<p>Only peafowl has been observed as Schedule I species in the Study area. The Wildlife Conservation Plan for the same has been submitted to Forest Department.</p>
(II)	<p>Construction activity shall be carried out strictly according to the provisions of CRZ Notification, 2011 and the State Coastal Zone Management Plan as drawn up by the State Government. No construction work other than those permitted in Coastal Regulation</p>	<p>Noted, It shall be implemented once the construction starts after obtaining Stage – II forest clearance.</p>

	Zone Notification shall be carried out in Coastal Regulation Zone area.	
(III)	The project proponent shall obtain the necessary permission from the Central Ground Water Authority, in case of drawl of ground water / from the competent authority concerned in case of drawl of surface water required for the project.	There is no ground water withdrawal at the port. KRIBHCO source can be explained here, CSR activities carried out for augmentation and deepening of ponds in near by villages for rain water harvesting,
(IV)	All excavation related dewatering shall be as duly authorized by the CGWA. A NOC from the CGWA shall be obtained for all dewatering and ground water abstraction	Noted,
(V)	A certificate of adequacy of available power from the agency supplying power to the project along with the load allowed for the project should be obtained.	We have already adequate power available from DGVCL i.e. 2500 KVA for the proposed project. Apart from this we have installed 3.6 MW of solar panel and 2 MW of Wind mills to fulfil our energy requirements,
(VI)	All other statutory clearances such as the approvals for storage of diesel from Chief Controller of Explosives, Fire Department, Coast Guard, Civil Aviation Department shall be obtained, as applicable by project proponents from the respective competent authorities.	All the required permissions have been taken from the authorities and being submitted with Six Monthly EC compliance report of existing EC vide letter no. F.No.11-150/2010-IA-III dated 3rd May 2013.

## II. Air quality monitoring and preservation:

(I)	The project proponent shall install system to carryout Ambient Air Quality monitoring for common/criterion parameters relevant to the main pollutants released (e.g. PM10 and PM2.5 in reference to PM emission, and SO2 and NOx in reference to SO2 and NOx emissions) within and outside the project area at least at four locations (one within and three outside the plant area at an angle of 120°each), covering upwind and downwind directions.	AAQ Is being monitoring at 5 location through MoEF&CC approved and NABL accredited Laboratory and results are being submitted with Six monthly EC compliance report of EC granted by MoEF&CC letter no. F.No.11-150/2010-IA-III dated 3rd May 2013. The results of Ambient Air Quality Monitoring is attached herewith as <b>Annexure 4</b>
(II)	Appropriate Air Pollution Control (APC) system shall be provided for all the dust generating points including fugitive dust from all vulnerable sources, so as to comply prescribed emission standards.	Noted, It is being implemented for existing project and same shall be implement for the proposed area during development and operation. 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.

		<ol style="list-style-type: none"> <li>2. Water sprinklers in the coal yard,</li> <li>3. Dust arresting sprinklers are installed on Coal Discharge Chute</li> <li>4. Dust Suppression System / Spray Nozzles in Conveyor System and Discharge Chute,</li> <li>5. Water spray through Water Browsers,</li> <li>6. Water Mist Canon / Fog System,</li> <li>7. Wind Brake Shield of 14 meters high and 1900 meters long,</li> <li>8. Transportation of cargo from port to hinterland is being done through dumpers / trucks covered with tarpaulin,</li> <li>9. Regular cleaning the roads through Road Sweeping Machines, and</li> <li>10. Company has set up dedicated greenbelt area for plantation at periphery / avenue plantation / landscaping etc. Total greenbelt area developed so far is approx. 78.09 ha within the port premises.</li> </ol> <p>The photographs of Covered Conveyor belts, Mist Canyon and water sprinkling system, Green Belt area, Wind break shield, Road sweeping machines are attached herewith as <b><u>Annexure 5.</u></b></p>
(III)	Shrouding shall be carried out in the work site enclosing the dock/proposed facility area. This will act as dust curtain as well achieving zero dust discharge from the site. These curtain or shroud will be immensely effective in restricting disturbance from wind in affecting the dry dock operations, preventing waste dispersion, improving working conditions through provision of shade for the workers.	Adequate Wind break shield (14 meter Height) and green belt area are available for existing development and shall be development for the proposed area after obtaining Stage II Forest Clearance. Photograph of the same is attached herewith as <b><u>Annexure 5.</u></b>
(IV)	Dust collectors shall be deployed in all areas where blasting (surface cleaning) and painting operations are to be carried out, supplemented by stacks for effective dispersion.	Noted No Such activities in the compliance period. It shall be implemented in Construction phase.
(V)	The Vessels shall comply the emission norms prescribed from time to time.	Before birthing of vessel, as per MARPOL requirements, their certificate are checked by marine team.
(VI)	Diesel power generating sets proposed as source of backup power should be of enclosed type and conform to rules made under the Environment (Protection) Act, 1986. The height of stack of DG sets should be equal to the height needed for the combined capacity of all proposed DG sets. Use of low sulphur diesel. The location of the	Noted, It is being implement for existing project and the same shall be implemented for the proposed area after obtaining stage II Clearance. There 10 stand by DG sets and all are enclosed type and having adequate Stack Height. Routine inspection are carried put by GPCB, also during CTE location are shown to



	DG sets may be decided with in consultation with State Pollution Control Board.	GPCB. Photographs of the same is attached herewith as <b><u>Annexure 6.</u></b>
(VII)	A detailed traffic management and traffic decongestion plan shall be drawn up to ensure that the current level of service of the roads within a 05 kms radius of the project is maintained and improved upon after the implementation of the project. This plan should be based on cumulative impact of all development and increased habitation being carried out or proposed to be carried out by the project or other agencies in this 05 Kms radius of the site in different scenarios of space and time and the traffic management plan shall be duly validated and certified by the State Urban Development department and the P.W.D./ competent authority for road augmentation and shall also have their consent to the implementation of components of the plan which involve the participation of these departments.	As per Traffic Study carried out by a competent agency, existing Infrastructure is adequate to cater present Traffic load.  Discussions for strengthening of Road Network. Is going on with Hazira industrial Association with NHAI
<b>III. Water quality monitoring and preservation:</b>		
(I)	The Project proponent shall ensure that no creeks or rivers are blocked due to any activities at the project site and free flow of water is maintained.	Noted, there is no creek, channel or river is available in the proposed area.
(II)	Appropriate measures must be taken while undertaking digging activities to avoid any likely degradation of water quality. Silt curtains shall be used to contain the spreading of suspended sediment during dredging within the dredging area.	Noted, No such activities during the compliance period. It shall be complied in construction phase.
(III)	No ships docking at the proposed project site will discharge its on-board waste water untreated in to the estuary/ channel. All such wastewater load will be diverted to the proposed Effluent Treatment Plant of the project site.	Noted, It is being Complied. The Waste water from vessels are being collected by GPCB and GMB authorised agency. The details are being submitted to the authority along with EC compliance report of existing EC.- F.No.11-150/2010-IA-III dated 3rd May 2013. The details are attached herewith as <b><u>Annexure 7</u></b>
(IV)	Measures should be taken to contain, control and recover the accidental spills of fuel and cargo handle.	There is Oil Spill Contingency plan and verified by Indian Coast Guard as per their recommendations Sufficient resources are available at the port.

(V)	The project proponents will draw up and implement a plan for the management of temperature differences between intake waters and discharge waters.	There is no desalination plan in project area and no discharge or intake from sea. Hence not applicable at present.
(VI)	Spillage of fuel / engine oil and lubricants from the construction site are a source of organic pollution which impacts marine life. This shall be prevented by suitable precautions and also by providing necessary mechanisms to trap the spillage.	Appropriate measures shall be taken to trap Spillage of fuel and engine oil/lubricants during construction phase.
(VII)	Total freshwater use shall not exceed the proposed requirement as provided in the project details.	Noted.
(VIII)	Sewage Treatment Plant shall be provided to treat the wastewater generated from the project. Treated water shall be reused for horticulture, flushing, backwash, HVAC purposes and dust suppression.	Treated sewage is being utilized in horticulture. Results of outlet of Sewage Treatment Plant is attached herewith as <b>Annexure 4</b> .
(IX)	A certificate from the competent authority for discharging treated effluent/ untreated effluents into the Public sewer/ disposal/drainage systems along with the final disposal point should be obtained.	No disposal in public sewer. All the waste water generated in the port is treated properly and reused in irrigation of green belt area.
(X)	No diversion of the natural course of the river shall be made without prior permission from the Ministry of Water resources.	There is no diversion of natural course of the river for this project.
(XI)	All the erosion control measures shall be taken at waterfront facilities. Earth protection work shall be carried out to avoid erosion of soil from the shoreline/ boundary line from the land area into the marine water body.	Noted.
<b>IV. Noise monitoring and prevention:</b>		
(I)	Noise level survey shall be carried as per the prescribed guidelines and report in this regard shall be submitted to Regional Officer of the Ministry as a part of six-monthly compliance report.	The Ambient Noise and DG Noise Monitoring are being carried out by MoEF&CC approved and NABL Accredited agency. The Results are being submitted to the authority along with Six monthly EC compliance report of Existing EC. The results of Noise Monitoring is attached herewith as <b>Annexure 4</b>
(II)	Noise from vehicles, power machinery and equipment on-site should not exceed the prescribed limit. Equipment should be regularly serviced. Attention should also be given to muffler	Noted, preventive and scheduled maintenance are being carried out for all equipment to avoid Noise pollution. The results of Noise level near Equipment is attached herewith as <b>Annexure 4</b>

	maintenance and enclosure of noisy equipments.	
(III)	Acoustic enclosures for DG sets, noise barriers for ground-run bays, ear plugs for operating personnel shall be implemented as mitigation measures for noise impact due to ground sources.	All the required measures are taken and implemented. All DG sets have Acoustic Enclosures and PPEs are providing to operating personnel. Trainings/ Tool Box Talk are imparted to wear PPEs.
(IV)	The ambient noise levels should conform to the standards prescribed under E(P)A Rules, 1986 viz. 75 dB(A) during day time and 70 dB(A) during night time.	Noted The ambient Noise Level is being monitored at 5 locations by a MoEF&CC approved and NABL accredited Laboratory and the results are within limit.
<b>V. Energy Conservation measures:</b>		
(I)	Provide solar power generation on roof tops of buildings, for solar light system for all common areas, street lights, parking around project area and maintain the same regularly;	3.5 MW capacity of solar panels are installed in the port premises. and 2 MW of Wind mills are installed in Rojmal near Rajkot.
(II)	Provide LED lights in their offices and residential areas.	All the conventional lights are replaced with energy efficient LED lights during 2016 to 2019. Total energy conservation through LED conversion through this initiative is 132503 Kwh/ Month.
<b>VI. Waste management:</b>		
(I)	Dredged material shall be disposed safely in the designated areas.	<p><b>Complied.</b></p> <p>As per communication from MoEF&amp;CC dated 12<sup>th</sup> November, 2003 bearing letter No.: J-16011/11/2003-IA-III conditions states "dumping of dredged spoils should be dumped at the sites A &amp; C as per the following coordinates: -  (A) 21°03' to 21°05' N &amp; 72°28' to 72°30' E  (C) 21°03' to 21°05' N &amp; 72°30' to 72°32' E</p> <p>The maintenance dredging is being carried out through Water Injection dredger in which no Dredging material is generated. Some part of dredging is being carried out through Cutter Section Dredger and in this process Dredging material is being generated. 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&amp;CC.</p>
(II)	Shoreline should not be disturbed due to dumping. Periodical study on shore line changes shall be conducted and mitigation carried out, if necessary. The details shall be submitted along with the six monthly monitoring report.	Being complied. The dredged material is not dumped at any place and there is no shoreline change observed due to this.
(III)	Necessary arrangements for the treatment of the effluents and	The Sewage Treatment Plant (STP) of 75 KLD, Effluent Treatment of 50 KLD and

	solid wastes must be made and it must be ensured that they conform to the standards laid down by the competent authorities including the Central or State Pollution Control Board and under the Environment (Protection) Act, 1986.	Organic Waste Converter (OWC) of 100 Kg/day are installed. The STPs and OWC are being effectively operated in port premises to ensure waste water treatment and solid waste
(IV)	The solid wastes shall be managed and disposed as per the norms of the Solid Waste Management Rules, 2016.	Biodegradable Solid Wastes are being composted through Organic Waste Converter & Vermi composting and the composts is utilized in horticulture purposes. Other Recyclable material are sold to recyclers and for disposal of inert material, we have tie up with Surat Municipal Corporation.
(V)	Any wastes from construction and demolition activities related thereto shall be managed so as to strictly conform to the Construction and Demolition Waste Management Rules, 2016.	All construction and demolition is being used in area filling and levelling.
(VI)	A certificate from the competent authority handling municipal solid wastes should be obtained, indicating the existing civic capacities of handling and their adequacy to cater to the M.S.W. generated from project.	We have tie up with Surat Municipal Corporation (SMC) for disposal of solid waste at their Khajod Solid Waste Facility on chargeable basis. The Letter of SMC is attached herewith as <b>Annexure 9</b>
(VII)	Used CFLs and TFLs should be properly collected and disposed off/sent for recycling as per the prevailing guidelines/ rules of the regulatory authority to avoid mercury contamination.	The Used CFLs and other E wastes are sent to GPCB authorized E waste recyclers. And we are Submitting E Waste returns every year.
(VIII)	Oil spill contingency plan shall be prepared and part of DMP to tackle emergencies. The equipment and recovery of oil from a spill would be assessed. Guidelines given in MARPOL and Shipping Acts for oil spill management would be followed. Mechanism for integration of terminals oil contingency plan with the overall area contingency plan under the co-ordination of Coast should be covered	There is Oil Spill Contingency Plan approved by Indian Coast guard is on place. Oil Spill Contingency Plan has been prepared and the same was approved by Indian Coast Guard (Letter No.: 7563, dated 09.01.2014).
<b>VII. Green Belt:</b>		
(I)	Green belt shall be developed in area as provided in project details with a native tree species in accordance with CPCB guidelines. The greenbelt shall inter alia cover the entire periphery of the plant.	Company has set up dedicated greenbelt area for plantation at periphery / avenue plantation / landscaping etc. Total greenbelt area developed so far is approx. 78.90 ha till 31st March 2021.

(II)	Top soil shall be separately stored and used in the development of green belt.	Noted, the top soil will be conserved and shall be utilized for Green Belt development.
<b>VIII. Marine Ecology:</b>		
(I)	Dredging shall not be carried out during the fish breeding and spawning seasons.	Noted, being complied
(II)	Dredging, etc shall be carried out in the confined manner to reduce the impacts on marine environment.	Noted, being complied
(III)	The dredging schedule shall be so planned that the turbidity developed is dispersed soon enough to prevent any stress on the fish population.	Noted, being complied
(IV)	While carrying out dredging, an independent monitoring shall be carried out through a Government Agency/ Institute to assess the impact and necessary measures shall be taken on priority basis if any adverse impact is observed.	Noted, It shall be carried out after obtaining Stage II Forest clearance.
(V)	A detailed marine biodiversity management plan shall be prepared through the NIO or any other institute of repute on marine, brackish water and fresh water ecology and biodiversity and submitted to and implemented to the satisfaction of the State Biodiversity Board and the CRZ authority. The report shall be based on a study of the impact of the project activities on the intertidal biotopes, corals and coral communities, molluscs, sea grasses, sea weeds, sub-tidal habitats, fishes, other marine and aquatic micro, macro and mega flora and fauna including benthos, plankton, turtles, birds etc. as also the productivity. The data collection and impact assessment shall be as per standards survey methods and include underwater photography.	Noted, It shall be carried out after obtaining Stage II Forest clearance.
(VI)	Marine ecology shall be monitored regularly also in terms of sea weeds, sea grasses, mudflats, sand dunes, fisheries, echinoderms, shrimps, turtles, corals, coastal vegetation, mangroves and other	Noted, It shall be carried out after obtaining Stage II Forest clearance.



	marine biodiversity components including all micro, macro and mega floral and faunal components of marine biodiversity.	
(VII)	The project proponent shall ensure that water traffic does not impact the aquatic wildlife sanctuaries that fall along the stretch of the river.	Noted
<b>IX. Public hearing and Human health issues:</b>		
(I)	The work space shall be maintained as per international standards for occupational health and safety with provision of fresh air respirators, blowers, and fans to prevent any accumulation and inhalation of undesirable levels of pollutants including VOCs.	Noted, being complied
(II)	Workers shall be strictly enforced to wear personal protective equipment like dust mask, ear muffs or ear plugs, whenever and wherever necessary/ required. Special visco-elastic gloves will be used by labour exposed to hazards from vibration	Noted, the required PPEs are being provided to workers.
(III)	In case of repair of any old vessels, excessive care shall be taken while handling Asbestos & Freon gas. Besides, fully enclosed covering should be provided for the temporary storage of asbestos materials at site before disposal to CTSDf.	
(IV)	Safety training shall be given to all workers specific to their work area and every worker and employee will be engaged in fire hazard awareness training and mock drills which will be conducted regularly. All standard safety and occupational hazard measures shall be implemented and monitored by the concerned officials to prevent the occurrence of untoward incidents/ accidents	<p>Noted. The training on safety are being imparted to all employees, associates and workmen as per decided Training Need Identification. The details of TNI for Compliance period is as under-</p> <p><b>For Quarter 3 (July 2020 to September 2020)</b></p> <p>Safety Training Hour  997 Hrs (On Roll Employees)  2775 Hrs (Workers)  3772 Hrs (Total)</p> <p><b>For Quarter 4 (October 2020 to March 2021)</b></p> <p>Safety Training Hour  1349 Hrs (On Roll Employees)  3459 Hrs (Worker)  4808 Hrs (Total)</p>

(V)	Emergency preparedness plan based on the Hazard identification and Risk Assessment (HIRA) and Disaster Management Plan shall be implemented.	<p>The HIRA is framed and implemented at Site. The Company has ISO 45001:2018 certified. Implementation of HIRA is being audited by auditors time to time. Emergency Preparedness Plan and Disaster Management Plan approved by DISH is implemented at site.</p> <p>Disaster Management Plan has been prepared prior to the commissioning of multi cargo port.</p> <ul style="list-style-type: none"> <li>• DMP has been submitted to GSDMA vide letter dated 20.10.2012.</li> <li>• Comments were received from authority vide letter no. GSDMA /SM / Ind. safety/ 770560 dated 03.12.2012.</li> <li>• Suggestions were incorporated and revised plan was submitted to GSDMA on 23.05.2014.</li> </ul>
(VI)	Provision shall be made for the housing of construction labour within the site with all necessary infrastructure and facilities such as fuel for cooking, mobile toilets, mobile STP, safe drinking water, medical health care, crèche etc. The housing may be in the form of temporary structures to be removed after the completion of the project.	Currently, the construction labours are being engaged from local area they stay at their home. There is no need of labour camps and other associated facility for the same. After obtaining Stage II Forest clearance, if migrant labours is engaged then labour camps with all mentioned facilities will be provided.
(VII)	Occupational health surveillance of the workers shall be done on a regular basis.	Pre employment and periodic health check up is being carried out.

**X. Corporate Environment Responsibility:**

(I)	The company shall have a well laid down environmental policy duly approved by the Board of Directors. The environmental policy should prescribe for standard operating procedures to have proper checks and balances and to bring into focus any infringements/ deviation/violation of the environmental / forest /wildlife norms/conditions. The company shall have defined system of reporting infringements / deviation / violation of the environmental / forest / wildlife norms / conditions and / or shareholders / stake holders. The copy of the board resolution in this regard shall be submitted to the MoEF&CC as a part of six-monthly report.	Noted, There is an Environment Policy approved by Board of Directors. Copy of the same is attached herewith as <b>Annexure 10</b> .
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(II)	A separate Environmental Cell both at the project and company head quarter level, with qualified personnel shall be set up under the control of senior Executive, who will directly report to the head of the organization.	Noted, Details of Environment Management Cell is attached herewith as <b>Annexure 8</b> .
(III)	Action plan for implementing EMP and environmental conditions along with responsibility matrix of the company shall be prepared and shall be duly approved by competent authority. The year wise funds earmarked for environmental protection measures shall be kept in separate account and not to be diverted for any other purpose. Year wise progress of implementation of action plan shall be reported to the Ministry/Regional Office along with the Six Monthly Compliance Report.	The details of implementation status of EMP for the EC obtained in 2013 is being submitted to the authority along with Six Monthly EC compliance report. The EMP for the Forest Land Inclusion EC will be submitted after commencement of work in the area. The Copy of EMP of EC obtained in 2013 is attached herewith as Annexure 3.
(IV)	Self environmental audit shall be conducted annually. Every three years third party environmental audit shall be carried out.	Noted.
<b>XI. Miscellaneous:</b>		
(I)	The project proponent shall make public the environmental clearance granted for their project along with the environmental conditions and safeguards at their cost by prominently advertising it at least in two local newspapers of the District or State, of which one shall be in the vernacular language within seven days and in addition this shall also be displayed in the project proponent's website permanently.	The Copy of News Paper advertisement The conditions stipulated in copy of EC has been published in two newspapers as public notice i.e Indian Express and Gujarat Guardian on 12.10.2020. Copy of the same was submitted to the MoEF&CC with last Six Monthly EC compliance Report through E Mail 'rowz.bpl-mef@nic.in, 'ecompliance-guj@gov.in' on 30.11.2020 and Acknowledgement of the same was received on 1.12.2020.
(II)	The copies of the environmental clearance shall be submitted by the project proponents to the Heads of local bodies, Panchayats and Municipal Bodies in addition to the relevant offices of the Government who in turn has to display the same for 30 days from the date of receipt.	<p>The letter along with EC &amp; CRZ clearance have been submitted to following authorities:</p> <ul style="list-style-type: none"> <li>• The Sarpanch -Hazira Village, Junagam – Shivrampur Village, Suvali Village</li> <li>• District Collector – Surat</li> <li>• RO-GPCB-Surat</li> <li>• Chief Conservator of Forest – Surat</li> <li>• Surat Urban Development Authority – Surat</li> </ul> <p>The copy of acknowledgement is attached as Annexure D</p>

(III)	The project proponent shall upload the status of compliance of the stipulated environment clearance conditions, including results of monitored data on their website and update the same on half-yearly basis.	Compliance report of conditions stipulated in Environment and CRZ Clearance is available on the company website i.e.: <a href="http://www.adaniports.com/ports-downloads">http://www.adaniports.com/ports-downloads</a>
(IV)	The project proponent shall submit six-monthly reports on the status of the compliance of the stipulated environmental conditions on the website of the ministry of Environment, Forest and Climate Change at environment clearance portal.	Being submitted to the authorities
(V)	The project proponent shall submit the environmental statement for each financial year in Form-V to the concerned State Pollution Control Board as prescribed under the Environment (Protection) Rules, 1986, as amended subsequently and put on the website of the company.	The Environment Statement in Form-V for the Financial Year: 2019-20 is attached was submitted with last Six Monthly EC compliance report on 25.11.2021 & also uploaded on company website at <a href="http://www.adaniports.com/ports-downloads">http://www.adaniports.com/ports-downloads</a> .
(VI)	The criteria pollutant levels namely; PM2.5, PM10, SO2, NOx (ambient levels) or critical sectoral parameters, indicated for the project shall be monitored and displayed at a convenient location near the main gate of the company in the public domain.	The Criteria Pollutant are being monitored at 5 location and being displayed at gate.
(VII)	The project proponent 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, commencing the land development work and start of production operation by the project.	Stage – II Forest Clearance is pending hence no work is started yet.
(VIII)	The project authorities must strictly adhere to the stipulations made by the State Pollution Control Board and the State Government.	Noted
(IX)	The project proponent shall abide by all the commitments and recommendations made in the EIA/EMP report, commitment made during Public Hearing and also that during their presentation to the Expert Appraisal Committee.	Public Hearing was exempted as per the ToR. The commitments of Public Hearing for Earlier EC obtained 2013 is being fulfilled and the details are being submitted along with SIX monthly EC Compliance Report for the EC.

(X)	No further expansion or modifications in the plant shall be carried out without prior approval of the Ministry of Environment, Forests and Climate Change (MoEF&CC).	Noted									
(XI)	Concealing factual data or submission of false/fabricated data may result in revocation of this environmental clearance and attract action under the provisions of Environment (Protection) Act, 1986.	Noted									
(XII)	The Ministry may revoke or suspend the clearance, if implementation of any of the above conditions is not satisfactory.	Noted									
(XIII)	The Ministry reserves the right to stipulate additional conditions if found necessary. The Company in a time bound manner shall implement these conditions.	Noted									
(XIV)	The Regional Office of this Ministry shall monitor compliance of the stipulated conditions. The project authorities should extend full cooperation to the officer (s) of the Regional Office by furnishing the requisite data / information/monitoring reports.	<p>Last visit by representative of MoEF &amp; CC - RO, Bhopal was on 24<sup>th</sup> Oct, 2018 .</p> <p>GPCB officials have visited the Port twice during the compliance period-</p> <ol style="list-style-type: none"> <li>1. Dr. (Mrs) J D Oza (Sr. Scientific Officer) and Mr. N M Kavar, from Regional Office, Surat-Gujarat Pollution Control Board (GPCB) was visited AHPL today regarding our application on 2<sup>nd</sup> December 2020.</li> <li>2. GPCB officials from GPCB RO, Surat Mr Bhavesh Gosai (AEE) and Mr Chetan Hadiya (SSA) was visited the port 08<sup>th</sup> February 2021 and collected the samples from STP. The result of the sample was within limit as per the report uploaded by GPCB on the XGN portal.</li> </ol>									
(XV)	The above conditions shall be enforced, inter-alia under the provisions of the Water (Prevention & Control of Pollution) Act, 1974, the Air (Prevention & Control of Pollution) Act, 1981, the Environment (Protection) Act, 1986, Hazardous and Other Wastes (Management and Transboundary Movement) Rules, 2016 and the Public Liability Insurance Act, 1991 along with their amendments and Rules and any other orders passed by the	<p>s per 2013 EC we have already operating the port and obtained consent under air act water act and Hazardous Waste Rules.</p> <table border="1"> <thead> <tr> <th>Consent No.</th><th>Issued On</th><th>Submitted To MoEF &amp; 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 &amp; 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 &amp; 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.
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	Hon'ble Supreme Court of India / High Courts and any other Court of Law relating to the subject matter.	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 the Six Monthly Compliance Report dated 21.11.2016 & 19.05.2017.
		CTE-101590	20.05.2019	Along with the Six Monthly Compliance Report dated 27.11.2019
(XVI)	Any appeal against this EC 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		

### **Annexure 1**

**Compliance to the conditions stipulated in CRZ recommendation issued by Forests & Environment Department, Government of Gujarat to MoEF & CC, New Delhi**

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 11<sup>th</sup> May, 2012 for modification / expansion of Multi-Cargo Port Facility at Hazira, Dist. - Surat by M/s. Adani Hazira Port. Limited: -

S. No.	Conditions	Compliance Status
<b>A.</b>	<b>Specific Condition</b>	
1.	The provision of CRZ Notification 2011 shall be strictly adhered by M/s. AHPL. No activity in contradiction to the provision of CRZ Notification shall be carried out by M/s. AHPL.	<b>Complied.</b> <ul style="list-style-type: none"> <li>Construction activities are carried out as per the provisions of CRZ Notification, 2011.</li> <li>No construction work other than those permitted in CRZ Notification has been done.</li> <li>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.</li> </ul>
2.1	M/s. AHPL 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.	<b>Noted.</b> Only permissible activities being carried out in CRZ area.
2.2	Also for other hazardous chemicals, outside CRZ Areas, the AHPL shall consult SDMA for Disaster Management Plan.	<b>Complied.</b> Disaster Management Plan has been prepared prior to the commissioning of multi cargo port. <ul style="list-style-type: none"> <li>DMP has been submitted to GSDMA vide letter dated 20.10.2012.</li> <li>Comments were received from authority vide letter no. GSDMA /SM / Ind.safety/ 770560 dated 03.12.2012.</li> <li>Suggestions were incorporated and revised plan was submitted to GSDMA on 23.05.2014.</li> </ul> Regular mock drill to ensure the compliance and preparedness is being done. Last Mock Drill (On Site) was on: <b>22.03.2021</b> Last Update of ERP & DMP : 03.02.2021 Last submission to Directorate Industrial Safety & Health (DISH) on <b>10.03.2021</b>
3.	All necessary permissions from different Government Departments / agencies shall be obtained by M/s. AHPL before commencing the activities.	<b>Complied.</b> All the statutory permissions from the concerned statutory authorities are obtained i.e.: -  Environment and CRZ Clearance from MoEF & CC, GOI vide order No.: F.No.:11-150/2010-IA-III dated 03.05.2013, CTE & CTO from Gujarat Pollution Board PESO License from Chief

S. No.	Conditions	Compliance Status
		Controller of Explosive, Nagpur License to work a Factory Adani Hazira Port Pvt. Ltd. (Liquid Terminal) from Director of Industrial Safety and Health, Govt. of Gujarat. The details are mentioned above on page no-12.
4.	The AHPL 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.	<b>Noted and complied with.</b> 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.	<b>Complied.</b> 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.	<b>Complied.</b> As per communication from MoEF&CC dated 12 <sup>th</sup> 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  The maintenance dredging is being carried out through Water Injection dredger in which no Dredging material is generated. Some part of dredging is being carried out through Cutter Section Dredger and in this process Dredging material is being generated. 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 Cholanmandalam MS Risk Services Ltd, Chennai in their EIA reports for conservation / protection and	<b>Complied.</b> All the recommendations and suggestions for conservation/protection and betterment of environment are being implemented strictly. Recommendation given in EMP is being

S. No.	Conditions	Compliance Status
	betterment of environment shall be implemented strictly by M/s. AHPL.	complied in letter and spirit. Status of the same is enclosed as <b><u>Annexure-3</u></b> .
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.	<b>Complied.</b> There are no mangroves and other important coastal / marine / habitats presents within the port development area. The Port development work is supervised by Gujarat Maritime Board (GMB).
9.	M/s. AHPL shall strictly ensure that no creeks or rivers are blocked due to any activity at Shipyard.	<b>Complied.</b> 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 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.	<b>Complied</b> 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.	<b>Complied.</b> No labour camps have been placed in Coastal Regulation Zone area. Labours have been managed through contractors and they are from surrounding villages so they stay in their own residential facilities in the surrounding villages.
12.	M/s. AHPL 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.	<b>Complied.</b> <ul style="list-style-type: none"> <li>Oil Spill Contingency Plan has been prepared and the same was approved by Indian Coast Guard (Letter No.: 7563, dated 09.01.2014).</li> <li>Disaster Management Plan has been prepared prior to the commissioning of multi cargo port.</li> <li>DMP has been submitted to GSDMA vide letter dated 20.10.2012.</li> <li>Comments were received from authority vide letter no. GSDMA /SM / Ind.safety/ 770560 dated 03.12.2012.</li> <li>Suggestions were incorporated and revised plan was submitted to GSDMA on 23.05.2014.</li> <li>Regular mock drill to ensure the compliance and preparedness is being done.</li> </ul>

S. No.	Conditions	Compliance Status
		Last Mock Drill (On Site) was on :22.03.2021 Last Update of ERP & DMP : 03.02.2021 Last submission to Directorate Industrial Safety & Health (DISH) on 10.03.2021
13.	M/s. AHPL 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.	<b>Complied.</b> 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 AHPL to meet with the water requirements in any case.	<b>Being Complied</b> Ground water is not being used for any purpose in the Port. The industrial water requirement is being met through 2000KL of treated waste water from M/s. KRIBHCO, which is being used for industrial purposes and domestic water requirement is met through tanker Water.
16.	M/s. AHPL shall take up massive greenbelt development activities in consultation with Forest Dept. / GEER Foundation / Gujarat Ecology Commission. A comprehensive plan for this purpose has to be submitted to the Forests and Environment Department.	<b>Being Complied</b> Through CSR team of AHPL, plantation have been carried out in surrounding villages with consultation of Gram Panchayats and Schools.
17.	Mangrove plantation in 200 Ha. shall be carried out in consultation with Gujarat Ecology Commission / Forest Dept. by M/s. AHPL with in a period of two years from the issuance of CRZ clearance by MoEF, GoI and an action plan in this regard shall be submitted to this Department along with satellite images and GPS readings with Latitudes and Longitudes.	<b>Complied</b> 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. Saline Area Vitalization Enterprise (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 AHPL shall have to take up bio-shielding development programme as part of CSR in consultation with Forest Department / PCCF and action plan in	<b>Being Complied</b> <ul style="list-style-type: none"> <li>AHPL has developed Bio-Shield Pilot Project at Village - Tankari Bandar, Taluka - Jambusar, District - Bharuch (Gujarat) on an</li> </ul>

S. No.	Conditions	Compliance Status
	this regard shall have to be submitted to the MoEF - GoI and this Department.	area of 18 hectares with the help of a local NGO named SAVE.
19.	M/s. AHPL 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.	<p><b>Being Complied</b></p> <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 being made. Schemes promoted by District Authorities and Forest &amp; Environment Department, GoG are also included. Please refer the <b><u>Annexure-2</u></b> for the status of the CSR activities planned and carried out during the Financial Year: 2020-21.</p>
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, GoI. The details with respect to the expenditure from this budget head shall also be furnished along with the compliance report.	<p><b>Being Complied</b></p> <ul style="list-style-type: none"> <li>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.</li> <li>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.</li> <li>Please refer the <b><u>Annexure-2</u></b> for the status of the CSR activities planned and carried out during the Financial Year: 2020-21.</li> </ul>
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><b>Complied.</b></p> <ul style="list-style-type: none"> <li>Environment Management Cell has been set up with qualified staff to ensure the effective implementation of environmental safe guards.</li> <li>In addition to the site Environment Management Cell a well-established corporate environment cell also ensures effective implementation of the environmental safeguards.</li> <li>Please refer the <b><u>Annexure-8</u></b> for Environment Management Cell Organogram.</li> </ul>
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. AHPL to this Department as well as MoEF, GoI.	<p><b>Complied.</b></p> <ul style="list-style-type: none"> <li>Regular Environmental Monitoring are being carried out through a GPCB approved environment auditor M/s. Pollucon Laboratories, Surat (a MoEF&amp;CC and NABL accredited laboratory) and others concerned authorities along with Six Monthly Compliance Report.</li> </ul>

S. No.	Conditions	Compliance Status
		<ul style="list-style-type: none"> <li>No significant changes observed with respect to past monitoring results.</li> </ul>
23.	A six monthly report on compliance of the conditions mentioned in this letter shall have to be furnished by M/s. AHPL on a regular basis to this Department as well as MoEF, Gol.	<p><b>Noted and complied with.</b></p> <ul style="list-style-type: none"> <li>Six monthly compliance reports are being submitted to all the concerned authorities on regular basis.</li> <li>Last report was submitted through e mail on 25.11.2020</li> </ul>
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. AHPL.	Noted and comply with the additional conditions stipulated by the MoEF & CC, if any.



## **Annexure 2**

### **Corporate Social Responsibility details FY 2020-21**

Details of Corporate Social Responsibility for Financial Year 2020-21 of Adani Hazira Port Limited

Adani Foundation is working as a CSR wing of Adani Group and the CSR activities are being conducted in the four major thrust areas.

**Four Major Thrust Areas of our CSR Activities:**



**A. Education:**

**SDG Alignment**

**Sustainable Development Goal 4**

**Goal 4.** Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all 4.1 By 2030, ensure that all girls and boys complete free, equitable and quality primary and secondary education leading to relevant and effective learning outcomes  
4.1.1 Proportion of children and young people (a) in grades 2/3; (b) at the end of primary; and (c) at the end of lower secondary achieving at least a minimum proficiency level in (i) reading and (ii) mathematics, by sex 4.2 By 2030, ensure that all girls and boys have access to quality early childhood development, care and pre-primary education so that they are ready for primary education.

**Highlights:**

Sr. No.	Name of Utthan School	School Strength		Students Catered			Remarks
		Total Students	Progressive Students	Total Students	Progressive Students	% of Catered Progressive	
1	Hazira Halpatis Primary School	20	6	15	5	83.33%	100% Halpatis students
2	Rajagari Primary School	52	14	39	13	92.86%	40% Migrated students

3	Vansva Primary School	60	20	54	18	90.00%	60% Halpati students
4	Junagam Primary School	110	22	63	19	86.36%	--
5	Mata Faliya Primary School	110	24	81	20	83.33%	90% migrated students
6	Suvali Primary School	92	26	67	23	88.46%	30% Halpati students
7	Bhatlai Primary School	110	27	67	23	85.19%	50% Migrated students
8	Damka Primary School	169	29	108	26	89.66%	--
9	Hazira Primary School	240	39	107	32	82.05%	65% migrated students
10	Mora Primary School	431	98	251	81	82.65%	70% migrated students
11	Non Utthan School students			89			
	Total :	1394	305	941	260	85.25%	

#### Background of Project Utthan:

The future of India depends upon the quality of education imparted to our children. We believe that it is the joint responsibility of the Government and citizens to improve school education. With an aim to enhance the quality of primary education in Surat District, Adani Foundation proposed to adopt 10 government schools of Hazira coastal area of 08 villages under the project '*Utthan*', and from December-2019 the project starts with form MoU signed between Adani Foundation representative and DPEO, Surat. By this intervention, Adani Foundation seeks to facilitate; Focus on progressive learners (PRIYA VIDYARTHI) and celebrate their progress, make learning joyful, provides adequate resources and facilities, strengthen the curricula to provide basic skills, especially in the areas of literacy, numeracy and skills for life and focus on Teachers' capacity building.

#### It's Reach:

#### Intervention by Utthan Sahayaks during Corona Pandemic:

To bring progressive students in main stream is main objective of Utthan project. While dealing with progressive students Utthan Sahayaks (US) realize that, they are the slow learners and seeking personal attention. Thus US teaches individually to the progressive students of Government Primary schools. In the COVID pandemic, those who haven't migrated and accessible at their houses, Utthan Sahayaks

regularly visit their Faliya/Maholla. They teach basic skills of Reading, Writing & Mathematics. The US have made customized worksheets and TLMs for the progressive students. They are visiting the houses of students thrice in a week with TLMs and prepared worksheets. US are giving various modules to the students explain and assign activities to the students. During the lockdown US have catered almost 80% of progressive students online or offline.

In project villages, approx. 30% students have migrated to their native state like Bihar, UP, MP etc. For those students, classes were and are arranged online. Two times in a week US connect with those students and conduct classes, assigned oral and written work.,

US have taught the students to make Mask using available clothes and demonstrated experiments to be healthy and maintaining hygiene. By using Camphor and Alum.

#### **Day Celebration and Competitions of students:**

Though students are not going to their respective schools but they have celebrated Independence Day, Gandhi Jayanti, Janmashtami, Uttarayan etc. in a unique way. Drawing competitions, Badge making, Greetings cards, Elocution, Poster making type activities on the theme of that special occasion were there. Utthan Sahayaks taught them to make kites by using newspapers. Almost 800+ students participated in various 5 competitions on 9 special day celebrations. To promote active involvement of primary students in science related activity and sensitize about natural resources like water. National Science Day & World Water Day were celebrated on 27/02/2021 & 22/03/2021 in all Utthan Schools. 45 students of class- VI to VIII have made various science related projects and models with support of US. The students have demonstrated their model and its scientific terminology to their classmates in their schools. On World Water Day, Drawing, Poster making & Elocution competitions were arranged to enlightened the students about different ways to prevent water wastage.

#### **Mother's Meeting:**

Parents are the first teachers of child and they have a key role in shaping up their character. A balance of education at home and school mould a student's actual learning. Especially mother is more responsible for child's activities. Thus once in every two week US meet mother of each progressive learner online or offline and discuss about activities and achievement and growth of their child. As majority of mother of progressive students are not well educated, Utthan Sahayaks tell them to motivate their child to be regular and take participation in academic activities carried out by teachers.

#### **Support for NMMS & JNV Entrance Examinations:**

National Means-Cum-Merit Scholarship (NMMS) is a sponsored scholarship scheme. It is implemented by the Department of School Education & Literacy under the Ministry of Human Resource Development with the objective to financially support the meritorious students of economically weaker sections of

the society. NMMS encourages students to continue their studies at the secondary level by offering a scholarship amount of INR 12,000 per annum. Adani foundation is supporting the economical weaker and higher scholar students to enrol at exam. AF has also provided study materials to 354 enrolled students in Choryasi, Olpad block and Surat Municipal Corporation school.

JNV offer admission in Class-VI on the merit basis of the exam conducted named as Naodaya Entrance Examination (JNV-EE) every year. To prepare for JNV-EE-2021 Adani foundation has helped students to enroll for JNV-EE-2021, 74 students from Hazira coastal are preparing. Adani Foundation has prepared training videos and worksheets, Notebooks, Pen & Question bank are given to the students. Weekly follow-up and Weekly mock-tests are conducted for customized designed chapters of the curriculum. AF has also supported 940 other JNV enrolled students of Valod, Dolwan, Songadh and Uchchhal blocks by providing software and study materials.



#### **Hardware Support to Utthan Schools:**

Adani Foundation has prepared 10 customized display boards under project Utthan. Dr. Deepakbhai Darji (DPEO, Surat) & Ms. Swati Patel (Dy. DPEO, Surat) have handed over the boards, One Library cupboard and 276 Library books to each 10 Utthan schools of Hazira coastal area. One Smart class consist of 55" Samsung Ultra HD LED TV, Computer with wireless keyboard and mouse with 3 years of content of curricular subject subscription is given to each Utthan School in March 2021. BaLA focused on developing an understanding on how the physical space around us can be developed as a learning resource. Approx. 750 sq. ft. BaLA paintings are also carried out in each school by Adani Foundation under Utthan Project.

#### **Provided RO water filter plant:**

The Adani foundation, Hazira have been done various activities with coordination of education Department in Surat district. We have done various soft skill activities as well as infrastructure support in govt. schools. The overall objective of the project is to facilitate students and schools those who are in need. Through over intervention after assessment and meeting with school management we have installed RO water filter plant in Govt. primary school, Haiderganj in sachin area. More than 800 students

studied in school in 2 shifts. Other basic amenities available in school but availability of potable drinking water is major problem in school. Due to this problem students and teachers forced to bring drinking water from home in schools. Students carry 1-2 ltr. Water from home is insufficient for school hours and school management also facing problem in mid-day meal preparation. They are forced to use available water in school for drinking & cooking. Through our support they are able to get potable drinking water for students and cooking purpose. Entire School thanks to adani foundation for this support.

#### **Professional growth of US:**

Capacity building programs for Utthan Sahayaks can improve the quality of the teachers. AF has conducted 4 Webinars, 3 in-house trainings and encourage the Utthan Sahayaks to enrich their selves in academic context to improve the quality of the teaching. During lockdown US are regularly attending webinars and enrolled them self for various online courses. Each US has completed minimum 09 certificate courses. 3 Days Capacity Building cum Training Program for US was arranged in January-2021 Pro. Deepak Taraiya was resource person.

#### **Background of Navchetan Vidhyalay Junagam.**

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 student's strength of the school rise from 193 students to 422 students from nearby 8 villages, in 2013-14 there were 112 boys and 81 girls were enrolled now in 2020- 21, 202 boys and 220 girls are studying. Students' dropout ratio falls from 6.13% to 1.50%.

#### **School facilities:**

The school is equipped with Smart Class, Science Laboratory and Computer Laboratory and Activity class, Library and big play ground. This year Adani Foundation has constructed alternative staircase at primary wing building of **Navchetan Vidyalaya**, Junagam, Keeping in view of fire safety guidelines of Gujarat state government for schools. 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 Notebooks, Workbooks, and Textbooks. Students from class III to 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 Parents Teacher Meeting (PTM) was arranged to discuss the efforts did by teachers on 01 & 02 August 2020 (step by step as guideline declared by Govt.) average 88% parents remain present in that meeting.

#### **School activities:**

The activities were regular part of school activities but in COVID-19 scenario, students are not coming to school, but school has planned how to teach the students at their home. All the teachers of class-

LKG to VIII are preparing and sending the Self Learning Modules (SLM) for all curricular subjects. Teachers have created Google Classroom & Prepared SLM is circulated in the Google Classroom. 408 student of school joint google classroom for online study.

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. Due to nCOVID-19, school is not open for students. So students are engaged in various curricular activities at their home in a virtual way. Students celebrated World Yoga Day (212 students), Independence Day, RAKSHBANDHAN(205 students), JANMASHTAMI(391 students), innovatively GANPATI idol making(295 students), Dish decoration on occasion of Gauri Vrat(275 students), Best out of Waste(206 students), Rangoli celebration(298 students), Decorate small clay pots(201 students), Essay writing(198 students), Rakhi making(161 students), card making(191 students) were celebrated during the year from their home.

Education department of Govt. Of Gujarat has announced to reopen primary school of Class VI to VIII. Therefore, offline classes of class VI to VIII started from 18/02/2021 with prior and proper parents' consent letter and proper precautions. Students celebrated World Science Day, Water Day and Drawing competition in school premises with proper SOP given by Gujarat Govt. Special awareness session for adolescence girl students of schools was arranged on topic of Menstrual Hygiene conducted by Dr. Kajal Mangukiya (Gynecologist). As a part of Woman's Day celebration, about 71 girl child have given a benefit of Sukanya Smruddhi Yojana. About 9 Students of Class V are preparing for JNV (Jawahar Navodaya Vidhyalaya) entrance examination which will be conducted in May-2021. Total 16 students of the school are studying under RTE Act. As well as 15 children are single parent children whose fee are paid by Adani Foundation.

#### **Capacity building for Teachers':**

Values are the most integral part of human overall development. Value Education forms the character. A special 3 days Capacity Building cum Training Program for teachers, was organized on 19 to 21/01/2021. Prof. Deepakbhai Teraiya and Uma Teraiya were resource persons. The main objective of this training was to cultivate qualities like teacher-student relations, confidence, observation, instinct, excellence, self-assessment, introspection, sensitivity, to see the good in the near and dear ones, keep positive approach, and keep relationship alive and to understand the power of values. Offline seminar was conducted on, Professional Etiquette for teachers by Ms. Hiral Pandya, Manager, ASDC. A webinar on, ignite your inner fuel was conducted for teachers.

Teachers of primary wing of Navchetan Vidyalaya, Junagam updating themselves by doing various online courses. From June-2020, 15 teachers of primary wing have completed 113 various online certificate courses, like Development of individual-social qualities and creation of safe as well as healthy school environment' 'Curriculum and inclusive classrooms', 'Health and wellbeing in school', 'Action Research', 'N.C.F. 2005 and Social Sciences (upper primary)', 'NEP-2020 Early Childhood Care and Education etc.

Sr No	Name of Village	Total HH	Total Population
1	Hazira	4443	16724
2	Mora	3802	13924
3	Suvali	975	4165
4	Junagam	698	2532
5	Bhatlai	1144	4066
6	Damka	1331	5604
7	Vansva	584	2498
8	Rajgari	318	1300

## **B. Sustainable Livelihood Development:**

SDG Alignment: 2/1.1, 2.5

Goal 2. End hunger, achieve food security and improved nutrition and promote sustainable agriculture 1.1 By 2030, eradicate extreme poverty for all people everywhere, currently measured as people living on less than \$1.25 a day

2.5 By 2020, maintain the genetic diversity of seeds, cultivated plants and farmed and domesticated animals and their related wild species, including through soundly managed and diversified seed and plant banks at the national, regional and international levels, and promote access to and fair and equitable sharing of benefits arising from the utilization of genetic resources and associated traditional knowledge, as internationally agreed.

### **Demographic information of the core village**

The Adani Foundation is the Corporate Social Responsibility arm of Adani Group with a vision to "Accomplish passionate commitment to the social obligations towards communities fostering sustainable development thus improving quality of life". It's an integrated infrastructure conglomerate that is committed to inclusive growth and sustainable development in not only the communities it operates in, but also in contributing towards nation building. The Adani Foundation – Hazira j has been running several activities and catering to the needs of the local community residing in 8 core and 15 peripheral villages. The mainly OBC dominated population in this area.

The year 2020-21 is challenging year for entire glob COVID-19 Pandemic impacted lakhs of people AF Hazira team also facing new challenges due to Covid 19 Pandemic. Adani Foundation team has started



helping local community during lockdown to keep commitment towards the community. Team helping needy immediate distribution of ration kit distribution of mask and sanitizing village and creating awareness about social distancing and motivated them for following lockdown guideline. After normalcy day people realize fearless atmosphere. Adani Foundation contributed largely towards the

surrounding communities of Hazira kantha area in respect to its varied domains. Each domain has its set of objectives. All the objectives are fulfilled keeping in mind the vision of AF towards framing a better society all around its catchment area. This Annual Report throws light on Adani Foundation's activities performed and initiatives taken.

Adani Foundation in collaboration with BAIF institute for Sustainable Development (BISLD) is implementing Cattle Breeding Centre since November 2017. 1st phase of the project is completed on 31st March 2020. After looking the positive impact of the project signed A new MoU for 2nd phase of the project for 3 years 2020 – 2023. Animal Husbandry Project (Kamdhenu Project) in 23 villages Near by Adani Hazira Port limited. Objective of this project is improving local breed of cattle and increasing milk production for achieving that objective AF support to farmer for Artificial insemination, sex sorted semen, infertility camp, vaccination promoting quality fodder and training and exposure visit for beneficiaries to creating awareness for profitable business through dairy farming Program Objective: Create self-employment/ supplementary income through animal livestock

#### **Implementation strategy of kamdhenu project.**

**Awareness** through various meeting training and exposure visit we are creating awareness among cattle owners regarding best practice of livestock management. such intervention builds positive attitude towards dairy farming and they realizing importance of business learnt from others those who are earning good income through this activity.

**Focus on cattle health:** - 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.

**Allied services:** -To provide platform for the dairy farmers to get together and share information about modern scientific practices in Dairy Cattle Management. To get feedback from the farmers to get enough relevant materials for policy and programme formulation. 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.

**Kamdhenu Project status as on 31<sup>st</sup> March 2021.**

Sr No	Name of CBC	Cattel Population			AI			During the 2020-21			
		Cow	Buffalo	Total	Progress during the march			AI	PD	PD Confir m	Calving
					AI	PD	Calving				
1	Barbodhan	3542	6578	10120	64	53	18	806	511	280	345
2	Junagam	5149	4386	9535	79	56	30	745	451	273	397
	<b>Total</b>	<b>8691</b>	<b>10964</b>	<b>19655</b>	<b>143</b>	<b>109</b>	<b>48</b>	<b>1551</b>	<b>962</b>	<b>553</b>	<b>742</b>

Total 742 Calving since inception of the project at Barbodhan and Junagam centre.

**Project Activity planning / Achievement**

Sr No	Project Activity	Total Unit Plan	Achievement
1	Livestock training/meeting	05	05
2	Exposure visit	0	0
3	Calf rearing	0	0
4	Deworming	3000	3451
5	Infertility camp	10	10
6	Fodder plot	30	31
7	Sex sorted semen	80	92
8	Artificial insemination	1400	1551
9	Silage distribution	30	30
10	Vaccination	3000	3072
11	Mineral mixer	250	250



**Infertility camp: -**

Objective of the Infertility camp

- ✓ Reduce long inter-calving period by timely detection of causes of infertility.
- ✓ Unproductive cattle become productive.
- ✓ Providing better veterinary service at farmer's doorsteps.

During interaction with farmers we tried to find out efforts taken by them for their animals in which we found that they are following traditional management practices resulted to get stunted growth long age maturity, ultimately hampers on low milk production. Unawareness about scientific management practices. We also tried to solve their queries. During this infertility camp we tried to discuss and provided scientific information on below mentioned topics.

Due to negligence among farmers especially feed and fodder, feed supplements, preventive health care animals are suffering from gynaecological disorders like anoestrous and long inter-calving period. Apart from this farmer are not able get animal health care services in time from technical experts resulting heavy economic losses by rearing unproductive animals for long duration. If they will get health care services in time problems encounter in their animals will diagnosed and treated intime.



10 Infertility Camps and General Health Camps organized in Bhandut Tunda, Kukni, Segvachhama, khosadiya Dihen, Ambheta and Tena village. In these camps 351 animals were treated. Camps were held at common locations of each village. Animals were treated by Dr. Shinkar of BAIF Institute Sustainable Livelihood Developments and Dr. Amol Vagh. Interactive sessions were also held with beneficiaries and following points were observed.

#### **OVERALL OBSERVATIONS IN CAMPS**

At present there is ad lib green grasses avail at field level so that farmers give two times the green grasses to animal which effects on digestive system of animal and causes diarrhoea. Due to poor post calved management it ultimately Mastitis happens in new calved buffaloes at Farmer's Door Step we demonstrated the Ethno Veterinary Medicine on Mastitis Animals. Problem of abortion in advance pregnant animal is happens due to fight in herd during grazing so, advice to keep advance pregnant animal at backyard only for due care. Overall Health condition of animals presented for treatment was good. Heifers having avg. age of 6 to 8 years are having problem of undeveloped. uterine organs which is due to deficiency of Trace minerals. The buffaloes presented for camp has mostly problem of anestrus behind this there might be two factor first that not knowledge of effect of minerals in feeds and second is heat detection in buffaloes. Guidance given to farmers about silent heat and heat sign in particularly in buffaloes. Due to unavailability of veterinary aids animals are not able to get proper treatment at initial stage of affection/disease condition.

### Animal Treated through Infertility Camp Since inception of the Project.

Sr. No.	Year	No of Village	Total Animal	Repeat Breed Animal	An Utters Case	Total Animal	Animal Heat cycle Regular	AI	Examination Of Animal	Pregnant Animal	Calving		Abortion	Sold
											Male	Female		
1	2017-18	4	135	47	64	111	94	94	92	46	21	20	2	3
2	2018-19	6	207	78	129	207	179	179	179	89	43	37	7	2
3	2019-20	8	244	104	65	169	152	152	151	80	39	37	1	3
4	2020-21	10	348	83	89	172	120	120	60	28	0	0	0	0
		<b>28</b>	<b>934</b>	<b>312</b>	<b>347</b>	<b>659</b>	<b>545</b>	<b>545</b>	<b>482</b>	<b>243</b>	<b>103</b>	<b>94</b>	<b>10</b>	<b>8</b>

Total 934 animals from 12 villages were presented for treatment.

Total 659 animals were presented for gynecological disorders out of which 347 animals were treated for Anestrous and 312 animals were treated for problem of Repeat Breeding. 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 non-productive animals for which mineral mixture is provided as well as awareness among them was created for regular use of minerals to all growing and lactating animals for better productivity. Total 659 animals were treated for various clinical disorders and almost all were recovered from disorders. Follow up of treated animals is going on for animals presented for gynecological disorders out of 659 animals 545 animals were inseminated after treatment and 482 animals were examined for conform pregnancy out of examined animals 243 are found conform pregnant.

197 cattle converted to unproductive to productive and improved health condition. The average annual milk production per cattle should from 0 to 1500 ltr. The total annual milk production has raised from 0 to 2.95 lakh ltr. Which is sold @40 Rs, average per ltr. Therefore, Total incremental income of Rs.1.18 Crore was generated since inception of the project. Thus AF able to support 197 Household in regenerating incremental income from nonproductive cattle to productive cattle through infertility camp.



### Year wise Village wise details from 2017 to 2020.

Sr. No.	Year	Village	Total Animal	Repeat Breed	An Utters Case	Total Animal	Heat cycle Regular	A I	Examination Of Animal	Pregnant Animal	Calving		Abortion	Sold
											Male	Female		
1	2017-18	Malagama	26	11	15	26	17	17	17	9	4	4	1	0
2	2017-18	Segava Chhama	24	7	11	18	12	12	12	7	3	4	0	1
3	2017-18	Bhandut	50	21	23	44	30	30	30	15	7	8	0	2
4	2017-18	Kukani	35	8	15	23	18	18	18	9	3	4	1	1
5	2018-19	Segava chhama	33	14	19	33	24	24	24	14	6	6	1	0
6	2018-19	Bhandut	32	10	22	32	17	17	17	12	5	6	1	0
7	2018-19	Khosadiya	30	13	17	30	21	21	21	11	5	6	1	0
8	2018-19	Tena	39	11	28	39	24	24	24	12	5	4	2	1
9	2018-19	Tena Rang	30	11	19	30	19	19	19	10	5	4	1	0
10	2018-19	Junagam	43	19	24	43	32	32	32	18	9	8	1	0
11	2019-20	Khosadiya	25	14	2	16	12	12	12	8	0	0	0	1
12	2019-20	Kukani	32	9	4	13	11	11	11	5	0	0	0	0
13	2019-20	Segava	33	15	5	20	18	18	18	9	0	0	0	0
14	2019-20	Ambheta	24	9	8	17	13	13	13	7	0	0	0	1
15	2019-20	Bhanudt	30	12	14	26	18	18	18	9	0	0	0	0
16	2019-20	Tena	30	18	11	29	20	20	20	11	0	0	1	0
17	2019-20	Tena Rang	39	11	16	27	18	18	18	10	0	0	0	1
18	2019-20	Malgama	31	16	5	21	17	17	17	9	0	0	0	0
19	2020-21	Tena	57	17	29	46	32	32	30	14	0	0	0	0
20	2020-21	Tena rang	57	18	09	27	18	18	16	07	0	0	0	0
21	2020-21	Mota Khosadiya	37	03	01	04	03	03	03	01	0	0	0	0
22	2020-21	Bhandut	28	08	09	17	12	12	11	06	0	0	0	0
23	2020-21	Nana Khosadiya	37	11	08	19	13	13	0	0	0	0	0	0
24	2020-21	kukni	28	13	09	22	17	17	0	0	0	0	0	0
25	2020-21	Segwacha ma	34	07	03	10	07	07	0	0	0	0	0	0
26	2020-21	Ambheta	27	03	03	06	04	04	0	0	0	0	0	0
27	2020-21	Dihen	22	02	10	12	08	08	0	0	0	0	0	0
28	2020-21	Tunda	21	01	08	09	06	06	0	0	0	0	0	0
		<b>Total</b>	<b>934</b>	<b>312</b>	<b>347</b>	<b>659</b>	<b>545</b>	<b>545</b>	<b>482</b>	<b>243</b>	<b>103</b>	<b>94</b>	<b>10</b>	<b>8</b>



**"Timely treatment to save production losses"**

Livestock has special importance in areas having low agriculture income and poor resource endowment. It provides alternative and stable income to the farmers. Livestock and their products provide direct cash income and the animals are the living assets for many farmers. Monitoring animal health and prevention and control of disease is integrated part of dairy industry by considering this infertility camps are organized in project villages of Adani Foundation Hazira to gain an understanding of the general livestock health status; management practices and prevalent diseases/problems in the area so that livestock related interventions could be taken up systematically as CSR initiatives in succeeding years. Jigishaben from Ambheta village is engaged in dairy farming, her herd comprises of 8 buffaloes, 2 crossbred cows and 5 calves and average milk production is 45 to 50 liters per day. She is able to earn Rs. 60,000 to 70,000 per month by selling milk which has enabled to run his house smoothly. One of her buffalo was suffering from Mastitis. Initially that buffalo was producing 10lts of milk per day but due to painful swelling on udder affected buffalo didn't allow to milk so she immediately contacted local vet who treated buffalo. After treatment swelling was reduced but there was problem of letdown of milk in last hind quarter due to which milk production was reduced by 5 liters/day as well as she has to injections to let down of milk. She was very much worried about the problem faced by her buffalo. She came to know from leading person of her village that General health camp is organized in her village by Adani foundation in collaboration with BISLD-Gujarat. With positive hope she visited at camp site and briefed about the problem faced by her animal. By seeing the previous history Veterinary officer of BISLD treated the animal and advised to continue the treatment for next two days. Consecutive treatment for three days helped affected animal to overcome the problem and on 5<sup>th</sup> day buffalo started to give 9lits of milk per day without use of hormone injections.

- Jigisha ben is very much happy and proudly saying that due to proper treatment in infertility camp helps her to save approx. Rs. 20,000 in present lactation of affected animal.



Sr .	Nam e Of Centr e	No of Village	No of Bene ficiar y	Bree d	No Of Anim als	Averag e Market Rate	Total Value In Lakh
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						inR Lakh	
1	Barb odha n	10	38	Cows	15	0.40	6.00
				Buffa lo	25	0.60	15.00
				Total	40	--	21.00
2	Juna gam	5	29	Cows	29	0.40	11.60
				Buffa lo	19	0.60	11.40
				Total	48	--	23.00
3	Total	15	67	Cows	44	0.40	17.60
				Buffa lo	44	0.60	26.40
				Total	<b>88</b>	-	<b>44.00</b>

Overall impact of the Cattel breed centre Cattel Sold by Farmer		
Sr No	Particular	Total Income in Lakh
1	Total 94 female calf born in project villages after infertility camp	7.05
2	Total milk production increased after infertility camp	118.00
3	Total 08 Pregnant Cattel sold	4.80
4	0 to 6 month age female calf	1.00
5	6 to 12 month age female calf	2.34
6	12 to 18 month female calf	4.05
7	18 month above female Calf	3.80
8	Saving on Green fodder Total 761 Tone production	74.80
		<b>215.84</b>

**Community Contribution Details Since Inception of the Projects.**

Sr No	Year	Capacity Building	Sex Sorted Semen	Allied Activities	Total
1	2017-18	7400	0	64850	72250
2	2018-19	39000	2000	96925	137925
3	2019-20	19400	26400	105600	151400
4	2020-21	0	25200	114770	139970
		65800	53600	382145	501545

Community contribution reflects ownership and interest of the community in the intervention. It will make the program sustainable.

**Training on Livestock management: -**

**Objective-**

Creating awareness among Cattel owner on livestock management

Sharing experience of progressive women's from Banas dairy

Five training program and one webinar organized during the Year at Ariyana Khosadiya, Ambheta, Kukani and Dihen village. Topic of the training was fodder management, calf rearing timely vaccination. Expert from BAIF was Give presentation to Cattel owner Total 169 Participant participated in the training.

**Major Topic Covered during the training**

During this webinar discussed and provided scientific information on below mentioned topics.  
Importance of Deworming and Mineral Mixture  
Formulation of Balanced concentrate ration for milking animals.  
Gynecological disorders and its complication.  
Causes of low milk production  
Causes of anestrus condition in buffloes

Problem of silent heat in buffaloes



Improved Green Fodder Cultivation

Name Of CBC	Year	No of Farmer	Name of Fodder	Total Area covered in Acer	Total Production (Tone)	Market Rate Rs. (Tone)	Total Value in Lakh.
Barbodhan	2019-20	17	BNH-10	11.5	1065.0	2200.0	23.43
	2020-21	31	BNH-10	17.6	0.0	2200.0	0.0
	Farmer adopting due to AF Intervention	25	Bullet / BNH-10	16.6	2335.0	2200.0	51.37
Total		73		45.76	3400.00	2200.0	74.80

- Total 73 farmers saved Rs.74.80 Lakh on Green fodder due to AF Intervention. Green fodder not only saved expenditure but improved cattle health and milk production. 45-acre land will produce green fodder for 7 years with minimal investment.



**SELF HELP GROUP**



Adani Foundation is working with SHGs groups in nearby peripheral villages (08 villages). Adani foundation is continuously 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 improving 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.

#### **Women Empowerment:**

In Hazira, women are depended on male members of family for their needs. Considering this situation, we have decided to work on women empowerment. Initially mobilizing women and sensitizing them for coming at one platform to discuss their issue. Hazira kantha area established 24 SHG group with 350 members in 5 villages. During this year 4 SHG group Started Income Generation Activity. Due to lack of financial support from other agency they are decided to start small entrepreneur at own resource.

Women Empowerment Projects Step towards socio-economic Development:

Sr. No	Name of group	Members	Work	Avg Income of group
1	Pragati Sakhi Mandal	13	Masala and seasonal Business	12,000
2	Roshni Sakhi Mandal	10	Snacks and Papad	15,000
3	Pardevi Ma Sakhi Mandal	10	Pickles and Masala	8,000
4	Nand Sakhi Mandal	10	Mask Making Activity	16,000
Total		43	Total Avg. Income of Group	51000



Remaining 20 SHG are regularly saving, internal money lending and agriculture and dairy farming. Now they are understanding importance of group and collectiveness. They have realized they are not getting better prize of vegetable in market. Now we are planning to form FPC and train them in some value addition activity.

**Bhatlai Village organization:** The VO is envisaged primarily to play the role of a financial intermediary along with providing other services to the SHGs in book keeping, auditing, bank linkages and other linkages with developmental programs, line departments, etc. The VO is also envisaged to take up social issues and other developmental issues like food security, health, education, marketing, etc. Thus the VOs will not only assist in but also lead to the overall socio-economic development of the members of the SHGs and village. During this year we have formed 1 Village organization at bhatlai village. Total 10 SHG and 100 women households have become members of village organization. From each SHG, 2 leaders are nominated as VO member. VO will be getting loan for income generation activity at house hold and group base.

Sr.No	Number of SHG	Members	Savings	Money Lending	Govt.CC loan
1	24	350	7,12,400	4,14,000	2,00,000

#### **Celebration of International Women's Day:**

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

#### **Guests:**

1. Dr.Janak Sing Rathod (Head KVK Surat)
2. Mrs.Geeta Bhimani (Subject matter Specialist)
3. Falguni Desai (Taluka Livelihood Manager),
4. Chhotubhai (Sarpanch, Bhatlai Village),
5. Dr.Kajal Mangukiya ( Gynecologist)

#### **About the event celebration:**

As the countries across the globe celebrate International women day, Adani Foundation, with the theme of "Choose to Challenge" create awareness among the area of intervention villages and its neighbouring 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 2021 on the 8<sup>th</sup> March 2021 at Community Hall, Bhatlai Village. The event primarily focused on recognition and acknowledgement of women's participation and contribution towards nation building and awarding

those individual who excel in their various fields of livelihood promotion, social mobility, educations and social actions and mobilisers.

The event got inaugurated by lightning of Lamp and prayer by dignitaries present for the event which was followed by welcoming speech and honouring of Chief Guest and Guest of Honour by Adani Foundation promoted SHG's. Janak Sing Rathod Head and Senior scientist KVK Surat shared objective of the event and shared his experience of women empowerment he also advised SHG's members for formation of FPC and work as a group for betterment of society.

Ms. Falguni Desai, Taluka Livelihood Manager. She describes 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 also announced 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 acknowledged 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 talked about the tremendous efforts put in by SHG and appreciated the various income generation activities taken up by women folks in the village. Mrs. Geeta Ben Bhimani Taluka Development Office, gave an inspirational Speech for women members and shared transformational story of SHGs. *She had shared detailed information about impact of food and vegetable on human health.* She appreciated the efforts put in by Adani Foundation in empowering rural folks especially women members and shared her gratitude for inviting her in such an important program. The program ended after awarding certificate and prize to those who participated in food competition. There were around 225 women present in the event.

#### Way Forward:

- To promote SHGs to Village Organization (VO)
- To establish Income Generation Resources with the help of Government
- To promote FPC and small business enterprise





#### **Awareness on Natural Farming for Self Help Group:**

Adani foundation organized meeting with SHG members in Rajgari village on organic farming. Mr. P.K. Gaveriya from OPEDA (Organic Produce Export Development Authority), Mrs. Falguni Desai (DRDA) and Lataben (progressive farmer of Mandroi village) were present in meeting. Mr. Gaveriya explained benefits of organic farming and how it is beneficial for farmers and community. He told about certification for organic farming and why it is necessary to get certificate from OPEDA. Mrs. Falguniben shared information with SHG members about recently launched mukhya mantri mahila utkarsh yojana and how SHG group process their application for loan. Mrs. Lataben shared her journey about organic farming with SHG members, Do's & Don'ts of organic farming and motivated them for subhash palekar's model of cow based farming. 48 members from sakhi mandal were participated in the meeting.





### **Atamnirbhar SHG**

Under scheme of Gujarat Livelihood Promotion Company many Self Help Groups (SHGs) have been created in villages of hazira coastal area of Surat district. one of them is "NAND SAKHI MANDAL" in Junagam village. It was created in 2016, there are 10 registered members of the said SHG and all are resident of Junagam, The SHG was in passive mode till 2017. The Socio - economic status of the members are very low, the financial condition of all these members are very poor. Thus they were regularly searching for any opportunity to earn livelihood. The members of Nand Sakhi Mandal have taken training for sewing and stitching but they were using their skill for domestic purpose but unable to enhance their skills for commercial aspects.

Main source of income comes from daily wages and labour work in nearby industries.

Thus their socio economic status was very low. They are in constant search of something which will provide them income on regular basis to earn a decent lifestyle with self-respect. Nand Sakhi Mandal came in contact with adani foundation in 2017. Foundation met sakhi mandal and inquired about current status of group and started nurturing of group through interaction with members, book keeping training, leadership training, exposure visits, capacity building through various trainings. After these interventions AF was able to develop their self-confidence and skills to run SHG groups regularly. Among group members, Mrs. Nishaben Dineshbhai Patel, President of SHG group and women of ethics wants to do something with her life and wants to change fate of women associated with nand sakhi mandal. She is motivated and self-driven and able to take leadership when situation arises. In March 2020, there was an epidemic of corona and entire world got effected from this disaster. Industries and businesses irrespective of size, got affected in this situation. Govt. announced lockdown and people started migrating from working areas. It is difficult time for villagers in hazira Kantha villages. In this pandemic situation SHG group asked for help from adani foundation. Adani foundation wanted to help them but not at the cost of self-respect. After discussion with group, we planned to start production of washable cloth face masks. This way we were able to utilize their skills and they also felt sense of pride in their work. They were able to earn money through hardships and learnt an important lesson of life that nothing comes easy in life. Through collective efforts they were able to prepare 13,400 masks in one months and earned rs.4 per piece for preparing masks. Best part of this activity is that when entire world was exhausting their life savings for food and other essentials, at that time 10 women of SHG group in small village in coastal area earned money through their hardship and played a role of responsible citizen by producing masks for citizens and their loved ones. Responsibility reflects from their thoughts and action. They thank Adani foundation for support and guidance in this activity. Group members showed their strength and unity and became example for other groups.

### **Case Study – Best Agriculture Practices**

Name of farmer: Uttambhai Jamubhai Patel Village: Suvali Block.Choryashi

Uttambhai Jamubhai Patel is a 62-year-old farmer of Suvali village. Livelihood of his family depends on this agriculture land of 3 bigha received from his forefather as a means of earning, he has completed his primary education up to 5<sup>th</sup> standard from school in Suvali village. There are total 12 members in his family, 3 sons with in laws and 4 grandsons. They depend on produce of this agricultural land, throughout his whole life he has done agriculture in traditional way. He was skeptical about experiments in agriculture. since last 3 years in our agriculture workshop and meetings, we have put emphasis on chemical free farming and cow based agricultural practices so that farmers are able to generate higher produce from low investment and pesticide free agri-produce. 6 months ago Uttambhai Patel attended meeting for agriculture and livestock in Suvali village organized by adani foundation. During meeting our expert explained about importance of jiwamrut, Bijamrut, Ghanjiwamrut and Nimastra pesticides made from cow dung, Cow urine and other small items present in every kitchen. Jamubhai and various other farmers have shown interest in jiwamrut and wanted to apply it on their farms. AF representative met Uttambhai and his family on his farm and again explained him importance and benefits of jiwamrut and told him to collect ingredients for preparing jiwamrut. Next day our representative prepared jiwamrut in front of all family members to demonstrate the process of jiwamrut making and told them to preserve it for next 8 - 10 days and after that start applying it on produce through spray pump or sprinklers.

He is producing papdi vegetable since long time and used to get 60 quintal produce from his 3 Bigha land. But this time after applying jiwamrut in crop, he saw improvement in both, quantity and quality. In current season he got 60 quintal production from his land and due to increase in size and shine of papdi after applying jiwamrut, he got higher rate per kg. Since the product was completely chemical free and organic, Uttambhai got attention of buyers in vegetable market. The customers wait in market to buy vegetables from Uttambhai and he is able to sell his produce in hour or two and return home early.

Earlier, his crop was not shiny and healthy and as a result he got bad price for his crop and got mere Rs 1000 for 20 kg. However, after applying jiwamrut quality of crop improved and he started getting better price i.e. Rs. 1500 for 20 kg. As of now, the crops are very healthy and fresh. He said that current rate of 20 kg crust is 2100 rupees. In last 7 months, Uttambhai has earned 3,20,000 rupees and after using jiwamrut he has earned around Rs.50000 additional incomes. Nowadays he is the brand ambassador of jiwamrut and organic farming in hazira Kantha Vistar villages of Choryasi taluka. He has earned his name among progressive farmers in his village. We tell others about his achievements in our training programs for motivation. Now he is also giving guidance and support to farmers who want to adopt natural farming.



#### Livelihood support for tribal (kotwalia) community

Kotwalias are one of the Primitive Tribal Groups in southern Gujarat. Only 6% of total Kotwalia families hold agricultural land from ancient times, Kotwalias have been considered as untouchables. They were given spaces outside the village areas to build their houses, and not allowed to Participate in the village discussions. Traditionally Kotwalias had expertise in bamboo craft and it was the major source of income for them. With every passing day it was realized by community that with old practices and limited exposure it would be difficult to continue with same occupation. So this forced them to shift from traditional work to contract labor in agricultural fields. In short they were confronting structured unemployment. Over a period of time Migration to sugar cane field became their major seasonal livelihood. Mostly Kotwalia families migrate during winter season for sugar cane cutting. In sugarcane cutting, Kotwalias work as a bonded labor for a contractor. So contract labour work became destiny for kotwalia families. In our intervention for livelihood support, we have provided milch animal to 7 marginalized households of kotwalia community of Jamapur village SHG. "Parivartan Mahila Bachat Dhiran Juth, Jamapur" created by women's of kotwalia community of jamapur village is running successfully since last 10 years. Due to this intervention they will earn regular income through dairy cooperative. Regular income will support their children in getting good education, improve health, and improve living standard of 7 poor households. They will get fodder for cattle from farm where they work as farm labour. Milk Cooperative is also present in village where they can sell their milk and get regular payment. Milk Cooperative also provide fodder for their animals. Collectively More than 1000 litre Milk deposited by 7 households in milk co-operative and earn more than 50 k in a month.

#### C. Community Health:

SDG Alignment

Goal 3. Ensure healthy lives and promote well-being for all at all ages

The Adani Foundation firmly believe that improving the health of citizens can directly result in economic growth of the nation. Healthy people can utilise growth opportunities made available to them in a better way. Adani Foundation have committed itself to raising the standards of and strengthening healthcare systems in and around our operational village in Hazira area to ensure healthy lives and promote well-being at all ages in alignment with Sustainable Development Goals of the UN.

**De-addiction Programme:** Taking the need into consideration, Adani Hazira Port Pvt. Ltd. supported a de-addiction drive, which was organized for the people of the surrounding villages of Hazira and Oplad. This programme started with general awareness campaigns about the life hazards of any kind of addictions. Posters with very strong appeal and messages were displayed village in community places. As a result of this campaign, a lot of people suffering from addictions came forward for their treatment and rehabilitation. Such cases were referred to the Parivartan trust surat for 21 day's residential treatment. This year 20 Individual get benefited through this program.

**Health Camps:** Adani Foundation regularly conducts various general camps for the benefit of local communities in and around its operational villages as per requirement. Health camps were organized in villages Suvali,Bhatlai,Damka Rajgari and Vansva where services of gynaecologists for women health issue at Mora,Hazira and Suvali Health centre in collaboration with local Primary health department. were provided to the community members at zero cost. 635 Around villagers from the nearby villages attended and get the treatment through these camps. Free of cost follow-up services were also made available for de-addiction.



Awareness Session with Health worker





Awareness Session with Health worker

## COVID 19 related Activities.

### A. Covid-19 Relief work: -

Sanitization of villages Hazira, Suvali, Junagam, Damka, Rajgiri and Bhatha

AHPPL Contributed Grocery, Edible Oil & Vegetables in Community Kitchen run by MLA Choryashi Smt. Zankhanaben Patel

distribution of 5000 rice kits to marginal family and Provided transportation facilities to Govt. Authorities for food packets supply and Dhanvantari Rath. Distribution of 400 grocery kits to marginalized household identified by local community leaders with the help of police department. (Rice-2kg, cooking oil-1 ltr Dal- 2 kg, Haldi, dhaniya, mirchi 100 gm, Salt 1 kg Potato and onion 1 kg Parle G-1 Paket) in Hazira, Rajgir & Junagam village of Hazira kantha area. We have received Support from Adani Willmar for edible oil and chemical for sanitization Created awareness among community about social distancing and explained Dos and don'ts and encouraged people to strictly follow state government and central government advisory on COVID-19 and also distributed mask to 700 needy individual at village Hazira.



**Summary of initiatives: -**

S.No	Activities	Beneficiaries
1.	Mask preparation/ distribution	700
2.	Distribution of Ration Kits	2000
3.	Community Kitchen	5000
4.	Food (Cooked) Pkt distribution	0
5.	Sanitization work	35325
6	20 Tin Edible oil (15 L each), 500 Kg Flour, 1000 KG, Potato 500 Kg, Onion 25 KG, ginger 25 Kg, Garlic and 25 Kg Green chili Financial support for 5000 Rice kit ( Amount Rs.5 Lakh)	5000

**B. Emergency Support for Oxygen supply to New Civil Hospital- Suart**

Adani Foundation Hazira helped the New civil hospital -Surat in fighting COVID-19. Adani Foundation-Hazira donated three vaporizer systems of capacity 1000 m<sup>3</sup> and two oxygen pressure reduction systems for availability of oxygen for COVID patients in New Civil Hospital, Surat. The donated equipment will ensure oxygen supply to 2200 more patients without pressure drop if continuous liquid oxygen supply is maintained.



**Promotion of Rural Sports.**

**SDG Alignment**

SDG 3: Good Health and Well Being Training to promote rural sports, nationally recognized sports, Paralympic sports and Olympic Sports

Adani rural Cricket tournament 2020-21 was organized in village Junagam at Navchetan cricket ground where total number of 40 teams from 33 villages 600 players participated in the tournament. Rural youths from across these villages took active participation and played with game spirit to win the tournament. Rs.3.40 Lakh total community contribution received during this year. such sports events on cricket tournament helped AF in creating positive impact around area especially among youth and village communities. During the inauguration ceremony, community leaders and village Sarpanch were present. These leaders have acknowledged the efforts put in by Adam Foundation in building the nation and supporting rural communities through various means. All Leader motivated rural youths to give their best talents and to succeed in life. They also appreciate AF effort on encouraging Rural sports. AF provided t-shirts, trousers, sports materials, prize, logistic support and a ground maintenance for practice at Navchetan Cricket ground Junagam.



**D. Community Infrastructure Development: -**

Sr No	Name of Work
1	Pond deepening at Damka village
2	Support for Scholl Building at Junapura
3	Staircase Facility at Navchetan Vidhyalay Primary wing Junagam





#### # Employee Voluntary Program: "Joy of giving"

As a socially responsible organization, Adani group intends to fulfil its commitment of giving back to society by extending their employees' time and skills to deepen their reach and enrich their engagement with all the stakeholders. It is not only for an organization to be a partner to non-profit organizations but we also believe our employees could actually be part of these programs and we could get their talent together and work towards a better tomorrow. All our volunteering programs are cause-based programs. "Through employee volunteering programs, our employees act as the ambassadors between the company and community. Such programs help in building relationships between employees and the community.

This year EVP activities are as follows:

1. Cloths distribution in halptiwas community of Hazira, Suvali, Damka and Vanswa villages.
2. Sweets distribution in halpatiwascommunity At hazira and suvali.



**Beneficiaries Details of Hazira site for the Financial Year 2020 – 21: -**

Sr No	Activity	Beneficiaries		Remarks
		Direct	Indirect	
<b>A</b>	<b>Community Health</b>			
1	Transportation support for dhanvantari Rath	1500	7500	
2	Health Camp	343	1715	
3	Gynec doctor visit	292	1460	
<b>B</b>	<b>Sustainable livelihood development</b>			
1	Kamdhenu Program	2978	14890	
2	Training on Mask preparation and Tailoring	35	175	
3	Rural Sports	600	0	
4	women day celebration	225	0	
5	SHG capacity building	350	1750	
6	world environment day celebration	50	0	
7	Celebration of forest week	25	0	
8	Livelihood support to tribal community	07	35	
9	Promotion of natural farming	18	90	
<b>C</b>	<b>Education</b>			
1	Utthan	1403	4209	
2	NPVW	443	1329	
3	JNV and NMMS	1367	0	
4	Drinking water facility through RO plant	800	0	
<b>D</b>	<b>CID Work</b>			
1	Water Conservation	69	5604	
2	School building Support for Junapura	750	2250	
<b>E</b>	<b>Project Suposhan</b>			
<b>1</b>	Suposhan program	3759	18795	
<b>F</b>	<b>Employee volunteer program</b>			
1	Joy of giving	160	800	
G	Covid-19 Relief work	48025	35000	
	<b>Total beneficiaries'</b>	<b>63199</b>	<b>73102</b>	

**Details of CSR Expenditure of FY 2020-21**

Sr No	Particulars	Budget 2020-21			Actual Expenditure end of March 31 <sup>st</sup> 2021
		Capex	Opex	Total	
1	Education- (Other than Utthan Project)	00	64.95	64.95	40.98
	Education- Utthan Project	00	87.87	87.87	40.41
2	Community Health	00	16.65	16.65	8.43
3	Sustainable Livelihood Development	00	45.98	45.98	43.76
4	Community Infrastructure Development	00	23.50	23.50	67.61
5	Other (Admin and Miscellaneous)	3.48	12.70	16.18	22.42
	<b>Total</b>	<b>3.48</b>	<b>251.65</b>	<b>255.13</b>	<b>223.61</b>

**CSR Expenditure of last three Years:**

Year	Budget	Expenditure
2018-19	307.53	253.50
2019-20	330.53	265.75
2020-21	255.13	223.61





## અદાણી ફાઉન્ડેશન હજુરા દ્વારા કાંઠા વિસ્તારના + ગામોમાં મેડિકલ કેમ્પનું આયોજન કરવામાં આવ્યું

**જાણીતા સ્ત્રીરોગ નિષ્ણાત  
ડૉ. કાજલ માંગડિયા  
કેમ્પમાં ઉપસ્થિત રહ્યા હતા**

સુરત, અદાણી ફાઉન્ડેશન હજુરા કાંઠા વિસ્તારના અઢાર નાણે પીપા કેમ્પ આયોજન કરી જરૂરના ઘોડોને પહોંચાડી રહે છે. હજુરામાં કાંઠા વિસ્તારના આઠ ગામોને આરોગ્ય સુવિધા મળી રહે તે હેતુથી સમયાંતરે મેડિકલ કેમ્પનું આયોજન કરવામાં આવે છે. આ કેમ્પના પાછળની હેતુ વિષે જણાવતા અદાણી ફાઉન્ડેશનના અધિકારીઓએ જણાવેલ છે કે કોરોના અરોગ્યમાં સુધારા માટે આ કેમ્પનું આયોજન કરવામાં આવ્યું હતું. ગામના લોકોમાં જે સ્ત્રીઓ છે તેનું નિત્ય લઈ તેમને જરૂરી હવા અપવાના ઉપકરણો આ કેમ્પનું આયોજન કરવામાં આવ્યું હતું.

પ્રાથમિક આરોગ્ય કેન્દ્ર સુધારાની માહિતીને કોરોના સત્ર સંદર્ભમાં જાણીતા



સોરોન નિષ્ણાત ડૉ. કાજલ માંગડિયાની હાજરીમાં આયોજન કેમ્પનું આયોજન કરવામાં આવ્યું. આ કેમ્પમાં ડૉ. કાજલ જે પોતે સુધારા, હજુરા, મોરબા આરોગ્ય કેમ્પમાં સ્ત્રી પોતાની સેવાઓ આપી રહ્યા છે. આ કેમ્પમાં સ્ત્રી સંખ્યામાં મહિલાઓ પોતાની અરોગ્યને લગતી સમસ્યાઓ લઈને આવે છે અને તેનું સમાધાન મળી રહે છે. આજ રોજ

સુધારા મુકામે આરોગ્ય કાર્યકર્તાઓ આઠા વરે અને સંગેની જાતેની સ્ત્રી જનસંખ્યાનો કાર્યકર્તાઓએ લોકોને આ કાર્યકર્તાઓ ઉપ કલ્યાણીઓ હજુરા રહ્યા હતા. સુધારા પ્રાથમિક આરોગ્ય કેન્દ્રના ડૉ. કાજલ હાજર રહ્યા હતા. અને અદાણી ફાઉન્ડેશન દ્વારા શરૂ કરવામાં આવેલ આયોજન હેતુ હજુરામાં અદાણી ફાઉન્ડેશનની હજુરા ટીમે માર્ગદર્શિકાની વિડિયોમાં વર્ણમાં વર્ણ લાગ

## અદાણી ફાઉન્ડેશન દ્વારા રાજગીરી ગામની બહેનો માટે મોટિવેશન કાર્યક્રમ યોજાયો

સખી મંડળ સાથેની મીટીંગમાં રીઆરડીએ-સુરત અને ઓપીઈડીએ ના અધિકારીઓએ હાજરી આપી

સુરત, તા. ૧૭

હજુરા કાંઠા વિસ્તારમાં આવેલ રાજગીરી ગામને કાર્યકર્તાઓએ મોટી સંખ્યામાં બહેનોને આરોગ્ય સુવિધાઓ પહોંચાડી રહે છે. હજુરામાં કાંઠા વિસ્તારના આઠ ગામોને આરોગ્ય સુવિધા મળી રહે તે હેતુથી સમયાંતરે મેડિકલ કેમ્પનું આયોજન કરવામાં આવે છે. આ કેમ્પના પાછળની હેતુ વિષે જણાવતા અદાણી ફાઉન્ડેશનના અધિકારીઓએ જણાવેલ છે કે કોરોના અરોગ્યમાં સુધારા માટે આ કેમ્પનું આયોજન કરવામાં આવ્યું હતું. ગામના લોકોમાં જે સ્ત્રીઓ છે તેનું નિત્ય લઈ તેમને જરૂરી હવા અપવાના ઉપકરણો આ કેમ્પનું આયોજન કરવામાં આવ્યું હતું.



આ કાર્યક્રમમાં ઓપીઈડીએ ના અધિકારીઓએ જણાવેલ છે કે કોરોના અરોગ્યમાં સુધારા માટે આ કેમ્પનું આયોજન કરવામાં આવ્યું હતું. ગામના લોકોમાં જે સ્ત્રીઓ છે તેનું નિત્ય લઈ તેમને જરૂરી હવા અપવાના ઉપકરણો આ કેમ્પનું આયોજન કરવામાં આવ્યું હતું.

મહારોડ ગામના અધિકારીઓએ જણાવેલ છે કે કોરોના અરોગ્યમાં સુધારા માટે આ કેમ્પનું આયોજન કરવામાં આવ્યું હતું. ગામના લોકોમાં જે સ્ત્રીઓ છે તેનું નિત્ય લઈ તેમને જરૂરી હવા અપવાના ઉપકરણો આ કેમ્પનું આયોજન કરવામાં આવ્યું હતું.

## કોરોનાકાળની કપરી પરિસ્થિતિમાં સેવાની સુગંધ ફેલાઈ હજુરા કાંઠા વિસ્તારના બાળકો સાથે શૈક્ષણિક નાતો જાળવી રાખતી અદાણી ફાઉન્ડેશન



**હજુરાના આઠ ગામોની  
દસ સરકારી શાળામાં  
ઉત્થાન પ્રોજેક્ટની  
ટીમનું ખાસ અભિયાન**  
સુરત. અદાણી ફાઉન્ડેશન દ્વારા હજુરા કાંઠા વિસ્તારના છેવાડાના ૮ ગામોની ૧૦ સરકારી પ્રાથમિક શાળાઓમાં ચાલતા ઉત્થાન પ્રોજેક્ટ દ્વારા બાળકોની શિક્ષણની કામગીરી અવિરતપણે ચાલુ રહેવા પામી છે. હાલમાં કોરોનાને લીધે બાળકો શિક્ષણથી વિખુટા ન પડી જાય અને 'શાળા બંધ છે, શિક્ષણ નહીં' સુરતને

સાથે કરવા અદાણી ફાઉન્ડેશન દ્વારા નિયુક્ત કરાયેલ ઉત્થાન સહાયકો દ્વારા કોરોના મહામારી વચ્ચે સરકારી ગાઈડ લાઈન ને ચુસ્તપણે પાલન કરીને સતત કાર્યરત છે. આ વિસ્તારમાં એવા ઘણાં બાળકો અને વાલીઓ છે, જેમના પાસે એન્ડ્રોઈડ ફોન, ટીવી કે ઓનલાઈન શિક્ષણ મેળવવાનું કોઈ માધ્યમ નથી. એવા પરિવારના બાળકો માટે આ પ્રોજેક્ટ આશીર્વાદ રૂપ સાબિત થઈ રહ્યો છે. શાળાના સામાન્ય બાળકો સાથે પ્રિય બાળકો કે જેમને વાંચન, લેખન અને ગણનામાં વિશેષ મદદની જરૂરીયાત છે, તેમના થેર જઈ રૂબરૂ મુલાકાત કરી,

વર્કશીટ, ટી.એલ.એમ. અને જરૂરી અભ્યાસ સામગ્રી આપી બાળકોની રસ-રુચિવાળી પ્રવૃત્તિઓ દ્વારા ભણાવવામાં આવી રહ્યા છે. બાળકો પણ જ્યારે લાંબા સમયથી શાળામાં જઈ શિક્ષણ મેળવી શકતાં નથી, ત્યારે આ રૂબરૂ મુલાકાત દ્વારા હોશિયર સાથે-સહકાર આપીને ભણી રહ્યા છે. અદાણી ફાઉન્ડેશન દ્વારા જ્યાં સુધી શાળાઓ પુનઃપુલશે નહિ ત્યાં સુધી, આ રીતે વિદ્યાર્થીઓના ઘરની મુલાકાત લઈ શિક્ષણકાર્ય ચાલુ જ રાખવામાં આવશે અને બાળકોના શિક્ષણ ને ભાષિત થવા દેવામાં નહિ આવે.

અનુ. કાજલ માંગડિયા  
અદાણી ફાઉન્ડેશન હજુરા કાંઠા વિસ્તારના અઢાર નાણે પીપા કેમ્પ આયોજન કરી જરૂરના ઘોડોને પહોંચાડી રહે છે. હજુરામાં કાંઠા વિસ્તારના આઠ ગામોને આરોગ્ય સુવિધા મળી રહે તે હેતુથી સમયાંતરે મેડિકલ કેમ્પનું આયોજન કરવામાં આવે છે. આ કેમ્પના પાછળની હેતુ વિષે જણાવતા અદાણી ફાઉન્ડેશનના અધિકારીઓએ જણાવેલ છે કે કોરોના અરોગ્યમાં સુધારા માટે આ કેમ્પનું આયોજન કરવામાં આવ્યું હતું. ગામના લોકોમાં જે સ્ત્રીઓ છે તેનું નિત્ય લઈ તેમને જરૂરી હવા અપવાના ઉપકરણો આ કેમ્પનું આયોજન કરવામાં આવ્યું હતું.

સુરત, અદાણી ફાઉન્ડેશન દ્વારા હજુરા કાંઠા વિસ્તારના અઢાર નાણે પીપા કેમ્પ આયોજન કરી જરૂરના ઘોડોને પહોંચાડી રહે છે. હજુરામાં કાંઠા વિસ્તારના આઠ ગામોને આરોગ્ય સુવિધા મળી રહે તે હેતુથી સમયાંતરે મેડિકલ કેમ્પનું આયોજન કરવામાં આવે છે. આ કેમ્પના પાછળની હેતુ વિષે જણાવતા અદાણી ફાઉન્ડેશનના અધિકારીઓએ જણાવેલ છે કે કોરોના અરોગ્યમાં સુધારા માટે આ કેમ્પનું આયોજન કરવામાં આવ્યું હતું. ગામના લોકોમાં જે સ્ત્રીઓ છે તેનું નિત્ય લઈ તેમને જરૂરી હવા અપવાના ઉપકરણો આ કેમ્પનું આયોજન કરવામાં આવ્યું હતું.

અનુ. કાજલ માંગડિયા  
અદાણી ફાઉન્ડેશન હજુરા કાંઠા વિસ્તારના અઢાર નાણે પીપા કેમ્પ આયોજન કરી જરૂરના ઘોડોને પહોંચાડી રહે છે. હજુરામાં કાંઠા વિસ્તારના આઠ ગામોને આરોગ્ય સુવિધા મળી રહે તે હેતુથી સમયાંતરે મેડિકલ કેમ્પનું આયોજન કરવામાં આવે છે. આ કેમ્પના પાછળની હેતુ વિષે જણાવતા અદાણી ફાઉન્ડેશનના અધિકારીઓએ જણાવેલ છે કે કોરોના અરોગ્યમાં સુધારા માટે આ કેમ્પનું આયોજન કરવામાં આવ્યું હતું. ગામના લોકોમાં જે સ્ત્રીઓ છે તેનું નિત્ય લઈ તેમને જરૂરી હવા અપવાના ઉપકરણો આ કેમ્પનું આયોજન કરવામાં આવ્યું હતું.



### **Annexure 3**

**Details of status of Implementation of EMP of Environment and CRZ clearance issued  
by MoEF&CC, New Delhi Vide letter no.: 11-150/2010-ia.iii, dated 03rd may, 2013**

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

<b>S. No.</b>	<b>EMP Conditions</b>	<b>Compliance Status as on 31.03.2021</b>
<b>I.</b>	<b>AS PER TERRESTRIAL ENVIRONMENTAL IMPACT ASSESSMENT REPORT: -</b>	
<b>A</b>	<b>CONSTRUCTION PHASE:-</b>	
<b>1.</b>	<b>Dredged Soils Management Plan:</b> AHPL 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.	<b>Complied.</b> No disposal has been done till date. All the dredging material was utilized for level raising, reclamation. If any excess material generated will be disposed of at the location already approved by the MoEF&CC.
<b>2.</b>	<b>Air Quality Management:</b> 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.	<b>Being Complied</b> Water sprinkling is being done on haulage roads on regular basis.
<b>3.</b>	<b>Noise Control Programs:</b> 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.	<b>Complied</b> Fabrication activities have been done at a designated location away from the office buildings and working areas. <b>Complied</b> Noise level was below 85 dB(A) during the fabrication. Currently no fabrication activities are going on. <b>Complied.</b> In-built noise enclosures are available in portable diesel engine generators and diesel engine driven compressors to reduce the noise level.
<b>4.</b>	<b>Sewage Management Program:</b> 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.	<b>Being Complied</b> Sewage generated from the construction site is being treated in STP and treated water is being used for greenbelt development.
<b>5.</b>	<b>Solid and Hazardous Waste Management Program:</b> The solid waste generated should be segregated and categorized under various rules such as HWM 2008, SWM 2000, the Batteries Rules 2001 including processing	<b>Being Complied</b> All the wastes are being segregate at source and handled as per applicable rules/ guidelines and disposed off through GPCB approved agency.

	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.	
<b>6.</b>	<b>Construction Phase Storm Water Runoff:</b> It has been recommended to adopt soil stabilization plans and storm water sedimentation basins to control the silt before discharging the storm water into sea.	<b>Complied</b> Separate storm water channels have been developed to discharge the storm water.
<b>7.</b>	<b>Sanitation:</b> 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.	<b>Complied</b> Proper sanitation arrangements are available for workers at project site.
<b>B.</b>	<b>OPERATION PHASE: -</b>	
<b>1.</b>	<b>Air Quality Management:</b>	
<b>i.</b>	<b>Cargo-Handling Equipment:</b> 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.	<b>Being Complied</b> All the deployed vehicles and equipment are PUC certified.
<b>ii.</b>	<b>Standby Diesel Generators:</b> 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.	<b>Being Complied</b> DG Sets are being operated only in case of power failure, DG are 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.
<b>iii.</b>	<b>Fugitive Coal Dust Control Program:</b> The management of AHPL has proposed to adopt the following fugitive coal dust control measures: - <b>a. Dry Fog System</b> - 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,	<b>Complied.</b> 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,

	<p>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.</p> <p><b>b. Sprinklers:</b> 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.</p>	<p>6. Wind Brake Shield of 14 meters high and 1900 meters long,</p> <p>7. Transportation of cargo from port to hinterland is being done through dumpers / trucks covered with tarpaulin,</p> <p>8. Regular cleaning of the roads through Road Sweeping Machines, and</p> <p>9. Company has set up dedicated greenbelt area for plantation at periphery / avenue plantation / landscaping etc. Total greenbelt area developed so far is approx. 78.90 ha within the port premises.</p>
<b>2.</b>	<p><b>Noise Control Program:</b> The following source noise control plans have been suggested: -</p> <ul style="list-style-type: none"> <li>➤ Covering of sound intensive components with insulation.</li> <li>➤ Using noise absorbing building materials if required for housing compressors and diesel generators etc. as per the guidelines suggested by Central Pollution Control Board.</li> <li>➤ Adopting low noise driving (Eco-driving)</li> <li>➤ Using silent exhaust pipes for major diesel engine vehicles and heavy trucks operated inside the port.</li> <li>➤ Planting trees which act as barrier to arrest dispersion of noise levels.</li> <li>➤ Using electricity powered equipment inside the port instead of diesel powered ones will be explored to the extent possible.</li> </ul>	<p><b>Complied.</b></p> <ul style="list-style-type: none"> <li>• All the sound intensive components (DG Set and Compressor) are with acoustic enclosures.</li> <li>• Green belt development is in progress.</li> <li>• All RTGs and Quay Cranes are electricity operated.</li> </ul>
<b>3.</b>	<p><b>Waste Water Management:</b> Port handling operations would generate wastewater from the following sources: -</p> <ol style="list-style-type: none"> <li>1. Ship ballast water,</li> <li>2. Ship deck wastewater including sewage,</li> <li>3. Rejects from desalination plant,</li> <li>4. Workshop and vehicle maintenance shop wastewater,</li> <li>5. Leachate from coal stock yard,</li> <li>6. Floor cleaning and tank cleaning wastewater from the liquid tank farm,</li> <li>7. Sewage from port facilities. The proposed wastewater treatment and reuse program has been presented hereunder: -</li> </ol>	<p><b>Being Complied</b></p> <ul style="list-style-type: none"> <li>- AHPL is not accepting Ballast/ Sewage water from Ships.</li> <li>- Desalination plant not yet installed.</li> <li>- There is no effluent generation from workshop. Vehicle maintenance is not done in port premises.</li> <li>- There is no leachate from dump pond.</li> <li>- Tank cleaning wastewater is being treated into ETP.</li> <li>- Domestic waste water is being treated in the STP and then used</li> </ul>

	<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"> <li>➤ 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.</li> <li>➤ 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 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.</li> </ul>	<p>for horticulture purpose within the port premises.</p> <p><b>Complied.</b> Dedicated coal dump pond is provided to collect the runoff (if any) from coal yard and it is further reused for dust suppression purpose into coal yard.</p> <p><b>Complied with.</b> 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>
<b>4.</b>	<p><b>Storm Water Management Plan:</b></p> <ul style="list-style-type: none"> <li>➤ 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.</li> <li>➤ 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.</li> </ul>	<p><b>Complied</b> 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><b>Complied.</b> 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>
<b>5.</b>	<b>Solid and Hazardous Waste Management:</b>	<b>Complied.</b>

	<p>➤ Solid wastes generated from the port handling facilities consist of packaging waste such as wood, paper/carton, steel scrap etc.</p> <p>➤ 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.</p> <p>➤ Recyclable wastes will be collected and disposed to waste recycling vendors through certified recyclers wherever applicable.</p> <p>➤ 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> <p>➤ Spent lube oils and greases will be disposed to authorized used oil recycling vendors.</p> <p>➤ A dedicated and completely enclosed shed will be identified to store the hazardous wastes in order to avoid any cross contamination from storm water.</p> <p>➤ 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>	<p>- Solid wastes generated during port development i.e.: construction &amp; 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.</p> <p>- 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> <p><b>Complied.</b> All the wastes are segregated at source and stored at a dedicated Hazardous Waste storage shed/yard.</p> <p><b>Complied.</b> Recyclable waste is being collected and disposed of through CPCB/GPCB registered recyclers.</p> <p><b>Complied.</b> No spill has occurred till date.</p> <p><b>Complied.</b> Recyclable wastes is being collected and disposed off through CPCB/GPCB registered recyclers.</p> <p><b>Complied.</b> All the wastes are stored at a dedicated hazardous waste storage shed/yard.</p> <p><b>Being Complied</b> All the wastes are being segregate at source and handled as per applicable rules/ guidelines.</p>
<b>6.</b>	<b>Greenbelt and Plantation:</b>	<b>Complied</b>

	<p>➤ AHPL 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.</p> <p>➤ 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>	<p>Company has set up dedicated greenbelt area for plantation at periphery / avenue plantation / landscaping etc. Total greenbelt area developed so far is approx. 78.90 ha till 31<sup>st</sup> March 2021.</p> <p>Horticulture budget for FY 2020-21 was Rs. 143.12 Lakhs.</p>
<b>7.</b>	<p><b>Community Development Plan:</b> AHPL has identified focused areas for community development and implement developmental program. The identified activities under CSR program are as follows:</p> <ul style="list-style-type: none"> <li>-</li> <li>1. Infrastructure development for educational facilities like building of schools, computer rooms, multipurpose activity halls</li> <li>2. Supporting education through distribution of stationary, scholarships, science kits, bicycles to children, conducting education camps, competitions.</li> <li>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.</li> <li>4. Improvement of rural sanitation by conducting mass awareness campaign, helping villagers for constructing and maintaining household toilets, school toilets.</li> <li>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.</li> <li>6. Organizing need based skill development program to women and youth for their empowerment.</li> <li>7. Rural infrastructure development by construction of rainwater harvesting ponds, check dams, roads, bus stops, drainage systems, fish landing shed, solar street lamps.</li> </ul>	<p><b>Complied.</b></p> <ul style="list-style-type: none"> <li>• 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.</li> <li>• Detail of the CSR activities along with budgetary provisions and progress are regularly submitted to MoEF &amp; CC as part of six monthly compliance reports.</li> <li>• Please refer the <b><u>Annexure-2</u></b> for the status of the CSR activities during the Financial Year: 2020-21.</li> </ul>

	<p>AHPL 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 1<sup>st</sup> 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"><b>Total</b></td><td><b>8.21</b></td></tr> </tbody> </table>	S. No.	Descriptions	Budgeted Amount For 1 <sup>st</sup> 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	<b>Total</b>		<b>8.21</b>	
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<b>II.</b>	<b>MARINE ENVIRONMENT MANAGEMENT PLAN:</b>																						
<b>A.</b>	<p><b>CONSTRUCTION PHASE: -</b></p> <ul style="list-style-type: none"> <li>➤ The dredge spoil generated during capital dredging will be used for land reclamation for the port development and associated utilities.</li> <li>➤ Unused dredged material will be disposed off at approved dump sites to the north of port area including dredged soil generated through maintenance dredging.</li> <li>➤ 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.</li> <li>➤ 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.</li> </ul>	<p><b>Complied.</b> No disposal has been done till date. All the dredging material is being utilized for level raising, reclamation.</p> <p><b>Complied</b> If any excess material generated will be disposed of at the location already approved by the MoEF&amp;CC.</p> <p><b>Noted &amp; Being Complied</b> Monitoring of turbidity level in the sea water is being done and there is no abnormal increase observed.</p> <p><b>Being Complied.</b> Clean up of the area is regularly being done.</p>																					
<b>B.</b>	<p><b>OPERATION PHASE: -</b></p> <p>The following mitigation measures are recommended during port operation: -</p> <ul style="list-style-type: none"> <li>➤ 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.</li> </ul>	<p><b>Complied.</b> Sewage generated from the port operations is being treated in STP and treated water is being used for horticulture and green belt development.</p>																					



<ul style="list-style-type: none"> <li>➤ All the solid waste generated from the port will be properly segregated, stored and disposed as per the applicable statutory requirement.</li> <li>➤ 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.</li> <li>➤ 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.</li> <li>➤ All the minor and major spillages of chemicals will be effectively controlled with appropriate tools and equipments.</li> <li>➤ 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.</li> <li>➤ All the marine outfall shall meet the Gujarat Pollution Control Board Effluent Discharge Criteria for Seawater Disposal Standards.</li> <li>➤ 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.</li> <li>➤ 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.</li> </ul>	<p><b>Complied.</b> All the solid waste generated from the port is properly segregated, stored and disposed as per the applicable rules.</p> <p><b>Being Complied</b> Free flow to the mangrove is not restricted by any of our activity.</p> <p><b>Complied.</b> 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 AHPL. The report did not warrant any mitigation measures.</p> <p><b>Noted and Being Complied.</b> There is no oil spill till date.</p> <p><b>Complied.</b> 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><b>Noted and Being Complied</b> No effluent is being discharged.</p> <p><b>Complied.</b> Please refer the <b>Annexure-4D</b> for the Sea Water Quality Monitoring / Analysis Reports for the period <b>October 2020 to March 2021.</b></p> <p><b>Noted,</b> AHPL is not discharging any effluent outside the port premises.</p>
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#### **Annexure 4**

#### **Environment Monitoring Report (October 2020- March 2021)**



**4A. AMBIENT AIR QUALITY MONITORING (OCTOBER 2020 TO MARCH 2021): -**

**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 <sub>10</sub>	PM <sub>2.5</sub>	Pb	BaP	As	Ni	CO	C <sub>6</sub> H <sub>6</sub>	NH <sub>3</sub>	SO <sub>2</sub>	NO <sub>x</sub>	O <sub>3</sub>
		µg/m <sup>3</sup>	µg/m <sup>3</sup>	µg/m <sup>3</sup>	ng/m <sup>3</sup>	ng/m <sup>3</sup>	ng/m <sup>3</sup>	mg/m <sup>3</sup>	µg/m <sup>3</sup>	µg/m <sup>3</sup>	µg/m <sup>3</sup>	µg/m <sup>3</sup>	µg/m <sup>3</sup>
1	01/10/2020	81.37	44.52	0.70	ND*	2.54	10.11	0.66	ND*	33.48	16.20	33.29	20.80
2	05/10/2020	73.61	38.55	ND*	ND*	ND*	ND*	0.77	ND*	35.64	22.68	37.58	22.48
3	08/10/2020	88.33	45.24	0.75	ND*	2.22	10.47	0.98	ND*	31.52	13.87	26.33	19.38
4	12/10/2020	77.51	37.26	ND*	ND*	ND*	ND*	0.71	ND*	28.41	17.62	35.68	23.21
5	15/10/2020	85.65	43.62	ND*	ND*	ND*	ND*	0.86	ND*	36.26	24.25	42.68	25.35
6	19/10/2020	90.31	53.48	0.58	ND*	2.46	10.64	0.76	ND*	26.34	19.78	38.41	18.40
7	22/10/2020	84.53	46.28	ND*	ND*	ND*	ND*	0.69	ND*	24.29	21.35	32.58	21.55
8	26/10/2020	70.65	42.37	ND*	ND*	ND*	ND*	0.48	ND*	27.57	15.65	29.33	17.32
9	29/10/2020	86.27	47.55	ND*	ND*	ND*	ND*	0.68	ND*	30.33	23.42	40.22	27.33
10	02/11/2020	78.68	45.31	ND*	ND*	ND*	ND*	0.93	ND*	23.64	15.65	29.44	19.47
11	05/11/2020	68.53	33.46	ND*	ND*	ND*	ND*	0.54	ND*	27.63	21.20	34.36	27.61
12	09/11/2020	82.61	48.33	0.64	ND*	2.56	10.38	0.72	ND*	24.33	19.43	37.39	22.34
13	12/11/2020	74.59	34.50	ND*	ND*	ND*	ND*	0.85	ND*	34.27	23.46	40.54	18.94
14	16/11/2020	88.33	50.26	0.82	ND*	2.36	10.60	0.47	ND*	30.43	17.27	32.54	24.43
15	19/11/2020	72.35	43.50	ND*	ND*	ND*	ND*	0.64	ND*	38.49	25.33	35.36	15.93
16	23/11/2020	90.23	54.55	0.76	ND*	2.46	10.87	0.79	ND*	35.46	22.47	43.60	20.43
17	26/11/2020	76.53	40.87	ND*	ND*	ND*	ND*	0.92	ND*	39.58	12.46	36.33	23.60
18	30/11/2020	84.36	46.21	ND*	ND*	ND*	ND*	0.58	ND*	26.56	24.21	41.27	26.56
19	03/12/2020	88.67	46.57	ND*	ND*	ND*	ND*	0.32	ND*	28.43	17.70	36.53	24.27
20	07/12/2020	69.47	34.25	ND*	ND*	ND*	ND*	0.65	ND*	36.25	20.64	39.24	21.62
21	10/12/2020	90.35	47.90	0.85	ND*	2.32	10.27	0.87	ND*	39.42	23.43	43.50	27.63
22	14/12/2020	85.37	49.38	ND*	ND*	ND*	ND*	0.69	ND*	29.76	14.80	29.25	22.95
23	17/12/2020	94.28	51.28	0.65	ND*	2.46	10.60	0.96	ND*	40.24	22.21	40.24	20.67
24	21/12/2020	79.35	35.36	ND*	ND*	ND*	ND*	0.89	ND*	27.87	18.26	30.66	25.37
25	24/12/2020	86.39	52.32	0.72	ND*	2.18	10.31	0.50	ND*	33.52	24.26	35.26	19.43
26	28/12/2020	78.37	41.26	ND*	ND*	ND*	ND*	0.53	ND*	24.52	21.32	32.88	15.90
27	31/12/2020	81.35	45.55	ND*	ND*	ND*	ND*	0.71	ND*	34.23	19.90	26.48	23.86
28	04/01/2021	79.38	48.53	ND*	ND*	ND*	ND*	0.72	ND*	29.69	21.21	42.36	26.28
29	07/01/2021	92.65	53.44	0.80	ND*	2.42	10.23	0.37	ND*	38.68	25.70	38.66	20.87

Authorized Signatory





30	11/01/2021	78.54	46.22	ND*	ND*	ND*	ND*	0.47	ND*	25.62	18.73	31.29	25.37
31	14/01/2021	87.63	50.22	ND*	ND*	ND*	ND*	0.98	ND*	36.34	24.35	44.29	27.68
32	18/01/2021	93.32	54.25	0.71	ND*	2.26	10.38	0.74	ND*	33.63	20.66	37.52	22.90
33	21/01/2021	73.45	38.59	ND*	ND*	ND*	ND*	0.57	ND*	30.25	22.29	41.28	24.71
34	25/01/2021	85.34	51.28	0.58	ND*	2.78	10.11	0.84	ND*	23.75	19.31	39.29	21.59
35	28/01/2021	68.32	32.57	ND*	ND*	ND*	ND*	0.66	ND*	34.22	16.55	35.23	18.90
36	01/02/2021	73.61	43.66	ND*	ND*	ND*	ND*	0.56	ND*	15.67	25.46	44.27	12.62
37	04/02/2021	88.64	50.20	0.72	ND*	2.36	10.38	0.77	ND*	35.62	21.23	37.22	23.46
38	08/02/2021	72.66	45.67	ND*	ND*	ND*	ND*	0.66	ND*	38.47	17.52	42.43	26.33
39	11/02/2021	86.26	48.62	ND*	ND*	ND*	ND*	0.82	ND*	34.55	19.34	39.55	19.24
40	15/02/2021	92.37	52.45	0.66	ND*	2.76	10.60	0.65	ND*	18.97	16.39	41.24	17.63
41	18/02/2021	80.35	44.33	ND*	ND*	ND*	ND*	0.76	ND*	33.41	23.42	35.46	20.72
42	22/02/2021	71.61	41.26	ND*	ND*	ND*	ND*	0.71	ND*	27.25	15.64	31.53	22.44
43	25/02/2021	87.52	46.38	0.56	ND*	2.18	10.42	0.78	ND*	30.73	20.25	40.27	24.23
44	01/03/2021	77.65	40.26	ND*	ND*	ND*	ND*	0.90	ND*	28.43	26.80	39.25	25.66
45	04/03/2021	85.76	45.29	ND*	ND*	ND*	ND*	0.86	ND*	31.61	13.55	36.50	27.53
46	08/03/2021	90.21	51.26	0.80	ND*	2.56	ND*	0.72	ND*	26.46	19.49	30.53	16.55
47	11/03/2021	75.35	41.76	ND*	ND*	ND*	ND*	0.60	ND*	35.42	20.71	42.54	20.60
48	15/03/2021	89.33	46.25	0.55	ND*	2.42	ND*	0.93	ND*	30.41	17.80	35.60	23.66
49	18/03/2021	95.41	54.56	0.73	ND*	2.28	ND*	0.69	ND*	32.56	21.34	38.41	19.31
50	22/03/2021	78.64	48.65	ND*	ND*	ND*	ND*	0.61	ND*	29.57	23.45	41.35	28.24
51	25/03/2021	86.24	44.28	ND*	ND*	ND*	ND*	0.87	ND*	33.25	18.26	26.76	26.42
52	29/03/2021	80.21	47.54	ND*	ND*	ND*	ND*	0.58	ND*	27.22	16.53	29.25	21.62

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

- ND\*: - Not Detected - Lead as Pb ( $\mu\text{g}/\text{m}^3$ ): 0.5
- ND\*: - Not Detected- Carbon Monoxide as CO ( $\text{mg}/\text{m}^3$ ): 0.01
- ND\*: - Not Detected- Benzene as  $\text{C}_6\text{H}_6$  ( $\mu\text{g}/\text{m}^3$ ): 2
- ND\*: - Not Detected- Benzo (a) Pyrene (BaP) - Particulate Phase only ( $\text{ng}/\text{m}^3$ ): 0.5
- ND\*: - Not Detected- Arsenic as As ( $\text{ng}/\text{m}^3$ ): 2
- ND\*: - Not Detected- Nickel as Ni ( $\text{ng}/\text{m}^3$ ): 5

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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 <sub>10</sub>	PM <sub>2.5</sub>	Pb	BaP	As	Ni	CO	C <sub>6</sub> H <sub>6</sub>	NH <sub>3</sub>	SO <sub>2</sub>	NO <sub>x</sub>	O <sub>3</sub>
		µg/m <sup>3</sup>	µg/m <sup>3</sup>	µg/m <sup>3</sup>	ng/m <sup>3</sup>	ng/m <sup>3</sup>	ng/m <sup>3</sup>	mg/m <sup>3</sup>	µg/m <sup>3</sup>	µg/m <sup>3</sup>	µg/m <sup>3</sup>	µg/m <sup>3</sup>	µg/m <sup>3</sup>
1	01/10/2020	72.36	37.54	ND*	ND*	ND*	ND*	0.53	ND*	21.35	12.54	21.25	13.67
2	05/10/2020	68.58	24.32	ND*	ND*	ND*	ND*	0.85	ND*	25.48	14.25	29.49	11.29
3	08/10/2020	57.61	34.52	ND*	ND*	ND*	ND*	0.41	ND*	22.33	8.20	15.70	14.68
4	12/10/2020	62.36	29.48	ND*	ND*	ND*	ND*	0.32	ND*	19.57	11.84	26.54	19.30
5	15/10/2020	73.57	35.22	ND*	ND*	ND*	ND*	0.70	ND*	23.72	15.38	30.28	17.66
6	19/10/2020	80.25	43.46	ND*	ND*	ND*	ND*	0.44	ND*	20.44	10.66	23.77	10.70
7	22/10/2020	71.36	40.26	ND*	ND*	ND*	ND*	0.65	ND*	12.52	13.29	20.31	15.61
8	26/10/2020	53.53	26.66	ND*	ND*	ND*	ND*	0.29	ND*	16.29	17.45	24.54	22.37
9	29/10/2020	74.55	36.52	ND*	ND*	ND*	ND*	0.33	ND*	11.59	19.64	27.59	16.56
10	02/11/2020	54.59	38.62	ND*	ND*	ND*	ND*	0.81	ND*	18.53	13.25	26.27	15.42
11	05/11/2020	63.44	27.68	ND*	ND*	ND*	ND*	0.32	ND*	21.56	16.49	19.53	12.40
12	09/11/2020	77.53	37.54	ND*	ND*	ND*	ND*	0.57	ND*	15.71	14.71	24.27	19.57
13	12/11/2020	68.44	17.62	ND*	ND*	ND*	ND*	0.74	ND*	20.23	19.34	35.49	13.53
14	16/11/2020	72.68	40.20	ND*	ND*	ND*	ND*	0.38	ND*	13.58	10.63	29.30	20.62
15	19/11/2020	66.75	35.39	ND*	ND*	ND*	ND*	0.65	ND*	25.44	17.58	24.32	17.92
16	23/11/2020	85.25	42.70	ND*	ND*	ND*	ND*	0.53	ND*	28.39	12.52	36.47	11.71
17	26/11/2020	64.33	32.42	ND*	ND*	ND*	ND*	0.73	ND*	24.29	6.90	16.27	16.55
18	30/11/2020	76.22	29.40	ND*	ND*	ND*	ND*	0.40	ND*	23.46	20.35	38.59	18.32
19	03/12/2020	66.58	33.57	ND*	ND*	ND*	ND*	0.11	ND*	16.59	14.59	22.32	16.75
20	07/12/2020	58.68	28.67	ND*	ND*	ND*	ND*	0.40	ND*	33.75	7.62	28.30	14.59
21	10/12/2020	83.53	40.36	ND*	ND*	ND*	ND*	0.62	ND*	26.34	17.92	25.42	20.31
22	14/12/2020	72.85	35.41	ND*	ND*	ND*	ND*	0.26	ND*	13.58	8.53	19.53	12.72
23	17/12/2020	84.33	44.39	ND*	ND*	ND*	ND*	0.64	ND*	37.58	11.66	31.30	15.75
24	21/12/2020	71.53	32.41	ND*	ND*	ND*	ND*	0.33	ND*	24.35	15.67	27.53	22.30
25	24/12/2020	80.67	48.22	ND*	ND*	ND*	ND*	0.18	ND*	30.59	19.39	26.56	17.83
26	28/12/2020	68.28	24.53	ND*	ND*	ND*	ND*	0.15	ND*	21.31	16.62	29.55	13.70
27	31/12/2020	73.54	31.20	ND*	ND*	ND*	ND*	0.54	ND*	22.37	12.29	23.71	10.58
28	04/01/2021	55.33	32.45	ND*	ND*	ND*	ND*	0.41	ND*	14.42	16.28	28.61	11.29
29	07/01/2021	82.63	39.44	ND*	ND*	ND*	ND*	0.23	ND*	23.66	19.20	31.68	13.86
30	11/01/2021	73.69	42.56	ND*	ND*	ND*	ND*	0.38	ND*	12.53	13.20	16.30	15.36
31	14/01/2021	67.67	37.61	ND*	ND*	ND*	ND*	0.65	ND*	21.67	14.85	32.47	20.42

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32	18/01/2021	71.21	43.56	ND*	ND*	ND*	ND*	0.24	ND*	24.56	7.67	19.55	12.60
33	21/01/2021	63.54	34.24	ND*	ND*	ND*	ND*	0.46	ND*	16.38	12.44	30.27	10.34
34	25/01/2021	58.29	25.67	ND*	ND*	ND*	ND*	0.71	ND*	10.52	17.41	23.55	14.63
35	28/01/2021	62.29	28.45	ND*	ND*	ND*	ND*	0.30	ND*	18.67	11.68	20.40	22.30
36	01/02/2021	52.45	22.63	ND*	ND*	ND*	ND*	0.29	ND*	11.27	17.68	37.65	10.53
37	04/02/2021	61.51	35.61	ND*	ND*	ND*	ND*	0.14	ND*	28.33	15.43	29.42	12.72
38	08/02/2021	57.22	31.58	ND*	ND*	ND*	ND*	0.50	ND*	31.66	9.62	19.50	19.31
39	11/02/2021	79.25	34.61	ND*	ND*	ND*	ND*	0.45	ND*	23.74	11.22	24.66	14.37
40	15/02/2021	81.57	46.39	ND*	ND*	ND*	ND*	0.31	ND*	14.53	18.28	30.53	11.26
41	18/02/2021	66.25	33.74	ND*	ND*	ND*	ND*	0.62	ND*	20.43	7.69	20.63	18.43
42	22/02/2021	55.62	26.26	ND*	ND*	ND*	ND*	0.38	ND*	24.64	10.34	17.21	15.62
43	25/02/2021	77.54	42.36	ND*	ND*	ND*	ND*	0.44	ND*	16.53	8.45	34.22	17.28
44	01/03/2021	58.67	30.23	ND*	ND*	ND*	ND*	0.64	ND*	25.32	12.62	27.63	20.22
45	04/03/2021	74.26	34.38	ND*	ND*	ND*	ND*	0.48	ND*	15.25	10.25	22.23	15.37
46	08/03/2021	84.54	45.66	ND*	ND*	ND*	ND*	0.62	ND*	18.31	14.55	34.32	11.32
47	11/03/2021	63.67	28.63	ND*	ND*	ND*	ND*	0.55	ND*	24.25	17.17	28.67	22.48
48	15/03/2021	83.47	42.33	ND*	ND*	ND*	ND*	0.66	ND*	17.51	15.22	29.36	18.37
49	18/03/2021	57.57	39.44	ND*	ND*	ND*	ND*	0.39	ND*	28.37	18.55	24.51	14.64
50	22/03/2021	73.22	43.21	ND*	ND*	ND*	ND*	0.56	ND*	23.56	20.18	33.55	23.44
51	25/03/2021	68.62	38.43	ND*	ND*	ND*	ND*	0.17	ND*	19.33	13.28	21.25	10.36
52	29/03/2021	60.37	23.68	ND*	ND*	ND*	ND*	0.33	ND*	14.53	11.49	15.55	13.44

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

ND\*: - Not Detected - Lead as Pb ( $\mu\text{g}/\text{m}^3$ ): 0.5  
ND\*: - Not Detected - Carbon Monoxide as CO ( $\text{mg}/\text{m}^3$ ): 0.01  
ND\*: - Not Detected - Benzene as  $\text{C}_6\text{H}_6$  ( $\mu\text{g}/\text{m}^3$ ): 2  
ND\*: - Not Detected - Benzo (a) Pyrene (BaP) - Particulate Phase only ( $\text{ng}/\text{m}^3$ ): 0.5  
ND\*: - Not Detected - Arsenic as As ( $\text{ng}/\text{m}^3$ ): 2  
ND\*: - Not Detected - Nickel as Ni ( $\text{ng}/\text{m}^3$ ): 5

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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 <sub>10</sub>	PM <sub>2.5</sub>	Pb	BaP	As	Ni	CO	C <sub>6</sub> H <sub>6</sub>	NH <sub>3</sub>	SO <sub>2</sub>	NO <sub>x</sub>	O <sub>3</sub>
		µg/m <sup>3</sup>	µg/m <sup>3</sup>	µg/m <sup>3</sup>	ng/m <sup>3</sup>	ng/m <sup>3</sup>	ng/m <sup>3</sup>	mg/m <sup>3</sup>	µg/m <sup>3</sup>	µg/m <sup>3</sup>	µg/m <sup>3</sup>	µg/m <sup>3</sup>	µg/m <sup>3</sup>
1	01/10/2020	63.63	26.53	ND*	ND*	ND*	ND*	0.45	ND*	28.66	10.38	26.65	10.29
2	05/10/2020	52.35	21.54	ND*	ND*	ND*	ND*	0.72	ND*	13.58	16.47	21.58	15.62
3	08/10/2020	76.22	30.28	ND*	ND*	ND*	ND*	0.25	ND*	17.33	18.35	29.58	13.65
4	12/10/2020	50.28	23.61	ND*	ND*	ND*	ND*	0.39	ND*	14.29	13.58	33.59	21.16
5	15/10/2020	68.24	31.64	ND*	ND*	ND*	ND*	0.52	ND*	18.55	19.30	36.22	23.49
6	19/10/2020	58.39	25.15	ND*	ND*	ND*	ND*	0.27	ND*	15.31	12.42	28.46	14.56
7	22/10/2020	65.34	22.48	ND*	ND*	ND*	ND*	0.37	ND*	10.22	8.66	24.23	11.45
8	26/10/2020	59.23	38.31	ND*	ND*	ND*	ND*	0.40	ND*	20.48	6.52	16.58	16.43
9	29/10/2020	69.25	33.78	ND*	ND*	ND*	ND*	0.80	ND*	16.46	15.53	20.27	12.84
10	02/11/2020	64.56	30.85	ND*	ND*	ND*	ND*	0.36	ND*	15.38	8.62	17.56	11.57
11	05/11/2020	50.38	23.82	ND*	ND*	ND*	ND*	0.48	ND*	11.61	14.52	29.58	14.40
12	09/11/2020	68.33	22.46	ND*	ND*	ND*	ND*	0.60	ND*	23.55	16.80	18.51	17.38
13	12/11/2020	58.37	38.50	ND*	ND*	ND*	ND*	0.41	ND*	17.59	12.70	21.61	10.86
14	16/11/2020	66.21	35.63	ND*	ND*	ND*	ND*	0.21	ND*	22.51	15.26	26.54	13.62
15	19/11/2020	55.36	31.85	ND*	ND*	ND*	ND*	0.34	ND*	33.57	13.58	32.31	19.32
16	23/11/2020	69.34	36.36	ND*	ND*	ND*	ND*	0.17	ND*	12.52	19.87	28.56	12.56
17	26/11/2020	57.59	24.51	ND*	ND*	ND*	ND*	0.56	ND*	28.52	10.52	19.24	20.28
18	30/11/2020	67.56	32.70	ND*	ND*	ND*	ND*	0.24	ND*	20.48	17.68	27.64	16.88
19	03/12/2020	60.36	25.37	ND*	ND*	ND*	ND*	0.27	ND*	33.61	9.56	14.55	22.36
20	07/12/2020	42.63	20.22	ND*	ND*	ND*	ND*	0.17	ND*	19.54	13.65	24.33	17.62
21	10/12/2020	57.21	37.55	ND*	ND*	ND*	ND*	0.42	ND*	30.36	19.61	33.48	23.58
22	14/12/2020	62.64	17.53	ND*	ND*	ND*	ND*	0.63	ND*	18.51	6.50	16.34	14.38
23	17/12/2020	72.35	36.24	ND*	ND*	ND*	ND*	0.78	ND*	23.61	8.62	25.39	12.40
24	21/12/2020	54.28	23.66	ND*	ND*	ND*	ND*	0.61	ND*	20.58	11.37	20.27	10.35
25	24/12/2020	61.28	34.59	ND*	ND*	ND*	ND*	0.48	ND*	25.37	15.70	23.17	13.91
26	28/12/2020	55.62	19.33	ND*	ND*	ND*	ND*	0.24	ND*	12.64	12.56	18.36	18.30
27	31/12/2020	48.38	16.33	ND*	ND*	ND*	ND*	0.34	ND*	31.69	7.54	15.41	15.29
28	04/01/2021	59.62	23.49	ND*	ND*	ND*	ND*	0.17	ND*	22.33	12.59	25.40	13.59
29	07/01/2021	70.24	28.27	ND*	ND*	ND*	ND*	0.32	ND*	18.35	8.68	17.53	16.27
30	11/01/2021	54.22	35.63	ND*	ND*	ND*	ND*	0.27	ND*	15.39	10.23	20.62	19.29
31	14/01/2021	61.25	29.43	ND*	ND*	ND*	ND*	0.50	ND*	33.49	17.59	36.56	18.71

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32	18/01/2021	56.39	33.48	ND*	ND*	ND*	ND*	0.15	ND*	14.32	13.52	27.53	15.28
33	21/01/2021	68.98	27.58	ND*	ND*	ND*	ND*	0.29	ND*	11.24	9.59	24.52	17.65
34	25/01/2021	74.22	37.51	ND*	ND*	ND*	ND*	0.39	ND*	17.56	11.26	34.30	10.73
35	28/01/2021	52.61	20.29	ND*	ND*	ND*	ND*	0.34	ND*	30.29	6.26	30.46	14.63
36	01/02/2021	58.36	29.33	ND*	ND*	ND*	ND*	0.36	ND*	26.34	19.58	28.65	15.35
37	04/02/2021	75.66	38.61	ND*	ND*	ND*	ND*	0.60	ND*	17.66	12.31	23.43	14.22
38	08/02/2021	64.23	34.38	ND*	ND*	ND*	ND*	0.33	ND*	28.54	7.58	21.22	20.66
39	11/02/2021	57.54	27.64	ND*	ND*	ND*	ND*	0.17	ND*	20.54	9.60	27.52	10.28
40	15/02/2021	76.33	40.20	ND*	ND*	ND*	ND*	0.37	ND*	10.24	11.39	26.35	19.66
41	18/02/2021	60.55	24.28	ND*	ND*	ND*	ND*	0.54	ND*	27.35	15.33	17.82	12.52
42	22/02/2021	67.55	39.34	ND*	ND*	ND*	ND*	0.23	ND*	19.51	6.59	20.25	17.54
43	25/02/2021	56.53	30.52	ND*	ND*	ND*	ND*	0.49	ND*	38.24	13.61	29.66	11.37
44	01/03/2021	52.65	25.44	ND*	ND*	ND*	ND*	0.50	ND*	21.54	22.30	30.23	16.26
45	04/03/2021	62.38	30.53	ND*	ND*	ND*	ND*	0.76	ND*	11.25	6.51	33.46	12.78
46	08/03/2021	47.62	23.52	ND*	ND*	ND*	ND*	0.54	ND*	23.45	8.57	27.52	18.66
47	11/03/2021	56.52	21.53	ND*	ND*	ND*	ND*	0.24	ND*	16.25	11.31	34.55	15.44
48	15/03/2021	63.52	24.26	ND*	ND*	ND*	ND*	0.29	ND*	20.27	10.61	22.51	13.67
49	18/03/2021	70.36	34.28	ND*	ND*	ND*	ND*	0.38	ND*	17.67	16.63	36.45	10.60
50	22/03/2021	51.54	29.22	ND*	ND*	ND*	ND*	0.19	ND*	13.62	12.34	26.51	14.58
51	25/03/2021	61.53	32.41	ND*	ND*	ND*	ND*	0.27	ND*	10.22	14.34	23.42	17.70
52	29/03/2021	54.23	27.24	ND*	ND*	ND*	ND*	0.16	ND*	18.25	9.29	19.26	11.24

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

ND\*: - Not Detected - Lead as Pb ( $\mu\text{g}/\text{m}^3$ ): 0.5

ND\*: - Not Detected - Carbon Monoxide as CO ( $\text{mg}/\text{m}^3$ ): 0.01

ND\*: - Not Detected - Benzene as  $\text{C}_6\text{H}_6$  ( $\mu\text{g}/\text{m}^3$ ): 2

ND\*: - Not Detected - Benzo (a) Pyrene (BaP) - Particulate Phase only ( $\text{ng}/\text{m}^3$ ): 0.5

ND\*: - Not Detected - Arsenic as As ( $\text{ng}/\text{m}^3$ ): 2

ND\*: - Not Detected - Nickel as Ni ( $\text{ng}/\text{m}^3$ ): 5

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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 <sub>10</sub>	PM <sub>2.5</sub>	Pb	BaP	As	Ni	CO	C <sub>6</sub> H <sub>6</sub>	NH <sub>3</sub>	SO <sub>2</sub>	NO <sub>x</sub>	O <sub>3</sub>
		µg/m <sup>3</sup>	µg/m <sup>3</sup>	µg/m <sup>3</sup>	ng/m <sup>3</sup>	ng/m <sup>3</sup>	ng/m <sup>3</sup>	mg/m <sup>3</sup>	µg/m <sup>3</sup>	µg/m <sup>3</sup>	µg/m <sup>3</sup>	µg/m <sup>3</sup>	µg/m <sup>3</sup>
1	01/10/2020	67.56	31.56	ND*	ND*	ND*	ND*	0.30	ND*	25.39	8.63	18.89	15.39
2	05/10/2020	58.68	28.55	ND*	ND*	ND*	ND*	0.36	ND*	28.33	10.30	35.28	20.66
3	08/10/2020	66.31	37.71	ND*	ND*	ND*	ND*	0.46	ND*	19.28	15.28	32.32	17.40
4	12/10/2020	72.63	33.57	ND*	ND*	ND*	ND*	0.60	ND*	13.62	9.59	23.49	13.37
5	15/10/2020	63.47	27.19	ND*	ND*	ND*	ND*	0.62	ND*	27.69	17.68	33.35	21.29
6	19/10/2020	70.33	35.43	ND*	ND*	ND*	ND*	0.50	ND*	18.64	14.40	34.26	12.51
7	22/10/2020	56.94	29.68	ND*	ND*	ND*	ND*	0.23	ND*	15.89	19.27	28.36	18.50
8	26/10/2020	65.65	40.22	ND*	ND*	ND*	ND*	0.34	ND*	12.67	11.34	21.64	24.27
9	29/10/2020	59.58	25.46	ND*	ND*	ND*	ND*	0.54	ND*	22.41	16.35	24.74	19.68
10	02/11/2020	59.34	27.54	ND*	ND*	ND*	ND*	0.63	ND*	20.39	10.30	22.34	12.73
11	05/11/2020	45.86	19.25	ND*	ND*	ND*	ND*	0.23	ND*	15.88	19.31	25.65	17.30
12	09/11/2020	63.35	33.61	ND*	ND*	ND*	ND*	0.50	ND*	18.27	11.24	29.21	20.29
13	12/11/2020	49.57	22.32	ND*	ND*	ND*	ND*	0.45	ND*	22.65	15.86	26.37	16.41
14	16/11/2020	54.29	25.35	ND*	ND*	ND*	ND*	0.39	ND*	25.58	12.34	19.86	22.63
15	19/11/2020	61.25	20.61	ND*	ND*	ND*	ND*	0.15	ND*	28.62	9.65	27.59	13.88
16	23/11/2020	58.45	26.45	ND*	ND*	ND*	ND*	0.37	ND*	16.22	14.33	21.81	15.69
17	26/11/2020	50.27	18.63	ND*	ND*	ND*	ND*	0.52	ND*	19.36	18.70	33.45	10.59
18	30/11/2020	72.47	42.43	ND*	ND*	ND*	ND*	0.22	ND*	29.39	8.56	23.64	21.68
19	03/12/2020	74.54	36.31	ND*	ND*	ND*	ND*	0.23	ND*	30.62	15.32	33.52	14.27
20	07/12/2020	53.68	25.42	ND*	ND*	ND*	ND*	0.58	ND*	23.54	12.87	30.23	10.44
21	10/12/2020	72.61	44.21	ND*	ND*	ND*	ND*	0.29	ND*	20.63	10.19	21.22	13.59
22	14/12/2020	67.56	38.34	ND*	ND*	ND*	ND*	0.36	ND*	25.66	11.21	22.68	20.68
23	17/12/2020	79.65	31.58	ND*	ND*	ND*	ND*	0.57	ND*	32.58	13.49	34.52	16.87
24	21/12/2020	60.29	26.51	ND*	ND*	ND*	ND*	0.68	ND*	15.31	8.99	18.62	19.32
25	24/12/2020	70.55	42.34	ND*	ND*	ND*	ND*	0.46	ND*	21.68	17.22	29.43	12.91
26	28/12/2020	62.39	27.55	ND*	ND*	ND*	ND*	0.21	ND*	18.24	19.31	23.57	11.60
27	31/12/2020	68.37	23.51	ND*	ND*	ND*	ND*	0.16	ND*	24.69	9.67	20.81	18.79
28	04/01/2021	66.21	37.27	ND*	ND*	ND*	ND*	0.48	ND*	25.95	14.68	34.60	15.74
29	07/01/2021	76.34	43.85	ND*	ND*	ND*	ND*	0.42	ND*	30.68	17.56	26.26	18.28
30	11/01/2021	68.59	31.54	ND*	ND*	ND*	ND*	0.36	ND*	21.22	15.72	23.45	14.35
31	14/01/2021	81.22	44.20	ND*	ND*	ND*	ND*	0.25	ND*	26.25	12.39	25.39	22.56

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32	18/01/2021	77.67	40.66	ND*	ND*	ND*	ND*	0.26	ND*	19.67	9.57	22.74	19.55
33	21/01/2021	56.27	24.29	ND*	ND*	ND*	ND*	0.54	ND*	23.57	16.42	33.57	21.68
34	25/01/2021	67.51	34.68	ND*	ND*	ND*	ND*	0.60	ND*	14.29	13.68	30.37	13.54
35	28/01/2021	47.58	15.34	ND*	ND*	ND*	ND*	0.44	ND*	22.69	8.52	24.34	16.43
36	01/02/2021	64.55	34.55	ND*	ND*	ND*	ND*	0.18	ND*	18.66	6.33	22.52	20.35
37	04/02/2021	70.35	42.64	ND*	ND*	ND*	ND*	0.24	ND*	20.37	8.71	27.23	17.37
38	08/02/2021	52.17	26.73	ND*	ND*	ND*	ND*	0.46	ND*	23.45	12.59	34.53	12.14
39	11/02/2021	72.11	43.53	ND*	ND*	ND*	ND*	0.16	ND*	27.87	7.23	30.47	16.22
40	15/02/2021	66.53	32.46	ND*	ND*	ND*	ND*	0.48	ND*	30.63	14.30	33.51	14.61
41	18/02/2021	55.27	27.52	ND*	ND*	ND*	ND*	0.42	ND*	12.71	10.42	23.36	10.33
42	22/02/2021	50.24	33.55	ND*	ND*	ND*	ND*	0.26	ND*	16.41	18.31	37.51	19.41
43	25/02/2021	63.42	36.33	ND*	ND*	ND*	ND*	0.61	ND*	28.43	11.54	25.46	15.22
44	01/03/2021	63.27	33.42	ND*	ND*	ND*	ND*	0.71	ND*	14.22	15.74	33.61	24.26
45	04/03/2021	69.47	27.55	ND*	ND*	ND*	ND*	0.57	ND*	19.44	9.57	28.13	19.63
46	08/03/2021	57.61	36.41	ND*	ND*	ND*	ND*	0.52	ND*	15.65	16.21	24.33	15.23
47	11/03/2021	68.74	31.29	ND*	ND*	ND*	ND*	0.37	ND*	20.31	6.25	15.67	13.28
48	15/03/2021	73.67	34.57	ND*	ND*	ND*	ND*	0.34	ND*	12.64	12.86	25.63	16.83
49	18/03/2021	65.27	44.55	ND*	ND*	ND*	ND*	0.25	ND*	22.86	14.67	32.52	12.44
50	22/03/2021	59.57	32.13	ND*	ND*	ND*	ND*	0.30	ND*	26.37	8.30	20.61	18.25
51	25/03/2021	74.55	35.67	ND*	ND*	ND*	ND*	0.36	ND*	21.16	10.52	16.52	20.88
52	29/03/2021	66.46	39.21	ND*	ND*	ND*	ND*	0.41	ND*	24.52	7.57	17.23	17.21

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

ND\*: - Not Detected - Lead as Pb ( $\mu\text{g}/\text{m}^3$ ): 0.5  
ND\*: - Not Detected - Carbon Monoxide as CO ( $\text{mg}/\text{m}^3$ ): 0.01  
ND\*: - Not Detected - Benzene as  $\text{C}_6\text{H}_6$  ( $\mu\text{g}/\text{m}^3$ ): 2  
ND\*: - Not Detected - Benzo (a) Pyrene (BaP) - Particulate Phase only ( $\text{ng}/\text{m}^3$ ): 0.5  
ND\*: - Not Detected - Arsenic as As ( $\text{ng}/\text{m}^3$ ): 2  
ND\*: - Not Detected - Nickel as Ni ( $\text{ng}/\text{m}^3$ ): 5

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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 <sub>10</sub>	PM <sub>2.5</sub>	Pb	BaP	As	Ni	CO	C <sub>6</sub> H <sub>6</sub>	NH <sub>3</sub>	SO <sub>2</sub>	NO <sub>x</sub>	O <sub>3</sub>
		µg/m <sup>3</sup>	µg/m <sup>3</sup>	µg/m <sup>3</sup>	ng/m <sup>3</sup>	ng/m <sup>3</sup>	ng/m <sup>3</sup>	mg/m <sup>3</sup>	µg/m <sup>3</sup>	µg/m <sup>3</sup>	µg/m <sup>3</sup>	µg/m <sup>3</sup>	µg/m <sup>3</sup>
1	01/10/2020	89.51	48.54	0.76	ND*	2.36	10.39	1.02	ND*	35.21	22.50	29.25	18.16
2	05/10/2020	77.64	32.47	ND*	ND*	ND*	ND*	0.63	ND*	33.89	18.62	41.27	24.27
3	08/10/2020	81.64	42.40	0.62	ND*	2.48	10.63	0.42	ND*	28.77	11.44	38.31	22.33
4	12/10/2020	67.55	26.51	ND*	ND*	ND*	ND*	0.95	ND*	26.25	19.54	32.49	19.49
5	15/10/2020	79.34	37.74	ND*	ND*	ND*	ND*	0.82	ND*	31.23	21.19	39.39	28.48
6	19/10/2020	85.34	49.31	0.73	ND*	2.34	10.49	0.56	ND*	29.59	17.84	40.53	16.33
7	22/10/2020	90.25	52.48	ND*	ND*	ND*	ND*	0.57	ND*	21.59	15.25	36.50	23.55
8	26/10/2020	82.35	29.56	ND*	ND*	ND*	ND*	0.74	ND*	24.62	20.25	31.24	20.39
9	29/10/2020	78.56	45.35	ND*	ND*	ND*	ND*	0.89	ND*	27.85	24.40	37.45	25.30
10	02/11/2020	83.57	41.30	ND*	ND*	ND*	ND*	0.89	ND*	28.51	18.19	34.54	17.64
11	05/11/2020	58.69	30.55	ND*	ND*	ND*	ND*	0.80	ND*	25.64	24.58	37.55	25.59
12	09/11/2020	73.58	44.53	0.52	ND*	2.78	10.18	0.70	ND*	31.65	21.54	41.52	26.28
13	12/11/2020	85.33	29.47	ND*	ND*	ND*	ND*	0.62	ND*	27.55	26.30	31.58	21.35
14	16/11/2020	78.51	43.49	0.76	ND*	2.56	10.26	0.78	ND*	19.24	20.65	38.42	16.54
15	19/11/2020	84.57	39.55	ND*	ND*	ND*	ND*	0.49	ND*	35.51	19.56	30.47	20.64
16	23/11/2020	75.31	31.57	0.65	ND*	2.65	10.55	0.46	ND*	32.42	16.28	27.83	18.69
17	26/11/2020	70.28	37.63	ND*	ND*	ND*	ND*	0.87	ND*	36.22	15.37	29.68	12.54
18	30/11/2020	62.23	34.22	ND*	ND*	ND*	ND*	0.27	ND*	26.64	22.23	35.54	24.57
19	03/12/2020	80.28	40.25	ND*	ND*	ND*	ND*	0.39	ND*	24.21	11.61	30.45	19.58
20	07/12/2020	62.57	23.42	ND*	ND*	ND*	ND*	0.25	ND*	27.56	17.52	34.22	23.52
21	10/12/2020	95.48	53.61	0.71	ND*	2.64	10.49	0.31	ND*	33.36	25.37	28.40	25.61
22	14/12/2020	79.67	45.39	ND*	ND*	ND*	ND*	0.47	ND*	21.52	16.83	25.67	27.93
23	17/12/2020	89.37	47.54	0.60	ND*	2.36	10.89	0.90	ND*	29.27	18.59	37.22	22.52
24	21/12/2020	69.22	29.25	ND*	ND*	ND*	ND*	0.76	ND*	31.57	20.31	33.63	17.22
25	24/12/2020	92.66	55.37	0.82	ND*	2.42	10.80	0.38	ND*	28.33	22.37	31.51	15.42
26	28/12/2020	84.55	30.29	ND*	ND*	ND*	ND*	0.37	ND*	15.67	24.34	35.57	21.69
27	31/12/2020	90.26	37.23	ND*	ND*	ND*	ND*	0.52	ND*	38.69	15.55	29.30	26.23
28	04/01/2021	72.62	42.83	ND*	ND*	ND*	ND*	0.55	ND*	32.54	19.51	38.29	25.70
29	07/01/2021	87.53	48.26	0.72	ND*	2.36	10.44	0.62	ND*	35.62	22.56	35.36	22.66
30	11/01/2021	90.24	52.65	ND*	ND*	ND*	ND*	0.80	ND*	18.27	17.27	27.21	17.59
31	14/01/2021	74.21	40.19	ND*	ND*	ND*	ND*	0.70	ND*	39.32	21.63	39.35	24.54

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32	18/01/2021	86.21	49.28	0.52	ND*	2.18	10.51	0.81	ND*	36.26	24.26	44.17	26.87
33	21/01/2021	78.21	43.67	ND*	ND*	ND*	ND*	0.64	ND*	33.62	14.33	36.27	28.38
34	25/01/2021	80.35	46.50	0.56	ND*	2.56	10.33	0.79	ND*	20.39	25.62	42.23	19.44
35	28/01/2021	73.58	38.23	ND*	ND*	ND*	ND*	0.56	ND*	27.51	13.57	40.28	23.61
36	01/02/2021	69.35	37.50	ND*	ND*	ND*	ND*	0.64	ND*	23.55	22.36	40.32	18.23
37	04/02/2021	82.64	46.26	0.56	ND*	2.56	10.55	0.53	ND*	32.67	16.23	33.47	20.17
38	08/02/2021	77.35	49.24	ND*	ND*	ND*	ND*	0.40	ND*	35.33	19.83	38.46	23.65
39	11/02/2021	68.62	38.23	ND*	ND*	ND*	ND*	0.89	ND*	30.26	15.87	35.63	25.68
40	15/02/2021	87.61	35.45	0.76	ND*	2.42	10.33	0.52	ND*	33.66	21.67	39.22	21.21
41	18/02/2021	73.46	39.56	ND*	ND*	ND*	ND*	0.58	ND*	24.56	18.64	31.66	14.54
42	22/02/2021	62.45	30.22	ND*	ND*	ND*	ND*	0.41	ND*	21.27	20.37	34.34	24.62
43	25/02/2021	92.64	50.36	0.68	ND*	2.36	10.63	0.81	ND*	34.25	17.28	37.34	26.26
44	01/03/2021	70.27	36.28	ND*	ND*	ND*	ND*	0.78	ND*	36.57	24.24	36.23	22.57
45	04/03/2021	80.34	40.34	ND*	ND*	ND*	ND*	1.01	ND*	27.32	17.42	40.27	24.62
46	08/03/2021	72.52	31.55	0.72	ND*	2.36	ND*	0.79	ND*	20.57	21.26	37.55	12.67
47	11/03/2021	86.23	46.85	ND*	ND*	ND*	ND*	0.53	ND*	31.26	25.64	31.55	26.83
48	15/03/2021	94.26	53.42	0.65	ND*	2.56	ND*	0.73	ND*	38.54	19.24	41.21	20.35
49	18/03/2021	85.25	49.34	0.56	ND*	2.62	ND*	0.31	ND*	25.26	12.75	28.42	17.89
50	22/03/2021	68.34	35.41	ND*	ND*	ND*	ND*	0.96	ND*	18.63	18.26	38.21	25.42
51	25/03/2021	81.76	41.21	ND*	ND*	ND*	ND*	0.49	ND*	26.73	15.36	34.23	19.46
52	29/03/2021	73.33	44.23	ND*	ND*	ND*	ND*	0.26	ND*	30.25	13.32	26.31	15.65

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

- ND\*: - Not Detected - Lead as Pb ( $\mu\text{g}/\text{m}^3$ ): 0.5  
 ND\*: - Not Detected - Carbon Monoxide as CO ( $\text{mg}/\text{m}^3$ ): 0.01  
 ND\*: - Not Detected - Benzene as  $\text{C}_6\text{H}_6$  ( $\mu\text{g}/\text{m}^3$ ): 2  
 ND\*: - Not Detected - Benzo (a) Pyrene (BaP) - Particulate Phase only ( $\text{ng}/\text{m}^3$ ): 0.5  
 ND\*: - Not Detected - Arsenic as As ( $\text{ng}/\text{m}^3$ ): 2  
 ND\*: - Not Detected - Nickel as Ni ( $\text{ng}/\text{m}^3$ ): 5

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**4B. GROUND WATER QUALITY MONITORING: -**

**Table-1.6: Ground Water Quality Results for the period: October, 2020 to March, 2021**

Sr. NO.	TEST PARAMETERS	UNIT	GROUND WATER OPEN WELL					
			OCT-20	NOV-20	DEC-20	JAN-21	FEB-21	MARCH-21
			19/10/2020	24/11/2020	30/12/2020	25/01/2021	26/02/2021	12/03/2021
1	Colour	Hazen	2	3	2	3	3	3
2	Odour	--	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable
3	Taste	--	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable
4	Turbidity	NTU	0.09	0.13	0.04	0.09	0.13	0.13
5	pH Value	--	7.88	7.71	7.56	7.74	7.72	8.28
6	Total Hardness as CaCO <sub>3</sub>	mg/L	400	290	302	338	312	398
7	Iron as Fe	mg/L	0.12	0.18	0.18	0.24	0.28	Not Detected
8	Chloride as Cl	mg/L	169	110	155	158	136	110
9	Residual Free Chlorine	mg/L	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected
10	Fluoride as F	mg/L	0.35	0.24	0.65	0.52	0.43	Not Detected
11	Total Dissolved Solids	mg/L	1987	1386	1502	1576	1173	1098
12	Calcium as Ca	mg/L	80	68	56	58	59.2	64.8
13	Magnesium as Mg	mg/L	48	28.8	38.8	46.32	39.36	56.64
14	Copper as Cu	mg/L	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected
15	Manganese as Mn	mg/L	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected
16	Sulphate as SO <sub>4</sub>	mg/L	39	59	44	39	37.2	35.99
17	Nitrate Nitrogen as NO <sub>3</sub>	mg/L	0.87	0.64	0.95	0.73	0.69	11.75
18	Phenolic compounds as C <sub>6</sub> H <sub>5</sub> OH	mg/L	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected
19	Mercury as Hg	mg/L	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected
20	Cadmium as Cd	mg/L	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected
21	Selenium as Se	mg/L	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected
22	Arsenic as As	mg/L	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected
23	Cyanide as CN	mg/L	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected
24	Lead as Pb	mg/L	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected
25	Zinc as Zn	mg/L	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	0.12
26	Anionic Detergents as MBAS	mg/L	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected
27	Chromium as Cr <sup>+6</sup>	mg/L	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected
28	Mineral Oil	mg/L	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected
29	Alkalinity	mg/L	296	204	184	192	186	366
30	Aluminum as Al	mg/L	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected
31	Boron as B	mg/L	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected
32	<b>Pesticides</b>							
32.1	Alachlor	µg/l	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected
32.2	Atrazine	µg/l	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected
32.3	Aldrin/Dieldrine	µg/l	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected
32.4	Alpha HCH	µg/l	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected
32.5	Beta HCH	µg/l	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected
32.6	Butachlor	µg/l	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected

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Sr. NO.	TEST PARAMETERS	UNIT	GROUND WATER OPEN WELL					
			OCT-20	NOV-20	DEC-20	JAN-21	FEB-21	MARCH-21
			19/10/2020	24/11/2020	30/12/2020	25/01/2021	26/02/2021	12/03/2021
32.7	Chlorpyrifos	µg/l	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected
32.8	Delta HCH	µg/l	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected
32.9	2,4- Dichlorophenoxy acetic acid	µg/l	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected
32.10	DDT (o,p&p,p-Isomers of DDT, DDE & DDD	µg/l	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected
32.11	Endosulfan (alpha, beta, and sulphate)	µg/l	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected
32.12	Ethion	µg/l	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected
32.13	Gamma - HCH (Lindane)	µg/l	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected
32.14	Isoproturon	µg/l	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected
32.15	Malathion	µg/l	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected
32.16	Methyl Parathion	µg/l	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected
32.17	Monocrotophos	µg/l	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected
32.18	Phorate	µg/l	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected
33	Coliform	/100 ml	Absent	Absent	Absent	Absent	Absent	Absent
34	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 Ground Water.

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**4C. SURFACE WATER QUALITY MONITORING: -****Table-1.7: Surface Water (Pond) Quality Results for the period: October, 2020 to March, 2021**

Sr. No.	Parameters	Unit	At Mora Village (Surface Water – Pond)					
			OCT-20	NOV-20	DEC-20	JAN-21	FEB-20	MARCH-21
			19/10/2020	24/11/2020	30/12/2020	25/01/2021	26/02/2021	12/03/2021
1	Odour	--	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable
2	Colour	Hazen	5	4	30	20	10	10
3	Taste	--	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable
4	pH Value	--	7.96	8.13	7.85	7.69	7.63	7.74
5	Turbidity	NTU	0.14	0.12	0.21	0.17	0.18	0.19
6	Total Dissolved Solids	mg/L	673	650	816	784	732	756
7	Total Hardness as CaCO <sub>3</sub>	mg/L	190	128	318	298	310	318
8	Chloride as Cl	mg/L	139	147	159	132	124	116
9	Fluoride as F	mg/L	0.24	0.21	0.44	0.32	0.28	0.25
10	Iron as Fe	mg/L	0.058	Not Detected	0.025	Not Detected	Not Detected	Not Detected
11	Coliform	/100 ml	<b>Present</b>	<b>Present</b>	<b>Present</b>	<b>Present</b>	<b>Present</b>	<b>Present</b>
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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## 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: October, 2020 to March, 2021**

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-20		NOV-20		DEC-20		JAN-21		FEB-21		MARCH-21	
			Surface	Bottom	Surface	Bottom	Surface	Bottom	Surface	Bottom	Surface	Bottom	Surface	Bottom
1	pH	--	8.18	8.14	8.19	8.13	8.27	8.21	8.24	8.16	8.29	8.23	8.25	8.16
2	Temperature	°C	30.4	30.1	30.7	30.5	30.3	30.1	29.3	29	30.1	30.3	30.2	30
3	Total Suspended Solids	mg/L	225	240	234	256	204	216	196	184	218	234	227	240
4	BOD (3 Days @ 27 °C)	mg/L	4.1	Not Detected	4.2	Not Detected	3.8	Not Detected	3.3	Not Detected	3.6	Not Detected	3.5	Not Detected
5	Dissolved Oxygen	mg/L	5.9	5.6	5.8	5.6	5.9	5.7	5.8	5.6	5.9	5.7	5.8	5.7
6	Salinity	ppt	30.6	31	31.5	31.8	31.3	31.6	30.6	30.9	30.8	31.4	30.9	31.3
7	Oil & Grease	mg/L	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected
8	Nitrate as NO <sub>3</sub>	μmol /L	3.49	3.27	4.69	4.37	3.87	3.65	4.16	3.93	3.69	3.48	4.18	3.56
9	Nitrite as NO <sub>2</sub>	μmol /L	0.38	0.25	0.42	0.28	0.69	0.53	0.93	0.86	0.73	0.59	0.69	0.43
10	Ammonical Nitrogen as NH <sub>3</sub>	μmol /L	2.5	2.39	3.17	2.88	2.75	2.46	3.28	3.14	2.8	2.64	2.98	2.75
11	Phosphates as PO <sub>4</sub>	μmol /L	2.42	2.18	2.57	2.34	2.32	2.1	2.56	2.3	2.38	2.15	1.62	1.29
12	Total Nitrogen	μmol /L	6.37	5.91	8.28	7.53	7.31	6.64	10.93	7.93	7.22	6.71	7.85	6.74
13	Petroleum Hydrocarbon	μg/L	12.6	Not Detected	10.6	Not Detected	13	Not Detected	18	Not Detected	14.3	Not Detected	12.6	Not Detected
14	Total Dissolved Solids	mg/L	32486	32862	32290	33406	32668	33428	32476	32908	32840	33268	32902	33164
15	COD	mg/L	23	21	26.9	19.8	25	18	26	16	27.6	19	29	23
<b>A Phytoplankton</b>														
16.1	Chlorophyll	mg/m <sup>3</sup>	2.93	2.88	3.04	2.5	2.78	2.02	2.94	2.83	3.2	3.09	2.82	2.26
16.2	Phaeophytin	mg/m <sup>3</sup>	2.07	2.05	1.7	1.42	2.46	1.78	2.52	2.74	2.48	2.36	0.21	0.1
16.3	Cell Count	No. x 10 <sup>3</sup> /L	134	92	120	82	116	90	146	102	204	118	184	92
16.4	Name of Group Number and name of group species of each group	--	Thalassiosira sp. Nitzschia sp. Melosira sp. Skeletonema sp.	Fragillaria sp. Nitzschia sp. Thalassiosira sp. --	Closterium sp. Thalassiosira sp. Nitzschia sp. Rhizosolenia sp.	Navicula sp. Scenedesmus sp. Coscinodiscus sp. --	Thalassiosira sp. Skeletonema sp. Rhizosolenia sp. Pleurosigma sp.	Synedra sp. Navicula sp. Nitzschia sp. --	Nitzschia sp. Skeletonema sp. Coscinodiscus sp. Ankistrodesmus sp.	Navicula sp. Synedra sp. Thalassiosira sp. Pleurosigma sp.	Skeletonema sp. Ankistrodesmus sp. Coscinodiscus sp. Biddulphia sp.	Nitzschia sp. Navicula sp. Pleurosigma sp. --	Rhizosolenia sp. Thalassiosira sp. Skeletonema sp. Cheatoceus sp.	Navicula sp. Pleurosigma sp. Synedra sp. --

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**Table-1.9: Sea Water Quality Analysis Results of MP1 West End towards Channel from the Sea Basin for the period: October, 2020 to March, 2021**

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-20		NOV-20		DEC-20		JAN-21		FEB-21		MARCH-21	
			Surface	Bottom	Surface	Bottom	Surface	Bottom	Surface	Bottom	Surface	Bottom	Surface	Bottom
1	pH	—	8.2	8.13	8.21	8.16	8.28	8.17	8.23	8.2	8.28	8.24	8.21	8.17
2	Temperature	oC	30.3	30.1	30.6	30.5	30.2	30	29.4	29.2	30.3	30	30.2	29.9
3	Total Suspended Solids	mg/L	228	243	217	240	209	228	193	180	206	226	231	248
4	BOD (3 Days @ 27 °C)	mg/L	3.9	Not Detected	4	Not Detected	3.8	Not Detected	3.5	Not Detected	3.3	Not Detected	3.4	Not Detected
5	Dissolved Oxygen	mg/L	5.8	5.6	5.9	5.6	5.9	5.7	5.8	5.6	5.9	5.7	5.8	5.6
6	Salinity	ppt	30.9	31.1	31.9	32.2	31.3	31.6	30.5	30.7	30.9	31.4	31.2	31.5
7	Oil & Grease	mg/L	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected
8	Nitrate as NO <sub>3</sub>	µmo/l/L	3.38	3.14	4.7	4.56	3.75	3.59	4.16	3.87	3.51	3.37	4.12	3.89
9	Nitrite as NO <sub>2</sub>	µmo/l/L	0.4	0.32	0.56	0.47	0.63	0.41	0.87	0.63	0.62	0.75	0.59	0.47
10	Ammonical Nitrogen as NH <sub>3</sub>	µmo/l/L	2.17	1.9	3.12	2.86	3.41	3.1	3.27	2.98	3.14	3.23	2.85	2.61
11	Phosphates as PO <sub>4</sub>	µmo/l/L	1.85	1.63	2.57	2.29	2.38	2.29	2.19	1.87	2.58	2.69	1.73	1.53
12	Total Nitrogen	µmo/l/L	5.95	5.36	8.38	7.89	7.79	7.2	8.3	7.48	7.27	7.35	7.56	6.97
13	Petroleum Hydrocarbon	µg/L	9.4	Not Detected	13	Not Detected	12	Not Detected	17	Not Detected	19	Not Detected	15	Not Detected
14	Total Dissolved Solids	mg/L	32803	32410	33426	33804	32710	33328	32468	32698	32798	33348	33051	33402
15	COD	mg/L	24	21	23.6	18	25	20	24.8	18	25.6	17.6	24	18
<b>A Phytoplankton</b>														
16.1	Chlorophyll	mg/m <sup>3</sup>	2.78	2.02	3.09	2.88	2.93	2.83	2.99	2.77	3.25	2.93	2.79	2.09
16.2	Phaeophytin	mg/m <sup>3</sup>	2.46	1.78	2.14	1.15	2.07	2.1	1.46	2.68	1.68	2.74	0.15	0.22
16.3	Cell Count	No. x 10 <sup>3</sup> /L	116	90	126	98	134	92	150	102	220	116	178	90
16.4	Name of Group Number and name of group species of each group	—	Skeletonema sp. Nitzschia sp. Pleurosigma sp.	Navicula sp. Fragillaria sp. Synedra sp.	Navicula sp. Coscinodiscus sp. Rhizosolenia sp. Pleurosigma sp.	Nitzschia sp. Gyrodinium sp. Thalassiosira sp. —	Skeletonema sp. Rhizosolenia sp. Pleurosigma sp. Cyclotella sp. Thalassiosira sp.	Nitzschia sp. Pleurosigma sp. Fragillaria sp. Navicula sp. —	Skeletonema sp. Rhizosolenia sp. Thalassiosira sp. Ankistrodesmus sp.	Navicula sp. Nitzschia sp. Synedra sp. Pleurosigma sp.	Coscinodiscus sp. Rhizosolenia sp. Biddulphia sp. Ankistrodesmus sp. Thalassiosira sp.	Synedra sp. Pleurosigma sp. Nitzschia sp. Navicula sp. —	Coscinodiscus sp. Thalassiosira sp. Scenedesmus sp. Closterium sp. Pediastrum sp.	Nitzschia sp. Synedra sp. Pleurosigma sp. Melosira sp. —

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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-20		NOV-20		DEC-20		JAN-21		FEB-21		MARCH-21	
			Surface	Bottom	Surface	Bottom	Surface	Bottom	Surface	Bottom	Surface	Bottom	Surface	Bottom
B	Zooplanktons													
17.1	Abundance (Population)	Nox10 3/100 m3	29		31		28		33		34		25	
17.2	Name of Group Number and name of group species of each group	--	Copepods Gastropods Medusae Fish larvae		Copepods Polychaetes Chaetognathes Decapods		Polychaetes Bivalves Chaetognathes		Polychaetes Foraminiferans Decapods Copepods		Polychaetes Decapods Bivalves Isopods		Polychaetes Bivalves Decapods Isopods	
17.3	Total Biomass	ml/10 0 m³	3.55		3.6		2.9		3.45		3.65		2.95	
C	Microbiological Parameters													
18.1	Total Bacterial Count	CFU/ ml	2290		2190		2310		2210		2240		2390	
18.2	Total Coliform	/ml	Absent		Absent		Absent		Absent		Absent		Present	
18.3	E.coli	/ml	Absent		Absent		Absent		Absent		Absent		Absent	
18.4	Enterococcus species	/ml	Absent		Absent		Absent		Absent		Absent		Present	
18.5	Salmonella species	/ml	Absent		Absent		Absent		Absent		Absent		Absent	
18.6	Shigella species	/ml	Absent		Absent		Absent		Absent		Absent		Absent	
18.7	Vibrio species	/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 Sea Water.

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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-20		NOV-20		DEC-20		JAN-21		FEB-21		MARCH-21	
			Surface	Bottom	Surface	Bottom	Surface	Bottom	Surface	Bottom	Surface	Bottom	Surface	Bottom
<b>B</b>	<b>Zooplanktons</b>													
17.1	Abundance (Population)	Nox10 3/100 m <sup>3</sup>	28		33		29		34		32		25	
17.2	Name of Group Number and name of group species of each group	--	Polychaetes Copepods Gastropods --		Copepods Decapods Bivalves --		Polychaetes Isopods Bivalves Decapods		Amphipods Copepods Polychaetes Foraminiferans		Polychaetes Decapods Chaetognathes Mysids		Copepods Gastropods Bivalves Decapods	
17.3	Total Biomass	ml/10 0 m <sup>3</sup>	3.4		3.5		3.1		3.25		3.55		2.4	
<b>C</b>	<b>Microbiological Parameters</b>													
18.1	Total Bacterial Count	CFU/ ml	2240		2260		2210		2180		2340		2250	
18.2	Total Coliform	/ml	Absent		Absent		Absent		Absent		Absent		Present	
18.3	E.coli	/ml	Absent		Absent		Absent		Absent		Absent		Absent	
18.4	Enterococcus species	/ml	Absent		Absent		Absent		Absent		Absent		Present	
18.5	Salmonella species	/ml	Absent		Absent		Absent		Absent		Absent		Absent	
18.6	Shigella species	/ml	Absent		Absent		Absent		Absent		Absent		Absent	
18.7	Vibrio species	/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 Sea Water.

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**Table-1.10: Sea Water Quality Analysis Results of CB1 End towards Channel from the Sea Basin for the period: October, 2020 to March, 2021.**

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-20		NOV-20		DEC-20		JAN-21		FEB-21		MARCH-21	
			Surface	Bottom	Surface	Bottom	Surface	Bottom	Surface	Bottom	Surface	Bottom	Surface	Bottom
1	pH	--	8.19	8.17	8.22	8.17	8.28	8.22	8.21	8.17	8.27	8.19	8.22	8.18
2	Temperature	oC	30.4	30.2	30.7	30.5	30.4	30.2	29.4	29.1	30	30.3	30.3	30.1
3	Total Suspended Solids	mg/L	219	236	239	253	210	227	203	180	228	198	237	254
4	BOD (3 Days @ 27 °C)	mg/L	3.7	Not Detected	4.1	Not Detected	3.7	Not Detected	3.9	Not Detected	3.5	Not Detected	3.6	Not Detected
5	Dissolved Oxygen	mg/L	5.8	5.7	5.9	5.7	5.9	5.8	5.8	5.6	5.9	5.7	5.8	5.6
6	Salinity	ppt	30.7	31	31.6	31.9	31.2	31.5	30.5	30.8	30.8	31.2	31.1	31.5
7	Oil & Grease	mg/L	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected
8	Nitrate as NO <sub>3</sub>	µmo/l/L	3.28	3.14	4.69	4.43	3.69	3.43	4.2	3.91	3.52	3.29	3.98	3.74
9	Nitrite as NO <sub>2</sub>	µmo/l/L	0.41	0.35	0.53	0.39	0.59	0.51	0.86	0.74	0.69	0.57	0.58	0.49
10	Ammonical Nitrogen as NH <sub>3</sub>	µmo/l/L	2.83	2.56	2.74	2.56	2.47	2.34	3.14	2.92	2.94	2.81	2.86	2.71
11	Phosphates as PO <sub>4</sub>	µmo/l/L	2.94	2.83	2.36	2.21	2.28	1.76	2.18	1.87	2.56	2.29	1.57	1.38
12	Total Nitrogen	µmo/l/L	6.52	6.05	7.96	7.38	6.75	6.28	8.2	7.57	7.15	6.67	7.42	6.94
13	Petroleum Hydrocarbon	µg/L	13.6	Not Detected	10.6	Not Detected	13	Not Detected	18.4	Not Detected	15.2	Not Detected	13.6	Not Detected
14	Total Dissolved Solids	mg/L	32118	32386	32104	33206	33050	33124	32410	32694	32684	33168	32784	33368
15	COD	mg/L	27	22	25.4	21.6	24	19.6	23	21	24.9	18.6	28	17
<b>A Phytoplankton</b>														
16.1	Chlorophyll	mg/m <sup>3</sup>	2.99	2.18	2.93	2.83	2.99	2.61	3.04	2.88	3.31	3.1	2.75	2.24
16.2	Phaeophytin	mg/m <sup>3</sup>	2.32	2.33	2.41	2.14	2.32	1.91	2.41	2.57	2.15	2.81	0.39	0.12
16.3	Cell Count	No. x 10 <sup>3</sup> /L	120	96	136	90	120	94	158	104	192	112	182	96
16.4	Name of Group Number and name of group species of each group	--	Phormidium Clostridium Navicula sp. Thallasi osira sp.	Bacteri astrum Nitzschia sp. Fragillaria sp.	Thallasi onema sp. Nitzschia sp. Rhizoso lenia sp. Coscino discus sp.	Navicul a sp. Fragillaria sp. Skeleto nema sp. --	Skeleto nema sp. Rhizoso lenia sp. Fragillaria sp. Cyclotel la sp.	Navicul a sp. Nitzschia sp. Pleuros igma sp. --	Skeleto nema sp. Rhizoso lenia sp. Thallasi osira sp. Navicul a sp.	Nitzschia sp. Pleuros igma sp. Melosira sp. --	Skeleto nema sp. Biddulphia sp. Coscino discus sp. Ceratiu m.sp.	Nitzschia sp. Navicul a sp. Synedr a sp. --	Pediasium sp. Skeleto nema sp. Coscino discus sp. Thallasi osira sp. Fragillaria sp.	Nitzschia sp. Melosira sp. Pleurosi gma sp. Anacyst is sp. --

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RESULTS OF SEA WATER QUALITY ANALYSIS CB1 END TOWARDS CHANNEL FROM SEA BASIN (N 21° 5'14.67" , E 72°37'40.14")														
S. NO.	TEST PARAMETERS	UNIT	OCT-20		NOV-20		DEC-20		JAN-21		FEB-21		MARCH-21	
			Surface	Bottom	Surface	Bottom	Surface	Bottom	Surface	Bottom	Surface	Bottom	Surface	Bottom
B Zooplanktons														
17.1	Abundance (Population)	Nox10 3/100 m3	26		35		27		36		31		26	
17.2	Name of Group Number and name of group species of each group	--	Copepods Decapods Ostracods Amphipods		Polychaetes Copepods Decapods Isopods		Polychaetes Decapods Isopods Ostracods		Chaetognathes Polychaetes Amphipods Copepods		Polychaetes Bivalves Decapods Isopods		Copepods Bivalves Amphipods Gastropods	
17.3	Total-Biomass	ml/10 0 m³	3.1		3.7		2.95		3.55		3.4		2.65	
C Microbiological Parameters														
18.1	Total Bacterial Count	CFU/ ml	2250		2310		2290		2150		2180		2270	
18.2	Total Coliform	/ml	Absent		Absent		Absent		Absent		Absent		Present	
18.3	E.coli	/ml	Absent		Absent		Absent		Absent		Absent		Absent	
18.4	Enterococcus species	/ml	Absent		Absent		Absent		Absent		Absent		Present	
18.5	Salmonella species	/ml	Absent		Absent		Absent		Absent		Absent		Absent	
18.6	Shigella species	/ml	Absent		Absent		Absent		Absent		Absent		Absent	
18.7	Vibrio species	/ml	Absent		Absent		Absent		Absent		Absent		Absent	

Detection Limit, BOD: 1.0 mg/L, Oil & Grease: 2.0 mg/L, Petroleum Hydrocarbon: 1 µg/L, Nitrite as NO<sub>2</sub>: 0.002 mg/L, Pheophytin: 0.1 mg/m<sup>3</sup>

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

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**4E. DUMP POND DISCHARGE WATER QUALITY MONITORING: -****Table-1.11: Dump Pond Water Quality Analysis Results for the Period: October, 2020 to March, 2021**

Sr. No.	Parameters	Unit	26/11/2020	26/11/2020	26/02/2021	26/02/2021
			OLD COAL YARD	PET COCK	OLD COAL YARD	PET COCK
1	pH	--	8.18	8.3	8.87	8.86
2	Total Dissolved Solids	mg/L	2846	2058	2136	2093
3	Total Suspended Solids	mg/L	69	63	52	71
4	Turbidity	NTU	15.4	13.4	17.4	14.8
5	BOD (3 Days @ 27 °C)	mg/L	43	32	39.8	29.3
6	Dissolved Oxygen	mg/L	5.8	5.3	5.9	5.6
7	COD	mg/L	170	128	186	143
8	Salinity	ppt	1.62	1.31	1.46	1.28
9	Oil & Grease	mg/L	Not Detected	Not Detected	Not Detected	Not Detected
10	Total Hardness as CaCO <sub>3</sub>	mg/L	186	176	153	158
11	Fluoride as F	mg/L	0.5	0.64	0.42	0.53
12	Chloride as Cl	mg/L	899	730	810	712
13	Zinc as Zn	mg/L	0.74	0.43	0.68	0.46
14	Cadmium as Cd	mg/L	Not Detected	Not Detected	Not Detected	Not Detected
15	Lead as Pb	mg/L	Not Detected	Not Detected	Not Detected	Not Detected
16	Mercury as Hg	mg/L	Not Detected	Not Detected	Not Detected	Not Detected

Detection Limit, Mercury as Hg: 0.00025 mg/L, Oil & Grease: 2.0 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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## 4F. AMBIENT NOISE LEVEL MONITORING: -

**Table-1.12: Ambient Noise Level Monitoring Results during the Day Time in Leq. dB(A) for the period: October, 2020 to March, 2021 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	15/10/2020	02/11/2020	14/12/2020	07/01/2021	01/02/2021	01/03/2021
6:00-7:00	51.2	53.7	52.4	54.3	72.9	72.6
7:00-8:00	52.4	54.2	55.6	56.3	61.8	61.1
8:00-9:00	52.9	57.1	55.1	57.5	68.9	68.6
9:00-10:00	58.7	60.2	59.8	59.7	66.3	66.1
10:00-11:00	56.7	52.7	56.7	60.3	69.8	69.5
11:00-12:00	60.3	57.3	53.6	58.2	71.6	71.5
12:00-13:00	62.2	56.6	51.2	56.9	60.4	59.3
13:00-14:00	62.1	52.3	56.2	60.8	65.7	65.6
14:00-15:00	58.6	56.4	53.8	59.4	62.9	62.7
15:00-16:00	61.3	58.6	53.3	61.3	58.9	58.6
16:00-17:00	63.2	55.2	59.9	58.4	57.1	56.3
17:00-18:00	65.6	57.6	60.0	56.5	65.2	64.2
18:00-19:00	58.5	52.8	57.0	55.7	54.6	53.9
19:00-20:00	56.4	58.8	59.4	58.8	63.9	63.2
20:00-21:00	55.3	55.3	56.6	59.5	71.4	70.4
21:00-22:00	54.1	59.1	50.3	55.4	68.2	68.0

\*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

**Table-1.13: Noise Level Monitoring Results during the Night Time in Leq. dB(A) for the period: October, 2020 to March, 2021 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	15/10/2020 & 16/10/2020	02/11/2020 & 03/11/2020	14/12/2020 & 15/12/2020	07/01/2021 & 08/01/2021	01/02/2021 & 02/02/2021	01/03/2021 & 02/03/2021
22:00-23:00	52.2	55.8	52.8	56.5	63.3	62.9
23:00-00:00	52.9	53.8	48.5	57.2	62.3	61.6
00:00-01:00	51.1	54.6	47.0	48.9	65.1	64.3
01:00-02:00	51.8	47.9	49.9	46.5	59.5	59.1
02:00-03:00	52.5	48.3	47.8	49.9	55.6	55.4
03:00-04:00	52.4	54.8	44.4	52.6	61.9	61.0
04:00-05:00	23.0	54.5	49.3	58.7	59.7	59.7
05:00-06:00	23.1	50.9	46.3	51.6	56.1	56.0

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

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-1.14: Ambient Noise Level Monitoring Results during the Day Time in Leq. dB(A) for the period: October, 2020 to March, 2021 At HSE Building Terrace**

Sampling Location	2 - HSE Building Terrace					
Longitude Latitude	N 21° 05.043' E 72° 38.491'					
Date of Monitoring	22/10/2020	09/11/2020	24/12/2020	14/01/2021	08/02/2021	08/03/2021
6:00-7:00	55.8	53.1	49.8	53.9	59.3	58.2
7:00-8:00	57.1	49.0	48.0	52.1	62.6	61.7
8:00-9:00	60.1	55.5	47.6	51.8	71.0	70.5
9:00-10:00	62.6	51.2	50.8	55.2	58.8	58.7
10:00-11:00	62.8	60.7	52.8	57.8	68.7	67.8
11:00-12:00	63.3	50.2	54.5	50.4	69.6	68.8
12:00-13:00	60.5	52.2	54.6	58.3	66.4	65.8
13:00-14:00	64.5	59.8	52.6	54.9	52.2	51.2
14:00-15:00	61.2	52.9	55.8	57.2	68.0	67.4
15:00-16:00	62.7	61.3	56.9	52.8	65.5	64.7
16:00-17:00	64.1	56.9	60.8	59.1	72.2	71.6
17:00-18:00	64.4	55.4	57.2	56.4	56.2	55.3
18:00-19:00	57.3	51.6	58.1	50.7	57.3	56.7
19:00-20:00	56.0	55.9	56.1	52.6	51.5	50.5
20:00-21:00	56.5	61.8	51.7	47.6	64.4	63.7
21:00-22:00	54.0	61.4	51.8	50.2	64.2	64.0

\*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

**Table-1.15: Noise Level Monitoring Results during the Night Time in Leq. dB(A) for the period: October, 2020 to March, 2021 At HSE Building Terrace**

Sampling Location	2 - HSE Building Terrace					
Longitude Latitude	N 21° 05.043' E 72° 38.491'					
Date of Monitoring	22/10/2020 & 23/10/2020	09/11/2020 & 10/11/2020	24/12/2020 & 25/12/2020	14/01/2021 & 15/01/2021	08/02/2021 & 09/02/2021	08/03/2021 & 09/03/2021
22:00-23:00	53.0	54.4	47.5	56.2	60.9	60.2
23:00-00:00	53.5	56.8	48.7	53.6	67.4	67.2
00:00-01:00	55.3	51.3	51.1	54.9	57.7	56.7
01:00-02:00	52.1	49.4	46.0	48.4	62.8	62.5
02:00-03:00	53.1	47.8	47.7	45.1	60.5	60.4
03:00-04:00	51.0	54.9	48.3	53.9	59.2	58.8
04:00-05:00	51.3	50.0	48.0	57.3	66.8	66.7
05:00-06:00	52.6	54.1	46.6	55.6	61.6	61.4

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

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: October, 2020 to March, 2021 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	26/10/2020	12/11/2020	28/12/2020	18/01/2021	11/02/2021	11/03/2021
6:00-7:00	56.3	58.0	55.0	61.6	68.8	68.4
7:00-8:00	58.2	60.3	61.1	64.7	65.1	64.9
8:00-9:00	64.2	59.0	60.3	66.9	67.9	67.6
9:00-10:00	65.5	61.5	65.3	63.4	61.2	60.8
10:00-11:00	65.8	67.8	65.5	61.8	66.7	66.4
11:00-12:00	66.7	66.2	67.5	65.9	69.5	68.5
12:00-13:00	60.0	68.8	63.2	69.3	63.4	62.8
13:00-14:00	60.4	63.8	63.3	67.5	58.7	58.4
14:00-15:00	58.1	64.3	65.6	66.4	66.9	66.6
15:00-16:00	63.8	64.1	67.4	64.8	70.1	69.3
16:00-17:00	64.7	63.5	64.8	69.5	60.0	59.4
17:00-18:00	65.9	63.7	59.5	64.4	63.5	62.6
18:00-19:00	60.2	62.2	66.4	63.9	57.6	57.4
19:00-20:00	60.8	67.3	63.9	59.3	52.1	51.5
20:00-21:00	58.4	64.4	63.0	56.6	57.5	57.1
21:00-22:00	56.1	61.9	59.1	58.7	55.6	54.6

\*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.

**Table-1.17: Noise Level Monitoring Results during the Night Time in Leq. dB(A) for the period: October, 2020 to March, 2021 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	26/10/2020 & 27/10/2020	12/11/2020 & 13/11/2020	28/12/2020 & 29/12/2020	18/01/2021 & 19/01/2021	11/02/2021 & 12/02/2021	11/03/2021 & 12/03/2021
22:00-23:00	56.8	53.0	61.5	65.7	60.4	59.5
23:00-00:00	58.2	53.5	64.6	61.4	63.2	62.6
00:00-01:00	51.4	54.3	65.5	62.6	63.7	63.1
01:00-02:00	53.3	52.1	64.0	65.4	59.3	58.4
02:00-03:00	53.8	49.3	60.4	65.3	61.3	60.3
03:00-04:00	54.4	55.3	65.7	63.4	55.2	54.4
04:00-05:00	52.0	55.1	61.7	55.4	56.6	56.6
05:00-06:00	51.6	58.8	59.2	60.3	60.3	60.0

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

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: October, 2020 to March, 2021 At Container Terminal**

Sampling Location	4 - Container Terminal					
Longitude Latitude	N 21° 05.187' E 72° 37.774'					
Date of Monitoring	19/10/2020	05/11/2020	17/12/2020	11/01/2021	04/02/2021	04/03/2021
6:00-7:00	54.3	58.1	56.5	59.2	65.0	64.1
7:00-8:00	56.2	59.6	56.0	57.4	61.4	61.2
8:00-9:00	56.8	61.0	56.3	56.1	66.5	65.9
9:00-10:00	61.4	64.2	58.2	62.9	61.3	60.7
10:00-11:00	61.8	62.5	62.1	64.2	59.5	58.8
11:00-12:00	62.3	70.0	62.0	67.3	62.2	61.3
12:00-13:00	62.4	64.7	64.3	68.5	67.3	67.1
13:00-14:00	58.3	68.2	66.0	65.3	70.4	69.4
14:00-15:00	58.9	65.8	57.5	61.9	69.2	69.0
15:00-16:00	61.5	60.8	60.1	66.6	57.8	57.3
16:00-17:00	61.9	64.8	62.2	60.2	55.9	55.0
17:00-18:00	63.1	67.4	63.6	68.4	58.6	58.3
18:00-19:00	59.3	66.8	62.3	63.2	67.4	66.5
19:00-20:00	58.8	69.1	62.9	67.9	63.3	63.1
20:00-21:00	55.2	70.5	60.9	63.7	55.3	54.4
21:00-22:00	54.8	63.2	62.8	66.3	56.9	56.6

#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.

**Table-1.19: Noise Level Monitoring Results during the Night Time in Leq. dB(A) for the period: October, 2020 to March, 2021 At Container Terminal**

Sampling Location	4 - Container Terminal					
Longitude Latitude	N 21° 05.187' E 72° 37.774'					
Date of Monitoring	19/10/2020 & 20/10/2020	05/11/2020 & 06/11/2020	17/12/2020 & 18/12/2020	11/01/2021 & 12/01/2021	04/02/2021 & 05/02/2021	04/03/2021 & 05/03/2021
22:00-23:00	54.8	56.7	58.8	60.6	66.5	66.3
23:00-00:00	52.3	51.2	61.0	59.9	61.8	61.5
00:00-01:00	52.8	56.4	57.3	58.1	65.0	64.4
01:00-02:00	56.3	53.6	55.4	56.9	57.6	57.4
02:00-03:00	51.2	59.4	56.2	58.6	64.2	63.2
03:00-04:00	53.4	59.0	58.1	53.2	61.0	60.9
04:00-05:00	55.8	61.1	54.6	59.3	54.7	54.3
05:00-06:00	51.5	62.8	58.2	59.6	56.4	56.1

#dB(A) Leq. denotes the time weighted average of the level of sound in decibels on scale A which is relatable to human hearing.  
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: October, 2020 to March, 2021 At Hazira Village**

Sampling Location	5 - Hazira Village					
Longitude Latitude	N 21° 05.44' E 72° 38.44'					
Date of Monitoring	29/10/2020	17/11/2020	31/12/2020	21/01/2021	15/02/2021	15/03/2021
6:00-7:00	48.1	51.4	50.1	45.3	60.5	59.8
7:00-8:00	48.4	54.3	57.1	47.4	64.9	64.8
8:00-9:00	50.3	54.6	55.3	49.6	51.0	50.7
9:00-10:00	50.4	67.1	53.7	52.7	60.6	60.1
10:00-11:00	51.3	55.8	61.3	53.8	63.0	62.9
11:00-12:00	51.8	59.5	56.8	51.3	60.1	59.7
12:00-13:00	51.7	50.6	54.1	54.2	53.3	52.4
13:00-14:00	50.2	54.8	51.1	50.8	57.7	56.9
14:00-15:00	51.9	53.4	52.5	47.5	64.1	64.3
15:00-16:00	52.3	58.7	49.5	46.9	53.1	52.1
16:00-17:00	52.8	58.5	52.7	48.2	56.7	56.4
17:00-18:00	54.4	60.4	61.6	53.4	55.7	55.5
18:00-19:00	53.0	54.9	58.0	54.6	66.2	65.5
19:00-20:00	52.1	50.8	58.3	56.8	66.6	66.0
20:00-21:00	47.1	51.9	53.2	57.1	62.4	62.2
21:00-22:00	47.5	53.9	52.9	59.6	68.3	67.5

\*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.

**Table-1.21: Noise Level Monitoring Results during the Night Time in Leq. dB(A) for the period: October, 2020 to March, 2021 At Hazira Village**

Sampling Location	5 - Hazira Village					
Longitude Latitude	N 21° 05.44' E 72° 38.44'					
Date of Monitoring	29/10/2020 & 30/10/2020	17/11/2020 & 18/11/2020	31/12/2020 & 01/01/2021	21/01/2021 & 22/01/2021	15/02/2021 & 16/02/2021	15/03/2021 & 16/03/2021
22:00-23:00	48.8	41.4	50.2	54.4	56.9	56.5
23:00-00:00	47.3	48.9	46.4	48.6	55.4	54.8
00:00-01:00	47.2	45.3	46.2	47.7	62.2	61.9
01:00-02:00	48.4	47.7	44.6	50.9	60.6	59.8
02:00-03:00	45.3	40.4	39.3	41.6	58.5	58.1
03:00-04:00	44.7	42.7	40.0	45.9	64.6	64.1
04:00-05:00	44.8	42.0	44.3	48.3	65.8	65.3
05:00-06:00	43.2	50.2	48.4	50.6	60.2	59.6

\*dB(A) Leq. denotes the time weighted average of the level of sound in decibels on scale A which is relatable to human hearing.  
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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**4G. DG SETS STACK EMISSION AND NOISE LEVEL MONITORING: -**

**Table-1.22: DG Sets Stack Monitoring Results for the period: October, 2020 to March, 2021**

**Table-1.22 (a): DG Sets Stack Monitoring Results:**

Sr. No.	Parameters	Unit	DG SET TOYO DENKI -1		DG SET TOYO DENKI -2		DG SET TOYO DENKI -3	
			26/11/2020	15/02/2021	26/11/2020	15/02/2021	26/11/2020	15/02/2021
1	Particulate Matter	mg/Nm <sup>3</sup>	26.62	28.44	28.61	26.41	32.43	24.62
2	Sulphur Dioxide	ppm	6.23	5.79	7.68	4.9	8.57	6.45
3	Oxide of Nitrogen	ppm	30.56	27.39	33.63	30.41	36.43	33.53
4	Carbon Monoxide (CO)	mg/m <sup>3</sup>	14.31	14.94	21.93	22.9	18.23	18.61
5	Non Methyl Hydro Carbon (NMHC)	mg/m <sup>3</sup>	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected

**Table-1.22 (b): DG Sets Stack Monitoring Results:**

Sr. No.	Parameters	Unit	SS-1 LT DG -320 KVA		SS3 -DG -200 KVA		LT Phase -1 (625 KVA)	
			26/11/2020	15/02/2021	27/11/2020	16/02/2021	27/11/2020	16/02/2021
1	Particulate Matter	mg/Nm <sup>3</sup>	19.67	17.53	17.58	15.52	14.5	18.62
2	Sulphur Dioxide	ppm	5.02	4.2	6.99	4.52	6.39	7.27
3	Oxide of Nitrogen	ppm	35.63	33.48	30.56	28.66	33.5	34.54
4	Carbon Monoxide (CO)	mg/m <sup>3</sup>	18.32	13.74	9.16	6.87	14.89	12.6
5	Non Methyl Hydro Carbon (NMHC)	mg/m <sup>3</sup>	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected

**Table-1.22 (c): DG Sets Stack Monitoring Results:**

Sr. No.	Parameters	Unit	LT Phase -2 (750 KVA)		ER-1 (100 KVA)	
			27/11/2020	16/02/2021	27/11/2020	16/02/2021
1	Particulate Matter	mg/Nm <sup>3</sup>	24.55	26.57	19.52	21.58
2	Sulphur Dioxide	ppm	7.4	8.82	5.45	6.87
3	Oxide of Nitrogen	ppm	38.69	36.5	31.57	35.39
4	Carbon Monoxide (CO)	mg/m <sup>3</sup>	19.47	9.16	10.31	14.89
5	Non Methyl Hydro Carbon (NMHC)	mg/m <sup>3</sup>	Not Detected	Not Detected	Not Detected	Not Detected

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**Table-1.22 (d): DG Sets Stack Monitoring Results:**

Sr. No.	Parameters	Unit	NDG Building (380 KVA)		Custom Building (320 KVA)	
			27/11/2020	16/02/2021	27/11/2020	16/02/2021
1	Particulate Matter	mg/Nm <sup>3</sup>	21.38	23.41	15.64	21.59
2	Sulphur Dioxide	ppm	5.98	6.84	4.46	5.48
3	Oxide of Nitrogen	ppm	38.56	35.57	32.57	30.56
4	Carbon Monoxide (CO)	mg/m <sup>3</sup>	11.45	8.02	16.03	11.45
5	Non Methyl Hydro Carbon (NMHC)	mg/m <sup>3</sup>	Not Detected	Not Detected	Not Detected	Not Detected

**Table-1.23: DG Sets Noise Level Monitoring Results for the period: October, 2020 to March, 2021**

Sr. No.	DG Set Average Noise Level In Leq. dB(A)		
	Sampling Location	At 1 M Distance From The Enclosure	
	Sampling Date	26 & 27/11/2020	15 & 16/02/2021
1.	DG SET TOYO DENKI - 1	68.8	67.2
2.	DG SET TOYO DENKI - 2	67.1	68.9
3.	DG SET TOYO DENKI -3	69.2	70.2
4.	SS-1 LT DG -320 KVA	64.2	63.5
5.	SS3 -DG -200 KVA	70.6	69.5
6.	LT PHASE -1 (625 KVA)	65.9	64.8
7.	LT PHASE -2 (750 KVA)	67.7	66.2
8.	ER-1 (100 KVA)	65.6	64.9
9.	NDG BUILDING (380 KVA)	68.4	65.8
10.	CUSTOM BUILDING (320 KVA)	68.8	67.2

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#### 4H. SEA SEDIMENT QUALITY MONITORING: -

**Table-1.25: Sea Sediment Quality Results of CB2 South End towards Landside for the period: October, 2020 to March, 2021**

S. NO	PARAMETERS	UNIT	CB2 SOUTH END TOWARDS LANDSIDE FROM SEA BASIN (N 21° 5'1.92", E 72°37'56.58")					
			OCT-20	NOV-20	DEC-20	JAN-21	FEB-21	MARCH-21
1	Organic Matter	%	0.49	0.47	0.51	0.63	0.56	0.46
2	Phosphorus as P	µg/g	663	639	603	742	628	706
3	Texture	---	Sandy Silt	Sandy Silt	Sandy Silt	Sandy Silt	Sandy Silt	Sandy Silt
4	Petroleum Hydrocarbon	µg/g	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected
5	<b>Heavy Metals</b>							
5.1	Aluminum as Al	%	4.92	4.92	4.79	5.14	4.68	4.7
5.2	Total Chromium as Cr <sup>+3</sup>	µg/g	146	186	158	172	132	112
5.3	Manganese as Mn	µg/g	804	853	734	846	769	724
5.4	Iron as Fe	%	5.16	4.8	4.62	5.38	4.73	4.86
5.5	Nickel as Ni	µg/g	63	56	39	59	61.48	52
5.6	Copper as Cu	µg/g	49	47	27	46	58.2	36
5.7	Zinc as Zn	µg/g	136	204	183	132	124	150
5.8	Lead as Pb	µg/g	2.64	2.63	1.7	2.14	1.76	2.17
5.9	Mercury as Hg	µg/g	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected
6	<b>Benthic Organisms</b>							
6.1	Macrobenthos (No and name of groups present, No and name of species of each group present)	---	Polychaetes Branchyuran s Decapods	Crustaceans Copepods Bivalves	polychates crustaceans ---	Crustaceans Polychaetes Isopods	Crustaceans Bivalves Polychaetes	Polychaetes Gastropods Bivalves
6.2	MeioBenthos (No and name of groups present, No and name of species of each group present)	---	Nematodes	Foraminifera ns	Nematodes	Foraminifera ns	Nematodes Foraminifera ns	Nematodes ---
6.3	Population	No./m <sup>2</sup>	324	352	382	529	499	441

**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: October, 2020 to March, 2021**

S. NO.	PARAMETERS	UNIT	MP1 WEST END TOWARDS CHANNEL OF SEA BASIN (N 21° 5'9.78", E 72°37'24.48")					
			OCT-20	NOV-20	DEC-20	JAN-21	FEB-21	MARCH-21
1	Organic Matter	%	0.48	0.48	0.51	0.58	0.62	0.52
2	Phosphorus as P	µg/g	613	630	596	687	573	674
3	Texture	--	Sandy Silt	Sandy Silt	Sandy Silt	Sandy Silt	Sandy Silt	Sandy Silt
4	Petroleum Hydrocarbon	µg/g	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected
5	<b>Heavy Metals</b>							
5.1	Aluminum as Al	%	4.96	4.89	4.63	5.16	4.92	4.73
5.2	Total Chromium as Cr <sup>+3</sup>	µg/g	132	207	174	190	183	128
5.3	Manganese as Mn	µg/g	826	872	810	834	724	702
5.4	Iron as Fe	%	4.83	4.68	4.46	4.69	4.58	4.76
5.5	Nickel as Ni	µg/g	61	57	43	60	53.2	57
5.6	Copper as Cu	µg/g	54	43	27	47	62.7	43
5.7	Zinc as Zn	µg/g	170	209	180	168	146	132
5.8	Lead as Pb	µg/g	2.68	2.36	1.74	2.7	1.93	2.29
5.9	Mercury as Hg	µg/g	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected
6	<b>Benthic Organisms</b>							
6.1	Macrobenthos (No and name of groups present, No and name of species of each group present)	--	Branchyuran s Polychaetes Isopods	Polychaete worms Crustaceans Gastropods	polychaetes crustaceans Bivalves	Crustaceans Polychaetes	Crustaceans Polychaetes Bivalves	Polychaetes Gastropods Decapods
6.2	MeioBenthos (No and name of groups present, No and name of species of each group present)	--	Nematodes	Foraminifera ns	--	Foraminifera ns Nematodes	Foraminifera ns	Nematodes
6.3	Population	No./m <sup>2</sup>	353	322	441	471	529	353

**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-1.27: Sea Sediment Quality Results of CB1 End towards Channel for the period: October, 2020 to March, 2021**

S. NO.	PARAMETERS	UNIT	CB1 WEST END TOWARDS CHANNEL OF SEA BASIN (N 21° 5'14.67" , E 72°37'40.14")					
			OCT-20	NOV-20	DEC-20	JAN-21	FEB-21	MARCH-21
1	Organic Matter	%	0.47	0.47	0.53	0.56	0.64	0.52
2	Phosphorus as P	µg/g	636	639	598	634	738	678
3	Texture	--	Sandy Silt	Sandy Silt	Sandy Silt	Sandy Silt	Sandy Silt	Sandy Silt
4	Petroleum Hydrocarbon	µg/g	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected
5	<b>Heavy Metals</b>							
5.1	Aluminum as Al	%	4.83	4.98	4.79	5.24	4.86	4.68
5.2	Total Chromium as Cr <sup>+3</sup>	µg/g	150	214	186	198	159	112
5.3	Manganese as Mn	µg/g	820	836	713	802	728	724
5.4	Iron as Fe	%	4.79	4.7	4.56	4.76	4.65	4.86
5.5	Nickel as Ni	µg/g	60	56	41	59	36.2	52
5.6	Copper as Cu	µg/g	54	43	32	43	58.9	36
5.7	Zinc as Zn	µg/g	168	198	170	186	132	150
5.8	Lead as Pb	µg/g	2.46	2.19	1.56	2.34	1.78	2.17
5.9	Mercury as Hg	µg/g	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected
6	<b>Benthic Organisms</b>							
6.1	Macrobenthos (No and name. of groups present, No and name of species of each group present)	--	Branchyuran s Polychaetes --	Polychaete worms Bivalves Crustaceans	polychates crustaceans --	polychates crustaceans Decapods	Polychaetes Crustaceans Decapods	Polychaetes Gastropods Bivalves
6.2	MeioBenthos (No and name of groups present, No and name of species of each group present)	--	Nematodes	Foraminifera ns	Nematodes	Nematodes	Foraminifera ns Nematods	Nematodes --
6.3	Population	No./m <sup>2</sup>	294	381	412	441	559	441

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

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Phone : 0261-2635750, 0261-2635751, 0261-2635775, 07016605174, WEB: www.polluconlab.com, E. mail: pollucon@gmail.com, info@polluconlab.com



**4I. SOIL QUALITY MONITROING: -****Table-1.28A : Soil Quality Testing Results for the period: October, 2020 to March, 2021**

SR. NO.	PARAMETERS	UNIT	NEAR LT CANTEEN PARKING	
			31/12/2020	30/03/2021
1	Type	--	Sandy Loam	Sandy Loam
<b>Grain Size Analysis</b>				
2	Gravel	%	3	2.5
3	Coarse Sand	%	8	8.5
4	Medium Sand	%	22	23
5	Fine Sand	%	39	41
6	Total Sand	%	72	75
7	Silt + Clay	%	28	25
8	pH (1:5)	--	8.95	8.79
9	Electricity Conductivity	µmho/cm	1840	1983
10	Alkali matter	mg/kg	512	490
11	Cation Exchange Capacity	meq/100 gm	11.5	11.76
12	Sodium Absorption Ratio	--	10.1	10.32
13	Organic Matter	mg/kg	0.75	0.73
14	Available Nitrogen	meq/100 gm	0.54	0.58
15	Available Potassium	mg/kg	3.5	5
16	Available Phosphorus	mg/kg	0.4	0.38
17	Available Sodium	mg/kg	5	5.72
18	Permeability	cm/sec	$1.1 \times 10^{-7}$	$1.2 \times 10^{-7}$

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

Authorized Signatory

● FSSAI Approved Lab

● Recognised by MoEF, New Delhi Under  
Sec. 12 of Environmental (Protection) Act-1986● GPCB approved  
schedule II auditor

● ISO 14001

● ISO 45001

● ISO 9001

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**Table-1.28B: Soil Quality Testing Results for the period: October, 2020 to March, 2021**

SR. NO.	PARAMETERS	UNIT	NEAR PORT GATE NO. 2	
			31/12/2020	30/03/2021
1	Type	--	Sandy Loam	Sandy Loam
<b>Grain Size Analysis</b>				
2	Gravel	%	1.8	1.7
3	Coarse Sand	%	3.2	3.3
4	Medium Sand	%	33	32
5	Fine Sand	%	38	37
6	Total Sand	%	76	74
7	Silt + Clay	%	24	26
8	pH (1:5)	--	8.43	8.37
9	Electricity Conductivity	µmho/cm	1428	1580
10	Alkali matter	mg/kg	556	569
11	Cation Exchange Capacity	meq/100 gm	20.2	17.6
12	Sodium Absorption Ratio	--	9.8	10.2
13	Organic Matter	mg/kg	0.52	0.64
14	Available Nitrogen	meq/100 gm	0.48	0.58
15	Available Potassium	mg/kg	3.2	5.9
16	Available Phosphorus	mg/kg	0.56	0.75
17	Available Sodium	mg/kg	2.3	5.1
18	Permeability	cm/sec	$1.5 \times 10^{-7}$	$1.6 \times 10^{-7}$

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

Authorized Signatory

● FSSAI Approved Lab

● Recognised by MoEF, New Delhi Under  
Sec. 12 of Environmental (Protection) Act-1986● GPCB approved  
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## **ANNEXURE-5**

### **Photographs of Air Pollution Control Measures**





## Air Environment Management



**Covered Coal Conveyor  
Belt**



**Wind Brake Shield At Coal Yard Area**



**Dust Suppression System (DSS)**

30



## Air Environment Management

**Mist Canon System To Arrest Dust: -**



31



## Air Environment Management

Water Sprinkling at Coal  
Discharge Chute



Water Sprinkling at  
Coal Yard Area

32



## Air Environment Management



Regular Water Sprinkling On Coal Heaps



Cargo Covered With Tarpaulin



Dumper Covered With Tarpaulin

33

## Road Sweeping





### Green Belt Area



## **Annexure 6**

**Photograph of Stand by DG Set**





**Annexure 7**

**Details of Liquid/Wastes Collection & Disposed off from Vessels by GPCB Approved  
Third Party During period October 2020 to March 2021**

**Details of Liquid/Wastes Collection & Disposed off from Vessels by GPCB Approved  
Third Party During period October 2020 to March 2021**

S No	Date	Name of Vessel	Type of Waste	Quantity ( KL/ Kg)
1.	25-10-2020	MV. KENG TUNG	SLUDGE	3.370 MT
2.	24-12-2020	MT. CSS INTEGRITY	PREWASH	6.430 MT
3.	02-02-2021	MT. FORTITUDE	PREWASH	10.330 MT
4.	24-02-2021	MT. TRF KASHIMA	PREWASH	40.140 MT
5.	11-03-2021	MV. PAC ANTARES	TANK WASHING	27.710 MT
6.	11-03-2021	MT. DL VIOLET	PREWASH	12.660 MT

## **Annexure 8**

### **DETAILS OF ENVIRONMENTAL MANAGEMENT CELL**





**Adani Hazira Port Limited**

**From: October 2020 to  
March 2021**

**PRANAV CHOUDHARY**  
CEO - AHPPL

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

**Yagnesh Dalal**  
Senior Manager –HSEF  
(OHS&F)  
(B.Sc. PDIS, NEBOSH)

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

**JAYDIPSINH GOHIL**  
Incharge - Safety (LT, DC) &  
Occupational Health  
Associate 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)

**STP & ETP- Supervisor**

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

**Prateek Smart**  
Ast. Manager  
(Dip -EHS, M.Sc)

**Kinjal Patel**  
Shift Officer-Saf. & Fire  
Officer  
(B.Sc- Fire & Safety.)

**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**  
56Nos.

**HSE - Marshals**



**Adani Hazira Port Limited**

**From: October 2020 to  
March 2021**

## **Annexure 9**

**The Letter of SMC for Reception of Our Solid Waste**



E. H. PATHAN  
Executive Engineer (Drainage)  
Surat Municipal Corporation

DNG/Out/No. 5151  
DT. 26/03/2021

To:

Adani Hazira Port Limited  
At & Post Hazira,  
Tal. Chertyasi, Dist. Surat  
Surat 394270

Subject: Regarding Disposal of Waste generated from Your Hazira Port at Khajod Solid Waste Disposal Site.

Ref:- (i) Neelkanth Enterprise's letter dated 03.12.2020  
(ii) This office letter no. DNG/Out/No. 3435 Dt. 29.12.2020  
(iii) Your letter no. AHPL/SMC/Solid Waste/2021/252 Dt. 28.01.2021

Respected Sir,

With reference to the above mentioned subject, in line with your letter mentioned under reference (iii), You are hereby permitted to dispose inert waste generated within your premises at Khajod Disposal Site vide your own vehicles and manpower. Moreover, following points are to be considered while disposing inert at Khajod Disposal Site,

- The waste shall be transported vide your own vehicles and manpower and the same shall be weighed at Khajod Weigh Bridge and then disposed off, in line with instructions of the site supervisor.
- You shall have to pay administrative charges of Rs. 1210/- per M.T. towards disposal of the waste (inert) till 31/03/2021 and Rs. 1331/- per M.T. towards disposal of the waste (inert) from 01/04/2021 to 31/03/2022 in line with the rates sanctioned vide Standing Committee Resolution no. 113/2019.
- Considering the quantum of waste mentioned in your letter mentioned under reference (iii), you are hereby requested to deposit Rs. 100000/- (one lac only) towards administrative charges for disposal of waste. The same shall be adjusted in line with your monthly statement of waste disposed at Khajod Disposal site.
- Moreover, it should be strictly noted that the waste to be disposed off at Khajod Disposal Site should not contain any organic/hazardous waste. Only processing rejects/inert shall be disposed off at Khajod Disposal Site.
- All applicable statutory clearances/NOC, for disposing inert waste generated from your plant premises at Khajod Disposal Site shall have to be obtained by you.

Thanking You,

Yours Faithfully,

  
Executive Engineer  
Drainage Department  
Surat Municipal Corporation





**Adani Hazira Port Limited**

**From: October 2020 to  
March 2021**

**Annexure 10**  
**Copy of QEHSE Policy**



## Adani Hazira Port Ltd.

### **Quality, Environment, OH&S and Energy Policy (QEHSE Policy)**

Adani Hazira Port Ltd. is committed to excellence in the area of Quality, Environment, Occupational Health & Safety and Energy in port Business. We consider QEHSE responsibilities are integral part of our Business. To meet this commitment, AHPL shall abide by the following Principles:

- ◆ Satisfy our customers by maintaining a standard of service that consistently meets the agreed requirements;
- ◆ Focus on Occupational Health & Safety of employees & workers, pollution prevention, preservation of natural resources & protection of Environment at all times and in all circumstances.
- ◆ Identify and analyse the QEHSE risks arising from our activities to reduce them to the lowest possible levels.
- ◆ Eliminate or reduce the potential and severity of injuries, damages to material and non-material assets and impact on Environment & community arising out of our operations.
- ◆ Conform to applicable legislations, regulations and other requirement on QEHSE and take additional measures considered necessary.
- ◆ Committed to ensure the availability of information and necessary resources to achieve QEHSE objectives and targets using effective management system and review to improve performance.
- ◆ Shall strive toward reduction in consumption of energy, use of renewable energy and procure energy efficient equipment, products and services.
- ◆ Develop, conduct & promote education, training and ensure worker's participation and consultation to improve QEHSE performance
- ◆ Continually improve QEHSE management system by monitoring, evaluating and reviewing through the definitions of operational standards, assessments and audits.
- ◆ Communicate our policies and standards to employees & workers, suppliers, business partners and where ever necessary work with them to raise their standards.

Head - Ports

Date: 15<sup>th</sup> September 2020