

Ref No. APMT/ENV/MoEF&CC/EC&CRZ/22-23/03

Dated;19-May-2022

To,
The Principal Chief Conservator of Forests (C),
Ministry of Env., Forest and Climate Change
Regional Office (Western Zone),
Kendriya Paryavaran Bhawan,
E-5 Arera Colony, Link Road-3,
Ravishankar Nagar, Bhopal-462016

Sub: Submission of Six-Monthly Compliance Status of Environmental & CRZ Clearance Report for APM Terminal- Pipavav, Rajula- Gujarat.

Ref:

1. Environmental Clearance Letter No.: 10-91/2009-IA.III, dated; 5 June 2012.
2. EC Amendment Vide No. 11-91/2009-IA.III, dated; 18 Feb 2014.
3. EC Amendment Vide No. 11-91/2009-IA.III, dated; 30 March 2015.
4. EC Amendment Vide No. 11-91/2009-IA.III, dated; 02 Sep 2019.

Respected Sir,

With reference to the above subject, please find enclosed Six- Monthly (Half Yearly) Environmental Clearance (EC) and CRZ Clearance Compliance Status report for the period of Oct 2021 to March-2022 along with Environmental Parameters Report and Corporate Social Responsibility status report.

kindly acknowledge the receipt of these reports.

Continued....

Thanking You,

Yours faithfully

For APM Terminal Pipavav



Sanjay Singh
Head- HSSE Improvement
APM Terminals, Pipavav
Post- Uchhaiya, Taluka-Rajula
District- Amreli, Pipavav Port-365560

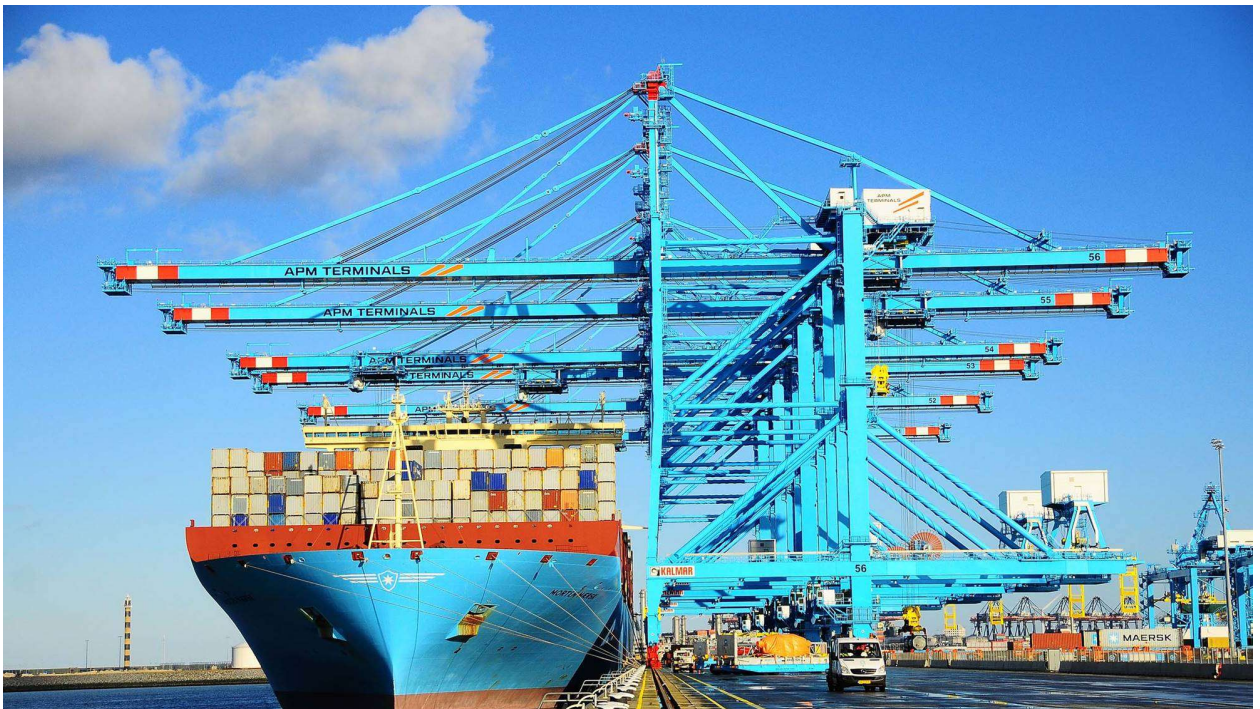
1. **The Chairman, Zonal Office**-Central Pollution Control Board, Parivesh Bhavan, Opp. VMC ward Office No. 10, Subhanpura, Vadodara-390023
2. **The Member Secretary**, Gujarat Pollution Control Board, Paryavaran Bhavan, Opp. Bij Nigam, CHH Road, Sector 10A, Gandhinagar, Gujarat 382010.
3. **The Regional Officer**, Gujarat Pollution Control Board, Swastik Complex, 1st Floor, Plot No. 1616/1617, Near Vir Mokhadaji Circle, Ghogha Road, Bhavnagar-364001(Gujarat).
4. **Director (IA-III)**, Monitoring Cell, Ministry of Environment, Forest & Climate Change, CGO Complex, Lodhi Road, New Delhi-110003.

Encl: EC & CRZ Compliance Report (Oct-2021 to March-2022)

5/19/2022

ENVIRONMENTAL CLEARANCE COMPLIANCE REPORT

OCTOBER-2021 TO MARCH-2022



**Compliance Status Report for “Environmental Clearance & CRZ Clearance”
Accorded by the MoEF&CC for Gujarat Pipavav Port Limited**

**SIX MONTHLY COMPLIANCE REPORT
OF
ENVIRONMENT & CRZ CLEARANCE**

**GUJARAT PIPAVAV PORT LIMITED
(APM TERMINAL-PIPAVAV)**

**At
RAJULA, DISTRICT- AMRELI
GUJARAT**

Submitted to:

**Ministry of Environment Forest & Climate Change, (WR Office) Bhopal
Ministry of Environment Forest & Climate Change, New Delhi
Central Pollution Control Board, Zonal Office (Vadodara)
Gujarat Pollution Control Board-Bhavnagar/Gandhinagar (HO)**

Submitted by:

**APM Terminals Pipavav
Gujarat Pipavav Port Ltd.
Post Office- Rampara No.2, Village- Rajula
District- Amreli, Gujarat-365560-India**

PERIOD: OCTOBER 2021- MARCH 2022

**Compliance Status Report for “Environmental Clearance & CRZ Clearance”
Accorded by the MoEF&CC for Gujarat Pipavav Port Limited**

Contents

Sr. No.	Title	Page No.
1	Introduction	3-3
2	Compliance status of Environmental & CRZ Clearance for GPPL	4-14
3	Meteorological Data of GPPL	15-16
4	Environmental Monitoring at GPPL	17-17
5	Hazardous Waste Management	18-18
6	Bio Medical Waste Management	18-18
7	COVID-19 Update	18-18
8	Corporate Social Responsibility Report	19-25

List of Annexure

Sr. No.	Annexure Details	Page
1	Environmental Quality Monitoring Results	26-43

**Compliance Status Report for “Environmental Clearance & CRZ Clearance”
Accorded by the MoEF&CC for Gujarat Pipavav Port Limited**

1.0: Introduction:

1. Gujarat Port Pipavav is operated by APM Terminals, part of the A.P. Moller-Maersk Group, one of the largest container terminal operators in the world.
2. APM Terminals operate a network of 76 ports globally.
3. Port Pipavav is in Saurashtra region in the state of Gujarat, 152 nautical miles northwest of Mumbai (less than ten hours steaming time) on the west coast of India. Approximately 140 kilometers southwest of Bhavnagar, situated at a latitude of 20°54'N and a longitude of 71°30'E. Port Pipavav is an all-weather port in the state of Gujarat and provides immediate access to a rich hinterland and key markets in northwest India.
4. All the operation related permits, including Environmental Clearance, Forest Clearance, CRZ Clearance from MOEF&CC and consents from Gujarat Pollution Control Board, are in place.
5. Annual Environmental quality monitoring in & around the port site is being done by M/s. Kadam Environmental Consultant, a NABL & MoEF&CC approved Laboratory.
6. Upliftment of the socio -economic status of the nearby community and society are carried out on a continuous basis through various programmes run under the company's Corporate Social Responsibility (CSR) scheme.
7. A vast green belt as per the CPCB guidelines is being developed to curb the emission and to provide an aesthetic look.
8. Point wise compliance status of Environmental Clearance for GPPL is furnished herewith.

**Compliance Status Report for “Environmental Clearance & CRZ Clearance”
Accorded by the MoEF&CC for Gujarat Pipavav Port Limited**

**Compliance Status on Environment & CRZ Clearance
(Gujarat Pipavav Port Limited)**

1. MOEF Ref. Letter No.: 10-91/2009-IA.III, dated 5 June 2012
2. MOEF Ref. Letter No.: 11-91/2009-IA.III, dated 18 Feb 2014
3. MOEF Ref. Letter No.: 11-91/2009-IA.III, dated 30 March 2015.
4. MOEF&CC Ref Letter No.: 11-91/2009-IA.III, dated 2 Sep 2019.

Sr. No.	Stipulation	Compliance Status as on 31-March -2022
35.	Specific Condition:	
1.	The landing jetty for the mooring of ferry crafts which facilitates transport of Shiyalbet Islanders to/from the Shiyalbet Island shall be upgraded with proper connectivity as committed.	<p>Complied.</p> <p>Existing facility upgraded with concrete road facility, up to the jetty. External Paved Road of GPPL is also being used by the Villagers.</p> <p>Roads and landing jetty for Shiyalbet was damaged due to cyclone Tauktae, and the repairing works along with bund protection and strengthening are in progress.</p>
2.	The coal shall be stored only in designated stock yard with dust control measures viz. wind screen of height at least 2 ft above the of coal stock, made of fabric/HDPE, water sprinkler assignment, green belt of at least three layers of suitable trees and scrubs. Use of creepers should also be explored in consultation with the Forest Department.	<p>Being Complied.</p> <p>Major Steps Taken-</p> <ul style="list-style-type: none"> ➤ Coal has been stored in dedicated, designed COAL YARD. ➤ WATER CURTAIN has been installed on windward side of yard, which blanket the area with very fine water spray. ➤ The yard is encircled by three meters high chain link fence with synthetic mesh all around the Coal yard and with three levels tree plantations. Creepers has also planted to make green canopy on the chain link fencing.

**Compliance Status Report for “Environmental Clearance & CRZ Clearance”
Accorded by the MoEF&CC for Gujarat Pipavav Port Limited**

		<ul style="list-style-type: none"> ➤ Green Belt development in coal yard has restarted after the damage by cyclone Taukate. ➤ Coal water Re-circulation system is in place.
3.	<p>The project Proponent shall provide additional plantation in the gaps to develop proper filter screen.</p> <p>(a) The entry and exit points for dumper trucks shall be suitably designed with loop in and loop out arrangement of traffic and a fabric mesh for acting as a filter barrier for coal dust.</p> <p>(b) Bus frequency for Shiyalbet Island residents should be increased during peak hours so as to reduce the waiting time to 10 minutes.</p>	<p>Being Complied.</p> <p>Gap Filling and New Plantation/ sampling is being carried out on regular basis. Local villagers are engaged through local agency for green belt development works. After cyclone major plantation damaged which are now being regenerated.</p> <p>Coal yard perimeter wall and wind curtain have been damaged due to cyclone and now it is in process.</p> <p>Loop in & Loop Out Traffic Management is in practice and heavy penalty provision in port for the violation of traffic rules.</p> <p>Bus frequency increased for Shiyalbet Island residents.</p>
4	<p>The vehicle used for coal transportation to M/s. UltraTech Cement Ltd. at Jaffarabad shall be properly covered to prevent dust pollution.</p>	<p>Being Complied.</p> <p>All the raw material transportation out -side of port premises is being done only through covered trucks/ dumpers. Dedicated Safe Truck tarpaulin covering area is in place for covering the truck with tarpaulin.</p>
5.	<p>16.5 Mcum dredged material out of total 18 Mcum is proposed to be utilized for reclamation purpose in port development. The rest shall be disposed of shore at the site suggested by NIOT.</p>	<p>Noted for Compliance.</p>
6.	<p>PP shall adopt closed conveyer coal transport to the proposed power plants in the vicinity.</p>	<p>Noted for future Compliance.</p> <p>At present no such facility has been set up in the immediate vicinity of the port.</p>

**Compliance Status Report for “Environmental Clearance & CRZ Clearance”
Accorded by the MoEF&CC for Gujarat Pipavav Port Limited**

7.	Consent for establishment shall be obtained from Gujarat pollution Control Board under Air and Water Act and a copy shall be submitted to the Ministry before start of any construction work at the site.	<p>Complied.</p> <p>CTE order, vide its no. PC/CCA-AMR-13(7)/GPCB ID 14808/115982, dated 22/06/2012. Which was valid up to 04/01/2017.</p> <p>The CTE was renewed and amended up to 30 April 2022, vide its order no. PC/CCA-AMR-13(7)/GPCB ID 14808/411575, dated 5/5/2017.</p> <p>Application made to GPCB for the renewal/ time extension of CTE.</p>
8.	The dredge materials contain sand-46%, silt-21% and clay 33 %. However, the proponent shall carry out chemical characteristics before disposal/using it for reclamation to ensure its suitability and prevent any likely impact.	<p>Complied.</p> <p>The study of characterization has been done and submitted to MoEF&CC, DoEF, CPCB and GPCB, vide our letter no. APMT/ENV-54/5269, dated 30/01/13.</p>
9.	The storm water management shall be put in place before the commencement of the activities. Storm management report with technical details shall be submitted to RO of MoEF&CC within six months.	<p>Being Complied.</p> <p>The Concept report prepared and submitted to RO of MoEF&CC, DoEF, CPCB & GPCB, vide letter no. APMT/ENV-44/3966, dated 23/11/12 and APMT/ENV-54/5269, dated 30/01/13.</p> <p>A pond is constructed with HDPE lining to collect the surface water/rainwater and further its treatment if required, through Reverse Osmosis Plant. Treated water will be utilize for green bel development.</p>
10.	The proponent shall provide minimum 100 meters buffer from the mangroves. The existing mangroves shall be documented with latest satellite map and shall be submitted to RO, MoEF&CC for compliance verification purpose.	<p>Complied.</p> <p>100 meters of buffer from mangroves is maintained.</p> <p>Documentation of existing Mangroves along with provision for maintaining 100 meters buffer are being maintained and report submitted to MoEF&CC, DoEF, and GPCB,</p>

**Compliance Status Report for “Environmental Clearance & CRZ Clearance”
Accorded by the MoEF&CC for Gujarat Pipavav Port Limited**

		<p>vide letter no. APMT/ENV-54/5269, dated 30/01/13.</p> <p>As per EC 2015 and MoEF&CC officials visit-GPPL port has maintained 85 acre of mangroves belt in the port area against the requirement of 60 acre as per EC 2007.</p> <p>In addition to this,500 Ha and 100 Ha Mangroves plantation has been carried out at Surat & Bharuch area with the help of Gujarat Ecological Commission.</p> <p>Some patches of Mangroves within port area were damaged during cyclone.</p> <p>Now, We are in discussion with Gujarat Institute of desert Ecology- Kutch for the restoration of damaged Mangroves patch</p> <p>Protection Measures such as restricted entry regular surveillance and watch on inflow and outflow of water have resulted in overall growth of mangroves within this area.</p>
11.	<p>Requisite clearance including clearance from Petroleum and explosives Safety organization (PESO) formerly Explosive Department, Nagpur shall be obtained for establishment tank farms. All relevant provisions of MSIHC Rules 1989 shall be complied.</p>	<p>Complied.</p> <p>PESO License (for Fuel Station) vide no. P/WC/GJ/15/384(P 143282) is valid up to 31-12-2024.</p> <p>PESO permissions vide no. G-22 (47) 162, dated; 10-April-2012 for Commissioning of upgraded Sea water Based Firefighting System for handling LPG, POL and Chemicals on bulk liquid jetty at Port Pipavav.</p> <p>PESO permissions vide no. G-22 (47) 162, dated; 29-Nov-2018 for Commissioning of Butadiene handling at bulk jetty no. 5 of Port Pipavav.</p>

**Compliance Status Report for “Environmental Clearance & CRZ Clearance”
Accorded by the MoEF&CC for Gujarat Pipavav Port Limited**

		PESO permissions vide no. G-22 (47) 162, dated; 05-April-2021 for import of Petroleum at GPPL.
12.	Green belt of not less than 33 % shall be developed and maintained all along the boundary.	Being Complied. Total 2,55,742 plantation has been done over an area of 258 acre, with survival rate of more than 80 %. Plantation is being done on phased manner. Approx. 20% plantation damage due to cyclone and now it is in regeneration process.
13.	The dry cargo shall be unloaded into hopper and from hopper it will be taken through closed conveyor system to the storage yards.	Complied. Current closed conveyer is under structural integrity review and during the cyclone conveyor system has also suffered damaged and cannot be made operational till such time. coal unloading is done through hopper with mechanical open and close system which delivers the cargo to dumpers. No coal dumping carried out on jetty complete operation is through hoppers.
14.	Mitigation plan for handling the dusty cargo/around storage yards as per presentation may be stipulated.	Being Complied. An Environmental Steering Committee is formed at site to monitor and implement the best environmental practices as per mitigation plan/ guidelines issued by MoEF&CC, CPCB & GPCB. Continuous monitoring & assessment of plan/ guidelines is being carried out by the team on regular basis.
15.	There shall be no ground water drawl within CRZ area.	Complied.

**Compliance Status Report for “Environmental Clearance & CRZ Clearance”
Accorded by the MoEF&CC for Gujarat Pipavav Port Limited**

		<p>The Port has piped water (Narmada Water) connection by M/s. Gujarat Water Infrastructure Ltd.- Barwala.</p> <p>Withdrawal of ground water within CRZ area of Port is strictly prohibited and there is no ground water withdrawal in port area for any purpose.</p>
16.	<p>Sewage shall be treated, and the treatment facility shall be provided in accordance with the Coastal Regulation Zone notification, 2011. The disposal of treated water shall confirm the regulation of State pollution Control Board.</p>	<p>Complied.</p> <p>A modern technology, MBBR based Sewage Treatment Plant having capacity of 370 KLD for Residential Colony is installed and operational since June, 2015. Another, 80 KLD capacity mechanized tank STP is installed and operational near 370 KLD STP for Residential Colony.</p> <p>For Port, 25 KLD capacity STP is installed and operational near jetty.</p> <p>Treated water from both the STP is being re-used for green belt development and as sprinkling purpose to reduce fugitive emissions.</p> <p>Sample of STP inlet and Outlet is being analyzed by NABL & MoEF&CC approved laboratory and being submitted to the authorities.</p>
17.	<p>Solid waste management shall be as per Municipal Solid waste (management and handling) Rules, 2000.</p>	<p>Being Complied.</p> <p>3 Types of bins (Bio-degradable, Non-biodegradable & hazardous wastes) placed in various locations across the port and in residential township. Solid waste is being segregated from these bins by local Vendors and being disposed of by them.</p> <p>Plastic waste, wooden waste, E- waste, MS Scrap waste and HW are being collected from the site and stored in Hazardous Waste</p>

**Compliance Status Report for “Environmental Clearance & CRZ Clearance”
Accorded by the MoEF&CC for Gujarat Pipavav Port Limited**

		<p>Storage area from there it is being sold out to authorized Recycler/Re-processors.</p> <p>Organic Waste Converter Machine (OWC) is installed at the site for the conversion of Organic Waste into the form of green Manure. <i>An Eco-friendly Initiative.</i></p> <p>Woodchipper/Mulch Machine has installed at the site to use the green belt waste like branches and stem coming out during maintenance of trees like trimming and all, and it is converted in to woodchipper. Woodchippers will use in green belt development to retain moisture in the soil, prevents soil erosion and will maintain the soil nutrients.</p>
18.	The project shall be executed in such a manner that there shall not be any disturbance to the fishing activity.	Noted and Agreed.
19.	It shall be ensured that there is no displacement of people houses or fishing activity as a result of the project.	<p>Complied.</p> <p>No Displacement of people due to existing and/or proposed activities.</p>
20.	No construction works other than those permitted in Coastal Regulation Zone notification shall be carried out in Coastal Regulation Zone area.	Noted for Compliance.
21.	The project proponent shall set up separate environment management cell for effective implementation of the stipulated environmental safeguards under the supervision of a Senior Executive.	<p>Complied.</p> <p>Separate Environment Management Cell is setup with qualified Environment background professional and the cell is headed by General Manager- HSSE, who directly report to Managing Director- APM Pipavav Port.</p>
22.	The funds earmarked for environment management plan shall be included in the	Being Complied.

**Compliance Status Report for “Environmental Clearance & CRZ Clearance”
Accorded by the MoEF&CC for Gujarat Pipavav Port Limited**

	budget and this shall not be diverted for any other purposes.	Separate Budget allotted for Environmental protection in every financial year under Budget Head HSSE [cost center (internal) 242 and GL Account 522650 to 105610].
36. General Standards:		
1.	Appropriate measures must be taken while undertaking digging activities to avoid any likely degradation of water quality.	<p>Noted for Compliance.</p> <p>All appropriate measures is being taken well in advance during Project Construction activities like spray of water to avoid fugitive dust emission, mobile urinals/ toilets for the workers, safe drinking water provision etc.</p>
2.	Fully support shall be extended to the officers of this Ministry/Regional Office by the project proponent during inspection of the project for monitoring purposes by furnishing full details and action plan including action taken reports in respect of mitigation measures and other environmental protection activities.	<p>Noted & Adhered.</p>
3.	A six -monthly monitoring report shall need to be submitted by the project proponent to the Regional Office of this Ministry at Bhopal regarding the implementation of the stipulated conditions.	<p>Being Complied.</p> <p>Half Yearly Compliance report is being submitted to Regional Office of MoEF&CC at Bhopal/ New Delhi, Gujarat Pollution Control Board-Bhavnagar/ Gandhinagar, along with Environmental Parameters Monitoring reports & CSR details as per timeline stipulated by MoEF&CC.</p> <p>Last EC compliance report submitted on 30-Nov-2021 vide No. APMT/ENV/MoEF&CC/EC&CRZ/21-22/07 to regional office of MoEF&CC, CPCB & GPCB and the same was uploaded on Parivesh Portal.</p>

**Compliance Status Report for “Environmental Clearance & CRZ Clearance”
Accorded by the MoEF&CC for Gujarat Pipavav Port Limited**

4.	Ministry of Environment & Forest or any other competent authority may stipulate any additional conditions or modify the existing ones, if necessary, in the interest of environment and the same shall be complied with.	Noted & Agreed.
5.	The ministry reserves the right to revoke this clearance if any of the conditions stipulated are not complied with the satisfaction of the Ministry.	Noted & Agreed.
6.	In the event of a change in project profile or change in the implementation agency, a fresh reference shall be made to the Ministry of Environment and Forest.	Noted for Compliance.
7.	The project proponents shall inform the Regional Office as well as the Ministry, the date of financial closure and final approval of the project by the concerned authorities and the date of start of land development work.	Complied. Existing project is self-financed. For Expansion Project if lenders (Bank’s) are involved authorities will be intimated in advance.
8.	A copy of the clearance letter shall be marked to concerned Panchayat/local NGO, if any, from whom any suggestion/representation has been made received while processing the proposal.	Complied.
9.	Gujarat pollution control Board shall display a copy of the clearance letter at the Regional Office, district industries Centre and Collector’s office/Tehsildar’s Office for 30 days.	Complied.
10.	These stipulations would be enforced among others under the provisions of Water	Noted.

**Compliance Status Report for “Environmental Clearance & CRZ Clearance”
Accorded by the MoEF&CC for Gujarat Pipavav Port Limited**

	(prevention and control of pollution) Act 1974, the Air (prevention and control of pollution) Act 1981, the Environment (protection)Act, 1986, the Public Liability (Insurance)Act, 1991 and EIA notification, 1994, including the amendments and rules made thereafter.	
11.	All other statutory clearance such as the approvals for storage of diesel from Chief Controller of Explosives, Fire department, Civil Aviation Department, Forest Conservation Act, 1980 and Wildlife (protection)Act, 1972 etc. shall be obtained, as applicable by the project proponents from the respective competent authorities.	Complied. PESO License (for Fuel Station) vide no. P/WC/GJ/15/384(P 143282) is valid up to 31-12-2024.
12.	The project proponent shall advertise in at least two local Newspapers widely circulated in the region, one of which shall be in the vernacular language informing that the project has been accorded environmental clearance and copies of clearance letters are available with the Gujarat Pollution Control board and may also be seen on the website of the ministry of Environment and Forest at http://www.envfor.nic.in .The advertisement should be made within 10 days from the date of receipt of clearance letter and a copy of the same should be forwarded to the Regional Office of this ministry at Bhopal.	Complied. Advertisement for EC approval published in two local News Papers, <u>AVADH TIMES-AMRELI</u> (in Gujarati) and <u>FINANACIAL EXPRESS</u> (in English, all edition) on 11 April-2015.
13.	Environment clearance is subject to final order of the Hon'ble Supreme Court of India in the matter of Goa Foundation Vs. Union of India in Writ Petition (Civil)No.460 of 2004 as may be applicable to this project.	Noted. EC & CRZ Clearance was valid up to 04-June-2022. Now, it is extended up to 03-June-2023 as per MoEF&CC notification 18-January 2021 (covid relaxation).
14.	A copy of the clearance letter shall be sent by the proponent to be concerned Panchayat, Zilla Parishad/municipal Corporation, urban Local Body and the Local NGO, if any, from	Complied. https://www.apmterminals.com/en/pipavav/CSR/environment

**Compliance Status Report for “Environmental Clearance & CRZ Clearance”
Accorded by the MoEF&CC for Gujarat Pipavav Port Limited**

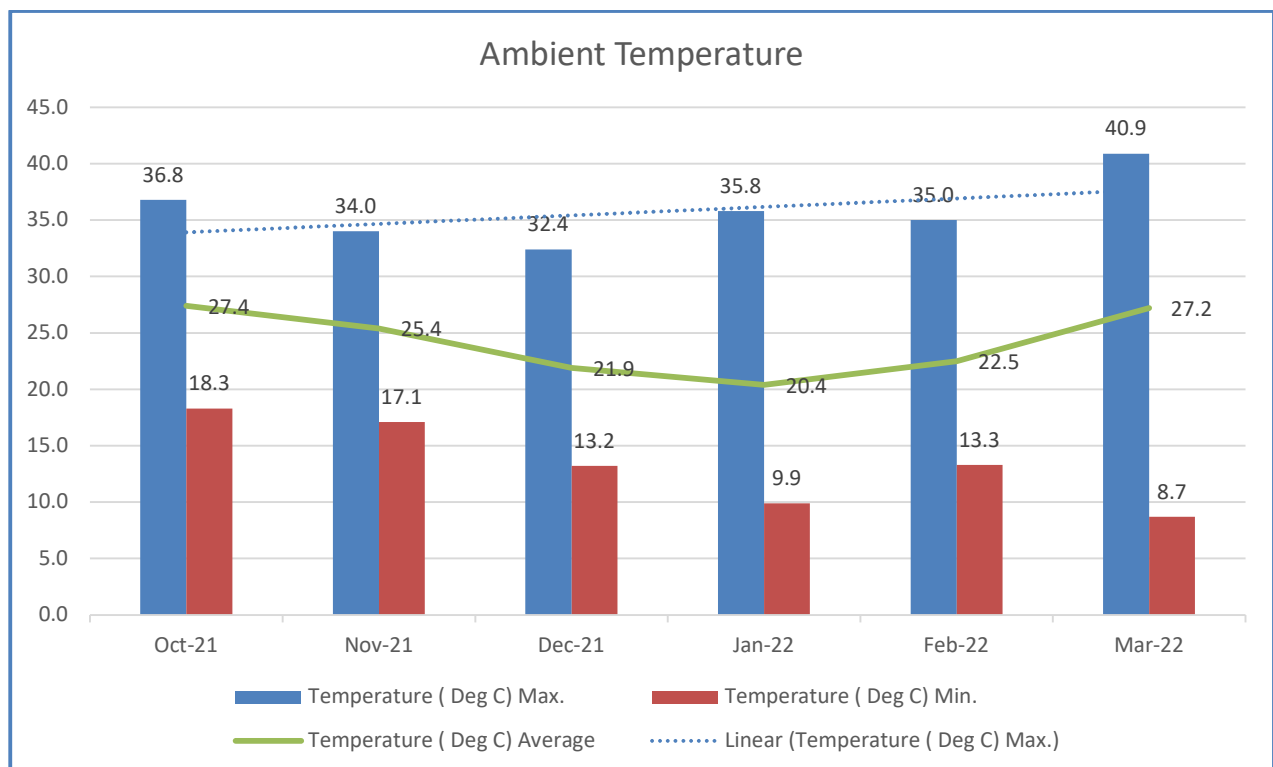
	<p>whom suggestions/representations, if any, were received while processing the proposal. The clearance letter shall also be put on the website of the company by the proponent.</p>	
<p>15.</p>	<p>The proponent shall upload the status of compliance of the stipulated EC conditions, including results of monitored data on their website and shall update the same periodically. It shall simultaneously be sent to the Regional Office of MoEF, the respective Zonal Office of CPCB and the SPCB</p>	<p>Being Complied.</p> <p>https://www.apmterminals.com/en/pipavav/CSR/environment</p> <p>Half yearly Compliance report is also being submitted in hard & soft copy to the concerned authorities.</p> <p>Last half yearly compliance report submitted on 30-Nov-2021, vide No. APMT/ENV/MoEF&CC/ EC&CRZ/21-22/07.</p>
<p>16.</p>	<p>The environmental statement for each financial year ending 31st March in FORM-V as is mandated to be submitted by the project proponent to the concerned State pollution Control Board as prescribed under the Environment (Protection) Rules, 1986 as amended subsequently, shall also be put on the website of the company along with the status of compliance of EC conditions and shall also be sent to the respective Regional Offices of MoEF by e mail.</p>	<p>Being Complied.</p> <p>Last Environment Statement Report is submitted in Form-V to the concerned Authorities vide no. APMT/ENV/GPCB/ES/21-22/05 dated; 17-Sep-2021.</p> <p>https://www.apmterminals.com/en/pipavav/CSR/environment</p>

**Compliance Status Report for “Environmental Clearance & CRZ Clearance”
Accorded by the MoEF&CC for Gujarat Pipavav Port Limited**

METEOROLOGICAL DATA OF APM PORT PIPAVAV

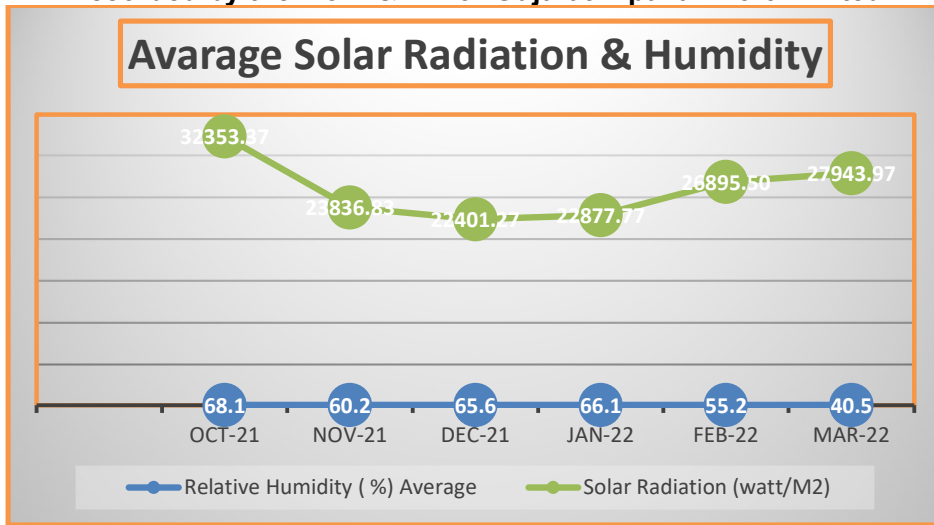
APM Port Pipavav has installed Meteorological Station at the roof of Gate Complex (Security gate no. 1), which are the entry point of Port. Details of Ambient Temperature, Wind Speed, Barometric Pressure, Humidity and Rain fall for the period **Oct- 2021 to March-2022** are as:

MED Data Six Month (October 2021 to March 2022)										
Month	Temperature (Deg C)			Relative Humidity (%)			Wind Speed (km/h)	Barometric Pressure	Rain (mm) Total	Solar Radiation (watt/M2)
	Max.	Min.	Average	Max.	Min.	Average	Average	mmHg		
Oct-21	36.8	18.3	27.4	91.6	25.8	68.1	5.2	1012.4	0.0	32353.37
Nov-21	34.0	17.1	25.4	90.0	25.8	60.2	1.8	1011.3	0.0	23836.83
Dec-21	32.4	13.2	21.9	92.2	26.9	65.6	2.4	1015.8	10.0	22401.27
Jan-22	35.8	9.9	20.4	99.3	24.1	66.1	9.9	1011.7	0.0	22877.77
Feb-22	35.0	13.3	22.5	96.1	12.6	55.2	9.5	1010.7	0.0	26895.50
Mar-22	40.9	8.7	27.2	88.5	9.6	40.5	10.3	1010.8	0.0	27943.97

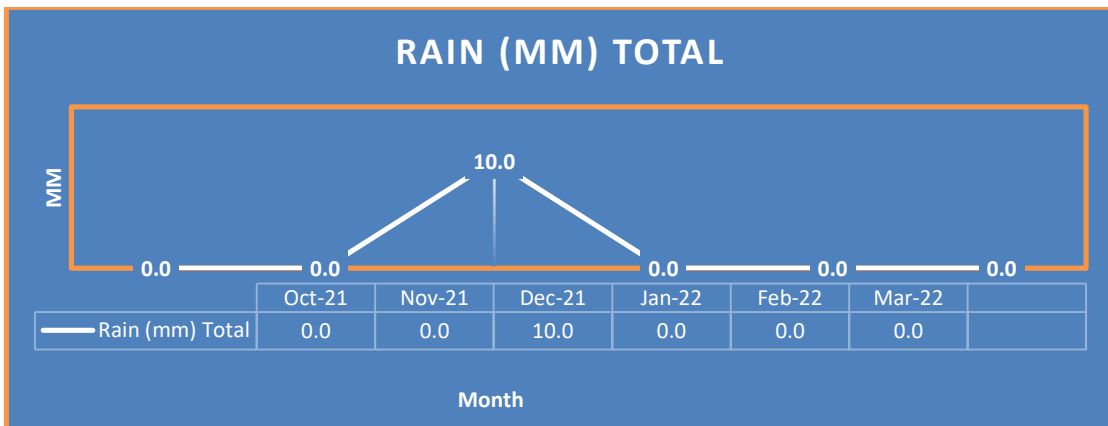


Ambient Temperature for the Period Oct 2021 to March-2022

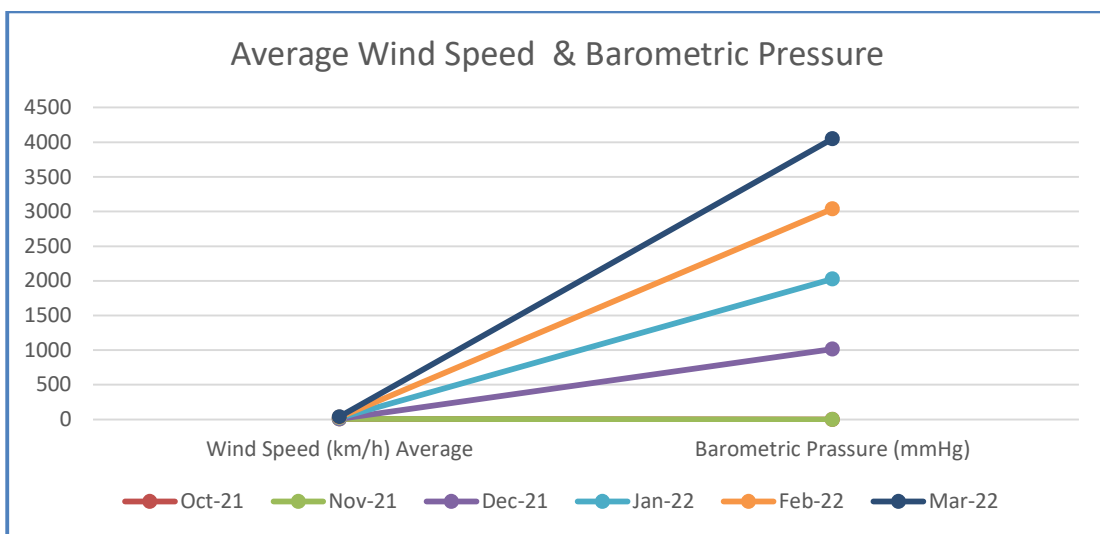
**Compliance Status Report for "Environmental Clearance & CRZ Clearance"
Accorded by the MoEF&CC for Gujarat Pipavav Port Limited**



Average Relative Humidity & Solar radiation Data for the Period Oct-2021 to March-2022



Rain Fall Data for the Period Oct-2021 to March-2022



Average Wind Speed & Barometric pressure for the Period Oct-2021 to March-2022

**Compliance Status Report for “Environmental Clearance & CRZ Clearance”
Accorded by the MoEF&CC for Gujarat Pipavav Port Limited**

ENVIRONMENTAL MONITORING AT APM PORT PIPAVAV

1. Ambient Air Quality:

The scenario of existing Ambient Air Quality in the study area has been assessed through a network of 04 Ambient Air Quality locations which is inside & outside the port premises. One station is in buffer zone area and the rest 3 are in core zone area. The monitoring network in the air quality surveillance program has been established based on wind direction i.e.1 location in upwind direction,2 locations are in downwind direction & 1 in crosswind direction.

A third party NABL & MOEF&CC accredited laboratory, M/s. Kadam Environmental Consultant has been entrusted for carrying our Environmental monitoring, analysis & reporting of environmental parameters at locations designated within and outside port premises.

Pre- calibrated Fine dust samplers have been used for carrying out ambient air quality monitoring in line with provisions of National Ambient Air Quality Standards-2009 (NAAQS). The parameters monitored are PM10, PM 2.5, Sulphur dioxide (SO₂), Oxides of Nitrogen (NO_x) & Carbon Mono Oxide (CO). Environmental Monitoring activities at the site not performed in the month of April-2020 and up to May-2020 due to the COVID-19 restrictions imposed by Gov. of India.

- 2. Flue Gas Emission:** Stack emission for 3 no. DG sets, analyzed for the parameters Particulate Matter (PM), Oxides of Nitrogen (NO_x) and Sulphur Di Oxide (SO₂) and all the results are well within the CPCB/GPCB limits.
- 3. Noise Environment:** Noise level being monitored in Ambient, Work zone & for Occupational area at approx.15 Locations on monthly basis. The noise levels at each location were recorded for 24 hours (Day & Night), using integrated sound level meter, and all the results are well within stipulated norms.
- 4. Water Quality:** The existing status of water quality for sea water and surface water was assessed by collecting the water samples from sea, Narmada river and water storage tank established at site. The overall water quality parameters have been found to be below the stipulated permissible limits.
- 5. Wastewater Quality:** Inlet & Outlet samples of sewage Treatment Plant of 25 KL and 450 KL are taken and analyzed, and all the parameters are well within the limits. Treated water is being re-used for Green Belt development within Port premises.
- 6. Solid waste Analysis:** Solid waste is being taken care by Amreli Municipal Corporation approved vendor on day-to-day basis from port area along with residential colony. Test report of solid waste is well within standards.
- 7. Soil Analysis:** Soil analysis is being carried out on half yearly basis and report is being submitted along Half yearly EC Compliance Report.
- 8. Fugitive Emissions:** Fugitive emissions are being monitored in CHP area and on Jetty along with Ammonia Monitoring in Fertilizer shed on quarterly basis.

**Compliance Status Report for “Environmental Clearance & CRZ Clearance”
Accorded by the MoEF&CC for Gujarat Pipavav Port Limited**

HAZARDOUS WASTE MANAGEMENT

A well-defined hazardous waste storage yard is established at site as per the guidelines, all the waste materials collected from the site is being stored here in a designated place and from HW storage yard it is being sold out to CPCB/GPCB registered Re-cyclers/Re-processors within stipulated timeline as per Hazardous Waste Management Rules.

Hazardous Waste Management Committee is formed at site for the disposal of waste as per the guidelines. Details of Hazardous waste disposed from the site is being submitted through Annual HW return.

BIO-MEDICAL WASTE MANAGEMENT

Bio-medical waste is being disposed of through M/s. Distromed (BMWTSD Facility)-Rajkot, which are authorized by GPCB. Details of waste disposed from the site is being submitted through Annual Bio Medical Waste return.

COVID-19: For the collection of Masks, face shield, Aprons & Hand globes a bio-waste designated bins are placed at various places in the Port Premises area. Bins are already marked with Bio-Hazard symbol. Bio-Waste from bins are being collected in yellow color-coded bags and being dispose to M/s. Distromed on every alternate day.

**Compliance Status Report for “Environmental Clearance & CRZ Clearance”
Accorded by the MoEF&CC for Gujarat Pipavav Port Limited
Corporate Sustainability Report (Oct-2021 to March-2022)-**

Desilting (deepening) of Pond and Check dam

Project area: Villages Surrounding Port

Reason behind this activity: - Harvesting the rainwater, help in increasing water level and reduction of TDS.



Brief description: –

It comprises of activities like construction of check dam, renovation of existing check dam and pond deepening of structures for increasing its water harvesting/ retention capacity. Deepening work in 5 sites and Construction of Protective Bund-1, New Check dam - 2 structures were undertaken to benefit villages.

Sr no	Village	Activity
1	Khari	Delisting (deepening) of Check dam - 4
2	Kundaliyala	Delisting (deepening) of checked -1
3	Mota Ringaniya	New Check dam
4	Divlo	Construction of protective bund
4	Bherai	Check dam

Varmi Bed :-



- Project area: 45 Villages
- Number of Varmibed: 200

Reason behind this activity:

- organic farming and reduction in input cost.
- Brief description: Vermi bed has gained popularity in both industrial and domestic settings because, as compared with conventional composting, it provides a way to treat organic wastes more quickly. It also generates products that have lower salinity levels that are therefore more beneficial to plant mediums.

Impact: Improve soil fertility and quality, reduction in the use of fertilizers and pesticides.

Outcomes: Reduced cost of cultivation up to 15%, Improvement in soil health, increase in quality crop yield

**Compliance Status Report for “Environmental Clearance & CRZ Clearance”
Accorded by the MoEF&CC for Gujarat Pipavav Port Limited**

Varmiwash

Project area: 6 Villages

Number of Varmiwash:17

Reason behind this activity: - Turning farmers toward organic farming and reduced cost of fertilizer.

Brief description: Vermi wash has gained popularity in both industrial and domestic settings because, as compared with conventional composting, it provides a way to treat organic wastes more quickly. It also generates products that have lower salinity levels that are therefore more beneficial to plant mediums.



Project area: 6 Villages – Vad, Charodiya, Dipadiya, Kumbhariya, Uchiya, Rajaprd and 24 Farmers and 50 Ha land.

Impact: Improvement in soil fertility and quality, reduce fertilizer and pesticide.

Vermi wash Liquid manuring Used by 100 farmers with 210 Ha land. In cotton

Benefits: Reduce input cost, Increasing quality yield

Outcomes: Reduce cost of cultivation up to 15%, Improvement in soil health leading to increase in quality crop yield

Laser Irrigation

Project Area: -10 Villages

Number of Laser Irrigation Unit: -50 Total- 50 Ha.

Reason behind this activity: - Optimum use of water for irrigation, awareness about laser irrigation and its advantages.



Brief description: Laser Irrigation is the best drip irrigation system for small-plot farmers - affordable, high quality, and easy-to-use. Without the need for expensive and complex emitters, these systems are priced at least 50% lower than traditional commercially available drip irrigation systems. A small-plot family would be able to afford and purchase these systems that will produce enough to increase their income.

After buying this system, farmers can recoup their initial investment in less than 6 months, with significant increases in income over the next 3-5 years



Outcomes:

1. Utilized 90-100% cultivable land
2. Ease in installation
3. Water saving up to 40%.
4. Reduction electricity consumption.
5. Prevent soil erosion
6. Increase in productivity up to 30%

**Compliance Status Report for “Environmental Clearance & CRZ Clearance”
Accorded by the MoEF&CC for Gujarat Pipavav Port Limited**

Sr no	Village	No Unit	Lend (Ha)
1	Mota Ringaniyala	25	25
2	Rajprda	4	4
3	kundaliya	4	4
4	khakhabai	4	4
5	Zazarda	4	4
6	Mota Agariya	4	4
7	Dipadiya	2	2
8	Rampara	2	2
9	Devka	1	1

Mangrove plantation:

Project Area: -Thavi, Bherai

Objectives: Coastal protection by preventing shoreline erosion, reducing sedimentation in coastal waters, absorbing pollutants, and improving soil chemistry.

Plant Spacing: 2 m x 2 m

Plant population: 1000 plants per Acre

Scientific name: *Bruguiera gymnorrhiza* (L.) Lam.

Mangroves are defined as assemblages of salt tolerant trees and shrubs that grow in the intertidal regions of the tropical and subtropical coastlines. They grow luxuriantly in the places where freshwater mixes with seawater and where sediment is composed of accumulated deposits of mud. Mangrove wetlands are normally classified into six types based on the geophysical, geomorphologic and biological factors. They are (a) river dominated, (b) tide dominated, (c) wave dominated, (d) composite river and wave dominated, (e) drowned bedrock valley mangroves and (f) mangroves in carbonate setting. The first five types of mangrove wetlands can be seen on coasts dominated by terrigenous sediments (shallow marine sediment consisting of material derived from the land surface) whereas the last one can be seen in oceanic islands, coral reefs and carbonate banks

Mangrove wetland is a multiple use ecosystem. It is considered as a best form of coastal bio shield since it plays a critical role in reducing the impact of cyclonic storms, hurricanes and tsunami on human lives and properties. It also avoids or reduces soil erosion. It enhances fishery productivity of the adjacent coastal waters by acting as a nursery ground for commercially important fish, prawn and crabs and supplying organic and inorganic nutrients. They are also rich in biodiversity and act as habitats for wildlife.

**Compliance Status Report for “Environmental Clearance & CRZ Clearance”
Accorded by the MoEF&CC for Gujarat Pipavav Port Limited**

M a n g r o v e p l a n t a t i o n a t T H A V I B h e r a i



Benefits:

Stabilize the coastline, protect water quality, Reduce coastal flooding

Provide habitat for fish, protect wildlife species, protect young fish from predators serve as nesting area.

Mangroves are extremely important to the coastal ecosystems they inhabit. Physically, they serve as a buffer between marine and terrestrial communities and protect shorelines from damaging winds, waves, and floods.

Training and Capacity Building-

- Project Area: -Rajula 45 villages
- Number of Meeting: and Training 42 and 2500 farmers trained
- **Reason behind this activity-** Need to create a wariness about environment, how to save the environment.
- **Brief description:** Capacity building is the long-term, voluntary process of increasing the ability of a country to identify and solve its own problems and risks, and to maximize its opportunities. It involves both the mobilization of human, institutional and other resources and their subsequent strengthening and development.



**Compliance Status Report for “Environmental Clearance & CRZ Clearance”
Accorded by the MoEF&CC for Gujarat Pipavav Port Limited**



School Program

- Project area: 6 Villages
- Number of School Program: 7 (1080 students)
- **Reason behind this activity**-Making youth to understanding about environment.
- **Brief description:** Environmental education is a lifelong process with the objective of imparting to its target groups in the formal and non-formal education sectors environmental awareness, ecological knowledge, attitudes, values, commitments for actions, and ethical responsibilities for the rational use of resources and for sound and sustainable development.
- **Impact: Understanding values of nature, environment education, and ethical awareness.**

**Compliance Status Report for “Environmental Clearance & CRZ Clearance”
Accorded by the MoEF&CC for Gujarat Pipavav Port Limited**

Innovation with NABARD:

Promotion of New Horticulture Date Palm Cultivation in focused 5 villages of Rajula block of Amreli district of Gujarat state

About 70 % of people of Rajula block are associated with agriculture. Land in this area is highly saline and about 7000 (Seven thousand) hectares land is defined as saline land. Because of lifting large volume of underground water and shortfall in rainwater, salinity is progressively increasing and covering more agricultural land. Farmers are poorly educated and following traditional agricultural practices. This has resulted in poor agricultural produces and migration of people in search of labor and livelihood in diamond factories. Farmers are using larger quantities of fertilizers, crop protection chemicals and larger volumes of saline water because of poor education and poor understanding of modern agricultural techniques.

Considering all these factors, it is need of time to work for salinity prevention, promotion of micro irrigation systems and promotion of modern agricultural practices including techniques of soil fertility and productivity management and water management, and introduction of new crops or salinity resistant varieties of crops under guidance of various experts of agricultural technologies.

Project Objectives:

- ❖ Promotion of sustainable agriculture practices through adoption of improved package of practices (PoP), technological interventions and crop diversification; Divert farmers towards drip irrigation and reduce use of underground saline water in agriculture
- ❖ Support agriculture for sustainability through water and soil management techniques and increase overall productivity of soil, develop understanding of optimum use of fertilizers and pesticides and reduce expenses
- ❖ Develop new salinity resistance varieties of crops suitable for this area.
- ❖ Conduct regular farmers meetings for environmental issues and sustainable agricultural practices

Project components

1. Farmer training and capacity building program
2. Farm base intervention
3. Date palm Cultivation
4. Total beneficiaries: 30 Covering villages: 5,

Expected outcomes

- Promotion of new crop in particular area
- Awareness among farmer on Date Palm cultivation practices that would benefit in crop production
- Farmers interaction with technical experts and scientists
- Farmers exposure to modern growing technological farm of Date palm
- Solve queries for integrated approach and crop production

**Compliance Status Report for “Environmental Clearance & CRZ Clearance”
Accorded by the MoEF&CC for Gujarat Pipavav Port Limited**

- About 20-25 ha area potential for adopting Date palm cultivation
- Reduce labor cost up to 25%
- Reduce cost of cultivation up to 20%
- After three years, increase net income up to 20%.
- After three years, increase net income up to 30%



**Compliance Status Report for "Environmental Clearance & CRZ Clearance"
Accorded by the MoEF&CC for Gujarat Pipavav Port Limited**



KADAM ENVIRONMENTAL CONSULTANTS
An ISO 9001-2015 Certified Company (MoEF Approved)

871/B/3, Near Himalaya Machinery, GIDC Makarpura, Vadodara-10.
Phone : (O) 0265 - 6131000, 6131001



ENVIRONMENTAL MONITORING REPORT

APM Terminals Pipavav		
STACK AIR QUALITY DATA		
Dec-21		
D.G. Set Capacity	: D.G.Set (1250 KVA)	
Stack Height	: 12M	
Stack Dia	: 300 MM	
Months	Pollutants	Locations and Concentrations (in mg/Nm ³)
		D.G.Set-1 (1250 KVA)
Dec-21	PM	62
	SO ₂	12.12
	NO _x	7.06

Approved By -

APM Terminals Pipavav			
STACK AIR QUALITY DATA			
Jan-22			
D.G. Set Capacity	: D.G.Set-2 (1250 KVA) & D.G.Set-3 (1250 KVA)		
Stack Height	: 12M		
Stack Dia	: 300 MM		
Months	Pollutants	Locations and Concentrations (in mg/Nm ³)	
		D.G.Set-2 (1250 KVA)	D.G.Set-3 (1250 KVA)
Jan-22	PM	61	63
	SO ₂	10.52	11.24
	NO _x	8.06	7.55

Approved By -

**Compliance Status Report for "Environmental Clearance & CRZ Clearance"
Accorded by the MoEF&CC for Gujarat Pipavav Port Limited**



TC-7099

KADAM ENVIRONMENTAL CONSULTANTS

An ISO 9001-2015 Certified Company

(MoEF Approved)

871/B/3, Near Himalaya Machinery, GIDC Makarpura, Vadodara-10.

Phone : (O) 0265 - 6131000, 6131001



ENVIRONMENTAL MONITORING REPORT

APM Terminals Pipavav									
AMBIENT AIR QUALITY									
October 2021 to March 2022									
Months	Pollutants	Locations and Concentrations (in µg/m ³)							
		AAQ1		AAQ2		AAQ3		AAQ4	
		Min	Max	Min	Max	Min	Max	Min	Max
Oct-21	PM10	47	58	41	52	42	52	53	58
	PM2.5	26	29	23	28	23	29	26	33
	SO2	8.44	10.28	6.12	7.72	9.23	11.72	12.03	13.19
	NO2	10.51	12.93	7.99	9.87	11.69	14.03	8.28	11.39
	CO	1422	1602	1096	1243	811	1023	1178	1340
Nov-21	PM10	48	58	43	53	41	55	53	61
	PM2.5	20	31	20	29	23	31	24	34
	SO2	6.98	9.41	6.54	7.23	7.11	11.06	11.85	13.11
	NO2	10.53	12.36	7.2	10.22	9.7	13.77	8.91	12.04
	CO	1417	1520	1012	1144	816	950	1248	1409
Dec-21	PM10	47	61	41	55	44	54	50	60
	PM2.5	19	33	19	27	21	30	25	32
	SO2	7.03	9.43	6.53	7.73	7.2	10.57	11.24	13.02
	NO2	9.67	12.30	8.00	10.06	9.51	13.41	9.11	12.16
	CO	1401	1534	1008	1248	807	992	1218	1355
Jan-22	PM10	45	60	43	56	43	54	51	62
	PM2.5	21	32	19	29	21	29	21	33
	SO2	7.07	9.62	6.33	7.88	9.26	10.32	11.30	12.92
	NO2	9.32	12.37	8.21	10.09	9.33	13.37	9.24	12.29
	CO	1328	1456	1019	1218	820	1008	1080	1393
Feb-22	PM10	48	59	42	59	40	56	52	63
	PM2.5	20	30	18	26	20	27	24	32
	SO2	8.20	9.4	6.25	8.13	9.08	10.12	11.01	12.36
	NO2	9.18	12.43	8.22	11.08	9.55	13.02	9.09	11.2
	CO	1478	1602	1028	1310	820	964	1124	1412
Mar-22	PM10	47	59	41	57	39	52	47	62
	PM2.5	21	32	19	27	20	30	19	34
	SO2	8.11	9.81	6.29	8.1	8.23	11.53	2.56	12.12
	NO2	9.33	12.28	8.23	11.30	11.23	13.2	7.33	13.13
	CO	1404	1550	1019	1304	823	1023	1127	1313

AAQ = Ambient Air Quality

AAQ1 =Near Main Gate ,AAQ2 =Near Admin Building , AAQ3 = Near Marine Building ,

AAQ4 = HOTEL PORT VIEW



**Compliance Status Report for "Environmental Clearance & CRZ Clearance"
Accorded by the MoEF&CC for Gujarat Pipavav Port Limited**



KADAM ENVIRONMENTAL CONSULTANTS

An ISO 9001-2015 Certified Company (MoEF Approved)

871/B/3, Near Himalaya Machinery, GIDC Makarpura, Vadodara-10.
Phone : (O) 0265 - 6131000, 6131001



ENVIRONMENTAL MONITORING REPORT

**APM Terminals Pipavav
SEWAGE WATER ANALYSIS REPORT
October 2021 to March 2022**

JETTY

STP Outlet	Concentration of Pollutants (STP Outlet)					
	pH	BOD	COD	TSS	Oil & Grease	Residual Chlorine
PERMISSIBLE LIMITS: mg/l	5.5 to 9.0	10.00	50.00	50.00	10.00	..
Oct-21	7.37	18	54	23	<1	<0.1
Nov-21	7.09	14	50	18	<1	<0.1
Dec-21	7.01	16	52	15	<1	<0.1
Jan-22	7.08	12	48	14	<1	<0.1
Feb-22	7.02	10	52	19	<1	<0.1
Mar-22	7.45	18	69	22	<1	<0.1

TOWNSHIP

STP Outlet	Concentration of Pollutants (STP Outlet)					
	pH	BOD	COD	TSS	Oil & Grease	Residual Chlorine
PERMISSIBLE LIMITS: mg/l	5.5 to 9.0	10.00	50.00	50.00	10.00	..
Oct-21	7.36	18	76	22	<1	3.09
Nov-21	7.24	22	82	20	<1	2.92
Dec-21	7.39	20	78	26	<1	2.73
Jan-22	7.51	12	84	29	<1	2.06
Feb-22	7.4	14	88	22	<1	1.84
Mar-22	7.44	19	71	19	<1	3.55

Approved By-

**Compliance Status Report for "Environmental Clearance & CRZ Clearance"
Accorded by the MoEF&CC for Gujarat Pipavav Port Limited**



KADAM ENVIRONMENTAL CONSULTANTS

An ISO 9001-2015 Certified Company (MoEF Approved)

871/B/3, Near Himalaya Machinery, GIDC Makarpura, Vadodara-10.
Phone : (O) 0265 - 6131000, 6131001



ENVIRONMENTAL MONITORING REPORT

**APM Terminals Pipavav
SEWAGE WATER ANALYSIS REPORT
October 2021 to March 2022**

JETTY

STP Inlet	Concentration of Pollutants (STP Inlet)					
	pH	BOD	COD	TSS	Residual Chlorine	Oil & Grease
PERMISSIBLE LIMITS: mg/l			
Oct-21	6.82	40	153	123	<0.1	<1
Nov-21	7.02	156	38	140	<0.1	<1
Dec-21	7.13	150	36	123	<0.1	<1
Jan-22	7.19	144	32	152	<0.1	<1
Feb-22	7.36	28	148	129	<0.1	<1
Mar-22	6.94	98	328	134	<0.1	<1

TOWNSHIP

STP Inlet	Concentration of Pollutants (STP Inlet)					
	pH	BOD	COD	TSS	Residual Chlorine	Oil & Grease
PERMISSIBLE LIMITS: mg/l			
Oct-21	6.91	38	154	96	<0.1	<1
Nov-21	7.02	160	42	92	<0.1	<1
Dec-21	6.92	46	168	112	<0.1	<1
Jan-22	6.88	50	172	129	<0.1	<1
Feb-22	6.93	52	178	137	<0.1	<1
Mar-22	6.81	73	243	160	<0.1	<1

Approved By-

**Compliance Status Report for "Environmental Clearance & CRZ Clearance"
Accorded by the MoEF&CC for Gujarat Pipavav Port Limited**



TC-7099

KADAM ENVIRONMENTAL CONSULTANTS

An ISO 9001-2015 Certified Company

(MoEF Approved)

871/B/3, Near Himalaya Machinery, GIDC Makarpura, Vadodara-10.

Phone : (O) 0265 - 6131000, 6131001



ENVIRONMENTAL MONITORING REPORT

APM Terminals Pipavav									
Drinking Water Quality									
October 2021 to March 2022									
Parameters	Units	IS:10500 1991:2012 (Acceptable Limits)	Oct-21						
			Monitoring Location						
			DW1	DW2	DW3	DW4	DW5	DW6	DW7
pH	..	6.5 to 8.5	7.53	7.63	7.91	7.88	7.55	6.58	7.43
Turbidity	NTU	1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Colour (Hazen Units)	Pt-CO	5	<1	<1	<1	<1	<1	<1	<1
Sulphates	mg/L	200	72	52	72	70	82	68	68
Fluoride	mg/L	1	0.51	0.48	<0.05	<0.05	<0.05	<0.05	<0.05
Nitrate	mg/L	45	1.91	1.16	1.96	2.86	2.12	2.08	2.48
Phenolic Compound	mg/L	0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Aluminium	mg/L	0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
Hexavalent Chromium	mg/L	2	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Arsenic	mg/L	0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Boron	mg/L	0.5	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Cyanide	mg/L	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Total Dissolved Solids	mg/L	500	282	150	366	412	386	324	310
Alkalinity	mg/L	200	142	112	48	88	86	50	44
Total Hardness	mg/L	200	164	140	118	124	112	128	144
Calcium	mg/L	75	94	82	20	20	22	16	18
Magnesium	mg/L	30	30	38	16	17	20	28	24
Residual Chlorine	mg/L	0.2	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Chlorides	mg/L	250	106	94.17	68	98	90	64	60
Cadmium	mg/L	0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003
Copper	mg/L	0.05	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
Lead	mg/L	0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Iron	mg/L	0.3	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Zinc	mg/L	5	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
Mercury	mg/L	0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Manganese	mg/L	0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Odour	..	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable
Total Coliform	MPN/100 ml	Shall not be detectable in any 100 ml Sample	N.D.(<1.8)	N.D.(<1.8)	N.D.(<1.1)	N.D.(<1.1)	N.D.(<1.1)	N.D.(<1.1)	N.D.(<1.1)
E. Coli	/100 ml		Absent	Absent	Absent	Absent	Absent	Absent	Absent

DW= Drinking Water DW1= Narmada Reservoir Inlet, DW2= Narmada Reservoir Outlet, DW3= Suvidha Store Purification Plant, DW4= Jetty Approach - 1, DW5= Jetty Approach - 3, DW6= Fertilizer Shed, DW7= Engineering Workshop

Approved By -



**Compliance Status Report for "Environmental Clearance & CRZ Clearance"
Accorded by the MoEF&CC for Gujarat Pipavav Port Limited**



TC-7099

KADAM ENVIRONMENTAL CONSULTANTS

An ISO 9001-2015 Certified Company

(MoEF Approved)

871/B/3, Near Himalaya Machinery, GIDC Makarpura, Vadodara-10.

Phone : (O) 0265 - 6131000, 6131001



ENVIRONMENTAL MONITORING REPORT

APM Terminals Pipavav									
Drinking Water Quality									
October 2021 to March 2022									
Parameters	Units	IS:10500 1991:2012) (Acceptable Limits)	Nov-21						
			Monitoring Location						
			DW1	DW2	DW3	DW4	DW5	DW6	DW7
pH	..	6.5 to 8.5	7.43	7.78	7.85	7.7	7.63	6.62	7.37
Turbidity	NTU	1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Colour (Hazen Units)	Pt-CO	5	<1	<1	<1	<1	<1	<1	<1
Sulphates	mg/L	200	66	47	68	74	66	78	62
Fluoride	mg/L	1	0.46	0.53	<0.05	<0.05	<0.05	<0.05	<0.05
Nitrate	mg/L	45	1.69	1.07	1.9	2.71	2.11	2.01	2.27
Phenolic Compound	mg/L	0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Aluminium	mg/L	0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
Hexavalent Chromium	mg/L	2	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Arsenic	mg/L	0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Boron	mg/L	0.5	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Cyanide	mg/L	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Total Dissolved Solids	mg/L	500	234	134	329	379	366	356	294
Alkalinity	mg/L	200	136	108	42	82	80	52	48
Total Hardness	mg/L	200	170	120	98	116	102	120	148
Calcium	mg/L	75	88	80	22	24	20	14	22
Magnesium	mg/L	30	24	34	18	19	8	26	24
Residual Chlorine	mg/L	0.2	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Chlorides	mg/L	250	108	92.18	62	94	92	60	64
Cadmium	mg/L	0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003
Copper	mg/L	0.05	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
Lead	mg/L	0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Iron	mg/L	0.3	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Zinc	mg/L	5	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
Mercury	mg/L	0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Manganese	mg/L	0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Odour	..	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable
Total Coliform	MPN/100 ml	Shall not be detectable in any 100 ml Sample	N.D.(<1.8)	N.D.(<1.8)	N.D.(<1.1)	N.D.(<1.1)	N.D.(<1.1)	N.D.(<1.1)	N.D.(<1.1)
E. Coli	/100 ml		Absent	Absent	Absent	Absent	Absent	Absent	Absent

DW= Drinking Water DW1= Narmada Reservoir Inlet, DW2= Narmada Reservoir Outlet, DW3= Suvidha Store Purification Plant, DW4= Jetty Approach - 1, DW5= Jetty Approach - 3, DW6= Fertilizer Shed, DW7= Engineering Workshop



**Compliance Status Report for "Environmental Clearance & CRZ Clearance"
Accorded by the MoEF&CC for Gujarat Pipavav Port Limited**



KADAM ENVIRONMENTAL CONSULTANTS

An ISO 9001-2015 Certified Company (MoEF Approved)

871/B/3, Near Himalaya Machinery, GIDC Makarpura, Vadodara-10.
Phone : (O) 0265 - 6131000, 6131001



ENVIRONMENTAL MONITORING REPORT

APM Terminals Pipavav				
Drinking Water Quality				
Parameters	Units	IS:10500 1991:2012(Acceptable Limits)	Dec-21	
			Monitoring Location	
			DW1	DW2
pH	..	6.5 to 8.5	7.78	7.92
Turbidity	NTU	1	<0.1	<0.1
Colour (Hazen Units)	Pt-CO	5	<1	<1
Sulphates	mg/L	200	60	55
Fluoride	mg/L	1	0.59	0.62
Nitrate	mg/L	45	1.57	0.97
Phenolic Compound	mg/L	0.001	<0.001	<0.001
Aluminium	mg/L	0.03	<0.03	<0.03
Hexavalent Chromium	mg/L	2	<0.02	<0.02
Arsenic	mg/L	0.01	<0.01	<0.01
Boron	mg/L	0.5	<0.05	<0.05
Cyanide	mg/L	0.05	<0.05	<0.05
Total Dissolved Solids	mg/L	500	383	221
Alkalinity	mg/L	200	142	98
Total Hardness	mg/L	200	178	138
Calcium	mg/L	75	92	78
Magnesium	mg/L	30	26	32
Residual Chlorine	mg/L	0.2	<0.1	<0.1
Chlorides	mg/L	250	152	94
Cadmium	mg/L	0.003	<0.003	<0.003
Copper	mg/L	0.05	<0.03	<0.03
Lead	mg/L	0.01	<0.01	<0.01
Iron	mg/L	0.3	<0.05	<0.05
Zinc	mg/L	5	<0.03	<0.03
Mercury	mg/L	0.001	<0.001	<0.001
Manganese	mg/L	0.1	<0.02	<0.02
Odour	..	Agreeable	Agreeable	Agreeable
Total Coliform	MPN/100 ml	Shall not be detectable in any 100 ml Sample	N.D.(<1.8)	N.D.(<1.8)
E. Coli	/100 ml		Absent	Absent

DW= Drinking Water DW1= Narmada Reservoir Inlet, DW2= Narmada Reservoir Outlet

Approved By -



**Compliance Status Report for "Environmental Clearance & CRZ Clearance"
Accorded by the MoEF&CC for Gujarat Pipavav Port Limited**



TC-7099

KADAM ENVIRONMENTAL CONSULTANTS

An ISO 9001-2015 Certified Company

(MoEF Approved)

871/B/3, Near Himalaya Machinery, GIDC Makarpura, Vadodara-10.

Phone : (O) 0265 - 6131000, 6131001



ENVIRONMENTAL MONITORING REPORT

APM Terminals Pipavav Drinking Water Quality October 2021 to March 2022								
Parameters	Units	IS:10500 1991:2012) (Acceptable Limits)	Jan-22					
			Monitoring Location					
			DW1	DW2	DW3	DW4	DW5	DW6
pH	..	6.5 to 8.5	7.88	7.82	7.58	7.86	7.53	6.49
Turbidity	NTU	1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Colour (Hazen Units)	Pt-CO	5	<1	<1	<1	<1	<1	<1
Sulphates	mg/L	200	62	51	62	70	62	82
Fluoride	mg/L	1	0.47	0.57	<0.05	<0.05	<0.05	<0.05
Nitrate	mg/L	45	1.44	0.9	1.91	2.62	1.93	1.9
Phenolic Compound	mg/L	0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Aluminium	mg/L	0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
Hexavalent Chromium	mg/L	2	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Arsenic	mg/L	0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Boron	mg/L	0.5	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Cyanide	mg/L	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Total Dissolved Solids	mg/L	500	395	258	337	395	351	321
Alkalinity	mg/L	200	150	96	46	86	84	54
Total Hardness	mg/L	200	174	130	94	112	108	116
Calcium	mg/L	75	96	72	24	20	24	16
Magnesium	mg/L	30	28	28	19	16	20	28
Residual Chlorine	mg/L	0.2	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Chlorides	mg/L	250	148	92.02	68	88	90	68
Cadmium	mg/L	0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003
Copper	mg/L	0.05	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
Lead	mg/L	0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Iron	mg/L	0.3	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Zinc	mg/L	5	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
Mercury	mg/L	0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Manganese	mg/L	0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Odour	..	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable
Total Coliform	MPN/100 ml	Shall not be	14	N.D.(<1.8)	N.D.(<1.1)	N.D.(<1.1)	N.D.(<1.1)	N.D.(<1.1)
E. Coli	/100 ml	detectable in	Absent	Absent	Absent	Absent	Absent	Absent

DW= Drinking Water DW1= Narmada Reservoir Inlet, DW2= Narmada Reservoir Outlet, DW3= Bulk Jetty, DW4= LPG Jetty, DW5= Fertilizer Shed, DW6= Container Loading Area

Approved By -

**Compliance Status Report for "Environmental Clearance & CRZ Clearance"
Accorded by the MoEF&CC for Gujarat Pipavav Port Limited**



TC-7099

KADAM ENVIRONMENTAL CONSULTANTS
An ISO 9001-2015 Certified Company (MoEF Approved)

871/B/3, Near Himalaya Machinery, GIDC Makarpura, Vadodara-10.
Phone : (O) 0265 - 6131000, 6131001



ENVIRONMENTAL MONITORING REPORT

APM Terminals Pipavav			
Drinking Water Quality			
Parameters	Units	IS:10500 1991:2012(Acceptable Limits)	Feb-22
			Monitoring Location DW1
pH	..	6.5 to 8.5	7.24
Turbidity	NTU	1	<0.1
Colour (Hazen Units)	Pt-CO	5	<1
Sulphates	mg/L	200	58
Fluoride	mg/L	1	<0.05
Nitrate	mg/L	45	1.8
Phenolic Compound	mg/L	0.001	<0.001
Aluminium	mg/L	0.03	<0.03
Hexavalent Chromium	mg/L	2	<0.02
Arsenic	mg/L	0.01	<0.01
Boron	mg/L	0.5	<0.05
Cyanide	mg/L	0.05	<0.05
Total Dissolved Solids	mg/L	500	323
Alkalinity	mg/L	200	80
Total Hardness	mg/L	200	102
Calcium	mg/L	75	22
Magnesium	mg/L	30	18
Residual Chlorine	mg/L	0.2	<0.1
Chlorides	mg/L	250	88
Cadmium	mg/L	0.003	<0.003
Copper	mg/L	0.05	<0.03
Lead	mg/L	0.01	<0.01
Iron	mg/L	0.3	<0.05
Zinc	mg/L	5	<0.03
Mercury	mg/L	0.001	<0.001
Manganese	mg/L	0.1	<0.02
Odour	..	Agreeable	Agreeable
Total Coliform	MPN/100 ml	Shall not be detectable in any 100 ml Sample	N.D.(<1.1)
E. Coli	/100 ml		Absent
Alachlor	µg/L	20	N.D.
Atrazine	µg/L	2	N.D.
Aldrin/Dieldrin	µg/L	0.03	N.D.
Alpha HCH	µg/L	0.01	N.D.
Beta HCH	µg/L	0.04	N.D.
Butachlor	µg/L	125	N.D.
Chlorpyrifos	µg/L	30	N.D.
Delta HCH	µg/L	0.04	N.D.
2,4	µg/L	30	N.D.
DDT(o, p and p, p-	µg/L	1	N.D.
Endosulfan(alpha, beta	µg/L	0.4	N.D.
Ethion	µg/L	3	N.D.
Gamma-HCH(Lindane)	µg/L	2	N.D.
Isoproturon	µg/L	9	N.D.
Malathion	µg/L	190	N.D.
Methyl Parathion	µg/L	0.3	N.D.
Monocrotophos	µg/L	1	N.D.
Phorate	µg/L	2	N.D.

[DW= Drinking Water DW1= Workshop

Approved By: 


**Compliance Status Report for "Environmental Clearance & CRZ Clearance"
Accorded by the MoEF&CC for Gujarat Pipavav Port Limited**



KADAM ENVIRONMENTAL CONSULTANTS

An ISO 9001-2015 Certified Company (MoEF Approved)

871/B/3, Near Himalaya Machinery, GIDC Makarpura, Vadodara-10.
Phone : (O) 0265 - 6131000, 6131001



ENVIRONMENTAL MONITORING REPORT

APM Terminals Pipavav										
Drinking Water Quality										
October 2021 to March 2022										
Parameters	Units	IS:10500 1991:2012 (Acceptable Limits)	Mar-22							
			Monitoring Location							
			DW1	DW2	DW3	DW4	DW5	DW6	DW7	DW8
pH	..	6.5 to 8.5	7.71	8.12	8.26	7.96	8.04	7.98	7.84	7.91
Turbidity	NTU	1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Colour (Hazen Units)	Pt-CO	5	<1	<1	<1	<1	<1	<1	<1	<1
Sulphates	mg/L	200	72	49	43	41	36	39	36	42
Fluoride	mg/L	1	<0.05	0.93	0.84	<0.05	<0.05	<0.05	<0.05	<0.05
Nitrate	mg/L	45	1.93	1.22	1.07	1.43	1.65	1.36	1.5	1.79
Phenolic Compound	mg/L	0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Aluminium	mg/L	0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
Hexavalent Chromium	mg/L	2	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Arsenic	mg/L	0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Boron	mg/L	0.5	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Cyanide	mg/L	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Total Dissolved Solids	mg/L	500	282	295	281	192	188	190	184	190
Alkalinity	mg/L	200	40	190	180	60	50	60	70	80
Total Hardness	mg/L	200	250	200	210	170	160	170	180	180
Calcium	mg/L	75	60	31	34	35	33	30	31	34
Magnesium	mg/L	30	12	30	31	26	29	23	25	28
Residual Chlorine	mg/L	0.2	<0.1	<0.1	<0.1	0.42	0.46	0.35	0.4	0.36
Chlorides	mg/L	250	91	22.8	23.75	22.8	21.38	21.85	20.43	22.33
Cadmium	mg/L	0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003
Copper	mg/L	0.05	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
Lead	mg/L	0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Iron	mg/L	0.3	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Zinc	mg/L	5	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
Mercury	mg/L	0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Manganese	mg/L	0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Odour	..	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable
Total Coliform	MPN/100 ml	Shall not be detectable in any 100 ml	N.D.<(1.1)	N.D.<(1.8)	N.D.<(1.8)	N.D.<(1.1)	N.D.<(1.1)	N.D.<(1.1)	N.D.<(1.1)	N.D.<(1.1)
E. Coli	/100 ml	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent

DW= Drinking Water DW1= Workshop, DW2= Narmada Reservoir Inlet, DW3= Narmada Reservoir Outlet, DW4= Canteen Jetty, DW5= Jetty Approach - 2, DW6= Fertilizer Shed, DW7= Engineering Workshop, DW8= Township Canteen



**Compliance Status Report for “Environmental Clearance & CRZ Clearance”
Accorded by the MoEF&CC for Gujarat Pipavav Port Limited**



KADAM ENVIRONMENTAL CONSULTANTS

An ISO 9001-2015 Certified Company (MoEF Approved)

871/B/3, Near Himalaya Machinery, GIDC Makarpura, Vadodara-10.
Phone : (O) 0265 - 6131000, 6131001



ENVIRONMENTAL MONITORING REPORT

APM Terminals Pipavav				
Pond Water Quality				
October 2021 to March 2022				
Parameters	Unit(SI)	Oct-21		
		Near Fertilizer Shed-1	Near Township	DSS Pond
		SW-1	SW-2	SW-3
pH		7.33	7.25	7.62
Temperature	°C	27.8	27.1	26.9
Sulphates	mg/L	106	102	90
Ammonical Nitrogen	mg/L	0.52	0.44	0.52
COD	mg/L	28	22	24
BOD(3days at 27)OC	mg/L	10	6	8
Total Dissolved solids	mg/L	1216	1120	1225
Suspended solids	mg/L	28	20	15
Oil and Grease	mg/L	<1	<1	<1
Arsenic	mg/L	<0.01	<0.01	<0.01
Total hardness	mg/L	226	202	188
Calcium Hardness	mg/L	98	98	92
Magnesium Hardness	mg/L	92	80	90
Chlorides	mg/L	240	226	294
Lead	mg/L	<0.02	<0.02	<0.02
Mercury	mg/L	<0.02	<0.02	<0.02
Total Chromium	mg/L	<0.02	<0.02	<0.02
Total Coliform	MPN/100ml	280	110	14
E Coli.	N.A.	Present	Present	Absent
SW= Surface Water SW1=POND				



**Compliance Status Report for "Environmental Clearance & CRZ Clearance"
Accorded by the MoEF&CC for Gujarat Pipavav Port Limited**



KADAM ENVIRONMENTAL CONSULTANTS

An ISO 9001-2015 Certified Company (MoEF Approved)

871/B/3, Near Himalaya Machinery, GIDC Makarpura, Vadodara-10.
Phone : (O) 0265 - 6131000, 6131001



ENVIRONMENTAL MONITORING REPORT

APM Terminals Pipavav				
Pond Water Quality				
October 2020 to March 2021				
Parameters	Unit(SI)	Nov-21		
		Near Fertilizer Shed-1	Near STP Township	DSS Pond
		SW-1	SW-2	SW-3
pH		7.44	7.11	7.79
Temperature	°C	27.2	27.3	27.1
Sulphates	mg/L	102	106	92
Ammonical Nitrogen	mg/L	0.49	0.47	0.59
COD	mg/L	24	24	22
BOD(3days at 27)OC	mg/L	8	8	10
Total Dissolved solids	mg/L	1308	1028	1313
Suspended solids	mg/L	22	18	16
Oil and Grease	mg/L	<1	<1	<1
Arsenic	mg/L	<0.01	<0.01	<0.01
Total hardness	mg/L	238	196	192
Calcium Hardness	mg/L	94	94	94
Magnesium Hardness	mg/L	90	82	90
Chlorides	mg/L	246	208	308
Lead	mg/L	<0.02	<0.02	<0.02
Mercury	mg/L	<0.02	<0.02	<0.02
Total Chromium	mg/L	<0.02	<0.02	<0.02
Total Coliform	MPN/100	N.D.(<1.8)	13	33
E Coli.	N.A.	Absent	Absent	Absent
SW= Surface Water SW1=POND				



**Compliance Status Report for "Environmental Clearance & CRZ Clearance"
Accorded by the MoEF&CC for Gujarat Pipavav Port Limited**



KADAM ENVIRONMENTAL CONSULTANTS
An ISO 9001-2015 Certified Company (MoEF Approved)

871/B/3, Near Himalaya Machinery, GIDC Makarpura, Vadodara-10.
Phone : (O) 0265 - 6131000, 6131001



ENVIRONMENTAL MONITORING REPORT

APM Terminals Pipavav Marine Water Quality October 2021 to March 2022 Oct-21		
Parameters	Unit(SI)	Monitoring Location
		Marine Water Shiyalbet
pH		8.18
Dissolved oxygen	mg/L	4
BOD (3 days at 27 °C)	mg/L	5
Oil & Grease	mg/L	<1
Fecal Coliform Bacteria	MPN/100ml	N.D.(<1.8)

Approved By -

APM Terminals Pipavav Marine Water Quality October 2021 to March 2022 Nov-21		
Parameters	Unit(SI)	Monitoring Location
		Marine Water Shiyalbet
pH		8.23
Dissolved oxygen	mg/L	3.7
BOD (3 days at 27 °C)	mg/L	7
Oil & Grease	mg/L	<1
Fecal Coliform Bacteria	MPN/100ml	N.D.(<1.8)

Approved By -

APM Terminals Pipavav Marine Water Quality October 2021 to March 2022 Dec-21		
Parameters	Unit(SI)	Monitoring Location
		Marine Water Shiyalbet
pH		8.53
Dissolved oxygen	mg/L	3.2
BOD (3 days at 27 °C)	mg/L	8
Oil & Grease	mg/L	<1
Fecal Coliform Bacteria	MPN/100ml	N.D.(<1.8)

Approved By -



**Compliance Status Report for “Environmental Clearance & CRZ Clearance”
Accorded by the MoEF&CC for Gujarat Pipavav Port Limited**



KADAM ENVIRONMENTAL CONSULTANTS
An ISO 9001-2015 Certified Company (MoEF Approved)

871/B/3, Near Himalaya Machinery, GIDC Makarpura, Vadodara-10.
Phone : (O) 0265 - 6131000, 6131001



ENVIRONMENTAL MONITORING REPORT

APM Terminals Pipavav Marine Water Quality October 2021 to March 2022		
Jan-22		
Parameters	Unit(SI)	Monitoring Location
		Marine Water Shiyalbet
pH		8.63
Dissolved oxygen	mg/L	2.8
BOD (3 days at 27 °C)	mg/L	10
Oil & Grease	mg/L	<1
Fecal Coliform Bacteria	MPN/100ml	N.D.(<1.8)

Approved By -

APM Terminals Pipavav Marine Water Quality October 2021 to March 2022			
Feb-22			
Parameters	Unit(SI)	Monitoring Location	
		Marine Water Shiyalbet	Marine Water Jetty Approach 2 (Near Neem Oil Tank)
pH		8.73	8.19
Dissolved oxygen	mg/L	2.3	2.5
BOD (3 days at 27 °C)	mg/L	12	8
Oil & Grease	mg/L	<1	<1
Fecal Coliform Bacteria	MPN/100ml	N.D.(<1.8)	N.D.(<1.8)

Approved By -

APM Terminals Pipavav Marine Water Quality October 2021 to March 2022		
Mar-22		
Parameters	Unit(SI)	Monitoring Location
		Marine Water Shiyalbet
pH		8.56
Dissolved oxygen	mg/L	2.3
BOD (3 days at 27 °C)	mg/L	19
Oil & Grease	mg/L	<1
Fecal Coliform Bacteria	MPN/100ml	N.D.(<1.8)

Approved By -



**Compliance Status Report for "Environmental Clearance & CRZ Clearance"
Accorded by the MoEF&CC for Gujarat Pipavav Port Limited**



TC-7099

KADAM ENVIRONMENTAL CONSULTANTS

An ISO 9001-2015 Certified Company

(MoEF Approved)

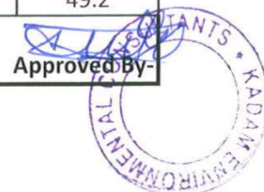
871/B/3, Near Himalaya Machinery, GIDC Makarpura, Vadodara-10.

Phone : (O) 0265 - 6131000, 6131001



ENVIRONMENTAL MONITORING REPORT

APM Terminals Pipavav OCCUPATIONAL NOISE MONITORING October 2021 to March 2022		
Oct-21		
Month/Locations	Day	
	Min	Max
Medical Centre	46.0	60.6
Township Gate No. 2	56.4	65.3
Township Main Gate	49.0	61.8
Approved By-		
APM Terminals Pipavav OCCUPATIONAL NOISE MONITORING October 2021 to March 2022		
Jan-22		
Month/Locations	Day	
	Min	Max
Medical Centre	53.9	61.4
Township Gate No. 2	55.1	67.1
Township Main Gate	47.1	52.7
Approved By-		
APM Terminals Pipavav OCCUPATIONAL NOISE MONITORING October 2021 to March 2022		
Feb-22		
Month/Locations	Day	
	Min	Max
Medical Centre	53.8	59.2
Township Gate No. 2	58.7	63.7
Township Main Gate	45.3	49.2
Approved By-		



**Compliance Status Report for “Environmental Clearance & CRZ Clearance”
Accorded by the MoEF&CC for Gujarat Pipavav Port Limited**



KADAM ENVIRONMENTAL CONSULTANTS
An ISO 9001-2015 Certified Company (MoEF Approved)

871/B/3, Near Himalaya Machinery, GIDC Makarpura, Vadodara-10.
Phone : (O) 0265 - 6131000, 6131001



ENVIRONMENTAL MONITORING REPORT

APM Terminals Pipavav WORKPLACE NOISE MONITORING October 2021 to March 2022		
Oct-21		
Month/Locations	Day	
	Min	Max
Jetty Approach – 4	64.4	78.6
Jetty Approach – 5	70.3	83.4
Engineering Workshop	64.1	76.9
Fertilizer Shed	55.3	74.1
Project Side (Nr. Fertilizer Shed)	53.2	72.6
Fire Station	50.3	73.4
Store Area	49.7	69.2

APM Terminals Pipavav WORKPLACE NOISE MONITORING October 2021 to March 2022		
Jan-22		
Month/Locations	Day	
	Min	Max
Jetty Approach – 2	60.9	74.5
Jetty Approach – 3	61.9	73.8
Engineering Workshop	57.7	61.3
Fire Station	49.6	59.7
Store Area	44.2	55.8
Fertilizer Shed	57.7	63.4
Project Side (Nr. Fertilizer Shed)	63.9	73.1

APM Terminals Pipavav WORKPLACE NOISE MONITORING October 2021 to March 2022		
Feb-22		
Month/Locations	Day	
	Min	Max
Jetty Approach – 2	59.8	74.8
Jetty Approach – 3	58.2	72.6
Engineering Workshop	55.6	61.4
Fire Station	48.7	58.6
Store Area	43.5	55.8
Fertilizer Shed	56.6	62.9
Project Side (Nr. Fertilizer Shed)	64.2	71.5

Approved By- 

**Compliance Status Report for “Environmental Clearance & CRZ Clearance”
Accorded by the MoEF&CC for Gujarat Pipavav Port Limited**

KADAM ENVIRONMENTAL CONSULTANTS

An ISO 9001-2015 Certified Company

(MoEF Approved)

871/B/3, Near Himalaya Machinery, GIDC Makarpura, Vadodara-10.

Phone : (O) 0265 - 6131000, 6131001



ENVIRONMENTAL MONITORING REPORT

APM Terminals Pipavav		
Solid Waste Quality		
October 2021 to March 2022		
Mar-22		
Parameters	Units	Monitoring Location
		Coal yard Area
pH (10% solution)	--	7.08
Moisture Content	%	14.3
Bulk Density	gm/ml	1.1
Organic Carbon	%	1.02
Total Nitrogen	%	0.047
Gross Calorific Value	kcal/kg	2742



Approved By -

**Compliance Status Report for “Environmental Clearance & CRZ Clearance”
Accorded by the MoEF&CC for Gujarat Pipavav Port Limited**

KADAM ENVIRONMENTAL CONSULTANTS

An ISO 9001-2015 Certified Company

(MoEF Approved)

871/B/3, Near Himalaya Machinery, GIDC Makarpura, Vadodara-10.
Phone : (O) 0265 - 6131000, 6131001



ENVIRONMENTAL MONITORING REPORT

APM Terminals Pipavav					
Soil Quality					
October 2021 to March 2022					
Jan-22					
Parameters	Units	Monitoring Location			
		Coal Handling Area	Near Workshop Area	Near Hazardous Waste Area	Near STP (Jetty)
pH	-	7.31	7.08	7.02	7.16
Conductivity	µmhos/cm	493	528	590	516
Exchangeable Calcium	gm/kg	0.21	0.25	0.24	0.19
Exchangeable Magnesium	gm/kg	0.33	0.38	0.35	0.28
Sodium	gm/kg	0.41	0.38	0.33	0.4
Potassium	gm/kg	0.19	0.15	0.09	0.12
Phosphorous	gm/kg	0.04	0.06	0.03	0.05
Sulphate	gm/kg	12.22	12.04	12.02	11.64
Organic Matter	%	0.71	0.49	0.88	0.53
Aluminium	gm/kg	<0.2	<0.2	<0.2	<0.2
Manganese	gm/kg	0.2	0.28	0.19	0.23
Iron	gm/kg	0.44	0.33	0.4	0.31
Zinc	gm/kg	0.013	0.009	0.011	0.007
Texture	--	Sandy Loam	Sandy Loam	Sandy	Sandy
Chloride	gm/kg	2.24	2.04	2.18	1.84
Organic Carbon	%	1.03	1.12	1.19	1.22
SAR	--	1.32	1.44	1.08	1.24
Boron	gm/kg	<0.05	<0.05	<0.05	<0.05
Ion Exchange Property	meq/100gm	0.81	0.73	0.69	0.72


Approved By -