

To,
Shri Shrawan Kumar Verma
Deputy Director General of Forests (C)
Ministry of Environment, Forest & Climate Change
Integrated Regional Office,
Gandhi Nagar, A-Wing-407 & 409, Aranya Bhawan
Near CH-3 Circle, Sector 10 A,
Gandhi Nagar-382010, Gujarat

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-2022- to March-2023 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
Gujarat Pipavav Port Limited
(APM Terminals-Pipavav)
Post- Rampara-2, Taluka-Rajula
District- Amreli, Gujarat-365560

CC:

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. **Parivesh Portal**

Encl: EC & CRZ Compliance Report (October-2022 to March-2023)

5/24/2023

ENVIRONMENTAL CLEARANCE
COMPLIANCE REPORT
OCTOBER-2022 TO MARCH-2023



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 2022- MARCH 2023

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

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

1.0: Introduction:

1. Gujarat Pipavav Port 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. GPPL 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 30-SEP -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 strengthening and widening of Roads are completed.</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 exploded 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.

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		<ul style="list-style-type: none"> ➤ Mist Canon type fogging system is operational to mitigate the chance of fugitive emissions. ➤ Green Belt development in coal yard completed which was damaged by cyclone Taukate. Gap fillings of the plantation carried out on regular basis ➤ Coal water Re-circulation system is in place. ➤ RCC roads provided in all over the coal handling area. ➤ Stockpile height of the coal is restricted up to 5 meters only. ➤ Internal road sweeping is done by mechanized dust sweeping machines and through manual basis on day-to-day operation.
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.</p> <p>GPPL has also established a site-specific nursery to cater the demand of plantation.</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</p>

**Compliance Status Report for “Environmental Clearance & CRZ Clearance”
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		Truck tarpaulin covering area is in place for covering the truck with tarpaulin.
5.	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>Noted for Compliance.</p> <p>Capital Dredging – 1,11,941 CUM done.</p> <p>Maintenance Dredging undertaken every 1.5 to 2 years (740948.75 CBM of Maintenance dredging carried out since 2012. Expected to be carried out every 1.5 years.</p>
6.	PP shall adopt closed conveyer coal transport to the proposed power plants in the vicinity.	<p>Noted for future Compliance.</p> <p>At present no such facility has been set up in the immediate vicinity of the port.</p>
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>The CTE was again renewed and amended up to 04 June 2023, vide its order no. CTE Amendment No. 225015, ID 14808, granted on 21-Oct-2022.</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> <p>Noted for Compliance.</p>

**Compliance Status Report for “Environmental Clearance & CRZ Clearance”
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<p>9.</p>	<p>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>	<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 is being utilize for green bel development.</p>
<p>10.</p>	<p>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>	<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, 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>GPPL awarded a contract to Gujarat Institute of desert Ecology- Kutch, for the finding the causes of Mangroves damage and way forward for its restoration. Report submitted to Regional office of GPCB and GPPL is</p>

**Compliance Status Report for “Environmental Clearance & CRZ Clearance”
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		<p>working on the recommendations given in the report.</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>
<p>11.</p>	<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> <p>PESO permissions vide no. G-22 (47) 162, dated; 05-April-2021 for import of Petroleum at GPPL.</p>
<p>12.</p>	<p>Green belt of not less than 33 % shall be developed and maintained all along the boundary.</p>	<p>Being Complied.</p> <p>Total 2,50,000plantation has been done over an area of 250 acre, with survival rate of more than 70 %.</p> <p>Plantation is being done on phased manner.</p> <p>Approx. 20% plantation damage due to cyclone and now it is in regeneration process.</p>

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13.	The dry cargo shall be unloaded into hopper and from hopper it will be taken through closed conveyor system to the storage yards.	<p>Complied.</p> <p>Current closed conveyor 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.</p>
14.	Mitigation plan for handling the dusty cargo/around storage yards as per presentation may be stipulated.	<p>Being Complied.</p> <p>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.</p> <p>Continuous monitoring & assessment of plan/ guidelines is being carried out by the team on regular basis.</p>
15.	There shall be no ground water drawl within CRZ area.	<p>Complied.</p> <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.	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>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</p>

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		<p>installed and operational near 370 KLD STP for Residential Colony.</p> <p>For Port, 25 KLD capacity STP is installed and operational near jetty. GPPL is going to upgrade 25 KLD with modern technology along with addition of 25 KLD capacity more means the capacity after upgradation will be 50 KLD.</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.	Solid waste management shall be as per Municipal Solid waste (management and handling) Rules, 2000.	<p>Being Complied.</p> <p>3Types 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 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. An Eco-friendly Initiative.</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.</p>

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		Woodchippers will use in green belt development to retain moisture in the soil, prevents soil erosion and will maintain the soil nutrients.
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.	Complied. No Displacement of people due to existing and/or proposed activities.
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.	Complied. 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.
22.	The funds earmarked for environment management plan shall be included in the budget and this shall not be diverted for any other purposes.	Being Complied. Separate Budget allotted for Environmental protection in every financial year under Budget Head HSSE.
36. General Standards:		
1.	Appropriate measures must be taken while undertaking digging activities to avoid any likely degradation of water quality.	Noted for Compliance. All appropriate measures is being taken well in advance during Project Construction activities like spray of water to avoid fugitive

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		dust emission, mobile urinals/ toilets for the workers, safe drinking water provision etc.
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.	Noted & adhered.
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.	Being Complied. Half Yearly Compliance report is being submitted to PARIVESH 2.0 portal , along with Environmental Parameters Monitoring reports & CSR details as per timeline stipulated by MoEF&CC. Last EC compliance report submitted on 9-Dec-2022 and also submitted in hard copies to the regional office of GPCB.
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.

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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.	<p>Complied.</p> <p>Existing project is self-financed.</p> <p>For Expansion Project if lenders (Bank’s) are involved authorities will be intimated in advance.</p>
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.	<p>Complied.</p>
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.	<p>Complied.</p>
10.	These stipulations would be enforced among others under the provisions of Water (prevention and control of pollution) Act 1974, the Air (prevention and control of pollution) Act 1981, the Environment (protection)Act, 1986, the Public Liability (Insurance)Act, 1991 and EIA notification, 1994, including the amendments and rules made thereafter.	<p>Noted.</p>
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.	<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>

**Compliance Status Report for “Environmental Clearance & CRZ Clearance”
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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.	<p>Complied.</p> <p>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.</p>
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.	<p>Noted.</p> <p>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).</p>
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 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>Complied.</p> <p>https://www.apmterminals.com/en/pipavav/CSR/environment</p>
15.	The proponent shall upload the status of compliance of the stipulated EC conditions, including results of monitored data on their website and shall update the same periodically. It shall simultaneously be sent to the Regional Office of MoEF, the respective Zonal Office of CPCB and the SPCB	<p>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 EC compliance report submitted on 19-May-2022 vide No. APMT/ENV/MoEF&CC/EC&CRZ/22-23/03</p>

**Compliance Status Report for “Environmental Clearance & CRZ Clearance”
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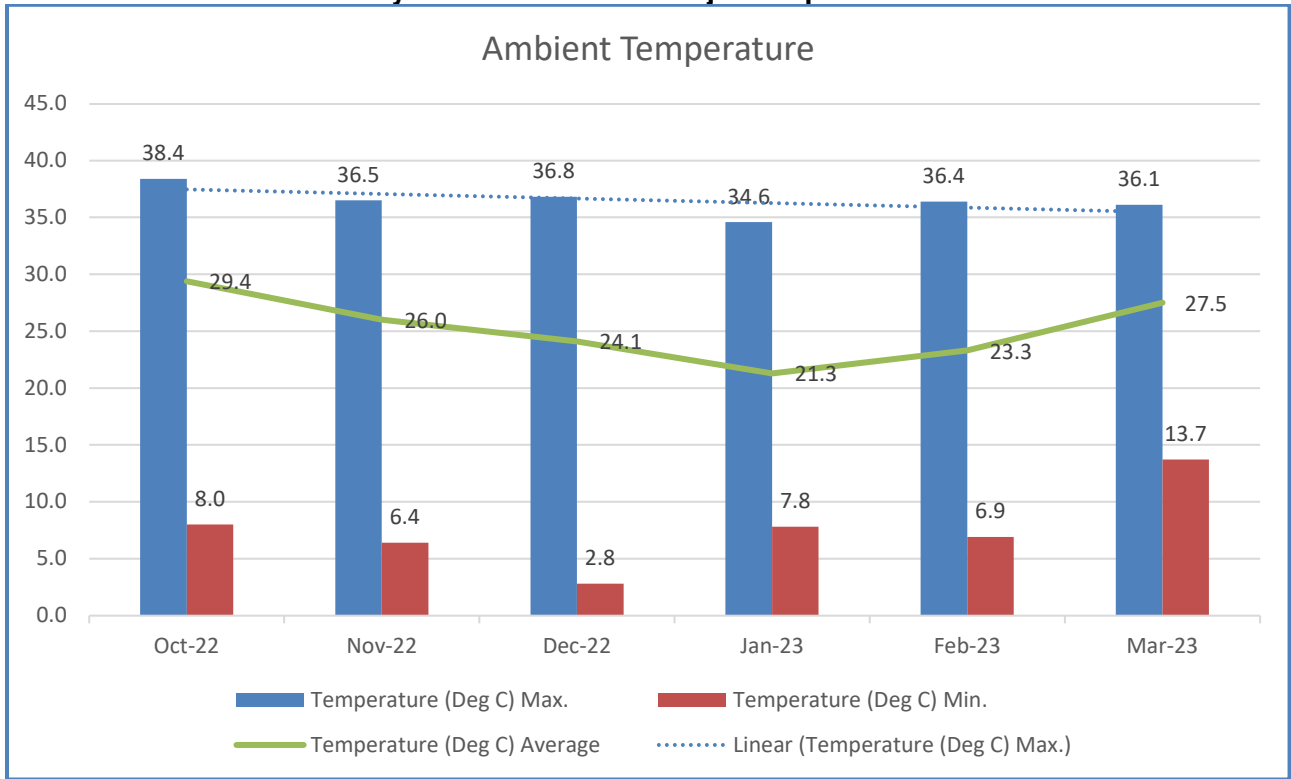
		to regional office of MoEF&CC, CPCB & GPCB and the same was uploaded on Parivesh Portal.
16.	The environmental statement for each financial year ending 31st March in FORM-V as is mandated to be submitted by the project proponent to the concerned State Pollution Control Board as prescribed under the Environment (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>Being Complied.</p> <p>Last Environment Statement Report is submitted in Form-V to the concerned Authorities vide no. APMT/ENV/GPCB/ES/21-22/14 dated; 08-Sep-2022.</p> <p>https://www.apmterminals.com/en/pipavav/CSR/environment</p>

METEOROLOGICAL DATA OF APM PORT PIPAVAV

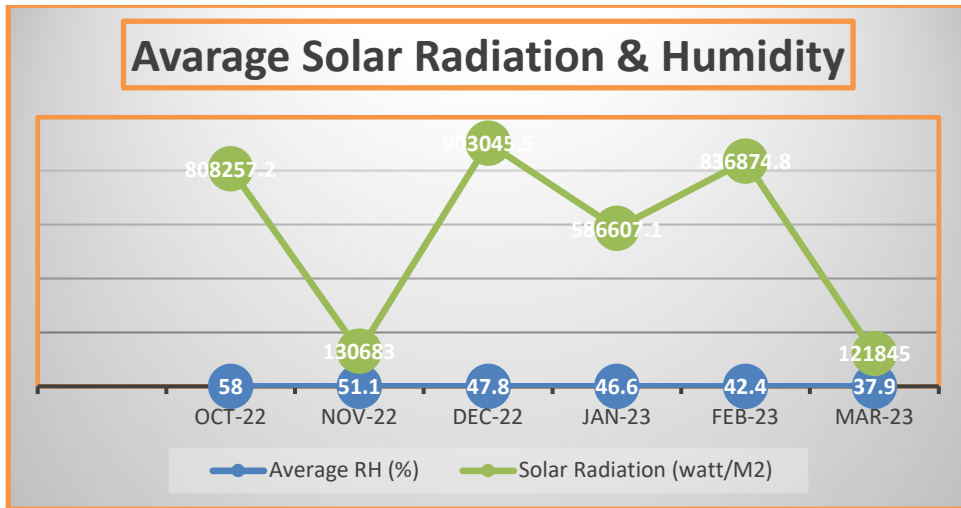
APM Port Pipavav has installed Meteorological Station at the roof of Gate Complex (Security gate no. 1), which are the entry point of Port. Details of Ambient Temperature, Wind Speed, Barometric Pressure, Humidity and Rain fall for the period **Oct- 2022 to March-2023** are as:

MED Data Six Month (Oct 2022 to Mar 2023)										
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-22	38.4	8.0	29.4	90.8	16.6	58.0	9.2	1,010.6	0.0	8,08,257.2
Nov-22	36.5	6.4	26.0	83.7	19.0	51.1	5.5	1,011.4	7.6	1,30,683.0
Dec-22	36.8	2.8	24.1	80.0	13.1	47.8	3.7	1,011.9	0.0	9,03,045.5
Jan-23	34.6	7.8	21.3	85.8	14.9	46.6	1.6	1,012.5	0.0	5,86,607.1
Feb-23	36.4	6.9	23.3	87.7	13.7	42.4	0.0	1,011.1	0.0	8,36,874.8
Mar-23	36.1	13.7	27.5	64.2	18.9	37.9	0.0	1,011.0	0.0	1,21,845.0

**Compliance Status Report for “Environmental Clearance & CRZ Clearance”
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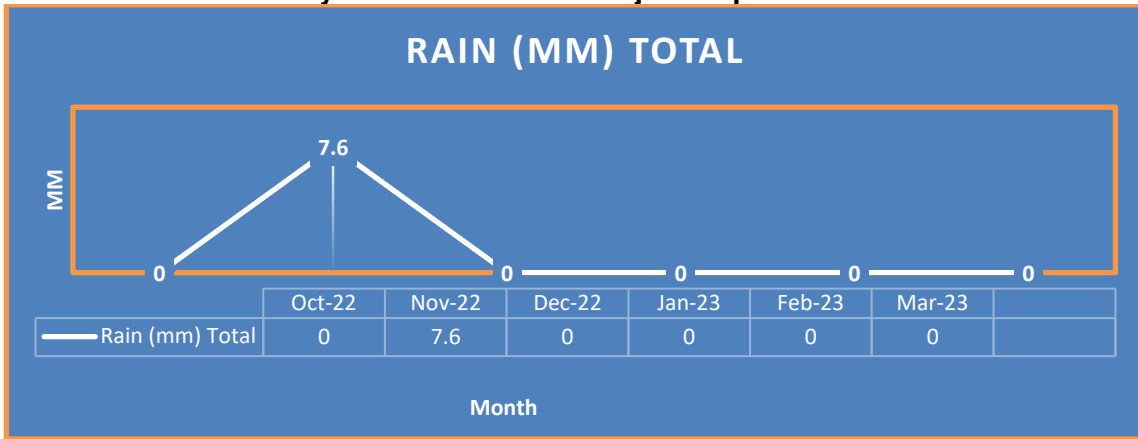


Ambient Temperature for the Period Oct 2022 to March-2023

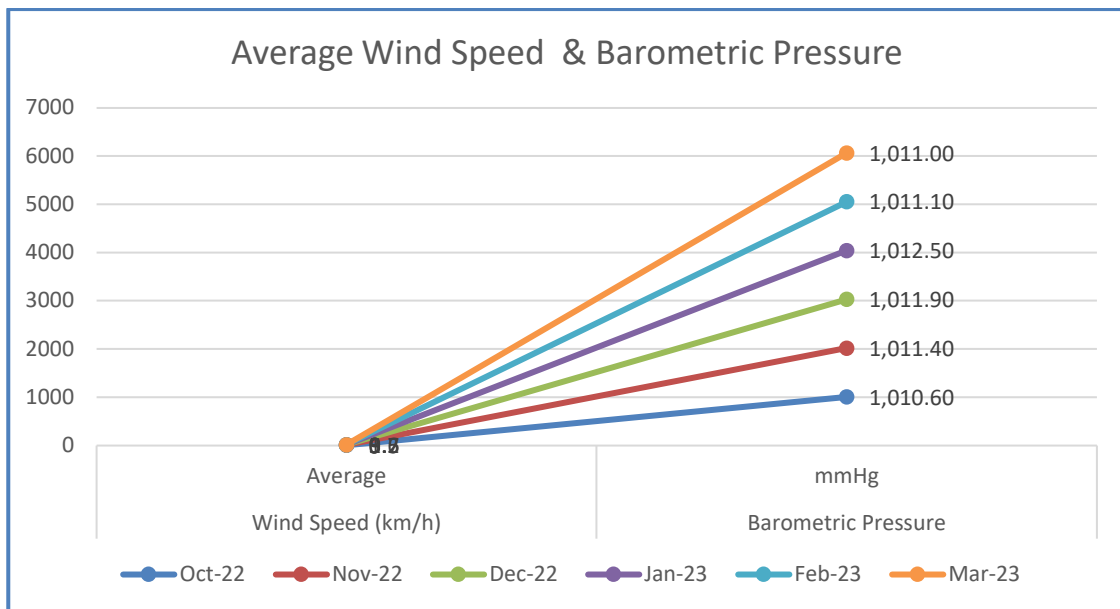


Average Relative Humidity & Solar radiation Data for the Period Oct 2022 to March-2023

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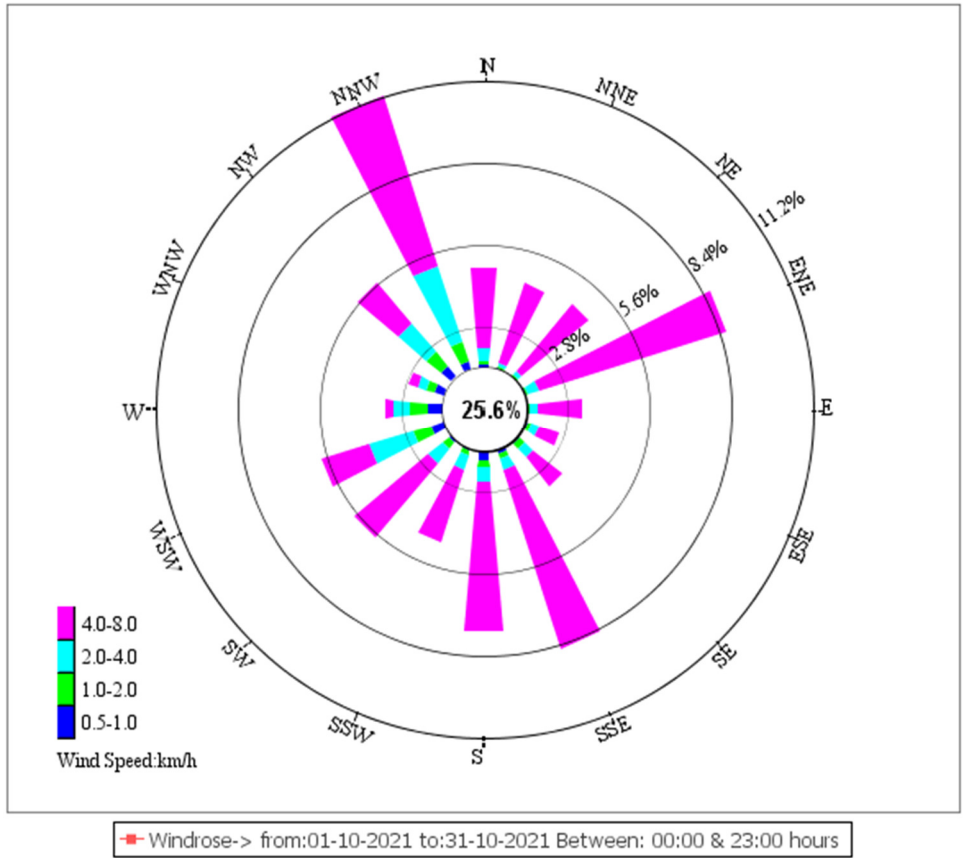


Rain Fall Data for the Period October-2022 to March-2023

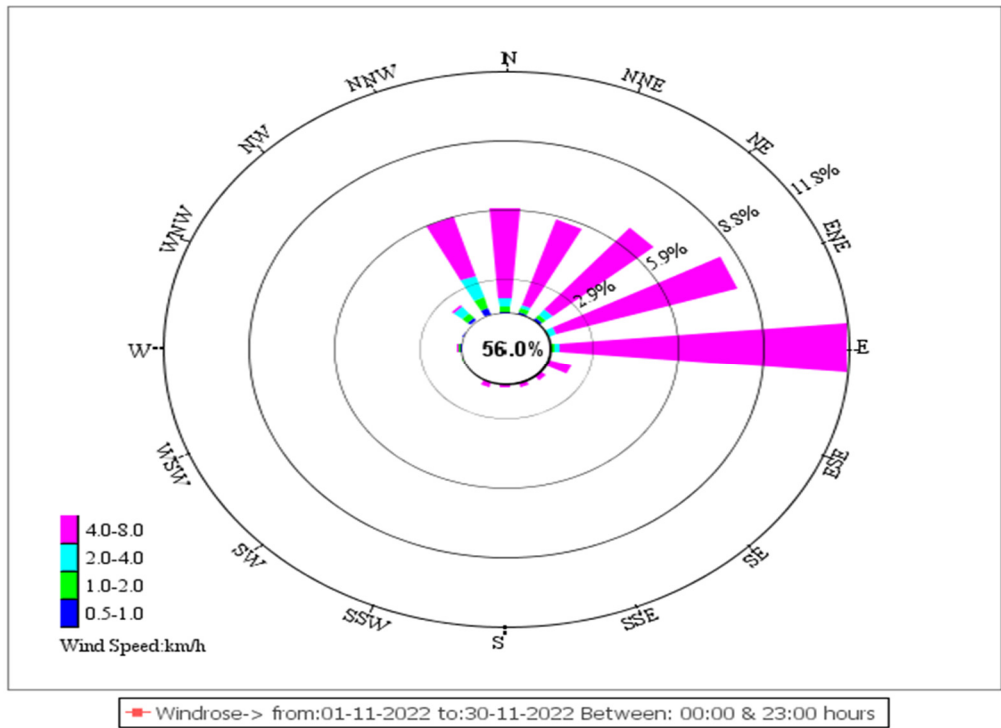


Average Wind Speed & Barometric pressure for the Period Oct-2022 to March-2023

**Compliance Status Report for "Environmental Clearance & CRZ Clearance"
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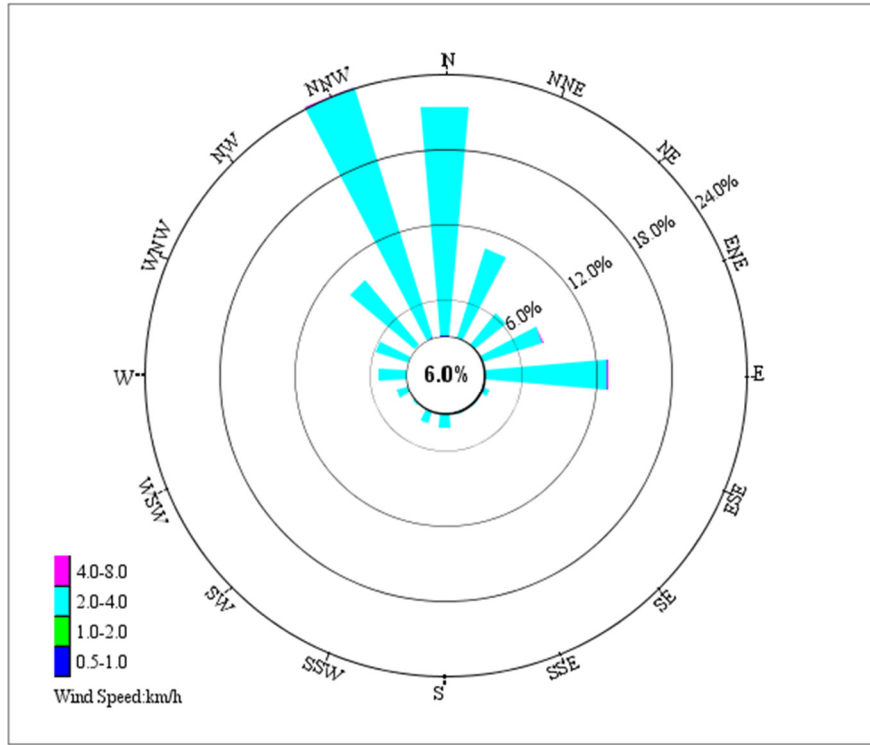


October 2022 Windrose



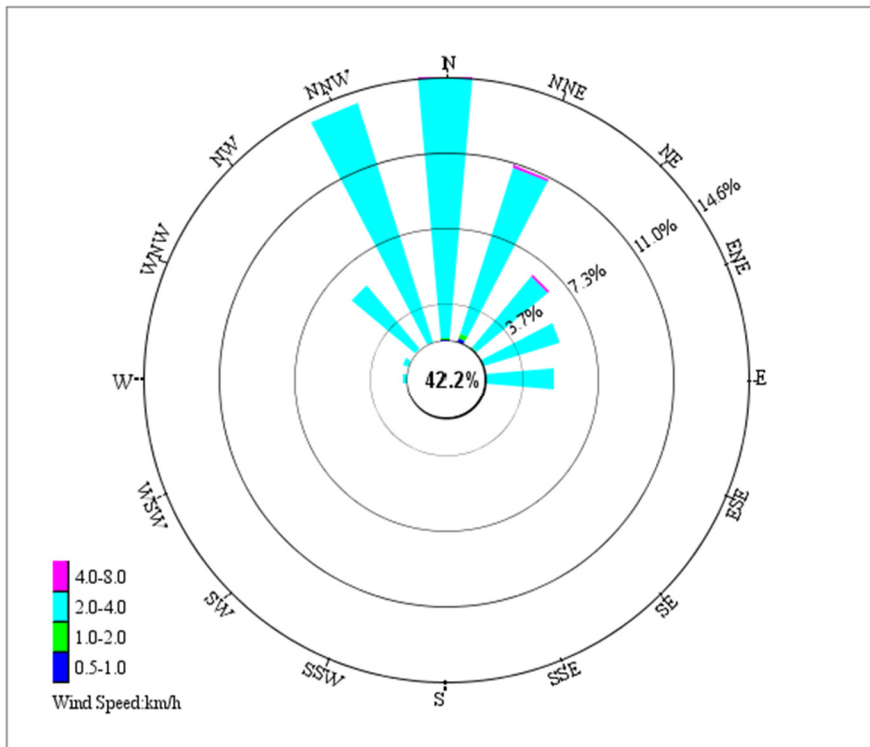
November 2022 Windrose

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



Windrose-> from:01-12-2022 to:31-12-2022 Between: 00:00 & 23:00 hours

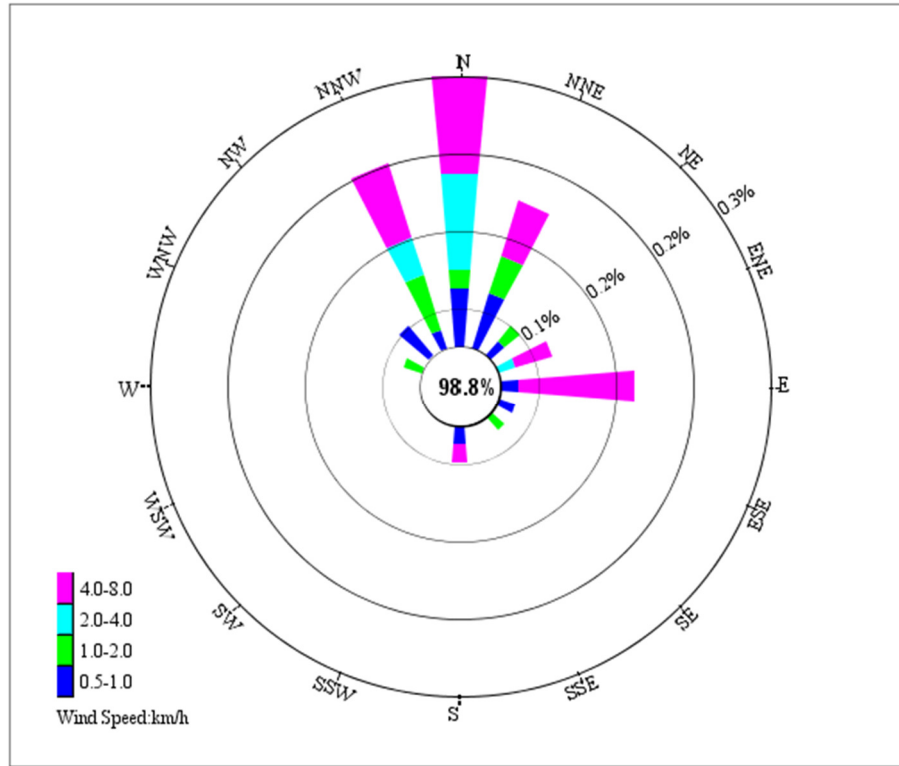
December 2022 Windrose



Windrose-> from:01-01-2023 to:27-01-2023 Between: 00:00 & 23:00 hours

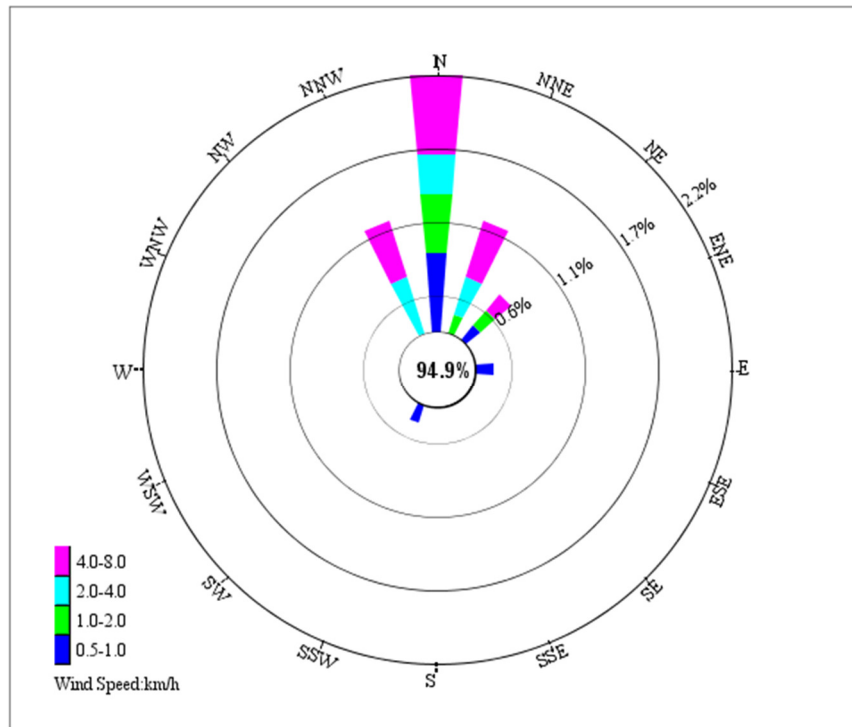
January 2023 Windrose

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



Windrose-> from:01-02-2023 to:28-02-2023 Between: 00:00 & 23:00 hours

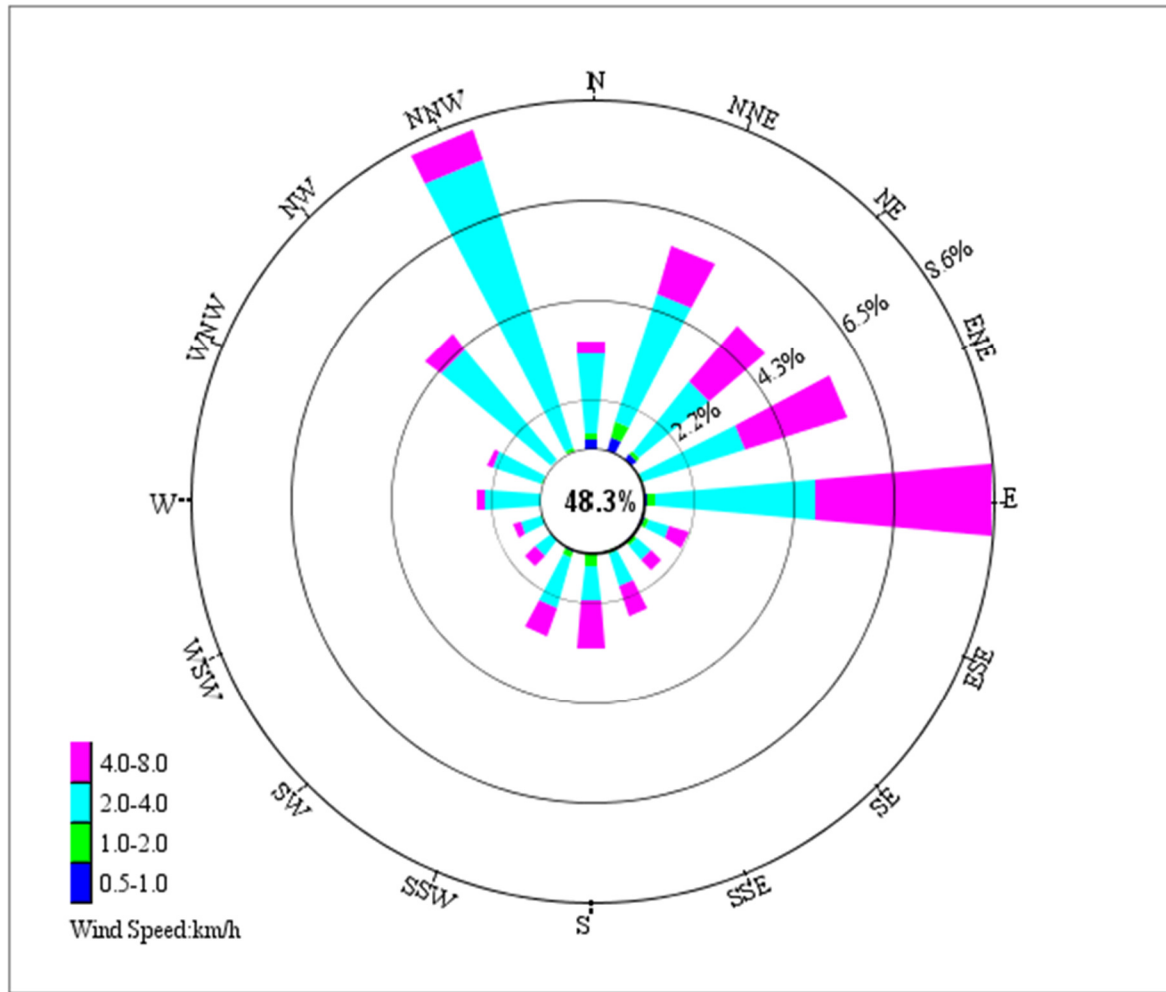
February 2023 Windrose



Windrose-> from:01-03-2023 to:07-03-2023 Between: 00:00 & 23:00 hours

March 2023 Windrose

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



- Windrose -> from:03-10-2022 to:07-03-2023 Between: 00:00 & 23:00 hours

Windrose from Oct-2022 to March 2023

**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.



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**KADAM ENVIRONMENTAL CONSULTANTS**

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(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			
Mar-23			
D.G. Set Capacity		: D.G.Set-1 (1250 KVA), D.G.Set-2 (1250 KVA)	
Stack Height		: 12M	
Stack Dia		: 300 MM	
Months	Pollutants	Locations and Concentrations (in mg/Nm ³)	
		D.G.Set-1 (1250 KVA)	D.G.Set-2 (1250 KVA)
Mar-23	PM	75	70
	SO ₂	8.94	9.72
	NO _x	6.18	6.33

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ENVIRONMENTAL MONITORING REPORT

APM Terminals Pipavav									
AMBIENT AIR QUALITY									
October 2022 to March 2023									
Months	Pollutants	Locations and Concentrations (in $\mu\text{g}/\text{m}^3$)							
		AAQ1		AAQ2		AAQ3		AAQ4	
		Min	Max	Min	Max	Min	Max	Min	Max
Oct-22	PM10	37	42	45	50	53	57	38	43
	PM2.5	16	31	16	24	24	27	21	25
	SO2	7.76	8.23	6.54	7.11	9	9.53	6.55	7.71
	NO2	10.50	11.15	7.91	8.5	11.58	12.16	10.38	11.02
	CO	864	1031	853	1001	1068	1203	1258	1361
Nov-22	PM10	35	42	42	46	51	57	42	48
	PM2.5	16	28	20	26	25	31	20	25
	SO2	7.56	8.5	6.13	7.09	8.56	9.16	6.59	7.21
	NO2	10.06	11.02	7.86	8.55	11.36	12.2	10.55	11.06
	CO	918	1032	798	924	1098	1232	1279	1452
Dec-22	PM10	30	37	39	44	53	59	46	52
	PM2.5	15	21	18	23	25	32	23	29
	SO2	7.99	9.53	6.23	7.2	8.56	9.42	6.79	8.08
	NO2	9.96	13.06	8.93	10.14	11.37	13	10.26	11.63
	CO	956	1048	799	901	1095	1280	1302	1464
Jan-23	PM10	35	41	39	44	54	59	41	48
	PM2.5	16	23	19	24	27	32	22	28
	SO2	7.56	8.71	6.47	7.37	8.96	10.1	6.92	8.52
	NO2	10.62	11.53	8.52	9.21	11.91	13.06	10.84	12.06
	CO	992	1153	808	954	1111	1271	1304	1442
Feb-23	PM10	37	42	41	46	49	56	45	51
	PM2.5	18	23	21	27	26	33	24	31
	SO2	8.75	10.22	6.2	7.23	9.44	10.63	6.94	8.04
	NO2	10.28	12.32	7.61	8.64	12.24	13.13	11.27	12.46
	CO	958	1120	748	944	1088	1286	1325	1478
Mar-23	PM10	34	37	41	44	46	59	44	59
	PM2.5	19	22	20	22	29	33	19	26
	SO2	8.03	8.89	6.3	6.86	9.05	9.81	7.04	8.26
	NO2	10.02	10.96	8.06	8.74	12.07	12.84	10.12	11.51
	CO	1058	1091	837	873	1109	1149	1026	1357

AAQ = Ambient Air Quality

AAQ1 = Near STP Env. Lab, AAQ2 = Near Admin Building, AAQ3 = Near Custom Gate, AAQ4 = HOTEL PORT VIEW

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ENVIRONMENTAL MONITORING REPORT

APM Terminals Pipavav SEWAGE WATER ANALYSIS REPORT October 2022 to March 2023

TOWNSHIP

STP Inlet	Concentration of Pollutants (STP Inlet)					
	pH	BOD	COD	TSS	Residual Chlorine	Oil & Grease
PERMISSIBLE LIMITS: mg/l			
Oct-22	7.4	64	276	108	<1	<1
Nov-22	7.34	60	268	98	<1	<1
Dec-22	7.26	56	272	86	<1	<1
Jan-23	7.33	52	266	92	<1	<1
Feb-23	7.46	48	260	87	<1	<1
Mar-23	6.75	120	398	16	<1	<1

TOWNSHIP

STP Outlet	Concentration of Pollutants (STP Outlet)					
	pH	BOD	COD	TSS	Residual Chlorine	Oil & Grease
PERMISSIBLE LIMITS: mg/l	5.5 to 9.0	10.00	50.00	50.00	..	10.00
Oct-22	7.81	18	62	23	1.87	<1
Nov-22	7.73	20	58	26	1.49	<1
Dec-22	7.84	16	52	21	1.2	<1
Jan-23	7.92	12	48	26	1.03	<1
Feb-23	7.86	16	56	32	0.95	<1
Mar-23	7.24	7	24	11	0.69	<1

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ENVIRONMENTAL MONITORING REPORT

APM Terminals Pipavav SEWAGE WATER ANALYSIS REPORT October 2022 to March 2023

JETTY

STP Inlet	Concentration of Pollutants (STP Inlet)					
	pH	BOD	COD	TSS	Residual Chlorine	Oil & Grease
PERMISSIBLE LIMITS: mg/l			
Oct-22	-	-	-	-	-	-
Nov-22	7.24	82	326	148	<1	<1
Dec-22	7.19	86	331	153	<1	<1
Jan-23	-	-	-	-	-	-
Feb-23	-	-	-	-	-	-
Mar-23	-	-	-	-	-	-

JETTY

STP Outlet	Concentration of Pollutants (STP Outlet)					
	pH	BOD	COD	TSS	Residual Chlorine	Oil & Grease
PERMISSIBLE LIMITS: mg/l	5.5 to 9.0	10.00	50.00	50.00	..	10.00
Oct-22	-	-	-	-	-	-
Nov-22	7.79	20	68	21	<1	<1
Dec-22	7.84	16	66	23	<1	<1
Jan-23	-	-	-	-	-	-
Feb-23	-	-	-	-	-	-
Mar-23	-	-	-	-	-	-

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ENVIRONMENTAL MONITORING REPORT

APM Terminals Pipavav

Drinking Water Quality

October 2022 to March 2023

Parameters	Units	IS:10500 1991:2012 (Acceptable Limits)	Oct-22	
			Monitoring Location	
			DW1	DW2
pH	..	6.5 to 8.5	8.14	8.46
Turbidity	NTU	1	<0.1	<0.1
Colour (Hazen Units)	Pt-CO	5	<1	<1
Sulphates	mg/L	200	32	36
Fluoride	mg/L	1	0.18	0.1
Nitrate	mg/L	45	0.58	0.48
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	192	162
Alkalinity	mg/L	200	100	90
Total Hardness	mg/L	200	170	140
Calcium	mg/L	75	21	20
Magnesium	mg/L	30	26	17
Residual Chlorine	mg/L	0.2	<0.1	<0.1
Chlorides	mg/L	250	32.55	34.16
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,

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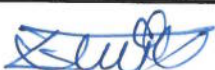
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**ENVIRONMENTAL MONITORING REPORT**

APM Terminals Pipavav				
Drinking Water Quality				
October 2022 to March 2023				
Parameters	Units	IS:10500 1991:2012) (Acceptable Limits)	Nov-22	
			Monitoring Location	
			DW1	DW2
pH	..	6.5 to 8.5	8.06	8.26
Turbidity	NTU	1	<0.1	<0.1
Colour (Hazen Units)	Pt-CO	5	<1	<1
Sulphates	mg/L	200	28	32
Fluoride	mg/L	1	0.14	0.12
Nitrate	mg/L	45	0.49	0.43
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	187	155
Alkalinity	mg/L	200	90	80
Total Hardness	mg/L	200	180	120
Calcium	mg/L	75	23	18
Magnesium	mg/L	30	32	16
Residual Chlorine	mg/L	0.2	<0.1	<0.1
Chlorides	mg/L	250	30.42	32.14
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,


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**ENVIRONMENTAL MONITORING REPORT****APM Terminals Pipavav****Drinking Water Quality**

Parameters	Units	IS:10500 1991:2012(Acceptable Limits)	Dec-22	
			Monitoring Location	
			DW1	DW2
pH	..	6.5 to 8.5	8.11	8.2
Turbidity	NTU	1	<0.1	<0.1
Colour (Hazen Units)	Pt-CO	5	<1	<1
Sulphates	mg/L	200	24	34
Fluoride	mg/L	1	0.11	0.14
Nitrate	mg/L	45	0.38	0.48
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	198	148
Alkalinity	mg/L	200	80	70
Total Hardness	mg/L	200	170	130
Calcium	mg/L	75	25	19
Magnesium	mg/L	30	29	14
Residual Chlorine	mg/L	0.2	<0.1	<0.1
Chlorides	mg/L	250	27.16	28.16
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,

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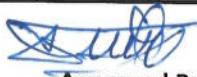
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**ENVIRONMENTAL MONITORING REPORT**

APM Terminals Pipavav				
Drinking Water Quality				
Parameters	Units	IS:10500 1991:2012(Acceptable Limits)	Jan-23	
			Monitoring Location	
			DW1	DW2
pH	..	6.5 to 8.5	7.95	7.69
Turbidity	NTU	1	<0.1	<0.1
Colour (Hazen Units)	Pt-CO	5	<1	<1
Sulphates	mg/L	200	22	31
Fluoride	mg/L	1	0.14	0.12
Nitrate	mg/L	45	0.42	0.51
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	192	139
Alkalinity	mg/L	200	90	60
Total Hardness	mg/L	200	180	120
Calcium	mg/L	75	27	22
Magnesium	mg/L	30	24	16
Residual Chlorine	mg/L	0.2	<0.1	<0.1
Chlorides	mg/L	250	29.02	26.73
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,


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**ENVIRONMENTAL MONITORING REPORT**

APM Terminals Pipavav				
Drinking Water Quality				
Parameters	Units	IS:10500 1991:2012(Acceptable Limits)	Feb-23	
			Monitoring Location	
			DW1	DW2
pH	..	6.5 to 8.5	7.83	8.06
Turbidity	NTU	1	<0.1	<0.1
Colour (Hazen Units)	Pt-CO	5	<1	<1
Sulphates	mg/L	200	26	34
Fluoride	mg/L	1	0.21	0.11
Nitrate	mg/L	45	0.51	0.55
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	196	145
Alkalinity	mg/L	200	80	70
Total Hardness	mg/L	200	160	140
Calcium	mg/L	75	23	20
Magnesium	mg/L	30	26	15
Residual Chlorine	mg/L	0.2	<0.1	<0.1
Chlorides	mg/L	250	25.16	23.94
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 -



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)	Mar-23	
			Monitoring Location	
			DW1	DW2
pH	..	6.5 to 8.5	8.25	7.46
Turbidity	NTU	1	<0.1	<0.1
Colour (Hazen Units)	Pt-CO	5	<1	<1
Sulphates	mg/L	200	3	4
Fluoride	mg/L	1	Absent	Absent
Nitrate	mg/L	45	0.66	0.51
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	143	130
Alkalinity	mg/L	200	110	80
Total Hardness	mg/L	200	120	90
Calcium	mg/L	75	20	22
Magnesium	mg/L	30	26	21
Residual Chlorine	mg/L	0.2	<0.1	<0.1
Chlorides	mg/L	250	23.04	27.65
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,


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Phone : (O) 0265 - 6131000, 6131001**ENVIRONMENTAL MONITORING REPORT**

APM Terminals Pipavav Marine Water Quality October 2022 to March 2023 Nov-22		
Parameters	Unit(SI)	Monitoring Location
		Marine Water Shiyalbet
pH		8.22
Dissolved oxygen	mg/L	2.5
BOD (3 days at 27 °C)	mg/L	20
Oil & Grease	mg/L	<1
Fecal Coliform Bacteria	MPN/100ml	N.D.(<1.8)

Approved By -

APM Terminals Pipavav Marine Water Quality October 2022 to March 2023 Dec-22			
Parameters	Unit(SI)	Monitoring Location	
		Marine Water Shiyalbet	Marine Water Bollend No.65
pH		8.13	8.36
Dissolved oxygen	mg/L	2.1	2.4
BOD (3 days at 27 °C)	mg/L	18	51
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 2022 to March 2023 Jan-23		
Parameters	Unit(SI)	Monitoring Location
		Marine Water Shiyalbet
pH		8.21
Dissolved oxygen	mg/L	1.8
BOD (3 days at 27 °C)	mg/L	16
Oil & Grease	mg/L	<1
Fecal Coliform Bacteria	MPN/100ml	N.D.(<1.8)

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Phone : (O) 0265 - 6131000, 6131001**ENVIRONMENTAL MONITORING REPORT**

APM Terminals Pipavav Marine Water Quality October 2022 to March 2023		
Feb-23		
Parameters	Unit(SI)	Monitoring Location
		Marine Water Shiyalbet
pH		8.13
Dissolved oxygen	mg/L	1.4
BOD (3 days at 27 °C)	mg/L	12
Oil & Grease	mg/L	<1
Fecal Coliform Bacteria	MPN/100ml	N.D.(<1.8)

Approved By -

APM Terminals Pipavav Marine Water Quality October 2022 to March 2023		
Mar-23		
Parameters	Unit(SI)	Monitoring Location
		Marine Water Shiyalbet
pH		7.68
Dissolved oxygen	mg/L	2.67
BOD (3 days at 27 °C)	mg/L	12
Oil & Grease	mg/L	<1
Fecal Coliform Bacteria	MPN/100ml	N.D.(<1.8)

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ENVIRONMENTAL MONITORING REPORT

APM Terminals Pipavav OCCUPATIONAL NOISE MONITORING October 2022 to March 2023		
Oct-22		
Month/Locations		
	day	night
Township Main Gate	51.7	50.7
Township Gate No. 2	56.2	53.7
Medical Centre	56.1	53.8
		Approved By-

APM Terminals Pipavav OCCUPATIONAL NOISE MONITORING October 2022 to March 2023		
Nov-22		
Month/Locations		
	day	night
Township Main Gate	56.8	50.7
Township Gate No. 2	52.2	53.7
Medical Centre	56.9	53.8
		Approved By-

APM Terminals Pipavav OCCUPATIONAL NOISE MONITORING October 2022 to March 2023		
Dec-22		
Month/Locations		
	day	night
Township Main Gate	60.2	56.1
Township Gate No. 2	58.8	54.7
Medical Centre	57.4	52.2
		 Approved By-



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ENVIRONMENTAL MONITORING REPORT

APM Terminals Pipavav OCCUPATIONAL NOISE MONITORING October 2022 to March 2023		
Jan-23		
Month/Locations		
	day	night
Township Main Gate	56.8	50.7
Township Gate No. 2	52.2	53.7
Medical Centre	56.9	53.8
Approved By-		

APM Terminals Pipavav OCCUPATIONAL NOISE MONITORING October 2022 to March 2023		
Feb-23		
Month/Locations		
	day	night
Township Main Gate	57.3	52.6
Township Gate No. 2	54.2	50.4
Medical Centre	53.8	49.7
Approved By-		

APM Terminals Pipavav OCCUPATIONAL NOISE MONITORING October 2022 to March 2023		
Mar-23		
Month/Locations		
	day	night
Township Main Gate	59.2	49.5
Township Gate No. 2	52.1	58.6
Medical Centre	51.3	48.0
Approved By-		



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ENVIRONMENTAL MONITORING REPORT

APM Terminals Pipavav WORKPLACE NOISE MONITORING October 2022 to March 2023		
Oct-22		
Month/Locations		
	day	night
Jetty Approach – 1	80.6	76.7
Jetty Approach – 2	77.3	79.4
Engineering Workshop	64.9	60.8
Fire Station	58.0	53.7
Store Area	51.6	48.8
Fertilizer Shed	80.4	82.0
Approved By -		

APM Terminals Pipavav WORKPLACE NOISE MONITORING October 2022 to March 2023		
Nov-22		
Month/Locations		
	day	night
Jetty Approach – 1	68.5	76.7
Jetty Approach – 2	53.9	79.4
Engineering Workshop	66.9	60.8
Fire Station	53.3	53.7
Store Area	50.6	48.8
Fertilizer Shed	64.9	82.0
Approved By -		

APM Terminals Pipavav WORKPLACE NOISE MONITORING October 2022 to March 2023		
Dec-22		
Month/Locations		
	day	night
Jetty Approach – 1	70.2	77.1
Jetty Approach – 2	61.1	78.6
Engineering Workshop	68.4	71.9
Fire Station	60.6	65.4
Store Area	62.3	68.2
Fertilizer Shed	67.7	79.3
 Approved By -		



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ENVIRONMENTAL MONITORING REPORT

APM Terminals Pipavav WORKPLACE NOISE MONITORING October 2022 to March 2023		
Jan-23		
Month/Locations		
	day	night
Jetty Approach - 1	68.5	76.7
Jetty Approach - 2	53.9	79.4
Engineering Workshop	66.9	60.8
Fire Station	53.3	53.7
Store Area	50.6	48.8
Fertilizer Shed	64.9	82
Approved By -		

APM Terminals Pipavav WORKPLACE NOISE MONITORING October 2022 to March 2023		
Feb-23		
Month/Locations		
	day	night
Jetty Approach - 1	67.3	66.2
Jetty Approach - 2	71.1	65.2
Engineering Workshop	68.7	60.6
Fire Station	63.8	53.7
Store Area	58.6	49.4
Fertilizer Shed	80.8	76.9
Approved By -		

APM Terminals Pipavav WORKPLACE NOISE MONITORING October 2022 to March 2023		
Mar-23		
Month/Locations		
	day	night
Jetty Approach - 1	71.9	61.8
Jetty Approach - 2	78.9	66.3
Engineering Workshop	67.1	60.3
Fire Station	51.2	54.8
Store Area	52.4	47.8
Fertilizer Shed	47.2	57.5
 Approved By -		



APM TERMINALS

Towards a Sustainable Environment



**Gujarat Pipavav Port
Limited**

**Oct 2022 to March
2023**

Environment is one of the most important pillars of our CSR activities. We have integrated Environment related activities in all our projects related to Education, Agriculture, Skill Development etc. for better impact. Some of the major activities during Oct 2022 to March 2023 are Construction of Check Dams, Roof Rainwater Harvesting Structures, Deepening, Plantation and Awareness Creation among Villagers and students for sustainable environment.

Check Dam:

Project Area: Kumbhariya

Number of check dams constructed: -2 units (Cumulatively 12 check dams are constructed till 31st March 2023)

Duration: April 2022 to March. 2023

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

Impact: Increase water level, reduce TDS, Improve soil and quality.



Roof Rainwater Harvesting Structure:

Project Area: Padar, Rampara -2

Number of RRWHS Constructed from Oct 22 till March 2023 - 13 Units (Cumulatively 99 RRWHS units are constructed in the surrounding villages till March 2023)

Impact: Padar is a part of Rampara Village and lacks drinking water facility. The roof rain structures constructed are of, ten-thousand-liter capacity each and will be used for storage of rainwater for drinking water.

Vermi Bed and Vermi Wash :-



Project area: 13 Villages
Number of Vermi Bed : 50 (Cumulatively 210 units of warmi wash and 265 units of vermi beds till 31st March 2023)

Reason behind this activity:- Turning farmers toward organic farming and reduction in input costs. 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: Improvement in soil fertility and quality crop production, reduction in the use of fertilizer and pesticide. Reduced cost of cultivation up to 15%, Improvement of soil heath Increasing and quality crop yield

Details of units supported in last six months:

Sr no	Village	No	Sr No	Village	No
1	Bharai	5	8	Khambhaliya	2
2	Chhatadiya	2	9	Nava Agariya	2
3	Devka	3	10	Ningal	7
4	Dharanones	8	11	Pipavavdham	2
5	Kadiyali	5	12	Rampara	5
6	Khakhabai	4	13	vad	2
7	Zapodar	2			2

Laser Irrigation

Project Area: -10 Villages

Number of Laser Irrigation Unit: -57 units
(cumulatively 256 units of laser irrigation units)

Reason behind this activity: - Need to create awareness about laser irrigation and its impact. 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.



Impact:

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

Details of villages:

Sr No	Village	No Unit	Lend (Ha)	Sr No	Village	No Unit	Lend (Ha)
1	Thavi (Bherai)	2	2	13	Kumbhariya	2	2
2	Barpatodi	2	2	14	Mandardi	1	1
3	Chhapari	1	1	15	Mota Agariya	1	1
4	Devka	2	2	16	Mota Ringaniyala	2	2
5	Dhareshwar	2	2	17	Moti Kherali	1	1
6	Dipadiya	1	1	18	Nani Kherali	3	3
7	Doliya	2	2	19	Rajpada	2	2
8	Khakhabai	3	3	20	Rampara	1	1
9	Khambhaliya	1	1	21	Untiya	4	4
10	Kotadi	1	1	22	vad	7	7
11	Zanjarda	2	2	23	Vadali	7	7
12	Zapodar	7	7				

Tree Plantation:

Project area: 21 Villages

Numbers of plants: - 20909 plant (Cumulatively more than 250000 plants are planted in the surrounding area)

Reasons behind this activity: -To protect environment, reduce carbon dioxide, healthy and green planet Trees and forests provide a habitat for many species of animals and plants. Tropical rainforests are among the most biodiversity habitats in the world. Trees

provide shade and shelter, timber for construction, fuel for cooking and heating, and fruit for food as well as having many other uses.

Impact: Reducing erosion and moderating the climate, reduction of carbon dioxide from the atmosphere, shelter for related biotic resources, biomass for manure and fuel.

Household level Plantation 2022-23

Sr. No.	Village	No of Beneficiaries	Male	Female	No of Plants distributed
1	Chhatadiya	20	0	20	500
2	Kadiyali	83	39	44	2150
3	Mandardi	50	0	50	2000
4	Thavi (Bherai)	30	26	4	3910
5	Vavera	30	0	30	300
6	Devpara (Bherai)	42	0	42	250
7	Divlo (Rampara-2)	20	0	20	240
8	Vad	70	70	0	2355
Total		345	135	210	11705

Farmers level Plantation 2022-23 (Horticulture plant Coconut and mango)

Sr. No.	Village	No of Beneficiaries	No of Plants distributed
1	Bhachaadar	4	300
2	Bherai and thavi	11	662
3	Charodiya	2	225
4	Devka	1	50
5	Dharanonesh	14	1220
6	Hadamatiya	1	150
7	Khakhabai	7	942
8	Moti Kherali	1	1000
9	Rampara	6	405
10	Uchaiya	18	2400
11	Vad	41	1330
12	Vadali	1	425
13	Zanjarda	1	120
Total		108	9204



Dragon Fruit Plantation

Sr. No.	Village	Farmer name	Area (ha)	Survey No.	No of Plants
1	Thavi (Bherai)	Shambhubhai Jivanbhai Bambhaniya	0.24	44	180
2	Thavi (Bherai)	Samjuben Vaghjibhai Bambhaniya	0.12	39	95
3	Thavi (Bherai)	Dulabhai Deganbhai Ram	0.12	33	95
4	Thavi (Bherai)	Dayabhai Shamjibhai Bambhaniya	0.24	41	180
5	Thavi (Bherai)	Ranchhodbhai Bhikhabhai Sankhat	0.24	62	180
6	Thavi (Bherai)	Rambhai Jinabhai Sankhat	0.24	4	180
7	Thavi (Bherai)	Jivanbhai Hakabhai Vaja	0.24	32	180
8	Thavi (Bherai)	Bhagvanbhai Nathabhai Ram	0.24	58	180
9	Thavi (Bherai)	Karshanbhai Khimjibhai Vaja	0.24	31	180
10	Thavi (Bherai)	Ukabhai Bhanabhai Sankhat	0.24	34	180
11	Thavi (Bherai)	Bhupatbhai Hakabhai Vaja	0.24	38	180

Total

2.4

1810

Impact:

Socially:

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



Financial:

- ❑ About 15-20 acres area potential for adopting Dragon fruit plantation
- ❑ Reduced labor cost up to 25%
- ❑ Reduced cost of cultivation up to 20%
- ❑ After three years, increase in net income up to 25%
- ❑ After five years, increase in net income up to 30%
- ❑ After five years, increase in net income up to 50%



Training and Capacity Building -

- Project Area: -Rajula 45 villages

- Number Participants: 4245 farmers
- Reason behind this activity: - Capacity building is the long-term, voluntary process of increasing the ability of a community 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.



Kitchen Gardening

Project Area: Villages

Why this activity: To obtain nutritional food, kitchen gardening activity was done among 300 BPL and Needy families. Objective is to support green vegetable need of the poor families.

Sr. No.	Village	No of Beneficiaries	Vegetable - Grow cover	Vegetable Kit Farmers LEVEL	Vegetable Kit H.H.LEVAL
1	Barpatodi	03	0	3	0
2	Bherai and thavi	51	0	4	47
3	Dharanones	07	0	7	0
4	Kadiyali	43	0	1	42
5	Khambhaliya	04	0	0	0

6	Kotadi	04	04	0	0
7	Kumbhariya	85	01	6	78
8	Mandardi	04	0	4	
9	Ningal	27	0	2	25
10	Pipavav Dham	10	0	10	0
11	Rampara	29	0	03	26
12	VAD	01	01	0	0
13	Zapodar	11	05	06	0
14	Devpara	39	0	0	39
15	Divlo	21	0	0	21
16	Shiyalbet	22	0	0	22



School Awareness Program

- Project area: Villages Surrounding Port.
- Number of Students Participated: Above 3000
- Reason behind this activity: - Environmental education is a lifelong process with the objective of imparting formal and non-formal education for 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: Increase in awareness about the Environment and personal responsibility for a sustainable environment.