

Ref No. APMT/ENV/MoEF&CC/EC&CRZ/24-25/18

Dated:28-May-2024

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.
5. EAC Proposal No. IA/GJ/INFRA1/427769/2023, EC &CRZ clearance validity extended up to 4th June 2024.

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-2023- to March-2024 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

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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 (Oct-2023 to March-2024)

5/20/2024

ENVIRONMENT & CRZ CLEARANCE COMPLIANCE REPORT

OCTOBER-2023 TO MARCH-2024



**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 2023- MARCH 2024

**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 31-MAR -2024
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> <p>Maintenance of this road is being taken by APMT Pipavav on regular basis.</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>Due to low volume in coal operation, it has been decided by Management of Port Pipavav to stop discharge operation of coal at jetty till further notice since October 2023.</p> <p>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

**Compliance Status Report for “Environmental Clearance & CRZ Clearance”
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		<p>blanket the area with very fine water spray.</p> <ul style="list-style-type: none"> ➤ 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. ➤ 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.
<p>3.</p>	<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>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>

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	<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>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>
<p>4</p>	<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>
<p>5.</p>	<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> <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>
<p>6.</p>	<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>
<p>7.</p>	<p>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>	<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> <p>EC to CTE application vide no.312763 dated: 14 May2024, made to GPCB based on TOR</p>

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		received by MOEF&CC vide no. via Identification No. TO23A3501GJ5814890N with file No. 11-91/2009-IA.III (Pt.) dated: 04.09.2023.
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>
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 is being 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, 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</p>

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		<p>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 working on the recommendations given in the report.</p> <p>Vendor appointed for the restoration of the Mangroves and the activities started at the site as per GIDE-Kutch recommendations.</p> <p>Cutting of degraded Mangroves and water flow arrangements made, replantation of Mangroves will be done after monsoon.</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>

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		<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>
12.	Green belt of not less than 33 % shall be developed and maintained all along the boundary.	<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> <p>Total area of green belt after Cyclone is 200 Acre with total survival plant of 2,01,546.</p> <p>Now, we have taken activities for mass planation within available space in port area along with replantation.</p>
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 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.</p> <p>Due to low volume in coal operation, it has been decided by Management of Port</p>

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		Pipavav to stop discharge operation of coal at jetty till further notice.
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 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>

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		<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>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. Woodchippers will use in green belt development to retain moisture in the soil, prevents soil erosion and will maintain the soil nutrients.</p>

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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 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	Noted & adhered.

**Compliance Status Report for “Environmental Clearance & CRZ Clearance”
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	in respect of mitigation measures and other environmental protection activities.	
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 PARIVESH 2.0 portal, along with Environmental Parameters Monitoring reports & CSR details as per timeline stipulated by MoEF&CC.</p> <p>Last EC compliance report submitted through PARIVESH on 01-Dec-2023 vide compliance no. EC/COMPLIANCE/28409263/2023 and submitted in hard copies to the regional office of GPCB.</p>
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.	<p>Complied.</p> <p>Existing project is self-financed.</p>

**Compliance Status Report for “Environmental Clearance & CRZ Clearance”
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		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 (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.	Noted.
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	Complied. Advertisement for EC approval published in two local News Papers, <u>AVADH TIMES-AMRELI</u> (in Gujarati) and <u>FINANACIAL</u>

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	<p>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>	<p><u>EXPRESS</u> (in English, all edition) on 11 April-2015.</p>
<p>13.</p>	<p>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>	<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> <p>Again EC &CRZ clearance validity extended by EAC of MoEF&CC up to 04th June 2024 as per MoEF&CC guidelines of EC Validity extension.</p> <p>Gujarat Pipavav Port Limited (GPPL) has obtained the ToR from MoEF&CC, New Delhi, via Identification No. TO23A3501GJ5814890N with file No. 11-91/2009-IA.III (Pt.) dt: 04.09.2023, for the preparation of the Environmental Impact Assessment report and Environmental Management Plan (EMP).</p> <p>Environmental Impact Assessment and Environmental Management Plan study has been taken up by M/s. Indomer Coastal Hydraulics (P) Ltd. Chennai, Biodiversity Study Report by MS University Baroda, Dredging, Dumping, and Marine Biodiversity Report by the National Institute of Oceanography-Goa, and Coastal Regulation Zone mapping done by the Institute of Remote Sensing (IRS) Chennai.</p>

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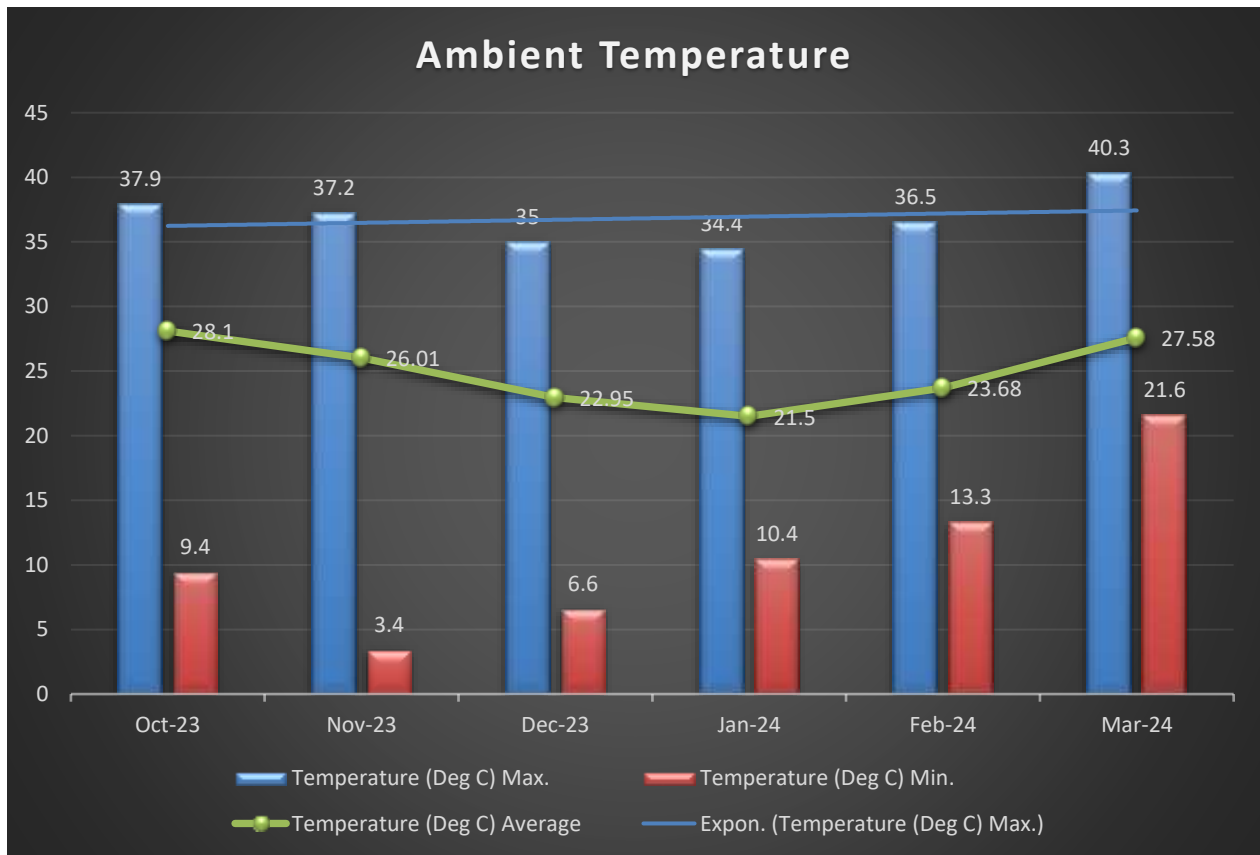
14.	A copy of the clearance letter shall be sent by the proponent to be concerned Panchayat, Zilla Parishad/municipal Corporation, urban Local Body and the Local NGO, if any, from whom suggestions/representations, if any, were received while processing the proposal. The clearance letter shall also be 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 24-May-2023 to regional office of MoEF&CC, CPCB & GPCB and the same was uploaded on Parivesh Portal.</p>
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/23-24/20 dated; 25-Aug-2023.</p> <p>https://www.apmterminals.com/en/pipavav/CSR/environment</p>

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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 **October- 2023 to March-2024** are as:

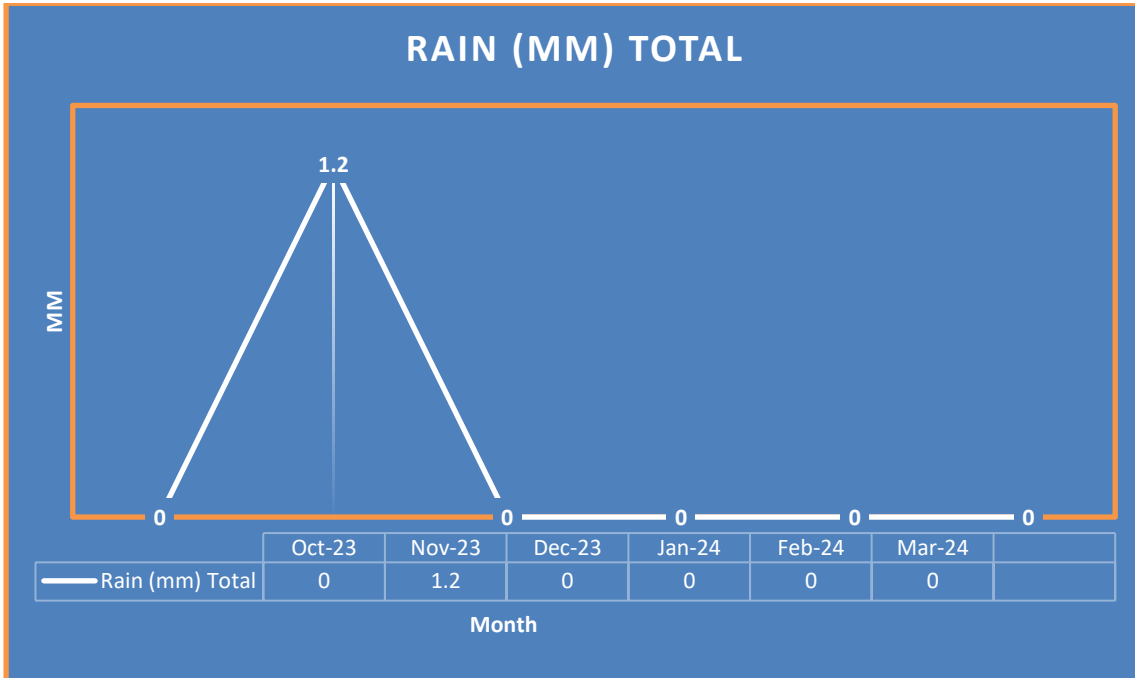
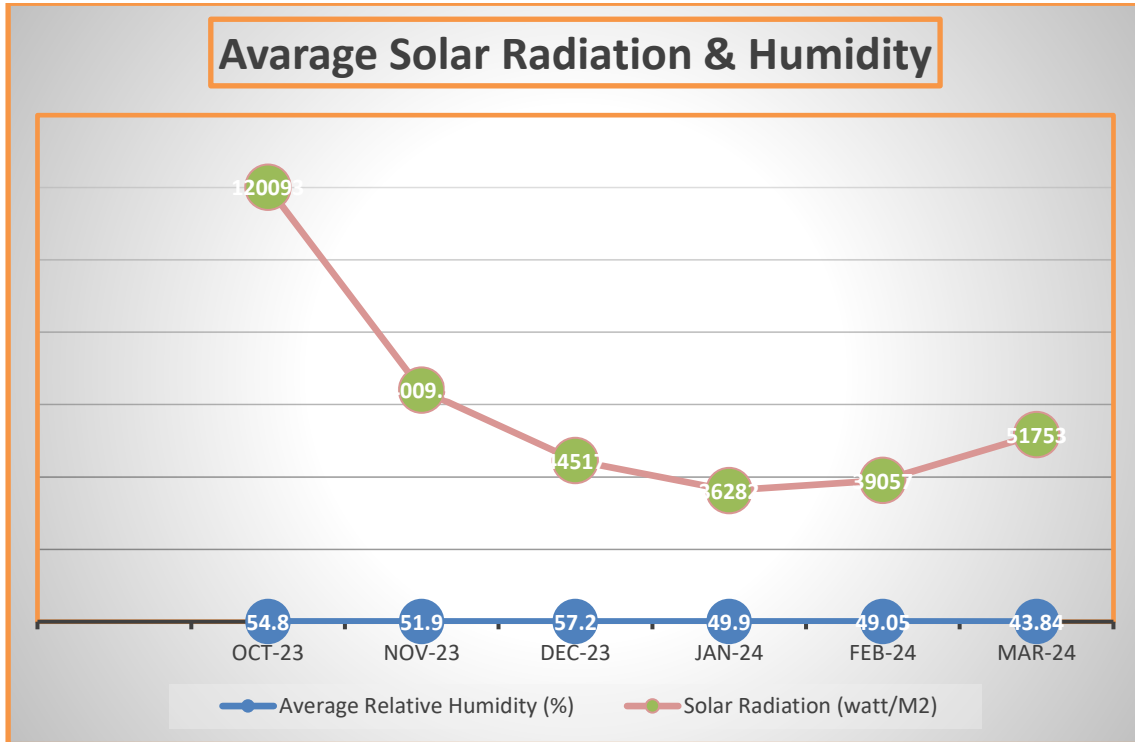
MET Data Six Month (Oct-2023 to March-2024)										
Month	Temperature (Deg C)			Relative Humidity (%)			Wind Speed (km/h)	Barometric Pressure	Rain (mm) Total	Solar Radiation (watt/M2)
	Max.	Min.	Average	Max.	Min.	Average	Average	mmHg		
Oct-23	37.9	9.4	28.10	78.6	20.7	54.8	9.49	1008.45	0.0	120093
Nov-23	37.2	3.4	26.01	86.9	17.2	51.9	8.45	1008.77	1.2	64009.58
Dec-23	35.0	6.6	22.95	84.3	21.3	57.2	9.28	1010.9	0	44517
Jan-24	34.4	10.4	21.50	81.2	17.3	49.9	9.70	1010.6	0	36282
Feb-24	36.5	13.3	23.68	85.5	16.8	49.05	10.99	1010.2	0	39057
Mar-24	40.3	21.6	27.58	81.0	17.0	43.84	11.98	1009.4	0	51753



Ambient Temperature for the Period October 2023 to March-2024

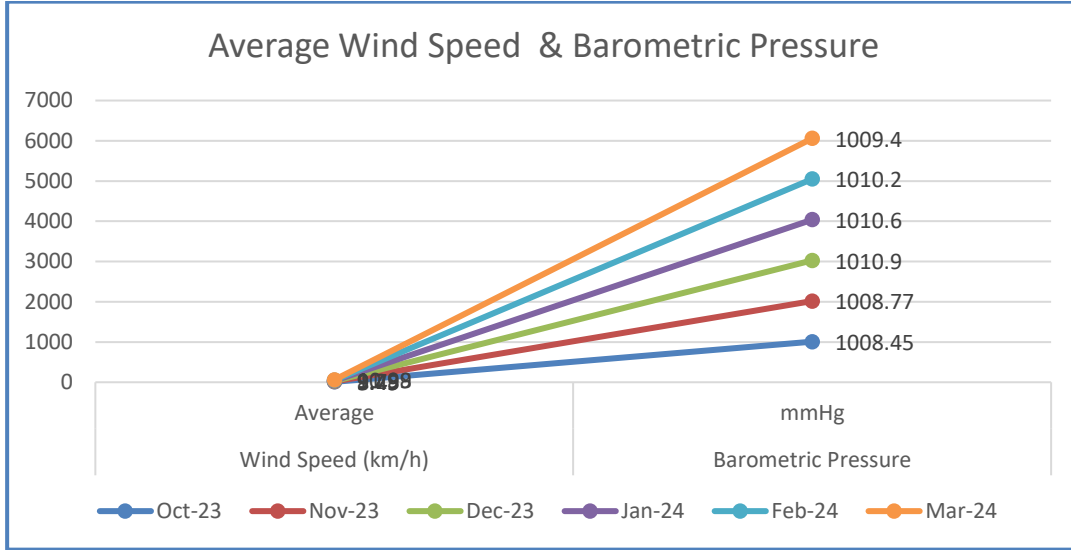
**Compliance Status Report for “Environmental Clearance & CRZ Clearance”
Accorded by the MoEF&CC for Gujarat Pipavav Port Limited**

Average Relative Humidity & Solar radiation for the Period Oct- 2023 to March-2024

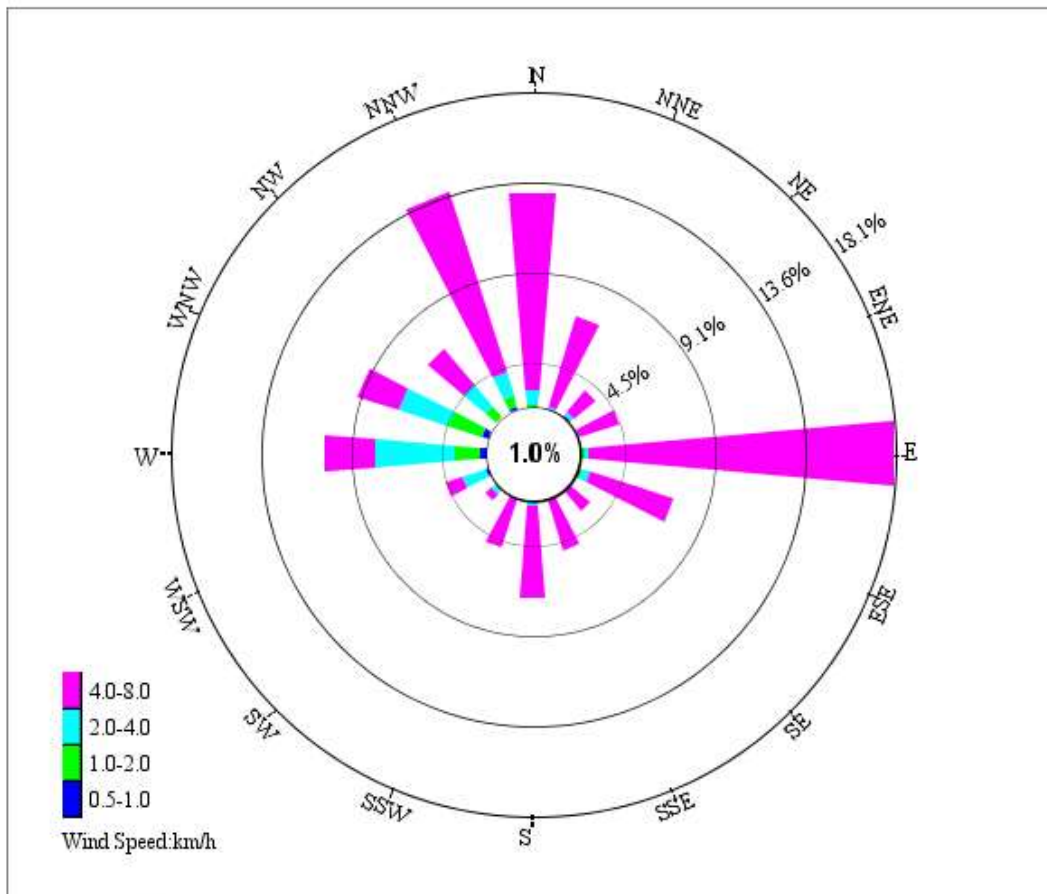


Rain Fall Data for the Period October-2023- to March-2024

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



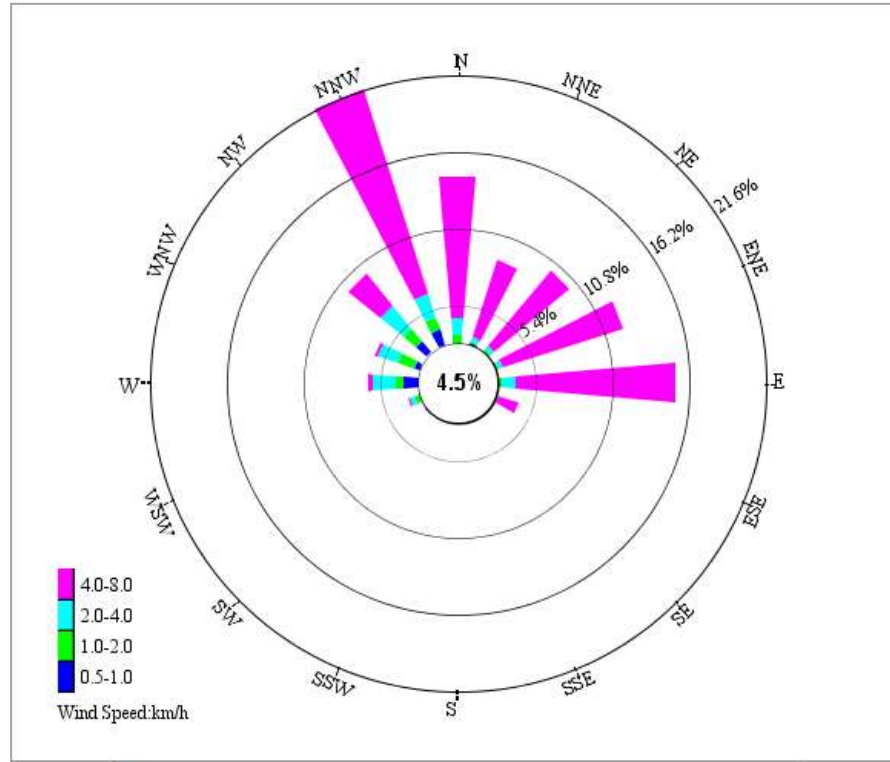
Average Wind Speed & Barometric pressure for the Period Oct-2023 to March-2024



Windrose -> from:01-10-2023 to:31-10-2023 Between: 00:00 & 23:00 hours

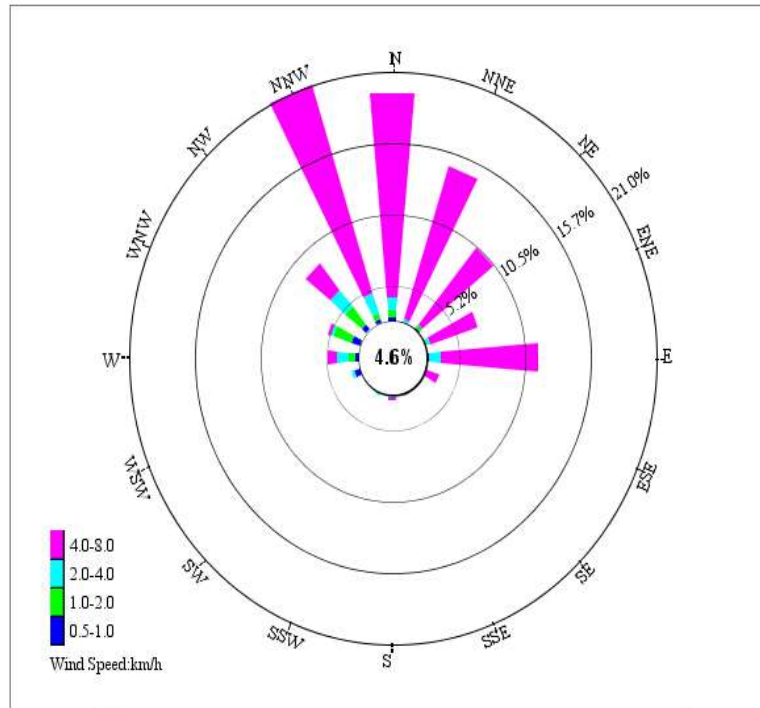
October-2023 Windrose

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



Windrose -> from:01-11-2023 to:26-11-2023 Between: 00:00 & 23:00 hours

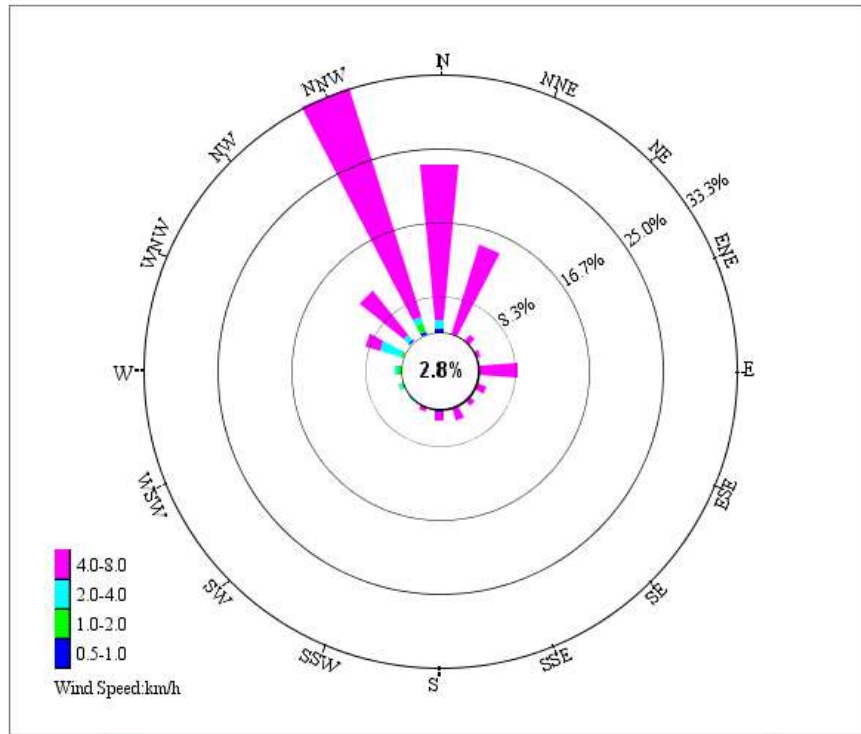
Nov-2023 Windrose



Windrose -> from:02-12-2023 to:31-12-2023 Between: 00:00 & 23:00 hours

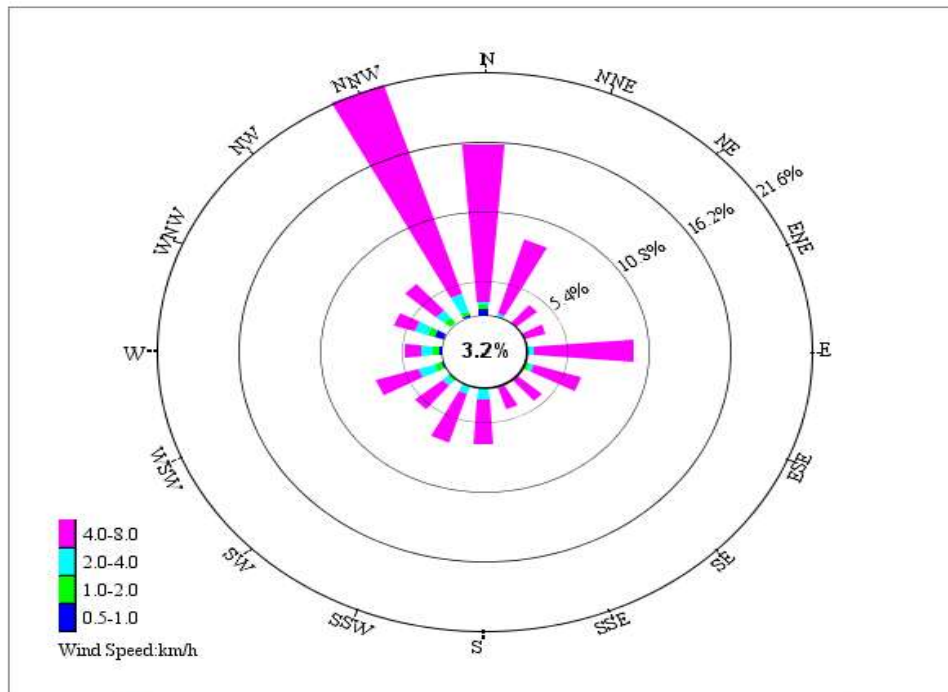
Dec-2023 Windrose

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



Windrose-> from:01-01-2024 to:21-01-2024 Between: 00:00 & 23:00 hours

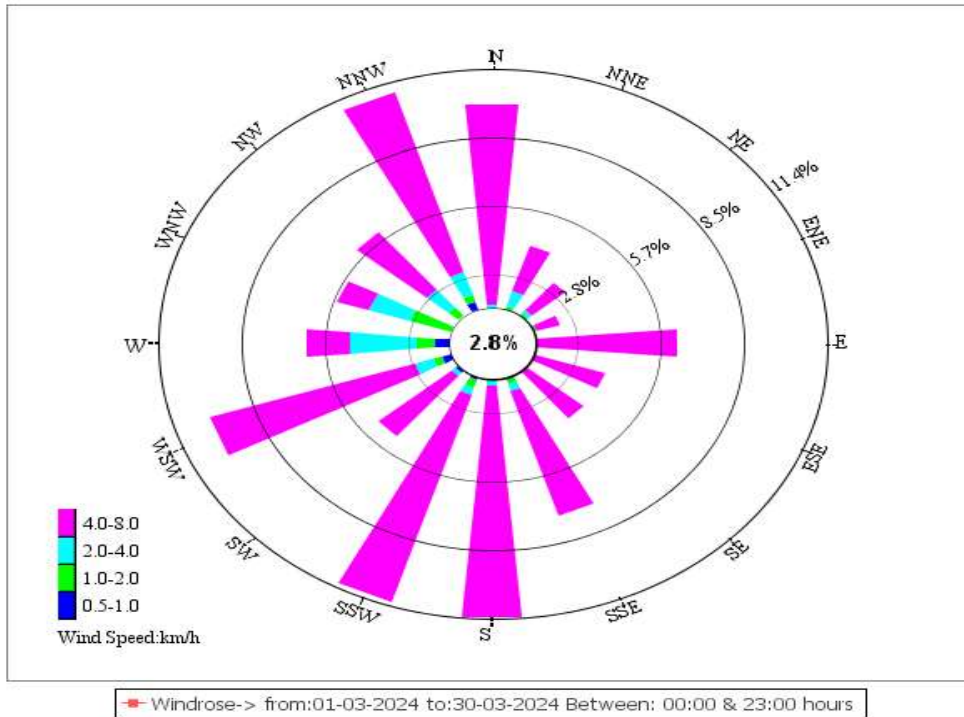
Jan- 2024 Windrose



Windrose-> from:04-02-2024 to:28-02-2024 Between: 00:00 & 23:00 hours

Feb- 2024 Windrose

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



March- 2024 Windrose

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.

Compliance Status Report for “Environmental Clearance & CRZ Clearance”

Accorded by the MoEF&CC for Gujarat Pipavav Port Limited

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.

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.



APM TERMINALS

Towards a Sustainable Environment



**Gujarat
Pipavav Port
Limited**

**October -2023 to
March 2024**

Tree Plantation

Project area: 3 Villages

Number of plants: - 10274

Reasons behind this activity: To protect environment, reduce carbon dioxide for healthy and green surrounding. 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.

Village wise details:

Sr. No.	Village	No of Beneficiaries	Male	Female	No of Plants distributed
1	Uchaiya	41	3	2	2075
2	Vad	157	135	22	7410
3	Bhachadar	2	2	0	789
					10274



Laser Irrigation and drip irrigation

Project Area: - 10 Villages

Number of Laser Irrigation Unit: -16 (covering 16 ha of agricultural land)

Reason behind this activity: - Optimum use of water for irrigation leading to water conservation and better yield. Laser Irrigation is contemporary drip irrigation system for small-plot farmers, it is 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, some of the outcomes are as follows:

1. Uniform irrigation in 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%

Village Wise Details:

Sr No	Village	No Unit	Land (Ha)
1	Barpatodi	2	2
2	Dhuliya Agariya	2	2
3	Jolapar	2	2
4	Katar	1	1
5	Kotadi	3	3
6	Ningala	1	1
7	Rampara	1	1
8	Vadli	2	2
9	Vavdi	1	1
10	Vavera	1	1

Varmi Bed

Project area: 13 Villages -Number of Varmibed: 50

Reason behind this activity: - 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 therefore more beneficial to plant mediums. It Improves soil fertility and quality and reduction in cost of cultivation up to 15%.

Village wise details:

Sr no	Village	No of Unit	Land Covered (Ha)
1	Bhachadar	1	1
2	Bherai	9	9
3	Devka	4	4
4	Dharanonesh	10	10
5	Ganjavadar	2	2
6	Kadiyali	3	3
7	Khambhaliya	4	4
8	Ningala	3	3
9	Pipavav	1	1
10	Rampara	4	4
11	Thavi	1	1
12	Uchaiya	1	1
13	Vad	7	7
		50	50



Desilting (deepening) of Pond

Project Area: Bhachadhar

Reason behind this activity: Deepening of ponds increases water holding capacity and ground level recharge capacity. Deepening work at Bhachadhar was undertaken to benefit 193 farmers and villagers, leading to increase in water level, reduction in TDS, improvement of soil quality etc.



New Check Dam Construction and Renovation

Project area: Bherai, Kumbhariya, Kotadi, Khakbhai and Nava Agariya.

Number of new Check Dam Constructed: 6

Check Dam Renovation: 2

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

Village wise Details:

Sr No.	Village	No farmers	Land Covered (Hec)
1	Kotadi (One check dam)	29	102
2	Bherai (three check dams)	51	243
5	Kumbhariya (two check dams)	52	79

Check Dam Renovation

Sr No.	Village	No farmers	Land Covered (Ha.)
1	Khakhbahi	18	97
2	Navaagariya	19	94

Well Recharge

Project area: 5 Villages

Number of well recharge: 22

Reason behind this activity: - Well recharge through rainwater harvesting, helps in increasing water level leading to reduction in TDS and availability of water for irrigation and day to day usage.

Village wise details

Sr No.	Village	No of farmers	Land Covered (Ha)
1	Bherai	6	14
2	Pipavav Dham	3	9
3	Thavi	6	11
4	Uchchaiya	6	17
5	Rampara	1	2

Impact: Important process for sustainable groundwater management and Groundwater recharge increase.





Training and Capacity Building on Environment:

Project Area: -Rajula 45 villages

Number of sessions : 155/ 9615 farmers trained

Reason behind this activity: Capacity building is the long-term, voluntary process of increasing the ability of a community and individual 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.

School based program

- Project area: 7 Villages
- Number of School Program:12 –(1080)
- 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.





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ENVIRONMENTAL MONITORING REPORT

**APM Terminals Pipavav
STACK AIR QUALITY DATA
October 2023 to March 2024**

D.G. Set Capacity : D.G.Set-1 (1250 KVA), 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-1 (1250 KVA)	D.G.Set-2 (1250 KVA)	D.G.Set-3 (1250 KVA)
Oct-23	PM	42	75	53
	SO ₂	8.41	8.99	8.76
	NO _x	6.52	7.13	6.84

Approved By -



ENVIRONMENTAL MONITORING REPORT

**APM Terminals Pipavav
AMBIENT AIR QUALITY
October 2023 to March 2024**

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-23	PM10	35	37	43	45	53	57	44	46
	PM2.5	19	22	17	23	28	33	19	24
	SO2	7.21	8.89	5.98	7.14	7.96	9.99	6.95	7.38
	NO2	10.42	13.62	8.74	10.32	12.38	13.55	10.38	11.35
	CO	1019	1089	817	873	1126	1176	1316	1358
Nov-23	PM10	37	33	45	41	57	52	48	44
	PM2.5	22	19	23	17	33	27	26	21
	SO2	8.82	7.84	7.26	5.98	9.95	8.29	7.93	6.49
	NO2	11.57	10.21	11.05	8.14	13.74	12.25	12.46	10.55
	CO	1089	1021	873	817	1192	1123	1385	1329
Dec-23	PM10	37	32	46	43	56	51	47	43
	PM2.5	22	19	23	21	32	29	27	20
	SO2	8.75	7.32	7.43	5.42	9.41	8.23	7.95	6.37
	NO2	13.52	10.79	9.92	8.9	13.52	11.62	11.84	10.15
	CO	701	516	673	558	712	549	679	519
Jan-24	PM10	46	32	46	33	48	42	59	45
	PM2.5	23	12	23	11	27	17	33	22
	SO2	9.06	5.72	9.01	5.62	8.46	6.17	9.99	6.91
	NO2	12.38	8.67	13.62	8.05	12.03	8.08	13.6	7.41
	CO	1137	873	894	795	1177	776	1099	816
Feb-24	PM10	57	35	46	43	56	51	47	43
	PM2.5	37	16	23	20	32	29	27	13
	SO2	8.92	7.43	10.23	8.21	9.43	8.19	7.89	6.29
	NO2	13.27	10.81	10.25	8.92	13.74	11.62	11.74	10.1
	CO	644	485	641	531	644	498	651	491
Mar-24	PM10	38	32	46	43	56	52	47	43
	PM2.5	22	19	23	20	33	29	26	21
	SO2	9.53	7.02	7.22	5.29	9.76	8.35	7.63	6.32
	NO2	13.59	10.96	10.24	8.96	13.8	11.84	11.63	10.64
	CO	673	301	688	571	667	490	639	544

AAQ = Ambient Air Quality

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

Approved By



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ENVIRONMENTAL MONITORING REPORT

APM Terminals Pipavav
SEWAGE WATER ANALYSIS REPORT
October 2023 to March 2024

TOWNSHIP

STP Inlet	Concentration of Pollutants (STP Inlet)					
	pH	BOD	COD	TSS	Residual Chlorine	Oil & Grease
PERMISSIBLE LIMITS: mg/l			
Oct-23	7.23	80	265	19	<0.1	<1
Nov-23	6.95	66	221	26	<0.1	<1
Dec-23	6.89	61	204	28	<0.1	<1
Jan-24	7.06	51	169	21	<0.1	<1
Feb-24	6.61	45	151	29	<0.1	<1
Mar-24	6.98	57	189	23	<0.1	<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-23	6.95	14	45	12	0.69	<1
Nov-23	7.09	10	33	11	0.68	<1
Dec-23	7.06	6	26	7	0.58	<1
Jan-24	7.34	10	28	11	0.89	<1
Feb-24	6.57	<2	<5	11	0.62	<1
Mar-24	6.84	5	16	10	0.61	<1

Approved By-



ENVIRONMENTAL MONITORING REPORT

APM Terminals Pipavav
SEWAGE WATER ANALYSIS REPORT
October 2023 to March 2024

JETTY

STP Inlet	Concentration of Pollutants (STP Inlet)					
	pH	BOD	COD	TSS	Residual Chlorine	Oil & Grease
PERMISSIBLE LIMITS: mg/l			
Oct-23	-	-	-	-	-	-
Nov-23	-	-	-	-	-	-
Dec-23	-	-	-	-	-	-
Jan-24	-	-	-	-	-	-
Feb-24	-	-	-	-	-	-
Mar-24	-	-	-	-	-	-

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-23	-	-	-	-	-	-
Nov-23	-	-	-	-	-	-
Dec-23	-	-	-	-	-	-
Jan-24	-	-	-	-	-	-
Feb-24	-	-	-	-	-	-
Mar-24	-	-	-	-	-	-

Approved By-



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ENVIRONMENTAL MONITORING REPORT

APM Terminals Pipavav
Drinking Water Quality
October 2023 to March 2024

Parameters	Units	IS:10500 1991:2012(Acceptable Limits)	Nov-23		
			Monitoring Location		
			DW1	DW2	DW3
pH	..	6.5 to 8.5	8.27	7.16	7.32
Turbidity	NTU	1	<0.1	<0.1	<0.1
Colour (Hazen Units)	Pt-CO	5	<1	<1	<1
Sulphates	mg/L	200	46	32	27
Fluoride	mg/L	1	<0.05	<0.05	<0.05
Nitrate	mg/L	45	0.42	0.31	0.19
Phenolic Compound	mg/L	0.001	<0.001	<0.001	<0.001
Aluminium	mg/L	0.03	<0.03	<0.03	<0.03
Hexavalent Chromium	mg/L	2	<0.02	<0.02	<0.02
Arsenic	mg/L	0.01	<0.01	<0.01	<0.01
Boron	mg/L	0.5	<0.05	<0.05	<0.05
Cyanide	mg/L	0.05	<0.05	<0.05	<0.05
Total Dissolved Solids	mg/L	500	294	213	153
Alkalinity	mg/L	200	80	90	70
Total Hardness	mg/L	200	120	190	120
Calcium	mg/L	75	55	37	22
Magnesium	mg/L	30	22	24	16
Residual Chlorine	mg/L	0.2	<0.1	<0.1	0.42
Chlorides	mg/L	250	56	42	31
Cadmium	mg/L	0.003	<0.003	<0.003	<0.003
Copper	mg/L	0.05	<0.03	<0.03	<0.03
Lead	mg/L	0.01	<0.01	<0.01	<0.01
Iron	mg/L	0.3	<0.05	<0.05	<0.05
Zinc	mg/L	5	<0.03	<0.03	<0.03
Mercury	mg/L	0.001	<0.001	<0.001	<0.001
Manganese	mg/L	0.1	<0.02	<0.02	<0.02
Odour	..	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)
E. Coli	/100 ml		Absent	Absent	Absent

DW= Drinking Water DW1= Narmada Reservoir Inlet, DW2= Narmada Reservoir Outlet, DW3= Township Canteen

Approved By



ENVIRONMENTAL MONITORING REPORT

**APM Terminals Pipavav
Drinking Water Quality
October 2023 to March 2024**

Parameters	Units	IS:10500 1991:2012) (Acceptable Limits)	Dec-23	
			Monitoring Location	
			DW1	DW2
pH	..	6.5 to 8.5	7.58	7.09
Turbidity	NTU	1	<0.1	<0.1
Colour (Hazen Units)	Pt-CO	5	<1	<1
Sulphates	mg/L	200	52	27
Fluoride	mg/L	1	<0.05	<0.05
Nitrate	mg/L	45	0.39	0.25
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	228	218
Alkalinity	mg/L	200	150	60
Total Hardness	mg/L	200	140	170
Calcium	mg/L	75	20	44
Magnesium	mg/L	30	22	15
Residual Chlorine	mg/L	0.2	<0.1	<0.1
Chlorides	mg/L	250	45	36
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	>1600	>1600
E. Coli	/100 ml	100 ml Sample	Present	Present

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

Approved By-



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ENVIRONMENTAL MONITORING REPORT

APM Terminals Pipavav

Drinking Water Quality

October 2023 to March 2024

Parameters	Units	IS:10500 1991:2012(Acceptable Limits)	Jan-24	
			Monitoring Location	
			DW1	DW2
pH	..	6.5 to 8.5	7.35	7.54
Turbidity	NTU	1	<0.1	<0.1
Colour (Hazen Units)	Pt-CO	5	<1	<1
Sulphates	mg/L	200	5	3
Fluoride	mg/L	1	<0.05	<0.05
Nitrate	mg/L	45	0.55	0.42
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	237	215
Alkalinity	mg/L	200	149	135
Total Hardness	mg/L	200	165	105
Calcium	mg/L	75	20	22
Magnesium	mg/L	30	28	12
Residual Chlorine	mg/L	0.2	<0.1	<0.1
Chlorides	mg/L	250	21	19
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



ENVIRONMENTAL MONITORING REPORT

**APM Terminals Pipavav
Drinking Water Quality
October 2023 to March 2024**

Parameters	Units	IS:10500 1991:2012(Acceptable Limits)	Feb-24			
			Monitoring Location			
			DW1	DW2	DW3	DW4
pH	..	6.5 to 8.5	7.32	7.38	7.46	7.41
Turbidity	NTU	1	<0.1	<0.1	<0.1	<0.1
Colour (Hazen Units)	Pt-CO	5	<1	<1	<1	<1
Sulphates	mg/L	200	74	40	34	41
Fluoride	mg/L	1	0.32	<0.05	<0.05	<0.05
Nitrate	mg/L	45	4.31	<0.1	<0.1	<0.1
Phenolic Compound	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
Aluminium	mg/L	0.03	<0.01	<0.01	<0.01	<0.01
Hexavalent Chromium	mg/L	2	<0.02	<0.02	<0.02	<0.02
Arsenic	mg/L	0.01	<0.001	<0.001	<0.001	<0.001
Boron	mg/L	0.5	<0.01	<0.01	<0.01	<0.01
Cyanide	mg/L	0.05	<0.05	<0.05	<0.05	<0.05
Total Dissolved Solids	mg/L	500	186	142	106	119
Alkalinity	mg/L	200	95	90	70	70
Total Hardness	mg/L	200	110	80	80	90
Calcium	mg/L	75	36	38	34	32
Magnesium	mg/L	30	29	16	18	17
Residual Chlorine	mg/L	0.2	<0.1	<0.1	<0.1	<0.1
Chlorides	mg/L	250	22	23	28	31
Cadmium	mg/L	0.003	<0.001	<0.001	<0.001	<0.001
Copper	mg/L	0.05	<0.001	<0.001	<0.001	<0.001
Lead	mg/L	0.01	<0.001	<0.001	<0.001	<0.001
Iron	mg/L	0.3	<0.006	<0.006	<0.006	<0.006
Zinc	mg/L	5	<0.003	<0.003	<0.003	<0.003
Mercury	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
Manganese	mg/L	0.1	<0.001	<0.001	<0.001	<0.001
Odour	..	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)
E. Coli	/100 ml		Absent	Absent	Absent	Absent

DW= Drinking Water DW1= Narmada Reservoir Inlet, DW2= Narmada Reservoir Outlet, DW3= Custom Colony Room No.S-2, DW4= Custom Colony Room No.S-3

Approved By 



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

**APM Terminals Pipavav
Drinking Water Quality
October 2023 to March 2024**

Parameters	Units	IS:10500 1991:2012(Acceptable Limits)	Mar-24	
			Monitoring Location	
			DW1	DW2
pH	..	6.5 to 8.5	8.12	7.6
Turbidity	NTU	1	<0.1	<0.1
Colour (Hazen Units)	Pt-CO	5	<1	<1
Sulphates	mg/L	200	45	29
Fluoride	mg/L	1	<0.05	<0.05
Nitrate	mg/L	45	0.39	0.21
Phenolic Compound	mg/L	0.001	<0.001	<0.001
Aluminium	mg/L	0.03	<0.01	<0.01
Hexavalent Chromium	mg/L	2	<0.02	<0.02
Arsenic	mg/L	0.01	<0.001	<0.001
Boron	mg/L	0.5	<0.01	<0.01
Cyanide	mg/L	0.05	<0.05	<0.05
Total Dissolved Solids	mg/L	500	218	192
Alkalinity	mg/L	200	90	70
Total Hardness	mg/L	200	190	110
Calcium	mg/L	75	37	22
Magnesium	mg/L	30	24	13
Residual Chlorine	mg/L	0.2	<0.1	<0.1
Chlorides	mg/L	250	70	40
Cadmium	mg/L	0.003	<0.001	<0.001
Copper	mg/L	0.05	<0.001	<0.001
Lead	mg/L	0.01	<0.001	<0.001
Iron	mg/L	0.3	<0.006	<0.006
Zinc	mg/L	5	<0.003	<0.003
Mercury	mg/L	0.001	<0.001	<0.001
Manganese	mg/L	0.1	<0.001	<0.001
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

Marine Water Quality

October 2023 to March 2024

Parameters	Unit(SI)	Monitoring Location					
		Marine Water Shiyalbet	Marine Water Shiyalbet	Marine Water Shiyalbet	Marine Water Shiyalbet	Marine Water Shiyalbet	Marine Water Shiyalbet
		Oct-23	Nov-23	Dec-23	Jan-24	Feb-24	Mar-24
pH		7.86	-	-	-	-	-
Dissolved oxygen	mg/L	6.3	-	-	-	-	-
BOD (3 days at 27 °C)	mg/L	<2	-	-	-	-	-
Oil & Grease	mg/L	<1	-	-	-	-	-
Fecal Coliform Bacteria	MPN/100ml	N.D.(<1.8)	-	-	-	-	-

Approved By -



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ENVIRONMENTAL MONITORING REPORT

APM Terminals Pipavav
OCCUPATIONAL NOISE MONITORING
October 2023 to March 2024

Month/Locations	Oct-23		Nov-23		Dec-23		Jan-24		Feb-24		Mar-24	
	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night
Township Main Gate	59.2	49.5	57.91	63.87	68.44	64.48	69.6	66.4	70.1	63.6	58.9	67.8
Township Gate No. 2	52.1	58.6	-	-	-	-	-	-	-	-	-	-
Medical Centre	51.3	48	51.85	55.44	55.05	53.98	54.8	55.5	52.4	48.7	57.8	49.4
Residential Main Gate	-	-	50.54	58.53	52.62	59.2	51.5	55.7	54.6	50.2	52.5	54.8

Approved By-



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ENVIRONMENTAL MONITORING REPORT

**APM Terminals Pipavav
 WORKPLACE NOISE MONITORING
 October 2023 to March 2024**

Month/Locations	Oct-23		Nov-23		Dec-23		Jan-24		Feb-24		Mar-24	
	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night
Jetty Approach – 1	71.9	61.8	71.22	70.34	-	-	-	-	-	-	-	-
Jetty Approach – 2	78.9	66.3	-	-	-	-	-	-	-	-	-	-
Engineering Workshop	67.1	60.3	59.2	61.94	63.66	62.81	69.9	62.4	64.1	58.8	56.3	60.9
Fire Station	51.2	54.8	44.24	56.91	53.79	51.5	52.8	53.3	54.7	50.3	48.8	56.9
Store Area	52.4	47.8	46.64	46.81	45.37	46.83	48	53.8	57.2	51.7	49.6	45.8
Fertilizer Shed	47.2	57.5	79.17	69.69	76.87	78.43	74.4	71.1	74.9	72.4	74.6	62.6
Jetty Approach – 4	-	-	-	-	63.7	67.04	73.2	69.3	65.6	62.9	69.7	71.3
Project Area (New Fire Station Pump house)	-	-	-	-	63.7	70.52	-	-	-	-	-	-

Approved By



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ENVIRONMENTAL MONITORING REPORT

APM Terminals Pipavav

Soil Quality

October 2023 to March 2024

Oct-23

Parameters	Units	Monitoring Location	
		Mangrove Area Near New Marine Gate	Near Hazardous Waste Storage Yard
pH	-	7.65	7.84
Conductivity	µmhos/cm	1534	1506
Exchangeable Calcium	gm/kg	9	8
Exchangeable Magnesium	gm/kg	13	11
Sodium	gm/kg	0.46	0.39
Potassium	gm/kg	0.22	0.19
Phosphorous	gm/kg	0.03	0.02
Sulphate	gm/kg	12.68	12.42
Organic Matter	%	0.77	0.49
Aluminium	gm/kg	<0.2	<0.2
Manganese	gm/kg	0.2	0.24
Iron	gm/kg	0.31	0.37
Zinc	gm/kg	0.016	0.01
Texture	--	Sandy Loam	Sandy Loam
Chloride	gm/kg	109	1.4
Organic Carbon	%	0.65	0.69
SAR	--	0.594	0.721
Boron	gm/kg	<0.05	<0.05
Ion Exchange Property	meq/100gm	15.84	15.28

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