

11th May'2020

To.

Additional Principal Chief Conservator of Forests Western Regional Office, Ministry of Environment, Forest & Climate Change E-5, Arera colony, Link Road-3, Ravishankar Nagar, Bhopal-462016 (M.P.)

E-mail: rowz.bpl-mef@nic.in

Sub: Half yearly Compliance report of Environment and CRZ clearance for the project namely "Construction of berthing & allied facilities off Tekra near Tuna, Gujarat"

Ref : 1) Environment and CRZ clearance issued to M/s Kandla Port Trust (KPT) vide letter no. 10-10/2008-IA-III dated 1st November, 2011 and transferred to M/s Adani Kandla bulk Terminal Private Limited (AKBTPL) vide letter no. 10-10/2008-IA-III dated 10th November, 2014

 CRZ Recommendation for creation of Berthing and Allied Facilities off Tekra near Tuna issued by Forest and Environment, Govt. of Gujarat vide letter bearing no. ENV-10-2009-1543-E dated 23rd June, 2010.

Dear Sir,

Please find enclosed herewith point wise compliance reports of conditions stipulated in the above referred letters for the compliance period from **October**, **2019 to March**, **2020**.

Thank you, Yours Faithfully,

For M/s Adani Kandla Bulk Terminal Pvt. Ltd.

Hiren Shah

Authorized Signatory

Copy to:

- 1. The Director (Monitoring –IA Division), Ministry of Environment, Forests & Climate Change, Indira Paryavaran Bhawan, Jor Bagh Road, New Delhi-110003
- 2. The Director, Forests & Environment Department, Block 14, 8th floor, Sachivalaya, Gandhi Nagar, Gujarat 382 010
- 3. The Zonal Officer, Central Pollution Control Board, Zonal Office Vadodra, Parivesh Bhawan, Opposite VMC Ward office No. 10, Subhanpura, Vadodra-390023
- 4. The Chairman, Gujarat Pollution Control Board, Parvayaran Bhawan, Sector 10A, Gandhinagar-382010(Guj.)
- 5. The Regional Officer, Regional Office, GPCB Kutch East, Room No.215-216, KPT administrative Building, Gandhidham, 370201
- 6. The Chief Engineer, Administrative Building, Kandla Port Trust, Gandhidham 370201 ADANI KANDLA BULK TERMINAL PVT. LTD.

Adani House,

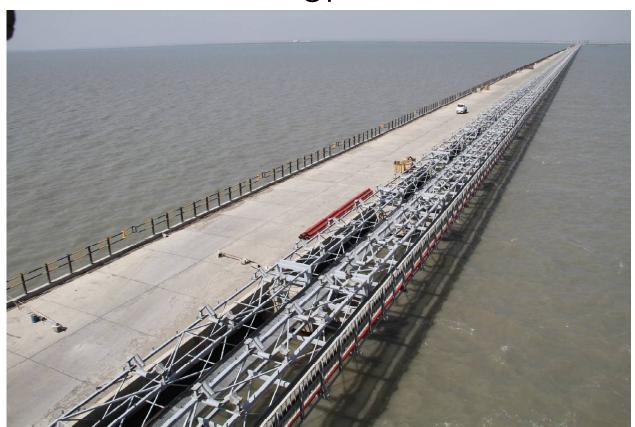
Nr.Mithakali Circle, Fixed :91-(79)-2555 5801
Navrangpura, Fax : 91-(79)-2555 6490
Ahmedabad 380 009 E-mail : info@adani.com
Gujarat, India Website : www.adani.com

CIN: U63090GJ2012PTC069305



Environmental and CRZ Clearance Compliance Report

Of



Construction of berthing & allied facilities off Tekra near Tuna, Gujarat

Of

Adani Kandla Bulk Terminal Pvt. Ltd.

For Period:

October 2019 to March 2020

From: October 2019



Environmental and CRZ Clearance Letter issued by MoEF&CC



From: October 2019
To: March 2020

Compliance to Environmental and CRZ Clearance Letter issued by MoEF&CC

Environmental and CRZ clearance was obtained by KPT vide MoEF&CC letter dated 01.11.2011. AKBTPL and KPT entered in to concession agreement for development of the dry bulk terminal at Tuna on BOOT basis. Said clearance was then transferred to AKBTPL vide MoEF&CC letter dated 10.11.2014



From: October 2019
To: March 2020

	facilities off Tekra near Tuna, Gujarat					
Sr. No	Condition as per clearance letter	Compliance status as on 31-03-2020				
5.	Specific Condition					
(i)	"Consent for Establishment" shall be obtained from State Pollution Control Board under Air and Water Act and a copy shall be submitted to the Ministry before start of any construction work at site.	Complied. Consent to establishment (CtE) and Consent to Operate (CtO) is Obtained and renewed/amended from time to time a per the progress of the project activity Construction activities are completed and the project is now in operation phase The present in-force CtO & amended CTI are mentioned below				
		Sr. Permission Project Ref.No./Order Validity No.				
		1 CCA Obtained by AKBTPL AWH-68051 02.12.2019				
		2 Correction in CCA AKBTPL PC/CCA-Kutch-1269/GPCB ID-46110/303738 02.12.2019				
		3 Amendment in CTE AKBTPL CTE-101194 30.04.2024				
		4 CCA renewal AKBTPL AWH-105213 02.12.2024				
		 Copies of the stated permissions are already submitted as a part of half yearly compliance report (Oct-14 to March-15) & (Oct'17 to Mar'18) and (Apr'19 to Sep'19) to MoEF & CC vide letter dated 11.05.2015 & 16.05.2018 and 18.11.2019. Copy of the CCA renewal is attached as Annexure-1. 				
(ii)	Scientific studies shall be carried out by some expert and reputed organization like BNHS focusing among other things the marine environment in general and preservation of mangroves in particular against any possible adverse impact due to creation of the proposed facilities.	 M/s. Gujarat Institute of Desert Ecology, Bhuj has conducted scientific studies for preservation and management of mangroves in May 2012. Details related to the same are already submitted as part of half yearly compliance report (Oct-14 to March-15) to MoEF & CC vide letter 				



From: October 2019
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	ies off Tekra near Tuna, Gujarat	Г
Sr. No	Condition as per clearance letter	Compliance status as on 31-03-2020
		 dated 11.05.2015 and there is no further change. Further, a study to ascertain tidal flushing in mangroves around the project area of the dry bulk terminal at Tuna was carried through M/s. GUIDE, Bhuj in April, 2014 when construction activities were ongoing. Details related to the same were already submitted as part of half yearly compliance report (Oct-2016 to March-2017). Further, in order to understand the impacts of the existing project activity on marine ecology, a study was carried out through M/s. GUIDE. Details related to the same were already submitted as part of half yearly compliance report (Oct-2016 to March-2017). It may be noted that GUIDE is one of the authorized agencies of Forest & Environment dept. Govt. of Gujrat.
(iii)	Proponent shall explore the possibilities of plantation of mangrove in the entire mud flat areas and submit the action plan to the Ministry prior to the commencement of the activity.	 Based on the scientific studies for preservation and management of mangroves in May 2012 carried out by M/s. GUIDE it was suggested to KPT to carry out mangrove plantation in 500 ha. area. As agreed, AKBTPL has already completed Mangrove plantation in 250 ha area at Sat Saida bet. Balance 250 ha. Mangrove plantation shall be carried out by KPT. Monitoring report prepared by M/s. GUIDE for mangrove plantation in 250 ha carried out at Sat Saida bet is submitted as part of half yearly compliance report (Oct-14 to March-15) to MoEF & CC vide letter dated 11.05.2015.



From: October 2019
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	ies off Tekra near Tuna, Gujarat	
Sr. No	Condition as per clearance letter	Compliance status as on 31-03-2020
(iv)	The dredged material shall be reused for low level rising whenever possible and excess shall be dumped into sea at the designated dumping areas identified based on mathematical model studies.	 As per the study carried by IIT-Chennai the dredge material is not suitable for reclamation/low level rising. Capital dredging was completed by KPT during the construction phase and the dredge material was disposed by KPT at a location identified by M/s. CWPRS, Pune in their study report. No dredging activity is carried out during the period of Oct'19 to Mar'20.
(v)	Though the project proponent has carried out EIA for individual components and it were examined by the committee before the issue of clearance, it is suggested that proponent shall update and submit a comprehensive EMP for the whole project and submit to the Ministry and Regional Office of the Ministry at Bhopal prior to commencement of the activity.	 EMP was updated by AKBTPL and submitted to KPT. KPT has submitted the same vide letter dated 03.12.2013 to MoEF&CC as part of compliance report. Further, said EMP was also submitted by AKBTPL as part of half yearly compliance report (Oct-14 to March-15) to MoEF & CC vide letter dated 11.05.2015 and there is no further change.
(vi)	The project proponent shall set up environmental management cell for effective implementation of the stipulated environmental safeguards under the supervision of a Senior Executive.	Complied. • AKBTPL has environment management cell with qualified manpower for implementation of environmental safeguards and management. The site environment team directly reports to the site CEO. Further, the site environment cell continuously remains in loop with Corporate Environment Cell. Please refer Annexure – 2 for further details.
(vii)	The funds earmarked for environmental management plan shall be included in the budget and this shall not be diverted for any other purpose.	Complied. • Environmental Management Plan is in place and the funds earmarked (budgeted separately for the each financial year) are being utilized for effective implementation of



From: October 2019
To: March 2020

	ies off Tekra near Tuna, Gujarat			
Sr. No	Condition as per clearance letter	Compliance status as on 31-03-2020		
		 environmental safeguards and environment monitoring. All the expenses related to environment management plan are recorded in advanced accounting system of the organization. Expenditure on environmental safeguards is approx. INR 167.39 Lakh for the period of Oct'19 to Mar'20. Please refer Annexure – 3 for further details. 		
6	General Condition			
(i)	Appropriate measures must be taken while undertaking digging activities to avoid any likely degradation of water quality.	 Complied. Construction activities of the project are completed in March, 2015. The project is now in operation phase and no digging activities are carried out during Oct'19 to Mar'20. 		
(ii)	Full support shall be extended to the officers of this Ministry/Regional Office at Bhopal by the project proponent during inspection of the project for monitoring purposes by furnishing full details and action plan including action taken reports in respect of mitigation measures and other environmental protection activities.	 Complied. AKBTPL is always extending full support to the regulatory authorities during their visit to the project site. Details related to the last visit of Scientist 'D', MoEF&CC, from Regional Office, Bhopal, were submitted as part of half yearly compliance report (Oct-2016 to 		
(iii)	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.	• Six monthly compliance reports regarding the implementation of the		



From: October 2019
To: March 2020

	cilities off Tekra near Tuna, Gujarat			
Sr. No	Condition as per clearance letter	Compliance status as on 31-03-2020		
(iv)	Ministry of Environment & Forests 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.	 Point Noted. All applicable conditions in the interest of environment will be complied. 		
(v)	The Ministry reserves the right to revoke this clearance if any of the conditions stipulated are not complied with the satisfaction of the Ministry.	 Point Noted. During the last compliance verification visit as mentioned in the sr. no ii of General Conditions above, there was no non-compliance observed. 		
(vi)	In the event of a change in the project profile or change in the implementation agency, a fresh reference shall be made to the Ministry of Environment and Forests.	 Details related to transfer of EC/CRZ clearance in the name of AKBTPL are submitted as part of half yearly compliance report (Oct-14 to March-15) to MoEF & CC vide letter dated 11.05.2015. Please refer point no. I of specific conditions for further details. 		
(vii)	The project proponent shall inform the Regional Office as well as the Ministry, the date of financial closure and final approval of the project by the concerned authorities and date of start of land development work.	 Complied. KPT has informed about the Financial closure vide their letter no. EG/WK /4604(EC)/562 dated 26th December, 2012. There is no further change. 		
(viii)	A copy of the clearance letter shall be marked to concern Panchayat /local NGO, if any, from whom any suggestion /representation have been made, received while processing the proposal.	Condition is not applicable to AKBTPL.		
(ix)	State 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.			
7	These stipulations would be enforced among others under the provisions of Water (Prevention and Control of	Complied.Permissions under the applicable rules and acts mentioned are already obtained.		



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To: March 2020

Sr.		
No	Condition as per clearance letter	Compliance status as on 31-03-2020
	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.	Please refer point no. I of specific conditions for further details.
8	All other statutory clearances such as the approvals for the storage of diesel from Chief Controller of Explosives, Fire Department, Civil Aviation Department, Forest Conservation Act, 1980, Wildlife (Protection) Act, 1972 etc shall be obtained as applicable by the project proponents from the respective competent authorities.	Not Applicable. • The permissions from the authorities mentioned in the condition are not applicable to this project.
9	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 Env. Clearance and copies of clearances letters are available with the State Pollution Control Board and may also be seen on the website of the Ministry of Environment and Forests at http://www.envfor.nic.in . The advertisement should be made within 10 days from the date of receipt of the Clearance letter and a copy of the same should be forwarded to RO of this Ministry at Bhopal.	Complied. • KPT has published advertisement regarding accordance of the Environmental and CRZ clearance within 10 days from the date of receipt of the Clearance letter in two local newspapers (Aaj Kal and Divya Bhaskar) and copy of the same was submitted to the Regional office, MoEF&CC Bhopal by KPT vide letter no. EG/WK/4604(EC)/1036 dated 25th November, 2011.
10	Environmental Clearance is subject to final order of the Hon'ble Supreme Court of India in the matter of Goa Foundation Vs. Union of India in Writ Petition (Civil) No. 460 of 2004 as may be applicable to this project.	Noted and same will be complied based on further directions given by concerned authorities in this regard.



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To: March 2020

facilit	acilities off Tekra near Tuna, Gujarat			
Sr. No	Condition as per clearance letter	Compliance status as on 31-03-2020		
11	Status of compliance to the various stipulated environmental conditions and environmental safeguards will be uploaded by the project proponent in its website.	Complied. • The documents are being uploaded regularly on our website: http://www.adaniports.com/ports- downloads		
12	A copy of clearance letter shall be sent by the proponent to concerned Panchayat, Zila 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.	Complied. • Clearance letter is uploaded on our website: http://www.adaniports.com/ports-downloads		
13	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.	 Complied. Compliance report for period (Apr'19 to Sep'19) was submitted to respective authorities mentioned in the condition vide our letter dated 18.11.2019. The said report is also uploaded on our website: http://www.adaniports.com/ports-downloads. 		
14	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 Environmental (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.	Complied. • Environment Statement for FY 2018 – 19 has already been submitted to GPCB vide letter No. AKBTPL /ENVSTATEMENT /2018-19 dated 07.05.2019. Copy of the same is attached as Annexure – 4. The said Environment Statement is also uploaded on our website: http://www.adaniports.com/ports-downloads .		

From: October 2019

: March 2020



Compliance to CRZ Recommendation Letter

Issued by Forest and Environment Department, Govt. of Gujarat



From: October 2019
To: March 2020

	ng no. ENV-10-2009-1543-E dated 23rd June, 2010				
Sr. No	Condition	Compliance			
1	The provisions of the CRZ notification of 1991 and subsequent amendments issued from time to time shall be strictly adhered to by the KPT. No activity in contradiction to the provisions of the CRZ Notification shall be carried out by the KPT.	 Complied. All activities are in line with the CRZ Notification 1991 and its subsequent amendment. 			
2	No dredging reclamation or any other project related activities shall be carried out in the CRZ area categorized as CRZ I (i) and it shall have to be ensured that the mangroves habitats and other ecologically important and significant areas, if any, in the region are not affected due to any of the project activities.	 Complied. Construction of the project is completed in March, 2015. All construction activities were carried out as per the environmental and CRZ clearance granted vide MoEF&CC letter dated 01.11.2011. All necessary precautions such as allowing free flow of water in the mangrove areas, waste management as per the applicable laws, treatment of sewage, dust suppression measures etc. are taken to ensure that the mangroves habitats and other ecologically important and significant areas in the region are not affected due to any of the project activities. 			
3	The KPT shall participate financially for installing and operating the Vessel Traffic Management System in the Gulf of Kutch and shall also take lead in preparing and operational sing the Regional Oil Spill Contingency plan in the Gulf of Kutch.	 M/s Kandla Port Trust contributed an amount of INR 41.25 Cr for installing and operating VTMS in Gulf of Kutch. Information was submitted to MoEF&CC New Delhi (as part of half yearly compliance report (Apr – Sept, 2014) vide letter dated 13th November, 2014. Please refer condition No.15 regarding Oil spill contingency plan. There is no further change. 			
4	The KPT shall strictly ensure that no creeks or rivers are blocked due to any activity at Kandla.	Complied.No rivers are present at the project site. 3 Bridges and 8 culverts have			



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To: March 2020

	ring no. ENV-10-2009-1543-E dated 23rd June, 2010			
Sr. No	Condition	Compliance		
		been provided with total cost of 2.01 crores to allow free flow of water through creeks. • Further, a study to ascertain tidal flushing in mangroves around the project area of the dry bulk terminal at Tuna was carried through M/s. GUIDE, Bhuj in April, 2014 when construction activities were ongoing. As outcome of that study is all water parameters are well within prescribe limit and no gross contamination could be discerned showing that the costal water in and around the jetty is clean and unpolluted. Also observed spatial variations in zooplankton density, composition were normal and no events negatively influencing the zooplankton community was noticed during the study. Details related to the same are already submitted as part of half yearly compliance report (Oct-2016 to March-2017). The conditions as mentioned in the report are maintained.		
5	Mangrove plantation in an area of 1000 ha. Shall be carried out by the KPT within 5 years in a time bound manner on Gujarat coastline either within or outside the Kandla Port Trust area and six monthly compliance reports along with the satellite images shall be submitted to Ministry of Environment and Forests as well as to this department without fail.	Complied. • AKBTPL being BOOT operator, KPT requested AKBTPL to carry out mangrove plantation in 250 ha area. As agreed, AKBTPL has completed		



From: October 2019
To: March 2020

bearin	ring no. ENV-10-2009-1543-E dated 23rd June, 2010				
Sr. No	Condition	Compliance			
6	No activities other than those permitted by the competent authority under the CRZ Notification shall be carried out.	Complied. • All activities are being carried out as per the Environmental and CRZ clearance granted vide MoEF&CC letter dated 01.11.2011, amended till date.			
7	No ground water shall be tapped for any purpose during the proposed expansion/modernization activities.	 AKBTPL does not draw any ground water for the water requirement. Present source of water for various project activities is Narmada water through Gujarat water infrastructure Limited (GWIL). Present water consumption is 712.73 KLD. 			
8	All necessary permission from different Government Departments/ agencies shall be obtained by the KPT before commencing the expansion activities.	 All construction activities are completed in March, 2015. No expansion activities are carried out. All necessary permissions will be obtained in future before commencing the expansion activities. However, an application for carrying out additional capital dredging in the existing approach channel, berth pockets and turning circles (in order to handle capsize vessels, not to expand the approved project activity) to obtain Environment and CRZ clearance is in process with the MoEF&CC. the said activity will be carried out only after obtaining the requisite permissions. 			
9	No effluent or sewage shall be discharged into the sea/creek or in the CRZ area and it shall be treated to conform to the norms prescribed by the Gujarat Pollution Control Board and would be reused/recycled within the plant premises.	Complied. No effluent is generated at the project site. Approx.10-12KLD of sewage generated is treated in 25 KLD capacities STP based on FAB technology and treated water is used			



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To: March 2020

	pearing no. ENV-10-2009-1543-E dated 23rd June, 2010						
Sr. No	Condition			Comp	liance		
		•	premise Third p water i month accredi Polluco Summa	oarty ana s being c by NA ted age	lysis o arried BL ar ency ratories	f the out or out or out or or out or out or out or out out or out out or out	treated nce in a oEF&CC y M/s. t. Ltd. duration
			Parameter	Unit	Max	Min	Perm. Limit ^{\$}
			рН	-	7.56	7.14	6.5-9
			TSS	mg/L	21	14	30
			BOD (3 Days @ 27 °C)	mg/L	17	10	20
			Fecal Coliform	MPN/100 ml ranted by GP0	920	52	<1000
		•	analysis the En period (lakh. The en Adani Limited March, Panden already regulated Annexu	refer Annes reports. Si reports. Si reports. Si reports. Si reports. Si reports. Si reports de la comportant	Total e t moni Mar'20 tal mor ulk Te ulk Te n stop onsider wn and intima rities v	xpendi toring)) are II nitoring rminal ped sing dithe sated	tures of for the NR 4.06 g within Private nce 23 rd OVID-19 ame has to the ir e-mail
10	All the recommendations and suggestions given by the NIOT in their Comprehensive Environment Impact Assessment report for conservation /protection and betterment of environment shall be implemented strictly by the KPT.	•	report von the and CR KPT. KP letter das part	IP prepare vas updat condition Z clearand PT has sub lated 03.1 of compl es mentic	ed by A mention ce) and mitted 12.2013 liance	AKBTPI oned ir d subm the sa d to M report.	(based the EC litted to me vide oEF&CC All the



From: October 2019
To: March 2020

	ing no. ENV-10-2009-1543-E dated 23rd June, 2010				
Sr. No	Condition	Compliance			
		EMP prepared by AKBTPL are implemented for environment protection.			
11	The construction and operation activities shall be carried out in such a way that there is no negative impact on mangroves and other coastal/marine habitats. The construction activities and dredging shall be carried out only under the constant supervision and guidelines of the NIOT.	 			
12	The KPT shall contribute financially for any common study or project that may be proposed by this Department for environmental management/conservation / improvement for the Gulf of Kutch.				
13	The construction debris and/or any other type of waste shall not be disposed-off into the sea, creek or in the CRZ areas. The debris shall be removed from the construction site immediately after construction is over.	Complied. • Construction of the project is completed in March, 2015.			
14	The construction camps shall be located outside the CRZ area and the construction labour shall be provided with the necessary amenities, including sanitation, water supply and fuel and it	 Complied. Construction of the project is completed in March, 2015 and during construction of the project we have provided necessary amenities like 			



From: October 2019
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	aring no. ENV-10-2009-1543-E dated 23rd June, 2010					
Sr. No	Condition	Compliance				
	shall be ensured that the environmental conditions are not deteriorated by the construction labours.	sanitation, water supply and fuel to the construction labours. Also we have ensured that environmental conditions are not deteriorated by the construction labours during the construction activities.				
15	The KPT shall regularly update its Local Oil Spill Contingency and Disaster Management Plan in consonance with the National Oil Spill and Disaster Contingency Plan and shall submit the same to the MoEF, GOI and this Department after having it vetted through the Indian Coast Guard.	 KPT is already having updated Disaster Management Plan as well as Oil Spill Contingency Plan. KPT has also executed MoU with oil companies i.e. IOCL, HPCL, BPCL etc. for setting up of their Tier I facility for combating Oil Spill at Kandla. Necessary action will be taken by AKBTPL in consultation with KPT to combat with emergency situations. 				
16	The KPT shall bear the cost of the external agency that may be appointed by this Department for supervision/monitoring of proposed activities and the environmental impacts of proposed activities.	Noted and same will be complied on receipt of such recommendations from concerned authorities				
17	The KPT shall take up massive greenbelt development activities in and around Kandla and also within the KPT limits.	 Plantation activity is an on-going process. As part of the same, greenbelt within and along the periphery of the back-up area is being developed on regular basis. Approx. 15.78 hectare area is developed as greenbelt so far with various types of trees, plants and lawn. Please refer Annexure-7 for further details regarding greenbelt development. Total expenditures of the horticulture dept. for the period (Oct'19 to Mar'20) are INR 16.07 lakh. 				
18	The KPT shall have to contribute financially for taking up the socio-	Complied.				



From: October 2019
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	ring no. ENV-10-2009-1543-E dated 23rd June, 2010					
Sr. No	Condition	Compliance				
	economic upliftment activities in this region in consultation with the Forest and Environment Department and the District Collector/District Development Officer.	 Adani Foundation is the CSR wing of Adani group. All CSR activities are planned out at Tuna by Adani Foundation. AF works in the following four main areas: 1 Education 2 Community Health 3 Sustainable livelihood 4 Rural Infrastructure Development Various activities related to above mentioned areas are being carried out on regular basis for socio-economic up liftmen of surrounding villages by Adani Foundation. Details of the activities carried out are shared with FOKIA (Federation of Kutch Industries Association) chaired by District Collector quarterly. Total expenditures of the CSR activities are INR 18.81 lakh for the period Apr'19 to Mar'20. Please refer Annexure – 8 for details. 				
19	A separate budget shall be earmarked for environmental management and socio-economic activities and details thereof shall be furnished to this Department as well as the MoEF, Gol. The details with respect to the expenditure from this budget head shall also be furnished.	 Main constituents of the environmental management plan are environmental monitoring; greenbelt development; mangrove plantation; maintaining bridges/ culverts for protection of creeks; treatment and disposal of wastes; mechanization of operations etc. Approximately INR 167.39 Lakh is spent for various activities mentioned here. Please refer to Annexure – 3 for details related to environmental expenditures and Annexure – 8 for expenditures related to CSR activities. 				
20	A separate environmental management	Complied.				
	cell with qualified personnel shall be					



From: October 2019
To: March 2020

Half yearly Compliance report of CRZ Recommendation for creation of Berthing and Allied Facilities off Tekra near Tuna issued by Forest and Environment, Govt. of Gujarat vide letter bearing no. ENV-10-2009-1543-E dated 23rd June, 2010

	bearing no. ENV-10-2009-1543-E dated 23rd June, 2010					icttci		
Sr. No	Condition		Compliance					
	created for environmental monitoring and management during construction and operational phases of the project.		mang envir mana cont Corp	ageme cower conme ageme inuou orate	for ntal ent. Th sly ren Enviro	ell wit implem safegu e Envir nains i	entatio	alified n of and t Cell with
21	An Environmental report indicating the changes, if any, with respect to the baseline environment quality in the coastal and marine environment shall be submitted every year by the KPT to this Department as well as to the MoEF, Gol.		and moni marii moni locat NABI agen Labo same	ient A Noise toring ne toring ions L ar acy ratori	e (once g at 4 water g (once are be ad Mo namely es Pvt. uration	in a Nos lo and in a mo ing cal bEF&CC M/s Ltd. Sul from O pelow.	nth) at rried of accre s. Pol mmary of ct-19 to	level s and iment 2 Nos ut by edited llucon of the D Mar-
			Paramet		Unit	Max	Min	Perm. Limit ^{\$}
			PM ₁₀	P	g/m³	98.64	48.53	100
			PM _{2.5}	P	, ,	54.38	16.46	60
			SO ₂	μ	g/m³	25.38	6.27	80
			NO ₂	μ	g/m³	42.65	9.59	80
			Noise		Unit	Max	Min	Perm. Limit ^{\$}
			Day Tim	ne c	IB(A)	73.9	43.1	75
			Night Ti		IB(A)	67.2	39.6	70
			Marine location Parame ter	wate s: 2 N _{Unit}	r and OS. Sur Max	sedime	ent san	npling
			pH TDS	ma/l	8.3 38120	7.9 3554	8.21 38528	7.81 35879
			TSS	mg/L mg/L	290	0 112	276	110
			BOD (3 Days @	mg/L	5.1	3.2	ND*	ND*

27 °C) DO

mg/L

6.3

5.3

6.1

5.5



From: October 2019
To: March 2020

Sr. No	Condition	Compliance				
NO		Salinity ppt	36.9	34.1	37.6	34.5
		COD mg/L	26	10	19	ND*
		ND* - NOT DE				
		Parameter	Unit	Max	Sediment	/lin
		Organic Matter	%	0.84		.61
		Phosphorus as P	mg/kg	736		70
		Aluminium as Al	%	4.92	4.	.56
		Total Chromium as Cr+3	mg/kg	270	1:	36
		Manganese as Mn	mg/kg	1243		04
		Iron as Fe	%	5.2		6
		Nickel as Ni	% mg/kg	53 58		29 24
		Copper as Cu Zinc as Zn	mg/kg	272		16
		Lead as Pb	mg/kg	3.4		83
22	The KPT shall have to contribute	Lakh is sp monitoring (Oct'19 to Complied.	g acti Mar′20	vities () periods	during 5.	the
	financially to support the National Green Corps Scheme being implemented in the Gujarat by GEER Foundation, Gandhinagar, in consultation with Forest and Environment Department.	National G implement AKBTPL reto provide financial anecessary Further to GEER fou were carrinternation at a school Green Consame were compliance Support were foundation future	ed by equested details assistant support the condation and Day I in Rarrys. Deer submare perion will be	GEER of the pace required may be communion, variou of Fore mpar, undertalls registed as d Octr 13 extended	foundation foundation foundation for the following foundation for the following foundation for the foundation foundation for the foundation foundation for the foundation foundation for the foundation for	ation. lation n and that lided. from vities larch, 2014, tional g the ar'14. GEER
23	A six monthly report on compliance of the conditions mentioned in this letter shall have to be furnished by the KPT on a	Complied. • Six mon- regarding	•	ompliano		ports of the



From: October 2019
To: March 2020

	g no. ENV-10-2009-1543-E dated 23rd Jun 	6, 2010
Sr. No	Condition	Compliance
	regular basis to this Department/MoEF, GOI.	stipulated conditions are regularly submitted to all concerned authorities. • Last compliance report for Apr'19 to Sep'19 period was submitted by AKBTPL vide letter dated 18.11.2019. to MoEF & CC.
24	The KPT before commencing any activity, at the location under the consideration, shall have the latest CRZ map prepared through one of the authorized agencies and the map shall have land use features within the area of 5 km radius from the location along with the HTL and LTL and CRZ boundary and inland if any or mangroves area shall be used for the proposed development.	 CRZ map including land features prepared by institute of Remote sensing, Anna University, Chennai is already submitted by KPT to MoEF&CC vide letter no. EG/WK/4604 (EC)/146 dated 14.02.2012.
25	The entire jetty and approach shall be constructed on piles to ensure the free flow of water and that no creeks are blocked in any way.	 As per the Environmental/ CRZ clearance obtained from MoEF&CC approach road of 2 km is constructed on rubble mound and 1.7 km approach road below low water line is constructed on piles. Entire jetty is constructed on piles. Bridges are constructed at three creeks and box/piped culverts are placed with total cost of 2.01 crores at various locations to allow free flow of water. Photographs of the same are already submitted as part of half yearly compliance report (Oct-14 to March-15) to MoEF & CC vide letter dated 11.05.2015 and there is no further change.



From: October 2019
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bearin	ng no. ENV-10-2009-1543-E dated 23rd June, 2010					
Sr. No	Condition	Compliance				
26	The KPT shall create a full-fledged and environmental cell for implementation of the Environment Management Programme and monitoring of the environmental parameters/post project monitoring.	Complied. • AKBTPL has environment management cell with qualified manpower for implementation of environmental safeguards and management. The Environment Cell continuously remains in loop with Corporate Environment Cell. Please refer Annexure – 2 for further details.				
27	The KPT shall have to take up in-situ biodiversity conservation project for mangroves at least in 5 ha. of area in addition to plantation of mangrove in 1000 ha.	 5 ha in-situ biodiversity conservation project for mangroves is carried out at sat saida bet (location identified by KPT). M/s GUIDE has prepared a final report of the same. Details related to the same are already submitted (as part of half yearly compliance report (Apr-2017 to Sep-2017). 				
	General conditions					
28	A separate budget shall be earmarked for environmental management and socio-economic activities and details thereof shall be furnished to this Department as well as the MoEF, Gol. The details with respect to the expenditure from this budget head shall also be furnished.	 Complied. Please refer point no. 19 above for the reply to this condition. 				
29	Any other condition that may be stipulated by this Department from time to time for environment protection /management purpose shall also have to be complied with by the KPT.	Agreed.				

From: October 2019
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Annexure - 1: CCA Renewal Copy



From: October 2019 : March 2020



GUJARAT POLLUTION CONTROL BOARD

PARYAVARAN BHAVAN

Sector-10-A, Gandhinagar 382 010

Phone: (079) 23222425 (079) 23232152

Fax: (079) 23232156

Website: www.gpcb.gov.in

In exercise of the power conferred under section-25 of the Water (Prevention and Control of Pollution) Act-1974, under section-21 of the Air (Prevention and Control of Pollution)-1981 and Authorization under Rule 6(2) of the Hazardous and Other Waste (Management and Transboundary) Rules, 2016 framed under the Environmental (Protection) Act-1986. This Board is empowered to Grant CC&A.

And whereas Board has received consolidated consent application letter no. 164237 dated 04/10/2019 for the Renewal of Consolidated Consent and Authorization (CC & A) of this Board under the provisions / rules of the aforesaid Acts. Consents & Authorization are hereby granted as under:

CONSENTS AND AUTHORISATION:

(Under the provisions /rules of the aforesaid environmental acts)

MJ8 Adami Kandla Bulk Terminal P. Ltd (Port), (ld-46110),

Plot No: Dry Bulk Terminal, Off Tekra, Near Tuna,

Outside Kandla Creek, Village: Tuna,

Taluka: Anjar, Dist: Kutch.

Consent Order No. AWH-105213 Date of issue: 21/11/2019.

The consents shall be valid up to: 02/12/2024 for the use of outlet for the discharge of treated effluent and emission due to operation of industrial plant for storage & handling of only dry cargos from ship of the following items/ products:

Sr. No.	Product	Quantity
1 1	Loading and Unloading Of Dry Bulk Cargo	Jetty capacity
3	Loading and owners 3	12 MMTPA
-1		

Subject to specific condition:

- Industry shall not carry out any activity which attracts provisions of EIA Notification and CRZ Notification as amended time to time without prior approval of competent authority.
- 2. Industry shall comply with conditions of Environment Clearence granted by SEIAA vide order no. 10-10/2008-IA.III, dated 04/05/2016.
- No ground water shall be withdrawal without obtaining prior permission from competent authority, as per order of Hon'ble NGT.
- Industry shall comply with coal handling guideline of this Board.
- 5. Andustry shall take adequate measure to control dusting due to storage, handling and

transportation of cargos.

Industry shall not start activity of additional capital dredging and disposal of dredging material at Tuna terminal without prior permissions like EC and CRZ from competent authority and CCA of the Board.

Clean Gujarat Green Gujarat



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3. CONDITIONS UNDER THE WATER ACT:

- 3.2 The quantity of the fresh water consumption for industrial purpose shall not exceed
- 3.3 The quantity of the fresh water consumption for domestic purpose shall not exceed
- 3.4 There shall be no generation of industrial waste water from manufacturing process and other ancillary operations.
- 3.5 The quantity of domestic waste water shall not exceed 22 KL/Day.
- 3.6 Industry shall operate Sewage Treatment Plant (STP) adequately so that treated sewage shall comply with following norms:

PARAMETERS	GPCB NORMS
	65109
i_pH = = = = = = = = = = = = = = = = = = =	
BOD (5 days at 20°C)	30 mg/L!
Suspended solids:_	<1000 MPN/100 ml
Fecal Coliform	C 1000 Idil 1010

- 3.7 Treated Sewage confirming to above standards shall be disposed on land for gardening and plantation within premises only.
- 3.8 Sewage shall be disposed off through septic tank I soak pit system.

4. CONDITIONS UNDER THE AIR ACT:

4.1 The following shall be used as a fuel in D.G. Sets

10	Sr. No.	i raei	20 Liter/hr	form to the follo	wing standards
The flue	gas emission Stack atta	through D.G. Sets	ight APCM	Parameter	Limit
no.	to	in meter	. <u> </u>	; PM -	+ 150 mg/NM
1	D.G. Set	1 11	i	+ SO ₂	40 ppm
	(Cap: 125 K	va) 1		NOx	25 ppm

4.3 There shall be no process gas emission from manufacturing activities and other

4.4 Industry shall take adequate measure to control dusting due to storage, transportation

4.5 The concentration of the following parameters in the ambient air within the premises of The industry and a distance of 10meters from the source (other than the stack/vent) shall not exceed the following levels.

shall	not exceed the following levels:	Time . Weighted	Concentration
Sr.	Pollutant	Average	. Ambient air in µg/m³
No.	L	Annual	50
11.	Sulphur Dioxide (SO ₂)	, 24 Hours	. <u>8C</u>
	1	11971	



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			Website: www.gpcb.gov.in
2.	Nitrogen Dioxide (NO ₂)	Annual 24 Hours	40
3.	Particulate Matter	Annual	60
	(Size less than 10 µm) OR PM ₁₀	24 Hours	100
4.	Particulate Matter	: Annual	40
	(Size less than 2.5 µm) OR PM _{2.5}	24 Hours	60

- 4.6 The applicant shall provide portholes, ladder, platform etc at chimney(s) for monitoring the air emissions and the same shall be open for inspection to/and for use of Board's staff. The chimney(s) vents attached to various sources of emission shall be designed by numbers such as S-1, S-2, etc. and these shall be painted/displayed to facilitate identification.
- 4.7 The industry shall take adequate measures for control of noise levels from its own sources within the premises so as to maintain ambient air quality standards in respect of noise to less than 75dB(A) during day time and 70 dB (A) during night time. Daytime is reckoned in between 6 a.m. and 10 p.m. and nighttime is reckoned between 10 p.m. and 6 a.m.

4.8 D.G. Sets Conditions

The D.G. Set shall have acoustic enclosure and shall comply sith the standards specified at Sr. no. 95 of Schedule-I of the rule-3 of E.P. Rules -1986 and Noise pollution level as per the Air Act-1981.

D.G. Sets standards:-

The flue gas emission through stack attached to D.G. Sets shall conform to the following standards.

- a) The minimum height of stack to be provided with each of the generator set shall be H=h + 0.2 (KVA) 1/2, where H= Total stack height in meter, h= height of the building in meters where or by the side of which the generator set is installed.
- Noise from DG set shall be controlled by providing an acoustic enclosure or by treating the room acoustically, at the users end.
- The acoustic enclosure or acoustic treatment of the room shall be designed for minimum 25 dB (A) insertion loss or for meeting the ambient noise standards, whichever is on the higher side (if the actual ambient noise is on the higher side, it may not be possible to check the performance of the acoustic enclosure/ acoustic treatment. Such circumstances the performance may be checked for noise reduction up to actual ambient noise level, preferably, in the night time). The measurement for insertion loss may be done at different points at 0.5 m from the acoustic enclosure/room, and the averaged.

d) The D.G. Set shall be provided with proper exhaust muftler with insertion loss of minimum 25 dB (A).

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 All efforts shall be made to bring down the noise level due to the D.G. Set, outside the premises, within the ambient noise requirements by proper siting and control measures.

- Installation of a D.G. Sets must be strictly in compliance with the recommendations of the D.G. Set manufacturer.
- g) A proper routine and preventive maintenance procedure for the D.G. Set should be set and followed in consultation with the DG Set manufacture which would help provent noise levels of the DG Set from deteriorating with use.

AUTHORIZATION as per HAZARDOUS AND OTHER WASTE (MANAGEMENT AND TRANSBOUNDARY MOVEMENT) RULES, 2016

Form for grant of authorization for occupier or operator handling Hazardous waste

- 5.1 Authorization order No:-AWH-105213 date of Issue: 04/10/2019.
- 5.2 M/s. Adani Kandla Bulk Terminal Pvt Ltd is hereby granted an authorization to operate facility for following hazardous wastes on the premises situated at Plot No: Dry Bulk Terminal, Off Tekra, Near Tuna, Outside Kandla Creek, Village: Tuna, Taluka: Anjar, Dist; Kutch.

i ai	uka. Anjar, Dist	, Nutch.		
Sr. No.	Waste	Quantity MT/Year	Schedule-# Category	Facility
	Used Oil	50.00 Liter	7-5.1	Collection, Storage, Fransportation, disposal by selling to authorized registered recycler.
2	Spent Carbon	36.00 MT	I- 35 2	Collection, Storage, Transportation, disposal by seiling to authorized registered recycler.
3	Discarded Containers	360 Numbers	1-33.3	Collection, Storage, Transportation, disposal by selling to authorized registered recycler.

- 5.3 The authorization shall be valid up to 17/09/2024.
- 5.4 The authorization is subject to the conditions stated below and such other conditions as may be specified in the rules from time to time under the Environment (Protection) Act-1986.
- 5.5 The authorization is granted to operate a facility for collection, storage within factory premises transportation and ultimate disposal of Hazardous wastes as per condition no. 5.2 to the industry having valid CCA of this Board.

5.6 TERMS AND CONDITIONS OF AUTHORISATION

The applicant shall comply with the provisions of the Environment (Protection) Act-1986 and the rules made there under.



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GUJARAT POLLUTION CONTROL BOARD

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- The authorization or its renewal shall be produced for inspection at the request of an officer authorized by the Gujarat Pollution Control Board.
- The persons authorized shall not rent, lend, seil, and transfer or otherwise transport
 the hazardous wastes without obtaining prior permission of the Gujarat Pollution
 Control Board.
- Any unauthorized change in personnel, equipment or working conditions as mentioned in the authorization order by the persons authorized shall constitute a beach of this authorization.
- 5. The person authorized shall implement Emergency Response Procedure (ERP) for which this authorization is being granted considering all site specific possible scenarios such as spillages, leakages, fire etc. and their possible impacts and also carry out mock drill in this regard at regular interval of time;
- 6. The person authorized shall comply with the provisions cuttined in the Central Pollution Control Board guidelines on "Implementing Liabilities for Environmenta. Damages due to Handling and Disposal of Hazardous Wastes and Penalty"
- It is the duty of the authorized person to take prior permission of the Gujarat Pollution Control Board to close down the facility
- An application for the renewal of an authorization shall be made as laid down in rules 6(2) under Hazardous and Other Waste Rules, 2016.
- The imported hazardous and other wastes shall be fully insured for transit as well as for any accidental occurrence and its clean-up operation.
- The record of consumption and fate of the imported hazardous and other wastes shall be recorded.
- 11. The hazardous and other wastes which gets generated during recycling or reuse or recovery or pre-processing or utilization of imported hazardous or other wastes shall be treated and disposed of as per specific conditions of authorization.
- The importer or exporter shall bear the cost of import or export and mitigation of damages if any.
- Any other conditions for compliance as per the Guidelines issued by the Ministry of Environment, Forest and Climate Change or Central Pollution Control Board from time to time.
- 14. The waste generator shall be totally responsible for (i.e. collection, storage transportation and ultimate disposal) the wastes generated.
- 15. Records of waste generation, its management and annual return shall be submitted to Gujarat Pollution Control Board in Form-4 by 30th day of June of every year for the preceding period April to March.
- 16 In case of any accident, details of the same shall be submitted on Form-11 to Gujarat Potiution Control Board.
- 47. As per *Public Liability Insurance Act-9*." company shall get !nsurance Policy, if applicable.
 - 18. Empty drums and containers of toxic and hazard material shall be treated as porguideline published for "Management & Handling of discarded containers" Records

Clean Gujarat Green Gujarat



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of the same shall be maintained and forwarded to Gujarat Pollution Control Board regularly.

- 19. In case of transport of hazardous wastes to a facility for (i.e. treatment, storage and disposal) existing in a State other than the State where hazardous wastes are generated, the occupier shall obtain 'No Objection Certificate' from the State Pollution Control Board or Committee of the concerned State of Union Territory Administration where the facility exists.
- Unit shall take all concrete measures to show tangible results in waste generation, reduction, avoidance, rouse and recycle. Actions taken in this regard shall be submitted within three months and also along with Form-4.
- Industry shall have to display the relevant information with regards to hazardous waste as indicated in the Hon. Supreme Court's Order in W.P. No.657 of 1995 dated 14th October, 2003.
- 22. Industry shall have to display on-line data outside the main factory gate with regard to quantity and nature of hazardous chemicals being handled in the plant including wastewater and air emissions and solid hazardous wastes generated within the factory premises.

5.7 SPECIFIC CONDITIONS:-

- The authorized actual user of hazardous and other wastes shall maintain records of hazardous and other wastes purchased in a passbook issued by the State Pollution Control Board along with the authorization
- Handling over of the hazardous and other wastes to the authorized actual user shall be only after making the entry in the passbook of the actual user.
- In case of renewal of authorization, a self-certified compliance report in respect of effluent, emission standards and the conditions specified in the authorization for hazardous and other wastes shall be submitted to SPCR.
- The occupier of the facility shall comply Standard operating procedure/guidetines
 published by MOSH&CC or CPCB or GPCB from time to time.
- Unit shall comply provisions of E-Waste Management Rules 2016.
- The disposal of dispardous Waste shall be carried out as per the waste Management hierarchy.
- The occupier shall maintain the records of generation, sale, storage, transport, recycling or processing and disposal of hazardous waste and make available during the inspection.
- The fransportation of the hazardous waste shall be carried out in GPS mounted defloated vehicles

6 GENERAL CONDITIONS: -

6.1 Any change in personnel, equipment or working conditions as mentioned in the consents form/order should immediately be infiniated to this Board.

6.2 Applicant shall also comply with the general conditions given in annexure I.



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GUJARAT POLLUTION CONTROL BOARD

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- 6.3 Whenever due to accident or other unforeseen act or ever, such emissions occur or is apprehended to occur in excess of standards laid down such information shall be forthwith reported to Board, concerned Police Station, Office of Directorate of Health Service, Department of Explosives, Inspectorate of Factories and local body.
- 6.4 In case of failure of pollution control equipments, the production process connected to it shall be stopped. Remedial actions/measures shall be implemented immediately to bring entire situation normal.
- 6.5 The Environmental Management Unit/Cell shall be setup to ensure implementation on and monitoring of environmental safeguards and other conditions stipulated by statutory authorities. The Environmental Management Cell/Unit shall directly report to the Chief Executive of the organization and shall work as a focal point for internalizing environmental issues. These cells/units also coordinate the exercise of environmental audit and preparation of environmental statements.
- 6.6 The Environmental audit shall be carried out yearly and the environmental statements pertaining to the previous year shall be submitting to this State Board latest by 30th September every year.
- 6.7 The Board reserves the right to review and/or revoke the consent and/or make variations in the conditions, which the Board ceems, fit in accordance with Section 27 of the Act.
- 6.8 In case of change of ownership/management the name and address of the new owners/ partners/directors/proprietor should immediately be intimated to the Board.
- 6.9 Industry shall have to display the relevant information with regard to hazardous waste as indicated in the Hon. Supreme order in w.p. no. 657 of 1995 dated 14th October 2003.

For and on behalf of Gujarat Pullution Control Board

> (Smt. U.K. Upadhyay) Environmental Engineer Date:-

NO: GPCB/CCA-KUTGH-1269 (2) /ID-46110/

Issued to:

M/S Adani Kandla Bulk Terminal P. Ltd (Port) (Id-46110), Plot No: Dry Bulk Terminal, Off Tekra, Near Tuna, Outside Kandla Creek, Village: Tuna, Taluka: Aniar.

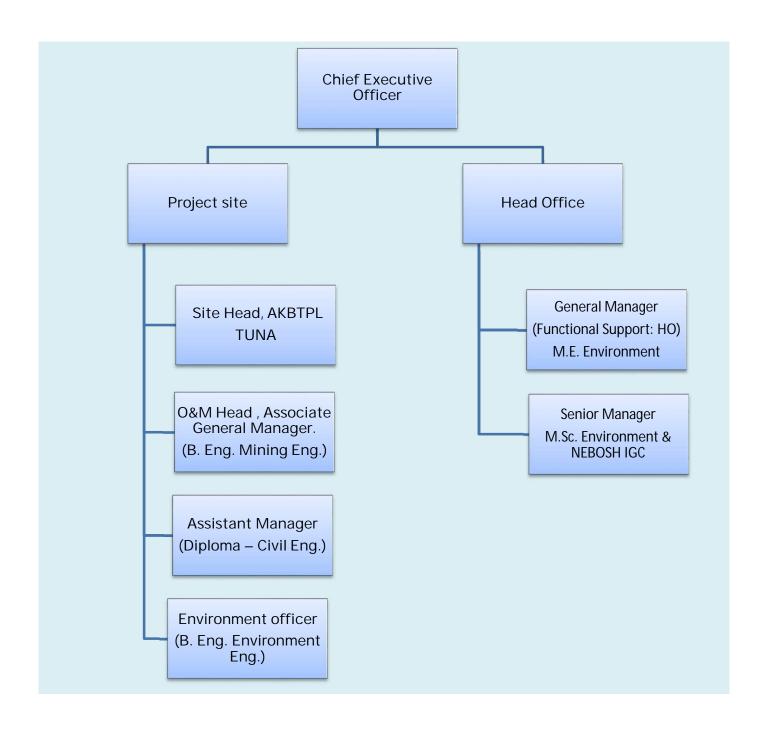
Taluka: Anjar, Dist: Kutch.

Clean Gujarat Green Gujarat



From: October 2019
To: March 2020

Annexure - 2: Environmental Management Cell, AKBTPL, Tuna





From: October 2019
To: March 2020

Annexure- 3: Expenditure Details on Environmental Safeguards.

Sr. no.	Activity	Cost (INR in Lakh)	
		Cost incurred Oct'19 to Mar'20	2019-20 (Budgeted)
1	Environmental Monitoring	4.06	8.87
2	Greenbelt development	16.07	43.86
3	Disposal of wastes (including OWC & STP operation).	7.84	15.69
4	Firefighting Equipment.	95.02	240.69
5	Dust Suppression.		
6	Maintenance of conveyor belt.	44.4	101.15
Total		167.39	410.26



From: October 2019
To: March 2020

Annexure – 4

(FORM-V)

Environmental Statement for 2018-19





Ref No. AKBTPL/ENVSTATEMENT/2018-19

Date: 7th May, 2019

To,
Member Secretary
Gujarat Pollution Control Board
Paryavaran Bhavan,
Sector-10-A, Gandhinagar-382010

Sub: Environmental Statement for the financial year ending 31st March, 2019 for M/s Adani

Kandla Bulk Terminal Pvt Ltd (AKBTPL)

Ref: PCB ID: - 46110, Consent Order No. AWH - 68051

Dear Sir,

With reference to the above mentioned subject and reference, please find enclosed Environmental Statement in Form-V prescribed under Rule 14 of the Environment (Protection) Rules 1986, for M/s Adani Kandla Bulk Terminal Pvt Ltd, Ta. Anjar for the financial year ending 31st March 2019.

Thank you,

Yours faithfully,

For Adani Kandla Bulk Terminal Pvt Ltd

Hiren Shah (BU Head – AKBTPL)

Encl: As above.

Received
Sujarat Pollution Control Board
Regional Office
Kutch (East)

Copy to:

1. The Regional Officer, Gujarat Pollution Control Board, Gandhidham.

Adani Kandla Bulk Terminal Pvt Lto Adani House Nr Mithakhali Circle, Navrangpura Ahmedabad 380 009 Gujarat, India CIN: U63090GJ2012PTC069305 Tel +91 79 2656 5801 Fax +91 79 2555 6490 info@adani.com www.adani.com

Registered Office: Adani House, Nr Mithakhali Circle, Navrangpura, Ahmedabad 380 009, Gujarat, India



From: October 2019
To: March 2020

Annexure – 5

(Six Monthly Environment Monitoring Report)

(Oct'19 to Mar'20)

Recognised by MoEF. New Delhi Under Sec. 12 of Environmental (Protection) Act-1986

"ENVIRONMENTAL MONITORING REPORT"

For

ADANI KANDLA BULK TERMINAL PRIVATE LIMITED. KANDLA, KUTCH.

OCTOBER 2019 TO MARCH 2020

H. T. Shah Lab Manager





Recognised by MoEF. New Delhi Under Sec. 12 of Environmental (Protection) Act-1986

METHODS AND EQUIPMENTS USED FOR SAMPLING AND ANALYSIS

SR. NO.	Monitoring Details	Equipments Used	Sampling and Analysis Method	
1	Ambient Air Quality Monitoring	RDS,FDS, Gaseous Attachment with Impinger	CPCB Guideline/IS:5182	
2	Noise Monitoring	NoiseMeter	IS 9876/IS 9989	
3	Sea Water Monitoring	Depth Sampler	IS:3025/APHA/USEPA/ASTM	
4	Sea Sediment Monitoring	Grab Sampler	CPCB Guideline/ IS/APHA/USEPA/ASTM	
5	Drinking Water Analysis	Sealed & Sterile Bottle	IS:10500:2012	
6	Sewage water Analysis	Sealed & Sterile Bottle	APHA/IS:3025	
7	Stack Monitoring	Stack Monitoring Sampler/Kit	IS:11255/NDIR Gas Analyzer	
8	Dump Pond Discharge	Sealed & Sterile Bottle	APHA/IS:3025	
9	Wind Rose Diagram	Online Weather Station	Wind Rose Plotting Software	

H. T. Shah Lab Manager





Recognised by MoEF. New Delhi Under Sec. 12 of Environmental (Protection) Act-1986

NATIONAL AMBIENT AIR QUALITY STANDARDS DATED 16TH NOV.2009, CPCB NEW DELHI.

SR. NO.	TEST PARAMETER	UNIT	Concentration in ambient air	Method Of Measurement
1	Particulate Matter (PM ₁₀)	μg/m³	100	IS:5182(Part 23) SOP AAQM SPM -01
2	Particulate Matter (PM _{2.5})	μg/m³	60	SOP AAQM PM2.5 - 06
3	Sulphur Dioxide (SO ₂)	μg/m³	80	IS:5182(Part 2): Improved West and Gaeke
4	Oxides of Nitrogen (NO ₂)	μg/m³	80	IS:5182(Part6)Modified Jacob &Hochheiser (Na-Arsenite)

NS#: Not Specified, ** National Ambient Air Quality Standards Dated: 18/11/2009 as per Central Pollution Control Board, New Delhi.

H. T. Shah Lab Manager





Recognised by MoEF. New Delhi Under Sec. 12 of Environmental (Protection) Act-1986

TABLE NO. 1 RESULTS OF AAQM FOR LC GATE NO.2 [OCTOBER 2019 - MARCH 2020]

Sr No.	Date of Sampling	Particulate Matter (PM10) (µg/m3)	Particulate Matter (PM2.5) (µg/m3)	Sulphur Dioxide (SO2)(µg/m3)	Oxides of Nitrogen (NO2) (µg/m3)	
1	03/10/2019	53.63	16.46	10.21	17.60	
2	07/10/2019	68.63	31.51	12.37	20.29	
3	10/10/2019	71.56	35.66	6.55	26.14	
4	14/10/2019	65.31	28.61	8.35	16.25	
5	17/10/2019	49.60	24.71	9.60	21.34	
6	21/10/2019	63.98	34.21	11.35	24.69	
7	24/10/2019	58.48	27.61	14.58	28.63	
8	28/10/2019	69.36	25.58	7.56	19.33	
9	31/10/2019	73.57	42.91	13.69	25.49	
10	04/11/2019	52.37	17.54	12.62	22.55	
11	07/11/2019	61.50	26.45	7.55	16.36	
12	11/11/2019	50.30	19.61	11.36	19.69	
13	14/11/2019	62.37	27.49	16.66	28.60	
14	18/11/2019	70.32	29.40	13.50	23.37	
15	21/11/2019	53.60	32.47	9.89	17.34	
16	25/11/2019	63.65	24.88	6.46	20.15	
17	28/11/2019	72.30	30.35	8.66	21.69	
18	02/12/2019	60.22	27.86	13.44	28.44	
19	05/12/2019	54.36	21.52	6.52	19.53	
20	09/12/2019	72.62	43.37	10.36	21.68	
21	12/12/2019	59.40	31.60	15.50	26.89	
22	16/12/2019	73.67	34.62	11.46	24.37	
23	19/12/2019	65.39	28.53	7.49	15.87	
24	23/12/2019	70.68	32.59	12.48	17.37	
25	26/12/2019	62.41	29.44	9.32	25.42	
26	30/12/2019	52.61	24.21	14.27	20.37	
27	02/01/2020	54.62	34.56	11.56	20.59	
28	06/01/2020	60.21	25.68	10.53	28.68	
29	09/01/2020	74.36	37.59	9.88	17.55	
30	13/01/2020	63.41	24.56	14.25	23.68	
31	16/01/2020	50.22	28.67	12.27	30.53	
32	20/01/2020	70.26	42.40	8.67	19.53	
33	23/01/2020	51.66	18.63	15.66	16.36	
34	27/01/2020	65.38	33.44	13.68	27.66	
35	30/01/2020	72.86	38.50	16.56	22.50	
36	03/02/2020	69.44	37.52	10.54	24.31	
37	06/02/2020	58.43	26.74	14.32	21.23	
38	10/02/2020	64.22	23.46	12.37	14.52	
39	13/02/2020	70.58	27.58	8.63	18.56	
40	17/02/2020	60.28	22.67	16.57	27.56	
41	20/02/2020	74.26	34.56	6.56	20.49	
42	24/02/2020	65.33	30.53	11.31	23.58	
43	27/02/2020	55.28	44.50	15.78	30.40	
44	02/03/2020	61.54	25.20	6.32	13.68	
45	05/03/2020	57.26	31.07	16.60	25.37	
46	09/03/2020	79.32	42.63	13.71	19.45	
47	12/03/2020	65.40	35.44	11.22	16.55	
48	16/03/2020	58.37	21.59	15.81	20.34	
49	19/03/2020	72.56	39.35	9.37	18.24	

H. T. Shah Lab Manager





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TABLE NO. 2 RESULTS OF AAQM FOR STARTING OF PILE APPROACH [OCTOBER 2019 - MARCH 2020]

Sr No.	Date of Sampling	Particulate Matter (PM ₁₀) (μg/m ³)	Particulate Matter (PM _{2.5}) (µg/m³)	Sulphur Dioxide (SO ₂)(µg/m³)	Oxides of Nitrogen (NO ₂) (µg/m ³)
1	03/10/2019	67.23	29.87	14.11	28.53
2	07/10/2019	75.13	34.56	17.35	25.27
3	10/10/2019	81.29	46.56	12.46	34.55
4	14/10/2019	77.56	40.21	20.73	38.41
5	17/10/2019	65.81	32.40	19.57	29.37
6	21/10/2019	74.59	42.66	22.61	37.50
7	24/10/2019	85.60	48.31	15.30	32.43
8	28/10/2019	78.65	36.26	18.67	27.41
9	31/10/2019	88.60	47.52	23.49	35.61
10	04/11/2019	62.84	30.41	20.24	32.43
11	07/11/2019	77.62	35.64	15.70	38.63
12	11/11/2019	90.28	49.35	19.57	28.40
13	14/11/2019	79.65	41.25	22.34	33.51
14	18/11/2019	83.66	46.27	17.34	35.64
15	21/11/2019	64.36	43.37	13.24	24.58
16	25/11/2019	73.56	50.26	18.50	27.67
17	28/11/2019	84.53	40.37	16.33	30.65
18	02/12/2019	85.42	31.57	18.54	34.27
19	05/12/2019	72.72	36.43	21.19	37.61
20	09/12/2019	83.22	50.26	13.67	26.28
21	12/12/2019	75.69	42.37	19.29	30.42
22	16/12/2019	88.63	45.69	24.25	39.55
23	19/12/2019	78.41	39.54	15.72	35.28
24	23/12/2019	86.34	49.22	20.29	28.92
25	26/12/2019	74.54	26.25	11.52	33.21
26	30/12/2019	81.55	44.32	17.51	36.50
27	02/01/2020	72.69	42.63	16.21	24.51
28	06/01/2020	69.52	39.60	6.35	34.54
29	09/01/2020	84.36	44.54	17.48	31.52
30	13/01/2020	73.62	35.69	21.52	26.59
31	16/01/2020	67.89	40.22	15.42	33.22
32	20/01/2020	81.38	48.58	18.57	28.39
33	23/01/2020	76.50	25.33	11.35	35.58
34	27/01/2020	82.68	46.54	20.21	25.48
35	30/01/2020	92.69	54.28	22.54	38.65
36	03/02/2020	82.64	46.20	21.59	27.58
37	06/02/2020	76.54	40.27	15.70	32.47
38	10/02/2020	69.65	35.50	19.16	24.24
39	13/02/2020	88.28	48.35	16.32	29.20
40	17/02/2020	71.54	31.46	20.26	36.51
41	20/02/2020	86.38	45.67	14.69	37.56
42	24/02/2020	79.35	37.52	17.30	26.56
43	27/02/2020	83.49	50.12	22.52	39.56
44	02/03/2020	74.51	34.63	11.49	25.24
45	05/03/2020	65.28	37.93	22.31	36.24
46	09/03/2020	88.62	52.51	15.66	28.58
47	12/03/2020	78.50	42.37	13.55	22.34
48	16/03/2020	86.59	46.58	21.66	35.21
49	19/03/2020	91.56	44.64	16.18	39.24

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TABLE NO. 3 RESULTS OF AAQM FOR SOUTH WEST CORNER AT PUMP HOUSE [OCTOBER 2019 - MARCH 2020]

Sr No.	Date of Sampling	Particulate Matter (PM ₁₀) (µg/m³)	Particulate Matter (PM _{2.5}) (µg/m³)	Sulphur Dioxide (SO ₂)(µg/m³)	Oxides of Nitrogen (NO ₂) (µg/m ³)
1	03/10/2019	48.53	20.35	8.64	21.57
2	07/10/2019	61.51	25.52	6.27	14.28
3	10/10/2019	58.69	22.60	10.64	29.62
4	14/10/2019	69.20	31.57	14.32	21.23
5	17/10/2019	56.32	19.98	12.30	24.55
6	21/10/2019	68.30	29.53	15.22	30.47
7	24/10/2019	51.72	34.57	7.91	25.38
8	28/10/2019	62.60	24.52	11.63	17.58
9	31/10/2019	78.37	30.53	9.55	28.32
10	04/11/2019	57.62	22.31	16.24	26.53
11	07/11/2019	66.36	29.57	10.23	21.20
12	11/11/2019	74.22	42.66	13.39	24.23
13	14/11/2019	56.35	33.61	19.32	18.62
14	18/11/2019	76.58	36.74	15.30	27.49
15	21/11/2019	59.69	39.24	11.66	20.59
16	25/11/2019	68.57	28.78	9.47	23.40
17	28/11/2019	78.51	36.41	12.36	25.34
18	02/12/2019	66.53	24.52	11.27	15.62
19	05/12/2019	59.27	27.48	15.35	22.52
20	09/12/2019	78.69	39.24	7.86	17.51
21	12/12/2019	67.53	34.28	10.57	28.62
22	16/12/2019	50.28	21.64	13.45	30.50
23	19/12/2019	71.60	36.20	9.85	21.53
24	23/12/2019	80.65	40.20	14.58	24.57
25	26/12/2019	68.58	32.45	6.46	23.67
26	30/12/2019	74.30	35.66	12.19	31.53
27	02/01/2020	67.59	38.56	13.23	18.25
28	06/01/2020	52.61	30.24	8.56	23.40
29	09/01/2020	79.59	40.53	12.48	20.56
30	13/01/2020	54.21	25.43	18.58	17.62
31	16/01/2020	62.66	29.40	14.62	28.58
32	20/01/2020	76.34	34.59	10.27	15.36
33	23/01/2020	66.53	21.71	12.45	22.65
34	27/01/2020	71.51	37.48	9.48	21.54
35	30/01/2020	80.35	44.29	19.43	30.32
36	03/02/2020	60.31	33.42	8.22	16.53
37	06/02/2020	70.64	36.68	12.67	18.35
38	10/02/2020	54.36	20.37	10.33	9.59
39	13/02/2020	75.63	23.38	6.37	13.41
40	17/02/2020	65.59	26.48	9.49	22.91
41	20/02/2020	80.28	37.52	11.57	19.25
42	24/02/2020	71.25	34.55	13.52	17.58
43	27/02/2020	62.22	30.66	18.54	24.52
44	02/03/2020	98.64	46.55	9.51	22.72
45	05/03/2020	51.34	23.67	13.87	29.33
46	09/03/2020	65.69	31.29	11.67	14.64
47	12/03/2020	71.28	38.52	8.53	25.72
48	16/03/2020	68.53	25.30	12.54	30.47
49	19/03/2020	53.55	30.20	14.42	23.21

H. T. Shah Lab Manager





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TABLE NO. 4 RESULTS OF AAQM FOR NORTH EAST CORNER OF BACK UP AREA [OCTOBER 2019 - MARCH 2020]

Sr No.	Date of Sampling	Particulate Matter (PM ₁₀) (µg/m³)	Particulate Matter (PM _{2.5}) (µg/m³)	Sulphur Dioxide (SO ₂)(µg/m³)	Oxides of Nitrogen (NO ₂) (µg/m ³)
1	03/10/2019	72.63	34.66	11.23	23.62
2	07/10/2019	80.38	37.52	14.25	29.26
3	10/10/2019	92.69	50.28	16.33	35.55
4	14/10/2019	85.30	48.58	18.33	22.67
5	17/10/2019	70.25	38.56	23.70	33.65
6	21/10/2019	87.22	46.59	19.39	42.65
7	24/10/2019	79.68	42.61	12.65	36.43
8	28/10/2019	84.25	49.53	15.43	30.28
9	31/10/2019	93.54	52.51	21.21	38.61
10	04/11/2019	67.35	33.55	22.70	37.20
11	07/11/2019	71.35	38.68	13.62	28.31
12	11/11/2019	81.25	46.30	17.24	31.54
13	14/11/2019	74.54	37.56	25.38	36.27
14	18/11/2019	91.55	53.59	19.44	41.26
15	21/11/2019	84.23	48.66	16.45	33.43
16	25/11/2019	78.76	36.44	20.61	30.50
17	28/11/2019	90.35	45.31	14.58	27.34
18	02/12/2019	75.22	35.74	16.33	25.65
19	05/12/2019	82.69	43.61	18.57	33.41
20	09/12/2019	94.26	54.38	15.63	29.42
21	12/12/2019	84.20	45.51	22.40	37.51
22	16/12/2019	78.50	37.85	17.56	34.54
23	19/12/2019	86.29	50.19	21.59	30.27
24	23/12/2019	93.20	44.27	24.54	38.51
25	26/12/2019	79.60	40.21	13.55	28.36
26	30/12/2019	88.46	48.33	19.55	40.31
27	02/01/2020	84.56	45.66	19.35	27.58
28	06/01/2020	74.56	42.67	12.62	37.57
29	09/01/2020	90.29	48.35	14.58	25.35
30	13/01/2020	86.52	44.87	23.85	29.59
31	16/01/2020	75.34	36.57	20.51	35.20
32	20/01/2020	93.59	53.66	15.54	32.44
33	23/01/2020	88.39	28.65	18.27	39.21
34	27/01/2020	77.54	41.26	16.85	42.50
35	30/01/2020	55.35	47.52	25.27	33.49
36	03/02/2020	90.36	50.51	14.33	31.21
37	06/02/2020	85.33	44.20	17.50	35.38
38	10/02/2020	77.52	39.44	21.33	28.31
39	13/02/2020	80.55	41.51	12.26	25.32
40	17/02/2020	79.25	35.33	18.22	33.30
41	20/02/2020	94.29	51.54	16.42	40.37
42	24/02/2020	84.23	46.28	19.53	30.40
43	27/02/2020	91.39	53.29	24.26	27.23
44	02/03/2020	83.42	40.22	15.36	30.23
45	05/03/2020	72.64	43.46	19.24	33.41
46	09/03/2020	93.58	49.55	22.50	23.49
47	12/03/2020	85.40	46.57	17.49	31.55
48	16/03/2020	77.38	41.51	24.52	39.53
49	19/03/2020	86.38	50.59	18.50	34.55

H. T. Shah Lab Manager





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AMBIENT AIR QUALITY ANALYSIS REPORT OBSERVATIONS

						nple Analys			
Sr.No.	Month		te Matter (µg/m³)		te Matter (μg/m³)	Sulphur (SO₂)(Dioxide µg/m³)	Oxides of (NO ₂) (Nitrogen µg/m³)
Sr.No.	Month	Max	Min	Max	Min	Max	Min	Max	Min
L.C. Ga	te No.2		•	•	•	•	•	•	
1	October-19	73.57	49.60	42.91	16.46	14.58	6.55	28.63	16.25
2	November-19	72.30	50.30	32.47	17.54	16.66	6.46	28.60	16.36
3	December-19	73.67	52.61	43.37	21.52	15.50	6.52	28.44	15.87
4	January-20	74.36	50.22	42.40	18.63	16.56	8.67	30.53	16.36
5	February-20	74.26	55.28	44.50	22.67	16.57	6.56	30.40	14.52
6	March-20	79.32	57.26	42.63	21.59	16.60	6.32	25.37	13.68
Startin	g Of Pile Appro	ach (Near	SS2 Buildi	ng)	•	•	•	•	
1	October-19	88.60	65.81	48.31	29.87	23.49	12.46	38.41	25.27
2	November-19	90.28	62.84	50.26	30.41	22.34	13.24	38.63	24.58
3	December-19	88.63	72.72	50.26	26.25	24.25	11.52	39.55	26.28
4	January-20	92.69	67.89	54.28	25.33	22.54	6.35	38.65	24.51
5	February-20	88.28	69.65	50.12	31.46	22.52	14.69	39.56	24.24
6	March-20	91.56	65.28	52.51	34.63	22.31	11.49	39.24	22.34
South \	West Corner O	Back Up	Area						
1	October-19	78.37	48.53	34.57	19.98	15.22	6.27	30.47	14.28
2	November-19	78.51	56.35	42.66	22.31	19.32	9.47	27.49	18.62
3	December-19	80.65	50.28	40.20	21.64	15.35	6.46	31.53	15.62
4	January-20	80.35	52.61	44.29	21.71	19.43	8.56	30.32	15.36
5	February-20	80.28	54.36	37.52	20.37	18.54	6.37	24.52	9.59
6	March-20	98.64	51.34	46.55	23.67	14.42	8.53	30.47	14.64
North E	East Corner Of	Back Up A	rea						
1	October-19	93.54	70.25	52.51	34.66	23.70	11.23	42.65	22.67
2	November-19	91.55	67.35	53.59	33.55	25.38	13.62	41.26	27.34
3	December-19	94.26	75.22	54.38	35.74	24.54	13.55	40.31	25.65
4	January-20	93.59	55.35	53.66	28.65	25.27	12.62	42.50	25.35
5	February-20	94.29	77.52	53.29	35.33	24.26	12.26	40.37	25.32
6	March-20	93.58	72.64	50.59	40.22	24.52	15.36	39.53	23.49

H. T. Shah Lab Manager





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RESULTS OF NOISE LEVEL MONITORING

Sampling Date : As Per Table

Test Method : **IS 9876/IS 9989**

Sampling Location : As Per Table

Sampling By : Pollucon Laboratories Pvt. Ltd.

Protocol (purpose) : Environmental Monitoring

TABLE NO. 5 RESULTS OF DAY TIME NOISE LEVEL MONITORING [OCTOBER 2019 TO MARCH 2020]

	Noise Level Day Time dB(A)Leq*									
Sr.	Name of Location	LC Gate No.2		Starting Of Pile Approach		South West Corner at Pump House		North East Corner of Back up Area		
No.	Month	Max	Min	Max	Min	Max	Min	Max	Min	
1.	October-19	58.5	43.1	72.8	64.3	60.5	54.1	61.1	51.9	
2.	November-19	66.8	49.8	68.9	57.5	64.8	55.6	62.9	51.4	
3.	December-19	63.9	59.0	64.8	55.3	61.2	52.9	65.9	55.1	
4.	January-20	63.8	58.1	62.1	53.9	64.2	55.2	64.8	54.8	
5.	February-20	62.3	58.1	73.9	64.9	64.8	56.7	62.6	54.3	
6.	March-20	62.2	57.7	68.4	58.3	62.4	55.4	62.4	52.2	

TABLE NO. 6 RESULTS OF NIGHT TIME NOISE LEVEL MONITORING [OCTOBER 2019 TO MARCH 2020]

	Noise Level Night Time dB(A)Leq*								
Sr.	Name of Location	Starting Of Pile Approach		South West Corner at Pump House		North East Corner of Back up Area			
No.	Month	Max	Min	Max	Min	Max	Min	Max	Min
1.	October-19	53.3	39.5	67.2	62.4	60.2	52.2	60.8	48.9
2.	November-19	62.0	46.5	64.9	54.8	62.3	52.7	61.8	50.2
3.	December-19	65.3	53.3	63.3	52.3	64.8	55.3	59.6	52.8
4.	January-20	62.3	56.5	59.3	52.3	63.9	53.9	61.7	53.2
5.	February-20	61.9	57.8	64.2	59.7	62.3	54.8	62.1	53.8
6.	March-20	61.2	57.7	65.4	53.4	61.5	52.6	60.1	53.7

AMBIENT AIR QUALITY STANDARDS FOR NOISE SPECIFIED BY CPCB

Area Code	Category of Area/Zone	Limits in dB(A) Leq [#]				
Area Code	Category of Area/Zone	Day time	Night time			
Α	Industrial area	75	70			
Notes:						
1. Day tin	ne shall mean from 6.00 a.m. to 10.00 p.m.					
2. Night t	ime shall mean from 10.00 p.m. to 06.00 a.m.					
#dB(A) Leq de	enotes the time weighted average of the level of so	und in decibels on scale A which i	s relatable to human hearing			

H. T. Shah Lab Manager



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AMBIENT AIR QUALITY MONITORING & NOISE QUALITY MONITORING LOCATIONS

Sr. No		GPS Coordinate
1.	LC Gate No.2	N 22°58' 14.29'E 70°05 51.07'
2.	Starting Of Pile Approach	N 22°54' 27.47' E 70°06 15.63'
3.	South West Corner at Pump House	N 22°55' 22.98' E 70°06 7.37'
4.	North East Corner Of Back Up Area	N 22°55' 53.09 E 70°06 27.17'

FIGURE NO. 1 GOOGLE EARTH IMAGE OF AMBIENT AIR QUALITY MONITORING & NOISE QUALITY MONITORING LOCATION





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RESULTS OF SEA WATER MONITORING TABLE NO. 7 RESULTS OF SEA WATER [OCTOBER 2019 TO MARCH 2020]

Description of Sample : Sea Water (Surface & Bottom) Quantity/No. of Samples : 10 Lit/12 Sampling By : Pollucon Laboratories Pvt. Ltd. Sampling Procedure : Grab

Packing/Seal : Sealed Protocol (purpose) : Env. Monitoring
Test Method : IS 3025 & APHA (22nd Edi.) 2008 Test Parameters : As per table

			Near Mouth	of Creek (M1)	Near Je	tty (M2)	Near Mouth of Creek (M1)		
SR.	TEST	l		er-19		ber-19	December-19		
NO	PARAMETERS	UNIT		/2019		/2019	13/12	2/2019	
			SURFACE	воттом	SURFACE	воттом	SURFACE	воттом	
1	pH		8.3	8.21	7.9	7.81	8.01	7.94	
2	Temperature	$^{\circ}$	30.1	30.3	29.8	29.5	29.8	29.3	
3	Total Suspended Solids	mg/L	290	276	204	236	163	190	
4	BOD (3 Days@27℃)	mg/L	3.2	Not Detected	4.8	Not Detected	5.1	Not Detected	
5	Dissolved Oxygen	mg/L	6.3	6.1	5.9	6	5.5	5.9	
6	Salinity	ppt	34.1	34.5	34.3	34.9	34.9	35.3	
7	Oil & Grease	mg/L	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	
8	Nitrate as NO₃	μmol/L	2.79	2.68	3.1	3.5 4	3.98	3.7	
9	Nitrite as NO₂	μmol/L	0.28	0.16	1.76	1.39	1.56	1.12	
10	Ammonical Nitrogen as NH₃	μmol/L	3.3	3.14	5.37	4.96	4.1	3.76	
11	Phosphates as PO ₄	μmol/L	1.74	1.5	3.26	3	3.64	3.12	
12	Total Nitrogen	μmol/L	6.37	5.98	10.23	9.89	9.64	8.58	
13	Petroleum Hydrocarbon	μg/L	5.3	4.2	10.6	Not Detected	Not Detected	Not Detected	
14	Total Dissolved Solids	mg/L	35540	35879	35818	36570	35570	36892	
15	COD	mg/L	18	Not Detected	21	Not Detected	26	Not Detected	
Α	Flora and Fauna					-			
16.1	Primary Productivity	mgC/L/ day	8.06	6.52	12.42	9.45	9.9	8.1	
В	Phytoplankton								
17.1	Chlorophyll	mg/m ³	3.26	2.56	2.94	2.5	2.67	2.24	
17.2	Phaeophytin	mg/m ³	0.52	1.36	0.69	1.08	1.14	1.61	
17.3	Cell Count	No.x 10 ³ /L	150	52	174	84	162	104	
17.4	Name of Group Number and name of group species of each group		Thallasiosira sp. Coscinodiscus sp. Navicula sp. Biddulphia sp.	Nitzschia sp. Pediastrum sp. Pleurosigma sp. 	Cocconeis sp. Thallasiosira sp. Nitzschia sp. Biddulphia sp.	Nitzschia sp. Rhizosolenia sp. Fragillaria sp. 	Thalassiosira sp. Pleurosigma sp. Navicula sp. Nitzschia sp.	Pediastrum sp. Navicula sp. Thalassiosira sp. 	
С	Zooplanktons		·			-			
18.1	Abundance (Population)	noX10 ³ / 100 m ³	6	2	5	56	6	50	
18.2	Name of Group Number and name of group species of each group		Polych	epods naetes sids	Gastr	epods opods 	Forami	haetes niferans opods	
18.3	Total Biomass	mL/ 100 m ³	3.	25	;	3	3	.6	
D	Microbiological Para								
19.1	Total Bacterial Count	CFU/ml		'40		520		550	
19.2	Total Coliform	/ml		sent		sent		sent	
19.3	E.coli	/ml	Abs	sent	Abs	sent	Ab	sent	
19.4	Enterococcus species	/ml	Abs	sent	Abs	sent		sent	
19.5	Salmonella species	/ml		sent	Abs	sent		sent	
19.6	Shigella species	/ml	Abs	sent	Abs	sent	Abs	sent	
19.7	Vibrio species	/ml	Abs	sent	Abs	sent	Abs	sent	

Note: BDL*: Below Detection Limit, Minimum Detection Limit, BOD: 1.0 mg/L, Oil & Grease: 2.0 mg/L, Petroleum Hydrocarbon: 1.0 μ g/L

H. T. Shah Lab Manager





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TABLE NO. 8 RESULTS OF SEA WATER [OCTOBER 2019 TO MARCH 2020]

			Near Jetty (M2)		Near Mouth of Creek (M1)		Near Jetty (M2)		
SR.			Janua		February-20		March-20		
NO.	PARAMETERS	PARAMETERS 13/01/2020 13/02/2020				/2020			
			SURFACE	воттом	SURFACE	воттом	SURFACE	воттом	
1	pН		8.26	8.19	8.29	8.17	8.28	8.2	
2	Temperature	°C	29.2	28.7	29.6	29.9	30.4	30.1	
3	Total Suspended Solids	mg/L	132	167	112	123	136	110	
4	BOD (3 Days @27℃)	mg/L	3.2	Not Detected	4.6	Not Detected	4.2	Not Detected	
5	Dissolved Oxygen	mg/L	5.3	5.7	5.7	5.9	5.8	5.5	
6	Salinity	ppt	35.8	36.3	36. 4	37.5	36.9	37.6	
7	Oil & Grease	mg/L	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	
8	Nitrate as NO₃	μmol/L	5.3	4.6	4.28	4.56	4.56	4.32	
9	Nitrite as NO ₂	µmol/L	0.48	0.31	0.3	0.25	0.29	0.2	
10	Ammonical Nitrogen as NH₃	μmol/L	3.56	3.14	3.27	3	3.36	3.19	
11	Phosphates as PO ₄	μmol/L	3.28	2.9	3.14	2.96	3.16	3	
12	Total Nitrogen	μmol/L	9.34	8.05	7.85	7.81	8.21	7.71	
13	Petroleum Hydrocarbon	μg/L	5.8	Not Detected	9.4	5.3	10.8	5.3	
14	Total Dissolved Solids	mg/L	36836	37294	37940	38468	38120	38528	
15	COD	mg/L	10	Not Detected	18	Not Detected	25	19	
Α	Flora and Fauna								
16.1	Primary Productivity	mgC/L/ day	19.35	15.3	22.3	19	20.25	16.56	
В	Phytoplankton								
17.1	Chlorophyll	mg/m ³	3.15	2.93	3.1	2.99	3.31	2.83	
17.2	Phaeophytin	mg/m ³	2.49	2.52	2.58	2.47	2.26	2.4	
17.3	Cell Count	No. x 103/L	240	116	216	124	180	94	
17.4	Name of Group Number and name of group species of each group		Thalassiosira sp. Navicula sp. Concinodiscus sp. Melosira sp.	Navicula sp. Pleurosigma sp. Peridinium sp. 	Thalassiosira sp. Biddulphia sp. Navicula sp. Rhizosolenia sp.	Nitzschia sp. Navicula sp. Skeletonema sp. Synedra sp.	Rhizosolenia sp. Coscinodiscus sp. Skeletonema sp. Nitzschia sp.	Navicula sp. Thallasionema sp. Fragillaria sp. 	
С	Zooplanktons		,						
18.1	Abundance (Population)	noX10 ³ / 100	6	4	5	9	6	4	
18.2	Name of Group Number and name of group species of each group		Mys Gastro	Polychates Mysides Gastropods Chaetognaths		hates ceans lves		naetes pods pods	
18.3	Total Biomass	mL/10 0 m ³	5.	5	4	.1	4	.8	
D	Microbiological Para	meters							
19.1	Total Bacterial Count	CFU/mL	19	50	22	10	29	20	
19.2	Total Coliform	/mL	Absent		Abs	ent	Abs	sent	
19.3	E.coli	/mL	Absent			sent		sent	
19.4	Enterococcus species	/mL	Absent		Abs	Absent		sent	
19.5	Salmonella species	/mL	Abs	ent	Abs	ent	Abs	sent	
19.6	Shigella species	/mL	Abs	ent		ent		sent	
19.7	Vibrio species	/mL	Abs			Absent		Absent	

Note: BDL*: Below Detection Limit, Minimum Detection Limit, BOD: 1.0 mg/L, Oil & Grease: 2.0 mg/L, Petroleum Hydrocarbon: 1.0 μg/L







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SEA WATER REPORT OBSERVATION

SeaWater Sample Analy	Month : October-19 to March-20				
To at Daws we atom	11:4	Surface Bottom			tom
Test Parameter	Unit	Max	Min	Max	Min
рН		8.3	7.9	8.21	7.81
Total Dissolved Solids	mg/L	38120	35540	38528	35879
Total Suspended Solids	mg/L	290	112	276	110
BOD (3 Days @ 27 °C)	mg/L	5.1	3.2	Not Detected	Not Detected
Dissolved Oxygen	mg/L	6.3	5.3	6.1	5.5
Salinity	ppt	36.9	34.1	37.6	34.5
COD	mg/L	26	10	19	Not Detected

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RESULTS OF SEA SEDIMENT MONITORING

TABLE NO. 9 RESULTS OF SEA SEDIMENT [OCTOBER 2019 TO MARCH 2020]

Description of Sample : Sea Sediment Quantity/No. of Samples : 10 Kg/06 Sampling By : Pollucon Laboratories Pvt. Ltd. Sampling Procedure : Grab

Packing/Seal : Sealed Protocol (purpose) : Env. Monitoring

Test Method : IS/ASTM/CPCB Guidelines Test Parameters : As per table

SR.	TEST		Near Mouth of Creek (M1)	Near Jetty (M2)	Near Mouth of Creek (M1)	Near Jetty (M2)	Near Mouth of Creek (M1)	Near Jetty (M2)
NO.	PARAMETERS	UNIT	October-19	November-19	December-19	January-20	February-19	Sept-19
			10/10/2019	14/11/2019	13/12/2019	13/01/2020	13/02/2020	16/03/2020
1	Organic Matter	%	0.84	0.7	0.61	0.78	0.72	0.64
2	Phosphorus as P	µg/g	736	614	570	703	673	680
3	Texture		Sandy	Sandy	Sandy	Sandy	Sandy	Sandy
4	Petroleum Hydrocarbon	µg/g	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected
5	Heavy Metals							
5.1	Aluminum as Al	%	4.92	4.75	4.65	4.8	4.6	4.56
5.2	Total Chromium as Cr+3	µg/g	203	270	194	180	136	158
5.3	Manganese as Mn	µg/g	1163	1034	1243	943	870	704
5.4	Iron as Fe	%	5.14	5.2	4.99	5.1	4.83	4.6
5.5	Nickel as Ni	µg/g	40	53	29	38	32	30
5.6	Copper as Cu	µg/g	47	39	31	27	24	58
5.7	Zinc as Zn	µg/g	268	272	246	201	192	116
5.8	Lead as Pb	µg/g	1.9	2.76	3.27	2.56	1.83	3.4
5.9	Mercury as Hg	µg/g	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected
6	Benthic Organisms							
6.1	Macrobenthos (No and name of groups present, No and name of species of each group present)	-	Polychaetes Decapods Isopods	Polychaetes Gastropods	Polychaete worms Gastropods Amphipods	Polychates Gastropods Amphipods	Polychaete Gastropods Crustaceans	Polychaete Gastropods Crustaceans
6.2	MeioBenthos (No and name of groups present, No and name of species of each group present)		Ostracods	Nematodes	Foraminiferans	Ostracods	Nematodes	Nematodes
6.3	Population	no/m²	853	735	82 4	850	765	676

Note: BDL*: Below Detection Limit, Minimum Detection Limit, Mercury as Hg: $0.00025 \ mg/L$, Petroleum Hydrocarbon: $5 \ \mu g/g$

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SEA SEDIMENT REPORT OBSERVATION

Sea Sediment Sample	e Analysis	Month : October-19 to March-20		
Test Parameter	Unit	Sediment		
l est Parameter	Onit	Max	Min	
Organic Matter	%	0.84	0.61	
Phosphorus as P	μg/g	736	570	
Aluminum as Al	%	4.92	4.56	
Total Chromium as Cr ⁺³	μg/g	270	136	
Manganese as Mn	μg/g	1243	704	
Iron as Fe	%	5.2	4.6	
Nickel as Ni	μg/g	53	29	
Copper as Cu	μg/g	58	24	
Zinc as Zn	μg/g	272	116	
Lead as Pb	μg/g	3.4	1.83	
Mercury as Hg	μg/g	Not Detected	Not Detected	

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SEA WATER & SEA SEDIMENT LOCATIONS

Sr. No		GPS Coordinate
1.	NEAR MOUTH OF CREEK (M1)	N 22°54'10.58" E 70° 8'34.86"
2.	NEAR JETTY (M2)	N 22°'53.60" E 70° 6.47"

FIGURE NO. 2 GOOGLE EARTH IMAGE OF SEA WATER AND SEDIMENT LOCATION









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RESULTS OF DRINKING WATER ANALYSIS

STANDARD METHODS & PERMISSIBLE LIMIT FOR DRINKING WATER

SR. NO.	PARAMETERS	UNIT	DESIRABLE LIMIT AS PER IS:10500:2012	TEST METHOD
	Chemical Parameters			
1	Odour		Agreeable	IS3025(P-5)83Re.02
2	Colour	Hazen	Max 5	IS3025(P-4)83Re.02
3	Taste		Agreeable	IS3025(P-8)84Re.02
4	pH Value		6.5 to 8.5	IS3025(P-11)83Re.02
5	Turbidity	NTU	Max 1	APHA 2130-B
6	Total Dissolved Solids	mg/L	Max 500	IS3025(P16)84Re.02
7	Total Hardness as CaCO₃	mg/L	Max 200	IS3025(P-21) 84EDTARe.02
8	Alkalinity	mg/L	Max 200	IS3025(P23)86Re.03
9	Residual Free Chlorine	mg/L	Min 0.2	APHA(22 nd Edi)4500 Cl
10	Chloride as Cl	mg/L	Max 250	IS3025(P-32) 88Re.99Argentometric method
11	Calcium as Ca	mg/L	Max 75	IS3025(P40)91Re.03EDTA
12	Magnesium as Mg	mg/L	Max 30	IS3025(P46)94Re.99EDTA
13	Mineral Oil	mg/L	Max 0.5	APHA(22 nd Edi)5520D
14	Phenolic compounds as C ₆ H ₅ OH	mg/L	Max 0.001	IS3025(P43)92Re.03
15	Hexavalent Chromium as Cr ⁺⁶	mg/L	Max 0.05	APHA(22 nd Edi)3500CrB
16	Cadmium as Cd	mg/L	Max 0.003	APHA(22 nd Edi)3500Cd
17	Copper as Cu	mg/L	Max 0.05	IS3025(P42)92Re.03
18	Zinc as Zn	mg/L	Max 5	APHA(22 nd Edi)3500 Zn
19	Iron as Fe	mg/L	Max 0.3	APHA(22 nd Edi)3500Fe B
20	Lead as Pb	mg/L	Max 0.01	APHA(22 nd Edi)3500PbD
21	Mercury as Hg	mg/L	Max 0.001	IS3025(P48)94
22	Selenium as Se	mg/L	Max 0.01	APHA(22 nd Edi)3500 Se
23	Aluminum as Al	mg/L	Max 0.03	APHA(22 nd Edi)3500 Al
24	Manganese as Mn	mg/L	Max 0.1	APHA(22 nd Edi)3500 Mn B
25	Arsenic as As	mg/L	Max 0.01	IS3025(P-37)88
26	Sulphate as SO ₄	mg/L	Max 200	APHA(22 nd Edi)4500 SO ₄ E
27	Cyanide as CN	mg/L	Max 0.05	APHA(22 nd Edi)4500CN E
28	Boron as B	mg/L	Max 0.5	APHA(22 nd Edi)4500 B
29	Fluoride as F	mg/L	Max 1.0	APHA(22 nd Edi) 4500 F D SPANDS
30	Nitrate Nitrogen as NO ₃	mg/L	Max 45	IS3025(P34)88
31	Anionic Detergents as MBAS	mg/L	Max 0.2	14542/Methylene Blue extraction method
32	Pesticides	mg/L	Absent	GC MS
33	Coliform	/100 ml	Absent	APHA (22 nd Edi. Method) 9221-D
34	E-Coli	/100 ml	Absent	IS: 1622:1981 Edi. 2.4 (2003-05)

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Cleaner Production / Waste Minimization Facilitator

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TABLE NO.10 RESULTS OF DRINKING WATER [OCTOBER 2019 TO MARCH 2020]

TABLE NO.10.1 RESULTS OF DRINKING WATER [ESSENTIAL PARAMETER IN OCTOBER 2019 TO MARCH 2020]

			January-20
SR. NO.	TEST PARAMETERS	UNIT	Staff Canteen
			13/01/2020
1	Odour	1	Agreeable
2	Colour	Hazen	2
3	Taste	1	Agreeable
4	рН	-	7.52
5	Turbidity	NTU	Not Detected
6	Total Dissolved Solids	mg/L	470
7	Total Hardness as CaCO₃	mg/L	180
8	Residual Free Chlorine	mg/L	Not Detected
9	Chloride as Cl	mg/L	180
10	Fluoride as F	mg/L	0.073
11	Iron as Fe	mg/L	0.58
12	Coliform	/100 ml	Absent
13	E-Coli	/100 ml	Absent

BDL*: Below Detection Limit

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TABLE NO.10.2 RESULTS OF DRINKING WATER [FULL PARAMETER IN OCTOBER 2019 TO MARCH 2020]

			November-2019	March-2020				
SR. NO.	PARAMETERS	UNIT	Drinking Water From	n Narmada Water				
			07/11/2019	13/03/2020				
Chem	Chemical Parameters							
1	Odour		Agreeable	Agreeable				
2	Colour	Hazen	< 1.0	2				
3	Taste		Agreeable	Agreeable				
4	pH Value		7.71	7.6				
5	Turbidity	NTU	Not Detected	0.08				
6	Total Dissolved Solids	mg/L	618	630				
7	Total Hardness as CaCO ₃	mg/L	232	238				
8	Alkalinity	mg/L	108	110				
9	Residual Free Chlorine	mg/L	Not Detected	Not Detected				
10	Chloride as Cl	mg/L	199	168				
11	Calcium as Ca	mg/L	52.8	56				
12	Magnesium as Mg	mg/L	24	23.52				
13	Mineral Oil	mg/L	Not Detected	Not Detected				
14	Phenolic compounds as C ₆ H ₅ OH	mg/L	Not Detected	Not Detected				
15	Chromium as Cr ⁺⁶	mg/L	Not Detected	Not Detected				
16	Cadmium as Cd	mg/L	Not Detected	Not Detected				
17	Copper as Cu	mg/L	Not Detected	Not Detected				
18	Zinc as Zn	mg/L	0.026	Not Detected				
19	Iron as Fe	mg/L	0.74	0.58				
20	Lead as Pb	mg/L	Not Detected	Not Detected				
21	Mercury as Hg	mg/L	Not Detected	Not Detected				
22	Selenium as Se	mg/L	Not Detected	Not Detected				
23	Aluminum as Al	mg/L	Not Detected	Not Detected				
24	Manganese as Mn	mg/L	Not Detected	Not Detected				
25	Arsenic as As	mg/L	Not Detected	Not Detected				
26	Sulphate as SO ₄	mg/L	164	146				
27	Cyanide as CN	mg/L	Not Detected	Not Detected				
28	Boron as B	mg/L	Not Detected	Not Detected				
29	Fluoride as F	mg/L	0.068	0.072				
30	Nitrate Nitrogen as NO ₃	mg/L	0.14	0.16				
31	Anionic Detergents as MBAS	mg/L	Not Detected	Not Detected				
32	Pesticides	mg/L	Not Detected	Not Detected				
Micro	biological Parameters							
33	Coliform	/100 ml	Absent	Absent				
34	E-Coli	/100 ml	Absent	Absent				



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TABLE NO.11 RESULTS OF SEWAGE WATER [OCTOBER 2019 TO MARCH 2020]

SR. NO.	PARAMETERS	UNIT	STP OUTLET PERMISSIBLE LIMIT#	TEST METHOD
1	рH	-	Not Specified	IS: 3025 (Part – 11) (Electrometric Method)
2	Total Suspended Solids	mg/L	30	IS3025(P17)
3	Residual Chlorine	mg/L	0.5 Max.	APHA(22 nd Edition 2012):4500 CI G-DPD Colorimetric method
4	BOD (3 Days @ 27 °C)	mg/L	20	IS 3025 (Part – 44)
5	COD	mg/L	Not Specified	APHA(22 nd Edi) 5520-D Open Reflux
6	Oil & Grease	mg/L	Not Specified	APHA (22 nd Edition 2012) 5520 B
7	Fecal Coliform	MPN/100 ml	Not Specified	APHA(22 nd Edi)9221 C & E

RESULTS OF SEWAGE WATER ANALYSIS

DATE OF SAMPLING			09/10/2019		
SR. NO.	PARAMETERS	UNIT	STP Inlet	STP Outlet	
1	pH		6.76	7.24	
2	Total Suspended Solids	mg/L	149	15	
3	Residual Chlorine	mg/L	Not Detected	0.4	
4	BOD (3 Days @ 27 °C)	mg/L	342	17	
5	COD	mg/L			
6	Oil & Grease	mg/L			
7	Fecal Coliform	MPN/100 ml	430	84	

	DATE OF SAMPLING		12/11/2019		
SR. NO.	PARAMETERS	UNIT	STP Inlet	STP Outlet	
1	рН		6.53	7.18	
2	Total Suspended Solids	mg/L	160	19	
3	Residual Chlorine	mg/L	Not Detected	0.2	
4	BOD (3 Days @ 27 °C)	mg/L	369	15	
5	COD	mg/L	1280	75	
6	Oil & Grease	mg/L	7.6	2.4	
7	Fecal Coliform	MPN/100 ml	350	70	

DATE OF SAMPLING			16/12/2019		
SR. NO.	PARAMETERS	UNIT	STP Inlet	STP Outlet	
1	рН		6.64	7.26	
2	Total Suspended Solids	mg/L	153	16	
3	Residual Chlorine	mg/L	Not Detected	0.4	
4	BOD (3 Days @ 27 °C)	mg/L	310	13	
5	COD	mg/L	1164	67	
6	Oil & Grease	mg/L	7.2	2.2	
7	Fecal Coliform	MPN/100 ml	540	84	







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DATE OF SAMPLING			13/01/2020			
SR. NO.	PARAMETERS	UNIT	STP Inlet STP Outlet			
1	рН		6.58	7.14		
2	Total Suspended Solids	mg/L	180	19		
3	Residual Chlorine	mg/L	Not Detected	0.3		
4	BOD (3 Days @ 27 °C)	mg/L	284	15		
5	COD	mg/L	1074	76		
6	Oil & Grease	mg/L	8.9	2.5		
7	Fecal Coliform	MPN/100 ml	920	94		

DATE OF SAMPLING			13/02/2020			
SR. NO.	PARAMETERS	UNIT	STP Inlet	STP Outlet		
1	pН		7.28	7.56		
2	Total Suspended Solids	mg/L	160	14		
3	Residual Chlorine	mg/L	Not Detected	0.2		
4	BOD (3 Days @ 27 °C)	mg/L	242	10		
5	COD	mg/L	998	52		
6	Oil & Grease	mg/L	7.4	1.2		
7	Fecal Coliform	MPN/100 ml	1600	52		

DATE OF SAMPLING			13/03/2020		
SR. NO.	PARAMETERS	UNIT	STP Inlet	STP Outlet	
1	pН		7.19	7.42	
2	Total Suspended Solids	mg/L	186	21	
3	Residual Chlorine	mg/L	Not Detected	0.4	
4	BOD (3 Days @ 27 ℃)	mg/L	206	13	
5	COD	mg/L	768	42	
6	Oil & Grease	mg/L	5.2	1.8	
7	Fecal Coliform	MPN/100 ml	>1600	920	

SR.	PARAMETERS	UNIT	STP C	Outlet	Downiesikle Limit##	
NO.	PARAMETERS	ONII	Max.	Min.	Permissible Limit**	
1	рН		7.56	7.14	6.5-9	
2	Total Suspended Solids	mg/L	21	14	30	
4	BOD (3 Days @ 27 ℃)	mg/L	17	10	20	
7	Fecal Coliform	MPN/100 ml	920	52	<1000	

^{**:} Details provided by customer.







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TABLE NO.12 RESULTS OF STACK MONITORING

PERMISSIBLE LIMIT FOR STACK MONITORING

SR. NO.	TEST PARAMETER	UNIT	GPCB LIMIT**	TEST/SAMPLING METHOD
1	Particulate Matter	mg/Nm³	150	IS:11255 (Part-1)
2	Sulfur Dioxide as SO ₂	ppm	100	IS:11255 (Part-2)
3	Oxides of Nitrogen as NO_{χ}	ppm	50	IS: 11255 (Part-7)

^{**}Details provided by customer.

RESULTS OF STACK MONITORING

	Date of Monitoring		13/12/2019				
	Sampling Location		SS-1 DG Set -1 (125 KVA)	SS-2 DG Set -2 (125 KVA)	SS-3 DG Set -3 (125 KVA)		
SR. NO.	TEST PARAMETER	UNIT	December-19				
1	Particulate Matter	mg/Nm³	23.48	19.34	17.56		
2	Sulfur Dioxide as SO ₂	ppm	6.42	5.34	4.56		
3	Oxides of Nitrogen as NO _X	ppm	34.49	31.45	29.44		
4	Noise Level Monitoring						
4.1	Near DG Set	dB(A)	73.3	71.4	74.3		

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TABLE NO. 13 RESULTS OF DUMP POND DISCHARGE

SR. NO.	PARAMETERS	UNIT	TEST METHOD	
1	рН		IS3025(P11)83Re.02	
2	Total Dissolved Solids	mg/L	IS3025(P16)84Re.02	
3	Total Suspended Solids	mg/L	IS3025(P17)84Re.02	
4	Turbidity	NTU	APHA 2130-B	
5	BOD (3 Days @ 27 ℃)	mg/L	IS 3025 (P44)1993 Re.03Edition2.1	
6	Dissolved Oxygen	mg/L	IS3025(P38)89Re.99	
7	COD	mg/L	APHA(22 nd Edi) 5520-D Open Reflux	
8	Salinity	ppt	APHA 2550 B	
9	Oil & Grease	mg/L	APHA(22 nd Edi)5520D	
10	Total Hardness as CaCO3	mg/L	IS3025(P-21) 84EDTARe.02	
11	Fluoride as F	mg/L	APHA(22 nd Edi) 4500 F D SPANDS	
12	Chloride as Cl	mg/L	IS3025(P-32) 88Re.99Argentometric method	
13	Zinc as Zn	mg/L	AAS- APHA (22 nd Edition) 3111 B	
14	Cadmium as Cd	mg/L	AAS- APHA (22 nd Edition) 3111 B	
15	Lead as Pb	mg/L	AAS- APHA (22 nd Edition) 3111 B	
16	Mercury as Hg	mg/L	AAS-APHA (22 nd Edition) 3112 B	

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RESULTS OF DUMP POND DISCHARGE

	Location Name	Dump Pond Near TT4		
	Date		10/10/2019	13/01/2020
SR. NO.	TEST PARAMETER	UNIT	October-19	January-20
1	pH		7.45	7.41
2	Total Dissolved Solids	mg/L	408	439
3	Total Suspended Solids	mg/L	29	36
4	Turbidity	NTU	5.15	4.7
5	BOD (3 Days @ 27 oC)	mg/L	44	32
6	Dissolved Oxygen	mg/L	6	5.9
7	COD	mg/L	210	194
8	Salinity	ppt	0.19	0.2
9	Oil & Grease	mg/L	Not Detected	Not Detected
10	Total Hardness as CaCO3	mg/L	148	163
11	Fluoride as F	mg/L	0.2	0.23
12	Chloride as Cl	mg/L	110	119
13	Zinc as Zn	mg/L	0.096	0.092
14	Cadmium as Cd	mg/L	Not Detected	Not Detected
15	Lead as Pb	mg/L	0.024	0.032
16	Mercury as Hg	mg/L	Not Detected	Not Detected

BDL*: Below Detection Limit, Minimum Detection Limit, Cadmium as Cd: 0.001 mg/L, Mercury as Hg: 0.00025mg/L, Oil & Grease: 2.0 mg/L.

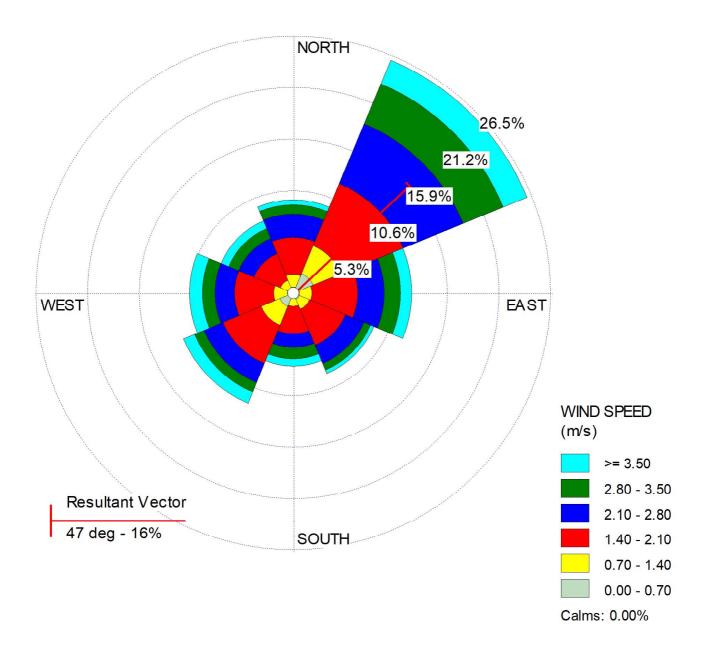
H. T. Shah Lab Manager





Recognised by MoEF. New Delhi Under Sec. 12 of Environmental (Protection) Act-1986

FIGURE NO.3 WIND ROSE DIAGRAM [OCTOBER 2019 TO MARCH 2020]









From: October 2019
To: March 2020

Annexure – 6

Intimation Letter for Stoppage of Environment Monitoring due to COVID-19 AKBTPL, Tuna, Kutch



From: October 2019
To: March 2020



Date: 13.04.2020

To,

Regional Office – East Kutch Gujarat Pollution Control Board, Gandhidham – 370201.

Subject: Intimation for stoppage of environmental monitoring within AKBTPL, Tuna (Kutch,

Gujarat) during COVID - 19 Pandemic lockdown.

Ref.: Regulatory Permission obtained by AKBTPL, Tuna (Kutch, Gujarat) as per attached

Annexure - 1.

Dear Sir,

With reference to above stated subject, we would like intimate you that, in compliance to various regulatory permissions granted by MoEF&CC as well as SPCB for below mentioned project, M/s. Adani Kandla Bulk Terminal Private Limited (Kutch, Gujarat) has been regularly carrying out post environment clearance, monitoring (environmental attributes viz. Air, Water, Noise, Soil, Marine etc.) through NABL accredited / MoEF recognized laboratory and same is being reported/submitted to regulatory body periodically.

However, considering the current scenario of COVID – 19 Pandemic lockdown, we were forced to stop the Environmental Monitoring from 23rd March, 2020 and same shall be restarted after completion of this lockdown period and/or when the condition is normalized (as directed by district administration/State/Central Govt.). The date of restart of Environment Monitoring, shall be communicated to your good office.

Kindly consider our above submission and oblige.

Thanks & Regards

For, Adani Kandla Bulk Terminal Private Limited

Shalin Shah

(Head - Environment)

CC To:

- Member Secretary, GPCB Head Office, Paryavaran Bhavan, Sector 10 A, Gandhi Nagar 382 010
- APCCF, Regional Office (WZ), MoEF&CC, Regional Office (WZ), E-5, Kendriya Paryavaran Bhawan, Arera Colony, Link Road No. – 3, Bhopal – 462 016
- The Director (IA Division), Ministry of Environment, Forests & Climate Change, Indira Paryavaran Bhawan, Jor Bagh Road, New Delhi-110003

Adani Kandla Bulk Terminal Pvt Ltd Adani House, Nr Mithakhali Circle, Navrangpura Ahmedabad 380 009 Gujarat, India CIN: U63090GJ2012PTC069305 Tel +91 79 2656 5801 Fax +91 79 2555 6490 info@adani.com www.adani.com



From: October 2019 To : March 2020



ANNEXURE - 1

REGULATORY PERMISSIONS

Sr.	Permission for	Ref. No. & Dated
No.		
Enviro	nmental / CRZ clearance from MoEF&CC	
1.	Construction of berthing & allied	F. No. 10-10/2008-IA-III, 1st November 2011
	facilities off Tekra near Tuna, Gujarat	
Conse	nt to Operate from SPCB	
1.	Adani Kandla Bulk Terminal Private Limited (PCB ID:	AWH-105213 Date of issue:21 11/2019
	46110) for Loading and Unloading Of Dry Bulk Cargo.	



From: October 2019
To: March 2020

Annexure - 7

(GREEN ZONE DETAILS OF TUNA PORT (AKBTPL) UP TO Mar'2020.)



From: October 2019 : March 2020

Annexure - 7 (GREEN ZONE DETAILS OF TUNA PORT (AKBTPL) UP TO Mar'2020.)

	CURRENT GREEN ZONE DETAILS OF TUNA PORT (AKBTPL) UP TO Mar'2020.							
Sr. No.	Location	Area (Ha)	Tree (No.)	Shrubs (SQM)	Green Carpet (SQM)	Palm (No.)		
1	Staff Canteen, POB & SS1 Building	2.25	4491	1975	8569	307		
2	Green Belt area & Pump House	6.34	15779	250	0	75		
3	Approach Road Zero Point to Main Gate	0.40	0	0	0	1150		
4	SS2 Building & Jetty Road Area.	3.45	8002	1230	0	0		
5 Internal Road & Railway Building 3.34 13180 150 60					250			
	Total 15.78 41452 3605 8629 1782							







Near Adani canteen

Around POB office

Near SS-01 Building







Approach Road- Zero Point to Main Gate

Near SS-02 Building

Near Railway Building



From: October 2019
To: March 2020

Annexure - 8

(Details of CSR activities carried out by Adani Foundation.)



From: October 2019
To: March 2020

Annexure - 8: Details of CSR activities carried out by Adani Foundation.

sr. no	village	CSR activity	Beneficiaries	Expense in Lakh
1		Education Projects		
	Rampar/Tuna /wandi	Material support in Primary School (Prevesotsav Kits)	200	0.34
	Rampar	Providing Sound System in Primary School Rampar	275	0.35
	Tuna Port	Guru Vandna Program Event and Port Visit.	60	0.07
	Rampar / Tuna	Mothers Meeting In Various Location in Various Village	550	0.0
2		Health Projects		
	Rampar, Tuna, Wandi	Rural Clinic	3764	0.57
	Rampar, Tuna, Wandi	Senior Citizen	57	0.43
	Rampar, Tuna, Wandi, Sanghad	Medical Support	15	0.19
3		SLD (Sustainability Livelihood Development) Projects		
	Rampar	Fodder Support	130	10.54
	Tuna	Sewing 4nos Machine Distribution	4	0.28
	Tuna	Tricycle 4nos.Distribution to Handicap Person at Tuna.	4	0.28
	Tuna / Rampar	Tree Plantation at Tuna and Rampar village.	750	0.35
	Tuna	Women Day Celebration Tuna Cluster Villages	170	0.25
4		Rural Infrastructure Development	0	0
5		Fisherman Projects		
	Virabandar	Potable Water	415	2.88 AKBTPL
	Ghavarvaro Bandar	Potable Water	310	2.16 AKBTPL
	Virabandar	Ramotsav Program	35	0.12
		Total : -	6739	18.81



From: October 2019
To: March 2020

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AKBTPL 2019/20

Education Part

To Motivate and Impetuous students & Parents For their Wards Education. 200nos.

School Bags Distributed during Government Prevesotsav Program 8nos School at
Tuna Rampar and Wandi Village





adani

AKBTPL 2019/20

Education Part

Handing Over to Sound System in Primary School Rampar Village. Mothers meeting to various location in Various village Tuna, Rampar.







From: October 2019
To: March 2020

adani

AKBTPL 2019/20

The teachers of village Tuna, Vandi, and Rampar and the primary education officer of Anjar, BRC, CRC, were present at the meditation camp of Guruvandana which was organized by the Adani Foundation. For said event the arrangements including Port Visit was managed with Port and Adani Foundation - 21/12/2019.









adani

AKBTPL 2019/20

Health

Since Five Year Rural Clinic is on Going at Tuna, Rampar and Vandi Village To Provide Medical Health Facilities. A healthy mind remain in Healthy body which reflect in work with this aim rural clinic has been run at Tuna village as well as senior citizen project and medical support was given to needy patient at GKGJ- Bhuj and Adani Hospital, Mundra and also 4Helth Camp Organization in Tuna and Rampar village.







From: October 2019
To: March 2020

adani

AKBTPL 2019/20

SLD (Sustainability Livelihood)

Birthday celebration of Shri Gautam Adani

On this day we celebrated birthday of **Shri Gautam Adani**, by distributing Tri-cycle to 4 Handicapped at Tuna High school, and tree plantation was done. The Sarpanch , Talati along with some of the panchayat members present the same.





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AKBTPL 2019/20

SLD (Sustainability Livelihood)

Women's Day Celebration at Tuna Cluster In Tuna Village. During this Event Dissection for Women Health, Women Law, Women Empowerment 170 Women Participate in this Program.









From: October 2019
To: March 2020

adani

AKBTPL 2019/20

Fisherman Program

- Ramotsav program was organized at Vira bandar on 16.03.20 Total 35 student were participated and all are provided with school bag as well as winner prize to the 1st ,2nd and 3rd winner of each game.
- potable water distribution at VIRA and Dhavarvalo Bandar 525000 liter.





adani

AKBTPL 2019/20

Adani Skill Development Centre Mission

Self Employed Tailor course is designed to make individual ready for Self-Employment by using her/his creativity on Fabrics to deliver High Quality Apparel Products and meet Today's Industry demands. Course provides all required Soft Skills and Technical Skills to convert simple Fabric to a Masterpiece. Individuals can get Employment opportunities in Apparel Industry also.

We Have Been Conducting Empowerment Programs in Skillful Trainings to Earn Income for Women & Girls. At Rampar Village. 73 Women Are Completed There Training Under Adami Skill Development Center (Imitative of Adami Foundation). After Compilation This Training We Have Organized Certificate Distribution Program Held On 18/12/2019. Now 22 Women and Girls Learnt and Started Their Own Tailoring Work.

Due to These Extraordinary Vocational Skills, Women Are Able to Send Their Children to Schools Regularly and Providing Educational Support in Time.



