

18th Nov'2019

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
2) 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 **April, 2019 to September, 2019**.

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 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

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:

April – 2019 to September– 2019



Adani Kandla Bulk Terminal Pvt. Ltd.

From : April 2019
To : September 2019

Environmental and CRZ Clearance Letter issued by MoEF&CC



Adani Kandla Bulk Terminal Pvt. Ltd.

From : April 2019
To : September 2019

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. AKBTPPL 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 AKBTPPL vide MoEF&CC letter dated 10.11.2014

Half yearly Compliance report of Environment and CRZ Clearance issued by MoEF dated 1st November, 2011 bearing F. No. 10-10/2008-IA-III for Construction of berthing & allied facilities off Tekra near Tuna, Gujarat

Sr. No	Condition	Compliance status																				
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.	<div>Complied.</div> <div><ul style="list-style-type: none">Consent to establishment (CtE) and Consent to Operate (CtO) is Obtained and renewed/amended from time to time as 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 CTE are mentioned below</div> <table><tr><th>Sr. No</th><th>Permission</th><th>Project</th><th>Ref.No./Order No.</th><th>Validity</th></tr><tr><td>1</td><td>CtO Obtained by AKBTPL</td><td>AKBTPL</td><td>AWH-68051</td><td>02.12.2019</td></tr><tr><td>2</td><td>Correction in CtO</td><td>AKBTPL</td><td>PC/CCA-Kutch-1269/GPCB ID-46110/303738</td><td>02.12.2019</td></tr><tr><td>3</td><td>Amendment in CTE</td><td>AKBTPL</td><td>CTE-101194</td><td>30.04.2024</td></tr></table> <div><ul style="list-style-type: none">Copies of the stated permissions are already submitted as a part of half yearly compliance report (Oct-14 to March-15) and (Oct'17 to Mar'18) to MoEF & CC vide letter dated 11.05.2015 and 16.05.2018.Copy of the Amended CTE is attached as Annexure-1.</div>	Sr. No	Permission	Project	Ref.No./Order No.	Validity	1	CtO Obtained by AKBTPL	AKBTPL	AWH-68051	02.12.2019	2	Correction in CtO	AKBTPL	PC/CCA-Kutch-1269/GPCB ID-46110/303738	02.12.2019	3	Amendment in CTE	AKBTPL	CTE-101194	30.04.2024
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(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.	<div>Complied.</div> <div><ul style="list-style-type: none">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 dated 11.05.2015 and there is no further change.Further, a study to ascertain tidal flushing in mangroves around the project area of</div>																				

Half yearly Compliance report of Environment and CRZ Clearance issued by MoEF dated 1st November, 2011 bearing F. No. 10-10/2008-IA-III for Construction of berthing & allied facilities off Tekra near Tuna, Gujarat

Sr. No	Condition	Compliance status
		<p>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).</p> <ul style="list-style-type: none"> 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.	<p>Complied.</p> <ul style="list-style-type: none"> 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.
(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	<p>Complied.</p> <ul style="list-style-type: none"> As per the study carried by IIT-Chennai the dredge material is not suitable for reclamation/low level rising.

Half yearly Compliance report of Environment and CRZ Clearance issued by MoEF dated 1st November, 2011 bearing F. No. 10-10/2008-IA-III for Construction of berthing & allied facilities off Tekra near Tuna, Gujarat

Sr. No	Condition	Compliance status
	identified based on mathematical model studies.	<ul style="list-style-type: none"> 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. Annual Maintenance dredging has been carried out during the period of Apr'19 to Sep'19 and total 5, 32,538 M³ dredge material was disposed at identified location.
(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.	<p>Complied.</p> <ul style="list-style-type: none"> 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.	<p>Complied.</p> <ul style="list-style-type: none"> 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.	<p>Complied.</p> <ul style="list-style-type: none"> Environmental Management Plan is in place and the funds earmarked (budgeted separately for the each financial year) are being utilized for effective implementation of environmental safeguards and

Half yearly Compliance report of Environment and CRZ Clearance issued by MoEF dated 1st November, 2011 bearing F. No. 10-10/2008-IA-III for Construction of berthing & allied facilities off Tekra near Tuna, Gujarat

Sr. No	Condition	Compliance status
		<p>environment monitoring. All the expenses related to environment management plan are recorded in advanced accounting system of the organization.</p> <ul style="list-style-type: none"> Expenditure on environmental safeguards is approx. INR 209.16 Lakh for the period of Apr'19 to Sep'19. 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.	<p>Complied.</p> <ul style="list-style-type: none"> 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 April'19 to September'19.
(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.	<p>Complied.</p> <ul style="list-style-type: none"> 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 March-2017).
(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.	<p>Complied.</p> <ul style="list-style-type: none"> Six monthly compliance reports regarding the implementation of the stipulated conditions are regularly submitted to Regional Office of MoEF &CC, Bhopal and other concerned authorities. Last compliance report for Oct'18 to Mar'19 period was submitted by AKBTPL vide letter dated 16.05.2019 to the all concerned authorities.
(iv)	Ministry of Environment & Forests or any other competent authority may	Point Noted.

Half yearly Compliance report of Environment and CRZ Clearance issued by MoEF dated 1st November, 2011 bearing F. No. 10-10/2008-IA-III for Construction of berthing & allied facilities off Tekra near Tuna, Gujarat

Sr. No	Condition	Compliance status
	stipulate any additional conditions or modify the existing ones, if necessary in the interest of environment and the same shall be complied with.	<ul style="list-style-type: none"> 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. <ul style="list-style-type: none"> 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.	Complied. <ul style="list-style-type: none"> Details related to transfer of EC/CRZ clearance in the name of AKBTPPL 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. <ul style="list-style-type: none"> 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.	<ul style="list-style-type: none"> Condition is not applicable to AKBTPPL.
(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.	<ul style="list-style-type: none"> Condition is not applicable to AKBTPPL.
7	These stipulations would be enforced among others under the provisions of Water (Prevention and Control of Pollution) Act 1974, the Air (Prevention and Control of Pollution) Act 1981, the	Complied. <ul style="list-style-type: none"> Permissions under the applicable rules and acts mentioned are already obtained. Please refer point no. I of specific conditions for further details.

Half yearly Compliance report of Environment and CRZ Clearance issued by MoEF dated 1st November, 2011 bearing F. No. 10-10/2008-IA-III for Construction of berthing & allied facilities off Tekra near Tuna, Gujarat

Sr. No	Condition	Compliance status
	Environment (Protection) Act, 1986, the Public Liability (Insurance) Act, 1991 and EIA Notification, 1994 including the amendments and rules made thereafter.	
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. <ul style="list-style-type: none"> 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. <ul style="list-style-type: none"> 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.	<ul style="list-style-type: none"> Noted and same will be complied based on further directions given by concerned authorities in this regard.
11	Status of compliance to the various stipulated environmental conditions and environmental safeguards will be	Complied. <ul style="list-style-type: none"> The documents are being uploaded regularly on our website:

Half yearly Compliance report of Environment and CRZ Clearance issued by MoEF dated 1st November, 2011 bearing F. No. 10-10/2008-IA-III for Construction of berthing & allied facilities off Tekra near Tuna, Gujarat

Sr. No	Condition	Compliance status
	uploaded by the project proponent in its 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. <ul style="list-style-type: none"> 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. <ul style="list-style-type: none"> Compliance report for period (Oct'18 to Mar'19) was submitted to respective authorities mentioned in the condition vide our letter dated 16.05.2019. The said report is also uploaded on our website: http://www.adaniports.com/ports-downloads.
14	The environmental statement for each financial year ending 31 st 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. <ul style="list-style-type: none"> 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.



Adani Kandla Bulk Terminal Pvt. Ltd.

From : April 2019
To : September 2019

Compliance to CRZ Recommendation Letter

**Issued by Forest and Environment
Department, Govt. of Gujarat**

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

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. <ul style="list-style-type: none"> 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. <ul style="list-style-type: none"> 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.	Complied. <ul style="list-style-type: none"> 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. <ul style="list-style-type: none"> No rivers are present at the project site. 3 Bridges and 8 culverts have been provided with total cost of 2.01

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

Sr. No	Condition	Compliance
		<p>crores to allow free flow of water through creeks.</p> <ul style="list-style-type: none"> 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.	<p>Complied.</p> <ul style="list-style-type: none"> AKBTPL being BOOT operator, KPT requested AKBTPL to carry out mangrove plantation in 250 ha area. As agreed, AKBTPL has completed Mangrove plantation in 250 ha area at Sat Saida bet. For further information regarding mangrove plantation activity, please refer reply to specific condition no ii and iii of the Environmental and CRZ clearance letter above.
6	No activities other than those permitted by the competent authority under the CRZ Notification shall be carried out.	<p>Complied.</p> <ul style="list-style-type: none"> All activities are being carried out as per the Environmental and CRZ

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

Sr. No	Condition	Compliance
		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.	Complied. <ul style="list-style-type: none"> 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 709.06 KLD.
8	All necessary permission from different Government Departments/ agencies shall be obtained by the KPT before commencing the expansion activities.	Not applicable at present <ul style="list-style-type: none"> 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 capsized 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. <ul style="list-style-type: none"> 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 for horticulture purpose within plant premise. Third party analysis of the treated water is being carried out once in a month by NABL and MoEF&CC

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

Sr. No	Condition	Compliance																									
		<p>accredited agency namely M/s. Pollucon Laboratories Pvt. Ltd. Summary of the same for duration from Apr-19 to Sep-19 is mentioned below.</p> <table><tr><th>Parameter</th><th>Unit</th><th>Max</th><th>Min</th><th>Perm. Limits</th></tr><tr><td>TSS</td><td>mg/L</td><td>28</td><td>21</td><td>30</td></tr><tr><td>Residual Chlorine</td><td>PPM</td><td>0.6</td><td>0.2</td><td>0.2-0.5</td></tr><tr><td>BOD (3 Days @ 27 °C)</td><td>mg/L</td><td>14.4</td><td>8</td><td>20</td></tr><tr><td>Fecal Coliform</td><td>MPN/100 ml</td><td>140</td><td>70</td><td><1000</td></tr></table> <p>*as per CC&A granted by GPCB BDL – Below Detection Limit</p> <ul style="list-style-type: none">Please refer Annexure – 5 for detailed analysis reports. Total expenditures of the Environment monitoring for the period (Apr'19 to Sep'19) are INR 4.06 lakh.	Parameter	Unit	Max	Min	Perm. Limits	TSS	mg/L	28	21	30	Residual Chlorine	PPM	0.6	0.2	0.2-0.5	BOD (3 Days @ 27 °C)	mg/L	14.4	8	20	Fecal Coliform	MPN/100 ml	140	70	<1000
Parameter	Unit	Max	Min	Perm. Limits																							
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BOD (3 Days @ 27 °C)	mg/L	14.4	8	20																							
Fecal Coliform	MPN/100 ml	140	70	<1000																							
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.	<p>Complied.</p> <ul style="list-style-type: none">The EMP prepared by NIOT in the EIA report was updated by AKBTPL (based on the condition mentioned in the EC and CRZ clearance) and submitted to KPT. KPT has submitted the same vide letter dated 03.12.2013 to MoEF&CC as part of compliance report. All the measures mentioned in the updated 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.	<p>Complied.</p> <ul style="list-style-type: none">All construction and operation activities are carried out meticulously to ensure that there is no negative impact on mangroves and other coastal / marine habitats. Please refer to Sr. no. ii and iii of the specific																									

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

Sr. No	Condition	Compliance
		<p>conditions of the EC and CRZ clearance above for further details.</p> <ul style="list-style-type: none"> Construction activities have been completed in March, 2015 based on the NIOT recommendations. During construction phase capital dredging was carried out by KPT and the dredge material was disposed at a location identified by M/s. CWPRS, Pune in their study report. Annual Maintenance dredging has been carried out during the period of Apr'19 to Sep'19 and total 5,32,538 M³ dredge material was disposed at identified location.
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.	<ul style="list-style-type: none"> Noted and same will be complied on receipt of such recommendations from concerned authorities
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.	<p>Complied.</p> <ul style="list-style-type: none"> 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 shall be ensured that the environmental conditions are not deteriorated by the construction labours.	<p>Complied.</p> <ul style="list-style-type: none"> Construction of the project is completed in March, 2015 and during construction of the project we have provided necessary amenities like 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.

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

Sr. No	Condition	Compliance
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.	Complied. <ul style="list-style-type: none"> 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 AKBTPPL 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.	<ul style="list-style-type: none"> 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.	Complied. <ul style="list-style-type: none"> 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-6 for further details regarding greenbelt development. Total expenditures of the horticulture dept. for the period (Apr'19 to Sep'19) are INR 27.57 lakh.
18	The KPT shall have to contribute financially for taking up the socio-economic upliftment activities in this region in consultation with the Forest and Environment Department and the District Collector/District Development Officer.	Complied. <ul style="list-style-type: none"> 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

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

Sr. No	Condition	Compliance
		<p>3 Sustainable livelihood 4 Rural Infrastructure Development</p> <ul style="list-style-type: none"> Various activities related to above mentioned areas are being carried out on regular basis for socio-economic upliftment 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 13.26 lakh for the period Apr'19 to Sep'19. Please refer Annexure - 7 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.	<p>Complied.</p> <ul style="list-style-type: none"> 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 209.16 Lakh is spent for various activities mentioned here. Please refer to Annexure - 3 for details related to environmental expenditures and Annexure - 7 for expenditures related to CSR activities.
20	A separate environmental management cell with qualified personnel shall be created for environmental monitoring and management during construction and operational phases of the project.	<p>Complied.</p> <ul style="list-style-type: none"> 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.

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

Sr. No	Condition	Compliance																																																																																												
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.	<p>Complied.</p> <ul style="list-style-type: none">Ambient Air Quality (twice in a week), and Noise (once in a month) level monitoring at 4 Nos locations and marine water and sediment monitoring (once in a month) at 2 Nos locations are being carried out by NABL and MoEF&CC accredited agency namely M/s. Pollucon Laboratories Pvt. Ltd. Summary of the same for duration from Apr-19 to Sep-19 is mentioned below. <p>AAQ and noise sampling locations: 4 Nos.</p> <table><tr><th>Parameter</th><th>Unit</th><th>Max</th><th>Min</th><th>Perm. Limit^{\$}</th></tr><tr><td>PM₁₀</td><td>µg/m³</td><td>96.39</td><td>44.43</td><td>100</td></tr><tr><td>PM_{2.5}</td><td>µg/m³</td><td>55.66</td><td>13.51</td><td>60</td></tr><tr><td>SO₂</td><td>µg/m³</td><td>27.51</td><td>6.32</td><td>80</td></tr><tr><td>NO₂</td><td>µg/m³</td><td>45.36</td><td>15.68</td><td>80</td></tr><tr><th>Noise</th><th>Unit</th><th>Max</th><th>Min</th><th>Perm. Limit^{\$}</th></tr><tr><td>Day Time</td><td>dB(A)</td><td>74.3</td><td>41.4</td><td>75</td></tr><tr><td>Night Time</td><td>dB(A)</td><td>69.8</td><td>39.6</td><td>70</td></tr></table> <p>^{\$} as per NAAQ standards, 2009 (IS 9876/IS 9989)</p> <p>Marine water and sediment sampling locations: 2 Nos.</p> <table><tr><th rowspan="2">Parameter</th><th rowspan="2">Unit</th><th colspan="2">Surface</th><th colspan="2">Bottom</th></tr><tr><th>Max</th><th>Min</th><th>Max</th><th>Min</th></tr><tr><td>pH</td><td>--</td><td>8.24</td><td>8.04</td><td>8.16</td><td>7.95</td></tr><tr><td>TDS</td><td>mg/L</td><td>37800</td><td>36012</td><td>37990</td><td>36210</td></tr><tr><td>TSS</td><td>mg/L</td><td>316</td><td>221</td><td>310</td><td>240</td></tr><tr><td>BOD (3 Days @ 27 °C)</td><td>mg/L</td><td>5.7</td><td>3.8</td><td>BDL*</td><td>BDL*</td></tr><tr><td>DO</td><td>mg/L</td><td>6</td><td>5.6</td><td>6.2</td><td>5.9</td></tr><tr><td>Salinity</td><td>ppt</td><td>35.8</td><td>33.5</td><td>36</td><td>33.8</td></tr><tr><td>COD</td><td>mg/L</td><td>22.4</td><td>9.4</td><td>11.2</td><td>5.4</td></tr></table>	Parameter	Unit	Max	Min	Perm. Limit ^{\$}	PM ₁₀	µg/m ³	96.39	44.43	100	PM _{2.5}	µg/m ³	55.66	13.51	60	SO ₂	µg/m ³	27.51	6.32	80	NO ₂	µg/m ³	45.36	15.68	80	Noise	Unit	Max	Min	Perm. Limit ^{\$}	Day Time	dB(A)	74.3	41.4	75	Night Time	dB(A)	69.8	39.6	70	Parameter	Unit	Surface		Bottom		Max	Min	Max	Min	pH	--	8.24	8.04	8.16	7.95	TDS	mg/L	37800	36012	37990	36210	TSS	mg/L	316	221	310	240	BOD (3 Days @ 27 °C)	mg/L	5.7	3.8	BDL*	BDL*	DO	mg/L	6	5.6	6.2	5.9	Salinity	ppt	35.8	33.5	36	33.8	COD	mg/L	22.4	9.4	11.2	5.4
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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

Sr. No	Condition	Compliance																																														
		<table><tr><th rowspan="2">Parameter</th><th rowspan="2">Unit</th><th colspan="2">Sediment</th></tr><tr><th>Max</th><th>Min</th></tr><tr><td>Organic Matter</td><td>%</td><td>0.92</td><td>0.61</td></tr><tr><td>Phosphorus as P</td><td>mg/kg</td><td>756</td><td>570</td></tr><tr><td>Aluminium as Al</td><td>%</td><td>5.1</td><td>4.16</td></tr><tr><td>Total Chromium as Cr+3</td><td>mg/kg</td><td>258</td><td>128</td></tr><tr><td>Manganese as Mn</td><td>mg/kg</td><td>1460</td><td>978</td></tr><tr><td>Iron as Fe</td><td>%</td><td>5.18</td><td>4.84</td></tr><tr><td>Nickel as Ni</td><td>%</td><td>42.4</td><td>19.4</td></tr><tr><td>Copper as Cu</td><td>mg/kg</td><td>52</td><td>27.6</td></tr><tr><td>Zinc as Zn</td><td>mg/kg</td><td>283</td><td>198</td></tr><tr><td>Lead as Pb</td><td>mg/kg</td><td>4.8</td><td>1.1</td></tr></table> <ul style="list-style-type: none">Please refer Annexure – 5 for detailed analysis reports. Approx. INR 4.06 Lakh is spent for all environmental monitoring activities during the (Apr'19 to Sep'19) periods.	Parameter	Unit	Sediment		Max	Min	Organic Matter	%	0.92	0.61	Phosphorus as P	mg/kg	756	570	Aluminium as Al	%	5.1	4.16	Total Chromium as Cr+3	mg/kg	258	128	Manganese as Mn	mg/kg	1460	978	Iron as Fe	%	5.18	4.84	Nickel as Ni	%	42.4	19.4	Copper as Cu	mg/kg	52	27.6	Zinc as Zn	mg/kg	283	198	Lead as Pb	mg/kg	4.8	1.1
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22	The KPT shall have to contribute financially to support the National Green Corps Scheme being implemented in the Gujarat by GEER Foundation, Gandhinagar, in consultation with Forest and Environment Department.	<p>Complied.</p> <ul style="list-style-type: none">National Green Corps Scheme is being implemented by GEER foundation. AKBTPL requested GEER foundation to provide details of the program and financial assistance required so that necessary support may be provided. Further to the communication from GEER foundation, various activities were carried out on 21 March, international Day of Forests in 2014, at a school in Rampar, under National Green Corps. Details regarding the same were submitted as part of the compliance period Oct' 13 to Mar'14. Support will be extended to GEER foundation for any such activities in future																																														
23	A six monthly report on compliance of the conditions mentioned in this letter shall have to be furnished by the KPT on a regular basis to this Department/MoEF, GOI.	<p>Complied.</p> <ul style="list-style-type: none">Six monthly compliance reports regarding the implementation of the stipulated conditions are regularly submitted to all concerned authorities.																																														

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

Sr. No	Condition	Compliance
		<ul style="list-style-type: none"> Last compliance report for Oct'18 to Mar'19 period was submitted by AKBTPPL vide letter dated 16.05.2019. 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.	<p>Complied.</p> <ul style="list-style-type: none"> 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.	<p>Complied.</p> <ul style="list-style-type: none"> 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.
26	The KPT shall create a full-fledged and environmental cell for implementation of the Environment Management Programme and monitoring of the	<p>Complied.</p> <ul style="list-style-type: none"> AKBTPL has environment management cell with qualified manpower for implementation of environmental safeguards and

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

Sr. No	Condition	Compliance
	environmental parameters/post project monitoring.	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.	Complied. <ul style="list-style-type: none"> 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. <ul style="list-style-type: none"> 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.	<ul style="list-style-type: none"> Agreed.

Annexure – 1: Amended CTE Copy



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

"Consent to Establish-Amendment" (CTE-101194)

BY R.P.A.D.
Date:

NO: PC/CCA-KUTCH-1269(2)/ID 46110/

To,
Adani Kandla Bulk Terminal Private Limited (Port),
Plot No: Dry Bulk Terminal, off tekra, near tuna,
Outside Kandla Creek,
Village: Tuna,
Ta: Anjar,
Dist: Kutch.

Sub: Consent to Establish (NOC)-Amendment under Section 25 of Water Act 1974 and Section 21 of Air Act 1981

Ref: Your application for CTE-Amendment no. **152972** received on **16/03/2019**.

Without prejudice to the powers of this Board under the Water (Prevention and Control of Pollution) Act-1974, the Air Act-1981 and the Environment (Protection) Act-1986 and without reducing your responsibilities under the said Acts in any way, this is to inform you that this Board grants **Consent to Establish - Amendment for additional capital dredging to the tune of 7.68 Million M³ & annual maintenance of dredging to the tune of 0.2 Million M³ at existing plant (port) located at Dry Bulk Terminal, off tekra, near tuna, Outside Kandla Creek, Village: Tuna, Ta: Anjar, Dist: Kutch within following conditions.**

SUBJECT TO THE FOLLOWING SPECIFIC CONDITIONS:

1. The validity of this order will be up to 30/04/2024.
2. There shall be no change in product capacity (Loading and unloading of dry bulk cargo - 12 MMTPA) due to CTE-amendment.
3. Industry shall not carry out any activities which attracts provision of EIA notification-2006 and amendment made therein.
4. There shall be no changes in existing product handling capacity under Water act, Air act and Hazardous and other waste rules due to CTE-amendment.
5. Industry shall not start any dredging activity till Environment Clearance & CRZ-Clearance shall be granted by the competent authority.
6. 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.
7. Industry shall manage Solid Wastes generated from industrial activities as per Solid Waste Management Rules-2016 (solid waste as defined in Rule-3(46)).
8. Industry shall obtain NOC from CGWA as per order of Hon. National Green Tribunal for the withdrawal of ground water, if applicable.



1. The applicant shall use trailing Suction Hopper Dredger (TSDH) to carry out dredging operation and the dredged material shall be disposed at pre-identified location at 22° 47' 12.74" N and Longitude 70° 02' 56.91"E.



9. Applicant shall use trailing Suction Hopper Dredger (TSDH) to carry out dredging operation and the dredged material shall be disposed at pre-identified location at 22° 47' 12.74" N and Longitude 70° 02' 56.91"E.

CONDITIONS UNDER WATER ACT 1974:

10. Water Source: - GWIL.
11. There shall be no change in existing quantity of water consumption (3125 KL/Day) for industrial purpose due to CTE amendment, where water is mainly used for sprinkling, fire fighting & utility only.
12. There shall be no change in existing quantity of water consumption (30,000 KL/Day) for domestic purpose due to CTE amendment.
13. There shall be no change in existing quantity of generation of industrial effluent (342 KL/Day) due to CTE-amendment.
14. There shall be no change in existing quantity of generation of domestic effluent (22 KL/Day) due to CTE-amendment.
15. Treated domestic effluent conforming to below standard shall be discharged on land within premises for gardening & plantation conform to following standard:

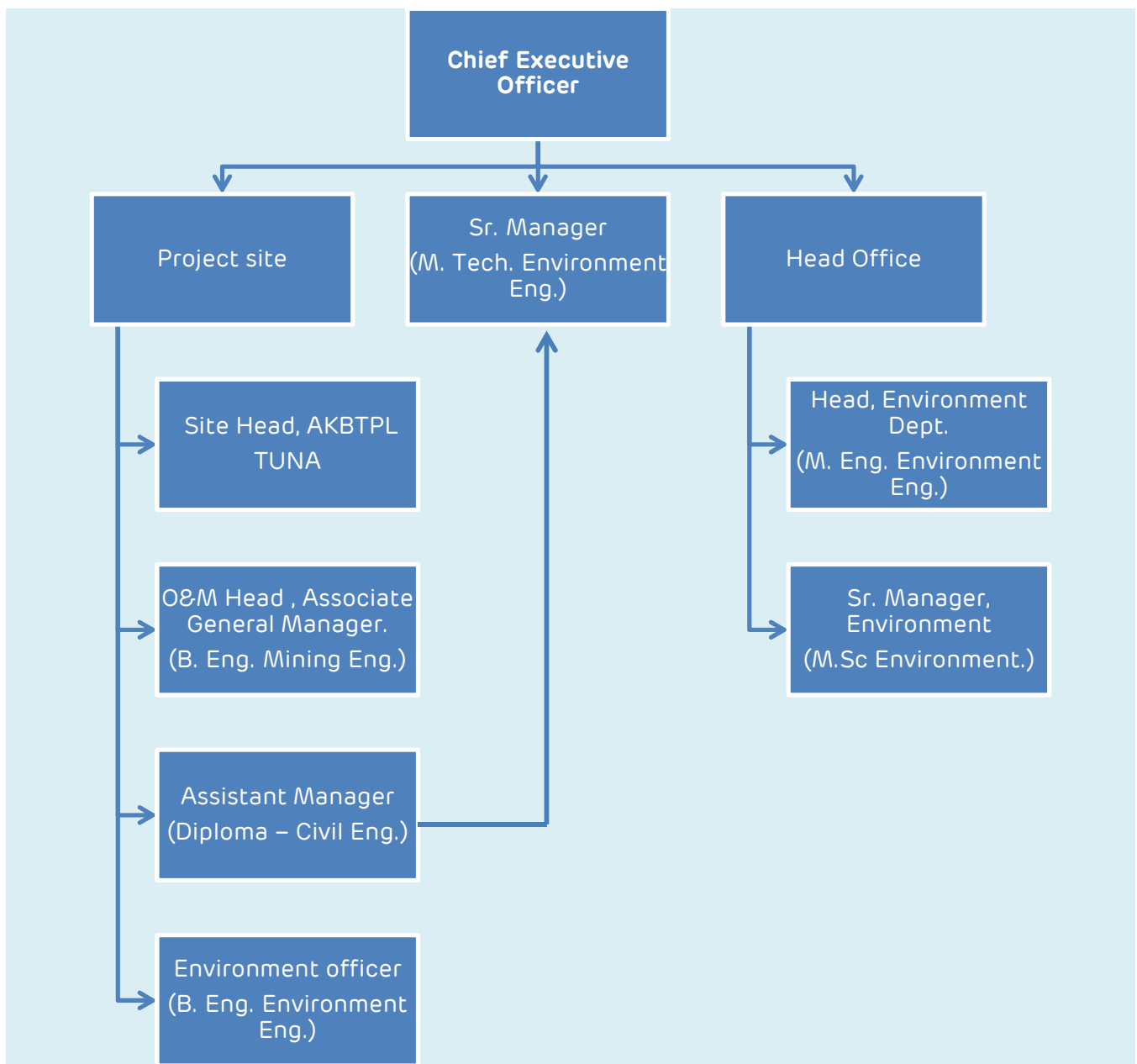
PARAMETER	PERMISSIBLE LIMIT
Suspended Solids	30 mg/L
BOD (3 Days at 27°C)	20 mg/L
Residual chlorine	Minimum 0.5 mg/L

16. Industry shall provide fixed pipeline with flow meter for the reuse of treated sewage and maintain its record.
17. Disposal system for storm water shall be provided separately. In no circumstances storm water shall be mixed with the industrial effluent.
18. There shall be no change in rest of conditions of CTE-43779 issued vide order no. GPBC/CCA-Kutch-1269-ID46110 dated 09/02/2015.

For and on behalf of
GUJARAT POLLUTION CONTROL BOARD


(Smt U.K. Upadhyay)
Environmental Engineer

Annexure – 2: Environmental Management Cell



Annexure- 3: Expenditure Details on Environmental Safeguards.

Sr. no.	Activity	Cost (INR in Lakh)	
		Cost incurred Apr'19 to Sep'19	2019-20 (Budgeted)
1	Environmental Monitoring	4.06	8.87
2	Greenbelt development	27.57	43.86
3	Disposal of wastes (including OWC & STP operation).	7.82	15.69
4	Firefighting Equipment.	126.71	233.31
5	Dust Suppression.		
6	Maintenance of conveyor belt.	43.00	101.15
Total		209.16	402.88

Annexure – 4

(FORM-V)

Environmental Statement for 2018-19

Environment Statement for 2018-19 for M/s Adani Kandla Bulk Terminal Pvt Ltd



o/c

Ref No. AKBTP/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 - AKBTP)

Encl: As above.

Copy to:

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

25-5-19
Received
Gujarat Pollution Control Board
Regional Office
Kutch (East)

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

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

Annexure – 5

(Six Monthly Environment Monitoring Report)

(Apr'19 to Sep'19)



POLLUCON

LABORATORIES PVT. LTD.

Environmental Auditors, Consultants & Analysts.
Cleaner Production / Waste Minimization Facilitator

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

"ENVIRONMENTAL MONITORING REPORT"

For

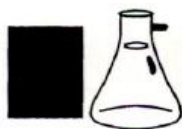
**ADANI KANDLA BULK TERMINAL PRIVATE LIMITED.
KANDLA, KUTCH.**

APRIL 2019 TO SEPTEMBER 2019

H. T. Shah
Lab Manager



Dr. Arun Bajpai
Lab Manager (Q)



POLLUCON LABORATORIES PVT. LTD.

Environmental Auditors, Consultants & Analysts.
Cleaner Production / Waste Minimization Facilitator

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	Noise Meter	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



Dr. Arun Bajpai
Lab Manager (Q)

**POLLUCON****LABORATORIES PVT. LTD.**Environmental Auditors, Consultants & Analysts.
Cleaner Production / Waste Minimization Facilitator

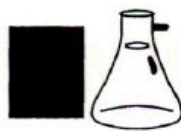
Recognised by MoEF, New Delhi Under Sec. 12 of Environmental (Protection) Act-1986

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/m ³	100	IS:5182(Part 23) SOP AAQM SPM -01
2	Particulate Matter (PM _{2.5})	µg/m ³	60	SOP AAQM PM2.5 - 06
3	Sulphur Dioxide (SO ₂)	µg/m ³	80	IS:5182(Part 2): Improved West and Gaeke
4	Oxides of Nitrogen (NO ₂)	µg/m ³	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.

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TABLE NO. 1 RESULTS OF AAQM FOR LC GATE NO.2 [APRIL 2019 - SEPTEMBER 2019]

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	01/04/2019	58.30	33.70	14.40	25.57
2	04/04/2019	64.58	25.91	17.61	20.80
3	08/04/2019	54.43	28.49	7.01	16.51
4	11/04/2019	67.96	30.91	9.39	30.71
5	15/04/2019	71.77	38.53	10.34	28.57
6	18/04/2019	88.48	49.37	12.56	23.82
7	22/04/2019	79.58	43.37	11.68	31.73
8	25/04/2019	65.68	31.41	22.46	35.56
9	29/04/2019	56.36	24.33	16.47	27.78
10	02/05/2019	57.58	19.32	12.69	26.37
11	06/05/2019	67.38	36.36	7.37	34.58
12	09/05/2019	51.38	27.32	10.36	30.60
13	13/05/2019	61.50	23.55	6.47	17.57
14	16/05/2019	73.84	30.56	13.58	24.75
15	20/05/2019	58.46	18.37	8.31	27.58
16	23/05/2019	62.69	24.50	15.22	32.42
17	27/05/2019	70.38	28.40	9.77	23.59
18	30/05/2019	68.51	31.60	14.64	29.43
19	03/06/2019	51.27	22.60	7.77	22.61
20	06/06/2019	65.38	40.26	11.29	28.64
21	10/06/2019	77.84	33.67	14.22	32.67
22	13/06/2019	57.87	20.69	12.40	24.56
23	18/06/2019	48.64	18.58	8.64	17.32
24	20/06/2019	72.34	26.58	6.32	29.42
25	24/06/2019	50.31	21.44	10.26	25.62
26	27/06/2019	61.24	32.34	13.20	30.42
27	01/07/2019	71.54	33.67	6.48	28.39
28	04/07/2019	48.65	25.38	16.40	19.64
29	08/07/2019	59.42	30.43	11.21	29.43
30	11/07/2019	63.69	27.61	13.69	25.74
31	15/07/2019	45.37	24.34	10.68	22.43
32	18/07/2019	65.36	31.55	14.50	18.28
33	22/07/2019	55.33	22.43	12.78	30.22
34	25/07/2019	49.30	18.62	7.53	34.50
35	29/07/2019	64.34	32.76	15.63	32.63
36	01/08/2019	52.37	23.39	13.65	25.78
37	05/08/2019	60.38	32.47	9.69	21.59
38	08/08/2019	58.41	36.74	18.62	36.41
39	12/08/2019	68.30	29.48	7.70	26.47
40	15/08/2019	54.37	16.54	11.38	23.28
41	19/08/2019	70.59	37.44	17.20	19.52
42	22/08/2019	57.67	28.61	8.36	34.52
43	26/08/2019	62.40	31.55	16.62	38.60
44	29/08/2019	49.27	17.54	10.56	27.62
45	09/09/2019	54.75	21.52	12.42	30.50
46	12/09/2019	66.37	25.50	6.41	26.35
47	16/09/2019	50.45	31.64	14.56	33.43
48	19/09/2019	45.69	23.51	8.47	39.54
49	23/09/2019	52.45	26.37	10.35	21.56
50	26/09/2019	60.25	29.40	13.74	24.82
51	30/09/2019	59.26	24.92	16.43	31.46

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TABLE NO. 2 RESULTS OF AAQM FOR STARTING OF PILE APPROACH [APRIL 2019 - SEPTEMBER 2019]

Sr No.	Date of Sampling	Particulate Matter (PM ₁₀) (µg/m ³)	Particulate Matter (PM _{2.5}) (µg/m ³)	Sulphur Dioxide (SO ₂) (µg/m ³)	Oxides of Nitrogen (NO ₂) (µg/m ³)
1	01/04/2019	81.64	40.28	18.91	39.39
2	04/04/2019	79.45	39.53	22.43	41.63
3	08/04/2019	90.48	50.28	14.68	23.95
4	11/04/2019	73.73	33.66	21.42	36.84
5	15/04/2019	65.56	29.41	12.68	34.50
6	18/04/2019	82.74	43.78	17.71	42.82
7	22/04/2019	62.72	34.53	15.32	38.57
8	25/04/2019	86.38	46.45	19.74	32.98
9	29/04/2019	92.56	52.53	10.74	35.70
10	02/05/2019	68.35	32.40	10.34	21.33
11	06/05/2019	91.88	50.34	23.27	44.27
12	09/05/2019	85.32	44.24	21.39	37.56
13	13/05/2019	79.20	40.33	17.22	28.33
14	16/05/2019	89.36	34.27	19.32	27.71
15	20/05/2019	76.77	38.30	14.27	33.46
16	23/05/2019	83.47	45.65	20.23	40.39
17	27/05/2019	95.36	39.54	12.47	34.22
18	30/05/2019	73.62	35.76	16.57	36.48
19	03/06/2019	76.64	31.53	21.56	28.33
20	06/06/2019	85.39	49.18	17.57	32.42
21	10/06/2019	67.67	29.70	23.57	36.21
22	13/06/2019	74.35	37.55	19.24	30.28
23	18/06/2019	63.76	33.56	13.57	26.36
24	20/06/2019	91.29	46.36	16.32	41.25
25	24/06/2019	68.25	32.40	18.59	34.20
26	27/06/2019	87.36	50.22	20.25	38.44
27	01/07/2019	80.37	42.66	15.37	36.69
28	04/07/2019	62.76	29.49	18.22	40.22
29	08/07/2019	86.39	45.65	16.30	34.27
30	11/07/2019	70.20	35.60	21.25	43.47
31	15/07/2019	68.67	32.48	12.36	30.44
32	18/07/2019	82.67	41.50	20.46	39.20
33	22/07/2019	76.85	38.34	22.42	35.35
34	25/07/2019	64.27	31.53	19.37	26.37
35	29/07/2019	84.33	48.68	23.57	37.59
36	01/08/2019	81.56	37.55	20.55	37.59
37	05/08/2019	74.64	41.54	14.37	41.67
38	08/08/2019	84.21	48.23	24.58	32.66
39	12/08/2019	78.59	34.35	22.44	35.35
40	15/08/2019	62.15	31.57	15.59	31.50
41	19/08/2019	85.62	44.57	19.53	27.50
42	22/08/2019	90.47	42.66	16.30	23.88
43	26/08/2019	79.63	38.63	25.42	33.53
44	29/08/2019	68.62	27.62	17.50	40.37
45	02/09/2019	79.58	40.46	16.26	29.70
46	05/09/2019	69.71	32.52	19.36	36.77
47	09/09/2019	87.44	44.40	22.57	38.62
48	12/09/2019	76.54	37.51	15.57	42.46
49	16/09/2019	80.38	42.41	25.40	37.62
50	19/09/2019	73.71	28.49	17.66	33.49
51	23/09/2019	64.31	33.60	13.47	30.58
52	26/09/2019	86.41	49.51	24.63	41.47
53	30/09/2019	78.71	43.49	20.75	34.58

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TABLE NO. 3 RESULTS OF AAQM FOR SOUTH WEST CORNER AT PUMP HOUSE [APRIL 2019 - SEPTEMBER 2019]

Sr No.	Date of Sampling	Particulate Matter (PM ₁₀) (µg/m ³)	Particulate Matter (PM _{2.5}) (µg/m ³)	Sulphur Dioxide (SO ₂) (µg/m ³)	Oxides of Nitrogen (NO ₂) (µg/m ³)
1	01/04/2019	67.49	26.37	9.65	21.78
2	04/04/2019	85.76	45.70	7.75	34.67
3	08/04/2019	75.50	23.54	10.35	27.44
4	11/04/2019	60.48	27.70	17.36	25.49
5	15/04/2019	55.45	22.70	8.44	18.57
6	18/04/2019	68.40	39.74	6.93	32.65
7	22/04/2019	72.81	37.70	13.77	35.23
8	25/04/2019	51.34	28.37	16.78	28.48
9	29/04/2019	76.45	40.33	14.31	20.56
10	02/05/2019	76.33	36.53	16.79	35.66
11	06/05/2019	51.56	22.52	14.56	29.31
12	09/05/2019	73.69	40.66	12.65	23.49
13	13/05/2019	56.87	19.81	8.58	20.30
14	16/05/2019	65.33	28.65	15.57	19.55
15	20/05/2019	53.23	23.48	11.63	30.54
16	23/05/2019	69.21	34.28	9.62	17.35
17	27/05/2019	82.43	24.36	6.34	27.84
18	30/05/2019	62.37	39.33	10.45	22.31
19	03/06/2019	57.68	27.65	12.60	25.34
20	06/06/2019	60.80	33.49	15.63	22.55
21	10/06/2019	52.44	20.27	11.58	20.58
22	13/06/2019	47.55	28.53	14.40	27.59
23	18/06/2019	59.35	25.31	10.59	23.46
24	20/06/2019	85.69	42.46	8.69	19.50
25	24/06/2019	55.64	24.27	6.51	21.74
26	27/06/2019	68.60	38.45	9.66	17.57
27	01/07/2019	65.47	30.44	10.40	24.20
28	04/07/2019	57.62	16.64	12.60	33.45
29	08/07/2019	67.56	37.49	7.70	17.50
30	11/07/2019	52.49	31.53	9.58	35.61
31	15/07/2019	60.31	13.51	6.72	15.68
32	18/07/2019	77.66	35.62	18.62	32.71
33	22/07/2019	66.79	32.61	14.23	23.46
34	25/07/2019	56.26	26.36	11.52	19.50
35	29/07/2019	70.67	38.33	13.80	25.64
36	01/08/2019	58.67	26.32	18.37	22.87
37	05/08/2019	68.63	37.49	7.51	26.85
38	08/08/2019	73.64	43.66	14.64	23.60
39	12/08/2019	63.54	25.65	11.52	19.20
40	15/08/2019	45.37	21.69	9.78	17.62
41	19/08/2019	75.65	33.53	6.43	24.51
42	22/08/2019	70.69	38.70	12.33	20.74
43	26/08/2019	69.25	35.49	10.36	28.43
44	29/08/2019	54.38	20.52	8.49	32.73
45	02/09/2019	64.87	30.44	6.52	23.53
46	05/09/2019	52.66	26.36	17.90	32.53
47	09/09/2019	70.69	34.70	9.73	27.64
48	12/09/2019	60.43	29.48	12.63	30.43
49	16/09/2019	55.41	35.66	18.65	26.48
50	19/09/2019	62.89	20.89	14.41	22.56
51	23/09/2019	44.43	15.68	16.65	35.49
52	26/09/2019	67.62	38.45	8.75	18.50
53	30/09/2019	66.24	31.61	11.38	24.57

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TABLE NO. 4 RESULTS OF AAQM FOR NORTH EAST CORNER OF BACK UP AREA [APRIL 2019 - SEPTEMBER 2019]

Sr No.	Date of Sampling	Particulate Matter (PM ₁₀) (µg/m ³)	Particulate Matter (PM _{2.5}) (µg/m ³)	Sulphur Dioxide (SO ₂)(µg/m ³)	Oxides of Nitrogen (NO ₂) (µg/m ³)
1	01/04/2019	90.32	55.66	21.69	36.03
2	04/04/2019	73.61	34.66	19.43	38.42
3	08/04/2019	82.28	45.49	17.66	34.34
4	11/04/2019	79.67	37.62	13.62	40.26
5	15/04/2019	87.29	49.41	16.55	31.52
6	18/04/2019	94.33	52.74	20.48	26.90
7	22/04/2019	84.35	40.53	22.75	42.84
8	25/04/2019	77.75	43.28	24.44	44.67
9	29/04/2019	86.73	46.41	13.01	30.23
10	02/05/2019	84.35	39.34	26.59	30.28
11	06/05/2019	76.58	31.60	18.61	41.22
12	09/05/2019	68.76	35.53	14.57	27.76
13	13/05/2019	72.34	26.46	21.54	32.50
14	16/05/2019	94.55	53.80	17.40	38.46
15	20/05/2019	71.23	42.82	19.62	40.26
16	23/05/2019	88.55	49.37	23.58	36.76
17	27/05/2019	90.32	32.43	16.31	31.28
18	30/05/2019	82.64	43.53	20.35	39.26
19	03/06/2019	83.64	37.52	24.36	34.53
20	06/06/2019	79.67	44.52	20.66	36.56
21	10/06/2019	91.35	50.36	26.30	43.53
22	13/06/2019	81.53	45.35	22.51	35.43
23	18/06/2019	77.50	30.44	19.65	37.37
24	20/06/2019	96.39	51.39	21.62	44.56
25	24/06/2019	78.57	29.49	14.52	39.20
26	27/06/2019	92.36	55.25	23.68	33.56
27	01/07/2019	90.23	52.43	18.77	33.44
28	04/07/2019	68.38	34.54	14.38	30.39
29	08/07/2019	79.34	48.50	20.29	38.22
30	11/07/2019	82.60	43.57	23.38	40.80
31	15/07/2019	76.57	39.47	15.28	35.83
32	18/07/2019	88.60	46.30	25.39	45.36
33	22/07/2019	86.34	45.60	26.57	43.26
34	25/07/2019	69.65	37.23	17.31	37.63
35	29/07/2019	77.32	44.60	19.50	29.66
36	01/08/2019	75.70	32.39	25.40	32.44
37	05/08/2019	81.20	46.63	12.70	35.75
38	08/08/2019	90.25	53.67	21.26	39.32
39	12/08/2019	73.46	38.76	16.24	31.63
40	09/09/2019	76.90	30.89	19.71	34.41
41	12/09/2019	83.71	42.45	24.72	37.39
42	16/09/2019	90.25	49.37	21.43	40.38
43	19/09/2019	79.68	34.37	20.38	36.34
44	23/09/2019	58.45	29.45	25.77	44.53
45	26/09/2019	78.57	44.73	27.51	33.67
46	30/09/2019	89.53	48.62	18.46	42.80

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AMBIENT AIR QUALITY ANALYSIS REPORT OBSERVATIONS

Ambient Air Quality Monitoring Sample Analysis									
Sr. No.	Month	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/m³)	
		Max	Min	Max	Min	Max	Min	Max	Min
L.C. Gate No.2									
1	April-19	88.48	54.43	49.37	24.33	22.46	7.01	35.56	16.51
2	May-19	73.84	51.38	36.36	18.37	15.22	6.47	34.58	17.57
3	June-19	77.84	48.64	40.26	18.58	14.22	6.32	32.67	17.32
4	July-19	71.54	45.37	33.67	18.62	16.40	6.48	34.50	18.28
5	August-19	70.59	49.27	37.44	16.54	18.62	7.70	38.60	19.52
6	September-19	66.37	45.69	31.64	21.52	16.43	6.41	39.54	21.56
Starting Of Pile Approach (Near SS2 Building)									
1	April-19	92.56	62.72	52.53	29.41	22.43	10.74	42.82	23.95
2	May-19	95.36	68.35	50.34	32.40	23.27	10.34	44.27	21.33
3	June-19	91.29	63.76	50.22	29.70	23.57	13.57	41.25	26.36
4	July-19	86.39	62.76	48.68	29.49	23.57	12.36	43.47	26.37
5	August-19	90.47	62.15	48.23	27.62	25.42	14.37	41.67	23.88
6	September-19	87.44	64.31	49.51	28.49	25.40	13.47	42.46	29.70
South West Corner Of Back Up Area									
1	April-19	85.76	51.34	45.70	22.70	17.36	6.93	35.23	18.57
2	May-19	82.43	51.56	40.66	19.81	16.79	6.34	35.66	17.35
3	June-19	85.69	47.55	42.46	20.27	15.63	6.51	27.59	17.57
4	July-19	77.66	52.49	38.33	13.51	18.62	6.72	35.61	15.68
5	August-19	75.65	45.37	43.66	20.52	18.37	6.43	32.73	17.62
6	September-19	70.69	44.43	38.45	15.68	18.65	6.52	35.49	18.50
North East Corner Of Back Up Area									
1	April-19	94.33	73.61	55.66	34.66	24.44	13.01	44.67	26.90
2	May-19	94.55	68.76	53.80	26.46	26.59	14.57	41.22	27.76
3	June-19	96.39	77.50	55.25	29.49	26.30	14.52	44.56	33.56
4	July-19	90.23	68.38	52.43	34.54	26.57	14.38	45.36	29.66
5	August-19	90.25	73.46	53.67	32.39	25.40	12.70	39.32	31.63
6	September-19	90.25	58.45	49.37	29.45	27.51	18.46	44.53	33.67

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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 [APRIL 2019 TO SEPTEMBER 2019]

Noise Level Day Time dB(A)Leq*									
Sr. No.	Name of Location	LC Gate No.2		Starting Of Pile Approach		South West Corner at Pump House		North East Corner of Back up Area	
	Month	Max	Min	Max	Min	Max	Min	Max	Min
1.	April-19	--	--	--	--	--	--	--	--
2.	May-19	66.1	52.9	64.5	57.5	68.8	49.4	70.2	56.3
3.	June-19	71.8	63.5	74.3	65.0	71	61.2	72.8	59.2
4.	July-19	62.6	49.4	68.1	57.8	58.5	53.9	67.2	55.5
5.	August-19	56.8	41.4	70.2	59.3	58.6	55.8	66.2	52.8
6.	September-19	--	--	70.9	58.2	72.4	53.8	71.9	51.6

TABLE NO. 6 RESULTS OF NIGHT TIME NOISE LEVEL MONITORING [APRIL 2019 TO SEPTEMBER 2019]

Noise Level Night Time dB(A)Leq*									
Sr. No.	Name of Location	LC Gate No.2		Starting Of Pile Approach		South West Corner at Pump House		North East Corner of Back up Area	
	Month	Max	Min	Max	Min	Max	Min	Max	Min
1.	April-19	--	--	--	--	--	--	--	--
2.	May-19	59.5	49.8	56.0	47.9	58.6	45.5	61.6	48.3
3.	June-19	67.2	62.1	69.8	62.6	66.2	60.4	64.3	50.4
4.	July-19	58.8	48.2	67.1	55.6	56.9	52.8	63.6	53.9
5.	August-19	51.6	39.6	65.5	49.6	58.0	44.6	59.4	56.0
6.	September-19	--	--	67.7	62.4	59.5	55.2	59.4	50.3

AMBIENT AIR QUALITY STANDARDS FOR NOISE SPECIFIED BY CPCB

Area Code	Category of Area/Zone	Limits in dB(A) Leq [#]	
		Day time	Night time
A	Industrial area	75	70
Notes:			
1. Day time shall mean from 6.00 a.m. to 10.00 p.m.			
2. Night time shall mean from 10.00 p.m. to 06.00 a.m.			
[#] dB(A) Leq denotes the time weighted average of the level of sound in decibels on scale A which is relatable to human hearing			


H. T. Shah
 Lab Manager


Dr. Arun Bajpai
 Lab Manager (Q)

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AMBIENT AIR QUALITY MONITORING & NOISE QUALITY MONITORING LOCATIONS

Sr. No	Name of Location	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
H. T. Shah
Lab Manager
Dr. Arun Bajpai
Lab Manager (Q)



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RESULTS OF SEA WATER MONITORING

TABLE NO. 7 RESULTS OF SEA WATER [APRIL 2019 TO SEPTEMBER 2019]

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 (22 nd Edi.) 2008	Test Parameters	: As per table

SR. NO	TEST PARAMETERS	UNIT	Near Mouth of Creek (M1)		Near Jetty (M2)		Near Mouth of Creek (M1)	
			April-19		May-19		June-19	
			12/04/2019		16/05/2019		11/06/2019	
			SURFACE	BOTTOM	SURFACE	BOTTOM	SURFACE	BOTTOM
1	pH	--	8.16	8.05	8.04	7.99	8.19	8.1
2	Temperature	°C	30.4	30.2	31.5	31	31.9	31.1
3	Total Suspended Solids	mg/L	265	296	221	240	236	258
4	BOD (3 Days@27°C)	mg/L	5.7	BDL*	4.8	BDL*	3.8	BDL*
5	Dissolved Oxygen	mg/L	5.9	6	5.6	5.9	6	6.2
6	Salinity	ppt	35.4	35.7	35.8	36	34	34.6
7	Oil & Grease	mg/L	BDL*	BDL*	BDL*	BDL*	BDL*	BDL*
8	Nitrate as NO ₃	µmol/L	8.56	6.04	7.05	6.8	3.5	3.2
9	Nitrite as NO ₂	µmol/L	1.51	1.35	1.09	1.13	0.92	0.74
10	Ammonical Nitrogen as NH ₃	µmol/L	4.82	3.88	2.3	2.02	2.64	2.4
11	Phosphates as PO ₄	µmol/L	1.84	1.28	2.47	1.53	1.8	1.72
12	Total Nitrogen	µmol/L	14.88	11.27	12.11	9.94	7.06	6.34
13	Petroleum Hydrocarbon	µg/L	15.2	BDL*	BDL*	BDL*	BDL*	BDL*
14	Total Dissolved Solids	mg/L	37196	37724	37800	37990	36184	36670
15	COD	mg/L	22.4	8.2	16.4	11.2	12.6	5.4
A	Flora and Fauna							
16.1	Primary Productivity	mgC/L/day	5.63	2.47	5.18	3.82	8.1	6.3
B	Phytoplankton							
17.1	Chlorophyll	mg/m ³	3.1	2.83	2.62	2.34	3.26	2.77
17.2	Phaeophytin	mg/m ³	2.58	2.59	2.65	2.92	1.34	2.38
17.3	Cell Count	No.x 10 ³ /L	210	82	178	64	134	50
17.4	Name of Group Number and name of group species of each group	--	Nitzschia sp. Rhizosolenia sp. Thallasiosira sp. Synedra sp.	Navicula sp. Fragillaria sp. Nitzschia sp. --	Thallasiosira sp. Navicula sp. Coscinodiscus sp. Biddulphia sp.	Nitzschia sp. Melosira sp. Thallasiosira sp. --	Thallasiosira sp. Pleurosigma sp. Navicula sp. Coscinodiscus sp.	Nitzschia sp. Melosira sp. Fragillaria sp. --
C	Zooplanktons							
18.1	Abundance (Population)	noX10 ³ / 100 m ³	91		99		87	
18.2	Name of Group Number and name of group species of each group	--	Decapods Amphipods Gastropods		Copepods Ostracods Gastropods		Polychaetes Foraminiferans Gastropods	
18.3	Total Biomass	mL/ 100 m ³	5.25		4.2		3.7	
D	Microbiological Parameters							
19.1	Total Bacterial Count	CFU/ml	1780		1740		1760	
19.2	Total Coliform	/ml	Absent		Absent		Absent	
19.3	E.coli	/ml	Absent		Absent		Absent	
19.4	Enterococcus species	/ml	Absent		Absent		Absent	
19.5	Salmonella species	/ml	Absent		Absent		Absent	
19.6	Shigella species	/ml	Absent		Absent		Absent	
19.7	Vibrio species	/ml	Absent		Absent		Absent	

Note: BDL*: Below Detection Limit, Minimum Detection Limit, BOD: 3.0 mg/L, Oil & Grease: 1.0 mg/L, Petroleum Hydrocarbon: 10 µg/L


H. T. Shah
Lab Manager




Dr. Arun Bajpai
Lab Manager (Q)

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TABLE NO. 8 RESULTS OF SEA WATER [APRIL 2019 TO SEPTEMBER 2019]

SR. NO.	TEST PARAMETERS	UNIT	Near Jetty (M2)		Near Mouth of Creek (M1)		Near Jetty (M2)	
			July-19		August-19		September-19	
			18/07/2019		13/08/2019		12/09/2019	
			SURFACE	BOTTOM	SURFACE	BOTTOM	SURFACE	BOTTOM
1	pH	--	8.24	8.16	8.04	7.95	8.17	8.09
2	Temperature	°C	30	29.8	28.9	29.1	29.9	30.2
3	Total Suspended Solids	mg/L	246	271	282	296	316	310
4	BOD (3 Days @27°C)	mg/L	4.1	BDL*	BDL*	BDL*	BDL*	BDL*
5	Dissolved Oxygen	mg/L	5.9	6	5.8	6	6	5.9
6	Salinity	ppt	34.2	34.6	33.5	34	33.6	33.8
7	Oil & Grease	mg/L	BDL*	BDL*	BDL*	BDL*	BDL*	BDL*
8	Nitrate as NO ₃	µmol/L	3.14	2.92	2.58	2.16	2.64	2.47
9	Nitrite as NO ₂	µmol/L	0.82	0.6	0.46	0.57	0.38	0.3
10	Ammonical Nitrogen as NH ₃	µmol/L	2.53	2.26	1.94	1.76	2.1	1.98
11	Phosphates as PO ₄	µmol/L	1.67	1.54	1.9	1.87	1.76	1.53
12	Total Nitrogen	µmol/L	6.49	5.78	4.98	4.49	5.12	4.75
13	Petroleum Hydrocarbon	µg/L	BDL*	BDL*	BDL*	BDL*	BDL*	BDL*
14	Total Dissolved Solids	mg/L	37216	37840	36891	37084	36012	36210
15	COD	mg/L	9.4	BDL*	10.9	BDL*	13	BDL*
A	Flora and Fauna							
16.1	Primary Productivity	mgC/L/day	8.55	7.2	7.88	6.97	7	5.73
B	Phytoplankton							
17.1	Chlorophyll	mg/m ³	3.15	2.93	2.94	2.56	2.3	1.76
17.2	Phaeophytin	mg/m ³	2.16	2.74	2.41	2.71	1.52	2.05
17.3	Cell Count	No. x 10 ³ /L	190	62	182	68	176	58
17.4	Name of Group Number and name of group species of each group	--	Cheatoceros sp. Coscinodiscus sp. Rhizosolenia sp. Nitzschia sp.	Gyrosigma sp. Biddulphia sp. Synedra sp. --	Melosira sp. Thallasiosira sp. Pleurosigma sp. Navicula sp.	Nitzschia sp. Fragillaria sp. Navicula sp. --	Rhizosolenia sp. Cheatoceros sp. Coscinodiscus sp. --	Navicula sp. Nitzschia sp. -- --
C	Zooplanktons							
18.1	Abundance (Population)	noX10 ³ / 100 m ³	80		76		59	
18.2	Name of Group Number and name of group species of each group	--	Foraminiferans Siphonophores Ctenophores		Polychaetes Mysids Ctenophores		Gastropods Polychaetes Bivalves	
18.3	Total Biomass	mL/100 m ³	4.1		3.65		2.9	
D	Microbiological Parameters							
19.1	Total Bacterial Count	CFU/mL	1700		1650		1680	
19.2	Total Coliform	/mL	Absent		Absent		Absent	
19.3	E.coli	/mL	Absent		Absent		Absent	
19.4	Enterococcus species	/mL	Absent		Absent		Absent	
19.5	Salmonella species	/mL	Absent		Absent		Absent	
19.6	Shigella species	/mL	Absent		Absent		Absent	
19.7	Vibrio species	/mL	Absent		Absent		Absent	

Note: BDL*: Below Detection Limit, Minimum Detection Limit, BOD: 3.0 mg/L, Oil & Grease: 1.0 mg/L, Petroleum Hydrocarbon: 10 μg/L

H. T. Shah
Lab Manager
Dr. Arun Bajpai
Lab Manager (Q)



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SEA WATER REPORT OBSERVATION

SeaWater Sample Analysis		Month : April-19 to September-19			
Test Parameter	Unit	Surface		Bottom	
		Max	Min	Max	Min
pH	--	8.24	8.04	8.16	7.95
Total Dissolved Solids	mg/L	37800	36012	37990	36210
Total Suspended Solids	mg/L	316	221	310	240
BOD (3 Days @ 27 °C)	mg/L	5.7	3.8	BDL*	BDL*
Dissolved Oxygen	mg/L	6	5.6	6.2	5.9
Salinity	ppt	35.8	33.5	36	33.8
COD	mg/L	22.4	9.4	11.2	5.4

H. T. Shah
Lab Manager



Dr. Arun Bajpai
Lab Manager (Q)

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RESULTS OF SEA SEDIMENT MONITORING**TABLE NO. 9 RESULTS OF SEA SEDIMENT [APRIL 2019 TO SEPTEMBER 2019]**

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. NO.	TEST PARAMETERS	UNIT	Near Mouth of Creek (M1)	Near Jetty (M2)	Near Mouth of Creek (M1)	Near Jetty (M2)	Near Mouth of Creek (M1)	Near Jetty (M2)
			April-19	May-19	June-19	July-19	February-19	Sept-19
			12/04/2019	16/05/2019	11/06/2019	18/07/2019	13/08/2019	12/09/2019
1	Organic Matter	%	0.64	0.8	0.92	0.89	0.69	0.61
2	Phosphorus as P	µg/g	570	756	756	642	692	709
3	Texture	--	Sandy	Sandy	Sandy	Sandy	Sandy	Sandy
4	Petroleum Hydrocarbon	µg/g	BDL*	BDL*	BDL*	BDL*	BDL*	BDL*
5	Heavy Metals							
5.1	Aluminum as Al	%	4.84	4.16	5.1	4.9	4.8	4.7
5.2	Total Chromium as Cr+3	µg/g	170	128	216	258	178	152
5.3	Manganese as Mn	µg/g	1156	1110	1460	1240	1092	978
5.4	Iron as Fe	%	5.12	4.84	4.96	5.1	5.18	4.9
5.5	Nickel as Ni	µg/g	38.4	25.6	42.4	24.9	19.4	31.2
5.6	Copper as Cu	µg/g	52	29	51.2	36.8	31.36	27.6
5.7	Zinc as Zn	µg/g	204	198	259	216	283	232
5.8	Lead as Pb	µg/g	2.3	1.27	3.12	4.8	1.46	1.1
5.9	Mercury as Hg	µg/g	BDL*	BDL*	BDL*	BDL*	BDL*	BDL*
6	Benthic Organisms							
6.1	Macrobenthos (No and name of groups present, No and name of species of each group present)	--	Gastropods Polychaete worms	Amphipods Polychaete worms Isopods	Isopods Decapods Gastropods	Gastropods Polychaetes	Polychaetes Bivalves Crustaceans	Gastropods Cumaceans Amphipods
6.2	MeioBenthos (No and name of groups present, No and name of species of each group present)	--	Nematodes Branchyurans	--	Nematodes	Nematodes	Foraminiferans	--
6.3	Population	no/m ²	821	765	824	618	706	794

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

H. T. Shah
Lab Manager**Dr. Arun Bajpai**
Lab Manager (Q)



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SEA SEDIMENT REPORT OBSERVATION

Sea Sediment Sample Analysis		Month : April-19 to September-19	
Test Parameter	Unit	Sediment	
		Max	Min
Organic Matter	%	0.92	0.61
Phosphorus as P	µg/g	756	570
Aluminum as Al	%	5.1	4.16
Total Chromium as Cr ⁺³	µg/g	258	128
Manganese as Mn	µg/g	1460	978
Iron as Fe	%	5.18	4.84
Nickel as Ni	µg/g	42.4	19.4
Copper as Cu	µg/g	52	27.6
Zinc as Zn	µg/g	283	198
Lead as Pb	µg/g	4.8	1.1
Mercury as Hg	µg/g	BDL*	BDL*

H. T. Shah
Lab Manager



Dr. Arun Bajpai
Lab Manager (Q)

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SEA WATER & SEA SEDIMENT LOCATIONS

Sr. No	Name of Location	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
H. T. Shah
Lab Manager
Dr. Arun Bajpai
Lab Manager (Q)

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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 CaCO ₃	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)

H. T. Shah
Lab Manager**Dr. Arun Bajpai**
Lab Manager (Q)

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TABLE NO.10 RESULTS OF DRINKING WATER [APRIL 2019 TO SEPTEMBER 2019]**RESULTS OF DRINKING WATER [ESSENTIAL PARAMETER IN APRIL 2019 TO SEPTEMBER 2019]**

SR. NO.	TEST PARAMETERS	UNIT	May-19	July-19	Aug-19	Sep-19
			Driver Rest Room	Narmada Pump House	Narmada Pump House	POB (RO Water)
			06/05/2019	12/07/2019	08/08/2019	12/09/2019
1	Odour	--	Agreeable	Agreeable	Agreeable	Agreeable
2	Colour	Hazen	1	1	1	1
3	Taste	--	Agreeable	Agreeable	Agreeable	Agreeable
4	pH	--	7.38	7.29	7.94	6.5
5	Turbidity	NTU	0.12	< 0.02	< 0.02	< 0.02
6	Total Dissolved Solids	mg/L	152	493	600	120
7	Total Hardness as CaCO ₃	mg/L	18	126	162	13
8	Residual Free Chlorine	mg/L	< 0.1	--	< 0.1	< 0.2
9	Chloride as Cl	mg/L	69	161	149	34.98
10	Fluoride as F	mg/L	BDL*	0.33	0.81	< 0.05
11	Iron as Fe	mg/L	BDL*	0.086	< 0.05	< 0.05
12	Coliform	/100 ml	Absent	Absent	Absent	Absent
13	E-Coli	/100 ml	Absent	Absent	Absent	Absent

BDL*: Below Detection Limit

H. T. Shah
Lab Manager**Dr. Arun Bajpai**
Lab Manager (Q)



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TABLE NO.11 RESULTS OF SEWAGE WATER [APRIL 2019 TO SEPTEMBER 2019]

SR. NO.	PARAMETERS	UNIT	STP OUTLET PERMISSIBLE LIMIT [#]	TEST METHOD
1	pH	--	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 Cl 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			04/04/2019	
SR. NO.	PARAMETERS	UNIT	STP Inlet	STP Outlet
1	pH	--	6.94	7.12
2	Total Suspended Solids	mg/L	152	24
3	Residual Chlorine	mg/L	< 0.2	0.4
4	BOD (3 Days @ 27 °C)	mg/L	68	14.4
5	COD	mg/L	254	59
6	Oil & Grease	mg/L	24.8	5.2
7	Fecal Coliform	MPN/100 ml	430	140

DATE OF SAMPLING			06/05/2019	
SR. NO.	PARAMETERS	UNIT	STP Inlet	STP Outlet
1	pH	--	7.45	7.96
2	Total Suspended Solids	mg/L	186	28
3	Residual Chlorine	mg/L	< 0.2	0.6
4	BOD (3 Days @ 27 °C)	mg/L	80	10
5	COD	mg/L	311	50
6	Oil & Grease	mg/L	12.4	6.4
7	Fecal Coliform	MPN/100 ml	350	120

DATE OF SAMPLING			11/06/2019	
SR. NO.	PARAMETERS	UNIT	STP Inlet	STP Outlet
1	pH	--	7.3	7.68
2	Total Suspended Solids	mg/L	206	25
3	Residual Chlorine	mg/L	< 0.2	0.4
4	BOD (3 Days @ 27 °C)	mg/L	92	14
5	COD	mg/L	354	56
6	Oil & Grease	mg/L	10.6	2.8
7	Fecal Coliform	MPN/100 ml	280	94

H. T. Shah
Lab Manager**Dr. Arun Bajpai**
Lab Manager (Q)



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DATE OF SAMPLING			11/07/2019	
SR. NO.	PARAMETERS	UNIT	STP Inlet	STP Outlet
1	pH	--	7.28	7.39
2	Total Suspended Solids	mg/L	218	27
3	Residual Chlorine	mg/L	< 0.2	0.2
4	BOD (3 Days @ 27 °C)	mg/L	89	10
5	COD	mg/L	375	44
6	Oil & Grease	mg/L	12.8	2.4
7	Fecal Coliform	MPN/100 ml	350	79

DATE OF SAMPLING			12/08/2019	
SR. NO.	PARAMETERS	UNIT	STP Inlet	STP Outlet
1	pH	--	7.31	7.46
2	Total Suspended Solids	mg/L	190	21
3	Residual Chlorine	mg/L	< 0.2	0.4
4	BOD (3 Days @ 27 °C)	mg/L	78	8
5	COD	mg/L	326	36
6	Oil & Grease	mg/L	15.2	2.8
7	Fecal Coliform	MPN/100 ml	430	84

DATE OF SAMPLING			03/09/2019	
SR. NO.	PARAMETERS	UNIT	STP Inlet	STP Outlet
1	pH	--	6.93	7.49
2	Total Suspended Solids	mg/L	210	27
3	Residual Chlorine	mg/L	< 0.2	< 0.2
4	BOD (3 Days @ 27 °C)	mg/L	48	12
5	COD	mg/L	180	58
6	Oil & Grease	mg/L	5.8	< 1.0
7	Fecal Coliform	MPN/100 ml	540	70

SR. NO.	PARAMETERS	UNIT	STP Inlet		STP Outlet	
			Min.	Max.	Min.	Max.
1	pH	--	6.93	7.45	7.12	7.96
2	Total Suspended Solids	mg/L	152	218	21	28
3	Residual Chlorine	mg/L	< 0.2	< 0.2	0.2	0.6
4	BOD (3 Days @ 27 °C)	mg/L	48	92	8	14.4
5	COD	mg/L	180	375	36	59
6	Oil & Grease	mg/L	5.8	24.8	2.4	6.4
7	Fecal Coliform	MPN/100 ml	280	540	70	140

H. T. Shah
Lab Manager**Dr. Arun Bajpai**
Lab Manager (Q)



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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/Nm ³	150	IS:11255 (Part-1) : 1985
2	Sulfur Dioxide as SO ₂	ppm	100	IS:11255 (Part-2) : 1985
3	Oxides of Nitrogen as NO _x	ppm	50	IS: 11255 (Part-7) : 2005

**Details provided by customer.

RESULTS OF STACK MONITORING

Date of Monitoring			11/06/2019		
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	June-19		
1	Particulate Matter	mg/Nm ³	19.75	14.17	23.33
2	Sulfur Dioxide as SO ₂	ppm	5.35	4.35	5.84
3	Oxides of Nitrogen as NO _x	ppm	32.48	28.62	34.60
4	Noise Level Monitoring				
4.1	Near DG Set	dB(A)	72.3	73.8	74.5

H. T. Shah
Lab Manager



Dr. Arun Bajpai
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TABLE NO. 13 RESULTS OF DUMP POND DISCHARGE

SR. NO.	PARAMETERS	UNIT	TEST METHOD
1	pH	--	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 °C)	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 CaCO ₃	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

H. T. Shah
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RESULTS OF DUMP POND DISCHARGE

Location Name			Dump Pond Near TT4	
Date			11/04/2019	12/07/2019
SR. NO.	TEST PARAMETER	UNIT	April-19	July-19
1	pH	--	7.2	7.25
2	Total Dissolved Solids	mg/L	334	354
3	Total Suspended Solids	mg/L	26	20
4	Turbidity	NTU	8.4	6.42
5	BOD (3 Days @ 27 oC)	mg/L	42	54
6	Dissolved Oxygen	mg/L	6.1	5.9
7	COD	mg/L	254	239
8	Salinity	ppt	0.15	0.16
9	Oil & Grease	mg/L	BDL*	BDL*
10	Total Hardness as CaCO ₃	mg/L	124	130
11	Fluoride as F	mg/L	0.19	0.15
12	Chloride as Cl	mg/L	84	92
13	Zinc as Zn	mg/L	0.096	0.084
14	Cadmium as Cd	mg/L	BDL*	BDL*
15	Lead as Pb	mg/L	0.039	0.052
16	Mercury as Hg	mg/L	BDL*	BDL*

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**Dr. Arun Bajpai**
Lab Manager (Q)



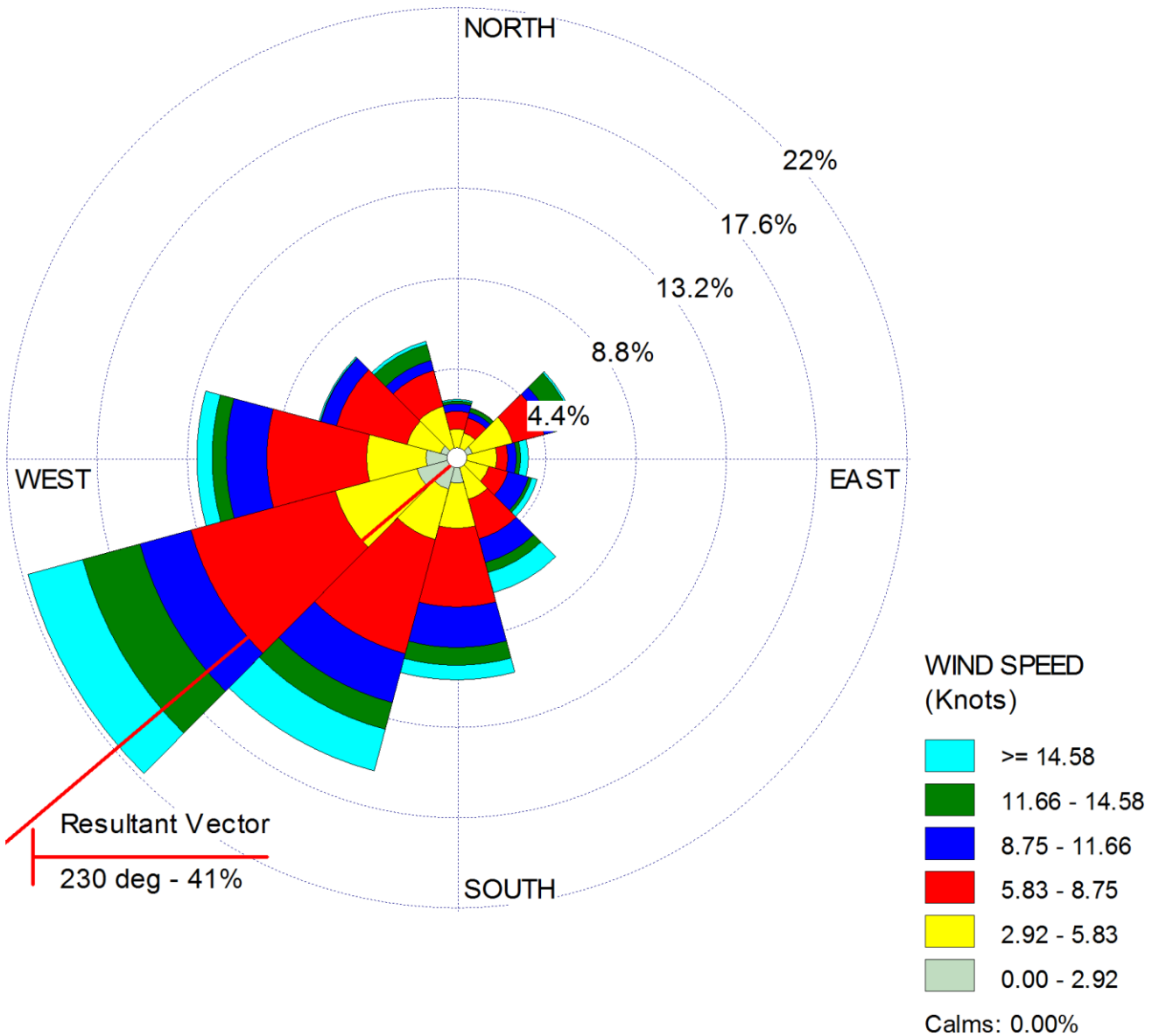
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FIGURE NO.3 WIND ROSE DIAGRAM [APRIL 2019 TO SEPTEMBER 2019]



H. T. Shah
Lab Manager



Dr. Arun Bajpai
Lab Manager (Q)




Adani Kandla Bulk Terminal Pvt. Ltd.

From : April 2019
To : September 2019

Annexure – 6

(GREEN ZONE DETAILS OF TUNA PORT (AKBTPL) UP TO Sep'2019.)

	Adani Kandla Bulk Terminal Pvt. Ltd.	From : April 2019 To : September 2019
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Annexure – 6 (GREEN ZONE DETAILS OF TUNA PORT (AKBTPL) UP TO Sep'2019.)

CURRENT GREEN ZONE DETAILS OF TUNA PORT (AKBTPL) UP TO Sep'2019.						
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

Annexure – 7

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

	Adani Kandla Bulk Terminal Pvt. Ltd.	From : April 2019 To : September 2019
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Annexure – 7: Details of CSR activities carried out by Adani Foundation.

Sr. no	Village	CSR activity	Beneficiaries	Expense in Lakh
1		Rural Infrastructure Development		
2		Health Projects		
	Rampar, Tuna, Wandi	Rural Clinic	1897	0.28
	Rampar, Tuna, Wandi	Senior Citizen	28	0.19
	Rampar, Tuna, Wandi, sanghad	Medical Support	0	0
	Rampar, Tuna, Wandi, sanghad	Patients care and coordination & Medical Support	1907	0.91
3		Education Projects		
	Tuna, Rampar, Vand	School Bag Distribution to 8 School	180	0.27
4		Fisherman Projects		
	Virabandar	Potable Water		Provide By AKBTPL
	Ghavarvaro Banadar	Potable Water		
		Awareness Program		
5		SLD (sustainable livelihood)		
	Tuna	IG support (Sewing Machine)	4	0.3
	Tuna	Try cycle and Wheel Chair Support	5	0.32
	Tuna ,Rampar	Tree Plantation at Government School and Crematorium	920	0.45
	Rampar	Fodder Support	250	10.54
Total			5191	13.26

Health

Since Five Year Rural Clinic is on Going at Tuna, Rampar and Vandi Village To Provide Medical Health Facilities.



Education

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

School Bag is Distributed to 8 School of Tuna Vandi and Rampar, Sanghad Villages on Government Pravetosav Progrma.



SLD (sustainable livelihood)



Tricycle Support



Sewing Machine Distribution



Fodder Support



Tree Plantation