



Ports and Logistics

AKBTPL/Envcell/2022-23/01

25th Sep'2022

To

The Inspector General of Forest / Scientist C,
Integrated Regional Office (IRO),
Ministry of Environment, Forest and Climate Change,
Aranya Bhawan, A Wing, Room No. 409,
Near CH 3 Circle, Sector – 10A,
Gandhinagar – 382007.

E-mail: eccomplinace-guj@gov.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, 2022 to September, 2022.**

Thank you,
Yours Faithfully,

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

Ajit Pisharddy
(O&M Head – AKBTPL)
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

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

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 – 2022 to September– 2022

Environmental and CRZ Clearance Letter issued by MoEF&CC

	Adani Kandla Bulk Terminal Pvt. Ltd.-Tuna	From: Apr'22 To: Sep'22
Status of the conditions stipulated in Environment and CRZ Clearance		

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

Environmental and CRZ clearance was obtained by Deendayal Port Trust (DPT) [Earlier named as Kandla Port Trust (KPT)] vide MoEF&CC letter dated 01.11.2011. AKBTPL and DPT 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

Status of the conditions stipulated in Environment and CRZ Clearance

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 as on 30.09.2022															
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.	<p>Complied.</p> <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 already completed and the project is in operation phase since 2015. The present in-force CTO & amended CTE are mentioned below <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>Amendment in CTE</td><td>AKBTPL</td><td>CTE-101194</td><td>30.04.2024</td></tr><tr><td>2</td><td>CTO renewal</td><td>AKBTPL</td><td>AWH-105213</td><td>02.12.2024</td></tr></table> <ul style="list-style-type: none">Copies of the stated permissions are already submitted as a part of half yearly compliance reports for the period of Oct'19 to Mar'20.	Sr. No	Permission	Project	Ref.No./Order No.	Validity	1	Amendment in CTE	AKBTPL	CTE-101194	30.04.2024	2	CTO renewal	AKBTPL	AWH-105213	02.12.2024
Sr. No	Permission	Project	Ref.No./Order No.	Validity													
1	Amendment in CTE	AKBTPL	CTE-101194	30.04.2024													
2	CTO renewal	AKBTPL	AWH-105213	02.12.2024													
(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.	<p>Complied.</p> <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 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.															

Status of the conditions stipulated in Environment and CRZ Clearance

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 as on 30.09.2022
		<p>GUIDE. 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"> 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 DPT to carry out mangrove plantation in 500 ha. Area. As agreed, AKBTPPL has already completed Mangrove plantation in 250 ha area at Sat Saida bet. Balance 250 ha. Mangrove plantation shall be carried out by DPT. 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 identified based on mathematical model studies.	<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. Capital dredging was completed by DPT during the construction phase and the dredge material was disposed by DPT at a location identified by M/s. CWPRS, Pune in their study report. No digging activities are carried out during Period Apr'22 to Sep'22.
(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	<p>Complied.</p> <ul style="list-style-type: none"> EMP was updated by AKBTPPL and submitted to DPT. DPT has submitted the same vide letter dated 03.12.2013 to MoEF&CC as part of compliance report.

Status of the conditions stipulated in Environment and CRZ Clearance

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 as on 30.09.2022
	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.	<ul style="list-style-type: none"> Further, said EMP was also submitted by AKBTPL as a 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. <p>The site environment team directly reports to the Site Head. Further, the site Environment Cell continuously remains in loop with Corporate Environment Cell.</p>
(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 each financial year) are being utilized for effective implementation of 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 (including horticulture) is approx. INR 343.55 Lakh for the period of Apr'22 to Sep'22. Please refer. <p>Annexure – 1 for further details.</p>
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 carried out so far during Apr'22 to Sep'22.

Status of the conditions stipulated in Environment and CRZ Clearance

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 as on 30.09.2022																					
(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. <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 a 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.	Complied. <p>Compliance report of EC conditions is uploaded regularly. Last compliance report including results of monitoring data for the period of Oct'21 to Mar'22 was submitted to IRO MoEF&CC Gandhinagar, Zonal Office of CPCB @ Baroda, GPCB @ Gandhinagar & Gandhidham and Dept. of Forests & Env., Gandhinagar vide our letter dated 26.05.2022. Copy of the same is also available on our web site https://www.adaniports.com/Downloads A soft copy of the same was also submitted through e-mail on 26.05.2022 to all the concern authorities. Please refer below for the details regarding past six compliance submissions.</p> <table> <tr> <th>SNo.</th><th>Compliance period</th><th>Date of submission</th></tr> <tr> <td>1</td><td>Apr'19 to Sep'19</td><td>21.11.2019</td></tr> <tr> <td>2</td><td>Oct'19 to Mar'20</td><td>11.05.2020</td></tr> <tr> <td>3</td><td>Apr'20 to Sep'20</td><td>27.11.2020</td></tr> <tr> <td>4</td><td>Oct'20 to Mar'21</td><td>31.05.2021</td></tr> <tr> <td>5</td><td>Apr'21 to Sep'21</td><td>27.11.2021</td></tr> <tr> <td>6</td><td>Oct'21 to Mar'22</td><td>26.05.2022</td></tr> </table>	SNo.	Compliance period	Date of submission	1	Apr'19 to Sep'19	21.11.2019	2	Oct'19 to Mar'20	11.05.2020	3	Apr'20 to Sep'20	27.11.2020	4	Oct'20 to Mar'21	31.05.2021	5	Apr'21 to Sep'21	27.11.2021	6	Oct'21 to Mar'22	26.05.2022
SNo.	Compliance period	Date of submission																					
1	Apr'19 to Sep'19	21.11.2019																					
2	Oct'19 to Mar'20	11.05.2020																					
3	Apr'20 to Sep'20	27.11.2020																					
4	Oct'20 to Mar'21	31.05.2021																					
5	Apr'21 to Sep'21	27.11.2021																					
6	Oct'21 to Mar'22	26.05.2022																					
(iv)	Ministry of Environment & Forests or any other competent authority may stipulate any additional conditions or modify the existing ones, if necessary	Point Noted. <ul style="list-style-type: none"> All applicable conditions in the interest of environment will be complied. 																					

Status of the conditions stipulated in Environment and CRZ Clearance

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 as on 30.09.2022
	in the interest of environment and the same shall be complied with.	
(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 AKBTPL are submitted as a 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"> DPT 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 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.	<ul style="list-style-type: none"> Condition is not applicable to AKBTPL.
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 Environment (Protection) Act, 1986,	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.

Status of the conditions stipulated in Environment and CRZ Clearance

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 as on 30.09.2022
	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	<p>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.</p> <p>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.</p>	Complied. <ul style="list-style-type: none"> DPT 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 DPT 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"> Please refer Point No. iii (Main Point 6 – General Condition) for compliance submission

Status of the conditions stipulated in Environment and CRZ Clearance

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 as on 30.09.2022
	uploaded by the project proponent in its website.	
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: https://www.adaniports.com/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. Please refer Above point no. 11 of General conditions
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 2021- 22 has already been submitted to GPCB vide letter no. AKBTPL /ENVSTATEMENT /2021-22 dated 02.05.2022. Copy of the same is attached as Annexure - 2 . The said Environment Statement is also uploaded on our website: https://www.adaniports.com/Downloads

Status of the conditions stipulated in Environment and CRZ Clearance

Compliance to CRZ Recommendation Letter Issued by Forest and Environment Department, Govt. of Gujarat

Status of the conditions stipulated in Environment and CRZ Clearance

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.	<p>Complied.</p> <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.	<p>Complied.</p> <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.	<ul style="list-style-type: none"> Complied. 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 – Sep 2014) vide letter dated 13th November, 2014. Please refer condition No.15 regarding Oil spill Contingency Plan. Regional Level Pollution Response exercise "SWACHCHH SAMUDRA-NW 2019" was carried out by Indian Coast Guard on 18th Dec 2019. All participants from various Oil Handling Agencies and

Status of the conditions stipulated in Environment and CRZ Clearance

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
		Stakeholders (ICG, GMB Port, DPT Vadinar, IOCL, RIL, NAYARA Energy, BORL, ESBTL Salaya, APSEZL, HMEL, GSFC, PCB, Forest Dept., Customs, Fisheries & DPT Kandla) were participated in this exercise.
4	The KPT shall strictly ensure that no creeks or rivers are blocked due to any activity at Kandla.	<ul style="list-style-type: none"> • Complied. • No rivers are present at the project site. 3 Bridges and 8 culverts have 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 was normal and no events negatively influencing the zooplankton community was noticed during the study. Details related to the same are already submitted as a 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	<p>Complied.</p> <ul style="list-style-type: none"> • AKBTPPL being BOOT operator, DPT requested AKBTPPL to carry out mangrove plantation in 250 ha area. As agreed, AKBTPPL has completed Mangrove plantation in 250 ha area at

Status of the conditions stipulated in Environment and CRZ Clearance

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
	images shall be submitted to Ministry of Environment and Forests as well as to this department without fail.	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.	Complied. <ul style="list-style-type: none"> 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.	Complied. <ul style="list-style-type: none"> AKBTPL does not draw any ground water for the water requirement. Present source of water for various operation activities is Gujarat Water Infrastructure Limited (GWIL). water consumption for the period Apr'22 to Sep'22 was 1058 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	Complied. <ul style="list-style-type: none"> No effluent is generated at the project site.

Status of the conditions stipulated in Environment and CRZ Clearance

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																									
	prescribed by the Gujarat Pollution Control Board and would be reused/recycled within the plant premises.	<ul style="list-style-type: none">Avg. 9.09 KLD of sewage generated during the period of Apr'22 to Sep'22 is treated in 25 KLD capacities STP based on FAB technology and treated water is used for horticulture purpose within plant premises after achieving permissible limits prescribed by GPCB.Third party analysis of the treated water is being carried out Twice in a month by NABL and MoEF&CC accredited agency namely M/s. Pollucon Laboratories Pvt. Ltd. Summary of the same for duration from Apr-22 to Sep-22 is mentioned below. <table><tr><th>Parameter</th><th>Unit</th><th>Max</th><th>Min</th><th>Perm. Limit⁵</th></tr><tr><td>pH</td><td>-</td><td>7.69</td><td>6.86</td><td>6.5-9</td></tr><tr><td>TSS</td><td>mg/L</td><td>26</td><td>13</td><td>30</td></tr><tr><td>BOD (3 Days @ 27 °C)</td><td>mg/L</td><td>17</td><td>10</td><td>20</td></tr><tr><td>Fecal Coliform</td><td>MPN/ 100ml</td><td>140</td><td>63</td><td><1000</td></tr></table> <p style="text-align: right;">**as per CC&A granted by GPCB'</p> <ul style="list-style-type: none">Please refer Annexure – 3 for detailed analysis reports. Total expenditures of the Environment monitoring for the period (Apr'22 to Sep'22) are INR 4.30 lakh.	Parameter	Unit	Max	Min	Perm. Limit ⁵	pH	-	7.69	6.86	6.5-9	TSS	mg/L	26	13	30	BOD (3 Days @ 27 °C)	mg/L	17	10	20	Fecal Coliform	MPN/ 100ml	140	63	<1000
Parameter	Unit	Max	Min	Perm. Limit ⁵																							
pH	-	7.69	6.86	6.5-9																							
TSS	mg/L	26	13	30																							
BOD (3 Days @ 27 °C)	mg/L	17	10	20																							
Fecal Coliform	MPN/ 100ml	140	63	<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.	Complied. <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 DPT. DPT 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																									

Status of the conditions stipulated in Environment and CRZ Clearance

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
		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.	Complied. <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 conditions of the EC and CRZ clearance above for further details. Construction activities have been completed in March, 2015 based on the NIOT recommendations. During construction phase capital dredging was carried out by DPT and the dredge material was disposed at a location identified by M/s. CWPRS, Pune in their study report. No digging activities are carried out during Apr'22 to Sep'22
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.	Complied. <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	Complied. <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

Status of the conditions stipulated in Environment and CRZ Clearance

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
	conditions are not deteriorated by the construction labours.	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.	Complied. <ul style="list-style-type: none"> DPT is already having updated Disaster Management Plan as well as Oil Spill Contingency Plan. DPT 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 DPT 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. 16.09-hectare area is developed till Sep'22 as greenbelt so far with various types of trees Approx. 42172 plants and lawn. Please refer Annexure – 4 for further details regarding greenbelt development. Total expenditures of the horticulture dept. for the period of Apr'22 to Sep'22 are INR 16.80 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	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

Status of the conditions stipulated in Environment and CRZ Clearance

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
	Environment Department and the District Collector/District Development Officer.	<p>Foundation (AF). AF works in the following four main areas:</p> <ol style="list-style-type: none"> 1 Education 2 Community Health 3 Sustainable livelihood 4 Rural Infrastructure Development <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). Total expenditures of the CSR activities are INR 31.11 lakh for the period Apr'22 to Sep'22. Please refer Annexure – 5 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 338.55 Lakh is spent during period (Apr'22 to Sep'22) for various activities mentioned here. Please refer to Annexure – 1 for details related to environmental expenditures and Annexure – 5 for expenditures related to CSR activities.
20	A separate environmental management cell with qualified personnel shall be created for environmental monitoring and	<p>Complied.</p> <ul style="list-style-type: none"> • AKBTPL has environment management cell with qualified manpower for implementation of environmental

Status of the conditions stipulated in Environment and CRZ Clearance

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																																																																																																		
	management during construction and operational phases of the project.	safeguards and management. The Environment Cell continuously remains in loop with Corporate Environment Cell.																																																																																																		
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-22 to Sep-22 is mentioned below. <p>AAQM and noise sampling locations: 4 Locations</p> <table><tr><th>Parameter</th><th>Unit</th><th>Max</th><th>Min</th><th>Perm. Limit^s</th></tr><tr><td>PM₁₀</td><td>µg/m³</td><td>95.52</td><td>46.57</td><td>100</td></tr><tr><td>PM_{2.5}</td><td>µg/m³</td><td>55.49</td><td>17.89</td><td>60</td></tr><tr><td>SO₂</td><td>µg/m³</td><td>25.70</td><td>6.28</td><td>80</td></tr><tr><td>NO₂</td><td>µg/m³</td><td>44.52</td><td>12.43</td><td>80</td></tr><tr><th>Noise</th><th>Unit</th><th>Leq Max</th><th>Leq Min</th><th>Leq Perm. Limit*</th></tr><tr><td>Day Time</td><td>dB(A)</td><td>73.5</td><td>50.9</td><td>75</td></tr><tr><td>Night-time</td><td>dB(A)</td><td>68.7</td><td>49.0</td><td>70</td></tr></table> <p>* as per NAAQ standards, 2009 (IS 9876/IS 9989) * as per CC&A granted by GPCB</p> <p>Marine water 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>8.42</td><td>8.08</td><td>8.25</td><td>8.01</td></tr><tr><td>TDS</td><td>mg/L</td><td>37460</td><td>35912</td><td>37896</td><td>36217</td></tr><tr><td>TSS</td><td>mg/L</td><td>73</td><td>41</td><td>56</td><td>35</td></tr><tr><td>BOD (3 Days @ 27 °C)</td><td>mg/L</td><td>3.42</td><td>1.80</td><td>2.98</td><td>2.0</td></tr><tr><td>DO</td><td>mg/L</td><td>6.01</td><td>5.90</td><td>5.95</td><td>5.80</td></tr><tr><td>Salinity</td><td>ppt</td><td>36.48</td><td>34.56</td><td>36.92</td><td>34.72</td></tr><tr><td>COD</td><td>mg/L</td><td>15.98</td><td>7.80</td><td>13.42</td><td>1.20</td></tr></table> <p>ND* - NOT DETECTED</p> <p>Sediment sampling locations: 2 Nos.</p> <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></table>	Parameter	Unit	Max	Min	Perm. Limit ^s	PM ₁₀	µg/m ³	95.52	46.57	100	PM _{2.5}	µg/m ³	55.49	17.89	60	SO ₂	µg/m ³	25.70	6.28	80	NO ₂	µg/m ³	44.52	12.43	80	Noise	Unit	Leq Max	Leq Min	Leq Perm. Limit*	Day Time	dB(A)	73.5	50.9	75	Night-time	dB(A)	68.7	49.0	70	Parameter	Unit	Surface		Bottom		Max	Min	Max	Min	pH	--	8.42	8.08	8.25	8.01	TDS	mg/L	37460	35912	37896	36217	TSS	mg/L	73	41	56	35	BOD (3 Days @ 27 °C)	mg/L	3.42	1.80	2.98	2.0	DO	mg/L	6.01	5.90	5.95	5.80	Salinity	ppt	36.48	34.56	36.92	34.72	COD	mg/L	15.98	7.80	13.42	1.20	Parameter	Unit	Sediment		Max	Min
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Status of the conditions stipulated in Environment and CRZ Clearance

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

Meeting No. 2177 To 2200 To 2

Status of the conditions stipulated in Environment and CRZ Clearance

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
	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.	<ul style="list-style-type: none"> CRZ map including land features prepared by institute of Remote sensing, Anna University, Chennai is already submitted by DPT 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 environmental parameters/post project monitoring.	<p>Complied.</p> <ul style="list-style-type: none"> Please refer above point no. (vi) of Specific conditions.
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.	<p>Complied.</p> <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 DPT). M/s GUIDE has prepared a final report of the same. Details related to the

Status of the conditions stipulated in Environment and CRZ Clearance

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
		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

Expenditure Details on Environmental Safeguards

Status of the conditions stipulated in Environment and CRZ Clearance

Expenditure Details on Environmental Safeguards

Sr. No.	Activity	Cost incurred (INR in Lacs)			Budgeted Cost (INR in Lacs)
		2020 - 21	2021 - 22	Cost incurred Apr'22 to Sep'22	2022 - 23
1.	Environmental Monitoring	7.04	8.58	4.30	9.0
2.	Environment Days Celebration, Awareness Program, Award Application	0.82	0.76	2.0	2.0
3.	Greenbelt development	38.17	39.06	16.80	39.06
4.	Treatment and Disposal of Bio-medical Waste	0.84	1	0.54	1.11
5.	Hazardous/Non Hazardous waste management & Disposal	11.95	11.62	5.82	11.63
6.	O&M of sewage treatment plant and OWC plant	7.35	7.72	5.98	11.97
7.	Dust Suppression Activities	223.21	236.62	154.7	335
8.	Maintenance of conveyor belt.	239.87	104.77	153.41	303.12
Total		529.25	410.13	343.55	712.89

NOTE: Some of the new initiatives/ projects are in pipeline/completed wrt Environment Safe-guard:

1. Hiring of new mechanized sweeping machine for dust suppression
2. Hiring of new additional water bouser for coal dust suppression in Coal Yard.
3. Zero Waste to Land-fill – Completed.
4. Revamping of MRF(Material Recovery Facility) For Non-hazardous Waste.

Annexure – 2

(FORM-V)

Environmental Statement for 2021 – 22

Status of the conditions stipulated in Environment and CRZ Clearance

adani

Ports and
Logistics

PCB ID: 46110

Ref No. AKBTPL/ENVSTATEMENT/2021-22

Date: 02nd May 2022

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

Sub: Environmental Statement for the financial year ending 31st March 2022 for M/s
Adani Kandla Bulk Terminal Pvt Ltd (AKBTPL)

Ref: PCB ID: - 46110, Consent Order No. AWH - 105213

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 2022.

Thank you.

Yours faithfully,
For Adani Kandla Bulk Terminal Pvt Ltd


Ajit Pisharody
(O&M Head - AKBTPL)

Encl: As above.

Copy to:

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

Adani Kandla Bulk Terminal Pvt Ltd
Adani House,
Nr Michakhali Circle, Navrangpura
Ahmedabad 380 009
Gujarat, India
CIN: U63090GJ2012PTC069305

Tel: +91 79 2555 5801
Fax: +91 79 2555 6490
info@adani.com
www.adani.com

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

Annexure – 3

(Six Monthly Environment Monitoring Report)

(Apr'22 to Sep'22)



POLLOCON

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 2022 TO SEPTEMBER 2022

H. T. Shah

Lab Manager



Dr. Arun Bajpai

Lab Manager (Q)

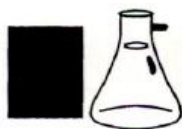
**POLLOCON****LABORATORIES PVT. LTD.**Environmental Auditors, Consultants & Analysts.
Cleaner Production / Waste Minimization Facilitator

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



POLLOCON 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)
2	Particulate Matter (PM _{2.5})	µg/m ³	60	CPCB guidelines for AAQM (Vol. I, NAAQMS/36/2012-13)
3	Sulphur Dioxide (SO ₂)	µg/m ³	80	IS:5182(Part 2)
4	Oxides of Nitrogen (NO ₂)	µg/m ³	80	IS:5182(Part6)

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



Dr. Arun Bajpai

Lab Manager (Q)

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

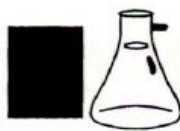
Recognised by MoEF, New Delhi Under Sec. 12 of Environmental (Protection) Act-1986

TABLE NO. 1 RESULTS OF AAQM FOR LC GATE NO.2 [APRIL 2022 TO SEPTEMBER 2022]

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	04/04/2022	72.66	29.59	11.53	20.67
2	07/04/2022	63.43	23.47	6.52	14.68
3	11/04/2022	54.76	27.63	9.34	19.68
4	14/04/2022	64.66	35.00	13.56	27.55
5	18/04/2022	58.46	26.51	7.76	23.40
6	21/04/2022	75.64	32.96	14.24	29.48
7	25/04/2022	60.22	24.63	12.69	25.62
8	28/04/2022	50.27	20.81	8.41	21.92
9	02/05/2022	74.22	38.66	8.64	15.69
10	05/05/2022	57.24	26.72	16.91	23.87
11	09/05/2022	62.45	31.50	10.28	14.56
12	12/05/2022	55.28	28.67	12.66	17.84
13	16/05/2022	75.51	43.61	6.28	12.43
14	19/05/2022	53.25	24.26	13.68	19.33
15	23/05/2022	69.58	33.46	11.77	26.86
16	26/05/2022	59.12	36.54	18.48	22.68
17	30/05/2022	50.25	25.43	7.54	21.17
18	02/06/2022	73.77	26.55	12.42	21.57
19	06/06/2022	62.42	22.64	7.57	15.24
20	09/06/2022	70.62	32.42	11.41	22.34
21	13/06/2022	69.53	34.62	9.57	14.26
22	16/06/2022	60.34	31.50	13.77	20.20
23	20/06/2022	54.57	28.63	10.25	18.66
24	23/06/2022	77.61	37.20	14.26	16.14
25	27/06/2022	52.68	24.34	15.61	23.82
26	30/06/2022	61.52	20.68	8.36	17.68
27	04/07/2022	71.52	32.42	11.28	27.74
28	07/07/2022	60.47	28.55	8.61	16.26
29	11/07/2022	46.58	17.89	6.56	20.52
30	14/07/2022	66.55	35.66	16.40	24.39
31	18/07/2022	58.68	24.55	10.53	21.62
32	21/07/2022	68.27	31.67	7.68	13.43
33	25/07/2022	50.20	23.43	9.65	19.33
34	28/07/2022	57.58	27.67	14.38	17.57
35	01/08/2022	55.77	20.22	7.48	23.01
36	04/08/2022	72.36	27.63	10.85	24.76
37	08/08/2022	57.58	29.63	13.45	14.93
38	11/08/2022	62.67	26.55	17.83	25.60
39	15/08/2022	70.34	34.50	9.51	18.14
40	18/08/2022	52.68	24.34	6.58	15.43
41	22/08/2022	64.54	33.46	8.41	12.85
42	25/08/2022	75.53	31.50	12.32	16.95
43	29/08/2022	56.36	25.63	15.34	27.83
44	01/09/2022	65.64	35.45	14.84	25.43
45	05/09/2022	75.24	37.58	9.70	23.75
46	08/09/2022	58.71	26.38	15.63	26.31
47	12/09/2022	53.57	22.39	10.83	17.51
48	15/09/2022	46.57	18.64	12.39	13.57
49	19/09/2022	74.64	38.66	16.33	21.22
50	22/09/2022	60.31	28.13	11.68	24.52
51	26/09/2022	67.55	34.54	8.51	20.41
52	29/09/2022	51.38	30.38	6.57	16.27


H. T. Shah
Lab Manager

Dr. Arun Bajpai
Lab Manager (Q)



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TABLE NO. 2 RESULTS OF AAQM FOR STARTING OF PILE APPROACH [APRIL 2022 TO SEPTEMBER 2022]

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	04/04/2022	79.64	35.61	16.51	29.24
2	07/04/2022	84.83	45.64	19.29	33.76
3	11/04/2022	61.43	34.23	12.45	25.44
4	14/04/2022	70.98	40.31	15.46	20.22
5	18/04/2022	81.85	44.27	13.47	30.26
6	21/04/2022	88.91	47.23	17.26	35.44
7	25/04/2022	68.57	32.53	10.62	21.23
8	28/04/2022	73.55	36.27	14.64	24.45
9	02/05/2022	88.62	46.56	14.54	30.22
10	05/05/2022	74.56	40.10	11.20	34.26
11	09/05/2022	79.67	38.56	18.93	38.44
12	12/05/2022	76.65	43.56	10.70	24.15
13	16/05/2022	89.34	50.22	12.55	31.16
14	19/05/2022	81.58	53.22	19.23	27.83
15	23/05/2022	86.25	49.60	15.72	22.52
16	26/05/2022	72.34	41.56	20.44	29.87
17	30/05/2022	66.57	35.44	17.52	36.24
18	02/06/2022	82.36	31.28	15.37	31.29
19	06/06/2022	72.62	34.57	9.23	20.43
20	09/06/2022	85.63	46.60	13.66	35.53
21	13/06/2022	81.21	41.52	16.27	32.58
22	16/06/2022	73.25	35.61	22.12	26.34
23	20/06/2022	80.42	43.60	20.81	23.52
24	23/06/2022	89.85	48.43	17.67	27.34
25	27/06/2022	63.42	33.57	21.21	19.34
26	30/06/2022	71.71	30.19	10.40	24.56
27	04/07/2022	87.62	45.69	20.95	32.77
28	07/07/2022	70.22	41.27	17.54	28.83
29	11/07/2022	60.52	33.57	19.59	24.66
30	14/07/2022	79.65	44.23	22.41	31.33
31	18/07/2022	67.23	36.23	13.46	29.24
32	21/07/2022	82.34	46.64	16.25	22.66
33	25/07/2022	63.48	29.11	12.65	30.23
34	28/07/2022	73.42	35.44	18.62	26.48
35	01/08/2022	69.98	26.53	11.37	29.27
36	04/08/2022	80.65	35.44	18.39	31.43
37	08/08/2022	75.65	42.60	15.41	27.33
38	11/08/2022	83.55	45.64	20.19	18.78
39	15/08/2022	76.38	37.56	23.48	35.45
40	18/08/2022	67.54	30.53	13.59	20.32
41	22/08/2022	81.62	44.23	16.57	22.65
42	25/08/2022	86.57	48.56	19.21	30.13
43	29/08/2022	62.85	31.98	21.52	34.51
44	01/09/2022	78.64	44.31	10.60	21.81
45	05/09/2022	63.23	31.57	21.54	33.46
46	08/09/2022	80.31	41.56	12.71	20.37
47	12/09/2022	64.54	29.44	18.52	26.24
48	15/09/2022	55.21	25.32	16.30	22.42
49	19/09/2022	89.31	48.64	22.41	25.62
50	22/09/2022	65.36	35.65	14.39	28.36
51	26/09/2022	85.34	47.56	11.33	31.62
52	29/09/2022	69.34	33.44	20.71	35.72

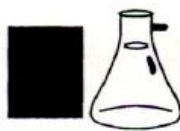
H. T. Shah

Lab Manager



Dr. Arun Bajpai

Lab Manager (Q)



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TABLE NO. 3 RESULTS OF AAQM FOR SOUTH WEST CORNER AT PUMP HOUSE [APRIL 2022 TO SEPTEMBER 2022]

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	04/04/2022	58.65	23.37	14.56	24.56
2	07/04/2022	69.24	27.57	16.23	18.55
3	11/04/2022	47.65	19.55	11.67	21.44
4	14/04/2022	54.84	30.72	18.50	30.41
5	18/04/2022	73.81	39.11	9.62	15.63
6	21/04/2022	81.95	37.78	19.56	32.47
7	25/04/2022	74.64	38.82	8.67	23.64
8	28/04/2022	61.84	31.76	10.21	27.28
9	02/05/2022	83.56	42.60	6.50	23.43
10	05/05/2022	68.63	34.83	18.51	26.47
11	09/05/2022	73.51	36.58	13.50	18.28
12	12/05/2022	66.44	35.41	16.26	22.23
13	16/05/2022	82.66	46.37	8.33	16.22
14	19/05/2022	69.15	33.46	15.49	21.32
15	23/05/2022	75.66	37.24	7.99	13.13
16	26/05/2022	67.38	20.63	11.48	20.23
17	30/05/2022	60.28	28.44	10.64	17.54
18	02/06/2022	56.55	22.42	18.46	29.49
19	06/06/2022	66.23	28.61	10.70	17.55
20	09/06/2022	79.33	35.66	15.23	31.92
21	13/06/2022	58.41	29.44	11.31	19.22
22	16/06/2022	67.33	37.66	16.44	23.45
23	20/06/2022	75.55	40.23	13.56	25.52
24	23/06/2022	84.26	43.68	9.69	22.43
25	27/06/2022	57.65	27.53	12.50	15.32
26	30/06/2022	68.24	34.42	14.61	27.43
27	04/07/2022	80.42	35.41	16.60	20.46
28	07/07/2022	65.68	32.42	11.51	22.55
29	11/07/2022	54.62	26.45	9.34	15.56
30	14/07/2022	72.42	38.65	14.68	27.54
31	18/07/2022	62.68	27.65	6.38	14.38
32	21/07/2022	77.51	36.24	12.86	19.74
33	25/07/2022	56.35	25.33	8.50	16.54
34	28/07/2022	68.42	30.35	17.66	23.46
35	01/08/2022	64.34	23.50	9.39	14.04
36	04/08/2022	59.63	31.51	15.57	20.63
37	08/08/2022	68.63	38.44	8.66	22.36
38	11/08/2022	77.63	33.42	10.59	29.73
39	15/08/2022	61.51	29.15	13.94	25.44
40	18/08/2022	48.33	18.64	7.61	28.12
41	22/08/2022	60.27	28.69	11.50	30.83
42	25/08/2022	69.37	35.66	14.54	24.33
43	29/08/2022	50.27	22.46	6.81	21.57
44	01/09/2022	70.61	38.61	12.56	28.82
45	05/09/2022	55.61	25.37	10.32	30.48
46	08/09/2022	75.51	36.58	19.30	29.39
47	12/09/2022	58.48	26.28	13.50	21.63
48	15/09/2022	51.24	22.63	8.44	16.55
49	19/09/2022	83.52	41.52	14.56	23.23
50	22/09/2022	71.13	40.81	9.57	22.64
51	26/09/2022	80.37	39.57	6.46	15.67
52	29/09/2022	64.43	37.53	15.56	24.24

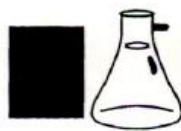

H. T. Shah

Lab Manager




Dr. Arun Bajpai

Lab Manager (Q)

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TABLE NO. 4 RESULTS OF AAQM FOR NORTH EAST CORNER AT RAILWAY BUILDING [APRIL 2022 TO SEPTEMBER 2022]

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	04/04/2022	84.57	42.63	19.47	34.33
2	07/04/2022	90.24	49.58	24.58	38.57
3	11/04/2022	73.71	38.45	15.36	31.52
4	14/04/2022	81.28	45.32	22.28	35.69
5	18/04/2022	86.57	48.63	16.48	32.14
6	21/04/2022	95.52	52.51	23.38	44.52
7	25/04/2022	88.42	47.51	17.67	27.64
8	28/04/2022	78.26	39.53	21.23	30.50
9	02/05/2022	93.48	49.62	16.53	33.83
10	05/05/2022	79.55	45.65	21.47	36.56
11	09/05/2022	86.38	43.58	23.45	42.50
12	12/05/2022	82.47	47.59	20.20	28.56
13	16/05/2022	94.55	55.49	15.40	27.63
14	19/05/2022	76.85	40.93	22.46	39.25
15	23/05/2022	91.21	51.27	18.25	29.57
16	26/05/2022	81.66	46.52	24.55	37.67
17	30/05/2022	75.33	38.45	19.48	32.49
18	02/06/2022	88.62	36.55	22.60	36.48
19	06/06/2022	77.52	40.52	12.34	24.38
20	09/06/2022	91.83	50.36	17.48	38.20
21	13/06/2022	86.52	46.52	21.60	30.63
22	16/06/2022	79.68	43.25	19.40	33.54
23	20/06/2022	87.62	48.54	24.24	29.32
24	23/06/2022	94.58	52.68	20.29	35.63
25	27/06/2022	68.62	38.66	25.70	32.46
26	30/06/2022	76.36	39.53	16.30	37.28
27	04/07/2022	94.18	52.59	24.59	24.45
28	07/07/2022	78.63	44.20	13.68	31.51
29	11/07/2022	69.47	36.35	22.31	27.66
30	14/07/2022	84.52	48.67	19.45	37.56
31	18/07/2022	77.52	40.27	16.49	32.42
32	21/07/2022	88.42	49.66	18.36	26.57
33	25/07/2022	68.34	37.54	15.44	33.43
34	28/07/2022	79.52	41.22	23.51	29.46
35	01/08/2022	77.56	30.56	14.38	32.64
36	04/08/2022	86.67	41.18	21.74	37.55
37	08/08/2022	82.62	45.32	19.54	30.27
38	11/08/2022	90.26	49.54	23.40	35.65
39	15/08/2022	83.41	44.53	25.59	39.56
40	18/08/2022	78.51	33.41	15.63	25.55
41	22/08/2022	88.66	46.52	18.42	34.93
42	25/08/2022	93.42	52.68	20.51	36.55
43	29/08/2022	72.65	36.55	22.69	40.23
44	01/09/2022	85.66	49.25	15.27	31.54
45	05/09/2022	94.72	53.67	25.45	40.84
46	08/09/2022	87.16	46.27	23.45	34.57
47	12/09/2022	68.53	32.54	20.26	29.20
48	15/09/2022	73.43	28.32	18.41	26.46
49	19/09/2022	93.47	51.52	24.25	35.47
50	22/09/2022	83.42	44.61	16.14	32.42
51	26/09/2022	91.58	50.24	14.66	38.64
52	29/09/2022	77.66	40.93	17.50	30.27

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

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AMBIENT AIR QUALITY ANALYSIS REPORT OBSERVATIONS

Ambient Air Quality Monitoring Sample Analysis									
Sr.No.	Month	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)	
		Max	Min	Max	Min	Max	Min	Max	Min
L.C. Gate No.2									
1	April-22	75.64	50.27	35.00	20.81	14.24	6.52	29.48	14.68
2	May-22	75.51	50.25	43.61	24.26	18.48	6.28	26.86	12.43
3	June-22	77.61	52.68	37.20	20.68	15.61	7.57	23.82	14.26
4	July-22	71.52	46.58	35.66	17.89	16.40	6.56	27.74	13.43
5	August-22	75.53	52.68	34.50	20.22	17.83	6.58	27.83	12.85
6	September-22	75.24	46.57	38.66	18.64	16.33	6.57	26.31	13.57
Starting Of Pile Approach (Near SS2 Building)									
1	April-22	88.91	61.43	47.23	32.53	19.29	10.62	35.44	20.22
2	May-22	89.34	66.57	53.22	35.44	20.44	10.70	38.44	22.52
3	June-22	89.85	63.42	48.43	30.19	22.12	9.23	35.53	19.34
4	July-22	87.62	60.52	46.64	29.11	22.41	12.65	32.77	22.66
5	August-22	86.57	62.85	48.56	26.53	23.48	11.37	35.45	18.78
6	September-22	89.31	55.21	48.64	25.32	22.41	10.60	35.72	20.37
South West Corner at Pump House									
1	April-22	81.95	47.65	39.11	19.55	19.56	8.67	32.47	15.63
2	May-22	83.56	60.28	46.37	20.63	18.51	6.50	26.47	13.13
3	June-22	84.26	56.55	43.68	22.42	18.46	9.69	31.92	15.32
4	July-22	80.42	54.62	38.65	25.33	17.66	6.38	27.54	14.38
5	August-22	77.63	48.33	38.44	18.64	15.57	6.81	30.83	14.04
6	September-22	83.52	51.24	41.52	22.63	19.30	6.46	30.48	15.67
North East Corner at Railway Building									
1	April-22	95.52	73.71	52.51	38.45	24.58	15.36	44.52	27.64
2	May-22	94.55	75.33	55.49	38.45	24.55	15.40	42.50	27.63
3	June-22	94.58	68.62	52.68	36.55	25.70	12.34	38.20	24.38
4	July-22	94.18	68.34	52.59	36.35	24.59	13.68	37.56	24.45
5	August-22	93.42	72.65	52.68	30.56	25.59	14.38	40.23	25.55
6	September-22	94.72	68.53	53.67	28.32	25.45	14.66	40.84	26.46


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

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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 2022 TO SEPTEMBER 2022]

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 at Railway Building	
	Month	Max	Min	Max	Min	Max	Min	Max	Min
1.	April-22	71.8	53.5	69.7	55.7	71.0	53.2	71.7	55.1
2.	May-22	73.5	50.9	71.4	56.1	71.5	54.3	72.6	52.1
3.	June-22	71.5	51.2	72.5	57.4	69.8	56.4	69.6	56.3
4.	July-22	70.5	55.4	71.4	54.2	73.2	54.3	72.5	53.2
5.	August-22	71.8	55.0	73.4	54.3	73.5	57.0	70.8	55.5
6.	September-22	73.1	53.7	71.9	54.4	73.2	55.9	71.7	54.8

TABLE NO. 6 RESULTS OF NIGHT TIME NOISE LEVEL MONITORING [APRIL 2022 TO SEPTEMBER 2022]

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 at Railway Building	
	Month	Max	Min	Max	Min	Max	Min	Max	Min
1.	April-22	61.2	50.1	63.9	52.5	65.3	50.9	61.4	51.1
2.	May-22	61.3	49.7	68.4	51.3	68.7	55.3	67.8	52.7
3.	June-22	63.6	55.1	66.9	53.6	62.4	53.2	66.3	54.2
4.	July-22	62.8	51.2	61.7	55.2	66.2	55.6	62.6	56.2
5.	August-22	65.1	49.9	62.7	53.8	66.8	57.1	65.6	57.3
6.	September-22	65.5	49.0	61.4	53.0	66.4	57.0	64.7	56.0


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:

- Day time shall mean from 6.00 a.m. to 10.00 p.m.
- 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 at Railway Building	N 23° 0' 48.34" E 70° 12' 30.47"

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 2022 TO SEPTEMBER 2022]**

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-2022		May-2022		June-2022	
			18/04/2022		17/05/2022		24/06/2022	
			SURFACE	BOTTOM	SURFACE	BOTTOM	SURFACE	BOTTOM
1	pH	--	8.19	8.14	8.08	8.01	8.14	8.09
2	Temperature	°C	30.6	30.5	30.2	30	30.3	30
3	Total Suspended Solids	mg/L	41	37	56	43	45	39
4	BOD (3 Days@27°C)	mg/L	3.42	2.98	2.90	2.24	2.60	2.10
5	Dissolved Oxygen	mg/L	6.00	5.95	6.00	5.85	5.95	5.80
6	Salinity	ppt	36.48	36.92	36.14	36.72	36.30	36.84
7	Oil & Grease	mg/L	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected
8	Nitrate as NO ₃	µmol/L	3.56	3.42	3.74	3.62	3.12	2.95
9	Nitrite as NO ₂	µmol/L	0.77	0.63	0.65	0.55	0.48	0.37
10	Ammonical Nitrogen as NH ₃	µmol/L	2.35	2.29	2.18	2.02	2.57	2.41
11	Phosphates as PO ₄	µmol/L	2.27	2.16	2.39	2.14	1.95	1.87
12	Total Nitrogen	µmol/L	6.68	6.34	6.57	6.19	6.17	5.73
13	Petroleum Hydrocarbon	µg/L	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected
14	Total Dissolved Solids	mg/L	37460	37896	37164	37676	37284	37846
15	COD	mg/L	15.98	13.42	13.60	1.20	11.98	9.20
A	Flora and Fauna							
16.1	Primary Productivity	mgC/L/ day	48.60		49.05		52.20	
B	Phytoplankton							
17.1	Chlorophyll	mg/m ³	2.62	2.49	2.8	2.53	2.5	2.34
17.2	Phaeophytin	mg/m ³	0.15	0.12	0.45	0.68	0.44	0.42
17.3	Cell Count	No.x 10 ³ /L	182	126	204	138	226	118
17.4	Name of Group Number and name of group species of each group	--	Biddulphia sp., Rhizosolenia sp., Skeletonema sp., Thallasionema sp., Coscinodiscus sp.	Navicula sp., Pleurosigma sp., Nitzschia sp., Peridiniuzm sp.	Thalassiosira sp., Skeletonema sp., Melosira sp., Rhizosolenia sp., Tricodesmium sp.	Fragililazia sp., Peridinium sp., Navicula sp., Coscinodiscus sp.	Biddulphia sp., Rhizosolenia sp., Chaetoceros sp., Pleurosigma sp., Melosira sp.	Navicula sp., Coscinodiscus sp., Nitzuchia sp., Skeletonema sp., Synedra sp.
C	Zooplanktons							
18.1	Abundance (Population)	noX10 ³ / 100 m ³	28		32		29	
18.2	Name of Group Number and name of group species of each group	--	Mysids, Polychaetes, Copepods, Decapods		Copeopods, Decapod larvae, Polychaetes, Foraminiterons		Amphipods, Decapods, Polychaetes, Chaetognaths, ,	
18.3	Total Biomass	mL/ 100 m ³	2.75		3.15		2.85	
D	Microbiological Parameters							
19.1	Total Bacterial Count	CFU/mL	2530		2440		2150	
19.2	Total Coliform	/mL	Present		Present		Present	
19.3	E.coli	/mL	Absent		Absent		Absent	
19.4	Enterococcus species	/mL	Present		Present		Present	
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: Minimum Detection Limit; Oil & Grease: 2.0 mg/L, Petroleum Hydrocarbon: 1.0 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 2022 TO SEPTEMBER 2022]

SR. NO.	TEST PARAMETERS	UNIT	Near Jetty (M2)		Near Mouth of Creek (M1)		Near Jetty (M2)	
			July-2022		August-2022		September-2022	
			19/07/2022		15/08/2022		15/09/2022	
			SURFACE	BOTTOM	SURFACE	BOTTOM	SURFACE	BOTTOM
1	pH	--	8.42	8.16	8.37	8.25	8.24	8.19
2	Temperature	°C	29.8	29.6	29.9	29.7	29.7	29.5
3	Total Suspended Solids	mg/L	52	35	73	56	53	41
4	BOD (3 Days @27°C)	mg/L	2.10	Not Detected	1.80	Not Detected	2.40	2.00
5	Dissolved Oxygen	mg/L	6.01	5.95	5.90	5.80	5.95	5.80
6	Salinity	ppt	35.80	35.92	34.56	34.72	35.62	36.14
7	Oil & Grease	mg/L	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected
8	Nitrate as NO ₃	µmol/L	2.85	2.75	3.14	2.96	3.48	3.29
9	Nitrite as NO ₂	µmol/L	0.56	0.49	0.32	0.28	0.57	0.43
10	Ammonical Nitrogen as NH ₃	µmol/L	2.45	2.36	1.97	1.73	2.30	2.25
11	Phosphates as PO ₄	µmol/L	1.84	1.72	2.16	2.04	2.46	2.31
12	Total Nitrogen	µmol/L	5.86	5.60	5.43	4.97	6.35	5.97
13	Petroleum Hydrocarbon	µg/L	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected
14	Total Dissolved Solids	mg/L	35912	36217	36198	36372	36704	37176
15	COD	mg/L	13.80	11.60	7.80	6.40	14.00	9.00
A	Flora and Fauna							
16.1	Primary Productivity	mgC/L/ day	46.40		48.60		45.90	
B	Phytoplankton							
17.1	Chlorophyll	mg/m ³	2.66	2.42	2.24	2.08	2.58	2.18
17.2	Phaeophytin	mg/m ³	0.25	0.4	1.01	0.68	1.17	1.34
17.3	Cell Count	No. x 10 ³ /L	162	134	146	118	201	185
17.4	Name of Group Number and name of group species of each group	--	Biddulphia sp., Rhizosolenia sp., Skeletonema sp., Thallasionema sp., Coscinodiscus sp.	Navicula sp., Pleurosigma sp., Nitzschia sp., Pediastrum sp.	Thallasionema sp., Pleurosigma sp., Thallasiosira sp., Nitzschia sp., Skeletonema sp.	Fragillaria sp., Navicula sp., Pediastrum sp., Pediastrum sp.	Stauroneis sp., Biddulphia sp., Coscinodiscus sp., Skeletonema sp., Rhizosolenia sp., Fragillaria sp.	Melosira sp., Navicula sp., Nitzschia sp., Pediastrum sp., Pleurosigma sp., Synedra sp.
C	Zooplanktons							
18.1	Abundance (Population)	noX10 ³ /100m ³	34		25		48	
18.2	Name of Group Number and name of group species of each group	--	Gastropods, Decapods, Polychaetes, Foraminiferans		Mysids, Gastropods, Ostracods, Polychaetes		Foraminiferans, Ostracods, Polychaetes, Siphonophores, Mysids	
18.3	Total Biomass	mL/10 0 m ³	2.45		2.30		4.45	
D	Microbiological Parameters							
19.1	Total Bacterial Count	CFU/mL	2385		2530			
19.2	Total Coliform	/mL	Present		Present		Present	
19.3	E.coli	/mL	Absent		Absent		Absent	
19.4	Enterococcus species	/mL	Present		Present		Present	
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: Minimum Detection Limit; BOD: 1.0 mg/L, Oil & Grease: 2.0 mg/L, Petroleum Hydrocarbon: 1.0 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-22 to September-22			
Test Parameter	Unit	Surface		Bottom	
		Max	Min	Max	Min
pH	--	8.42	8.08	8.25	8.01
Total Dissolved Solids	mg/L	37460	35912	37896	36217
Total Suspended Solids	mg/L	73	41	56	35
BOD (3 Days @ 27 °C)	mg/L	3.42	1.80	2.98	2.00
Dissolved Oxygen	mg/L	6.01	5.90	5.95	5.80
Salinity	ppt	36.48	34.56	36.92	34.72
COD	mg/L	15.98	7.80	13.42	1.20

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 2022 TO SEPTEMBER 2022]**

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-22	May-22	June-22	July-22	August-22	September-22
			18/04/2022	17/05/2022	24/06/2022	19/07/2022	15/08/2022	18/09/2022
1	Organic Matter	%	0.364	0.320	0.420	0.350	0.300	0.476
2	Phosphorus as P	µg/g	613	708	670	640	607	732
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	%	4.58	5.12	4.98	4.80	5.16	5.27
5.2	Total Chromium as Cr+3	µg/g	103	98.47	103	112	91.43	81.98
5.3	Manganese as Mn	µg/g	694	805	670	715	809	875
5.4	Iron as Fe	%	5.13	4.92	5.12	4.50	4.92	4.36
5.5	Nickel as Ni	µg/g	36.98	29.73	41.97	34.60	47.28	31.29
5.6	Copper as Cu	µg/g	47.35	35.64	49.53	31.60	42.75	37.65
5.7	Zinc as Zn	µg/g	87.45	107.00	97.14	86.00	95.68	71.79
5.8	Lead as Pb	µg/g	2.98	2.56	1.83	2.10	2.36	3.75
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)	--	Amphipods, Bivalves, Gastropods, Oligochaeta	Polychaetes, Bivalves, Crustaceans	Polychaetes, Bivalves, Gastropods	Polychaetes, Bivalves, Crustaceans	Polychaetes, Amphipods, Gastropods	Polychaetes, Brachyurans, Amphipods
6.2	MeioBenthos (No and name of groups present, No and name of species of each group present)	--	Nematodes	--	Foraminiferans	--	Nematodes	Foraminiferans
6.3	Population	no/m ²	353	441	381	355	557	674

Note: 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-22 to September-22	
Test Parameter	Unit	Sediment	
		Max	Min
Organic Matter	%	0.476	0.300
Phosphorus as P	µg/g	732	607
Aluminum as Al	%	5.27	4.58
Total Chromium as Cr ⁺³	µg/g	112	81.98
Manganese as Mn	µg/g	875	670
Iron as Fe	%	5.13	4.36
Nickel as Ni	µg/g	47.28	29.73
Copper as Cu	µg/g	49.53	31.60
Zinc as Zn	µg/g	107	71.79
Lead as Pb	µg/g	3.75	1.83
Mercury as Hg	µg/g	Not Detected	Not Detected

H. T. Shah

Lab Manager



Dr. Arun Bajpai

Lab Manager (Q)



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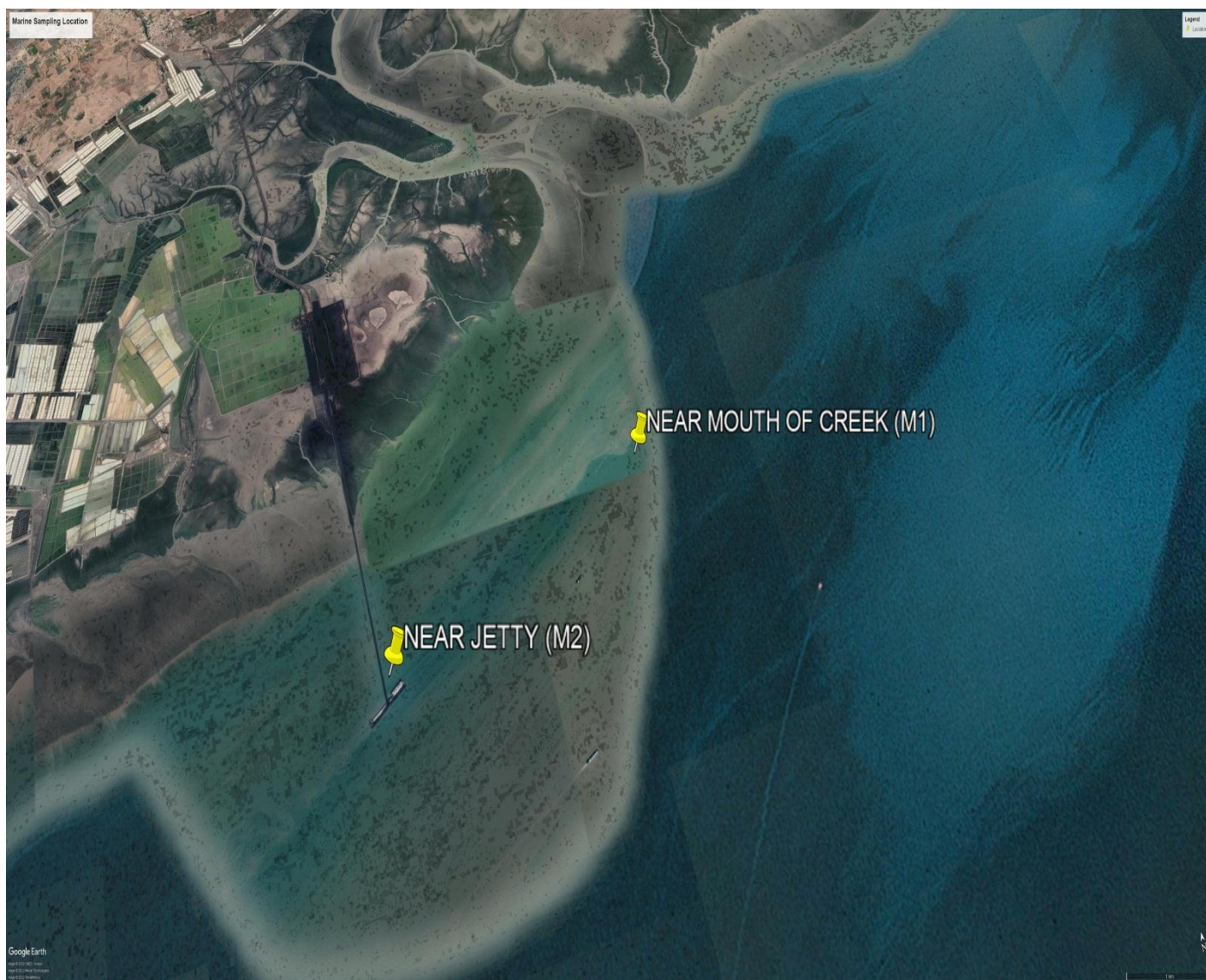
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SEA WATER & SEA SEDIMENT LOCATIONS


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




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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)


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TABLE NO.10 RESULTS OF DRINKING WATER [APRIL 2022 TO SEPTEMBER 2022]**TABLE NO.10.1 RESULTS OF DRINKING WATER [ESSENTIAL PARAMETER IN APRIL 2022 TO SEPTEMBER 2022]**

SR. NO.	TEST PARAMETERS	UNIT	April-22	April-22
			POB Building	Narmada Pump House
			18/04/2022	18/04/2022
1	Odour	--	Agreeable	Agreeable
2	Colour	Hazen	4	3
3	Taste	--	Agreeable	Agreeable
4	pH	--	7.61	7.76
5	Turbidity	NTU	0.09	0.12
6	Total Dissolved Solids	mg/L	218	256
7	Total Hardness as CaCO ₃	mg/L	111	120
8	Residual Free Chlorine	mg/L	Not Detected	Not Detected
9	Chloride as Cl	mg/L	79.00	86.00
10	Fluoride as F	mg/L	0.20	0.25
11	Iron as Fe	mg/L	0.14	0.27
12	Coliform	/100 ml	Absent	Absent
13	E-Coli	/100 ml	Absent	Absent

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TABLE NO.10.2 RESULTS OF DRINKING WATER [ESSENTIAL PARAMETER IN APRIL 2022 TO SEPTEMBER 2022]

SR. NO.	TEST PARAMETERS	UNIT	May-22	May-22
			POB Building	Main Gate
			17/05/2022	17/05/2022
1	Odour	--	Agreeable	Agreeable
2	Colour	Hazen	2	2
3	Taste	--	Agreeable	Agreeable
4	pH	--	7.21	7.52
5	Turbidity	NTU	0.06	0.05
6	Total Dissolved Solids	mg/L	142	156
7	Total Hardness as CaCO ₃	mg/L	13	29
8	Residual Free Chlorine	mg/L	Not Detected	Not Detected
9	Chloride as Cl	mg/L	41.48	52.48
10	Fluoride as F	mg/L	Not Detected	Not Detected
11	Iron as Fe	mg/L	Not Detected	Not Detected
12	Coliform	/100 ml	Absent	Absent
13	E-Coli	/100 ml	Absent	Absent


H. T. Shah
Lab Manager




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TABLE NO.10.3 RESULTS OF DRINKING WATER [FULL PARAMETER IN APRIL 2022 TO SEPTEMBER 2022]

SR. NO.	PARAMETERS	UNIT	June-22	June-22
			Staff Canteen	Narmada Water Pump House
			24/06/2022	24/06/2022
Chemical Parameters				
1	Odour	--	Agreeable	Agreeable
2	Colour	Hazen	3	2
3	Taste	--	Agreeable	Agreeable
4	pH Value	--	7.76	7.82
5	Turbidity	NTU	0.08	0.09
6	Total Dissolved Solids	mg/L	264	326
7	Total Hardness as CaCO ₃	mg/L	98	108
8	Alkalinity	mg/L	102	116
9	Residual Free Chlorine	mg/L	Not Detected	Not Detected
10	Chloride as Cl	mg/L	69	82
11	Calcium as Ca	mg/L	21.60	34.80
12	Magnesium as Mg	mg/L	10.56	5.04
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	Not Detected	Not Detected
19	Iron as Fe	mg/L	Not Detected	0.089
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	11.28	21.75
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	Not Detected	3.42
30	Nitrate Nitrogen as NO ₃	mg/L	0.18	Not Detected
31	Anionic Detergents as MBAS	mg/L	Not Detected	Not Detected
32	Pesticides	mg/L	Not Detected	Not Detected
Microbiological Parameters				
33	Coliform	/100 ml	Absent	Absent
34	E-Coli	/100 ml	Absent	Absent

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

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TABLE NO.10.4 RESULTS OF DRINKING WATER [ESSENTIAL PARAMETER IN APRIL 2022 TO SEPTEMBER 2022]

SR. NO.	TEST PARAMETERS	UNIT	July-22	July-22
			Staff Canteen	Narmada Pump House
			19/07/2022	19/07/2022
1	Odour	--	Agreeable	Agreeable
2	Colour	Hazen	2	4
3	Taste	--	Agreeable	Agreeable
4	pH	--	7.62	7.78
5	Turbidity	NTU	0.04	0.11
6	Total Dissolved Solids	mg/L	146	298
7	Total Hardness as CaCO ₃	mg/L	28	124
8	Residual Free Chlorine	mg/L	Not Detected	Not Detected
9	Chloride as Cl	mg/L	29.90	49.90
10	Fluoride as F	mg/L	Not Detected	Not Detected
11	Iron as Fe	mg/L	Not Detected	Not Detected
12	Coliform	/100 ml	Absent	Absent
13	E-Coli	/100 ml	Absent	Absent

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

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TABLE NO.10.5 RESULTS OF DRINKING WATER [ESSENTIAL PARAMETER IN APRIL 2022 TO SEPTEMBER 2022]

SR. NO.	TEST PARAMETERS	UNIT	August-22	August-22
			POB Building	Narmada Pump House
			15/08/2022	15/08/2022
1	Odour	--	Agreeable	Agreeable
2	Colour	Hazen	3	4
3	Taste	--	Agreeable	Agreeable
4	pH	--	6.76	7.54
5	Turbidity	NTU	0.04	0.15
6	Total Dissolved Solids	mg/L	45	452
7	Total Hardness as CaCO ₃	mg/L	4	145
8	Residual Free Chlorine	mg/L	Not Detected	Not Detected
9	Chloride as Cl	mg/L	10.49	212
10	Fluoride as F	mg/L	Not Detected	0.093
11	Iron as Fe	mg/L	Not Detected	0.064
12	Coliform	/100 ml	Absent	Absent
13	E-Coli	/100 ml	Absent	Absent

BDL*: Below Detection Limit

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



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TABLE NO.10.6 RESULTS OF DRINKING WATER [FULL PARAMETER IN APRIL 2022 TO SEPTEMBER 2022]

SR. NO.	PARAMETERS	UNIT	September-22	September-22
			POB Building	Narmada Water Pump House
			15/09/2022	15/09/2022
Chemical Parameters				
1	Odour	--	Agreeable	Agreeable
2	Colour	Hazen	2	5
3	Taste	--	Agreeable	Agreeable
4	pH Value	--	7.76	7.12
5	Turbidity	NTU	0.06	0.21
6	Total Dissolved Solids	mg/L	38	536
7	Total Hardness as CaCO ₃	mg/L	6	184
8	Alkalinity	mg/L	Not Detected	152
9	Residual Free Chlorine	mg/L	Not Detected	Not Detected
10	Chloride as Cl	mg/L	13.9	159
11	Calcium as Ca	mg/L	1.60	37.60
12	Magnesium as Mg	mg/L	0.48	13.92
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	Not Detected	Not Detected
19	Iron as Fe	mg/L	Not Detected	0.071
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	Not Detected	Not Detected
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	0.12	0.13
30	Nitrate Nitrogen as NO ₃	mg/L	Not Detected	1.16
31	Anionic Detergents as MBAS	mg/L	Not Detected	Not Detected
32	Pesticides	mg/L	Not Detected	Not Detected
Microbiological Parameters				
33	Coliform	/100 ml	Absent	Absent
34	E-Coli	/100 ml	Absent	Absent

H. T. Shah

Lab Manager



Dr. Arun Bajpai

Lab Manager (Q)

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TABLE NO.11 RESULTS OF SEWAGE WATER [APRIL 2022 TO SEPTEMBER 2022]

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	BOD (3 Days @ 27 °C)	mg/L	20	IS 3025 (Part – 44)
4	Fecal Coliform	MPN/100 ml	Not Specified	APHA(22 nd Edi)9221 C & E

RESULTS OF SEWAGE WATER ANALYSIS

DATE OF SAMPLING			18/04/2022	
SR. NO.	PARAMETERS	UNIT	STP Inlet	STP Outlet
1	pH	--	7.72	7.61
2	Total Suspended Solids	mg/L	129	13
3	BOD (3 Days @ 27 °C)	mg/L	107	11
4	Fecal Coliform	MPN/100 ml	>1600	94

DATE OF SAMPLING			30/04/2022	
SR. NO.	PARAMETERS	UNIT	STP Inlet	STP Outlet
1	pH	--	7.79	7.69
2	Total Suspended Solids	mg/L	137	17
3	BOD (3 Days @ 27 °C)	mg/L	98	12
4	Fecal Coliform	MPN/100 ml	>1600	70

DATE OF SAMPLING			17/05/2022	
SR. NO.	PARAMETERS	UNIT	STP Inlet	STP Outlet
1	pH	--	7.11	6.88
2	Total Suspended Solids	mg/L	67	13
3	BOD (3 Days @ 27 °C)	mg/L	72	11
4	Fecal Coliform	MPN/100 ml	>1600	84

DATE OF SAMPLING			30/05/2022	
SR. NO.	PARAMETERS	UNIT	STP Inlet	STP Outlet
1	pH	--	7.19	6.98
2	Total Suspended Solids	mg/L	68	14
3	BOD (3 Days @ 27 °C)	mg/L	79	10
4	Fecal Coliform	MPN/100 ml	>1600	98


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



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DATE OF SAMPLING			17/06/2022	
SR. NO.	PARAMETERS	UNIT	STP Inlet	STP Outlet
1	pH	--	7.14	7.2
2	Total Suspended Solids	mg/L	73	18
3	BOD (3 Days @ 27 °C)	mg/L	94	12
4	Fecal Coliform	MPN/100 ml	>1600	110

DATE OF SAMPLING			30/06/2022	
SR. NO.	PARAMETERS	UNIT	STP Inlet	STP Outlet
1	pH	--	7.38	7.56
2	Total Suspended Solids	mg/L	89	17
3	BOD (3 Days @ 27 °C)	mg/L	76	11
4	Fecal Coliform	MPN/100 ml	>1600	140

DATE OF SAMPLING			15/07/2022	
SR. NO.	PARAMETERS	UNIT	STP Inlet	STP Outlet
1	pH	--	7.06	7.25
2	Total Suspended Solids	mg/L	102	18
3	BOD (3 Days @ 27 °C)	mg/L	98	16
4	Fecal Coliform	MPN/100 ml	>1600	79

DATE OF SAMPLING			29/07/2022	
SR. NO.	PARAMETERS	UNIT	STP Inlet	STP Outlet
1	pH	--	6.95	7.16
2	Total Suspended Solids	mg/L	92	16
3	BOD (3 Days @ 27 °C)	mg/L	86	14
4	Fecal Coliform	MPN/100 ml	>1600	94

DATE OF SAMPLING			15/08/2022	
SR. NO.	PARAMETERS	UNIT	STP Inlet	STP Outlet
1	pH	--	6.74	6.87
2	Total Suspended Solids	mg/L	84	16
3	BOD (3 Days @ 27 °C)	mg/L	21	12
4	Fecal Coliform	MPN/100 ml	>1600	94

H. T. Shah

Lab Manager



Dr. Arun Bajpai

Lab Manager (Q)



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DATE OF SAMPLING			30/08/2022	
SR. NO.	PARAMETERS	UNIT	STP Inlet	STP Outlet
1	pH	--	7.19	6.93
2	Total Suspended Solids	mg/L	103	25
3	BOD (3 Days @ 27 °C)	mg/L	95	16
4	Fecal Coliform	MPN/100 ml	>1600	79

DATE OF SAMPLING			15/09/2022	
SR. NO.	PARAMETERS	UNIT	STP Inlet	STP Outlet
1	pH	--	6.13	6.86
2	Total Suspended Solids	mg/L	96	22
3	BOD (3 Days @ 27 °C)	mg/L	68	13
4	Fecal Coliform	MPN/100 ml	>1600	110

DATE OF SAMPLING			30/09/2022	
SR. NO.	PARAMETERS	UNIT	STP Inlet	STP Outlet
1	pH	--	6.75	6.98
2	Total Suspended Solids	mg/L	105	26
3	BOD (3 Days @ 27 °C)	mg/L	75	17
4	Fecal Coliform	MPN/100 ml	>1600	63

SR. NO.	PARAMETERS	UNIT	STP Outlet		Permissible Limit**
			Max.	Min.	
1	pH	--	7.69	6.86	6.5-9.0
2	Total Suspended Solids	mg/L	26	13	30
3	BOD (3 Days @ 27 °C)	mg/L	17	10	20
4	Fecal Coliform	MPN/100 ml	140	63	<1000

** : Details provided by customer.



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)
2	Sulfur Dioxide as SO ₂	ppm	100	IS:11255 (Part-2)
3	Oxides of Nitrogen as NO _x	ppm	50	IS: 11255 (Part-7)

**Details provided by customer.

RESULTS OF STACK MONITORING

Date of Monitoring			June-22		
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	24/06/2022		
1	Particulate Matter	mg/Nm ³	16.81	15.61	20.34
2	Sulfur Dioxide as SO ₂	ppm	7.32	5.48	6.89
3	Oxides of Nitrogen as NO _x	ppm	36.42	34.54	31.59
4	Noise Level Monitoring				
4.1	Near DG Set	dB(A)	70.5	71.6	69.5

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



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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 Edition) 5520-D Open Reflux
8	Salinity	ppt	APHA 2550 B
9	Oil & Grease	mg/L	APHA(22 nd Edition)5520D
10	Total Hardness as CaCO ₃	mg/L	IS3025(P-21) 84EDTARE.02
11	Fluoride as F	mg/L	APHA(22 nd Edition) 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

Lab Manager



Dr. Arun Bajpai

Lab Manager (Q)



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RESULTS OF DUMP POND DISCHARGE

Location Name			Dump Pond Near TT4	Dump Pond Near TT4
Date			April-22	July-22
SR. NO.	TEST PARAMETER	UNIT	18/04/2022	19/07/2022
1	pH	--	8.31	8.25
2	Total Dissolved Solids	mg/L	498	1248
3	Total Suspended Solids	mg/L	61	76
4	Turbidity	NTU	12.36	13.6
5	BOD (3 Days @ 27 oC)	mg/L	27	20
6	Dissolved Oxygen	mg/L	5.6	5.8
7	COD	mg/L	168	146
8	Salinity	ppt	0.249	0.26
9	Oil & Grease	mg/L	Not Detected	Not Detected
10	Total Hardness as CaCO ₃	mg/L	142	142
11	Fluoride as F	mg/L	0.56	0.66
12	Chloride as Cl	mg/L	138	144
13	Zinc as Zn	mg/L	0.083	0.065
14	Cadmium as Cd	mg/L	Not Detected	Not Detected
15	Lead as Pb	mg/L	Not Detected	0.028
16	Mercury as Hg	mg/L	Not Detected	Not Detected

Note: Minimum Detection Limit; Oil & Grease: 2.0 mg/L, Cadmium as Cd: 0.001 mg/L, Mercury as Hg: 0.00025mg/L

H. T. Shah

Lab Manager



Dr. Arun Bajpai

Lab Manager (Q)

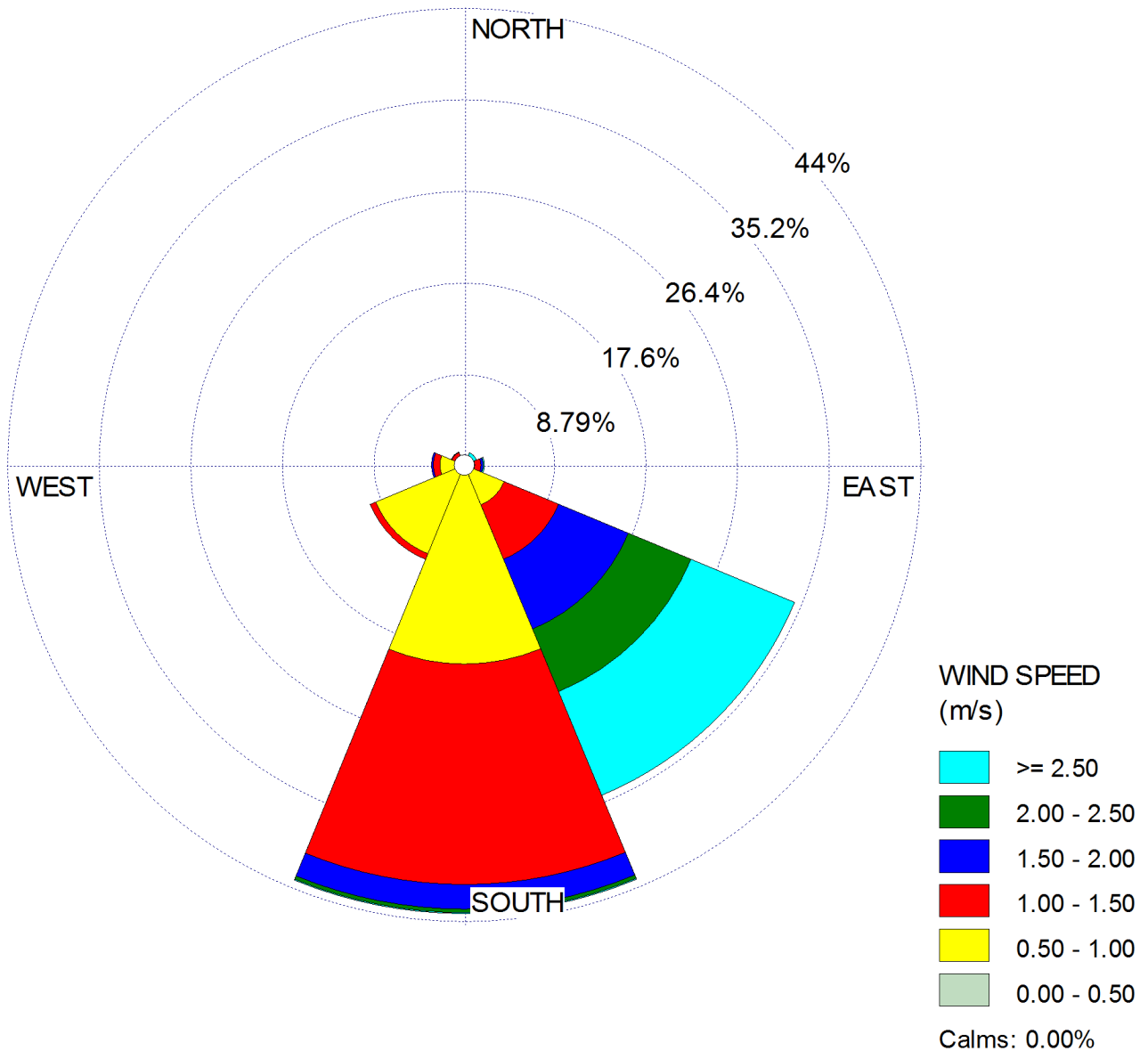


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FIGURE NO.3 WIND ROSE DIAGRAM [APRIL 2022 TO SEPTEMBER 2022]



H. T. Shah

Lab Manager



Dr. Arun Bajpai

Lab Manager (Q)

	Adani Kandla Bulk Terminal Pvt. Ltd.-Tuna	From: Apr'22 To : Sep'22
Status of the conditions stipulated in Environment and CRZ Clearance		

Annexure – 4

(GREEN ZONE DETAILS OF TUNA PORT (AKBTPL) UP TO Sep'2022.)

Status of the conditions stipulated in Environment and CRZ Clearance

CURRENT GREEN ZONE DETAILS OF TUNA PORT (AKBTPL) UP TO Sep'2022.

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	00	75
3	Approach Road Zero Point to Main Gate	0.60	220	00	00	1150
4	SS2 Building & Jetty Road Area.	3.45	8002	1230	00	00
5	Internal Road & Railway Building	3.34	13180	150	60	250
6	Near Weight Bridge -04	0.11	500	00	00	00
Total		16.09	42172	3605	8629	1782



Surrounding Of Adani canteen



Around POB office



Near SS-01 Building



Approach Road- Zero Point to Main Gate



Near SS-02 Building



Near Weight Bridge

	Adani Kandla Bulk Terminal Pvt. Ltd.-Tuna	From : Apr'22 To : Sep'22
Status of the conditions stipulated in Environment and CRZ Clearance		

Annexure – 5

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

	Adani Kandla Bulk Terminal Pvt. Ltd.-Tuna	From : Apr'22 To : Sep'22
Status of the conditions stipulated in Environment and CRZ Clearance		

CSR WORK BY ADANI FOUNDATION, AKBTPL [PERIOD: APR'22 TO SEP'22]

DETAILS			
VILLAGE & FISHERMAN VASAHAT.	CSR ACTIVITIES (APR'22 TO SEP'22)	BENEFICIARIES	EXPENSES IN LAKH
1	HEALTH PROJECTS		
Vandi & Rampar	Rural Clinic	88	0.066
Vira Bandar Fiserman Vasahat	Mobile Van	100	0.075
Tuna,Vandi & Rampar	Medical Support	13	0.014
Vandi Village	Water Supply	2000	3.310
Vira Bandar Fiserman Vasahat	Water Supply	400	1.064
Dhavar varo Fisherman Vasahat	Water Supply	250	0.784
2	EDUCATION PROJECTS	0	0.000
3	SLD(SUSTAINABLE LIVELIHOOD) PROJECTS		0.000
Rampar	Fodder Support	129	9.130
Tuna,	Fodder Support	140	10.670
Tuna Vadi vistar	Fodder Support	70	4.990
Tuna & Rampar & Vadi Vistar	Dry Fodder Support	339	1.030
	TOTAL	3529	31.133

Status of the conditions stipulated in Environment and CRZ Clearance

AKBTPL TUNA CSR ACTIVITY (Apr'22 to Sep'22)



Provide Green Fodder in - Rampar & Tuna Village



Provide Dry Fodder in - Rampar & Tuna Village



Plantation At Tuna & Rampar Gaushala



Housekipping Drive: Provided JCB-Tractor @ Vandi Vil.



**Drinking water supply at Vira& Dhavvarao
Fishermen Vasahat**



Drinking water supply at Vandi Village