BEFORE THE NATIONAL GREEN TRIBUNAL
EASTERN ZONE BENCH, KOLKATA
ORIGINAL APPLICATION NO. 29 OF 2025 / EZ

IN THE MATTER OF :

Haripriya Patel ...Applicant

VERSUS

State of Odisha & Others ...Respondents

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Sl. No.	Description of the documents	Page Nos.
1.	Affidavit.	
2.	Photocopy of the Inspection Report carried out on dtd.14.05.2025. **(ANNEXURE – R2/1 Colly)**	

By the Respondent No.2

Through

Kolkata
Date:

Sri Dipanjan Ghosh,
Advocates for the Respondent No.2
(State Pollution Control Board, Odisha)
e-mail: dpnjnghsh0@gmail.com
Phone No.:990308097

BEFORE THE HON'BLE NATIONAL GREEN TRIBUNAL

EASTERN ZONE BENCH, KOLKATA

ORIGINAL APPLICATION NO. 29 OF 2025 / EZ

IN THE MATTER OF :

- 6 AUG 2025

Haripriya Patel ...Applicant

VERSUS

State of Odisha & Others ...Respondents

AFFIDAVIT ON BEHALF OF THE STATE POLLUTION CONTROL BOARD, ODISHA, R.NO.2.

I, Smt. Uma Nanduri, IFS, wife of Sri Prem Kumar Jha, IFS aged around 58 years, at present working as Member Secretary, State Pollution Control Board, having my office at Paribesh Bhawan, A/118, Nilakantha Nagar, Unit-VIII, P.O. Nayapalli, Bhubaneswar, Dist – Khurda, Odisha-751012, do hereby solemnly affirm and state as under:

1. That I am the Member Secretary of the Respondent No.2 Board and, as such, am well-acquainted with the facts and

circumstances with the case and competent to swear this affidavit.

2. That I have gone through the allegation raised in the complaint dtd.14.10.2024 of the applicant addressed to the "National Green Tribunal, Eastern Zone Bench, Kolkata" and understood the contents thereof.

3. That this Hon'ble Tribunal while adjudicating the matter vide their order dtd.25.03.2025 has been pleased to implead the Principal Secretary, Department of Environment & Forest, Govt. of Odisha, Bhubaneswar and State Pollution Control Board, Odisha as party respondents and issued notice and directed to file affidavits by 26.05.2025.

4. That it is humbly submitted that Sri Soumya Ranjan Mallick, Asst. Environmental Scientist, Regional Office, Bhubaneswar of the R-2 Board has carried out inspection on dtd.14.05.2025 and collected surface water samples of Mangala River at Puri town as well as waste water samples from STP, Mangala Ghat, Puri and submitted the said samples to the Central Laboratory of the R-2 Board

NOTARY GOVT. OF ODISHA (INDIA) M.K. PRADHAN BHUBANESWAR REG.NO.OR-71/09 DATE EXPIRY 02.03.2029

for analysis. But since the analysis reports were not received from the Central Laboratory, the inspection report could not be filed before the Hon'ble Tribunal and the same was submitted through our counsel during hearing of this case on 26.05.2025 which has also been taken note of by the Hon'ble Tribunal.

5. That the Inspecting Officer has visited the alleged site to verify the allegation raised in the complaint as well as paper clipping. During the visit, the staff from Water Corporation of Odisha (WATCO), Puri have accompanied with the Inspecting Officer.

6. That as it appears from the inspection report that the R-2 Board has requested the Executive Officer, Puri Municipality vide Board's letter No.9511 dtd.17.05.2025 to take appropriate remedial measures so as to minimise the pollution load in Mangala river throughout the year. A copy of the said letter has already been annexed by the Inspecting Officer vide Enclosure-V in his inspection report.

7. That the R-2 Board has also submitted the action taken report for restoration of polluted river stretch, Mangala River to the Central Pollution Control Board, New Delhi vide letter No.8894 dtd.03.05.2025 as a compliance to the direction of Hon'ble NGT, PB, New Delhi in OA No.673/2018 in the matter of News item published in The Hindu authored by Sri Jacob Koshy titled "More river stretches are now critically polluted: CPCB", disposed of on dtd.22.02.2021. A copy of the said letter has also been attached in the Inspection Report as Enclosure-VI.

8. That it is further humbly submitted that the Inspecting Officer has suggested certain measures to reduce the pollution potential of the river system, which are given below:

   a. To reduce the pollution load over the Mangala River stretch nearby Puri Town, Water Corporation of Odisha (WATCO), Department, Puri should be upgraded the treatment system so that the treated waste water should maintain the wholesomeness of prescribed standard of domestic waste water discharge w.r.t. criteria parameter i.e., BOD & Fecal Coliform which is

NOTARY ★ B. PRADHAN BHUBANESWAR REGD.NO.ON-11/09 DATE EXPIRY 02.03.2029 ★ GOVT. OF ODISHA (INDIA)

main contributing factor of domestic waste water pollution load on the river system.

b. Executive Officer, Puri Municipality with due consultation with Water Corporation of Odisha (WATCO), Department, Puri, authority, so as to take appropriate steps for proper drainage network provided with master plan to be framed entirely within Puri Municipality to mitigate such problem as has been raised by the applicant within stipulated time period.

c. Also the authority of Water Resources Dept., Puri may be directed for taking action w.r.t drezing of river system nearby the Puri town at regular interval i.e. twice in a year, so as to maintain the flow of water in river.

A copy of the Inspection report carried out by Sri Soumya Ranjan Mallick, Asst. Env. Scientist along with all the enclosures relied upon in the Inspection Report is annexed to this affidavit and marked as **ANNEXURE-R2/1 Colly**.

9. That the Respondent No.2 Board craves leave of this Hon'ble Tribunal to file further affidavit if required for proper adjudication of this case.

NOTARY M.K. PRADHAN BHUBANESWAR REGD.NO.ON-11/09 DATE EXPIRY 02.03.2029 GOVT. OF ODISHA (INDIA)

10. That the Annexure annexed to the present affidavit is true and correct copy of its original.

11. That the contents of the above paragraphs are true and correct to the best of my knowledge, as derived from the official records, and that nothing material has been concealed therefrom.

DEPONENT
Member Secretary
State Pollution Control Board
Odisha, Bhubaneswar

VERIFICATION:

I, the above named deponent, do hereby verify that the contents of the above affidavit are true and correct to the best of my knowledge, as derived from official records, and that nothing material has been concealed therefrom.

Verified at Bhubaneswar on this the 6th day of August, 2025.

NOTARY
M.K. PRADHAN
BHUBANESWAR
REGD.NO.ON-71/09
DATE EXPIRY
02.03.2029
GOVT. OF ODISHA (INDIA)

SWORN BEFORE ME

MANJULA KUMAR PRADHAN
NOTARY PUBLIC
BHUBANESWAR
REGD. NO. ON-71/2009
PH - 9437627119 (M)

DEPONENT
Member Secretary
State Pollution Control Board
Odisha, Bhubaneswar

INSPECTION REPORT OF MANGALA RIVER, PURI WITH RESPECT TO O.A. NO. 29/2025/EZ IN THE MATTER OF HARIPRIYA PATEL VRS. STATE OF ODISHA & ORS.

BACKGROUND:

The applicant Smt. Haripriya Patel, Plot No.106, Lumbini Enclave (Chandrasekharpur), Bhubaneswar-751021, has filed a case to Hon'ble NGT bringing to the notice regarding newspaper article published in Odia Daily 'Samaj" on dtd.07.10.2024 titled "**Mangala River become Poisonous"**. The Hon'ble NGT, EZB, Kolkata vide their order dtd.25.03.2025 after taking into the cognizance of the allegations raised in the said letter petition filed by the applicant as well as the article published in the above said newspaper has impeded the Odisha State Pollution Control Board as Respondent No. 02 by initiating OA No. 29/2025/EZ and also directed all the respondents to file their counter affidavits.

COMPLAINT DETAILS:

1. Smt. Patel, applicant has highlighted about the water quality status of Mangala River (i.e., a small tributary of Bhargavi River) originates near up-stream of Puri Town, flows along the city and finally confluence to the seashore i.e., Bay of Bengal near Harachandi Muhan.
2. The villagers of Bhagabat Patna, Korua, Kasigagarnathpur, Golashai, Khadipada, Totasahi, Revatiraman, Paiksahi, Kanthapura, Satptna and Parbatipur village completely depends on the river for their day-to-day livelihood.
3. Due to continuous discharge of untreated domestic waste/effluent from 15 Nos. of sewerage drains of Puri Town, effluents of different hospitals along with the common sewerage drains of villagers into Mangala River that causing deterioration of water quality.
4. Out of total 10 kms. river system i.e., excepting initial 02 to 03 kms, the entire stretch is carrying the domestic waste, water pollution load causing harmful impact not only on human health but also causing serious harm to the aquatic life of that water body at various locations.
5. Due to encroachment the width of the river also being diminished.
6. The deplorable and polluting conditions of the river will likely create imbalance in the Environmental ecosystem. Hence there is need to rejuvenate this river by removal of pollution load entering directly into the river system so as to make the

river pollution free and also its restoration will contribute to water conservation, irrigation, the provision of safe drinking water, tourism, agricultural practices etc.

OBSERVATIONS:

1. To verify the pollution load of Mangala River, the alleged sites were inspected on dtd.14.05.2025 to verify the allegations raised by the applicant. During the time of inspection the undersigned was accompanied by the staff from Water Corporation of Odisha (**WATCO**), Department, Puri.
2. Water samples were collected from different locations as follows:

Sl. No.	Sampling Locations	Latitude and Longitude
1.	Inlet of STP Mangalaghat	$19^0$48'46.086" N $85^0$48'2.742"E
2.	Outlet of STP Mangalaghat	$19^0$48'51.636" N $85^0$47'36.822"E
3.	Up-stream of Managala River near Puri Town at Mangalaghat Bridge	$19^0$48'48.054" N $85^0$48'25.086"E
4.	Confluence point of Musa & Mangala River near Water Treatment Plant (WTP) of WATCO at Samanga Village Puri.	$19^0$49'29.79" N $85^0$48'34.992"E
5.	Down-stream of Mangala River after confluence of STP, Mangalaghat at Golasahi i.e., near Omkareswar Shiva Temple.	$19^0$47'58.926" N $85^0$46'44.13"E
6.	Mangala River before confluence to Bay of Bengal sea-shore i.e. behind Hotel Sterling, Puri.	$19^0$47'0.618" N $85^0$46'51.216"E

(*Copy of the Google Earth Map Showing Sampling Locations is Enclosed as* ***Enclosure-I***)

3. Besides the river stretch sample from above cited locations near Puri Town wastewater samples were collected from STP sources i.e. inlet of STP Mangalaghat and outlet of treated combined waste water of STP at Mangalaghat before confluence to Mangala River.

Also it was tried to ascertain the flow pattern of river Mangala up to Harichandi Muhan (i.e., the confluence location with Bay of Bengal). But due to

intense summer season there was very minimal flow of river stretch for which the nearby area of local inhabitant also told that during this time clear flow pattern cannot be visualized. At various locations the Mangala River basin were observed to be nearly dry and full of floating species and wild weeds which is quite natural any river stretches during summer.

About the river water sample of Mangala and the wastewater sample collected from Sewage Treatment Plant of Mangalaghat.

a) Regarding the water quality status of Mangala River:-

On the day of inspection to the various sites of Mangala River, 04 nos. of water samples have been collected as cited above and the result has revealed that BOD result at the Downstream of Mangala River after confluence of treated waste water of STP Mangalaghat along with the stretch of Mangala River before passing nearby to Puri Town and before confluence to Bay of Bengal exhibiting little bit higher result i.e., 6.0 mg/L & 5.0 mg/L. in comparison to inland surface water standard i.e., 3.0 mg/L. Total Coliform (TC) shows higher result i.e. 24000 MPN/100mL in comparison to regulatory limits i.e. 5000 MPN/100ml and also Fecal Coliform (FC) shows higher result i.e. 7900 MPN/100mL in comparison to regulatory limits i.e. 2500 MPN/100 mL (max Permissible). *(Copy of analysis report is attached as* ***Enclosure-II)***. But in case of Musa River which is confluence to Mangala River before entering nearby to Puri Town is exhibiting high result w.r.t. BOD & Coliform Bacteria near Samang village.

From the compiled analysis report during the month of January to June, 2025, *(Copy Enclosed as* ***Enclosure-III)*** it has been revealed that the BOD result at Mangala River D/s near Omkareswar Temple during the month April, May & June i.e., 4.7 mg/L, 3.5 mg/L & 4.8 mg/L respectively which is exceeding comparison to inland surface water standard i.e., 3.0 mg/L. Likewise Total Coliform(TC) value during June, 2025 i.e., 7900 MPN/100mL which is exceeding the prescribed standard w.r.t to inland surface water standard i.e., 5000 MPN/100mL also Fecal Coliform (FC) shows higher result i.e. 3300 MPN/100mL during June in comparison to regulatory limits i.e. 2500 MPN/100 mL (max Permissible).

Looking to the other contributing factor responsible for raising of pollution load it is evident that the river stretches nearby the Puri Town area exhibiting the high fecal coliform value.

b) About the Sewage Treatment Plant (STP):-

1. The Water Corporation of Odisha, Govt. of Odisha has installed a 15 MLD capacity of STP to treat the domestic waste water of Puri Town within the coverage area of Puri Municipality. During site visit it has been ascertained from the officials of Water Corporation of Odisha, that out of many waste water drains of the town, maximum drains have been connected to the Inlet of STP for necessary treatment before their discharge to Mangala River.
2. Considering to the waste water quality of Mangalaghat STP it has been ascertained that outlet discharge of (before confluence to Mangala River) is exhibiting high Coliform result i.e., more than its standard <1000 (As per G.S.R.1265 (E) dtd.13.10.2017. Whereas the other criteria parameter i.e., BOD Concentration i.e., 3.4 mg/l. in comparison to effluent discharge standard for sewage treatment plants i.e., 30 mg/L. *(Copy of analysis report is attached as **Enclosure-IV**)*
3. The waste water quality report of Mangalaghat STP Outlet during January to June, 2025 *(Copy Enclosed as **Enclosure-V**)* is exhibiting high result during the month January, April & June w.r.t. criteria Parameter i.e., BOD value 83 mg/L, 35 mg/L, & 43 mg/L respectively against the prescribed standard 30 mg/L & Fecal Coliform is exhibiting high result i.e., 1,60,000 MPN/100mL during January, April, May & June against standard <1000 MPN/100 mL.

Action Taken Report by State Pollution Control Board, Odisha:-

1. The Board in its letter to the Executive Officer, Puri Municipality vide No.9511, dtd.17.05.2025 has instructed to take appropriate remedial measures so as to minimize the pollution load in Mangala River throughout the year. Also copy of the same has been communicated to the Collector & District Magistrate, Puri for information. *(Copy attached as **Enclosure-VI**)*
2. Action taken report for restoration of Polluted River Stretch Mangala River (along Puri) in the State of Odisha (in compliance to Hon'ble NGT matter in OA 673 of 2018) has been submitted to Central Pollution Control Board, New

Delhi vide this office Letter No.8894, dtd.03.05.2025. *(Copy letter dtd.03.05.2025 and the relevant portion pertaining to the Mangala River Stretch of the Action taken report is attached and marked as* ***Enclosure-VII)***

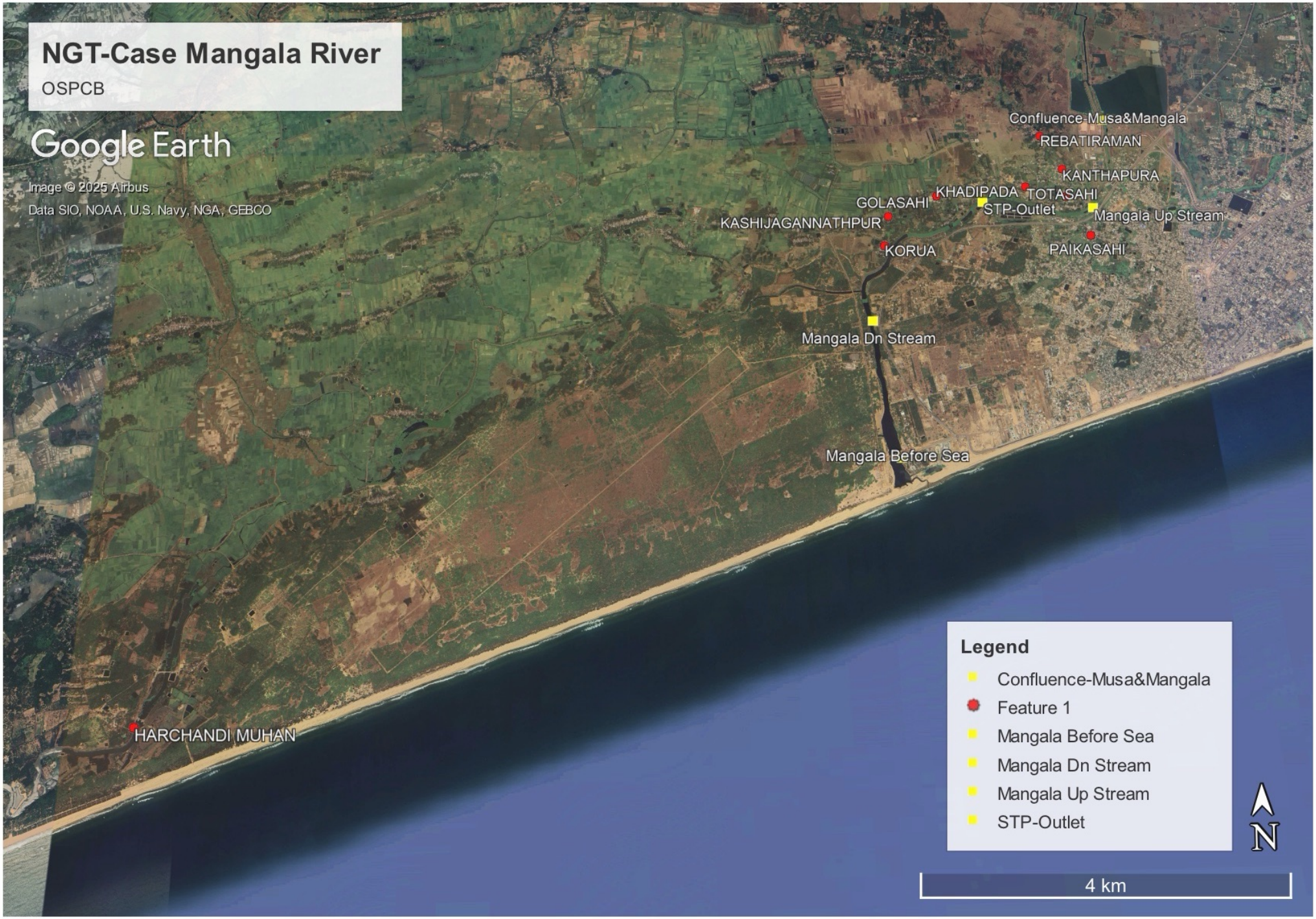
Views of the State Pollution Control Board to reduce the Pollution Potential of the river system:-

1. To reduce the pollution load over the Mangala River stretch nearby Puri Town, Water Corporation of Odisha (**WATCO**), Department, Puri should be upgraded the treatment system so that the treated waste water should maintain the wholesomeness of prescribed standard of domestic waste water discharge w.r.t. criteria parameter i.e., BOD & Fecal Coliform which is main contributing factor of domestic waste water pollution load on the river system.
2. Executive Officer, Puri Municipality with due consultation with Water Corporation of Odisha (**WATCO**), Department, Puri, authority, so as to take appropriate steps for proper drainage network provided with master plan to be framed entirely within Puri Municipality to mitigate such problem as has been raised by the applicant within stipulated time period.
3. Also the authority of Water Resources Dept., Puri may be directed for taking action w.r.t dredging of river system nearby the Puri town at regular interval i.e. twice in a year, so as to maintain the flow of water in river.

25/7/25

Sri Soumya Ranjan Mallick
Asst. Environmental Scientist
Regional Office, SPC Board, Bhubaneswar

Enclosure-I


NGT-Case Mangala River
OSPCB
Google Earth
Image © 2025 Airbus
Data SIO, NOAA, U.S. Navy, NGA, GEBCO
Confluence-Musa&Mangala
REBATIRAMAN
KANTHAPURA
KHADIPADA
TOTASAHI
GOLASAHI
STP-Outlet
Mangala Up Stream
KASHIJAGANNATHPUR
PAIKASAHI
KORUA
Mangala Dn Stream
Mangala Before Sea
HARCHANDI MUHAN
Legend
Confluence-Musa&Mangala
Feature 1
Mangala Before Sea
Mangala Dn Stream
Mangala Up Stream
STP-Outlet
N
4 km

OSPCB/CNL/F0718

CENTRAL LABORATORY
STATE POLLUTION CONTROL BOARD, ODISHA
Plot No. B-59/2 & 59/3, Chandaka Industrial Estate, Patia,
Bhubaneswar - 751 024
E-mail: centrallab@ospcboard.org

TC-12740

TEST REPORT

1. ULR No. : TC127402500000499F
2 (i). Report No. : OS/ 307 /05/2025 2(ii). Amendment No : .....
3 (i) Date : 20.05.2025 3(ii) Amendment Date : .....
4. Sample Submitted By : Sri Soumya Ranjan Mallick, AES,
(Name and address) Regional Office, SPC Board, Odisha, Bhubaneswar
(On behalf of Regional Officer, Bhubaneswar)
5. Reference Letter No. : 1340 / RO-MISC– 444 dt.14.05.2025
6. Date of sample receipt : 15.05.2025
7. Sample Description:

(I) **Discipline : Chemical testing and Biological testing** (Biological testing/ Chemical testing)
(II) **Group : Water** (Water/ Pollution and Environment)
(III) **Sub Group : Surface water** (Surface Water/ Ground Water/ Drinking Water/ Wastewater / Effluent)

8. Analysis Starting Date-Analysis Completion Date : 15.05.2025 – 19.05.2025
9. If uncertainty is desired by Customer : No
10. Analysis Results :

(Attach separate sheet if necessary)

Sl. No.	Parameter, Unit	Standards/ Regulatory Limits		Test Method	Surface water samples of Mangala River at Puri Town			
		G.S.R. 742 (E) *	IS : 2296-1982, Class 'C' **		Others/ May – 25/ SW/ 553	Others/ May – 25/ SW/ 554	Others/ May – 25/ SW/ 555	Others/ May – 25/ SW/ 556
					U/S of Mangala River near Mangalaghat bridge	Confluence point of Musa and Mangala River near water treatment plant of WATCO at Samanga village, Puri	Mangala River D/S after confluence of STP, Mangalaghat treatment water at village Golasahi near OMkareswar Shiva Temple	Mangala River before confluence to Bay of Bangal Sea-Shore behind the Hotel Sterling, Puri
					Results			
1.	pH	6.5-8.5	6.5-8.5	4500-H^+-B, APHA, 23rd Edn., 2017	7.1	6.5	7.5	9.1
2.	Total Suspended Solids (TSS), mg/L	-	-	2540 D, APHA, 23rd Edn., 2017	43.0	83.0	22.0	41.0
3.	Biochemical Oxygen Demand (BOD, 3 days at 27° C), mg/L	3, mg/L or less	3, max	IS 3025 : Part 44 (1999)	2.0	53.0	6.0	5.0
4.	Chemical Oxygen Demand (COD), mg/L	-	-	5220 B, APHA, 23rd Edn., 2017	15.0	115.0	31.0	39.0
5.	Total Coliform (TC), MPN/100 ml	-	5000, max	9221-B, APHA, 23rd Edn., 2017	3500	24000	4900	170
6.	Fecal Coliform (FC), MPN/100 ml	500 (desirable) 2500 (max. Permissible)	-	9221-E, APHA, 23rd Edn., 2017	1700	7900	1700	49

*** Primary water quality criteria for bathing water (water used for organized outdoor bathing), G.S.R:742 (E) Dt.25.9.2000**

**** Tolerance limit for inland surface water subject to pollution (IS : 2296–1982), for Class 'C'**
(Drinking water source with conventional treatment followed by disinfection)

Pattanaik 20.05.2025
Authorised Signatory
(Biological Testing)
(Water/ Wastewater)
(Mrs. Nishiprava Pattnaik)
(Asst. Env. Scientist)

Patnaik 20.5.25
Authorised Signatory
(Chemical Testing)
(Water/ Wastewater)
(Dr. (Mrs.) Usharani Patnaik)
(Addl. Chief Env. Scientist)

N. Mallick 20/5/25
Board Analyst
(Sri Niranjan Mallick)
(OSD-cum- Chief Env. Scientist)

(Cont..)

OSPCB/CNL/F0718

CENTRAL LABORATORY
STATE POLLUTION CONTROL BOARD, ODISHA
Plot No. B-59/2 & 59/3, Chandaka Industrial Estate, Patia,
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3 (i) . Date : 20.05.2025
3(ii) Amendment Date : .....

11. Deviation from Test Method , if any : No
12. If Sampling Conducted by the Central Laboratory, Yes/ No - No
If Yes,

(a) Date of Sampling : (b) Method Used :
(c) Name of Sampler with Designation :

End of Test Report

20.05.2025

Authorised Signatory
(Biological Testing)
(Water/ Wastewater)
(Mrs. Nishiprava Pattnaik)
(Asst. Env. Scientist)

20.5.25

Authorised Signatory
(Chemical Testing)
(Water/ Wastewater)
(Dr. (Mrs.) Usharani Patnaik)
(Addl. Chief Env. Scientist)

20/5/25

Board Analyst
(Sri Niranjan Mallick)
(OSD-cum- Chief Env. Scientist)

Note :
(i) The results stated above relate only to the items tested.
(ii) This report shall not be reproduced in full or in part without written approval from the In-charge of the Central Laboratory.
(iii) The laboratory is not responsible for the authenticity of photocopied Test Reports.
(iv) The Test item will not be retained for more than 15 days from the date of issue of Test Report except in case as required by aoplicable Regulation.
(v) Opinion. Interpretation, Conformance will be provided only on the customer request.

Enclosure-III

COMPILED STATUS OF MANAGALA RIVER IN PURI DISTRICT (FROM JANUARY, 2025 TO JUNE, 2025)

Name	Month	Inlet/ Outlet	Parameters				
			pH	BOD, mg/L	COD, mg/L	TC, MPN/100mL	FC, MPN/100mL
Mangala River, Puri	January	Mangala River U/s at Malatipatpur,Puri	7.3	1.5	16.0	4900	2200
		Mangala River D/s at Omkareswar Temple, Golasahi, Puri	7.8	1.7	20.0	4900	2300
	February	Mangala River U/s at Malatipatpur,Puri	7.6	1.4	7.8	3500	1700
		Mangala River D/s at Omkareswar Temple, Golasahi, Puri	7.3	1.7	12.0	4900	2200
	March	Mangala River U/s at Malatipatpur,Puri	7.6	1.5	16.0	2200	1300
		Mangala River D/s at Omkareswar Temple, Golasahi, Puri	7.5	1.8	20.0	3500	1700
	April	Mangala River U/s at Malatipatpur,Puri	7.6	1.9	16.0	1100	330
		Mangala River D/s at Omkareswar Temple, Golasahi, Puri	7.2	**4.7**	28.0	3500	1300
	May	Mangala River U/s at Malatipatpur,Puri	8.1	1.8	12.0	1300	330
		Mangala River D/s at Omkareswar Temple, Golasahi, Puri	7.6	**3.5**	16.0	1700	790
	June	Mangala River U/s at Malatipatpur,Puri	7.5	1.8	15.0	2400	1300
		Mangala River D/s at Omkareswar Temple, Golasahi, Puri	7.7	4.8	28.0	7900	3300
Primary water Quality Criteria for Bathing Water as per GSR 742(E)			**6.5-8.5**	**3.0 mg/L**	-	-	**2500(Maximum) Permissible**
Tolerance limit for inland Surface water			**6.5-8.5**	**3.0 mg/L**		**5000**	-

Sri Soumya Ranjan Mallick
(Asst. Environmental Scientist)
Regional Office, SPC Board, Bhubaneswar

Dr.Sohan Giri
(Regional Officer)
Regional Office, SPC Board, Bhubaneswar

OSPCB/CNL/F0718

CENTRAL LABORATORY
STATE POLLUTION CONTROL BOARD, ODISHA

Plot No. B-59/2 & 59/3, Chandaka Industrial Estate, Patia,
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TC-12740

TEST REPORT

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4. Sample Submitted By : Sri Soumya Ranjan Mallick, AES,
(Name and address) Regional Office, SPC Board, Odisha, Bhubaneswar
(On behalf of Regional Officer, Bhubaneswar)
5. Reference Letter No. : 1340 / RO-MISC– 444 dt.14.05.2025
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   (ii) **Group : Pollution and Environment** (Water/ Pollution and Environment)
   (iii) **Sub Group : Wastewater** (Surface Water/ Ground Water/ Drinking Water/ Wastewater / Effluent)
8. Analysis Starting Date-Analysis Completion Date : 15.05.2025 – 19.05.2025
9. If uncertainty is desired by Customer : No
10. Analysis Results :

(Attach separate sheet if necessary)

Sl. No.	Parameter, Unit	Standards/ Regulatory Limits (G.S.R. 1265 (E) Dt.13.10.2017) *	Test Method	Wastewater samples collected from STP, Mangalaghat, Puri	
				Others/ May – 25/ WW / 551	Others/ May - 25/ WW / 552
				Inlet of STP, Mangalaghat at Bankimuhan (combined wastewater before treatment)	Outlet of treated combined wastewater of STP at Mangalaghat before confluence to Mangala River
				Results	
1.	pH	6.5 - 9.0	4500-H^+-B, APHA, 23rd Edn., 2017	6.7	7.2
2.	Total Suspended Solids (TSS), mg/L	<100	2540 D, APHA, 23rd Edn., 2017	132.0	13.0
3.	Biochemical Oxygen Demand (BOD, 3 days at 27^0 C), mg/L	30	IS 3025 : Part 44 (1999)	90.0	3.4
4.	Chemical Oxygen Demand (COD), mg/L	-	5220 B, APHA, 23rd Edn., 2017	173.0	31.0
5.	Total Coliform (TC), MPN/100 ml	-	9221-B, APHA, 23rd Edn., 2017	160000	13000
6.	Fecal Coliform (FC), MPN/100 ml	<1000	9221-E, APHA, 23rd Edn., 2017	160000	7900

*** Effluent discharge standard for sewage treatment plants, Applicable for Sl. No. Others / May – 25 / WW / 552**
(No standard limits specified for samples collected from Inlet to STP)

20.05.2025
Authorised Signatory
(Biological Testing)
(Water/ Wastewater)
(Mrs. Nishiprava Pattnaik)
(Asst. Env. Scientist)

20.5.25
Authorised Signatory
(Chemical Testing)
(Water/ Wastewater)
(Dr. (Mrs.) Usharani Patnaik)
(Addl. Chief Env. Scientist)

20/5/25
Board Analyst
(Sri Niranjan Mallick)
(OSD-cum- Chief Env. Scientist)

(Cont..)

CENTRAL LABORATORY
STATE POLLUTION CONTROL BOARD, ODISHA
Plot No. B-59/2 & 59/3, Chandaka Industrial Estate, Patia,
Bhubaneswar - 751 024
E-mail: centrallab@ospcboard.org

TC-12740

TEST REPORT

1. ULR No. : TC127402500000498F
2 (i). Report No. : OS/ 306 /05/2025
2(ii). Amendment No : .....
3 (i) Date : 20.05.2025
3(ii) Amendment Date : .....

11. Deviation from Test Method , if any : No
12. If Sampling Conducted by the Central Laboratory, Yes/ No - No
If Yes,

(a) Date of Sampling : (b) Method Used :
(c) Name of Sampler with Designation :

End of Test Report

20.05.2025
Authorised Signatory
(Biological Testing)
(Water/ Wastewater)
(Mrs. Nishiprava Pattnaik)
(Asst. Env. Scientist)

20.5.25
Authorised Signatory
(Chemical Testing)
(Water/ Wastewater)
(Dr. (Mrs.) Usharani Patnaik)
(Addl. Chief Env. Scientist)

20/5/25
Board Analyst
(Sri Niranjan Mallick)
(OSD-cum- Chief Env. Scientist)

Note :
(i) The results stated above relate only to the items tested.
(ii) This report shall not be reproduced in full or in part without written approval from the In-charge of the Central Laboratory.
(iii) The laboratory is not responsible for the authenticity of photocopied Test Reports.
(iv) The Test Item will not be retained for more than 15 days from the date of issue of Test Report except in case as required by applicable Regulation.
(v) Opinion, Interpretation, Conformance will be provided only on the customer request.

Enclosure-V

COMPILED STATUS OF STP AT MANGALAGHAT IN IN PURI DISTRICT (FROM JANUARY, 2025 TO JUNE, 2025)

Name	Month	Inlet/ Outlet	Parameters				
			pH	BOD, mg/L	COD, mg/L	TC, MPN/100mL	FC, MPN/100mL
STP at Mangalaghat-15KLD	January	Inlet	7.1	98	198	160000	160000
		Outlet	7.5	83	178	160000	160000
	February	Inlet	6.9	103	240	160000	160000
		Outlet	7.6	18	56	2400	330
	March	Inlet	7.4	78	214	160000	160000
		Outlet	7.7	12	77	240	79
	April	Inlet	7.1	93	200	160000	160000
		Outlet	7.6	35	80	160000	160000
	May	Inlet	NM	NM	NM	NM	NM
		Outlet	7.8	15	45	160000	160000
	June	Inlet	8.0	83	191	160000	160000
		Outlet	8.1	43	114	160000	160000
Standards/ Regulatory Limits (G.S.R. 1265 (E) Dt.13.10.2017) *			6.5-9.0	30	-	-	<1000

*** Effluent discharge standard for sewage treatment plants, NM-Not Monitored**

Sri Soumya Ranjan Mallick
(Asst. Environmental Scientist)
Regional Office, SPC Board, Bhubaneswar

Dr.Sohan Giri
(Regional Officer)
Regional Office, SPC Board, Bhubaneswar

OSPCB/CNL/F0718

CENTRAL LABORATORY
STATE POLLUTION CONTROL BOARD, ODISHA

Plot No. B-59/2 & 59/3, Chandaka Industrial Estate, Patia,
Bhubaneswar - 751 024
E-mail: centrallab@ospcboard.org

TC-12740

TEST REPORT

1. ULR No. : TC127402500000091F
2 (i). Report No. : OS/70/01/2025 2(ii). Amendment No : ---
3 (i) Date of issue : 31.01.2025 3(ii) Amendment Date : ---
4. Sample Submitted By : Ms. Karisma Mohanty, Field Asst.,
(Name and address) Central Laboratory, SPCB, Odisha, Patia, Bhubaneswar
5. Reference Letter No. : Tour Programme No.21015 dt.23.12.2024
6. Date of sample receipt : 20.01.2025
7. Sample Description :

(i) **Discipline : Chemical Testing and Biological Testing** (Biological Testing, Chemical testing)

(ii) **Group : Pollution and Environment** (Water/ Pollution and Environment / Atmospheric Pollution/ Soil and Hazardous Waste)

(iii) **Sub Group : Waste water** (Surface water/ Ground water/ Drinking water / Wastewater / Effluent/ Ambient Air / Stack/ Soil and Hazardous Waste)

8. Analysis Starting Date-Analysis Completion Date : 20.01.2025 – 30.01.2025
9. If uncertainty is desired by Customer : No
10. Analysis Results :

(Attach separate sheet if necessary)

Sl. No.	Parameter, Unit	Standards/ Regulatory Limits (G.S.R. 1265 (E) Dt.13.10.2017) *	Test Method	STP of Puri at Mangalaghat and Bankimuhan			
				Others/ Jan - 25/WW /25	Others/ Jan - 25/WW /26	Others/ Jan - 25/WW /27	Others/ Jan – 25/WW /28
				Inlet to STP at Mangalaghat	Outlet of STP at Mangalaghat	Inlet to STP at Bankimuhan	Outlet of STP at Bankimuhan discharge to sea
				Results			
1.	pH	6.5-9.0	4500-H^+-B, APHA, 23rd Edn., 2017	7.1	7.5	7.1	7.2
2.	Total Suspended Solids (TSS), mg/L	<100	2540 D, APHA, 23rd Edn., 2017	512.0	242.0	138.0	131.0
3.	Biochemical Oxygen Demand (BOD, 3 days at 27^0 C), mg/L	30	IS 3025 : Part 44 (1999)	98.0	83.0	90.0	88.0
4.	Chemical Oxygen Demand (COD), mg/L	-	5220 B, APHA, 23rd Edn., 2017	198.0	178.0	218.0	198.0
5.	Total Phosphate as P ($T.PO_4^{3-}$-P), mg/L	-	4500-P-B followed by 4500-P-D, APHA, 23rd Edn., 2017	17.550	16.100	15.600	15.475
6.	Total Coliform (TC), MPN/100 ml	-	9221-B, APHA, 23rd Edn., 2017	160000	160000	160000	160000
7.	Fecal Coliform (FC), MPN/100 ml	<1000	9221-E, APHA, 23rd Edn., 2017	160000	160000	160000	160000

*** Effluent discharge standard for sewage treatment plants, Applicable for Sl. No. Others/Jan - 25/WW/26 & Others/Jan -25/WW/28 (No standard limits specified for samples collected from Inlet to STPs)**

31/01/2025 31.1.2025 31/1/25

(Cont..)

11. Deviation from Test Method , if any : No

12. If Sampling Conducted by the Central Laboratory, Yes/ No. - Yes
If Yes,

(a) Date of Sampling : 20.01.2025 (b) Method Used* : Grab sampling (1060 B, APHA, 23rd Edn., 2017)

(c) Name of Sampler with Designation : Ms. Karisma Mohanty, Field Asst.

----------End of Test Report----------

31/01/2025
Authorised Signatory
(Biological)
(Mrs. Nishiprava Pattanaik, AES)

31.1.2025
Authorised Signatory
(Water/wastewater)
(Dr. (Mrs)Usharani Patnaik, Addl.Chief Env. Scientist)

Board Analyst
(Mr. Niranjan Mallick, Chief Env. Scientist)

Note :

(i) The results stated above relate only to the items tested.
(ii) This report shall not be reproduced in full or in part without written approval from the In-charge of the Central Laboratory.
(iii) The laboratory is not responsible for the authenticity of photocopied Test Reports.
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OSPCB/CNL/F0718

CENTRAL LABORATORY
STATE POLLUTION CONTROL BOARD, ODISHA

Plot No. B-59/2 & 59/3, Chandaka Industrial Estate, Patia,
Bhubaneswar - 751 024
E-mail: centrallab@ospcboard.org

TEST REPORT

1. ULR No. : ------
2 (i). Report No. : OS/71/01/2025 — 2(ii). Amendment No : ---
3 (i) Date : 31.01.2025 — 3(ii). Amendment Date : ---
4. Sample Submitted By (Name and address) : Ms. Karisma Mohanty, Field Asst., Central Laboratory, SPCB, Odisha, Patia, Bhubaneswar
5. Reference Letter No. : Tour Programme No.21015 dt.23.12.2024
6. Date of sample receipt : 20.01.2025
7. Sample Description :

(i) **Discipline : Chemical Testing** (Biological Testing, Chemical testing)
(ii) **Group : Pollution and Environment** (Water/ Pollution and Environment / Atmospheric Pollution/ Soil and Hazardous Waste)
(iii) **Sub Group : Wastewater** (Surface water/ Ground water/ Drinking water / Wastewater / Effluent/ Ambient Air / Stack/ Soil and Hazardous Waste)

8. Analysis Starting Date-Analysis Completion Date : 20.01.2025 – 30.01.2025
9. If uncertainty is desired by Customer : No
10. Analysis Results :

(Attach separate sheet if necessary)

Sl. No.	Parameter, Unit	Standards/ Regulatory Limits (G.S.R. 1265 (E) Dt.13.10.2017) *	Test Method	STP of Puri at Mangalaghat and Bankimuhan			
				Others/Jan -25/ WW /25	Others/Jan -25/ WW /26	Others/Jan -25/ WW /27	Others/Jan –25/ WW /28
				Inlet to STP at Mangalaghat	Outlet of STP at Mangalaghat	Inlet to STP at Bankimuhan	Outlet of STP at Bankimuhan discharge to sea
				Results			
1.	Ammonical Nitrogen as N (NH_3-N), mg/L	-	4500-NH_3-B followed by 4500-NH_3-C, APHA, 23rd Edn., 2017	17.36	16.24	14.56	13.44

*** Effluent discharge standard for sewage treatment plants, Applicable for Sl. No. Others/ Jan - 25/WW/26 & Others/ Jan -25/WW/28 (No standard limits specified for samples collected from Inlet to STPs)**

11. Deviation from Test Method , if any : No
12. If Sampling Conducted by the Central Laboratory, Yes/ No. - Yes
If Yes,
(a) Date of Sampling : 20.01.2025 (b) Method Used* : Grab sampling (1060 B, APHA, 23rd Edn., 2017)
(c) Name of Sampler with Designation : Ms. Karisma Mohanty, Field Asst.

----------End of Test Report----------

31.1.2025
Authorised Signatory
(Water/wastewater)
(Dr. (Mrs)Usharani Patnaik, Addl. Chief Env. Scientist)

31/1/25
Board Analyst
(Mr. Niranjan Mallick, Chief Env. Scientist)

Note :
(i) The results stated above relate only to the items tested.
(ii) This report shall not be reproduced in full or in part without written approval from the In-charge of the Central Laboratory.
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(iv) The Test Item will not be retained for more than 15 days from the date of issue of Test Report except in case as required by applicable Regulation.

OSPCB/CNL/F0718

CENTRAL LABORATORY
STATE POLLUTION CONTROL BOARD, ODISHA

Plot No. B-59/2 & 59/3, Chandaka Industrial Estate, Patia,
Bhubaneswar - 751 024
E-mail: centrallab@ospcboard.org

TC-12740

TEST REPORT

1. ULR No. : TC127402500000171F
2 (i). Report No. : OS/128/02/2025 2(ii). Amendment No : ---
3 (i) Date of issue : 24.02.2025 3(ii) Amendment Date : ---
4. Sample Submitted By (Name and address) : Ms. Karisma Mohanty, Field Asst., Central Laboratory, SPCB, Odisha, Patia, Bhubaneswar
5. Reference Letter No. : Tour Programme No.1595 dt.27.01.2025
6. Date of sample receipt : 15.02.2025
7. Sample Description :

(i) **Discipline : Chemical Testing and Biological Testing** (Biological Testing, Chemical testing)

(ii) **Group : Pollution and Environment** (Water/ Pollution and Environment / Atmospheric Pollution/ Soil and Hazardous Waste)

(iii) **Sub Group : Waste water** (Surface water/ Ground water/ Drinking water / Wastewater / Effluent/ Ambient Air / Stack/ Soil and Hazardous Waste)

8. Analysis Starting Date-Analysis Completion Date : 15.02.2025 – 21.02.2025
9. If uncertainty is desired by Customer : No
10. Analysis Results :

(Attach separate sheet if necessary)

Sl. No.	Parameter, Unit	Standards/ Regulatory Limits (G.S.R. 1265 (E) Dt.13.10.2017) *	Test Method	STP of Puri at Mangalaghat and Bankimuhan			
				Others/ Feb - 25/WW /184	Others/ Feb - 25/WW /185	Others/ Feb - 25/WW /186	Others/ Feb - 25/WW /187
				Inlet to STP at Mangalaghat	Outlet of STP at Mangalaghat	Inlet to STP at Bankimuhan	Outlet of STP at Bankimuhan discharge to sea
				Results			
1.	pH	6.5-9.0	4500-H^+-B, APHA, 23rd Edn., 2017	6.9	7.6	6.8	7.3
2.	Total Suspended Solids (TSS), mg/L	<100	2540 D, APHA, 23rd Edn., 2017	132.0	27.0	78.0	57.0
3.	Biochemical Oxygen Demand (BOD, 3 days at 27^0 C), mg/L	30	IS 3025 : Part 44 (1999)	103.0	18.0	133.0	105.0
4.	Chemical Oxygen Demand (COD), mg/L	-	5220 B, APHA, 23rd Edn., 2017	240.0	56.0	280.0	248.0
5.	Total Phosphate as P ($T.PO_4^{3-}$-P), mg/L	-	4500-P-B followed by 4500-P-D, APHA, 23rd Edn., 2017	21.075	5.290	20.225	18.775
6.	Total Coliform (TC), MPN/100 ml	-	9221-B, APHA, 23rd Edn., 2017	160000	2400	160000	160000
7.	Fecal Coliform (FC), MPN/100 ml	<1000	9221-E, APHA, 23rd Edn., 2017	160000	330	160000	160000

*** Effluent discharge standard for sewage treatment plants, Applicable for Sl. No. Others/Feb - 25/WW/185 & Others/Feb -25/WW/187 (No standard limits specified for samples collected from Inlet to STPs)**

24.02.2025 24.2.25

(Cont..)

11. Deviation from Test Method , if any : No
12. If Sampling Conducted by the Central Laboratory, Yes/ No. - Yes
    If Yes,

(a) Date of Sampling : 15.02.2025 (b) Method Used* : Grab sampling (1060 B, APHA, 23rd Edn., 2017)

(c) Name of Sampler with Designation : Ms. Karisma Mohanty, Field Asst.

----------End of Test Report----------

24.02.2025
Authorised Signatory
(Biological)
(Mrs. Nishiprava Pattanaik, AES)

24.2.25
Authorised Signatory
(Water/wastewater)
(Dr. (Mrs)Usharani Patnaik, Addl.Chief Env. Scientist)

Board Analyst
(Mr. Niranjan Mallick, Chief Env. Scientist)

Note :
(i) The results stated above relate only to the items tested.
(ii) This report shall not be reproduced in full or in part without written approval from the In-charge of the Central Laboratory.
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(iv) The Test Item will not be retained for more than 15 days from the date of issue of Test Report except in case as required by applicable Regulation.

Head Office: State Pollution Control Board, Odisha, Paribesh Bhawan, A/118, Nilakanthanagar, Unit-VIII, Bhubaneswar -751 012,
FAX : 2562822/2560955, TEL : 2564033/2563294 EPABX : 2561909/2562847, E-mail : paribesh1@ospcboard.org Website : www.ospcboard.org

OSPCB/CNL/F0718

CENTRAL LABORATORY
STATE POLLUTION CONTROL BOARD, ODISHA

Plot No. B-59/2 & 59/3, Chandaka Industrial Estate, Patia,
Bhubaneswar - 751 024
E-mail: centrallab@ospcboard.org

TEST REPORT

1. ULR No. : ------
2 (i). Report No. : OS/129/02/2025 2(ii). Amendment No : ---
3 (i) Date : 24.02.2025 3(ii). Amendment Date : ---
4. Sample Submitted By : Ms. Karisma Mohanty, Field Asst.,
(Name and address) Central Laboratory, SPCB, Odisha, Patia, Bhubaneswar
5. Reference Letter No. : Tour Programme No.1595 dt.27.01.2025
6. Date of sample receipt : 15.02.2025
7. Sample Description :

(i) **Discipline : Chemical Testing** (Biological Testing, Chemical testing)

(ii) **Group : Pollution and Environment** (Water/ Pollution and Environment / Atmospheric Pollution/ Soil and Hazardous Waste)

(iii) **Sub Group : Wastewater** (Surface water/ Ground water/ Drinking water / Wastewater / Effluent/ Ambient Air / Stack/ Soil and Hazardous Waste)

8. Analysis Starting Date-Analysis Completion Date : 15.02.2025 – 21.02.2025
9. If uncertainty is desired by Customer : No
10. Analysis Results :

(Attach separate sheet if necessary)

Sl. No.	Parameter, Unit	Standards/ Regulatory Limits (G.S.R.1265 (E) Dt.13.10.2017) *	Test Method	STP of Puri at Mangalaghat and Bankimuhan			
				Others/ Feb -25/ WW /184	Others/ Feb -25/ WW /185	Others/ Feb -25/ WW /186	Others/ Feb -25/ WW /187
				Inlet to STP at Mangalaghat	Outlet of STP at Mangalaghat	Inlet to STP at Bankimuhan	Outlet of STP at Bankimuhan discharge to sea
				Results			
1.	Ammonical Nitrogen as N (NH_3-N), mg/L	-	4500-NH_3-B followed by 4500-NH_3-C, APHA, 23rd Edn., 2017	19.4	9.52	17.92	15.68

*** Effluent discharge standard for sewage treatment plants, Applicable for Sl. No. Others/Feb - 25/WW/185 & Others/Feb -25/WW/187 (No standard limits specified for samples collected from Inlet to STPs)**

11. Deviation from Test Method , if any : No
12. If Sampling Conducted by the Central Laboratory, Yes/ No. - Yes
If Yes,

(a) Date of Sampling : 15.02.2025 (b) Method Used* : Grab sampling (1060 B, APHA, 23rd Edn., 2017)

(c) Name of Sampler with Designation : Ms. Karisma Mohanty, Field Asst.

----------End of Test Report----------

Patnaik 24.2.25
Authorised Signatory
(Water/wastewater)
(Dr. (Mrs)Usharani Patnaik, Addl. Chief Env. Scientist)

Board Analyst
(Mr. Niranjan Mallick, Chief Env. Scientist)

Note :
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CENTRAL LABORATORY
STATE POLLUTION CONTROL BOARD, ODISHA

Plot No. B-59/2 & 59/3, Chandaka Industrial Estate, Patia,
Bhubaneswar - 751 024
E-mail: centrallab@ospcboard.org

TC-12740

TEST REPORT

1. ULR No. : TC127402500000240F
2 (i). Report No. : OS/191/03/2025
2(ii). Amendment No : .....
3 (i) Date : 29.03.2025
3(ii) Amendment Date : .....
4. Sample Submitted By : Sri Jayadev Mishra, Jr. Laboratory Asst.,
(Name and address) Central Laboratory, SPC Board, Odisha, Patia, Bhubaneswar
5. Reference Letter No. : Tour Programme No.3927 dt.27.02.2025
6. Date of sample receipt : 19.03.2025
7. Sample Description:

(i) Discipline : Chemical testing and Biological testing (Biological testing/ Chemical testing)

(ii) Group : Pollution and Environment (Water/ Pollution and Environment)

(iii) Sub Group : Wastewater (Surface Water/ Ground Water/ Drinking Water/ Wastewater / Effluent)

8. Analysis Starting Date-Analysis Completion Date : 19.03.2025 – 28.03.2025
9. If uncertainty is desired by Customer : No
10. Analysis Results :

(Attach separate sheet if necessary)

Sl. No.	Parameter, Unit	Standards/ Regulatory Limits (G.S.R. 1265 (E) Dt.13.10.2017) *	Test Method	STP of Puri at Mangalaghat and Bankimuhan			
				Others/ Mar -25/ WW / 312	Others/ Mar -25/ WW / 313	Others/ Mar -25/ WW / 314	Others/ Mar -25/ WW / 315
				Inlet to STP at Mangalaghat	Outlet of STP at Mangalaghat	Inlet to STP at Bankimuhan	Outlet of STP at Bankimuhan discharge to sea
				Results			
1.	pH	6.5-9.0	4500-H$^+$-B, APHA, 23rd Edn., 2017	7.4	7.7	7.1	7.2
2.	Total Suspended Solids (TSS), mg/L	<100	2540 D, APHA, 23rd Edn., 2017	104.0	19.0	72.0	55.0
3.	Biochemical Oxygen Demand (BOD, 3 days at 27^0 C), mg/L	30	IS 3025 : Part 44 (1999)	78.0	12.0	130.0	93.0
4.	Chemical Oxygen Demand (COD), mg/L	-	5220 B, APHA, 23rd Edn., 2017	214.0	77.0	252.0	155.0
5.	Total Phosphate as P ($T.PO_4^{3-}$-P), mg/L	-	4500-P-B followed by 4500-P-D, APHA, 23rd Edn., 2017	16.725	4.880	25.275	24.775
6.	Total Coliform (TC), MPN/100 ml	-	9221-B, APHA, 23rd Edn., 2017	160000	240	160000	160000
7.	Fecal Coliform (FC), MPN/100 ml	<1000	9221-E, APHA, 23rd Edn., 2017	160000	79	160000	160000

*** Effluent discharge standard for sewage treatment plants, Applicable for Sl. No. Others / Mar - 25/WW /313 & Others / Mar -25/WW / 315 (No standard limits specified for samples collected from Inlet to STPs)**

Pattanaik 29/03/2025
Authorised Signatory (Biological Testing)
(Water/ Wastewater)
(Mrs. Nishiprava Pattnaik)
(Asst. Env. Scientist)

Patnaik 29.3.25
Authorised Signatory (Chemical Testing)
(Water/ Wastewater)
(Dr. (Mrs.) Usharani Patnaik)
(Addl. Chief Env. Scientist)

M. Mallick 29/3/25
Board Analyst
(Sri Niranjan Mallick)
(OSD-cum- Chief Env. Scientist)

(Cont..)

OSPCB/CNL/F0718

CENTRAL LABORATORY
STATE POLLUTION CONTROL BOARD, ODISHA

Plot No. B-59/2 & 59/3, Chandaka Industrial Estate, Patia,
Bhubaneswar - 751 024
E-mail: centrallab@ospcboard.org

TC-12740

TEST REPORT

1. ULR No. : TC127402500000240F
2 (i). Report No. : OS/191/03/2025
3 (i) Date : 29.03.2025

2(ii). Amendment No : .....
3(ii) Amendment Date : .....

11. Deviation from Test Method , if any : No
12. If Sampling Conducted by the Central Laboratory, Yes/ No - Yes
    If Yes,
    (a) Date of Sampling : 19.03.2025 (b) Method Used : Grab sampling (1060 B, APHA, 23rd Edn., 2017)
    (c) Name of Sampler with Designation : Sri Jayadev Mishra, Jr. Laboratory Asst.

End of Test Report

29/03/2025
Authorised Signatory
(Biological Testing)
(Water/ Wastewater)
(Mrs. Nishiprava Pattnaik)
(Asst. Env. Scientist)

29.3.25
Authorised Signatory
(Chemical Testing)
(Water/ Wastewater)
(Dr. (Mrs.) Usharani Patnaik)
(Addl. Chief Env. Scientist)

29/3/25
Board Analyst
(Sri Niranjan Mallick)
(OSD-cum- Chief Env. Scientist)

Note :
(i) The results stated above relate only to the items tested.
(ii) This report shall not be reproduced in full or in part without written approval from the In-charge of the Central Laboratory.
(iii) The laboratory is not responsible for the authenticity of photocopied Test Reports.
(iv) The Test Item will not be retained for more than 15 days from the date of issue of Test Report except in case as required by applicable Regulation.
(v) Opinion, Interpretation, Conformance will be provided only on the customer request.

OSPCB/CNL/F0718

CENTRAL LABORATORY
STATE POLLUTION CONTROL BOARD, ODISHA

Plot No. B-59/2 & 59/3, Chandaka Industrial Estate, Patia,
Bhubaneswar - 751 024
E-mail: centrallab@ospcboard.org

TEST REPORT

1. ULR No. : ------
2 (i). Report No. : OS/192/03/2025
3 (i) Date : 29.03.2025
2(ii). Amendment No : ---
3(ii). Amendment Date : ---
4. Sample Submitted By (Name and address) : Sri Jayadev Mishra, Jr. Laboratory Asst., Central Laboratory, SPCB, Odisha, Patia, Bhubaneswar
5. Reference Letter No. : Tour Programme No.3927 dt.27.02.2025
6. Date of sample receipt : 19.03.2025
7. Sample Description :

(i) **Discipline : Chemical Testing** (Biological Testing, Chemical testing)
(ii) **Group : Pollution and Environment** (Water/ Pollution and Environment
(iii) **Sub Group : Wastewater** (Surface water/ Ground water/ Drinking water / Wastewater / Effluent)

8. Analysis Starting Date-Analysis Completion Date : 19.03.2025 – 28.03.2025
9. If uncertainty is desired by Customer : No
10. Analysis Results :

(Attach separate sheet if necessary)

Sl. No.	Parameter, Unit	Standards/ Regulatory Limits (G.S.R.1265 (E) Dt.13.10.2017) *	Test Method	STP of Puri at Mangalaghat and Bankimuhan			
				Others/ Mar -25/ WW / 312	Others/ Mar -25/ WW / 313	Others/ Mar -25/ WW / 314	Others/ Mar -25/ WW / 315
				Inlet to STP at Mangalaghat	Outlet of STP at Mangalaghat	Inlet to STP at Bankimuhan	Outlet of STP at Bankimuhan discharge to sea
				Results			
1.	Ammonical Nitrogen as N (NH_3-N), mg/L	-	4500-NH_3-B followed by 4500-NH_3-C, APHA, 23rd Edn., 2017	19.6	7.84	19.04	16.24

*** Effluent discharge standard for sewage treatment plants, Applicable for Sl. No. Others / Mar - 25/WW /313 & Others / Mar -25/WW/ 315 (No standard limits specified for samples collected from Inlet to STPs)**

11. Deviation from Test Method , if any : No
12. If Sampling Conducted by the Central Laboratory, Yes/ No. - Yes
If Yes,
(a) Date of Sampling : 19.03.2025 (b) Method Used* : Grab sampling (1060 B, APHA, 23rd Edn., 2017)
(c) Name of Sampler with Designation : Sri Jayadev Mishra, Jr. Laboratory Asst.,

----------End of Test Report----------

Patnaik 29.3.25

Authorised Signatory
(Chemical Testing)
(Water/ Wastewater)
(Dr. (Mrs.) Usharani Patnaik)
(Addl. Chief Env. Scientist)

29/3/25

Board Analyst
(Sri Niranjan Mallick)
(OSD-cum- Chief Env. Scientist)

Note :
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CENTRAL LABORATORY
STATE POLLUTION CONTROL BOARD, ODISHA

Plot No. B-59/2 & 59/3, Chandaka Industrial Estate, Patia,
Bhubaneswar - 751 024
E-mail: centrallab@ospcboard.org

TC-12740

TEST REPORT

1. ULR No. : TC127402500000340F
2 (i). Report No. : OS/238/04/2025 2(ii). Amendment No : .....
3 (i) Date : 22.04.2025 3(ii) Amendment Date : .....
4. Sample Submitted By : Sri Jayadev Mishra, Jr. Laboratory Asst.,
(Name and address) Central Laboratory, SPC Board, Odisha, Patia, Bhubaneswar
5. Reference Letter No. : Tour Programme No.6305 dt.27.03.2025
6. Date of sample receipt : 11.04.2025
7. Sample Description:

(i) **Discipline : Chemical testing and Biological testing** (Biological testing/ Chemical testing)

(ii) **Group : Pollution and Environment** (Water/ Pollution and Environment)

(iii) **Sub Group : Wastewater** (Surface Water/ Ground Water/ Drinking Water/ Wastewater / Effluent)

8. Analysis Starting Date-Analysis Completion Date : 11.04.2025 – 22.04.2025
9. If uncertainty is desired by Customer : No
10. Analysis Results :

(Attach separate sheet if necessary)

Sl. No.	Parameter, Unit	Standards/ Regulatory Limits (G.S.R. 1265 (E) Dt.13.10.2017) *	Test Method	STP of Puri at Mangalaghat and Bankimuhan			
				Others/ Apr - 25/ WW / 414	Others/ Apr - 25/ WW / 415	Others/ Apr - 25/ WW / 416	Others/ Apr - 25/ WW / 417
				Inlet to STP at Mangalaghat	Outlet of STP at Mangalaghat	Inlet to STP at Bankimuhan	Outlet of STP at Bankimuhan discharge to sea
				Results			
1.	pH	6.5-9.0	4500-H^+-B, APHA, 23rd Edn., 2017	7.1	7.6	7.4	7.7
2.	Total Suspended Solids (TSS), mg/L	<100	2540 D, APHA, 23rd Edn., 2017	336.0	17.0	186.0	94.0
3.	Biochemical Oxygen Demand (BOD, 3 days at 27^0 C), mg/L	30	IS 3025 : Part 44 (1999)	93.0	35.0	108.0	73.0
4.	Chemical Oxygen Demand (COD), mg/L	-	5220 B, APHA, 23rd Edn., 2017	200.0	80.0	200.0	180.0
5.	Total Phosphate as P ($T.PO_4^{3-}$-P), mg/L	-	4500-P-B followed by 4500-P-D, APHA, 23rd Edn., 2017	14.075	7.265	17.425	12.050
6.	Iron (Fe), mg/L	-	3500 Fe – B, APHA, 23rd Edn., 2017	0.622	0.358	0.956	0.838
7.	Total Coliform (TC), MPN/100 ml	-	9221-B, APHA, 23rd Edn., 2017	160000	160000	160000	160000
8.	Fecal Coliform (FC), MPN/100 ml	<1000	9221-E, APHA, 23rd Edn., 2017	160000	160000	160000	160000

*** Effluent discharge standard for sewage treatment plants, Applicable for Sl. No. Others / Apr – 25 / WW / 415 & Others / Apr - 25/WW / 417 (No standard limits specified for samples collected from Inlet to STPs)**

Pattnaik 22.04.2025
Authorised Signatory (Biological Testing)
(Water/ Wastewater)
(Mrs. Nishiprava Pattnaik)
(Asst. Env. Scientist)

Patnaik 22.4.25
Authorised Signatory (Chemical Testing)
(Water/ Wastewater)
(Dr. (Mrs.) Usharani Patnaik)
(Addl. Chief Env. Scientist)

Board Analyst
(Sri Niranjan Mallick)
(OSD-cum- Chief Env. Scientist)

(Cont..)

CENTRAL LABORATORY
STATE POLLUTION CONTROL BOARD, ODISHA

Plot No. B-59/2 & 59/3, Chandaka Industrial Estate, Patia,
Bhubaneswar - 751 024
E-mail: centrallab@ospcboard.org

TC-12740

TEST REPORT

1. ULR No. : TC127402500000340F
2 (i). Report No. : OS/238/04/2025 2(ii). Amendment No : .....
3 (i) Date : 22.04.2025 3(ii) Amendment Date : .....

11. Deviation from Test Method , if any : No
12. If Sampling Conducted by the Central Laboratory, Yes/ No - Yes
If Yes,

(a) Date of Sampling : 11.04.2025 (b) Method Used : Grab sampling (1060 B, APHA, 23rd Edn., 2017)
(c) Name of Sampler with Designation : Sri Jayadev Mishra, Jr. Laboratory Asst.

End of Test Report

22.04.2025

Authorised Signatory
(Biological Testing)
(Water/ Wastewater)
(Mrs. Nishiprava Pattnaik)
(Asst. Env. Scientist)

Authorised Signatory
(Chemical Testing)
(Water/ Wastewater)
(Dr. (Mrs.) Usharani Patnaik)
(Addl. Chief Env. Scientist)

Board Analyst
(Sri Niranjan Mallick)
(OSD-cum- Chief Env. Scientist)

Note :
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OSPCB/CNL/F0718

CENTRAL LABORATORY
STATE POLLUTION CONTROL BOARD, ODISHA

Plot No. B-59/2 & 59/3, Chandaka Industrial Estate, Patia,
Bhubaneswar - 751 024
E-mail: centrallab@ospcboard.org

TEST REPORT

1. ULR No. : ------
2 (i). Report No. : OS/239/04/2025 2(ii). Amendment No : ---
3 (i) Date : 22.04.2025 3(ii). Amendment Date : ---
4. Sample Submitted By : Sri Jayadev Mishra, Jr. Laboratory Asst.,
(Name and address) Central Laboratory, SPCB, Odisha, Patia, Bhubaneswar
5. Reference Letter No. : Tour Programme No.6305 dt.27.03.2025
6. Date of sample receipt : 11.04.2025
7. Sample Description :

(i) **Discipline : Chemical Testing** (Biological Testing, Chemical testing)
(ii) **Group : Pollution and Environment** (Water/ Pollution and Environment)
(iii) **Sub Group : Wastewater** (Surface water/ Ground water/ Drinking water / Wastewater / Effluent)

8. Analysis Starting Date-Analysis Completion Date : 11.04.2025 – 22.04.2025
9. If uncertainty is desired by Customer : No
10. Analysis Results :

(Attach separate sheet if necessary)

Sl. No.	Parameter, Unit	Standards/ Regulatory Limits (G.S.R.1265 (E) Dt.13.10.2017) *	Test Method	STP of Puri at Mangalaghat and Bankimuhan			
				Others/Apr – 25/WW / 414	Others/Apr – 25/WW / 415	Others/Apr – 25/WW / 416	Others/Apr – 25/WW / 417
				Inlet to STP at Mangalaghat	Outlet of STP at Mangalaghat	Inlet to STP at Bankimuhan	Outlet of STP at Bankimuhan discharge to sea
				Results			
1.	Ammonical Nitrogen as N (NH_3-N), mg/L	-	4500-NH_3-B followed by 4500-NH_3-C, APHA, 23rd Edn., 2017	15.68	9.52	18.48	16.80
2.	Mercury (Hg), mg/L	-	3112 B, APHA, 23rd Edn., 2017	0.00196	0.00172	0.00147	0.00123
3.	Total Chromium (T. Cr), mg/L	-	3111A, APHA , 23rd Edn., 2017	0.012	0.007	0.009	0.005
4.	Copper (Cu), mg/L	-		0.012	0.008	0.013	0.008
5.	Cadmium (Cd), mg/L	-		0.0100	0.0067	0.0070	0.0035
6.	Lead (Pb), mg/L	-		0.102	0.091	0.102	0.087
7.	Nickel (Ni), mg/L	-		0.047	0.029	0.038	0.037
8.	Zinc (Zn), mg/L	-		0.141	0.049	0.119	0.114

*** Effluent discharge standard for sewage treatment plants, Applicable for Sl. No. Others / Apr - 25/WW /415 & Others / Apr -25/WW/ 417 (No standard limits specified for samples collected from Inlet to STPs)**

22.4.25

Authorised Signatory
(Chemical Testing)
(Water/ Wastewater)
(Dr. (Mrs.) Usharani Patnaik)
(Addl. Chief Env. Scientist)

Board Analyst
(Sri Niranjan Mallick)
(OSD-cum- Chief Env. Scientist)

(Cont..)

OSPCB/CNL/F0718

CENTRAL LABORATORY
STATE POLLUTION CONTROL BOARD, ODISHA
Plot No. B-59/2 & 59/3, Chandaka Industrial Estate, Patia,
Bhubaneswar - 751 024
E-mail: centrallab@ospcboard.org

TEST REPORT

1. ULR No. : ------
2 (i). Report No. : OS/239/04/2025
2(ii). Amendment No : ---
3 (i) Date : 22.04.2025
3(ii) Amendment Date : ---

11. Deviation from Test Method , if any : No
12. If Sampling Conducted by the Central Laboratory, Yes/ No. - Yes
If Yes,
(a) Date of Sampling : 11.04.2025 (b) Method Used* : Grab sampling (1060 B, APHA, 23rd Edn., 2017)
(c) Name of Sampler with Designation : Sri Jayadev Mishra, Jr. Laboratory Asst.,

----------End of Test Report----------

Authorised Signatory
(Chemical Testing)
(Water/ Wastewater)
(Dr. (Mrs.) Usharani Patnaik)
(Addl. Chief Env. Scientist)

Board Analyst
(Sri Niranjan Mallick)
(OSD-cum- Chief Env. Scientist)

Note :
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CENTRAL LABORATORY
STATE POLLUTION CONTROL BOARD, ODISHA
Plot No. B-59/2 & 59/3, Chandaka Industrial Estate, Patia,
Bhubaneswar - 751 024
E-mail: centrallab@ospcboard.org

TC-12740

TEST REPORT

1. ULR No. : TC127402500000460F
2 (i). Report No. : OS/ 294 /05/2025 2(ii). Amendment No : .....
3 (i) Date : 17.05.2025 3(ii) Amendment Date : .....
4. Sample Submitted By : Md. Abdul Raheman, Jr. Research Fellow.,
(Name and address) Central Laboratory, SPC Board, Odisha, Patia, Bhubaneswar
5. Reference Letter No. : Tour Programme No. 8393 dt.28.04.2025
6. Date of sample receipt : 09.05.2025
7. Sample Description:

(i) **Discipline : Chemical testing and Biological testing** (Biological testing/ Chemical testing)

(ii) **Group : Pollution and Environment** (Water/ Pollution and Environment)

(iii) **Sub Group : Wastewater** (Surface Water/ Ground Water/ Drinking Water/ Wastewater / Effluent)

8. Analysis Starting Date-Analysis Completion Date : 09.05.2025 – 15.05.2025
9. If uncertainty is desired by Customer : No
10. Analysis Results :

(Attach separate sheet if necessary)

Sl. No.	Parameter, Unit	Standards/ Regulatory Limits (G.S.R. 1265 (E) Dt.13.10.2017) *	Test Method	STP of Puri at Mangalaghat and Bankimuhan		
				Others/ May – 25/ WW / 533	Others/ May - 25/ WW / 534	Others/ May – 25/ WW / 535
				Outlet of STP at Mangalaghat.	Inlet to STP at Bankimuhan	Outlet of STP at Bankimuhan discharge to sea
				Results		
1.	pH	6.5-9.0	4500-H^+-B, APHA, 23rd Edn., 2017	7.8	7.4	7.5
2.	Total Suspended Solids (TSS), mg/L	<100	2540 D, APHA, 23rd Edn., 2017	15.0	72.0	49.0
3.	Biochemical Oxygen Demand (BOD, 3 days at 27^0 C), mg/L	30	IS 3025 : Part 44 (1999)	15.0	73.0	43.0
4.	Chemical Oxygen Demand (COD), mg/L	-	5220 B, APHA, 23rd Edn., 2017	45.0	155.0	97.0
5.	Total Phosphate as P ($T.PO_4^{3-}$-P), mg/L	-	4500-P-B followed by 4500-P-D, APHA, 23rd Edn., 2017	2.554	15.073	10.400
6.	Total Coliform (TC), MPN/100 ml	-	9221-B, APHA, 23rd Edn., 2017	160000	160000	160000
7.	Fecal Coliform (FC), MPN/100 ml	<1000	9221-E, APHA, 23rd Edn., 2017	160000	160000	160000

*** Effluent discharge standard for sewage treatment plants, Applicable for Sl. No. Others / May – 25 / WW / 533 & Others / May - 25/WW / 535 (No standard limits specified for samples collected from Inlet to STPs)**

Pattnaik 17.05.2025

Authorised Signatory (Biological Testing)
(Water/ Wastewater)
(Mrs. Nishiprava Pattnaik)
(Asst. Env. Scientist)

Patnaik 17.5.25

Authorised Signatory (Chemical Testing)
(Water/ Wastewater)
(Dr. (Mrs.) Usharani Patnaik)
(Addl. Chief Env. Scientist)

17/5/25

Board Analyst
(Sri Niranjan Mallick)
(OSD-cum- Chief Env. Scientist)

(Cont..)

CENTRAL LABORATORY
STATE POLLUTION CONTROL BOARD, ODISHA

Plot No. B-59/2 & 59/3, Chandaka Industrial Estate, Patia,
Bhubaneswar - 751 024
E-mail: centrallab@ospcboard.org

TC-12740

TEST REPORT

1. ULR No. : TC127402500000460F
2 (i). Report No. : OS/ 294 /05/2025 2(ii). Amendment No : .....
3 (i) Date : 17.05.2025 3(ii) Amendment Date : .....

11. Deviation from Test Method , if any : No
12. If Sampling Conducted by the Central Laboratory, Yes/ No - Yes
    If Yes,

    (a) Date of Sampling : 08.05.2025 (b) Method Used : Grab sampling (1060 B, APHA, 23rd Edn., 2017)
    (c) Name of Sampler with Designation : Md. Abdul Raheman, Jr. Research Fellow

End of Test Report

17.05.2025

Authorised Signatory
(Biological Testing)
(Water/ Wastewater)
(Mrs. Nishiprava Pattnaik)
(Asst. Env. Scientist)

17.5.25

Authorised Signatory
(Chemical Testing)
(Water/ Wastewater)
(Dr. (Mrs.) Usharani Patnaik)
(Addl. Chief Env. Scientist)

17/5/25

Board Analyst
(Sri Niranjan Mallick)
(OSD-cum- Chief Env. Scientist)

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OSPCB/CNL/F0718

CENTRAL LABORATORY
STATE POLLUTION CONTROL BOARD, ODISHA
Plot No. B-59/2 & 59/3, Chandaka Industrial Estate, Patia,
Bhubaneswar - 751 024
E-mail: centrallab@ospcboard.org

TEST REPORT

1. ULR No. : ------
2 (i). Report No. : OS/ 295 /05/2025 2(ii). Amendment No : ---
3 (i) Date : 17.05.2025 3(ii). Amendment Date : ---
4. Sample Submitted By : Md. Abdul Raheman, Jr. Reserarch Fellow,
(Name and address) Central Laboratory, SPCB, Odisha, Patia, Bhubaneswar
5. Reference Letter No. : Tour Programme No. 8393 dt.28.04.2025
6. Date of sample receipt : 09.05.2025
7. Sample Description :

(i) **Discipline : Chemical Testing** (Biological Testing, Chemical testing)
(ii) **Group : Pollution and Environment** (Water/ Pollution and Environment
(iii) **Sub Group : Wastewater** (Surface water/ Ground water/ Drinking water / Wastewater / Effluent)

8. Analysis Starting Date-Analysis Completion Date : 09.05.2025 – 15.05.2025
9. If uncertainty is desired by Customer : No
10. Analysis Results :

(Attach separate sheet if necessary)

Sl. No.	Parameter, Unit	Standards/ Regulatory Limits (G.S.R.1265 (E) Dt.13.10.2017) *	Test Method	STP of Puri at Mangalaghat and Bankimuhan		
				Others/ May – 25/WW / 533	Others/ May – 25/WW / 534	Others/ May – 25/WW / 535
				Outlet of STP at Mangalaghat	Inlet to STP at Bankimuhan	Outlet of STP at Bankimuhan discharge to sea
				Results		
1.	Ammonical Nitrogen as N (NH_3-N), mg/L	-	4500-NH_3-B followed by 4500-NH_3-C, APHA, 23rd Edn., 2017	15.12	19.04	16.24

*** Effluent discharge standard for sewage treatment plants, Applicable for Sl. No. Others / May - 25/WW /533 & Others / May -25/WW/535 (No standard limits specified for samples collected from Inlet to STPs)**

11. Deviation from Test Method , if any : No
12. If Sampling Conducted by the Central Laboratory, Yes/ No. - Yes
If Yes,

(a) Date of Sampling : 08.05.2025 (b) Method Used* : Grab sampling (1060 B, APHA, 23rd Edn., 2017)
(c) Name of Sampler with Designation : Md. Abdul Raheman, Jr. Reserarch Fellow

----------End of Test Report----------

17.5.25
Authorised Signatory
(Chemical Testing)
(Water/ Wastewater)
(Dr. (Mrs.) Usharani Patnaik)
(Addl. Chief Env. Scientist)

17/5/25
Board Analyst
(Sri Niranjan Mallick)
(OSD-cum- Chief Env. Scientist)

Note :
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(v) Opinion, Interpretation, Conformance will be provided only on the customer request.

ODISHA

CENTRAL LABORATORY
STATE POLLUTION CONTROL BOARD, ODISHA

Plot No. B-59/2 & 59/3, Chandaka Industrial Estate, Patia,
Bhubaneswar - 751 024
E-mail: centrallab@ospcboard.org

TC-12740

TEST REPORT

1. ULR No. : TC127402500000630F
2 (i). Report No. : OS/ 344 /06/2025 2(ii). Amendment No : .....
3 (i) Date : 21.06.2025 3(ii) Amendment Date : .....
4. Sample Submitted By : Md. Abdul Raheman, Jr. Research Fellow.,
(Name and address) Central Laboratory, SPC Board, Odisha, Patia, Bhubaneswar
5. Reference Letter No. : Tour Programme No.10518 dt.03.06.2025
6. Date of sample receipt : 11.06.2025
7. Sample Description:

(i) **Discipline : Chemical testing and Biological testing** (Biological testing/ Chemical testing)

(ii) **Group : Pollution and Environment** (Water/ Pollution and Environment)

(iii) **Sub Group : Wastewater** (Surface Water/ Ground Water/ Drinking Water/ Wastewater / Effluent)

8. Analysis Starting Date-Analysis Completion Date : 11.06.2025 – 18.06.2025
9. If uncertainty is desired by Customer : No
10. Analysis Results :

(Attach separate sheet if necessary)

Sl. No.	Parameter, Unit	Standards/ Regulatory Limits (G.S.R. 1265 (E) Dt.13.10.2017) *	Test Method	STP of Puri at Mangalaghat and Bankimuhan			
				Others/ Jun –25/ WW / 790	Others/ Jun –25/ WW / 791	Others/ Jun –25/ WW / 792	Others/ Jun –25/ WW / 793
				Inlet to STP at Mangalaghat	Outlet of STP at Mangalaghat	Inlet to STP at Bankimuhan	Outlet of STP at Bankimuhan discharge to sea
				Results			
1.	pH	6.5 - 9.0	4500-H$^+$-B, APHA, 23rd Edn., 2017	8.0	8.1	7.7	7.6
2.	Total Suspended Solids (TSS), mg/L	<100	2540 D, APHA, 23rd Edn., 2017	148.0	38.0	119.0	85.0
3.	Biochemical Oxygen Demand (BOD, 3 days at 27^0 C), mg/L	30	IS 3025 : Part 44 (1999)	83.0	43.0	93.0	63.0
4.	Chemical Oxygen Demand (COD), mg/L	-	5220 B, APHA, 23rd Edn., 2017	191.0	114.0	229.0	133.0
5.	Total Phosphate as P ($T.PO_4^{3-}$-P), mg/L	-	4500-P-B followed by 4500-P-D, APHA, 23rd Edn., 2017	17.697	9.772	18.464	15.964
6.	Total Coliform (TC), MPN/100 ml	-	9221-B, APHA, 23rd Edn., 2017	160000	160000	160000	160000
7.	Fecal Coliform (FC), MPN/100 ml	<1000	9221-E, APHA, 23rd Edn., 2017	160000	160000	160000	160000

*** Effluent discharge standard for sewage treatment plants, Applicable for Sl. No. Others / Jun – 25 / WW / 791 & Others / Jun - 25/WW / 793 (No standard limits specified for samples collected from Inlet to STPs)**

21/06/2025
Authorised Signatory (Biological Testing)
(Water/ Wastewater)
(Mrs. Nishiprava Pattnaik)
(Asst. Env. Scientist)

21.6.25
Authorised Signatory (Chemical Testing)
(Water/ Wastewater)
(Dr. (Mrs.) Usharani Patnaik)
(Addl. Chief Env. Scientist)

21/6/25
Board Analyst
(Sri Niranjan Mallick)
(OSD-cum- Chief Env. Scientist)

(Cont..)

CENTRAL LABORATORY
STATE POLLUTION CONTROL BOARD, ODISHA

Plot No. B-59/2 & 59/3, Chandaka Industrial Estate, Patia,
Bhubaneswar - 751 024
E-mail: centrallab@ospcboard.org

TC-12740

TEST REPORT

1. ULR No. : TC127402500000630F
2 (i). Report No. : OS/ 344 /06/2025
3 (i) Date : 21.06.2025

2(ii). Amendment No : .....
3(ii) Amendment Date : .....

11. Deviation from Test Method , if any : No
12. If Sampling Conducted by the Central Laboratory, Yes/ No - Yes
If Yes,

(a) Date of Sampling : 10.06.2025 (b) Method Used : Grab sampling (1060 B, APHA, 23rd Edn., 2017)
(c) Name of Sampler with Designation : Md. Abdul Raheman, Jr. Research Fellow

End of Test Report

21/06/2025

Authorised Signatory
(Biological Testing)
(Water/ Wastewater)
(Mrs. Nishiprava Pattnaik)
(Asst. Env. Scientist)

21.6.25

Authorised Signatory
(Chemical Testing)
(Water/ Wastewater)
(Dr. (Mrs.) Usharani Patnaik)
(Addl. Chief Env. Scientist)

21/6/25

Board Analyst
(Sri Niranjan Mallick)
(OSD-cum- Chief Env. Scientist)

Note :
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(v) Opinion, Interpretation, Conformance will be provided only on the customer request.

CENTRAL LABORATORY
STATE POLLUTION CONTROL BOARD, ODISHA
Plot No. B-59/2 & 59/3, Chandaka Industrial Estate, Patia,
Bhubaneswar - 751 024
E-mail: centrallab@ospcboard.org

TEST REPORT

1. ULR No. : ------
2 (i). Report No. : OS/345/06/2025 2(ii). Amendment No : ---
3 (i) Date : 21.06.2025 3(ii). Amendment Date : ---
4. Sample Submitted By (Name and address) : Md. Abdul Raheman, Jr. Research Fellow, Central Laboratory, SPCB, Odisha, Patia, Bhubaneswar
5. Reference Letter No. : Tour Programme No.10518 dt.03.06.2025
6. Date of sample receipt : 11.06.2025
7. Sample Description :

(i) **Discipline : Chemical Testing** (Biological Testing, Chemical testing)
(ii) **Group : Pollution and Environment** (Water/ Pollution and Environment)
(iii) **Sub Group : Wastewater** (Surface water/ Ground water/ Drinking water / Wastewater / Effluent)

8. Analysis Starting Date-Analysis Completion Date : 11.06.2025 – 18.06.2025
9. If uncertainty is desired by Customer : No
10. Analysis Results :

(Attach separate sheet if necessary)

Sl. No.	Parameter, Unit	Standards/ Regulatory Limits (G.S.R.1265 (E) Dt.13.10.2017) *	Test Method	STP of Puri at Mangalaghat and Bankimuhan			
				Others/ Jun – 25/ WW / 790	Others/ Jun – 25/ WW / 791	Others/ Jun – 25/ WW / 792	Others/ Jun – 25/ WW / 793
				Inlet to STP at Mangalaghat	Outlet of STP at Mangalaghat	Inlet to STP at Bankimuhan	Outlet of STP at Bankimuhan discharge to sea
				Results			
1.	Ammonical Nitrogen as N (NH_3-N), mg/L	-	4500-NH_3-B followed by 4500-NH_3-C, APHA, 23rd Edn., 2017	16.24	15.12	17.92	16.8

*** Effluent discharge standard for sewage treatment plants, Applicable for Sl. No. Others / Jun - 25/WW /791 & Others / Jun -25/WW/793 (No standard limits specified for samples collected from Inlet to STPs)**

11. Deviation from Test Method , if any : No
12. If Sampling Conducted by the Central Laboratory, Yes/ No. - Yes
If Yes,

(a) Date of Sampling : 10.06.2025 (b) Method Used : Grab sampling (1060 B, APHA, 23rd Edn., 2017)
(c) Name of Sampler with Designation : Md. Abdul Raheman, Jr. Research Fellow

----------End of Test Report----------

21.6.25
Authorised Signatory
(Chemical Testing)
(Water/ Wastewater)
(Dr. (Mrs.) Usharani Patnaik)
(Addl. Chief Env. Scientist)

21/6/25
Board Analyst
(Sri Niranjan Mallick)
(OSD-cum- Chief Env. Scientist)

Note :
(i) The results stated above relate only to the items tested.
(ii) This report shall not be reproduced in full or in part without written approval from the In-charge of the Central Laboratory.
(iii) The laboratory is not responsible for the authenticity of photocopied Test Reports.
(iv) The Test Item will not be retained for more than 15 days from the date of issue of Test Report except in case as required by applicable Regulation.
(v) Opinion, Interpretation, Conformance will be provided only on the customer request.

Enclosure-VI

E-mail : paribesh1@ospboard.org
Website : www.ospcboard.org

STATE POLLUTION CONTROL BOARD, ODISHA

[DEPARTMENT OF FOREST, ENVIRONMENT & CLIMATE CHANGE, GOVERNMENT OF ODISHA]
Paribesh Bhawan, A/118, Nilakanthanagar, Unit-VIII,
Bhubaneswar - 751 012

No. 9511 **VI-SC (LEM) Proj-102 (Vol-IX)/25-26** Dt. 17.05.2025

By Post/Email

To

The Executive Officer,
Puri Municipality,
V.I.P. Road, Harihar Square, Puri-752001

Sub: Water quality of river Mangala along Puri city during 2025
Ref: This office letter no.4094/ VI.SC (LEM) Proj- I02/ 24-25, dtd.01.03.2025

Sir,

In continuation to above referred letter, this is to inform that the Board is regularly monitoring the water quality of river Mangala at two stations, such as, Malatipatpur and Golasahi. The water quality for the year 2025 (January-March) in respect of critical parameters [e.g. pH, Dissolved Oxygen (DO), Biochemical Oxygen Demand (BOD) and Total coliform (TC)] are given in the Annexure.

Further, this is to mention that Mangala river along Puri has been identified as polluted river stretches by CPCB under Priority category-IV (Polluted River stretches for restoration of Water Quality-2022) and the matter is being reviewed by Hon'ble NGT in OA No. 673 of 2018. Therefore, it is requested to take appropriate remedial measures to minimize the pollution load on the rivers throughout the year.

This is for your kind information and necessary action.

Yours faithfully,

Encl: As above

17/5/25
OSD-cum-Chief Env. Scientist

Memo No. 9512 / Dt. 17.05.2025

Copy forwarded to the Collector and District Magistrate, Puri, Governor House Rd, Puri, Odisha 752002 for kind information.

Encl: As above

17/5/25
OSD-cum-Chief Env. Scientist

Memo No. 9513 / Dt. 17.05.2025

Copy forwarded to Regional Officer, State Pollution Control Board, Odisha, Parivesh Bhawan, B-59/2 & 59/3, Chandaka Industrial Estate, Patia, Bhubaneswar for kind information and necessary action.

Encl: As above

17/5/25
OSD-cum-Chief Env. Scientist

Annexure

Water Quality of Mangala river (Along Puri) during 2025 (January-March)

Month of Monitoring	Name of Monitoring Station	pH	DO, mg/L	BOD, mg/L	TC, MPN/ 100 mL	FC, MPN/ 100 mL	FS, MPN/ 100 mL	Water Quality Status (Conforming (C) / Non- Conforming (NC))
January 2025	Mangala D/s at Golasahi	7.8	6.7	1.7	4900	2300	33	C
February 2025		7.3	5.9	1.7	4900	2200	23	C
March 2025		7.5	6.2	1.8	3500	1700	17	C
Bathing Water Quality (MOEF Notification G.S.R. No. 742(E) Dt. 25.09.2000)		**6.5-8.5**	**5.0, min**	**3.0, max**	**-**	**500 (Desirable) 2500 (permissible)**	**100 (Desirable) 500 (permissible)**	

Enclosure-VII

E-mail : paribesh1@ospcboard.org
Website : www.ospcboard.org

STATE POLLUTION CONTROL BOARD, ODISHA

[DEPARTMENT OF FOREST, ENVIRONMENT & CLIMATE CHANGE, GOVERNMENT OF ODISHA]
Paribesh Bhawan, A/118, Nilakanthanagar, Unit-VIII,
Bhubaneswar – 751 012

No. 8894 / VISC(LEM)Proj-304/Vol-X/25-26 Dt. 03.05.2025

By Mail
nazim.cpcb@nic.in

To

Sh. Nazimuddin, Scientist 'F'
Divisional Head,
WQM-I Division
Central Pollution Control Board
Parivesh Bhawan, East Arjun Nagar, Delhi-110032

Sub : Status of Polluted River stretches in Odisha during 2023 and 2024 -Reg

Sir,

In inviting a reference to the above captioned subject, this is to inform that based on the water quality of rivers during 2017, CPCB has identified nineteen numbers of polluted river stretches in the State during the year 2018. Approved Action plans for restoration of these seven stretches were already submitted by the Board to CPCB during the year 2019. Implementation of action plans has resulted in the improvement of polluted river stretches in the State of Odisha. As per CPCB report published in the year 2022, based on review of water quality status during the year 2019 and 2021 (2020 not considered due to COVID pandemic), the number of polluted river stretches in the State was reduced from 19 to 7 and the rest twelve stretches were delisted.

Continuance of implementation of action plans has resulted in further improvement of the water quality of these seven stretches. A detailed report on " **Actions taken for restoration of Polluted River Stretches in the State of Odisha (in compliance to Hon'ble NGT matter in OA 673 of 2018)** has been prepared on the basis of actions taken for restoration of these stretches and water quality status during 2022, 2023 and 2024 and attached herewith for information. Based on the water quality status during last two years, that is, 2023 and 2024, it is hereby requested to recategorize the polluted river stretches as follows.

(a) Gangua river stretch (along Bhubaneswar) which is under Priority-I may be categorized under Priority-III.

Contd. p/2

(b) Five river stretches such as Daya river stretch (Narankheta to Kanas), Mangala along Golasahi, Kathajodi along Cuttack, Serua along Sankhatrasa and Brahmani along Rourkela may be considered under Priority-V.

(c) Kuakhai river along Bhubaneswar may be delisted from the polluted river stretch as BOD always remained within 3.0 mg/L.

Yours faithfully,

Encl : As Above

Member Secretary 2/5/2025

Memo No. 8895 Date 03.05.2025

Copy forwarded to the Regional Directorate, Eastern Zone, Central Pollution Control Board, Kolkata (through email) for kind information and necessary action.

Encl : As Above

OSD-cum-Chief Env. Scientist

Actions taken for restoration of Polluted River Stretches in the State of Odisha

(in compliance to Hon'ble NGT matter in OA 673 of 2018)

STATE POLLUTION CONTROL BOARD, ODISHA
[DEPARTMENT OF FOREST, ENVIRONMENT AND CLIMATE CHANGE, GOVERNMENT OF ODISHA]
Paribesh Bhawan, A/118, Nilakanthanagar, Unit-VIII,
Bhubaneswar – 751 012

28.04.2025

5. Action Taken for Polluted River Stretch Mangala River (Along Puri) (Priority-IV)

Mangala river, a small tributary of Bhargavi river, originates near the upstream of Puri town , flows along Puri city and ultimately culminates with Bay of Bengal at the downstream of Puri city. Soon after its identification as polluted river stretch under Priority category-V during the year 2018, action plan has been prepared by the Board and after its due approval by the River Rejuvenation Committee of the Board, submitted to CPCB vide letter No. 6340 dated 28.6.2019. For restoration of Mangala river, following actions have been taken.

(A) Construction of two numbers of Sewage Treatment Plants (STPs) with total installed capacity of 25 MLD to treat 20.05 MLD wastewater being generated in the City. Details of the STPs are furnished in Table-23.

Table-23 : Details of STPs in Puri Municipality (as on February, 2025)

No.	Location	Existing STP Capacity	Capacity Being Utilized	Operational Status of STP
1	Mangalaghat	15 MLD	15 MLD	O & M by WATCO
2	Bankimuhan	10 MLD	10 MLD	
Total : 2 STPs		**25 MLD**	**25 MLD**	

(B) A Septage Treatment Plant of 50 KLD capacity with a total investment of Rs.1.38 crore has been commissioned at Puri since September, 2017. Faecal sludge generated in the city are being transported to the treatment plant by the Cesspool vehicle operator for treatment. The treated water of the plant is being utilized for gardening purpose of the surrounding area.

(C) Municipal Solid Waste Management

Solid waste is collected through both door to door collection and collection from secondary and community bins and are processed. Solid waste management facilities developed in the Puri municipality are given in Table-24.

Table 24 Status of Municipal Solid Waste management in Puri Municipality (as on February, 2025)

Sl No.	ULB Name	Total MSW generation in TPD		Total MSW being Processed in TPD		Capacity of existing MSW treatment Facility in TPD		Proposed MSW Facilities	
		Wet Waste	Dry Waste	Wet Waste	Dry Waste	Wet Waste	Dry Waste	Wet Waste	Dry Waste
1	Puri Municipality	38.5	32.2	38.5	32.2	50	60	0	0

(D) Biomedical Solid Waste Management

Biomedical waste generated from the health care units existing in Puri Municipality are being treated in the biomedical waste treatment facility installed at the District Head Quarter Hospital within Puri Municipality. A small fraction of the total amount of biomedical waste generated is also treated at the Common Biomedical Waste Treatment Facility situated at Tangiapada in Khordha district being operated by M/s Saniclean Pvt.Ltd., Tangiapada, Khordha. Therefore, there is remote possibility of contamination of Mangala river along Puri stretch by biomedical waste generated in the city.

(E) Industries operating in the district are being controlled under consent administration of the Board. Treated outlet quality of the industries meet the discharge norms stipulated in Consent Orders issued by the Board.

(F) Actions taken for Ground Water regulation, Good Irrigation Practices, Rainwater harvesting structures, Demarcation of Flood Plain & removal of illegal encroachments, Maintaining minimum e-flows of river, Plantation activities along the river, Development of bio-diversity park in the polluted river stretches of Mangala River are given in Table-25.

(G) Implementation of Swachh Bharat Abhiyan and construction of individual household toilets and community/public toilets, provision of water supply and increase in awareness among local inhabitants have significantly reduced the open defecation practice of the peoples living in slums along the river stretch .

Water quality of Mangala river monitored at the downstream of Puri town during the year 2017, 2019, 2021, 2022, 2023 and 2024 are given in Table-26.

Table-26. Water quality with respect to BOD in Mangala river (along Puri) during 2017-2024

Monitoring station	Maximum BOD value (mg/L) during the year					
	2017 (January-December)	2019 (January-December)	2021 (January-December)	2022 (January-December)	2023 (January-December)	2024 (January-December)
Mangala D/s at Golasahi	5.7	7.4	4.9	4.4	3.6	2.8
Maximum BOD in the stretch	5.7	7.4	4.9	4.4	3.6	2.8
Priority Category	**V**	**V**	**V**	**V**	**V**	**Clean**

From the data for last three years it has been observed that water quality of Mangala river has shown improvement over the years. The maximum BOD level in year has been reduced from 7.4 mg/L in 2019 to 2.8 mg/L in 2024. However, based on maximum BOD values for past two years, (2023 and 2024), the stretch remained under Priority-V category (Fig. 11).

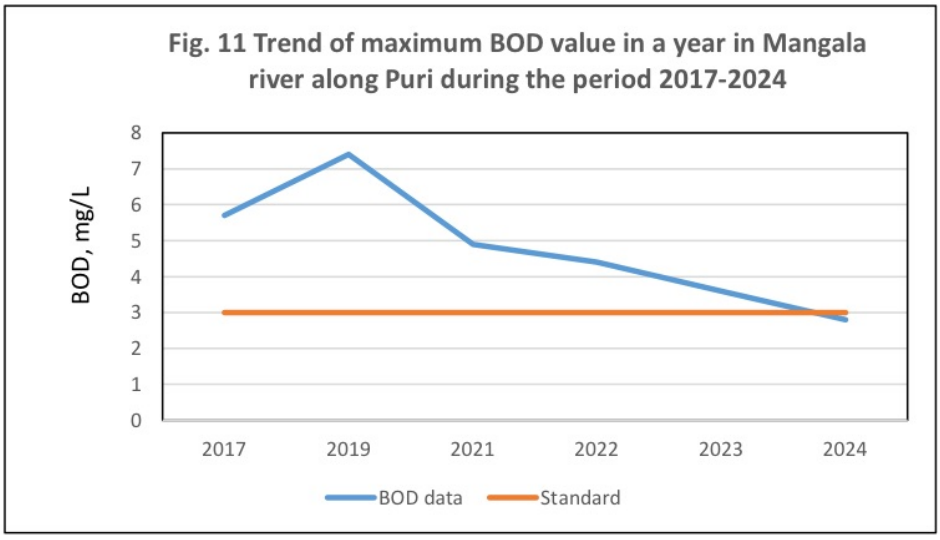

Fig. 11 Trend of maximum BOD value in a year in Mangala river along Puri during the period 2017-2024

Water quality of Mangala river (Annual average and range of data) with respect to the five criteria parameters like pH, DO, BOD, TC, FC and FS and other physicochemical parameters during the year 2022, 2023 & 2024 are given in Annexure-5 of the report. Water quality report conform to the stipulated parameters for Class -B (Organized outdoor bathing) and Class-C (Drinking water source with conventional treatment and after disinfection) surface water bodies. However, frequent high values of TDS, chloride, sulphate etc in Mangala river are due to the tidal influence as the monitoring station is close to the sea (Bay of Bengal).

Table-25 Actions taken for Ground Water regulation, Good Irrigation Practices, Rainwater harvesting structures, Demarcation of Flood Plain & removal of illegal encroachments, Maintaining minimum e-flows of river, Plantation activities along the river, Development of bio-diversity park in the polluted river stretch Mangala River (Along Puri)

SL NO.	Key Components of Proposed Action Plan for restoration of identified polluted river stretch in the state	Proposed Achievable Target	Proposed Time Targets for compliance	Present Status or pendency in terms of %age	Remarks
1	2	3	4	5	6
1	Ground Water regulation:	Govt. of Odisha has formulated an act for regulation for groundwater namely "The Odisha Ground Water (Regulation, Development and Management) Act, 2011" . Central Ground Water Board (CGWB) & District Level Evaluation Committee (DLEC) strictly control the ground water abstraction by the industries. Chief Engineer & Director, Groundwater Development, Bhubaneswar monitors the fluctuation of the groundwater level in all 30 districts in regular interval.	-	-	-
2	Good Irrigation Practices being adopted by the state:	-	-	-	-
3	Rainwater harvesting	Construction of Rooftop Rainwater Harvesting Structure (RRHS) in Govt. and Private Building in towns of Odisha.	2014-15 to 2018-19	RRHS of 34 nos in Govt. Buildings & 633 nos. in Private Buildings	Puri town
			2019-20	Nil	
			2020-21	Nil	
			2021-22	Nil	
			2022-23	3 nos in Govt. Buildings & 180 nos. in Private Buildings	
			2023-24	10 nos in Govt. Buildings & 347 nos. in Private Buildings	
			2024-25	5 nos in Govt. Buildings & 137 nos. in Private Buildings	

		Ground Water Recharge through construction of Recharge shaft in tanks and ponds	2019-20	Nil	In Puri Dist.
			2020-21	Nil	
			2021-22	20 nos.	
			2022-23	26 nos. in GW Budget & 7 nos. in ARUA Scheme	
			2023-24	6 nos. in GW Budget & 7 nos. in ARUA Scheme	
			2024-25	7 nos. in ARUA Scheme	
		Construction of Check Dam.	2019-20	118 Upto March 2020	In Puri Dist.
			2020-21	24 nos.	
			2021-22	Nil	
			2022-23	Nil	
			2023-24	Nil	
			2024-25	Nil	
4	Demarcation of Flood Plain & removal of illegal encroachments:	All the flood plain zones are adequately protected and effectively managed every year. When encroachment are noticed, Revenue Authorities are moved to make the land free from encroachment to maintain the natural flow in the drain.	-	-	-
5	Maintaining minimum e-flows of river:	E-flow maintained. Integrated watershed management programme is executed through out the state by Odisha Watershed Development Mission	During lean period from Nov to May.	Maintained	-
6	Plantation activities along the river:	1700 sapling has been sown along the canal colony, office premises by Puri Irr. Division during monsoon of 2018.	Monsoon 2018.	-	By Puri Irr. Division, Puri
7	Development of bio-diversity park:	Development of bio-diversity parks will be taken up with the help of Forest &Env. Deptt.	-	-	-

Conclusion :

From the forgoing sections it has been observed that, during past three years (2022-2024), water quality of the polluted river stretches have shown improvement. Summarised status of these seven stretches identified by CPCB during 2022 during the period 2019 to 2024 excluding 2020 because of COVID Pandemic are given in Table- 27. Prioritization of polluted river stretches based on maximum BOD values during last two years of reporting , that is 2023 and 2024 is also given in Table-27.

Table-27 Summarised Status of Polluted river stretches identified during 2022

Priority category during 2022 (CPCB Publication "Polluted river stretches for restoration of Water Quality-2022")				**Status during last three years, that is, 2022-2024**			**Overall status during last two years, that is, 2023 and 2024 (BOD,mg/L, max)**
River	**Name of Polluted River Stretch**	**Priority**	**Numbers**	**2022 (Jan-Dec) (BOD mg/L, max)**	**2023 (Jan-Dec) (BOD mg/L, max)**	**2024 (Jan- Dec) (BOD mg/L, max)**	
1. Gangua nallah	1. Gangua nallah along Bhubaneswar	I	1	Priority-III (16.0)	Priority-III (18.0)	Priority-III (16.0)	**Priority-III (18.0)**
2. Daya	2. Daya along Narankheta to Kanas	IV	3	Priority-V (5.6)	Priority-V (4.8)	Priority-V (4.4)	**Priority-V (4.8)**
3. Kuakhai	3. Kuakhai along Bhubaneswar	IV		Clean (1.9)	Clean (1.8)	Clean (2.1)	**Clean (2.1)**
4. Mangala	4. Mangala along Golasahi	IV		Priority-V (4.4)	Priority-V (3.6)	Clean (2.8)	**Priority-V (3.6)**
5. Kathajodi	5. Kathajodi along Cuttack	V	3	Priority-V (4.4)	Priority-V (4.2)	Priority-V (3.9)	**Priority-V (4.2)**
6. Serua	6. Serua along Sankhatrasa	V		Priority-V (4.2)	Priority-V (3.9)	Priority-V (3.7)	**Priority-V (3.9)**
7. Brahmani	7. Brahmani along Rourkela	V		Priority-V (5.7)	Priority-V (5.3)	Priority-V (4.3)	**Priority-V (5.3)**

As observed from the Table, following recategorization of the polluted river stretches may be done.

(a) Gangua river stretch (along Bhubaneswar) which is under Priority-I may be categorized under Priority-III.

(b) Five river stretches such as Daya river stretch (Narankheta to Kanas), Mangala along Golasahi, Kathajodi along Cuttack, Serua along Sankhatrasa and Brahmani along Rourkela may be considered under Priority-V.

(c) Kuakhai river along Bhubaneswar may be delisted from the Polluted river stretch as BOD always remained within 3.0 mg/L .

Annexure-7

Water quality of Polluted River Stretches of Mangala river along Puri during 2022, 2023 and 2024

(a) With respect to Primary Water Quality Criteria

Sl. No	Sampling Location	Year	No. of Obs.	Annual average values (Range of values) Parameters						Frequency of violation (Percent of violation) from designated criteria value				Whether conforming (C) or Not Conforming (NC)	Parameters responsible for downgrading the water quality
				pH	DO (mg/L)	BOD (mg/L)	TC (MPN/ 100 ml)	FC (MPN/ 100 ml)	FS (MPN/ 100 ml)	BOD	TC	FC	FS		
1	Puri D/s (Golasahi)	2022	12	7.5 (6.7-8.4)	7.8 (5.3-12.8)	2.7 (1.6-4.4)	2477 (220-4700)	878 (78-2100)	15 (5-33)	1 (8)	0	0	0	NC	BOD
	19.870122 N 85.825881 E	2023	12	7.5 (7.1-8.5)	7.7 (4.4-13.0)	2.6 (1.7-3.6)	3249 (490-4900)	1492 (130-2200)	14 (<1.8-24)	2 (17)	0	0	0	NC	BOD
	NWMP station Code : 3906	2024	12	7.4 (6.8-7.9)	7.4 (5.8-9.6)	2.4 (1.6-2.8)	3474 (790-4900)	1190 (330-2300)	19 (5-49)	0	0	0	-	C	
Class 'C' water quality Criteria (IS-2296-1982)				**6.5-8.5**	**4 and above**	**3 or less**	**5000 or less**	-	-					**Drinking water source with conventional treatment followed by disinfection**	
Water quality criteria MOEF Notification G.S.R. No. 742(E) Dt. 25.09.2000				**6.5-8.5**	**5 and above**	**3 or less**	**-**	**500 (Desirable) 2500 (Maximum Permissible)**	**100 Desirable) 500 (Maximum Permissible)**					**Bathing Water**	

Note : For calculation of frequency of deviation for FS (Fecal Sterptococcus, Desirable limit 100 MPN/100 ml has been taken into consideration and for Fecal coliform, Maximum permissible limit (2500 MPN/100 ml) has been taken into consideration.

(b) With respect to other physico-chemical parameters

Sl. No.	Sampling Location	Year	Physical parameters		Organic pollution Indicators				Mineral constituents								
			Annual average values (Range of values)														
			TSS	Total alkal -inity	COD	NH_4-N	Free NH_3-N	TKN	EC	SAR	% Na	B	TDS	TH	Cl	SO_4	F
			(mg/L)		(mg/L)				(µS/cm)			(mg/L)					
1	Puri D/s (Golasahi)	2022	40 (12-138)	120 (72-192)	21 (11-31)	1.21 (0.56-2.24)	0.025 (0-0.070)	5.74 (1.68-11.2)	6075 (188-25970)	14.48 (0.51-63.58)	55.52 (20.38-85.46)	0.648 (<0.5-2.127)	NA	851 (68-3400)	2569 (12-11568)	254.5 (<5-1978.6)	0.55 (0.39-0.69)
		2023	51 (16-188)	130 (48-228)	17.5 (10-24)	1.27 (0.56-3.92)	0.041 (0.003-0.26)	5.54 (2.24-11.2)	5695 (166-14710)	12.93 (0.46-37.58)	56.08 (20.93-83.06)	0.714 (<0.5-1.474)	3705 (96-9340)	1029 (56-3400)	2358 (8-7712)	172.7 (8.8-932.1)	0.39 (0.17-0.84)
		2024	72 (18-528)	156 (80-292)	14.5 (7.9-20)	1.45 (0.56-3.92)	0.02 (0-0.067)	6.3 (2.8-11.2)	2837 (210-10800)	12.07 (0.46-48.55)	60.23 (17.22-87.73)	<0.5 (<0.5-1.287)	1924 (136-8220)	330 (88-720)	946 (14-4398)	141.3 (15.6-494.6)	0.29 (0.16-0.39)
Class 'C'			-	-	-	-	-	-	-		-	-	1500	-	600	400	1.5
Class 'E'			-	-	-	-	-	-	2250	26	60	2.0	2100	-	600	1000	-

Class 'C' :Drinking water source with conventional treatment followed by disinfection

Class 'E' :Irrigation water quality

(c) With respect to other physico-chemical parameters and heavy metals

Sl. No.	Sampling Location	Year	Nutrients		Heavy metals								
			Annual Average values (Range of values)										
			Nitrate as NO_3^-	PO_4^{3-}-P	Cr(VI)##	T Cr##	Fe##	Ni##	Cu##	Zn##	Cd##	Hg##	Pb##
			(mg/L)										
1	Puri D/s (Golasahi)	2022	10.647 (0.565-35.457)	0.185 (<0.05-0.524)	0.007	0.014	0.308	0.014	0.007	0.009	0.0035	NA	0.011
		2023	5.325 (0.747-17.775)	0.293 (0.072-0.623)	0.003	0.006	3.310	0.007	0.003	0.003	0.0005	0.00031	0.004
		2024	11.055 (1.548-42.085)	0.7 (0.052-1.553)	<0.002 (<0.002-<0.002)	0.018 (0.015-0.021)	1.239 (0.6-1.879)	0.003 (0.002-0.004)	0.005 (0.003-0.007)	0.009 (0.006-0.012)	0.0014 (0.0013-0.0016)	0.00079 (0.00077-0.00080)	0.008 (0.008-0.009)
Class 'C'			50	-	0.05	-	50	-	1.5	15.0	0.01	-	0.10
Class 'E'			-	-	-	-	-	-	-	-	-	-	-

Class 'C' :Drinking water source with conventional treatment followed by disinfection

Class 'E' :Irrigation water quality

NA : Not Analysed

Data for the period April, 2022, Data for the period April, 2023 and Data for the period April, 2024 and October, 2024