

**BEFORE THE HON'BLE NATIONAL GREEN TRIBUNAL
SOUTHERN ZONE, CHENNAI**

ORIGINAL APPLICATION NO 264/2017 (SZ)

Applicant(s) : Lawyers Environmental Awareness forum
Versus

Respondent(s) : The Government of Kerala & others

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Dated this the 18th day of January 2021

Rema Smrithi, Advocate
ADDITIONAL STANDING COUNSEL FOR NODAL OFFICER, JOINT COMMITTEE

**BEFORE THE HON'BLE NATIONAL GREEN TRIBUNAL
SOUTHERN ZONE, CHENNAI**

ORIGINAL APPLICATION NO 264/2017 (SZ)

**UPDATED STATUS REPORT FILED BY THE COMMITTEE AS PER THE
ORDER DATED 18.11.2020 IN THE ABOVE APPLICATION**

Adv.Rema Smrithi.

ADDITIONAL STANDING COUNSEL FOR NODAL OFFICER JOINT COMMITTEE

BEFORE THE HON'BLE NATIONAL GREEN TRIBUNAL

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IN

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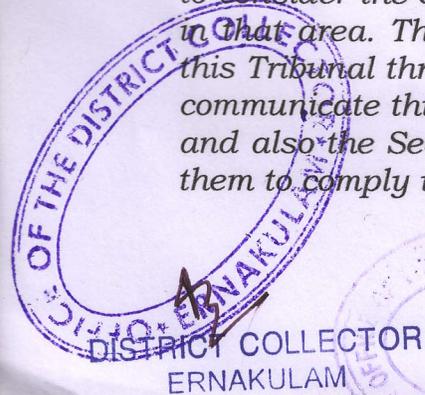
**UPDATED STATUS REPORT FILED BY THE COMMITTEE AS PER THE
ORDER DATED 18.11.2020 IN THE ABOVE APPLICATION**

1. We, the Committee constituted as per the order dated 07.01.2020 in the above application do hereby submit that we know the facts and circumstances of the case. The factual submissions made here under are true and correct to the best of our knowledge, information and belief. In these circumstances, it is just and necessary that this Hon'ble Tribunal may be pleased to accept the accompanying report on file and it is so humbly prayed in the interests of justice in this case,

2. It is respectfully submitted that the above original application is primarily alleging that improper facilities are provided for the treatment and disposal of waste water generated due to the functioning of a Stadium in the name and style of Jawahar Lal Nehru International Stadium (JLN Stadium), Kaloor, Ernakulam, owned and occupied by Greater Cochin Development Authority (GCDA) which is being used for various state/national/international level programmes especially for football and cricket. Also, various temporary exhibitions are staged at area available outside the stadium

3. We may humbly submit that this application was finally heard on 18.11.2020 and ordered as follows

"So, the Committee, the Pollution Control Board and the Corporation are directed to come with further status report regarding the upkeep and maintenance of Jawaharlal Nehru International Stadium at Kaloor, Ernakulam. They are directed to consider the status of inlet and outlet of sewage in the STP that is functioning in that area. They are directed to submit the report on or before 16.12.2020 to this Tribunal through e-filing at ngtszfiling@gmail.com. The Registry is directed to communicate this order to the Members of the Committee, Pollution Control Board and also the Secretary, Kochi Corporation by e-mail immediately so as to enable them to comply with the direction of this Tribunal.



For consideration of further report, post on 16.12.2020"

4. It is respectfully submitted that during hearing the Hon'ble Tribunal specifically stated about the shortfalls which were noted as follows,

"The Corporation has not filed any further status report as to what are all the steps taken by them to mitigate the situation while maintaining the area in question viz., Jawaharlal Nehru International Stadium at Kaloor, Ernakulam"

and,

"The matter is of the year 2017. The only question to be considered is the 'precautionary principle' that has been applied for proper management of the Stadium which is being used for several public functions apart from games and which is likely to generate waste and sewage, apart from providing facility for conducting commercial establishments as well. Certain drawbacks were pointed out earlier and it is not known how far the drawbacks pointed out earlier have been rectified".

5. We may humbly submit that a hearing of all the concerned was conducted on 07.12.2020 and following discussions were made,

- a. Updated status of action plan for the safe and continuous operation of STP of JLN Stadium which was seen unutilized for its full capacity the past several months. Also, the action plan to provide ultrafiltration as a tertiary treatment facility.
- b. Action plan to bring all the establishments generating waste water such as lodges, hotels, shops etc. located near to this STP, under the jurisdiction of the Kochi Corporation which are in operation without providing sufficient pollution control facilities and without the consent of the Board.
- c. Action plan for periodical cleaning of major and minor drains which carry treated effluent from different establishments including this STP connected to Perandoor Canal, one of the polluted stream in Corporation area leading to Edamula stretch of Periyar river which was identified as a major drain that contribute pollution to river Periyar.

6. Even in the absence of a tertiary treatment plant the STP provided for Jawaharlal Nehru Stadium is totally in a working condition, but not using its full capacity. It is respectfully submitted that all the officials of the GCDA expressed their willingness to improve the efficiency and for the maximum utilisation of the existing STP provided for the Stadium. Specific suggestions from the responsible officials attended the meeting are as follows,

- a. **Greater Cochin Development Authority (GCDA):-** The service provider of the Stadium in question has intimated that they have not

OFFICE OF THE DISTRICT COLLECTOR
ERNAKULAM

Kochi Municipal Corporation

GREATER COCHIN DEVELOPMENT AUTHORITY
SECRETARY
GCDA

M. A. BAIJU
Chief Environmental Engineer

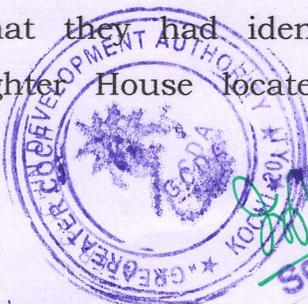
KERALA STATE POLLUTION CONTROL BOARD

started any matches/tournaments/functions there due to COVID-19 restrictions. As per them the quantity of effluent generation has not increased as no crowded functions are staged there till now and whenever sewage generation happens, they will be able to operate the STP in its full fledged capacity once the action plan 5(b) mentioned above is initiated by Kochi Corporation and after consultation with their technical consultant KITCO they may look into the possibility of using the treated sewage for watering stadium turf(meadow). Also, PCB/committee reminded GCDA to install UF and soak pit immediately to ensure the compliance towards installation of such a tertiary system in the STP, PCB/Committee also suggested a time bound proposal need to be submitted along with enough as bank guarantee/security deposit. They will look into the matter and necessary actions will be taken in this regard without further delay.

b. **Kochi Corporation:** - The Corporation is initiating actions to insist the local establishments which are still working without sufficient effluent treatment facilities/consent of the Board to obtain consent after implementing necessary pollution control facilities. They are planning to identify all the establishments (Hotels and lodges etc.) which are located very near to this STP so that the transfer of the waste water will be easy. The Corporation shall ensure that the flow of the drain in which treated water is discharged will not be obstructed and they will periodically monitor the Perandoor Canal to which said drain is leading and Edappally thodu, two main streams that are connected to the Edamula stretch of Periyar river. The Corporation intimated that a DPR has been finalized for the installation of an ETP exclusively for the Slaughter House, Kaloor and its construction will be completed soon.

c. **Kerala State Pollution Control Board:** - The Board already had identified several units such as hotels, Lodges and other establishments which are situated along the banks of Periyar river and its tributaries/certain drains leading to these tributaries and forwarded to Hon'ble Tribunal through status report filed in OA 395 of 2013 which is under the active consideration of the Tribunal. In fact, these establishments are now discharging untreated/partially treated effluent to various drains leading to the Edappally thodu and Perandoor Canal. The list prepared will be forwarded to Corporation and GCDA by the District Office-1 of the Board. Chief Environmental Engineer of the Board also informed that they had identified untreated effluent discharge from a Slaughter House located at Kaloor and other

DISTRICT COLLECTOR
ERNAKULAM



Secretary
GCDA

M. A. C. J.
Chief Environmental Engineer



establishments on which a writ petition (WP© 23911 of 2018) is pending with Hon'ble High Court of Kerala.

7. It is respectfully submitted that the GCDA, as agreed during the hearing will submit a time bound proposal with bank guarantee for the effective installation of an ultrafiltration system within 6 months after consultation with their consultant KITCO, however within three months. Also, the Corporation submitted a firm commitment that no license will be renewed to the identified units that generate waste water and operating without adequate pollution control facilities/ consent of the Board. Copy of the minutes of the hearing is produced herewith and marked as **Annexure 1**, Copy of the Letter explaining actions by GCDA is produced herewith and marked as **Annexure 2** and Copy of the letter submitted by the Kochi Corporation is produced herewith and marked as **Annexure 3**. However, water samples were collected from Perandoor Canal and Edappally thodu the analysis report of which is clearly indicate that there are pollution sources which need to be addressed by the Corporation immediately. Copy of the analysis reports of waste water collected from the above mentioned streams are produced herewith and marked as **Annexure 4**.

8. It is also respectfully submitted that monitoring of inlet and outlet of this STP could not be conducted till now since sufficient quantity of effluent is not received in STP as no crowded functions are commenced till date due to COVID-19 restrictions. Hence, I may humbly submit that the Board is compelled to wait till the stadium is continuously open for games/other functions as done prior to COVID-19 restrictions.

Dated this the 18th day of January 2021.

District Collector, Ernakulam

**DISTRICT COLLECTOR
ERNAKULAM**

Secretary, GCDA



**Secretary
GCDA**

Secretary, Kochi Corporation



**Chief Environmental Engineer,
KSPCB, Ernakulam (Nodal Officer)**

Chief Environmental Engineer



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SL No	Description	
1	Annexure 1- copy of minutes of the Joint Committee dated 07.12.2020	1-2
2	Annexure 2- Copy of the Letter explaining actions by GCDA	3
3	Annexure 3- Copy of the letter submitted by the Kochi Corporation	4
4	Annexure 4- Copy of the analysis reports of waste water collected from the streams	5-16

Dated this the 18th day of January 2021

Rema Smrithi, Advocate
ADDITIONAL STANDING COUNSEL FOR NODAL OFFICER, JOINT COMMITTEE

Minutes of the Joint Committee meeting as per the order of the Hon'ble NGT
in O.A.264/2017 held on 07.12.2020

Joint committee meeting commenced at 11.00 a.m. Following members and representative of the joint committee were attended.

1. Sri. M.A. Baiju, Chief Environmental Engineer, Regional Office, Ernakulam
2. Smt.Athira S., AEE, GCDA
3. Smt.Reshma Krishna R., TGO, GCDA
4. Smt.Kiran Surya K.T., EE, Kochi Corporation
5. Smt.Ambily T.A, EE, Kochi Corporation
6. Smt.Sreelakshmi P.B., EE, KSPCB, DO-1, Ernakulam
7. Smt.Shahana M.A., AEE, RO, KSPCB,Ernakulam
8. Smt.Asha A.B., AE, RO, KSPCB, Ernakulam

Chief Environmental Engineer in his welcome speech informed that the meeting is convened for creative discussions on the recent order of the Hon'ble NGT in O.A No. 264/2017 dated 18.11.2020 and reminded that the next date of hearing is on 16.2.2020. He specifically pointed out that the above order is directing Kochi Corporation, Pollution Control Board the Committee to file individual status reports about the upkeep and maintenance of Jawaharlal Nehru Stadium (JLN Stadium) and associated facilities.

The Committee discussed about explicit directions of the Hon'ble Tribunal as per the said order and also the previous reports filed by the Committee. Following decisions are taken in the meeting.

1. Samples from inlet and outlet of STP cannot be collected as the quantity of effluent reached to the plant is considerably low and the samples if collected will not a representative one. Hence, decided to wait till any matches/tournaments or crowded functions are staged there.
2. Committee observed that specific conditions of the consent to operate viz. installation of an ultra filter (UF) and soak pit are not yet complied with by the Greater Cochin Development Authority (GCDA). Hence, reminded the GCDA to install UF and soak pit immediately. To ensure the compliance towards installation of such a tertiary system in the STP, a time bound proposal need to be submitted along with sufficient amount as bank guarantee/security deposit. GCDA replied that Authority will look in to the matter without delay after getting suggestions from their technical consultant KITCO.

3. Chief Environmental Engineer informed that the Board already had identified several units such as hotels, Lodges and other establishments which are situated along the banks of Periyar river and its tributaries/certain drains leading to these tributaries and forwarded to Hon'ble Tribunal through status report filed in OA 395 of 2013 which is under the active consideration of the Tribunal. Hence, the Corporation can identify such units where priority can be given to establishments with space constraints to construct individual sewage treatment facilities so that sewage from these establishments can be transferred to STP provided for the Stadium. In fact, these establishments are now discharging effluent to the drains leading to the Edappally thodu and Perandoor Canal. The list prepared will be forwarded to Corporation and GCDA by the District Office-1 of the Board. GCDA shall take necessary arrangements in consultation with their technical consultants to assess the quantity of wastewater that can be collected from Corporation area, as far as possible very near to this STP. An agreement with those units, GCDA and Corporation shall be made to transfer the effluent generated to the STP of the JLN Stadium.

4. Necessary arrangement shall be made by GCDA after consulting with their technical consultant KITCO to reuse the treated effluent for watering the stadium ground (Meadow) and the excess treated effluent generated if any shall be disposed to the drain /soak pit. Kochi Corporation shall ensure that the flow of the drain in which treated water is discharged will not be obstructed. It is also reiterated that the Perandoor canal are Edappally thodu are severely polluted due to the discharge of effluent from certain establishments along the banks and monitoring of these streams will be completed soon. Chief Environmental Engineer also reminded that the Board, earlier had identified untreated effluent discharge from a Slaughter House located at Kaloor and other establishments on which a writ petition (WP© 23911 of 2018) is pending with Hon'ble High Court of Kerala. The Corporation officials pointed out that a DPR has been finalized for the installation of an ETP exclusively for the Slaughter House, Kaloor and its construction will be completed soon.

Meeting ended at 12.30 P.M.




Chief Environmental Engineer

(Nodal Officer)

M. A. BAIJU
Chief Environmental Engineer

REPORT

Even in the absence of a tertiary treatment plant, the STP provided for Jawaharlal Nehru International Stadium is totally in a working condition but as pointed out by pollution control board the system is not using its full capacity. Authority is willing to share the sewage treatment system to accommodate the needs of establishments identified by the Cochin Corporation for the maximum utilization of the existing STP provided for stadium. For this an action plan has to be prepared and a list of establishments who wanted to share the sewage system to be submitted by Cochin corporation.

As per the discussions on 7/12/20 at your office we may look into the possibility of using the treated sewage for watering stadium turf (meadow). After consultation with our technical consultant KITCO, because as per the original proposal by our consultant the treated water is to the drains so we can change that only with their suggestions.

PCB/committee reminded the GCDA to install UF and soak pit immediately. To ensure the compliance towards installation of such a tertiary system in the STP, PCB/committee also suggests a time bound proposal need to be submitted along with sufficient amount as bank guarantee/security deposit. We will look in to the matter and necessary actions will be taken in this regard without delay. Since even in the absence of a tertiary treatment plant, the STP provided for Jawaharlal Nehru International Stadium is totally in a working condition as per the treated water test results so we need an opinion from Kitco since UF system not suggested by them in the original proposal.




SECRETARY

GCDA



KOCHI MUNICIPAL CORPORATION

Phone { 2369007, 2369196
2369143, 2369149
2369197, 2369069
Fax : 91-484-2369023

Corporation Office
P.B.No.1016
Ernakulam, Cochin 682 011

No.MOE2/ 7086 /20

11/12/2020

From
Secretary

To
Chief Environmental Engineer
Kerala State Pollution Control Board
Gandhi Nagar, Ernakulam - 682 020
E.Mail: pcbroekm@gmail.com

Sir,
Sub: Upkeeping of GCDA's STP at Kaloor stadium - Reg
Ref. Minutes of the meeting held on 07/12/2020

In the meeting under reference it was decided that for the upkeep of the STP, effluent from the nearby shops restaurants and small hotels who are unable to treat the effluent generated by them on their own due to space constraints will be directed to the STP.

It is informed that after identifying such shops and restaurants direction will be given for taking their effluent to the STP.

It is also informed that the drain in which treated water is discharged from the STP was recently reconstructed under the centrally sponsored AMRUT project and it will be ensured that the flows are not disrupted.

Yours faithfully,


Secretary



KERALA STATE POLLUTION CONTROL BOARD
CENTRAL LABORATORY

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കേന്ദ്ര പരീക്ഷണശാല



Certificate No.
TC-8525

ANALYSIS REPORT

Analysis Report No.	PCB/CL/997/20-21	Date	17 Dec 2020	Doc.No: PCB/CL/CH/F-7
Ref.No.	PCB/RO-EKM/GEN-274/2020 dated 09.12.2020	Date Of Collection	09 Dec 2020	
Received From	R O ERNAKULAM	Date Of Receipt	09 Dec 2020	
No. Of Sample	1	Period Of Analysis	09 Dec 2020 - 17 Dec 2020	
Source	Perandoor Canal Station II	Scientist-in-charge	Geetha P	
Sample Condition	fit for analysis	Sample Type	Surface Waters / Drinking Water	
Sample collected by	CEE, RO ERNAKULAM	Sample volume & container type	300 ml sterile BOD Bottle	
Sample preservation	As per APHA/ IS :3025(Part-1)	Type of test	MICROBIOLOGY	
Sampling Point	Station II			

Sample ID : Bio 486

Sl.No	Parameters	Unit	Value	Test Method	Detection Limit
1	Total Coliform	cfu/100ml	400000	APHA 9222 B, 23rd Ed.2017	1cfu/100ml

-- End of Report --

Checked by *Anupama M*
17/12/2020 Assistant Scientist

Authorised by *Geetha P*
12/12/20
P. GEETHA
Environmental Scientist

Note: The test results relate only to the sample submitted for analysis and it shouldn't be reproduced except in full without the written permission of the authorised signatory of the lab.

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ANALYSIS REPORT

Analysis Report No.	PCB/CL/999/20-21	Date	17 Dec 2020	Doc.No: PCB/CL/CH/F-7
Ref.No.	PCB/RO-EKM/GEN-274/2020 dated 09.12.2020	Date Of Collection	09 Dec 2020	
Received From	R O ERNAKULAM	Date Of Receipt	09 Dec 2020	
No. Of Sample	1	Period Of Analysis	09 Dec 2020 - 17 Dec 2020	
Source	Perandoor Canal	Scientist-in-charge	Geetha P	
Sample Condition	fit for analysis	Sample Type	Surface Waters / Drinking Water	
Sample collected by	CEE, RO ERNAKULAM	Sample volume & container type	300 ml BOD Bottle	
Sample preservation	As per APHA/ IS :3025(Part-1)	Type of test	MICROBIOLOGY	
Sampling Point	Perandoor Canal			

Sample ID : Bio -466

Sl.No	Parameters	Unit	Value	Test Method	Detection Limit
1	Total Coliform	cfu/100ml	350000	APHA 9222 B, 23rd Ed.2017	1cfu/100ml

-- End of Report --

Checked by *Anupama. M*
17/12/2020 Assistant Scientist

Geetha P
12/12/20
Authorised by
Environmental Scientist

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TC-8525

ANALYSIS REPORT

Analysis Report No.	PCB/CL/1003/20-21	Date	17 Dec 2020	Doc.No: PCB/CL/CH/F-7
Ref.No.	PCB/RO-EKM/GEN-274/2020 dated 09.12.202	Date Of Collection	09 Dec 2020	
Received From	R O ERNAKULAM	Date Of Receipt	09 Dec 2020	
No. Of Sample	1	Period Of Analysis	09 Dec 2020 - 17 Dec 2020	
Source	Edapally Thodu Station I	Scientist-in-charge	Geetha P	
Sample Condition	fit for analysis	Sample Type	Surface Waters / Drinking Water	
Sample collected by	CEE, RO ERNAKULAM	Sample volume & container type	300 ml sterile BOD Bottle	
Sample preservation	As per APHA/ IS :3025(Part-1)	Type of test	MICROBIOLOGY	
Sampling Point	Station I			

Sample ID : BIO - PCB 36

Sl.No	Parameters	Unit	Value	Test Method	Detection Limit
1	Total Coliform	cfu/100ml	200000	APHA 9222 B, 23rd Ed.2017	1cfu/100ml

-- End of Report --

Checked by *Anupama. M*
Assistant Scientist

Authorised by *Geetha P*
12/12/20
GEEETHA
Environmental Scientist

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ANALYSIS REPORT

Analysis Report No.	PCB/CL/1006/20-21	Date	17 Dec 2020	Doc.No: PCB/CL/CH/F-7
Ref.No.	PCB/RO-EKM/GEN- 274/2020 dated 09.12.2020	Date Of Collection	09 Dec 2020	
Received From	R O ERNAKULAM	Date Of Receipt	09 Dec 2020	
No. Of Sample	1	Period Of Analysis	09 Dec 2020 - 17 Dec 2020	
Source	Edapally Thodu Station II	Scientist-in-charge	Geetha P	
Sample Condition	fit for analysis	Sample Type	Surface Waters / Drinking Water	
Sample collected by	CEE, RO ERNAKULAM	Sample volume & container type	300 ml Sterile BOD Bottle	
Sample preservation	As per APHA/ IS :3025(Part-1)	Type of test	MICROBIOLOGY	
Sampling Point	Station - II			

Sample ID : BIO- 105

Sl.No	Parameters	Unit	Value	Test Method	Detection Limit
1	Total Coliform	cfu/100ml	240000	APHA 9222 B, 23rd Ed.2017	1cfu/100ml

-- End of Report --

Checked by *[Signature]* **Anupama. M**
Assistant Scientist

[Signature]
17/12/20
GEETHA
Environmental Scientist

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Certificate No.
TC-8525

ANALYSIS REPORT

Analysis Report No.	PCB/CL/995/20-21	Date	22 Dec 2020	Doc.No: PCB/CL/CH/F-7
Ref.No.	PCB/RO-EKM/GEN-274/2020 dated 09.12.202	Date Of Collection	09 Dec 2020	
Received From	R O ERNAKULAM	Date Of Receipt	09 Dec 2020	
No. Of Sample	1	Period Of Analysis	09 Dec 2020 - 22 Dec 2020	
Source	Perandoor Canal Station II	Scientist-in-charge	Rajeena	
Sample Condition	fit for analysis	Sample Type	Surface Waters / Drinking Water	
Sample collected by	CEE, RO ERNAKULAM	Sample volume & container type	2L plastic can	
Sample preservation	As per APHA/ IS :3025(Part-1)	Type of test	CHEMICAL	
Sampling Point	Station II			

Sample ID : GEN - Station -II

Sl.No	Parameters	Unit	Value	Test Method	Detection Limit
1	pH	-	6.7	APHA, 4500- H + B, 4-95 to 4 - 99, 23 rd Edition : 2017	1
2	Suspended Solids	mg/L	80.0	APHA, 2540- D, 2-70 to 2-71, 23rd Edition:2017	10 mg/L
3	Total Dissolved Solids	mg/L	269.0	APHA, 2540-C, 2-69 to 2-70 23 rd Edition:2017	10 mg/L
4	Chloride	mg/L	55.0	APHA, 4500- Cl /B, 4-75 to 4-76, 23 rd Edition: 2017	1 mg/L
5	Ammonia as Nitrogen	mg/L	2.6	APHA, 4500 NH3 F, 4-119 to 4-120, (Phenate method , Colourimetric),23rd Edition: 2017	0.02 mg/L
6	Biochemical Oxygen Demand (BOD)	mg/L	35.0	IS 3025 (Part 44): 1993	0.1 mg/L
7	Chemical Oxygen Demand (COD)	mg/L	104.0	APHA, 5220 B, 5-18 to 5- 19, 23 rd Edition:2017	3 mg/L
8	Total Kjeldahl Nitrogen	mg/L	4.4	APHA, 4500-N org B, 4-139 to 4-140, 23rd Edition: 2017	0.2 mg/L

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Phenolic compounds	mg/l	BDL	APHA 5530-C,22nd Edition	0.001mg/l
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-- End of Report --

Checked by *Rajeeva*
22/12/20

RAJEENA. R
Assistant Environmental Scientist

Authorised by *[Signature]*

M.H. STRAFUDEEN
Senior Environmental Scientist

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KERALA STATE POLLUTION CONTROL BOARD CENTRAL LABORATORY

കേരള സംസ്ഥാന മലിനീകരണ നിയന്ത്രണ ബോർഡ്
കേന്ദ്ര പരീക്ഷണശാല



Certificate No.
TC-8525

ANALYSIS REPORT

Analysis Report No.	PCB/CL/998/20-21	Date	23 Dec 2020	Doc.No: PCB/CL/CH/F-7
Ref.No.	PCB/RO-EKM/GEN-274/2020 dated 09.12.202	Date Of Collection	09 Dec 2020	
Received From	R O ERNAKULAM	Date Of Receipt	09 Dec 2020	
No. Of Sample	1	Period Of Analysis	09 Dec 2020 - 23 Dec 2020	
Source	Perandoor Canal	Scientist-in-charge	Rajeena	
Sample Condition	fit for analysis	Sample Type	Surface Waters / Drinking Water	
Sample collected by	CEE, RO ERNAKULAM	Sample volume & container type	2L plastic can	
Sample preservation	As per APHA/ IS :3025(Part-1)	Type of test	CHEMICAL	
Sampling Point	Perandoor Canal			

Sample ID : Gen- Station - I

Sl.No	Parameters	Unit	Value	Test Method	Detection Limit
1	pH	-	6.5	APHA, 4500- H + B, 4-95 to 4 - 99, 23 rd Edition : 2017	1
2	Suspended Solids	mg/L	26.0	APHA, 2540- D, 2-70 to 2-71, 23rd Edition:2017	10 mg/L
3	Total Dissolved Solids	mg/L	249.0	APHA, 2540-C, 2-69 to 2-70 23 rd Edition:2017	10 mg/L
4	Chloride	mg/L	32.0	APHA, 4500- Cl /B, 4-75 to 4-76, 23 rd Edition: 2017	1 mg/L
5	Ammonia as Nitrogen	mg/L	2.0	APHA, 4500 NH3 F, 4-119 to 4-120, (Phenate method , Colourimetric),23rd Edition: 2017	0.02 mg/L
6	Biochemical Oxygen Demand (BOD)	mg/L	14.5	IS 3025 (Part 44): 1993	0.1 mg/L
7	Chemical Oxygen Demand (COD)	mg/L	32.0	APHA, 5220 B, 5-18 to 5- 19, 23 rd Edition:2017	3 mg/L
8	Total Kjeldahl Nitrogen	mg/L	3.1	APHA, 4500-N org B, 4-139 to 4-140, 23rd Edition: 2017	0.2 mg/L

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Doc.No: PCB/CL/CH/F-7

Analysis Report No.: PCB/CL/998/20-21

0	Phenolic compounds	mg/l	BDL	APHA 5530-C,22nd Edition	0.001mg/l
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-- End of Report --

Checked by *Rajeev*
23/12/20
 RAJEEV
 Assistant Environmental Scientist

Authorised by *[Signature]*
 M.H. SHERAFUDEEN
 Senior Environmental Scientist

Note: The test results relate only to the sample submitted for analysis and it shouldn't be reproduced except in full without the written permission of the authorised signatory of the lab.



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കേന്ദ്ര പരീക്ഷണശാല



Certificate No.
TC-8525

ANALYSIS REPORT

Analysis Report No.	PCB/CL/1001/20-21	Date	23 Dec 2020	Doc.No: PCB/CL/CH/F-7
Ref.No.	PCB/RO-EKM/GEN-274/2020 dated 09.12.2020	Date Of Collection	09 Dec 2020	
Received From	R O ERNAKULAM	Date Of Receipt	09 Dec 2020	
No. Of Sample	1	Period Of Analysis	09 Dec 2020 - 23 Dec 2020	
Source	Edapally Thodu Station I	Scientist-in-charge	Rajeena	
Sample Condition	fit for analysis	Sample Type	Surface Waters / Drinking Water	
Sample collected by	CEE, RO ERNAKULAM	Sample volume & container type	2L plastic can	
Sample preservation	As per APHA/ IS :3025(Part-1)	Type of test	CHEMICAL	
Sampling Point	Station - I			

Sample ID : Gen I

Sl.No	Parameters	Unit	Value	Test Method	Detection Limit
1	pH	-	6.6	APHA, 4500- H + B, 4-95 to 4 - 99, 23 rd Edition : 2017	1
2	Suspended Solids	mg/L	38.0	APHA, 2540- D, 2-70 to 2-71, 23rd Edition:2017	10 mg/L
3	Total Dissolved Solids	mg/L	281.0	APHA, 2540-C, 2-69 to 2-70 23 rd Edition:2017	10 mg/L
4	Chloride	mg/L	49.0	APHA, 4500- CI /B, 4-75 to 4-76, 23 rd Edition: 2017	1 mg/L
5	Ammonia as Nitrogen	mg/L	1.0	APHA, 4500 NH3 F, 4-119 to 4-120, (Phenate method , Colourimetric),23rd Edition: 2017	0.02 mg/L
6	Biochemical Oxygen Demand (BOD)	mg/L	14.5	IS 3025 (Part 44): 1993	0.1 mg/L
7	Chemical Oxygen Demand (COD)	mg/L	40.0	APHA, 5220 B, 5-18 to 5- 19, 23 rd Edition:2017	3 mg/L
8	Total Kjeldahl Nitrogen	mg/L	2.0	APHA, 4500-N org B, 4-139 to 4-140, 23rd Edition: 2017	0.2 mg/L

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6	Phenolic compounds	mg/l	BDL	APHA 5530-C,22nd Edition	0.001mg/l
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-- End of Report --

Checked by *Rajana*
23/12/20
RAJEENA. R
 Assistant Environmental Scientist

Authorised by *[Signature]*
M. SHERAFUDEEN
 Senior Environmental Scientist

Note: The test results relate only to the sample submitted for analysis and it shouldn't be reproduced except in full without the written permission of the authorised signatory of the lab.





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കേന്ദ്ര പരീക്ഷണശാല



Certificate No.
TC-8525

ANALYSIS REPORT

Analysis Report No.	PCB/CL/1004/20-21	Date	23 Dec 2020	Doc.No: PCB/CL/CH/F-7
Ref.No.	PCB/RO-EKM/GEN-274/2020 dated 09.12.202	Date Of Collection	09 Dec 2020	
Received From	R O ERNAKULAM	Date Of Receipt	09 Dec 2020	
No. Of Sample	1	Period Of Analysis	09 Dec 2020 - 23 Dec 2020	
Source	Edapally Thodu Station II	Scientist-in-charge	Rajeena	
Sample Condition	fit for analysis	Sample Type	Surface Waters / Drinking Water	
Sample collected by	CEE, RO ERNAKULAM	Sample volume & container type	2L plastic can	
Sample preservation	As per APHA/ IS :3025(Part-1)	Type of test	CHEMICAL	
Sampling Point	Station II			

Sample ID : Gen II

Sl.No	Parameters	Unit	Value	Test Method	Detection Limit
1	pH	-	6.6	APHA, 4500- H + B, 4-95 to 4 - 99, 23 rd Edition : 2017	1
2	Suspended Solids	mg/L	32.0	APHA, 2540- D, 2-70 to 2-71, 23rd Edition:2017	10 mg/L
3	Total Dissolved Solids	mg/L	256.0	APHA, 2540-C, 2-69 to 2-70 23 rd Edition:2017	10 mg/L
4	Chloride	mg/L	55.0	APHA, 4500- Cl /B, 4-75 to 4-76, 23 rd Edition: 2017	1 mg/L
5	Ammonia as Nitrogen	mg/L	1.4	APHA, 4500 NH3 F, 4-119 to 4-120, (Phenate method , Colourimetric),23rd Edition: 2017	0.02 mg/L
6	Biochemical Oxygen Demand (BOD)	mg/L	14.7	IS 3025 (Part 44): 1993	0.1 mg/L
7	Chemical Oxygen Demand (COD)	mg/L	36.0	APHA, 5220 B, 5-18 to 5- 19, 23 rd Edition:2017	3 mg/L
8	Total Kjeldahl Nitrogen	mg/L	2.2	APHA, 4500-N org B, 4-139 to 4-140, 23rd Edition: 2017	0.2 mg/L

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Phenolic compounds	mg/l	BDL	APHA 5530-C,22nd Edition	0.001mg/l
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-- End of Report --

Checked by *Rajeeena*
29/12/20
RAJEENA. R
 Assistant Environmental Scientist

Authorised by *[Signature]*
M.H. SHERAFUDEEN
 Senior Environmental Scientist

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