

540

**BEFORE THE HON'BLE NATIONAL GREEN TRIBUNAL
PRINCIPAL BENCH, NEW DELHI
IN**

MISC APPLICATION No.58/2024 in OA No.147 of 2022

Petitioner : Krishna Das K V

Versus

Respondent(s) : The State of Kerala

**AFFIDAVIT SUBMITTED BY THE ENVIRONMENTAL
ENGINEER, LEGAL CELL, REGIONAL OFFICE,
ERNAKULAM ON BEHALF OF KERALA STATE
POLLUTION CONTROL BOARD**

Adv. Jogy Scaria

Additional Standing Counsel for the Respondent

541

**BEFORE THE HON'BLE NATIONAL GREEN TRIBUNAL
PRINCIPAL BENCH, NEW DELHI**

IN

MISC APPLICATION No.58/2024 in OA No.147 of 2022

Petitioner : Krishna Das K V

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VOLUME-I

Index

| Sl.No. | Description | Pages |
|--------|--|-------|
| 1 | Affidavit submitted by the Environmental Engineer, Kerala State Pollution Control Board, , Legal Cell, Regional Office, Ernakulam. | 1-6 |

Dated this the 20th day of January, 2026.

Adv. Jogy Scaria

Additional Standing Counsel for the Respondent:

BEFORE THE HON'BLE NATIONAL GREEN TRIBUNAL**PRINCIPAL BENCH, NEW DELHI****IN**

MISC APPLICATION No.58/2024 in OA No.147 of 2022

Petitioner : Krishna Das K V

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VOLUME - II**Index**

| Sl.No. | Description | Pages |
|--------|--|-------|
| 1 | Annexure - 1: Water Quality Analysis Report of Ashtamudi at Kollam and drains | 7-11 |
| 2 | Annexure - 2: Water Quality Analysis Report of Vembanad at Kottayam and drains | 12-21 |
| 3 | Annexure - 3: Water Quality Analysis Report of Vembanad at Ernakulam and drains | 22-43 |
| 4 | Annexure - 4: Water Quality Analysis Report of Vembanad at Alappuzha | 44-48 |
| 5 | Annexure - 5: Letter no.KSPCB/1617/2024-AE-10 dated 13.01.2026 | 49-53 |
| 6 | Annexure - 6: G.O.(Rt) No.117/2026/LSGD dated 14.01.2026 | 54-56 |
| 7 | Annexure - 7: Letter no. LSGD/1415/2023-SWAG I dated 16.01.2026 | 57-58 |

Dated this the 20th day of January, 2026**Adv. Jogy Scaria****Additional Standing Counsel for the Respondent**

543 1
**BEFORE THE NATIONAL GREEN TRIBUNAL PRINCIPAL
BENCH, NEW DELHI**

IN

MISC APPLICATION No. 58/2024 in OA No. 147 of 2022

This Misc. Application was registered on the basis of the report filed by Secretary, Environment dated 29.01.2024 in pursuance to the order of the Tribunal dated 22.03.2023 passed in OA No.147/2022.

**COMPLIANCE AFFIDAVIT FILED BY THE KERALA STATE
POLLUTION CONTROL BOARD IN COMPLIANCE OF ORDER
DATED 27.10.2025**

I, Noby George, aged 48 years, S/o late K.T George, residing at Ernakulam presently working as Environmental Engineer, Kerala State Pollution Control Board, , Legal Cell, Regional Office, Ernakulam do hereby solemnly affirm and state as follows:

1. I am the Environmental Engineer, Kerala State Pollution Control Board (hereinafter referred to as Board), Legal Cell, Regional Office, Ernakulam duly authorised to file the affidavit before the Hon'ble Tribunal. I am aware of the facts affirmed by me in this Affidavit. I am swearing that this is the report based on the best of my knowledge, information and belief and the facts revealed from the records.
2. It is respectfully submitted that based on the previous order of the Tribunal dated 27.10.2025, the Board had conducted water quality analysis after 1 month in all the drains mentioned in the order. National Water Quality Management (NWMP) Programme Stations and State Water Quality Management Programme Stations (SWMP) in Ashtamudi and Vembanad Lakes were also monitored in the said drive.
3. The water quality analysis report of the drains and lake stations based on the order dated 27.10.2025 is submitted herewith and marked as **Annexure 1, 2, 3 & 4.**
4. From the Analysis report submitted as Annexure 1 to 4, a few critical parameters are tabulated below with an inference on significance of sewage contamination.




NOBY GEORGE
ENVIRONMENTAL ENGINEER
KERALA STATE POLLUTION CONTROL BOARD
REGIONAL OFFICE
GANDHI NAGAR, KOCHI-682020

DO & BOD in mg/L, TC & FC in MPN/100 ml or cfu in 100 mL

Table 1(A)

| Sl No | NWMP/SWMP Station Name | Lat & Long | DO Mg/L | pH | BOD Mg/L | TC MPN/100mL | FC MPN/100mL | Significantly contaminated (Yes/No) |
|-------|------------------------|------------------------|---------|------|----------|--------------|--------------|-------------------------------------|
| 1 | Ashtamudi | 8.936195, 76.545194 | 5.26 | 7.64 | 2.66 | 430 | 220 | No |
| 2 | Thoppilkadavu | 8.896128, 76.57199 | 1.8 | 7.55 | 9.3 | 1600 | 540 | Yes |
| 3 | KSRTC Bus Depot Kollam | 8.892085, 76.585501 | 0.33 | 6.92 | 10.4 | 1600 | 540 | Yes |
| 4 | Perumon | 8.972052, 76.616051 | 7.93 | 7.46 | 3.2 | 220 | 150 | Yes |
| 5 | Kundara Ceramics | 8.963705, 76.662649 | 5 | 7.14 | 1.6 | 430 | 170 | No |
| 6 | Mundrothuruth | 9.002171, 76.632769 | 7.6 | 6.95 | 3.13 | 170 | 94 | Yes |

Table 1(B)

| SL No | Drain | Location | DO Mg/L | pH | BOD Mg/L | TC MPN/100mL | FC MPN/100mL | Significantly contaminated (Yes/No) |
|-------|--|--------------------------------|---------|------|----------|--------------|--------------|-------------------------------------|
| 1 | Manichithodu | 8.89102667, 76.5891433 3 | 0.47 | 7.24 | 6.2 | 1600 | 920 | Yes |
| 2 | Meeting point of Manichithodu and Ashtamudi | 8.8913998, 76.5873223 | 0.67 | 6.96 | 7.4 | 1600 | 920 | Yes |
| 3 | Kollam Thodu | 8.8924663, 76.5822231 | 1 | 6.71 | 5.8 | 920 | 430 | Yes |
| 4 | Meeting point of Kollam thodu and Ashtamudi | 8.89967933, 76.5826107 | 4.47 | 6.82 | 3.4 | 540 | 430 | Yes |




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 KERALA STATE POLLUTION CONTROL BOARD
 REGIONAL OFFICE
 GANDHI NAGAR, KOCHI-682020

Table 2(A)

| Sl No | NWMP/SWMP Station Name | Sampling date | Lat & Long | DO Mg/L | pH | BOD Mg/L | TC MPN/100mL | FC MPN/100mL | Significantly contaminated (Yes/No) |
|-------|--|---------------|------------------------|---------|------|----------|--------------|--------------|-------------------------------------|
| 1 | Changanasser y Ferry (Boat jetty) | 01.12.2025 | 9.44547, 76.52837 | 3.6 | 6.29 | 2.3 | 1100 | 600 | No |
| 2 | Vaikom Ferry | 02.12.2025 | 9.749121, 76.388131 | 4.4 | 6.88 | 1.1 | 2950 | 1600 | No |
| 3 | Kottayam Ferry | 01.12.2025 | 9.577429, 76.518629 | 3.2 | 6.96 | 1.7 | 400 | 150 | No |

Table 2(B)

| SL No | Drain | Sampling date | Location | DO Mg/L | pH | BOD Mg/L | TC MPN/100mL | FC MPN/100mL | Significantly contaminated (Yes/No) |
|-------|--------------------------|---------------|-----------------------|---------|------|----------|--------------|--------------|-------------------------------------|
| 1 | K V Canal | 02.12.2025 | 9.74166, 76.3961 | 2.5 | 6.48 | 1.8 | 10000 | 4800 | Yes |
| 2 | Anthakarathodu | 02.12.2025 | 9.749753, 76.39396 | 0 | 6.7 | 22 | 300000 | 200000 | Yes |
| 3 | Drain from temple | 02.12.2025 | 9.74411, 76.3903 | 2.3 | 6.55 | 1.8 | 30000 | 18000 | Yes |
| 4 | AC canal | 01.12.2025 | 9.433009, 76.53072 | 4.8 | 6.24 | 2.6 | 750 | 350 | No |
| 5 | Cheepunkal | 26.11.2025 | 9.64133, 76.4189 | 3.5 | 6.17 | 1.1 | 150 | 0 | No |
| 6 | Naalupank | 26.11.2025 | 9.56661, 76.4163 | 4.5 | 6.17 | 1.2 | 100 | 0 | No |
| 7 | Athikkalam | 26.11.2025 | 9.59019, 76.4213 | 5.3 | 6.27 | 1.1 | 150 | 50 | No |
| 8 | Kavanattinkara | 26.11.2025 | 9.62595, 76.4242 | 3.8 | 6.17 | 0.6 | 150 | 50 | No |



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ENVIRONMENTAL ENGINEER
KERALA STATE POLLUTION CONTROL BOARD
REGIONAL OFFICE
GANDHI NAGAR, KOCHI-682020

ERNAKULAM**Table 3(A)**

| Sl No | NWMP/SWMP Station Name | Sampling date | Lat & Long | DO Mg/L | pH | BOD Mg/L | TC MPN/100mL | FC MPN/100mL | Significantly contaminated (Yes/No) |
|-------|--|---------------|-----------------------|---------|-----|----------|--------------|--------------|-------------------------------------|
| 1 | Kochi Lake near Willington Island, Kochi (Coastal Station) | 02.12.2025 | 9.922684, 76.286911 | 3.4 | 7.1 | 3.1 | 6300 | 43 | Yes |
| 2 | Kochi lake near Thopumpady, Kochi (Coastal Station) | 02.12.2025 | 9.93695, 76.264666 | 3.0 | 7.2 | 2.8 | 70000 | 6 | No |
| 3 | Kochi lake near Cochin Port Trust, Kochi (Coastal Station) | 02.12.2025 | 9.9519313, 76.2613901 | 3.1 | 7.3 | 3.0 | 80000 | 21 | Yes |
| 4 | Kochi lake at Goshree Bridge, Kochi (Coastal Station) | 02.12.2025 | 9.991952, 76.2666 | 5.6 | 7.1 | 2.1 | 2000 | 7 | No |
| 5 | Vembanadu lake, Kochi (Oil Tanker Jetty) | 02.12.2025 | 9.958061, 76.265928 | 4.2 | 7.1 | 1.4 | 2200 | 320 | No |

Table 3(B)

| SL No | Drain | Sampling date | Lat & Long | DO Mg/L | pH | BOD Mg/L | TC MPN/100mL | FC MPN/100mL | Significantly contaminated (Yes/No) |
|-------|----------------------------------|---------------|-----------------------|---------|------|----------|--------------|--------------|-------------------------------------|
| 1 | Edapally thodu | 17.12.2025 | 9.9995960, 76.3307180 | 0.73 | 7.07 | 11.6 | 400000 | 96000 | Yes |
| 2 | Mullassery Canal | 17.12.2025 | 9.974882, 76.278627 | BDL | 6.74 | 20.4 | 780000000 | 4400000 | Yes |
| 3 | Thevara – Perandoor Canal | 17.12.2025 | 9.946065, 76.300417 | BDL | 6.81 | 14 | 2500000 | 210000 | Yes |



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 REGIONAL OFFICE
 GANDHI NAGAR, KOCHI-682020

ALAPPUZHA**Table 4**

| Sl No. | NWMP/SWMP Station Name | Sampling Date | Lat & Long | DO Mg/L | pH | BOD Mg/L | TC MPN/100mL | FC MPN/100mL | Significantly contaminated (Yes/No) |
|--------|--|---------------|----------------------|---------|-----|----------|--------------|--------------|-------------------------------------|
| 1 | North of Nehru Pavilion, Finishing point, Punnamada | 03.12.2025 | 9.5017873, 76.354261 | 5.632 | 8.4 | 1.37 | 1800 | 600 | No |
| 2 | Near Vilakkumaram Jetty, Kainakary North, Kuppapuram | 03.12.2025 | 9.498793, 76.366663 | 5.312 | 8.2 | 1.85 | 2800 | 2400 | No |
| 3 | West of Pathiramanal Jetty | 03.12.2025 | 9.619754, 76.382411 | 6.646 | 7.8 | 2.33 | 2800 | 400 | No |
| 4 | Downstream of Thanneermukkom bund | 03.12.2025 | 9.671166, 76.395841 | 6.08 | 7.6 | 0.88 | 200 | 100 | No |
| 5 | Downstream of McDowell's & Co, Varanad | 03.12.2025 | 9.692769, 76.370412 | 6.08 | 7.6 | 1.35 | 1200 | 1000 | No |
| 6 | Near Rajeev Jetty, Punnamada | 03.12.2025 | 9.499964, 76.352379 | 2.9 | 8 | 1.632 | 2000 | 1600 | No |
| 7 | Keltron Kadavu | 02.12.2025 | 9.8627657, 76.29632 | 0.832 | 8 | 2.624 | 14000 | 11000 | No |
| 8 | Chandiroor | 02.12.2025 | 9.8433719, 76.31682 | 0.88 | 8.3 | 4.928 | 9000 | 8000 | Yes |
| 9 | Kakkathuruth | 02.12.2025 | 9.814544, 76.32184 | 3.072 | 8 | 4.928 | 10000 | 7000 | Yes |
| 10 | Kattachira Kadavu (Cherthala) | 02.12.2025 | 9.684121, 76.37602 | 5.056 | 8.6 | 2.05 | 1200 | 800 | No |
| 11 | Kayippuram, Muhamma | 02.12.2025 | 9.622109, 76.37599 | 6.912 | 8.8 | 1.34 | 7000 | 5000 | Yes |
| 12 | U/S of Thanner mukkam bund | 03.12.2025 | 9.682114, 76.394319 | 5.888 | 7.8 | 1.62 | 2000 | 1400 | No |
| 13 | Padasekkaram at Kainakary | 03.12.2025 | 9.518721, 76.379925 | 5.312 | 8.1 | 0.38 | 2000 | 1400 | No |
| 14 | Pallathuruthy (Pamba) | 05.12.2025 | 9.464137, 76.362639 | 4.9 | 7.4 | 0.84 | 2400 | 1800 | No |
| 15 | Punnamada | 05.12.2025 | 9.50005, 76.353244 | 5.8 | 7.4 | 2.8 | 800 | 600 | No |
| 16 | Pathiramanal | 03.12.2025 | 9.599373, 76.388663 | 7.4 | 7.8 | 2.4 | 800 | 400 | No |



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 ENVIRONMENTAL ENGINEER
 KERALA STATE POLLUTION CONTROL BOARD
 REGIONAL OFFICE
 GANDHI NAGAR, KOCHI-682020

5. It is respectfully submitted that the Board had issued letter dated 13.01.2026 to Local Self Government Department (submitted as **Annexure 5**) along with analysis report of drains & NWMP-SWMP stations of Ashtamudi - Vembanad lakes. Sample analysis report from some lake stations and certain drains showed significant contamination.
6. It is respectfully submitted that the Local Self Government Department considering Board's analysis reports have initiated further actions vide G.O. (Rt) No. 117/2026/LSGD (submitted as **Annexure 6**) dated 14.01.2026 to close all illegal drains leading into these water bodies by constituting a team of officers from Kottayam, Kochi corporations, Vaikom Municipality & concerned District Suchitwa Mission coordinators. Also, Vide order No. LSGD/1415/2023-SWAG I (submitted as **Annexure 7**) dated 16.01.2026 LSGD has constituted special inspection teams including Board officers for closure of illegal outlets & initiate necessary legal action against violators.

All the facts stated above are true to the best of my knowledge, information and belief.

Dated this the 20th day of January 2026



ENVIRONMENTAL ENGINEER

LEGAL CELL, ERNAKULAM



NOBY GEORGE
ENVIRONMENTAL ENGINEER
KERALA STATE POLLUTION CONTROL BOARD
REGIONAL OFFICE
GANDHI NAGAR, KOCHI-682020

ANNEXURE-1

Office Phone: 0474- 2762117

Office E-mail: kspcbklm@gmail.comWeb site : www.kspcb.kerala.gov.in

Help Desk : 0474- 2950617

Help Desk email : kspcb kollam.hd@gmail.com**KERALA STATE POLLUTION CONTROL BOARD**

കേരള സംസ്ഥാന മലിനീകരണ നിയന്ത്രണ ബോർഡ്

DISTRICT OFFICE

ജില്ലാ ഓഫീസ്

USHUS BUILDING, BIG BAZAR, KOLLAM - 691 001

ഉഷസ്സ് ബിൽഡിംഗ്, ബിഗ് ബാസാർ, കൊല്ലം - 691 001



File No. PCB/KO/L/5/2025

Date: 01-01-2026

From

Environmental Engineer

To

The Member Secretary
Kerala State Pollution Control Board
Head Office, Pattom,
Thiruvananthapuram - 695004

Sir,

Sub: Ashtamudi lake- Water Analysis report - MA 58/2024 in OA 147/2022 - reg.

Ref: 1) Order of the Hon'ble NGT dated 27.10.2025 in MA 58/2024 in OA 147/2022

2) That Office letter No. KSPCB/1617/2024-AE-10 dated 16.12.2025

Sir,

Kind attention invited to the subject matter. In compliance with the order of the Hon'ble National Green Tribunal and as per the directions issued vide reference (2) cited above, water samples from Manichithode, Kollam thodu (TS canal) and their joining points to the lake were collected on 02.12.2025 along with the 5 other National Water Quality Monitoring Programme (NWMP) stations in the Ashtamudi Lake. Along with the geo-coordinates of the sampling locations, analysis reports of the samples collected are enclosed herewith for your perusal and further necessary action.

Yours faithfully,

ENVIRONMENTAL ENGINEER

Encl: as above

Office Phone: 0474- 2762117

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KERALA STATE POLLUTION CONTROL BOARD
കേരള സംസ്ഥാന മലിനീകരണ നിയന്ത്രണ ബോർഡ്

DISTRICT OFFICE

ജില്ലാ ഓഫീസ് , കൊല്ലം

USHUS BUILDING, BIG BAZAR, KOLLAM - 691 001

ഉഷസ്സ് ബിൽഡിംഗ് , ബിഗ് ബസാർ, കൊല്ലം - 691 001



NATIONAL WATER QUALITY MONITORING PROGRAMME (NWMP) - ASHTAMUDI

| SL NO. | PARAMETERS | STATION NAME & STATION CODE | | | | | |
|--------|---------------------------------------|-----------------------------|----------------------|-------------------------------|----------------|-------------------------|----------------------|
| | | ASHTAMUDI (1441) | THOPPILKADAVU (5198) | KSRTC Bus Depot Kollam (5199) | PERUMON (5200) | KUNDARA CERAMICS (5201) | MUNDROTHURUTH (5203) |
| 1 | Temperature, 0C | 27 | 27 | 27 | 27 | 27 | 27 |
| 2 | Dissolved Oxygen, mg/l | 5.26 | 1.8 | 0.33 | 7.93 | 5 | 7.6 |
| 3 | pH | 7.64 | 7.55 | 6.92 | 7.46 | 7.14 | 6.95 |
| 4 | Conductivity, µmhos/cm | 38500 | 23600 | 8760 | 22700 | 30600 | 4060 |
| 5 | BOD, mg/l | 2.66 | 9.3 | 10.4 | 3.2 | 1.6 | 3.13 |
| 6 | Nitrate-N, mg/l | 0.66 | 0.53 | 0.82 | 0.57 | 0.54 | 0.49 |
| 7 | Turbidity, NTU | 6.5 | 6.2 | 6.6 | 3.6 | 10.1 | 30 |
| 8 | Phenolphthalein Alkalinity, mg/l | BDL | BDL | BDL | BDL | BDL | BDL |
| 9 | Total Alkalinity, mg/l | 101 | 99 | 125 | 66 | 86 | 26 |
| 10 | Chloride, mg/l | 19200 | 10900 | 4650 | 10700 | 15400 | 2200 |
| 11 | COD, mg/l | 188 | 144 | 88 | 140 | 80 | 40 |
| 12 | TKN, mg/l | 1.12 | 3.36 | BDL | 1.12 | BDL | BDL |
| 13 | Ammoniacal-N, mg/l | BDL | BDL | BDL | BDL | BDL | BDL |
| 14 | Hardness as CaCO ₃ , mg/l | 5400 | 3400 | 1500 | 3000 | 3700 | 418 |
| 15 | Calcium as CaCO ₃ , mg/l | 600 | 400 | 300 | 500 | 700 | 72 |
| 16 | Magnesium as CaCO ₃ , mg/l | 4800 | 3000 | 1200 | 2500 | 3000 | 346 |
| 17 | Sulphate, mg/l | 293.18 | 204.41 | 103.33 | 174.28 | 191.73 | 82.49 |
| 18 | Calcium (Ca ²⁺), mg/l | 240.48 | 160.32 | 120.24 | 200.4 | 280.56 | 28.86 |
| 19 | Magnesium | 1166.4 | 729 | 291.6 | 607.5 | 729 | 84.08 |

| | | | | | | | |
|----|---------------------------------|--------|--------|--------|--------|--------|--------|
| | (Mg ²⁺), mg/l | | | | | | |
| 20 | Sodium, mg/l | 9975 | 5641 | 2493 | 5706 | 8022 | 1150 |
| 21 | Total Dissolved Solids, mg/l | 32500 | 17935 | 7825 | 17665 | 24988 | 3601 |
| 22 | Total Fixed Solids, mg/l | 26000 | 14792 | 6280 | 15052 | 20552 | 1680 |
| 23 | Total Suspended Solids, mg/l | 124.8 | 96.2 | 63.9 | 74.1 | 137 | 23.1 |
| 24 | Phosphate, mg/l | 0.2436 | 0.3066 | 0.8001 | 0.2163 | 0.2226 | 0.0336 |
| 25 | Boron, mg/l | BDL | BDL | BDL | BDL | BDL | BDL |
| 26 | Potassium, mg/l | 385 | 239 | 88 | 235 | 311 | 38 |
| 27 | Fluoride, mg/l | 0.204 | 0.249 | 0.137 | 0.171 | 0.205 | 0.149 |
| 28 | Total Coliform, MPN/100 ml | 430 | 1600 | 1600 | 220 | 430 | 170 |
| 29 | Fecal Coliform, MPN/100 ml | 220 | 540 | 540 | 150 | 170 | 94 |
| 30 | Fecal Streptococcus, MPN/100 ml | 38 | 130 | 170 | 63 | 17 | 23 |
| 31 | % SODIUM | 78.60 | 76.80 | 77.10 | 79.00 | 81.00 | 84.30 |
| 32 | SAR | 59.10 | 42.10 | 28 | 45.30 | 57.40 | 24.50 |

LOCATION DETAILS

| Location Name | Latitude | Longitude | Time of sampling |
|------------------------|----------|-----------|------------------|
| ASAHTAMUDI | 8.936195 | 76.545194 | 08:11 AM |
| TOPPILKADAVU | 8.896128 | 76.57199 | 07:50 AM |
| KSRTC BUS DEPOT KOLLAM | 8.892085 | 76.585501 | 06:53 AM |
| PERUMON | 8.972052 | 76.616051 | 08:42 AM |
| KUNDARA CERAMICS | 8.963705 | 76.662649 | 09:17 AM |
| MUNDROTHURUTH | 9.002171 | 76.632769 | 09:45 AM |


 ASSISTANT SCIENTIST



KERALA STATE POLLUTION CONTROL BOARD
കേരള സംസ്ഥാന മലിനീകരണ നിയന്ത്രണ ബോർഡ്

DISTRICT OFFICE

ജില്ലാ ഓഫീസ് , കൊല്ലം

USHUS BUILDING, BIG BAZAR, KOLLAM - 691 001

ഉഷസ്സ് ബിൽഡിംഗ് , ബിഗ് ബസാർ, കൊല്ലം - 691 001



Analysis report of water samples collected on 2/12/2025 in connection with OA 147/2022

| SL NO. | PARAMETERS | LOCATION NAME | | | |
|--------|---------------------------------------|---------------|---|---------------|---|
| | | MANICHITHODU | MEETING POINT OF MANICHITHODU & ASHTAMUDI | KOLLAM THODU | MEETING POINT OF KOLLAM THODU & ASHTAMUDI |
| 1 | Temperature, 0C | 27 | 27 | 27 | 27 |
| 2 | Dissolved Oxygen, mg/l | 0.47 | 0.67 | 1 | 4.47 |
| 3 | pH | 7.24 | 6.96 | 6.71 | 6.82 |
| 4 | Conductivity, μ mhos/cm | 457 | 1206 | 12870 | 16690 |
| 5 | BOD, mg/l | 6.2 | 7.4 | 5.8 | 3.4 |
| 6 | Nitrate-N, mg/l | 0.5 | 0.57 | 0.73 | 0.61 |
| 7 | Turbidity, NTU | 4.2 | 8.3 | 3.4 | 6.6 |
| 8 | Phenolphthalein Alkalinity, mg/l | BDL | BDL | BDL | BDL |
| 9 | Total Alkalinity, mg/l | 155 | 151 | 87 | 87 |
| 10 | Chloride, mg/l | 47 | 400 | 5300 | 9400 |
| 11 | COD, mg/l | 12 | 16 | 76 | 72 |
| 12 | TKN, mg/l | 1.12 | 1.12 | 3.36 | 2.24 |
| 13 | Ammoniacal-N, mg/l | BDL | BDL | BDL | BDL |
| 14 | Hardness as CaCO ₃ , mg/l | 146 | 224 | 2100 | 2900 |
| 15 | Calcium as CaCO ₃ , mg/l | 116 | 126 | 700 | 300 |
| 16 | Magnesium as CaCO ₃ , mg/l | 30 | 98 | 1400 | 2600 |
| 17 | Sulphate, mg/l | 30.636 64 | 47.4616 8 | 135.47 924 | 125.43 444 |
| 18 | Calcium (Ca ²⁺), mg/l | 46.49 | 50.5 | 280.56 | 120.24 |
| 19 | Magnesium (Mg ²⁺), mg/l | 7.29 | 23.81 | 340.2 | 631.8 |
| 20 | Sodium, mg/l | 24.4 | 212 | 2752 | 4481 |
| 21 | Total Dissolved Solids, mg/l | 278 | 932 | 8977 | 14860 |
| 22 | Total Fixed Solids, mg/l | 232 | 760 | 7280 | 12080 |

| | | | | | |
|----|---------------------------------|--------|--------|--------|--------|
| 23 | Total Suspended Solids, mg/l | 37.2 | 29.1 | 49.4 | 59.5 |
| 24 | Phosphate, mg/l | 0.3003 | 0.3444 | 0.1575 | 0.2478 |
| 25 | Boron, mg/l | BDL | BDL | BDL | BDL |
| 26 | Potassium, mg/l | 12.2 | 20 | 127 | 175 |
| 27 | Fluoride, mg/l | 0.078 | 0.079 | 0.146 | 0.148 |
| 28 | Total Coliform, MPN/100 ml | 1600 | 1600 | 920 | 540 |
| 29 | Fecal Coliform, MPN/100 ml | 920 | 920 | 430 | 430 |
| 30 | Fecal Streptococcus, MPN/100 ml | 170 | 220 | 79 | 49 |
| 31 | % SODIUM | 24.70 | 64.90 | 72.60 | 75.70 |
| 32 | SAR | 0.90 | 6.20 | 26.10 | 36.20 |

LOCATION DETAILS

| Location Name | Latitude | Longitude | Time of sampling |
|---|------------|-------------|------------------|
| MANICHITHODU | 8.89102667 | 76.58914333 | 7:12 AM |
| MEETING POINT OF MANICHITHODU & ASHTAMUDI | 8.8913998 | 76.5873223 | 7:01 AM |
| KOLLAM THODU | 8.8924663 | 76.5822231 | 7:39 AM |
| MEETING POINT OF KOLLAM THODU & ASHTAMUDI | 8.89967933 | 76.5826107 | 7:26 AM |


ASSISSTANT SCIENTIST



കേരള സംസ്ഥാന മലിനീകരണ നിയന്ത്രണ ബോർഡ്

KERALA STATE POLLUTION CONTROL BOARD

DISTRICT OFFICE, KOTTAYAM.

ശ്രീനിവാസ അയ്യർ റോഡ്, കോട്ടയം-686001

Sreenivasa Iyer Road, Kottayam-686001

E-mail: kspcbkottayam@gmail.com, <http://keralapcbonline.com> Telephone : 0481 - 2302445 web: www.keralapcb.nic.in

ഓൺലൈനിൽ അപേക്ഷകൾ സമർപ്പിക്കുന്നതിന് keralapcbonline.com എന്ന വെബ്സൈറ്റ് ഉപയോഗിക്കുക.

“ഭരണഭാഷ - മാതൃഭാഷ”

In reply please refer to:- PCBDKT/532/2024-AE1.

27/12/2025

From
The Environmental Engineer (Full Additional Charge)

To
The Member Secretary
Head Office, Thiruvananthapuram

Sub:- MA 58/2024 in OA 147/2022-Ashtamudi-Vembanad Kol Wetlands Pollution-Reg

Ref:- Order of the Hon'ble NGT dated 27.10.2025 in MA 58/2024 in OA 147/2022

Sir,

Please find the attached sample analysis reports as per the ambient monitoring in Vembanadu lake and in the drains specified in the Hon'ble NGT order as per reference.

Yours Faithfully,

The Environmental Engineer (Full Additional Charge)

| | | |
|--------------------------------------|---------------------------------------|---------------|
| Station Name | KV CANAL | |
| Latitude | 9.74166 | |
| Longitude | 76.3961 | |
| Agency | KERALA STATE POLLUTION CONTROL BOARD | |
| Date and time of sample taken | 02/12/2025 11.00 AM | |
| | Determinants | Values |
| | Temperature, °C | 27 |
| | Dissolved Oxygen, mg/l | 2.5 |
| | pH | 6.48 |
| | Conductivity, µmhos/cm | 256.8 |
| | BOD, mg/l | 1.8 |
| | Nitrate-N, mg/l | 1.2 |
| | Turbidity, NTU | 0.66 |
| | Total Alkalinity, mg/l | 47 |
| | Chloride, mg/l | 48 |
| | Ammoniacal-N, mg/l | 0.8 |
| | Hardness as CaCO ₃ , mg/l | 52 |
| | Calcium as CaCO ₃ , mg/l | 28 |
| | Magnesium as CaCO ₃ , mg/l | 24 |
| | Sulphate, mg/l | 14.2 |
| | Sodium, mg/l | 25.91 |
| | Total Dissolved Solids, mg/l | 158 |
| | Phosphate, mg/l | 0.3 |
| | Potassium, mg/l | 13.18 |
| | Total Coliform, cfu/100 ml | 10000 |
| | Fecal Coliform, cfu/100 ml | 4800 |

| | | |
|--------------------------------------|---------------------------------------|---------------|
| Station Name | ANTHAKARATHODU | |
| Latitude | 9.749753 | |
| Longitude | 76.39396 | |
| Agency | KERALA STATE POLLUTION CONTROL BOARD | |
| Date and time of sample taken | 02/12/2025 | |
| | 11.30 AM | |
| | Determinants | Values |
| | Temperature, °C | 27 |
| | Dissolved Oxygen, mg/l | 0 |
| | pH | 6.7 |
| | Conductivity, µmhos/cm | 447.6 |
| | BOD, mg/l | 22 |
| | Nitrate-N, mg/l | 2.6 |
| | Turbidity, NTU | 0.59 |
| | Total Alkalinity, mg/l | 143 |
| | Chloride, mg/l | 44 |
| | Ammoniacal-N, mg/l | 8.69 |
| | Hardness as CaCO ₃ , mg/l | 150 |
| | Calcium as CaCO ₃ , mg/l | 64 |
| | Magnesium as CaCO ₃ , mg/l | 86 |
| | Sulphate, mg/l | 12.66 |
| | Sodium, mg/l | 22.74 |
| | Total Dissolved Solids, mg/l | 249 |
| | Phosphate, mg/l | 0.3 |
| | Potassium, mg/l | 12.09 |
| | Total Coliform, cfu/100 ml | 3,00,000 |
| | Fecal Coliform, cfu/100 ml | 2,00,000 |

| | | |
|--------------------------------------|---------------------------------------|---------------|
| Station Name | DRAIN FROM TEMPLE | |
| Latitude | 9.74411 | |
| Longitude | 76.3903 | |
| Agency | KERALA STATE POLLUTION CONTROL BOARD | |
| Date and time of sample taken | 02/12/2025 | |
| | 11.45 AM | |
| | Determinants | Values |
| | Temperature, °C | 27 |
| | Dissolved Oxygen, mg/l | 2.3 |
| | pH | 6.55 |
| | Conductivity, µmhos/cm | 280.4 |
| | BOD, mg/l | 1.8 |
| | Nitrate-N, mg/l | 0.8 |
| | Turbidity, NTU | 0.74 |
| | Total Alkalinity, mg/l | 50 |
| | Chloride, mg/l | 49 |
| | Ammoniacal-N, mg/l | 0.45 |
| | Hardness as CaCO ₃ , mg/l | 64 |
| | Calcium as CaCO ₃ , mg/l | 31 |
| | Magnesium as CaCO ₃ , mg/l | 33 |
| | Sulphate, mg/l | 19 |
| | Sodium, mg/l | 25.71 |
| | Total Dissolved Solids, mg/l | 169 |
| | Phosphate, mg/l | 0.2 |
| | Potassium, mg/l | 13.32 |
| | Total Coliform, cfu/100 ml | 30,000 |
| | Fecal Coliform, cfu/100 ml | 18,000 |

| Station Name | AC CANAL | |
|---------------------------------------|--------------------------------------|--|
| Latitude | 9.433009 | |
| Longitude | 76.53072 | |
| Agency | KERALA STATE POLLUTION CONTROL BOARD | |
| Date and time of sample taken | 01/12/2025 4.05 PM | |
| Determinants | Values | |
| Temperature, °C | 27 | |
| Dissolved Oxygen, mg/l | 4.8 | |
| pH | 6.24 | |
| Conductivity, µmhos/cm | 165.7 | |
| BOD, mg/l | 2.6 | |
| Nitrate-N, mg/l | 0.7 | |
| Turbidity, NTU | 0.36 | |
| Total Alkalinity, mg/l | 27 | |
| Chloride, mg/l | 24 | |
| Ammoniacal-N, mg/l | 0.4 | |
| Hardness as CaCO ₃ , mg/l | 39 | |
| Calcium as CaCO ₃ , mg/l | 22 | |
| Magnesium as CaCO ₃ , mg/l | 17 | |
| Sulphate, mg/l | 20.61 | |
| Sodium, mg/l | 13.34 | |
| Total Dissolved Solids, mg/l | 102 | |
| Phosphate, mg/l | 0.2 | |
| Potassium, mg/l | 6.1 | |
| Total Coliform, cfu/100 ml | 750 | |
| Fecal Coliform, cfu/100 ml | 350 | |

| | | |
|--------------------------------------|---------------------------------------|---------------|
| Station Name | BOAT JETTY CANAL | |
| Latitude | 9.44547 | |
| Longitude | 76.52837 | |
| Agency | KERALA STATE POLLUTION CONTROL BOARD | |
| Date and time of sample taken | 01/12/2025 3.30 PM | |
| | Determinants | Values |
| | Temperature, °C | 27 |
| | Dissolved Oxygen, mg/l | 3.6 |
| | pH | 6.29 |
| | Conductivity, µmhos/cm | 205.6 |
| | BOD, mg/l | 2.3 |
| | Nitrate-N, mg/l | 0.9 |
| | Turbidity, NTU | 0.56 |
| | Total Alkalinity, mg/l | 45 |
| | Chloride, mg/l | 28 |
| | Ammoniacal-N, mg/l | 0.52 |
| | Hardness as CaCO ₃ , mg/l | 51 |
| | Calcium as CaCO ₃ , mg/l | 28 |
| | Magnesium as CaCO ₃ , mg/l | 23 |
| | Sulphate, mg/l | 18.5 |
| | Sodium, mg/l | 18.85 |
| | Total Dissolved Solids, mg/l | 126 |
| | Phosphate, mg/l | 0.2 |
| | Potassium, mg/l | 7.99 |
| | Total Coliform, cfu/100 ml | 1100 |
| | Fecal Coliform, cfu/100 ml | 600 |

| | | |
|--------------------------------------|---------------------------------------|---------------|
| Station Name | ATHIKKALAM | |
| Latitude | 9.59019 | |
| Longitude | 76.4213 | |
| Agency | KERALA STATE POLLUTION CONTROL BOARD | |
| Date and time of sample taken | 26/11/2025 4.00 PM | |
| | Determinants | Values |
| | Temperature, °C | 26 |
| | Dissolved Oxygen, mg/l | 5.3 |
| | pH | 6.27 |
| | Conductivity, µmhos/cm | 152.9 |
| | BOD, mg/l | 1.1 |
| | Nitrate-N, mg/l | 0.7 |
| | Turbidity, NTU | 0.26 |
| | Total Alkalinity, mg/l | 17 |
| | Chloride, mg/l | 25 |
| | Ammoniacal-N, mg/l | 0.4 |
| | Hardness as CaCO ₃ , mg/l | 36 |
| | Calcium as CaCO ₃ , mg/l | 17 |
| | Magnesium as CaCO ₃ , mg/l | 19 |
| | Sulphate, mg/l | 24.76 |
| | Sodium, mg/l | 13.42 |
| | Total Dissolved Solids, mg/l | 94 |
| | Phosphate, mg/l | 0.2 |
| | Potassium, mg/l | 4.79 |
| | Total Coliform, cfu/100 ml | 150 |
| | Fecal Coliform, cfu/100 ml | 50 |

| | | |
|--------------------------------------|---------------------------------------|---------------|
| Station Name | CHEEPUNKAL | |
| Latitude | 9.64133 | |
| Longitude | 76.4189 | |
| Agency | KERALA STATE POLLUTION CONTROL BOARD | |
| Date and time of sample taken | 26/11/2025 | |
| | 3.00 PM | |
| | Determinants | Values |
| | Temperature, °C | 26 |
| | Dissolved Oxygen, mg/l | 3.5 |
| | pH | 6.17 |
| | Conductivity, µmhos/cm | 154.7 |
| | BOD, mg/l | 1.1 |
| | Nitrate-N, mg/l | 0.56 |
| | Turbidity, NTU | 0.12 |
| | Total Alkalinity, mg/l | 21 |
| | Chloride, mg/l | 26 |
| | Ammoniacal-N, mg/l | 0.4 |
| | Hardness as CaCO ₃ , mg/l | 38 |
| | Calcium as CaCO ₃ , mg/l | 16 |
| | Magnesium as CaCO ₃ , mg/l | 22 |
| | Sulphate, mg/l | 22.49 |
| | Sodium, mg/l | 13.52 |
| | Total Dissolved Solids, mg/l | 95 |
| | Phosphate, mg/l | 0.1 |
| | Potassium, mg/l | 4.17 |
| | Total Coliform, cfu/100 ml | 150 |
| | Fecal Coliform, cfu/100 ml | 0 |

| | | |
|--------------------------------------|---------------------------------------|---------------|
| Station Name | KAVANATTINKARA | |
| Latitude | 9.62595 | |
| Longitude | 76.4242 | |
| Agency | KERALA STATE POLLUTION CONTROL BOARD | |
| Date and time of sample taken | 26/11/2025 | |
| | 3.30PM | |
| | Determinants | Values |
| | Temperature, °C | 26 |
| | Dissolved Oxygen, mg/l | 3.8 |
| | pH | 6.17 |
| | Conductivity, µmhos/cm | 134.1 |
| | BOD, mg/l | 0.6 |
| | Nitrate-N, mg/l | 0.6 |
| | Turbidity, NTU | 0.95 |
| | Total Alkalinity, mg/l | 14 |
| | Chloride, mg/l | 21 |
| | Ammoniacal-N, mg/l | 0.4 |
| | Hardness as CaCO ₃ , mg/l | 34 |
| | Calcium as CaCO ₃ , mg/l | 14 |
| | Magnesium as CaCO ₃ , mg/l | 20 |
| | Sulphate, mg/l | 23.08 |
| | Sodium, mg/l | 12.02 |
| | Total Dissolved Solids, mg/l | 2.7 |
| | Phosphate, mg/l | 0.2 |
| | Potassium, mg/l | 2.7 |
| | Total Coliform, cfu/100 ml | 150 |
| | Fecal Coliform, cfu/100 ml | 50 |

| | | |
|--------------------------------------|---------------------------------------|---------------|
| Station Name | NAALUPANK | |
| Latitude | 9.56661 | |
| Longitude | 76.4163 | |
| Agency | KERALA STATE POLLUTION CONTROL BOARD | |
| Date and time of sample taken | 26/11/2025 | |
| | 2.30 PM | |
| | Determinants | Values |
| | Temperature, °C | 26 |
| | Dissolved Oxygen, mg/l | 4.5 |
| | pH | 6.17 |
| | Conductivity, µmhos/cm | 135.1 |
| | BOD, mg/l | 1.2 |
| | Nitrate-N, mg/l | 0.7 |
| | Turbidity, NTU | 0.11 |
| | Total Alkalinity, mg/l | 13 |
| | Chloride, mg/l | 19 |
| | Ammoniacal-N, mg/l | 0.4 |
| | Hardness as CaCO ₃ , mg/l | 32 |
| | Calcium as CaCO ₃ , mg/l | 18 |
| | Magnesium as CaCO ₃ , mg/l | 14 |
| | Sulphate, mg/l | 28 |
| | Sodium, mg/l | 12.03 |
| | Total Dissolved Solids, mg/l | 86 |
| | Phosphate, mg/l | 0.2 |
| | Potassium, mg/l | 3.68 |
| | Total Coliform, cfu/100 ml | 100 |
| | Fecal Coliform, cfu/100 ml | 0 |

//TRUE COPY//



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കേന്ദ്ര പരീക്ഷണശാല**

Recognised as an Environmental Laboratory Under E(P)A 1986

Ref. PCB/CL/AR/2025

Date:18.12.2025

From
The Chief Environmental Scientist

To
The Chief Environmental Engineer,
Kerala State Pollution Control Board,
Regional Office,
Ernakulam.



Sub: Analysis Report of Water Samples – reg

Sir,

I am enclosing here with the analysis report of Water Samples received from that office. The details are given below:

| Sl. No. | That Office Reference | Source Name | No. of Samples |
|---------|---|---------------------------|----------------|
| 1 | PCB/RO-EKM/LEGAL-332/2022 Dated 04.12.2025 | Edapally Thodu | 02 |
| 2 | PCB/RO-EKM/LEGAL-332/2022 Dated 04.12.2025 | Mullassery Canal | 02 |
| 3 | PCB/RO-EKM/LEGAL-332/2022 Dated 04.12.2025 | Thevara – Perandoor Canal | 02 |

Yours faithfully,

CHIEF ENVIRONMENTAL SCIENTIST

3660
20/12/25

19/12/25
ABZ



KERALA STATE POLLUTION CONTROL BOARD
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TC 8525

TEST REPORT

| | | | | | |
|----------------------------|--|---|-------------------------|-------------------|---------------|
| Analysis Report No. | PCB/CL/1720/2025-26 | Date | 17.12.2025 | Format No. | PCB/CL/CH/F-7 |
| Ref. No. | PCB/RO-EKM/LEGAL-332/2022 Dated 04.12.2025. | Date of Collection | 04.12.2025 | | |
| Received From | The Chief Environmental Engineer | Date of Receipt | 04.12.2025 | | |
| No. of Sample | 01 | Period of Analysis | 05.12.2025 – 16.12.2025 | | |
| Source | Edapally Thodu | Scientist-in-charge | Sreeja K.B | | |
| Sample Condition | Fit for analysis | Sample Type | Water Samples | | |
| Sample collected by | The Chief Environmental Engineer, Regional Office, Ernakulam | Sample volume & container type | Plastic Can | | |
| Sample preservation | As per APHA/IS:3025 (Part-1) | Type of Test | Chemical | | |

SAMPLE ID: EDTT

| Sl. No | Parameters | Unit | Value | Test Method | Lowest Detection Limit |
|--------|------------------------|------|-------|--|------------------------|
| 1 | pH | --- | 7.07 | APHA, 4500-H+B, 24 th Ed., 2023 | 1 |
| 2 | BOD | mg/L | 11.6 | IS 3025 Part(44): 2023 | 1 mg/L |
| 3 | COD | mg/L | 36 | APHA, 5220-B, 24 th Ed., 2023 | 4 mg/L |
| 4 | Total Suspended Solids | mg/L | 27 | APHA, 2540-D, 24 th Ed., 2023 | 10 mg/L |
| 5 | Total Dissolved Solids | mg/L | 305 | APHA, 2540-C, 24 th Ed., 2023 | 10 mg/L |
| 6 | Zinc | mg/L | 0.298 | APHA, 3120-B, 24 th Ed., 2023 | 0.02 mg/L |
| 7 | Iron | mg/L | 1.165 | APHA, 3120-B, 24 th Ed., 2023 | 0.05 mg/L |
| 8 | Lead | mg/L | BDL | APHA, 3120-B, 24 th Ed., 2023 | 0.05 mg/L |
| 9 | Mercury | mg/L | BDL | APHA, 3120 – B, 24 th Ed., 2023 | 0.01 mg/L |
| 10 | Cadmium | mg/L | BDL | APHA, 3120 – B, 24 th Ed., 2023 | 0.01 mg/L |
| 11 | Copper | mg/L | BDL | APHA, 3120 – B, 24 th Ed., 2023 | 0.02 mg/L |

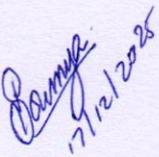
GANDHI NAGAR, KOCHI - 682 020 താസ്വീനഗരം, കൊച്ചി - 682 020
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| | | | | | |
|----|-------------------------------|------|--------|--|-----------|
| 12 | Nickel | mg/L | BDL | APHA, 3120 – B, 24 th Ed., 2023 | 0.05 mg/L |
| 13 | Chloride | mg/L | 39.7 | APHA, 4500-Cl/B,, 24 th Ed., 2023 | 1 mg/L |
| 14 | Nitrates as Nitrogen | mg/L | 0.04 | APHA, 4500-NO ₃ , 24 th Ed., 2023 | 0.01 mg/L |
| 15 | Phosphates | mg/L | 1.1 | APHA, 4500-P E. 24 th Ed., 2023 | 0.01 mg/L |
| 16 | Sulphates | mg/L | 16.6 | APHA, 4500-SO ₄ ²⁻ E, 24 th Ed., 2023 | 1 mg/L |
| 17 | Total Kjeldahl Nitrogen (TKN) | mg/L | 14.112 | APHA, 4500-N org B, 24 th Ed. 2023 | 0.2 mg/L |
| 18 | Ammoniacal Nitrogen | mg/L | 8.86 | APHA-4500 NH ₃ -C, 24 th Ed., 2023 | 0.02 mg/L |

--End of Report--


 Checked By
Sowmya T M
 Assistant Scientist


 Authorised By

SREEJA. K.B
 Senior Environmental Scientist & Govt. Analyst

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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CENTRAL LABORATORY

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ബോർഡ്
കേന്ദ്ര പരീക്ഷണശാല

TEST REPORT

| | | | | | |
|---------------------|--|--------------------------------|-------------------------|------------|---------------|
| Analysis Report No. | PCB/CL/1720/2025-26 | Date | 17.12.2025 | Format No. | PCB/CL/CH/F-7 |
| Ref. No. | PCB/RO-EKM/LEGAL-332/2022 Dated 04.12.2025. | Date of Collection | 04.12.2025 | | |
| Received From | The Chief Environmental Engineer | Date of Receipt | 04.12.2025 | | |
| No. of Sample | 01 | Period of Analysis | 05.12.2025 – 16.12.2025 | | |
| Source | Edapally Thodu, | Scientist-in-charge | Sreeja K.B | | |
| Sample Condition | Fit for analysis | Sample Type | Water Samples | | |
| Sample collected by | The Chief Environmental Engineer, Regional Office,Ernakulam | Sample volume & container type | Plastic Can | | |
| Sample preservation | As per APHA/IS:3025 (Part-1) | Type of Test | Chemical | | |

SAMPLE ID: EDTT

| Sl. No | Parameters | Unit | Value | Test Method | Lowest Detection Limit |
|--------|------------|------|-------|--|------------------------|
| 1 | Sulphide | mg/L | BDL | APHA, 4500 S ²⁻ D, 24 th Ed., 2023 | 0.5 mg/L |

--End of Report--

Checked By

Sowmya T M
17/12/2025

Sowmya T M
Assistant Scientist

Authorised By

Sreeja K.B

SREEJA. K.B
Senior Environmental Scientist & Govt. Analyst

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KERALA STATE POLLUTION CONTROL BOARD 26
CENTRAL LABORATORY 568



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An Environmental Laboratory recognised under E(P)A 1986

TC 8525

TEST REPORT

| | | | | | |
|----------------------------|---|---|-------------------------|-------------------|---------------|
| Analysis Report No. | PCB/CL/1720/2025-26 | Date | 12.12.2025 | Format No. | PCB/CL/CH/F-7 |
| Ref. No. | PCB/RO-EKM/LEGAL-332/2022 Dated 04.12.2025 | Date of Collection | 04.12.2025 | | |
| Received From | Regional Office, Ernakulam | Date of Receipt | 04.12.2025 | | |
| No. of Sample | 01 | Period of Analysis | 06.12.2025 – 11.12.2025 | | |
| Source | Edapally Thodu | Scientist-in-charge | P. Geetha | | |
| Sample Condition | Fit for analysis | Sample Type | Waste Water | | |
| Sample collected by | The Chief Environmental Engineer, Regional Office, Ernakulam | Sample volume & container type | Sterilized DO Bottle | | |
| Sample preservation | As per APHA/IS:3025 (Part-1) | Type of test | MICROBIOLOGY | | |

Sample ID: Bio – 2

| Sl. No | Parameters | Unit | Value | Test Method | Detection Limit |
|--------|-----------------|------------|--------------------|--|-----------------|
| 1 | Total Coliform | cfu/100 ml | 4×10 ⁵ | APHA 9222 B, 24 th Ed. 2023 | 1cfu/100 ml |
| 2 | Faecal coliform | cfu/100 ml | 96×10 ³ | APHA 9222 D, 24 th Ed. 2023 | 1cfu/100 ml |

--End of Report--

Checked by

Anisha M N
12/12/2025

Anisha M N
Assistant Scientist

Authorised By

P. Geetha
12/12/25

P. GEETHA
Chief Environmental Scientist & Govt. Analyst

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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569 27
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ബോർഡ്
കേന്ദ്ര പരീക്ഷണശാല



TC 8525

TEST REPORT

| | | | | | |
|---------------------|--|--------------------------------|-------------------------|------------|---------------|
| Analysis Report No. | PCB/CL/1721/2025-26 | Date | 17.12.2025 | Format No. | PCB/CL/CH/F-7 |
| Ref. No. | PCB/RO-EKM/LEGAL-332/2022 Dated 04.12.2025. | Date of Collection | 04.12.2025 | | |
| Received From | The Chief Environmental Engineer | Date of Receipt | 04.12.2025 | | |
| No. of Sample | 01 | Period of Analysis | 05.12.2025 – 16.12.2025 | | |
| Source | Mullassery Canal. | Scientist-in-charge | Sreeja K.B | | |
| Sample Condition | Fit for analysis | Sample Type | Water Samples | | |
| Sample collected by | The Chief Environmental Engineer, Regional Office, Ernakulam | Sample volume & container type | Plastic Can | | |
| Sample preservation | As per APHA/IS:3025 (Part-1) | Type of Test | Chemical | | |

SAMPLE ID: MC

| Sl. No | Parameters | Unit | Value | Test Method | Lowest Detection Limit |
|--------|------------------------|------|-------|--|------------------------|
| 1 | pH | --- | 6.74 | APHA, 4500-H+B, 24 th Ed., 2023 | 1 |
| 2 | BOD | mg/L | 20.4 | IS 3025 Part(44): 2023 | 1 mg/L |
| 3 | COD | mg/L | 80 | APHA, 5220-B, 24 th Ed., 2023 | 4 mg/L |
| 4 | Total Suspended Solids | mg/L | 38 | APHA, 2540-D, 24 th Ed., 2023 | 10 mg/L |
| 5 | Total Dissolved Solids | mg/L | 8320 | APHA, 2540-C, 24 th Ed., 2023 | 10 mg/L |
| 6 | Zinc | mg/L | 0.093 | APHA, 3120-B, 24 th Ed., 2023 | 0.02 mg/L |
| 7 | Iron | mg/L | 0.594 | APHA, 3120-B, 24 th Ed., 2023 | 0.05 mg/L |
| 8 | Lead | mg/L | BDL | APHA, 3120-B, 24 th Ed., 2023 | 0.05 mg/L |
| 9 | Mercury | mg/L | BDL | APHA, 3120 – B, 24 th Ed., 2023 | 0.01 mg/L |
| 10 | Cadmium | mg/L | BDL | APHA, 3120 – B, 24 th Ed., 2023 | 0.01 mg/L |
| 11 | Copper | mg/L | BDL | APHA, 3120 – B, 24 th Ed., 2023 | 0.02 mg/L |

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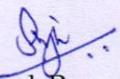


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|----|-------------------------------|------|-------|--|-----------|
| 12 | Nickel | mg/L | BDL | APHA, 3120 – B, 24 th Ed.,2023 | 0.05 mg/L |
| 13 | Chloride | mg/L | 3102 | APHA, 4500-CI/B,,24 th Ed ., 2023 | 1 mg/L |
| 14 | Nitrates as Nitrogen | mg/L | BDL | APHA, 4500-NO3, 24 th Ed., 2023 | 0.01 mg/L |
| 15 | Phosphates | mg/L | 1.5 | APHA, 4500-P E. 24 th Ed., 2023 | 0.01mg/L |
| 16 | Sulphates | mg/L | 517.5 | APHA,4500-SO ₄ ²⁻ E,24 th Ed., 2023 | 1 mg/L |
| 17 | Total Kjeldahl Nitrogen (TKN) | mg/L | 15.28 | APHA, 4500-N org B, 24 th Ed. 2023 | 0.2 mg/L |
| 18 | Ammoniacal Nitrogen | mg/L | 8.86 | APHA-4500 NH3-C, 24 th Ed., 2023 | 0.02 mg/L |

--End of Report--


 Checked By **Sowmya T M**
 Assistant Scientist


 Authorised By
SREEJA. K.B
 Senior Environmental Scientist & Govt. Analyst

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ബോർഡ്
കേന്ദ്ര പരീക്ഷണശാല

TEST REPORT

| | | | | | |
|---------------------|--|--------------------------------|-------------------------|------------|---------------|
| Analysis Report No. | PCB/CL/1721/2025-26 | Date | 17.12.2025 | Format No. | PCB/CL/CH/F-7 |
| Ref. No. | PCB/RO-EKM/LEGAL-332/2022 Dated 04.12.2025. | Date of Collection | 04.12.2025 | | |
| Received From | The Chief Environmental Engineer | Date of Receipt | 04.12.2025 | | |
| No. of Sample | 01 | Period of Analysis | 05.12.2025 – 16.12.2025 | | |
| Source | Mullassery Canal. | Scientist-in-charge | Sreeja K.B | | |
| Sample Condition | Fit for analysis | Sample Type | Water Samples | | |
| Sample collected by | The Chief Environmental Engineer, Regional Office, Ernakulam | Sample volume & container type | Plastic Can | | |
| Sample preservation | As per APHA/IS:3025 (Part-1) | Type of Test | Chemical | | |

SAMPLE ID: MC

| Sl. No | Parameters | Unit | Value | Test Method | Lowest Detection Limit |
|--------|------------|------|-------|--|------------------------|
| 1 | Sulphide | mg/L | BDL | APHA, 4500 S ²⁻ D, 24 th Ed., 2023 | 0.5 mg/L |

--End of Report--

Checked By

Sowmya T M
Sowmya T M
Assistant Scientist

Authorised By

Sreeja K.B
SREEJA. K.B
Senior Environmental Scientist & Govt. Analyst

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TEST REPORT

| | | | | | |
|----------------------------|---|---|-------------------------|-------------------|---------------|
| Analysis Report No. | PCB/CL/1721/2025-26 | Date | 12.12.2025 | Format No. | PCB/CL/CH/F-7 |
| Ref. No. | PCB/RO-EKM/LEGAL-332/2022 Dated 04.12.2025 | Date of Collection | 04.12.2025 | | |
| Received From | Regional Office, Ernakulam | Date of Receipt | 04.12.2025 | | |
| No. of Sample | 01 | Period of Analysis | 06.12.2025 – 11.12.2025 | | |
| Source | Mullassery Canal | Scientist-in-charge | P. Geetha | | |
| Sample Condition | Fit for analysis | Sample Type | Waste Water | | |
| Sample collected by | The Chief Environmental Engineer, Regional Office, Ernakulam | Sample volume & container type | Sterilized DO Bottle | | |
| Sample preservation | As per APHA/IS:3025 (Part-1) | Type of test | MICROBIOLOGY | | |

Sample ID: Bio – 20

| Sl. No | Parameters | Unit | Value | Test Method | Detection Limit |
|--------|-----------------|------------|------------------|--|-----------------|
| 1 | Total Coliform | cfu/100 ml | 78×10^7 | APHA 9222 B, 24 th Ed. 2023 | 1cfu/100 ml |
| 2 | Faecal coliform | cfu/100 ml | 44×10^5 | APHA 9222 D, 24 th Ed. 2023 | 1cfu/100 ml |

--End of Report--

Checked by

Anisha M N
Assistant Scientist

Authorised By

P. GEETHA
Chief Environmental Scientist & Govt. Analyst

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TEST REPORT

| | | | | | |
|----------------------------|--|---|-------------------------|-------------------|---------------|
| Analysis Report No. | PCB/CL/1722/2025-26 | Date | 17.12.2025 | Format No. | PCB/CL/CH/F-7 |
| Ref. No. | PCB/RO-EKM/LEGAL-332/2022 Dated 04.12.2025. | Date of Collection | 04.12.2025 | | |
| Received From | The Chief Environmental Engineer | Date of Receipt | 04.12.2025 | | |
| No. of Sample | 01 | Period of Analysis | 05.12.2025 – 16.12.2025 | | |
| Source | Thevara – Perandoor Canal. | Scientist-in-charge | Sreeja K.B | | |
| Sample Condition | Fit for analysis | Sample Type | Water Samples | | |
| Sample collected by | The Chief Environmental Engineer, Regional Office, Ernakulam | Sample volume & container type | Plastic Can | | |
| Sample preservation | As per APHA/IS:3025 (Part-1) | Type of Test | Chemical | | |

SAMPLE ID: PC

| Sl. No | Parameters | Unit | Value | Test Method | Lowest Detection Limit |
|--------|------------------------|------|-------|--|------------------------|
| 1 | pH | --- | 6.81 | APHA, 4500-H+B, 24 th Ed., 2023 | 1 |
| 2 | BOD | mg/L | 14 | IS 3025 Part(44): 2023 | 1 mg/L |
| 3 | COD | mg/L | 52 | APHA, 5220-B, 24 th Ed., 2023 | 4 mg/L |
| 4 | Total Suspended Solids | mg/L | 26 | APHA, 2540-D, 24 th Ed., 2023 | 10 mg/L |
| 5 | Total Dissolved Solids | mg/L | 2263 | APHA, 2540-C, 24 th Ed., 2023 | 10 mg/L |
| 6 | Zinc | mg/L | 0.109 | APHA, 3120-B, 24 th Ed., 2023 | 0.02 mg/L |
| 7 | Iron | mg/L | 0.528 | APHA, 3120-B, 24 th Ed., 2023 | 0.05 mg/L |
| 8 | Lead | mg/L | BDL | APHA, 3120-B, 24 th Ed., 2023 | 0.05 mg/L |
| 9 | Mercury | mg/L | BDL | APHA, 3120 – B, 24 th Ed., 2023 | 0.01 mg/L |
| 10 | Cadmium | mg/L | BDL | APHA, 3120 – B, 24 th Ed., 2023 | 0.01 mg/L |
| 11 | Copper | mg/L | BDL | APHA, 3120 – B, 24 th Ed., 2023 | 0.02 mg/L |

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|----|-------------------------------|------|-------|--|-----------|
| 12 | Nickel | mg/L | BDL | APHA, 3120 – B, 24 th Ed.,2023 | 0.05 mg/L |
| 13 | Chloride | mg/L | 745 | APHA, 4500-CI/B,,24 th Ed ., 2023 | 1 mg/L |
| 14 | Nitrates as Nitrogen | mg/L | 0.29 | APHA, 4500-NO3, 24 th Ed., 2023 | 0.01 mg/L |
| 15 | Phosphates | mg/L | 2.2 | APHA, 4500-P E. 24 th Ed., 2023 | 0.01mg/L |
| 16 | Sulphates | mg/L | 167 | APHA,4500-SO ₄ ²⁻ E,24 th Ed., 2023 | 1 mg/L |
| 17 | Total Kjeldahl Nitrogen (TKN) | mg/L | 16.46 | APHA, 4500-N org B, 24 th Ed. 2023 | 0.2 mg/L |
| 18 | Ammoniacal Nitrogen | mg/L | 11.23 | APHA-4500 NH3-C, 24 th Ed., 2023 | 0.02 mg/L |

--End of Report--

Checked By

Sowmya T M
12/12/2025
Sowmya T M
Assistant Scientist

Authorised By

Sreeja K.B
SREEJA. K.B
Senior Environmental Scientist & Govt. Analyst

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TEST REPORT

| | | | | | |
|---------------------|---|--------------------------------|-------------------------|------------|---------------|
| Analysis Report No. | PCB/CL/1722/2025-26 | Date | 17.12.2025 | Format No. | PCB/CL/CH/F-7 |
| Ref. No. | PCB/RO-EKM/LEGAL-332/2022 Dated 04.12.2025. | Date of Collection | 04.12.2025 | | |
| Received From | The Chief Environmental Engineer | Date of Receipt | 04.12.2025 | | |
| No. of Sample | 01 | Period of Analysis | 05.12.2025 – 16.12.2025 | | |
| Source | Thevara – Perandoor Canal. | Scientist-in-charge | Sreeja K.B | | |
| Sample Condition | Fit for analysis | Sample Type | Water Samples | | |
| Sample collected by | The Chief Environmental Engineer, Regional Office, Ernakulam | Sample volume & container type | Plastic Can | | |
| Sample preservation | As per APHA/IS:3025 (Part-1) | Type of Test | Chemical | | |

SAMPLE ID: PC

| Sl. No | Parameters | Unit | Value | Test Method | Lowest Detection Limit |
|--------|------------|------|-------|--|------------------------|
| 1 | Sulphide | mg/L | BDL | APHA, 4500 S ²⁻ D, 24 th Ed., 2023 | 0.5 mg/L |

--End of Report--

Checked By

Sowmya
17/12/2025

Sowmya T M
Assistant Scientist

Authorised By

Sreeja

SREEJA. K.B
Senior Environmental Scientist & Govt. Analyst

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576
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TEST REPORT

| | | | | | |
|----------------------------|---|---|-------------------------|-------------------|---------------|
| Analysis Report No. | PCB/CL/1722/2025-26 | Date | 12.12.2025 | Format No. | PCB/CL/CH/F-7 |
| Ref. No. | PCB/RO-EKM/LEGAL-332/2022 Dated 04.12.2025 | Date of Collection | 04.12.2025 | | |
| Received From | Regional Office, Ernakulam | Date of Receipt | 04.12.2025 | | |
| No. of Sample | 01 | Period of Analysis | 06.12.2025 – 12.12.2025 | | |
| Source | Thevara- Perandoor Canal | Scientist-in-charge | P. Geetha | | |
| Sample Condition | Fit for analysis | Sample Type | Waste Water | | |
| Sample collected by | The Chief Environmental Engineer, Regional Office, Ernakulam | Sample volume & container type | Sterilized DO Bottle | | |
| Sample preservation | As per APHA/IS:3025 (Part-1) | Type of test | MICROBIOLOGY | | |

Sample ID: Bio – 177

| Sl. No | Parameters | Unit | Value | Test Method | Detection Limit |
|--------|-----------------|------------|--------------------|--|-----------------|
| 1 | Total Coliform | cfu/100 ml | 25×10 ⁵ | APHA 9222 B, 24 th Ed. 2023 | 1cfu/100 ml |
| 2 | Faecal coliform | cfu/100 ml | 21×10 ⁴ | APHA 9222 D, 24 th Ed. 2023 | 1cfu/100 ml |

--End of Report--

Checked by

Anisha M N
12/12/25

Anisha M N
Assistant Scientist

Authorised By

P. Geetha
12/12/25

P. GEETHA
Chief Environmental Scientist & Govt. Analyst

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Ref. PCB/CL/AR/2025

Date: 13.01.2026

From

The Chief Environmental Scientist

To

The Chief Environmental Engineer,
Kerala State Pollution Control Board,
Regional Office,
Ernakulam.



Sub: Analysis Report of Water Samples – reg

Sir,

I am enclosing here with the analysis report of Water Samples received from that office. The bill for the analysis charge is also enclosed herewith. The details are given below:

| Sl. No. | That Office Reference | Source Name | No. of Samples |
|---------|---|----------------------------------|----------------|
| 1 | PCB/RO-EKM/LEGAL-332/2022 Dated 05.01.2026 | Edapally Thodu | 01 |
| 2 | PCB/RO-EKM/LEGAL-332/2022 Dated 05.01.2026 | Thevara – Perandoor Canal | 01 |
| 3 | PCB/RO-EKM/LEGAL-332/2022 Dated 05.01.2026 | Mullassery Canal | 01 |
| 4 | PCB/RO-EKM/GEN-302/2021 Dated 18.12.2025 | National Heritage apartment, STP | 02 |

Yours faithfully,

CHIEF ENVIRONMENTAL SCIENTIST

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Certificate No.
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ANALYSIS REPORT

| | | | | | |
|----------------------------|---|---|-------------|-------------------|---------------|
| Analysis Report No. | PCB/CL/1831/2025-26 | Date | 12.01.2026 | Format No. | PCB/CL/CH/F-7 |
| Ref. No. | PCB/RO-EKM/LEGAL/332/2022 Dated 05.1.2026. | Date of Collection | 05.01.2026 | | |
| Received From | Regional Office, Ernakulam. | Date of Receipt | 05.01.2026 | | |
| No. of Sample | 01 | Period of Analysis | 05.01.2026 | | |
| Source | Edapally Thodu (Lat:9.999650 ⁰ , Long:76.330596 ⁰) | Scientist-in-charge | Sreeja K.B | | |
| Sample Condition | Fit for analysis | Sample Type | Waste Water | | |
| Sample collected by | The Chief Environmental Engineer, Regional Office, Ernakulam. | Sample volume & container type | Plastic Can | | |
| Sample preservation | As per APHA/IS:3025 (Part-1) | Type of Test | Chemical | | |

SAMPLE ID: 160

| Sl. No | Parameters | Unit | Value | Test Method | Lowest Detection Limit |
|--------|-----------------------|------|-------|---|------------------------|
| 1 | DO (Dissolved Oxygen) | mg/L | 0.73 | APHA 4500/O,B,24 th Ed.,2023 | 0.25 mg/L |

Checked By

Sowmya T M
 12/01/2026
 Sowmya T M
 Assistant Scientist

Authorised By

Sreeja K.B
 SREEJA. K.B
 Senior Environmental Scientist & Govt. Analyst

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ANALYSIS REPORT

| | | | | | |
|----------------------------|--|---|-------------|-------------------|---------------|
| Analysis Report No. | PCB/CL/1831/2025-26 | Date | 12.01.2026 | Format No. | PCB/CL/CH/F-7 |
| Ref. No. | PCB/RO-EKM/LEGAL/332/2022 Dated 05.01.2026. | Date of Collection | 05.01.2026 | | |
| Received From | Regional Office, Ernakulam. | Date of Receipt | 05.01.2026 | | |
| No. of Sample | 01 | Period of Analysis | 05.01.2026 | | |
| Source | Thevara – Perandoor Canal (Lat:9.946153 ⁰ , Long:76.300400 ⁰) | Scientist-in-charge | Sreeja K.B | | |
| Sample Condition | Fit for analysis | Sample Type | Waste Water | | |
| Sample collected by | The Chief Environmental Engineer, Regional Office, Ernakulam. | Sample volume & container type | Plastic Can | | |
| Sample preservation | As per APHA/IS:3025 (Part-1) | Type of Test | Chemical | | |

SAMPLE ID: PCB 294

| Sl. No | Parameters | Unit | Value | Test Method | Lowest Detection Limit |
|--------|-----------------------|------|-------|---|------------------------|
| 1 | DO (Dissolved Oxygen) | mg/L | BDL | APHA 4500/O,B,24 th Ed.,2023 | 0.25 mg/L |

Checked By *Sowmya T M*
 12/01/2026
Sowmya T M
 Assistant Scientist

Authorised By *Sreeja K.B*
SREEJA. K.B
 Senior Environmental Scientist & Govt. Analyst

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Certificate No.
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ANALYSIS REPORT

| | | | | | |
|----------------------------|---|---|-------------|-------------------|---------------|
| Analysis Report No. | PCB/CL/1831/2025-26 | Date | 12.01.2026 | Format No. | PCB/CL/CH/F-7 |
| Ref. No. | PCB/RO-EKM/LEGAL/332/2022 Dated 05.1.2026. | Date of Collection | 05.01.2026 | | |
| Received From | Regional Office, Ernakulam. | Date of Receipt | 05.01.2026 | | |
| No. of Sample | 01 | Period of Analysis | 05.01.2026 | | |
| Source | Mullassery Canal (Lat:9.974868 ⁰ , Long:76.278676 ⁰) | Scientist-in-charge | Sreeja K.B | | |
| Sample Condition | Fit for analysis | Sample Type | Waste Water | | |
| Sample collected by | The Chief Environmental Engineer, Regional Office, Ernakulam. | Sample volume & container type | Plastic Can | | |
| Sample preservation | As per APHA/IS:3025 (Part-1) | Type of Test | Chemical | | |

SAMPLE ID: PCB 215

| Sl. No | Parameters | Unit | Value | Test Method | Lowest Detection Limit |
|--------|-----------------------|------|-------|---|------------------------|
| 1 | DO (Dissolved Oxygen) | mg/L | BDL | APHA 4500/O,B,24 th Ed.,2023 | 0.25 mg/L |

Checked By

Sowmya
12/01/2026

Sowmya T M
Assistant Scientist

Authorised By

Sreeja

SREEJA. K.B
Senior Environmental Scientist & Govt. Analyst

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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Certified for OHSMS (ISO 45001:2018)



581

39



**KERALA STATE POLLUTION CONTROL BOARD
CENTRAL LABORATORY**

**കേരള സംസ്ഥാന മലിനീകരണ നിയന്ത്രണ ബോർഡ്
കേന്ദ്ര പരീക്ഷണശാല**

Recognised as an Environmental Laboratory Under E(P)A 1986

NO .PCB/CL/NWMP/555/2017 Vol V

Dated: 15.01.2026

From
The Chief Environmental Scientist

To
The Member Secretary
Kerala State Pollution Control Board
Thiruvananthapuram

Sub:- Analysis report of NWMP samples from Vembanad Lake Reg.

Ref: 1. KSPCB/1617/2024-AE-10 dated 16-12-2025, of the Member Secretary.

2. NGT Case No. MA 58/2024 IN OA 147/2022- Email dated 30th December, 2025

Sir,

As per the references cited above, I am enclosing here with the analysis report of water samples of Vembanad Lake, at 5 locations for the month of December 2025, monitored under National Water Monitoring Programme (NWMP).

This is in favour for further necessary action.

Yours faithfully,

CHIEF ENVIRONMENTAL SCIENTIST



582 **40**

KERALA STATE POLLUTION CONTROL BOARD
CENTRAL LABORATORY



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ബോർഡ്
കേന്ദ്ര പരീക്ഷണശാല

Certificate No.
TC 8525

TEST REPORT

| | | | | | |
|---|---|----------------------------|-----------------------------|-------------------|---------------|
| Analysis Report No. | CL/NWMP/1/2026 | Date | 14.01.2026 | Format No. | PCB/CL/CH/F-7 |
| Ref. No. | PCB/CL/NWMP/2025-26 | Date of Collection | 02.12.2025 | | |
| No. of Samples | 5 | Period of Analysis | 02.12.2025 - 22-12 2025 | | |
| Source | NWMP-VEMBANAD LAKE | Scientist-in-charge | Sreeja K B | | |
| Sample Condition | Fit for analysis | Sample Type | Coastal Water/Surface Water | | |
| Sample volume & container type | 5L Plastic Can-1, 300 ml glass bottle-3 Nos | | | | |
| Sample preservation | As per APHA/IS:3025 (Part-1) | Type of Test | Chemical, Microbiological | | |

1. Location with Station Code: 5185-Kochi Lake near Wellington Island, Kochi
Sample Type- Coastal Water
Latitude-9.922684°
Longitude-76.286911°

| Sl. No | Parameters | Unit | Value | Test Method | Lowest Detection Limit |
|--------|------------------------|-------------|-------|--|------------------------|
| 1 | pH | --- | 7.1 | APHA, 4500-H+B, 24 th Ed., 2023 | 1 |
| 2 | Dissolved Oxygen | mg/L | 3.4 | APHA 4500/O,B, 24 th Ed., 2023 | 0.25 mg/L |
| 3 | BOD (3 days at 27 ° C) | mg/L | 3.1 | IS 3025 Part(44): 2023 | 1 mg/L |
| 4 | Total Coliform | cfu./100 ml | 6300 | APHA 9222 B, 24 th Ed. 2023 | 1cfu/100 ml |
| 5 | Fecal Coliform | cfu./100 ml | 43 | APHA 9222 D, 24 th Ed. 2023 | 1cfu/100 ml |





583 41
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 കേന്ദ്ര പരീക്ഷണശാല



Certificate No.
 TC 8525

2. Location with Station Code: 5184-Kochi Lake near Thopumpady, Kochi
Sample Type- Coastal Water
Latitude-9.93695 °
Longitude-76.264666 °

| Sl. No | Parameters | Unit | Value | Test Method | Lowest Detection Limit |
|--------|------------------------|-------------|-------|---|------------------------|
| 1 | pH | --- | 7.2 | APHA, 4500-H+B,24 th Ed., 2023 | 1 |
| 2 | Dissolved Oxygen | mg/L | 3.0 | APHA 4500/O,B,24 th Ed.,2023 | 0.25 mg/L |
| 3 | BOD (3 days at 27 ° C) | mg/L | 2.8 | IS 3025 Part(44): 2023 | 1 mg/L |
| 4 | Total Coliform | cfu./100 ml | 70000 | APHA 9222 B, 24 th Ed. 2023 | 1cfu/100 ml |
| 5 | Fecal Coliform | cfu./100 ml | 6 | APHA 9222 D, 24 th Ed. 2023 | 1cfu/100 ml |

3. Location with Station Code: 5183- Kochi Lake near Cochin Port Trust, Kochi
Sample Type- Coastal Water
Latitude-9.9519313°
Longitude-76.2613901°

| Sl. No | Parameters | Unit | Value | Test Method | Lowest Detection Limit |
|--------|------------------------|-------------|-------|---|------------------------|
| 1 | pH | --- | 7.3 | APHA, 4500-H+B,24 th Ed., 2023 | 1 |
| 2 | Dissolved Oxygen | mg/L | 3.1 | APHA 4500/O,B,24 th Ed.,2023 | 0.25 mg/L |
| 3 | BOD (3 days at 27 ° C) | mg/L | 3.0 | IS 3025 Part(44): 2023 | 1 mg/L |
| 4 | Total Coliform | cfu./100 ml | 80000 | APHA 9222 B, 24 th Ed. 2023 | 1cfu/100 ml |
| 5 | Fecal Coliform | cfu./100 ml | 21 | APHA 9222 D, 24 th Ed. 2023 | 1cfu/100 ml |

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 E Mail: kspcblekm@gmail.com, kspcbnwmp@gmail.com Web: www.keralapcb.nic.in
 Certified for OHSMS (ISO 45001:2018)





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 ബോർഡ്
 കേന്ദ്ര പരീക്ഷണശാല

Certificate No.
 TC 8525

4. Location with Station Code: 5182- Kochi Lake At Goshree Bridge, Kochi
Sample Type- Coastal Water
Latitude-9.991952°
Longitude-76.2666 °

| Sl. No | Parameters | Unit | Value | Test Method | Lowest Detection Limit |
|--------|-----------------------|-------------|-------|--|------------------------|
| 1 | pH | --- | 7.1 | APHA, 4500-H+B, 24 th Ed., 2023 | 1 |
| 2 | Dissolved Oxygen | mg/L | 5.6 | APHA 4500/O,B, 24 th Ed., 2023 | 0.25 mg/L |
| 3 | BOD (3 days at 27 °C) | mg/L | 2.1 | IS 3025 Part(44): 2023 | 1 mg/L |
| 4 | Total Coliform | cfu./100 ml | 2000 | APHA 9222 B, 24 th Ed. 2023 | 1cfu/100 ml |
| 5 | Fecal Coliform | cfu./100 ml | 7 | APHA 9222 D, 24 th Ed. 2023 | 1cfu/100 ml |

5. Location with Station Code: 1575- Oil Tanker Jetty
Sample Type- Surface Water
Latitude-9.958061°
Longitude-76.265928°

| Sl. No | Parameters | Unit | Value | Test Method | Lowest Detection Limit |
|--------|-----------------------|-------------|-------|---|------------------------|
| 1 | pH | --- | 7.1 | APHA, 4500-H+B, 24 th Ed., 2023 | 1 |
| 2 | Nitrates as Nitrogen | mg/L | 0.19 | APHA, 4500-NO3, 24 th Ed., 2023 | 0.01 mg/L |
| 3 | Ammoniacal Nitrogen | mg/L | 0.23 | APHA-4500 NH3-F, 24 th Ed., 2023 | 0.02 mg/L |
| 4 | Dissolved Oxygen | mg/L | 4.2 | APHA 4500/O,B, 24 th Ed., 2023 | 0.25 mg/L |
| 5 | BOD (3 days at 27 °C) | mg/L | 1.4 | IS 3025 Part(44): 2023 | 1 mg/L |
| 6 | Total Coliform | cfu./100 ml | 2200 | APHA 9222 B, 24 th Ed. 2023 | 1cfu/100 ml |
| 7 | Fecal Coliform | cfu./100 ml | 320 | APHA 9222 D, 24 th Ed. 2023 | 1cfu/100 ml |

--End of Report--




Mensha Mary Mathew
Assistant Scientist

Checked By


Authorised By

SREEJA. K.B
Senior Environmental Scientist & Govt. Analyst

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.

//TRUE COPY//



586 44
ജില്ലാ ഓഫീസ്, ആലപ്പുഴ ANNEXURE-4
കേരള സംസ്ഥാന മലിനീകരണ നിയന്ത്രണ ബോർഡ്
KERALA STATE POLLUTION CONTROL BOARD
DISTRICT OFFICE, ALAPPUZHA

എസ്.എൻ.വി.സദനം, ന്യൂ ചാത്തനാട്, ഹെഡ്സ്റ്റാമ്പ് ഓഫീസ്, ആലപ്പുഴ - 688001
 SNV Sadhanam, New Chathanad, Head Post Office, Alappuzha - 688001



E-mail: alpy.pcb@gmail.com Telephone : 0477 - 2965384 web: www.kspcb.kerala.gov.in
 ഓൺലൈനിൽ അപേക്ഷകൾ സമർപ്പിക്കുന്നതിന് <https://keralapcbonline.com> എന്ന വെബ്സൈറ്റ് ഉപയോഗിക്കുക.

“ഭരണഭാഷ മാതൃഭാഷ”

In reply please refer to:- PCBDAL/162/2024-AS 14.01.2026
 പ്രേഷിതൻ

എൻവയോൺമെന്റൽ എഞ്ചിനീയർ,
 കേരള സംസ്ഥാന മലിനീകരണ നിയന്ത്രണ ബോർഡ്,
 ജില്ലാ ഓഫീസ്, ആലപ്പുഴ

സ്വീകർത്താവ്

1. മെമ്പർ സെക്രട്ടറി,
 കേരള സംസ്ഥാന മലിനീകരണ നിയന്ത്രണ ബോർഡ്,
 മുഖ്യ കാര്യാലയം, പട്ടം,
 തിരുവനന്തപുരം
2. ചീഫ് എൻവയോൺമെന്റൽ സയന്റിസ്റ്റ്,
 കേരള സംസ്ഥാന മലിനീകരണ നിയന്ത്രണ ബോർഡ്,
 സെൻട്രൽ ലാബ്,
 എറണാകുളം
3. ചീഫ് എൻവയോൺമെന്റൽ എഞ്ചിനീയർ,
 കേരള സംസ്ഥാന മലിനീകരണ നിയന്ത്രണ ബോർഡ്,
 മേഖല കാര്യാലയം, പട്ടം,
 തിരുവനന്തപുരം

വിഷയം:- വേമ്പനാട് കായൽ പരിശോധന റിപ്പോർട്ട് - ആലപ്പുഴ ജില്ലാ ഓഫീസ് - സംബന്ധിച്ച്

സർ,

വേമ്പനാട് കായലിന്റെ 2025 ഡിസംബർ മാസത്തിലെ അനാലിസിസ് റിപ്പോർട്ട് തുടർനപടികൾക്കായി അയയ്ക്കുന്നു.



ഉള്ളടക്കം മേൽ പ്രകാരം

വിശ്വസ്തയോടെ,

എൻവയോൺമെന്റൽ എഞ്ചിനീയർ
 ENVIRONMENTAL ENGINEER
 KERALA STATE POLLUTION CONTROL BOARD
 DISTRICT OFFICE, ALAPPUZHA



District Office, Alappuzha
Kerala State Pollution Control Board

**KERALA STATE POLLUTION CONTROL BOARD
DISTRICT OFFICE, ALAPPUZHA**

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To submit applications online, please use the website <https://keralapcbonline.com>

"The official language is the mother tongue"

In reply please refer to:- **PCBDAL/162/2024-AS**

14.01.2026

the apostle

Environmental Engineer,
Kerala State Pollution Control Board,
District Office, Alappuzha

recipient

1. Member Secretary, Kerala

State Pollution Control Board, Head Office, Pattom,
Thiruvananthapuram

2. Chief Environmental Scientist, Kerala

State Pollution Control Board, Central Lab, Ernakulam

3. Chief Environmental Engineer, Kerala State

Pollution Control Board, Regional Office, Pattom,

Thiruvananthapuram

Subject:- Vembanad Lake Inspection Report - Alappuzha District Office -
Regarding

sir,

The December 2025 analysis report of Vembanad Lake is being sent for
further action.



Contents as above

Sincerely,

Environmental Engineer
ENV
KERALA STATE POLLUTION CONTROL BOARD
DISTRICT OFFICE, ALAPPUZHA

VEMBANAD MONITORING REPORT
Dec-25

| Parameters | Unit | Stations | | | | | | | | | | |
|------------------|---------|----------|--------|--------|--------|--------|--------|--------|--------|-----------|--------------|---------------|
| | | PBR1 | PBR2 | PBR3 | PBR4 | PBR5 | PBR6 | PBR7 | PBR11 | Punnamada | Pathiramanal | Pallathuruthy |
| PH | - | 8.4 | 8.2 | 8.1 | 7.8 | 7.6 | 7.8 | 7.6 | 8.0 | 7.4 | 7.8 | 7.4 |
| Conductivity | µS/cm | 314.00 | 266.00 | 154.00 | 165.00 | 142.00 | 155.00 | 136.00 | 266.00 | 280.00 | 140.00 | 240.00 |
| Turbidity | NTU | 0.6 | 0.4 | 0.1 | 0.2 | 0.3 | 0.4 | 0.7 | 0.32 | 0.25 | 0.86 | 0.99 |
| DO | mg/l | 5.6 | 5.3 | 5.3 | 6.6 | 6.1 | 5.9 | 6.1 | 2.9 | 5.8 | 7.4 | 4.9 |
| BOD | mg/l | 1.4 | 1.9 | 0.4 | 2.3 | 0.9 | 1.6 | 1.4 | 1.632 | 2.8 | 2.4 | 0.84 |
| Chloride | mg/l | 65.0 | 58.0 | 32.0 | 30.0 | 28.0 | 32.0 | 30.0 | 60 | 60 | 30 | 40 |
| Sulphate | mg/l | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0 |
| Phosphate | mg/l | BDL | BDL | BDL | BDL | BDL | BDL | BDL | BDL | BDL | BDL | BDL |
| Nitrate Nitrogen | mg/l | 0.3 | 0.310 | 0.3 | 0.320 | 0.3 | 0.3 | 0.350 | 0.340 | 7 | 0.38 | 0.37 |
| Amm. Nitrogen | mg/l | BDL | BDL | BDL | BDL | BDL | BDL | BDL | BDL | BDL | BDL | BDL |
| Alkalinity | mg/l | 70.0 | 60.0 | 40.0 | 40.0 | 30.0 | 40.0 | 40.0 | 60 | 60 | 40 | 80 |
| Total Hardness | mg/l | 80.0 | 60.0 | 40.0 | 40.0 | 40.0 | 40.0 | 40.0 | 60.0 | 80 | 40 | 60 |
| Ca. Hardness | mg/l | 40.0 | 40.0 | 20.0 | 20.0 | 20.0 | 20.0 | 20.0 | 40 | 40 | 20 | 40 |
| Mg. Hardness | mg/l | 40.0 | 20.0 | 20.0 | 20.0 | 20.0 | 20.0 | 20.0 | 20 | 40 | 20 | 20 |
| Ca | mg/l | 16.0 | 16.0 | 8.0 | 8.0 | 8.0 | 8.0 | 8.0 | 16.0 | 16.03 | 8.016 | 16.03 |
| Mg | mg/l | 9.72 | 4.86 | 4.86 | 4.86 | 4.86 | 4.86 | 4.86 | 4.86 | 9.72 | 4.86 | 4.86 |
| Fluoride | mg/l | 0.01 | 0.01 | 0.01 | 0.01 | 0.01 | 0.01 | 0.01 | 0.03 | 0.027 | 0.018 | 0.028 |
| Sodium | mg/l | 36.96 | 31.92 | 18.06 | 19.96 | 14.98 | 17.84 | 18.65 | 35.55 | 33.32 | 16.66 | 28.47 |
| Potassium | mg/l | 3.7 | 3.5 | 2.6 | 2.9 | 2.8 | 3.0 | 3.2 | 5.38 | 4.21 | 2.99 | 3.2 |
| SAR | mg/l | 1.80 | 1.80 | 1.20 | 1.40 | 1.00 | 1.20 | 1.30 | 2 | 1.6 | 1.1 | 1.6 |
| Tcoli | No/100m | 1800 | 2800 | 2000 | 2800 | 200 | 2000 | 1200 | 2000 | 800 | 800 | 2400 |
| Fcoli | No/100m | 600 | 2400 | 1400 | 400 | 100 | 1400 | 1000 | 1600 | 600 | 400 | 1800 |

- PBR 1 - North of Nehru pavilion finishing point, Punnamada
PBR 2 - Near vilakkumaram jetty, Kainakary north, Kuppapuram
PBR 3 - Pumping station near padashekaram
PBR 4 - West of pathiramanal jetty

PBR 5 - Downstream of thannermukkam bund

PBR 6 - Upstream of thannermukkam bund

PBR 7 - Downstream of McDowell's & Co, Varanad

PBR 11 - Near Rajeev jetty, Punnamada

VEMBANAD MONITORING REPORT

Dec-25

| Parameters | Unit | Stations | | | | |
|------------------|---------|----------|---------|---------|--------|--------|
| | | VB1 | VB2 | VB3 | VB4 | VB5 |
| PH | - | 8.0 | 8.3 | 8.0 | 8.6 | 8.8 |
| Conductivity | μS/cm | 5250.00 | 4140.00 | 2148.00 | 456.00 | 310.00 |
| Turbidity | NTU | 0.2 | 0.5 | 0.9 | 1.9 | 1.8 |
| DO | mg/l | 0.8 | 0.9 | 3.1 | 5.1 | 6.9 |
| BOD | mg/l | 2.6 | 4.9 | 4.9 | 2.1 | 1.3 |
| Chloride | mg/l | 1600.0 | 1220.0 | 660.0 | 150.0 | 70.0 |
| Sulphate | mg/l | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Phosphate | mg/l | BDL | BDL | BDL | BDL | BDL |
| Nitrate Nitrogen | mg/l | 0.300 | 0.330 | 0.340 | 0.350 | 0.330 |
| Amm. Nitrogen | mg/l | BDL | BDL | BDL | BDL | BDL |
| Alkalinity | mg/l | 200.0 | 180.0 | 80.0 | 60.0 | 60.0 |
| T.Hardness | mg/l | 900.0 | 800.0 | 400.0 | 100.0 | 80.0 |
| Ca. Hardness | mg/l | 600.0 | 400.0 | 200.0 | 60.0 | 40.0 |
| Mg. Hardness | mg/l | 300.0 | 400.0 | 200.0 | 40.0 | 40.0 |
| Ca | mg/l | 240.5 | 160.3 | 80.2 | 24.1 | 16.0 |
| Mg | mg/l | 72.90 | 97.20 | 48.60 | 9.72 | 9.72 |
| Fluoride | mg/l | 0.08 | 0.06 | 0.04 | 0.01 | 0.02 |
| Sodium | mg/l | 843.0 | 650.0 | 351.2 | 80.3 | 39.9 |
| Potasssium | mg/l | 64.0 | 36.0 | 21.2 | 6.3 | 3.8 |
| SAR | mg/l | 12.20 | 10.00 | 7.60 | 3.50 | 1.90 |
| Tcoli | No/100m | 14000 | 9000 | 10000 | 1200 | 7000 |
| Fcoli | No/100m | 11000 | 8000 | 7000 | 800 | 5000 |

- VB1 - keltron kadavu
- VB2 - Chandiroor punnathara kadavu
- VB3 - Eramalloor Kakkathuruthi Kadavu
- VB4 - Cherthala Kattachira Kadavu
- VB5 - Kayippuram

//TRUE COPY//

591

49

ANNEXURE-5

General: 0471- 2312910, 2318153, 2318154, 2318155 Chairman: 2318150 Member Secretary: 2318151
 e-mail: chn.kspcb@gov.in; ms.kspcb@gov.in FAX: 2318152 web: kspcb.kerala.gov.in

KERALA STATE POLLUTION CONTROL BOARD

കേരള സംസ്ഥാന മലിനീകരണ നിയന്ത്രണ ബോർഡ്



Pattom P.O., Thiruvananthapuram – 695 004
 പട്ടം പി ഒ., തിരുവനന്തപുരം – 695 004



File No. KSPCB/1617/2024-AE-10

Date: 13-01-2026

From

Member Secretary

To

Special Secretary

Local Self Government Department

Sub: MA 58/2024 in OA 147/2022-Ashtamudi Vembanad Lake Pollution- Reg

Ref: Order of the Hon'ble NGT dated 27.10.2025 in MA 58/2024 of OA 147/2022

Sir,

Kind attention is invited to the subject matter and references cited. The water quality analysis report of the drains mentioned in the NGT order is attached along with this letter. The said analysis report will be placed before the Hon'ble National Green Tribunal prior to the next date of hearing which is on 21.01.2026.

This is submitted for kind information and necessary record.

Yours faithfully,

MEMBER SECRETARY

Water Quality Analysis report of lake stations and drains mentioned in the NGT order dated 27.10.2025 in MA 58/2024 of OA 147/2022

Water Quality Analysis report of lake stations and drains mentioned in the NGT order dated 27.10.2025 is given below. Each Against each station, the significance of sewage contamination is noted. The criterion adopted is given below.

As per the notified Primary Water Quality Criteria for Bathing Water under the

Environment (Protection) Rules, 1986, The BOD (3 day at 27°C) should be 3 mg/l or less and maximum permissible value of Fecal Coliform is 2500 MPN/100ml. The lake station or the drain station is marked as significantly contaminated with sewage if the BOD exceeds 3 mg/l and/or the Fecal Coliform exceeds 2500 MPN/100 ml.

A) Kollam

DO & BOD in mg/L , TC & FC in MPN/100mL or cfu in 100mL

| Sl. No. | NWMP/ SWMP Station Name | Lat & Long | DO | pH | BOD | TC | FC | Significantly contaminated (Yes / No) |
|---------|---|----------------------------|--------------|------|-------------|-----------------|-----------------|---|
| 1 | Ashtamudi | 8.936195, 76.545194 | 5.26 | 7.64 | 2.66 | 430 | 220 | No |
| 2 | Thoppilkadavu | 8.896128, 76.57199 | 1.8 | 7.55 | 9.3 | 1600 | 540 | Yes |
| 3 | KSRTC Bus Depot Kollam | 8.892085, 76.585501 | 0.33 | 6.92 | 10.4 | 1600 | 540 | Yes |
| 4 | Perumon | 8.972052, 76.616051 | 7.93 | 7.46 | 3.2 | 220 | 150 | Yes |
| 5 | Kundara Ceramics | 8.963705, 76.662649 | 5 | 7.14 | 1.6 | 430 | 170 | No |
| 6 | Mundrothuruth | 9.002171, 76.632769 | 7.6 | 6.95 | 3.13 | 170 | 94 | Yes |
| S/No | Drain | Location | DO | pH | BOD | TC MPN/100mL | FC MPN/100mL | Significantly contaminated (Yes / No) |
| 1 | Manichithodu | 8.89102667, 76.58914333 | 0.47 mg/L | 7.24 | 6.2 mg/L | 1600 | 920 | Yes |
| 2 | Meeting point of Manichithodu and Ashtamudi | 8.8913998, 76.5873223 | 0.67 mg/L | 6.96 | 7.4 mg/L | 1600 | 920 | Yes |
| 3 | Kollam Thodu | 8.8924663, 76.5822231 | 1 mg/L | 6.71 | 5.8 mg/L | 920 | 430 | Yes |
| 4 | Meeting point of Kollam thodu and Ashtamudi | 8.89967933, 76.5826107 | 4.47 mg/L | 6.82 | 3.4 mg/L | 540 | 430 | Yes |

B) Kottayam

| Sl. No | NWMP/ SWMP Station Name | Sampling Date | Lat & Long | DO | pH | BOD | TC | FC | Significantly contaminated (Yes / No) |
|--------|----------------------------------|---------------|------------------------|-----|------|-----|------|------|---------------------------------------|
| 1 | Changanassery Ferry (Boat Jetty) | 01.12.2025 | 9.44547, 76.528366 | 3.6 | 6.29 | 2.3 | 1100 | 600 | No |
| 2 | Vaikom Ferry | 02.12.2025 | 9.749121, 76.388131 | 4.4 | 6.88 | 1.1 | 2950 | 1600 | No |
| 3 | Kottayam Ferry | 01.12.2025 | 9.577429, 76.518629 | 3.2 | 6.96 | 1.7 | 400 | 150 | No |

| Sl No | Drain | Sampling Date | Location | DO | pH | BOD | TC | FC | Significantly contaminated (Yes / No) |
|-------|-------------------|---------------|-----------------------|-------------|------|-------------|----------------------------|---------------------|---------------------------------------|
| 1 | KV Canal | 02.12.2025 | 9.74166, 76.3961 | 2.5 mg/l | 6.48 | 1.8 mg/l | 10000 cfu/100ml | 4800 cfu/100ml | Yes |
| 2 | Anthakarathodu | 02.12.2025 | 9.749753, 76.39396 | 0 | 6.7 | 22 mg/l | 300000 cfu/100ml | 200000 cfu/100ml | Yes |
| 3 | Drain from temple | 02.12.2025 | 9.74411, 76.3903 | 2.3 mg/l | 6.55 | 1.8 mg/l | 30000 cfu/100ml | 18000 cfu/100ml | Yes |
| 4 | AC Canal | 01.12.2025 | 9.433009, 76.53072 | 4.8 mg/l | 6.24 | 2.6 mg/l | 750 cfu/100ml | 350 cfu/100ml | No |
| 5 | Cheepunkal | 26.11.2025 | 9.64133, 76.4189 | 3.5 | 6.2 | 1.1 | 150 | 0 | No |
| 6 | Naalupank | 26.11.2025 | 9.56661, 76.4163 | 4.5 | 6.2 | 1.2 | 100 | 0 | No |
| 7 | Athikkalam | 26.11.2025 | 9.59019, 76.4213 | 5.3 | 6.3 | 1.1 | 150 | 50 | No |
| 8 | Kavanattinkara | 26.11.2025 | 9.62595, | 3.8 | 6.2 | 0.6 | 150 | 50 | No |

594

52

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| | | 76.4242 | | | | | |
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C) Ernakulam

| Sl. No. | NWMP/ SWMP Station Name | Sampling Date | Lat & Long | DO | BOD | TC | FC | pH | Significantly contaminated (Yes / No) |
|---------|--|---------------|----------------------|-----|-----|-------|------|-----|---------------------------------------|
| 1 | KOCHI LAKE NEAR WILLINGTON ISLAND, KOCHI (coastal station) | 04.11.2025 | 9.922684,76.286911 | 7.8 | 3.7 | 41000 | 2700 | 8.1 | Yes |
| 2 | KOCHI LAKE NEAR THOPUMPADY, KOCHI (coastal station) | 04.11.2025 | 9.93695,76.264666 | 5.8 | 3.4 | 47000 | 2000 | 9.0 | Yes |
| 3 | KOCHI LAKE NEAR COCHIN PORT TRUST, KOCHI (coastal station) | 04.11.2025 | 9.9519313,76.2613901 | 5.4 | 3.3 | 50000 | 700 | 8.7 | Yes |
| 4 | KOCHI LAKE AT GOSHREE BRIDGE, KOCHI (coastal station) | 11.11.2025 | 9.991952,76.2666 | 4.4 | 2 | 30000 | 4800 | 7.8 | Yes |
| 5 | VEMBANADU LAKE, KOCHI (OIL TANKER JETTY) | 11.11.2025 | 9.958061,76.265928 | 4.1 | 1.4 | 8000 | 1200 | 7.4 | No |

| Sl No | Drain | Lat & Long | pH | BOD | TC | FC | Significantly contaminated (Yes) |
|-------|---------------------------|-----------------------|------|-----------|---------------------------|-------------------|----------------------------------|
| 1 | Edapally thodu | 9.9995960, 76.3307180 | 7.07 | 11.6 mg/l | 400000 cfu/100ml | 96000 cfu/100ml | Yes |
| 2 | Mullassery Canal | 9.974882, 76.278627 | 6.74 | 20.4 mg/l | 78000000 cfu/100ml | 4400000 cfu/100ml | Yes |
| 3 | Thevara - Perandoor Canal | 9.946065, 76.300417 | 6.81 | 14 mg/l | 250000 cfu/100ml | 210000 cfu/100ml | Yes |

D) Alappuzha

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595

53

| Sl. No | NWMP/ SWMP Station Name | Sampling Date | Lat & Long | DO | pH | BOD | TC | FC | Significantly contaminated (Yes / No) |
|--------|--|---------------|----------------------|-------|-----|-------|-------|-------|---------------------------------------|
| 1 | North of Nehru Pavilion, Finishing Point, Punnamada | 03.12.2025 | 9.5017873, 76.354261 | 5.632 | 8.4 | 1.37 | 1800 | 600 | No |
| 2 | Near Vilakkumaram Jetty, Kainakary North, Kuppapuram | 03.12.2025 | 9.498793, 76.366663 | 5.312 | 8.2 | 1.85 | 2800 | 2400 | No |
| 3 | West of Pathiramanal Jetty | 03.12.2025 | 9.619754, 76.382411 | 6.646 | 7.8 | 2.33 | 2800 | 400 | No |
| 4 | Downstream of Thanneermukkom bund | 03.12.2025 | 9.671166, 76.395841 | 6.08 | 7.6 | 0.88 | 200 | 100 | No |
| 5 | Downstream of McDowell's & Co, Varanad | 03.12.2025 | 9.692769, 76.370412 | 6.08 | 7.6 | 1.35 | 1200 | 1000 | No |
| 6 | Near Rajeev Jetty, Punnamada | 03.12.2025 | 9.499964, 76.352379 | 2.9 | 8 | 1.632 | 2000 | 1600 | No |
| 7 | Keltron kadavu, Aroor | 02.12.2025 | 9.8627657, 76.29632 | 0.832 | 8 | 2.624 | 14000 | 11000 | No |
| 8 | Chandiroor | 02.12.2025 | 9.8433719, 76.31682 | 0.88 | 8.3 | 4.928 | 9000 | 8000 | Yes |
| 9 | Kakkathuruthu | 02.12.2025 | 9.814544, 76.32184 | 3.072 | 8 | 4.928 | 10000 | 7000 | Yes |
| 10 | Kattachira kadavu (Cherthala) | 02.12.2025 | 9.684121, 76.37602 | 5.056 | 8.6 | 2.05 | 1200 | 800 | No |
| 11 | Kayippuram, Muhamma | 02.12.2025 | 9.622109, 76.37599 | 6.912 | 8.8 | 1.34 | 7000 | 5000 | Yes |
| 12 | U/S of Thanner mukkam bund | 03.12.2025 | 9.682114, 76.394319 | 5.888 | 7.8 | 1.62 | 2000 | 1400 | No |
| 13 | Padasekkaram at kainakary | 03.12.2025 | 9.518721, 76.379925 | 5.312 | 8.1 | 0.38 | 2000 | 1400 | No |
| 14 | Pallathuruthy (Pamba) | 05.12.2025 | 9.464137, 76.362639 | 4.9 | 7.4 | 0.84 | 2400 | 1800 | No |
| 15 | Punnamada | 05.12.2025 | 9.50005, 76.353244 | 5.8 | 7.4 | 2.8 | 800 | 600 | No |
| 16 | Pathiramanal | 03.12.2025 | 9.599373, 76.388663 | 7.4 | 7.8 | 2.4 | 800 | 400 | No |

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596

54

ANNEXURE-6**GOVERNMENT OF KERALA****Abstract**

Local Self Government Department - Pollution of Vembanad Lake- Interim order dated 27.10.25 of NGT in MA No. 58/2024 in OA No.147/2022 - Strengthening of enforcement to close illegal drains-Compliance - Orders issued

LOCAL SELF GOVERNMENT (WM) DEPARTMENT

G.O.(Rt)No.117/2026/LSGD Dated,Thiruvananthapuram, 14-01-2026

Read 1 Interim order dated 27.10.25 of NGT in MA No. 58/2024 in OA No.147/2022.

2 Minutes of the Meeting convened by the Chief Secretary held on 08.12.25 at 3.30 PM

3 Letter no.KSPCB/1617/2024-AE-10 dated 13.01.2026 from the Member Secretary, Kerala State Pollution Control Board

ORDER

The Hon'ble National Green Tribunal vide its interim order read as 1st paper above has directed Government to file affidavit to disclose the drains which are still discharging untreated sewage in the two wetlands viz Ashtamudi and Vembanad .The Tribunal further required the State Pollution Control Board to take the water samples from these two wetlands and the storm water drains immediately after one month and to submit the analysis report.

As per the decisions taken in the meeting read above , which was convened based on the direction in the order dated 27.10.2025 of the Hon'ble NGT in OA No.147 of 2022, the Member Secretary, KSPCB, has

597

55

submitted the water quality analysis report for the drains mentioned in the NGT order.

As per the notified Primary Water Quality Criteria for Bathing Water under the Environment (Protection) Rules, 1986, The BOD (3 day at 27oC) should be 3 mg/l or less and maximum permissible value of Fecal Coliform is 2500 MPN/100ml. But the water samples from the KV Canal, Anthakarathodu, and the drain from Mahadeva Temple in Vaikom Municipality, Kottayam District and Edapally thodu , Mullassery Canal and Thevara-Perandoor Canal in Ernakulam District are seen to be contaminated and exceed safety limits.

In the circumstances, Government hereby order that the Principal Director, Local Self Government Department shall take urgent necessary steps to close all the illegal drains leading into these water bodies by constituting a team of Officers from Kottayam, Kochi Corporations , Vaikom Municipality and the concerned District Suchitwa Mission Coordinators and to furnish Action Taken Report to Government by 17th January 2026 for filing report before the Hon'ble NGT before the next posting date. Necessary legal action shall also be initiated. Chairperson, KSPCB shall extend necessary support to the inspection team.

(By order of the Governor)

ANUPAMA T V I A S

SECRETARY

Principal Director, Local Self Government Department, Thiruvananthapuram

Chairperson, Kerala State Pollution Control Board, Thiruvananthapuram

District Collector, Kottayam

District Collector, Ernakulam

Executive Director, Suchitwa Mission

Joint Director, WM Cell, LSGD

Joint Director, LSGD, Kottayam

598

56

Joint Director,LSGD,Ernakulam

Secretary,Kochi Corporation

Secretary,Vaikom Municipality

District Suchitwa Mission Coordinators,Kottayam,Ernakulam

Principal Accountant General (A&E/Audit) Kerala, Thiruvananthapuram

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Forwarded /By order

Section Officer

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599

57
ANNEXURE-7

PROCEEDINGS OF THE PRINCIPAL DIRECTOR
LOCAL SELF GOVERNMENT DEPARTMENT

(Present : Geromic George IAS)

Abstract

Sub : LSGD – PD - Pollution of Vembanad Lake – Compliance of interim order of the Hon’ble National Green Tribunal in MA 58/2024 & OA 147/2022 – Strengthening of enforcement to close illegal drains/outlets – Instructions to District Joint Directors – Reg Orders issued

Order No. LSGD/ LSGD/1415/2023-SWAG1 date: 16-01-2026

- Reference :
- 1) Interim Order dated 27.10.2025 of the Hon’ble NGT in MA No.58/2024 in OA No.147/2022
 - 2) Minutes of the meeting convened by the Chief Secretary on 08.12.2025
 - 3) Letter No.KSPCB/1617/2024-AE-10 dated 13.01.2026 of the Member Secretary, Kerala State Pollution Control Board
 - 4) G.O.(Rt) No.117/2026/LSGD dated 14.01.2026
 - 5) Minutes of the Meeting held by Principal Director LSGD on 15/01/2026

ORDER

As per the references cited, Government have issued orders for strict compliance of the interim directions of the Hon’ble National Green Tribunal in MA 58/2024 of OA 147/2022 regarding pollution of Vembanad Lake and discharge of untreated sewage through illegal drains. As per the Primary Water Quality Criteria for Bathing Water notified under the Environment (Protection) Rules, 1986, the permissible limits of BOD (3 day at 27°C) and Fecal Coliform are 3 mg/l or less and 2500 MPN/100 ml respectively. However, water quality analysis reports have revealed that the water bodies namely KV Canal, Anthakarathodu and the drain from Mahadeva Temple in Vaikom Municipality, Kottayam District, as well as Edapally Thodu, Mullassery Canal and Thevara - Perandoor Canal in Ernakulam District are contaminated and exceed the prescribed safety limits.

In pursuance of the Government Order (4) and meeting referred (5) above, District

600

58

Joint Directors Kollam, Alappuzha, Kottayam and Ernakulam are hereby directed to take urgent action by constituting **Special Inspection Teams** to identify and **close all illegal outlets, cleaning of canals, and enforcement activities immediately**. **The Special Inspection Teams shall be constituted with members such as ULB Secretary, Health Officer, ULB Engineer, CCM, District Enforcement Officer, Members of the IVO Squad, ULB Vigilance Squad members, Kerala State Pollution Control Board District Engineers District Suchitwa Mission Co-ordinators etc.** If required, police assistance may be sought.

The enforcement team shall conduct joint inspections, **with special emphasis on closure of illegal outlets**, initiate necessary legal action against violators and prevent recurrence of such violations, with technical and statutory support from the District Pollution Control Board. District Joint Directors shall personally monitor the enforcement activities and ensure effective inter-departmental coordination. **A comprehensive Action Taken Report with Photographs of closure of illegal outlets and enforcement activities shall be furnished to the Principal Director on or before 17 January 2026, 1 pm** for onward submission before the Hon'ble National Green Tribunal. Any lapse or delay in compliance of the NGT orders will be viewed seriously.

**Geromic George IAS
PRINCIPAL DIRECTOR**

Copy to :

1. Secretaries of all ULBs
2. Joint Directors, Ernakulam, Kottayam, Alappuzha, Kollam
3. Co Ordinators , District Suchitwa Mission
4. Executive Engineer, District Pollution Control Board
5. Member Secretary, Kerala State Pollution Control Board
6. Executive Director, Suchitwa Mission
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Signed by
Geromic George IAS
Date: 16-01-2026 17:35:54