

**BEFORE THE HON'BLE NATIONAL GREEN TRIBUNAL, EASTERN ZONE
BENCH, KOLKATA**

Original Application No. 99/2025/EZ

(Earlier O.A. No.219/2025/PB)

In the Matter of:

News Item "Unchecked urbanisation pushing Deepor Beel into environment crisis:
Experts appearing in the Assam Tribune dated 22.04.2025"

...Applicant

-Versus-

Pollution Control Board, Assam & Ors.

...Respondents

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Date: _____, August, 2025

Place: Guwahati, Assam

Filed by:

Mr. Surendra Kumar,
Advocate

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REPLY AFFIDAVIT FILED ON BEHALF OF RESPONDENT NO. 1

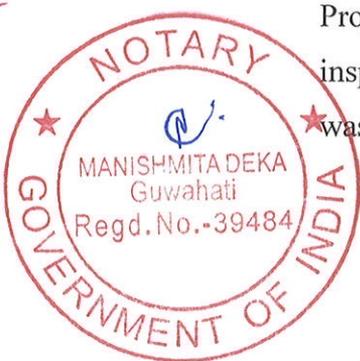
(i.e. POLLUTION CONTROL BOARD, ASSAM)

I, **Smti. Mousumi Bardalai** aged about **55** years, by occupation- Government Service, presently posted as **Additional Chief Environment Engineer and Nodal Officer (legal)**, Assam Pollution Control Board, working for gain at the Office of **Bamunimaidam, Guwahati Pin -781021** do hereby solemnly affirm and state as follows:

1. That I have made myself acquainted with the facts and circumstances of the Original Application filed by the applicant suo motu based on the news item appearing in the Assam Tribune dated 22.04.2025, and I have thoroughly gone through all the documents pertaining to the subject matter of this instant case. I am competent vide proper authorization to file the instant Affidavit before this Hon'ble Tribunal.

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2. That the respondent no. 1 (shall be referred as **APCB** hereinafter) has been advised to deal with only those contentions which are relevant and material for effective and proper adjudication of the issues involved in the instant case. Save and except what are matters of record and save what are expressly admitted by me hereinafter, I emphatically deny each and every contention as made/raised in the said application as if the same are expressly denied by me in seriatim and specifically traversed.
3. With reference to the allegations contained in the news item regarding unauthorized settlements, illegal dumping grounds, and unrestricted dumping of solid waste affecting Deepor Beel, the APCB submits that it has been actively conducting comprehensive inspections and monitoring activities in the Boragaon area. Pursuant to the Head Office letter vide No. LGL11013(12)/7/2025/14 dated 01st July, 2025, regarding OA No. 99/2025/EZ, the undersigned carried out a detailed inspection of the Boragaon area, Guwahati, Kamrup (M) and prepared a comprehensive fact-finding report documenting the current status of waste management activities and their environmental impact.
4. That with regard to the allegations concerning the deterioration of Deepor Beel and the role of nearby waste management facilities, the APCB submits that during the comprehensive inspection conducted, it was observed that there are three distinct sites and installations related to waste management in the Boragaon area. The first being the Municipal Solid Waste Management Project, GMC New Dumping Yard located at Belortol, Boragaon, which has been established with proper infrastructure and environmental safeguards. The second site relates to the removal of legacy waste through biomining process to reclaim the existing site at Boragaon, and the third being the Guwahati Faecal Sludge Treatment Plant located at Belortol, Paschim Boragaon, near the Municipal Solid Waste Management Project.
5. That in response to concerns regarding the Municipal Solid Waste Management Project at Belortol, Boragaon, the APCB categorically submits that during inspection it was observed that a Municipal Solid Waste dumping yard and a solid waste processing facility has been established at the said location with appropriate



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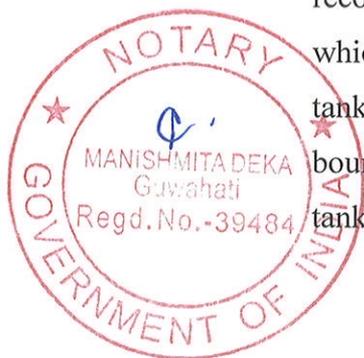
infrastructure. The processing plant is located adjacent to the Municipal Solid Waste dumping ground and is equipped with proper waste handling mechanisms. The facility includes truck tippers and excavators for waste handling operations, and a significant number of cattle and birds were observed at the dump site, indicating the presence of organic waste which is being processed through composting methods.

6. That the APCB further submits that pools of leachate were observed mainly along the periphery of the heaps of solid waste in the open dump yard, which is a natural occurrence in waste management facilities. However, towards the rear boundary, beyond the dumpsite, a low-lying area was observed which contained water logged conditions. The Board has noted that the Municipal Solid Waste processing plant is being operated by M/s Geron Guwahati Solid Waste Management Pvt. Ltd at GMC New Dumping Yard, Belortol, and a portion of the solid waste received at the dumping yard is being processed at the facility through scientific methods.
7. That regarding the processing infrastructure, the APCB observed that the processing plant comprises of composting and RDF (Refuse Derived Fuel) plant facilities. A leachate treatment plant was observed to be under construction at the site, which demonstrates the commitment towards preventing groundwater contamination. As per the records available at the Regional office Guwahati, the operator has obtained CTE (Consent to Establish) and subsequent CTO (Consent to Operate) having validity up to 31.03.2025 for Solid Waste Processing Unit, and the detailed conditions of the consent are being complied with as per the regulatory framework.
8. That the APCB submits that as per records at Regional office Guwahati, APCB Authorization under the Solid Waste Management Rules, 2016 has not been obtained by the facility operator. The status of this authorization may be further ascertained by the Head Office, APCB, which indicates that the Board is maintaining strict regulatory oversight and ensuring compliance with all applicable environmental norms and standards.



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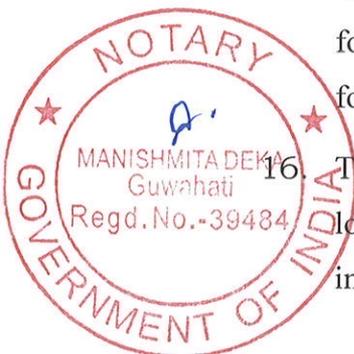
9. That during the inspection, a structure surrounding a borewell near the dumping ground was observed to be partially filled with dark coloured liquid which is likely to be leachate as well as stormwater runoff from the dumpsite. The APCB has documented this observation and noted that the water channel likely to be the Pamohi river was observed to be located at close proximity to the site. Additionally, empty barrels and containers were observed to be lying in the area, which have been recorded for appropriate action and remedial measures.
10. That concerning the legacy waste management activities, the APCB submits that the site for "Removal of Legacy Waste Through Biomining Process to Reclaim the Existing Site at Boragaon" represents a scientifically sound approach to address accumulated waste. During inspection, it was observed that this is a waste dumpsite containing legacy waste located at Boragaon, Guwahati, where heaps of waste in the area were observed and documented. The facility is engaged in activities for removal of legacy waste through biomining process, which is an environmentally sustainable method for waste processing and land reclamation.
11. That the APCB further observed that the biomining project is being operated by Zigma Global Environ Solutions Private Limited, and the plant representative stated that biomining of a portion of the legacy waste has already been completed. The Combined Consent to Establish and Consent to Operate was granted to M/s. Zigma Global Environ Solutions Private Limited vide No. WB/GUW/T-4560/2223/27 dated 9th January, 2022 having validity till 31.03.2024 for Bio-Mining of Legacy Waste and subsequent Consent to Operate with validity up to 31/03/2026 for Bio-mining of legacy waste, ensuring regulatory compliance and environmental protection.
12. That the biomining unit produces Refused Derived Fuel (RDF) and undertakes recovery of inert material such as glass, woods etc. from the legacy waste dumpsite, which represents a circular economy approach to waste management. A Collection tank/pit for collection of stormwater run-off, leachate etc. was observed near the boundary of the unit, and drains were observed to be connected to the collection tank/pit, demonstrating proper leachate management systems. Additionally, a



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leachate management unit was observed at the premises, and a water pump was observed at the Collection tank/pit which is connected to the nearby marshy area filled with water hyacinth etc., indicating integrated water management systems.

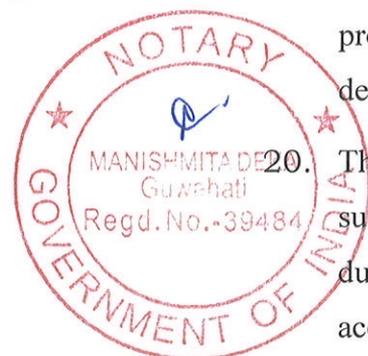
13. That a significant environmental feature observed during the inspection was a water body which appears to be part of the Deepor Beel wetland observed at close proximity to the Biomining site. Between the Biomining site and the water body, an earthen road was observed, and floating waste, mostly plastic waste, was observed at different locations within the premises of the unit. The APCB has documented these observations and noted that cesspool vehicles were observed to be parked near the site, indicating ongoing waste management operations.
14. That regarding the Guwahati Faecal Sludge Treatment Plant located at Belortol, Paschim Boragaon, the APCB submits that this facility represents a crucial component of the integrated waste management system for the region. The unit undertakes treatment of septage collected by cesspool vehicles, addressing a critical sanitation need for the urban area. The facility has obtained proper regulatory clearances including Consent to Establish vide No. PCBA/GUW/T4688/23-24/05-A dated 5th February, 2024 and Consent to Operate vide No. PCBA/GUW/T-4688/23-24/10 dated 11th July, 2024 for the Faecal Sludge Treatment Plant with validity till 31.03.2029.
15. That during the detailed inspection of the Faecal Sludge Treatment Plant, it was observed that the facility is equipped with geotubes for dewatering of septage and Sequential Batch Reactor (SBR) for treatment of geo-filtrate generated from dewatering of septage. The facility includes other unit processes and operations for comprehensive treatment of faecal sludge. Spillage of waste likely to be sludge as well as liquid waste was observed within the premises of the unit, and provisions for bypass discharge of wastewater were also observed, which are being monitored for compliance with discharge standards.
16. That the APCB observed that a nearby water channel likely to be Pamohi river was located in proximity to the Faecal Sludge Treatment Plant, and floating waste etc. including plastic waste were observed in the low-lying water-logged area, adjacent



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to the boundary of the unit. The facility has been designed with appropriate safeguards, and the Board continues to monitor the operations to ensure compliance with environmental standards and prevention of contamination to nearby water bodies.

17. That the APCB has been conducting systematic monitoring of all waste management facilities in the Boragaon area and has documented comprehensive photographic evidence of the facilities and their operations. The Board has observed that all three facilities have implemented various environmental protection measures including leachate collection systems, stormwater management, and treatment infrastructure to minimize environmental impact on the surrounding areas including Deepor Beel.
 18. That during the comprehensive site inspection, the APCB has made detailed observations regarding the water quality and environmental conditions in the area. The water channel likely to be the Pamohi River, which possibly discharges into the Deepor Beel wetland, was observed to be visually turbid and dark in colour, and trash material was observed to be floating in it. The Board has documented these observations and initiated appropriate monitoring protocols to assess the water quality parameters and take necessary remedial action.
 19. That the APCB submits that based on the comprehensive inspection and assessment, several recommendations have been formulated for enhanced environmental protection. The Board recommends that sampling and analysis of leachate, stormwater, ground water, as well as water from nearby surface water bodies at the Boragaon area may be carried out in order to ascertain the possibility as well as subsequent level of contamination. This scientific assessment will provide a factual basis for determining the actual environmental impact and developing appropriate mitigation measures.
20. That the APCB further recommends that concerned authorities may be requested to submit up to date details of solid waste collected and transported to the Belortol dumpsite against the quantum of waste processed, in order to quantify accumulation of solid waste at the site. This data will help in better planning and

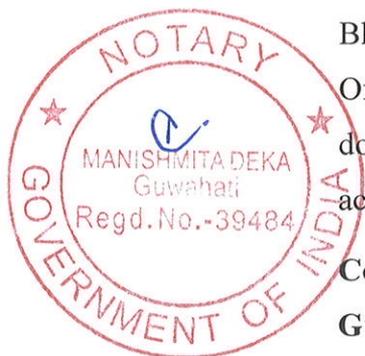


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management of waste processing capacity and prevent accumulation of unprocessed waste which may contribute to environmental degradation.

21. That the Board has observed that many small waste collection units, mostly plastic bottles etc., were observed near the vicinity of the dumping grounds, and many water-logged areas with floating garbage were observed near the vicinity of the aforementioned installations and dump sites. The APCB has documented these observations and recommends enhanced waste collection and segregation protocols to prevent scattered waste from affecting the surrounding environment.
22. That the APCB submits that the Board may constitute a committee for further assessment of waste management activities and corresponding status of compliance with regulatory standards. This committee would provide ongoing oversight and ensure that all facilities operate in accordance with environmental norms and contribute to the protection of Deepor Beel and the surrounding ecosystem.
23. That the APCB has been working in close coordination with various stakeholders including the Guwahati Municipal Corporation, facility operators, and other regulatory bodies to ensure comprehensive waste management and environmental protection. The Board has maintained detailed records of all consent conditions, monitoring requirements, and compliance status of the facilities operating in the Boragaon area.
24. That the APCB acknowledges the concerns raised regarding the environmental impact on Deepor Beel and submits that the Board is committed to implementing all necessary measures to prevent further environmental degradation. The detailed inspection report dated 01.07.2025 prepared by Assistant Engineer Hrishikesh Bhattacharya and Assistant Executive Engineer Ankuran Pathak from the Regional Office Guwahati, Assam Pollution Control Board, provides comprehensive documentation of the current status and forms the basis for further regulatory action.

Copy of the comprehensive report on waste dumping activities at Boragaon, Guwahati along with photographs are annexed herewith and marked as Annexure- R/1 Collectively.



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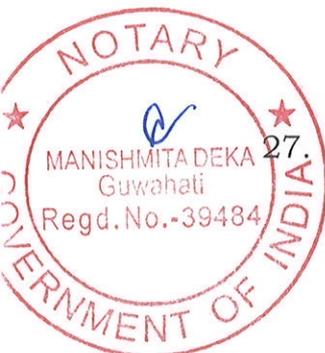
25. The deponent humbly begs to state that the Board regularly carried out Water Quality Monitoring in and around of the Deepor Beel in eight stations or locations namely

- Howrapara, Khanamukh before mixing with Khanamukhjaan
- Center of Deepor Beel
- Boragaon near IASST, Guwahati, Assam
- Near Dharapur Chariali, Guwahati, Assam
- Near Assam Engineering College, Jalukbari
- Near Azara Railway Station, Ganakpara, Chakardoi
- Near Picnic Spot, 200 mtr from the Railway Bridge
- Near view point Bird watching Tower

The report of Water Quality Monitoring for the months of March 2025 to May 2025 for the aforementioned eight stations are annexed as Annexure R/2.

The Water Quality Standards for Class D as prescribe in Guidelines for Water Quality Management prepared by CPCB, it is found to be within the permissible limit. The prescribe standard limit for Class D for the Criteria are pH between 6.5 to 8.5 2. Dissolved Oxygen 4mg/l or more 3. Free Ammonia (as N) 1.2 mg/l or less.

26. That the APCB submits that it is fully committed to environmental protection and wetland conservation and has been taking all necessary steps within its powers to regulate waste management activities and ensure compliance with environmental standards. The Board is ready and willing to implement any additional measures as may be directed by this Hon'ble Tribunal for the protection and restoration of the Deepor Beel ecosystem.



27. That the answering respondent (i.e. Assam Pollution Control Board) states and submits that they are ready and willing to abide by the orders and directions made by this Hon'ble Tribunal and has taken all possible steps to comply with the directions of the Hon'ble Tribunal as contained in the Order dated 21.07.2025.

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Sl. No... 23
Date... 22/8/2025

28. That the APCB humbly submits that while environmental concerns regarding Deepor Beel are acknowledged, the Board has been actively working within its regulatory mandate to address pollution issues through comprehensive monitoring, regulatory enforcement, and coordination with various stakeholders. The Board is committed to taking all necessary measures for environmental protection and restoration as may be deemed appropriate by this Hon'ble Tribunal.

29. I state that the statements contained in Paragraphs no. 1 to 29 are true to the best of my knowledge and belief, those made in paragraph nos. 3 to 25 are based on official records and inspection reports which I verily believe to be true, and the rest are my humble submissions before this Hon'ble Tribunal.



NOTARY
MANISHMITA DEKA
Guwahati
Regd.No.-39484

Manishmita Deka

DEPONENT

VERIFICATION

Verified at Guwahati, Assam by the deponent above named on this the 22nd day of August, 2025, and say that the contents of this affidavit made in paragraph nos. 1 to 29 are true to my knowledge, those made in paragraph nos. 3 to 25 are information derived from official inspection records which I verily believe to be true and the rest are my respectful submissions before this Hon'ble Tribunal.

NOTARY
MANISHMITA DEKA
Guwahati
Regd.No.-39484

Manishmita Deka

DEPONENT

Identified by me

Siddhartha Baruah.
495/99.

Advocate.

Solemnly affirmed before me this day, I certify that I read over and explained the contents to the declarant and that the declarant seemed perfectly to understand them.

Report on waste dumping activities at Boragaon, Guwahati.

In pursuant to the Head Office letter vide No. LGL-11013(12)/7/2025/14 dated the 01st July, 2025, regarding OA No. 99//2025/EZ (Earlier OA no. 219/2025/PB)- News Item “Unchecked urbanisation pushing Deepor Beel into environment crisis: Experts, appearing in the Assam Tribune dated 22.04.2025”, the undersigned have carried out an inspection of the Boragaon area, Guwahati, Kamrup (M) and as directed, a fact-finding report is as follows:

During inspection it was observed that there are three sites/installations related to waste management which were observed in that area details of which are as stated below:

- A) Municipal Solid Waste Management Project, GMC New Dumping Yard located at Belortol, Boragaon.
- B) Site for “Removal of Legacy Waste Through Biomining Process to Reclaim the Existing Site at Boragaon”.
- C) Guwahati Faecal Sludge Treatment Plant located at Belortol, Paschim Boragaon, Guwahati. (near the Municipal Solid Waste Management Project, GMC New Dumping Yard).

The observations made during the inspection at the aforementioned locations are as stated below:

- A) **Municipal Solid Waste Management Project Site, GMC New Dumping Yard located at Belortol, Boragaon.**
 - i. A Municipal Solid Waste dumping yard and a solid waste processing facility was observed at the said location.
 - ii. The processing plant is located adjacent to the Municipal Solid Waste dumping ground.
 - iii. Truck tippers and excavators were observed to be operating at the waste dumping yard. A large number of cattles and birds were observed at the dump site. A huge quantity of Municipal Solid Waste was observed to be accumulated at the dumping ground.
 - iv. Pools of leachate mainly along the periphery of the heaps of solid waste in the open dump yard were observed.
 - v. Towards the rear boundary, beyond the dumpsite a low-lying area was observed which was water logged.
 - vi. The Municipal Solid Waste processing plant is being operated by M/s Geron Guwahati Solid Waste Management Pvt. Ltd at GMC New Dumping Yard, Belortol, as stated by the representative of the unit, a portion of the solid waste received at the dumping yard is processed at the facility. The processing plant is comprised of composting and RDF plant. A leachate treatment plant was observed to be under construction, which was yet to be commissioned. As per records, the operator has obtained CTE and

subsequent CTO having validity up to 31.03.2025 for Solid Waste Processing Unit. (details of CTE/CTO accorded along with corrigendum is appended as annexure).

- vii. As per records at Regional office Guwahati, APCB Authorisation under the Solid Waste Management Rules,2016 has not been obtained. The status may further be ascertained by the Head Office, APCB.
- viii. A structure surrounding a borewell near the dumping ground was observed to be partially filled with a dark coloured liquid which is likely to be leachate as well as stormwater runoff from the dumpsite.
- ix. The water channel likely to be the Pamohi river was observed to be located at close proximity to the site.
- x. Empty barrels/containers were observed to be lying in the area.

Photographs:

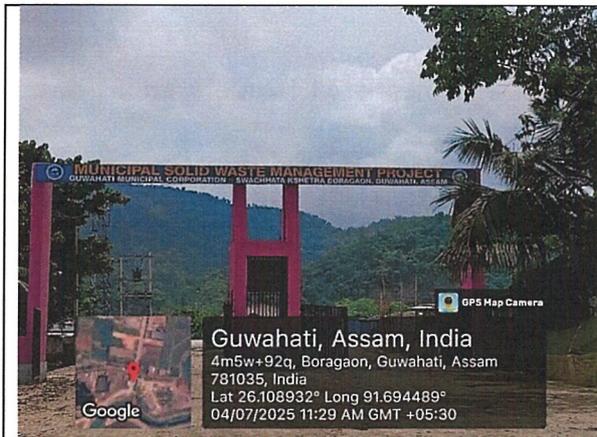


Image A.1: Entrance of Municipal Solid Waste Management Project.

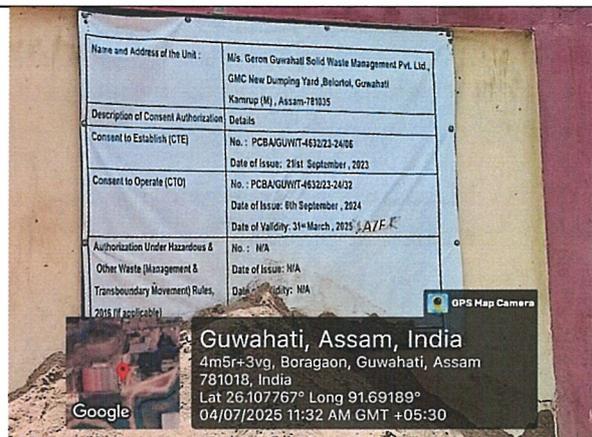


Image A.2: Display Board.



Image A.3: Inside the processing unit.

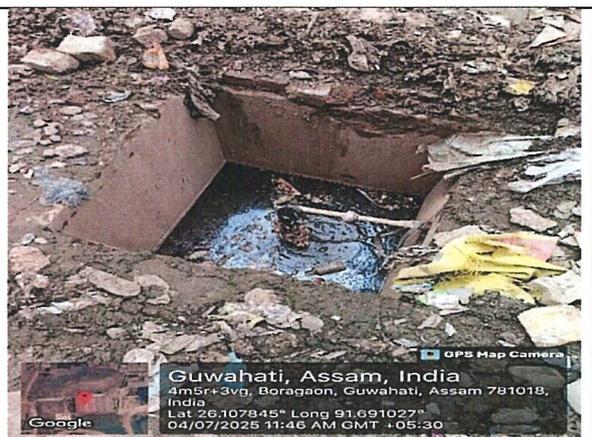


Image A.4: Borewell filled with dark coloured liquid



Image A.5: Leachate (including stormwater) along the periphery of the dump yard.

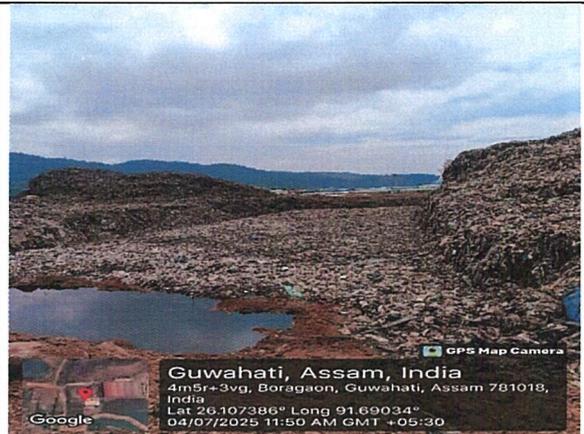


Image A.6: Pools of Leachate (including stormwater).

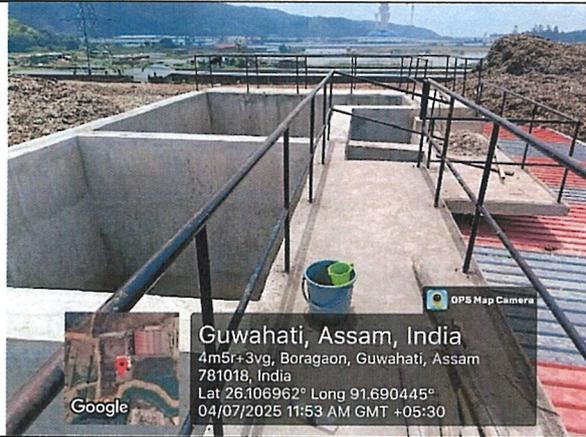


Image A.7: Leachate Treatment Plant (Under Construction)



Image A.8: Pools of Leachate (including stormwater) near the water-logged area.

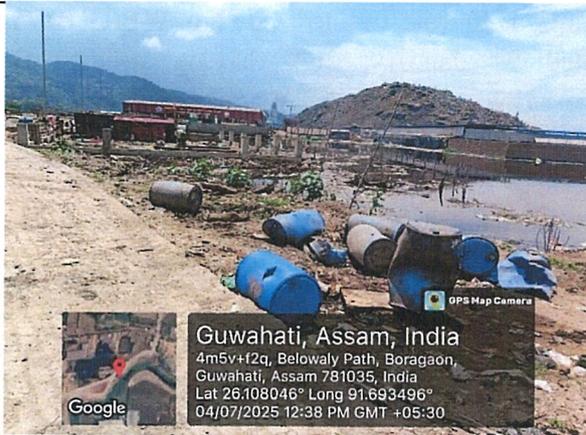


Image A.9: Empty Barrels lying in the area.

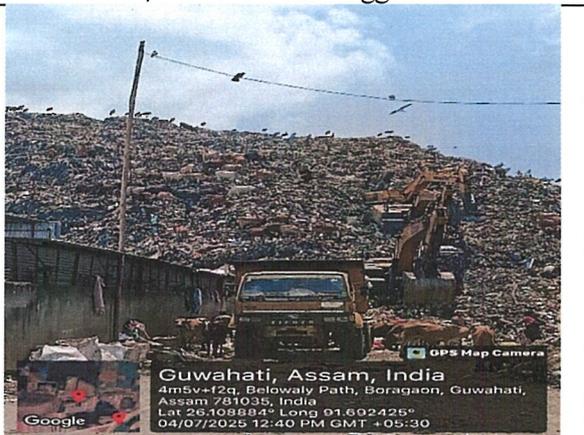
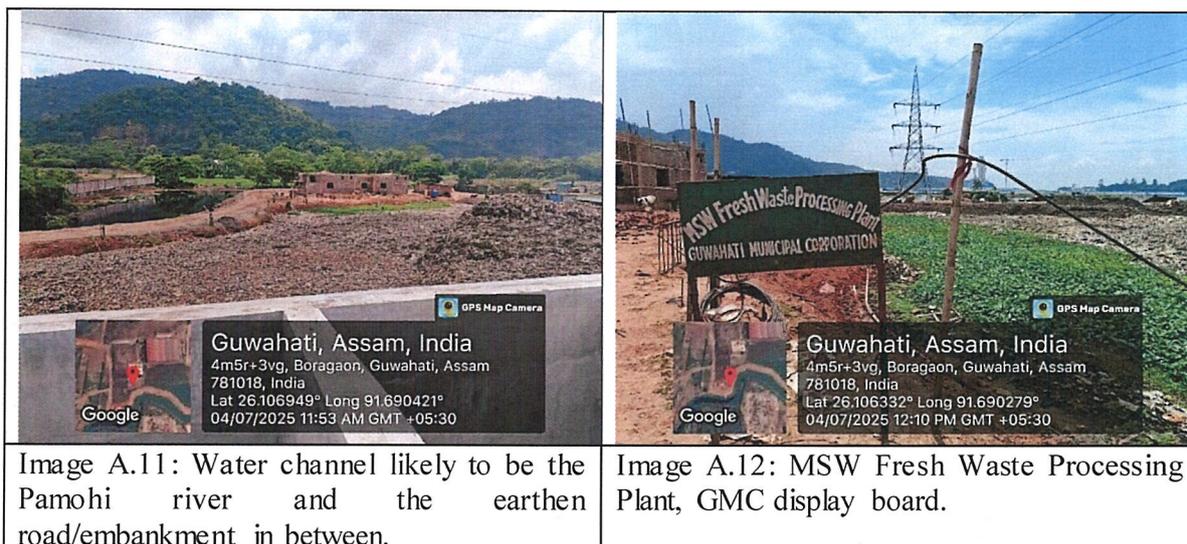


Image A.10 : Truck tippers, cattles, birds in the dumpsite



B) Site for “Removal of Legacy Waste Through Biomining Process to Reclaim The Existing Site At Boragaon”.

- i. It is the waste dumpsite (legacy waste) located at Boragaon, Guwahati. Heaps of waste in the area were observed.
- ii. Activities for removal of legacy Waste through Biomining process were observed to be ongoing. The project operated by Zigma Global Environ Solutions Private Limited. The plant representative stated that biomining of a portion of the legacy waste have already been completed. Combined Consent to Establish and Consent to Operate was granted to M/s. Zigma Global Environ Solutions Private Limited vide No. WB/GUW/T-4560/22-23/27 dated 9th January, 2022 having validity till 31.03.2024 for Bio-Mining of Legacy Waste and subsequent Consent to Operate with validity up to 31/03/2026 for Bio-mining of legacy waste. (Copies of CTE/CTO enclosed)
- iii. The unit produces Refused Derived Fuel (RDF) and undertakes recovery of inert material such as glass, woods etc. from the legacy waste dumpsite.
- iv. A Collection tank/pit for collection of stormwater run-off, leachate etc. was observed near the boundary of the unit. Drains were observed to be connected to the collection tank/pit.
- v. A leachate management Unit was observed at the premises.
- vi. A water pump was observed at the Collection tank/pit which is connected to the nearby marshy area filled with water hyacinth etc.
- vii. A Water body which appears to be part of the Deepor Beel wetland was observed at close proximity to the Biomining site. Between the Biomining site and the Water body an Earthen Road was observed.

- viii. Floating waste (mostly plastic waste) were observed at different locations (As stated, reclaimed portion) within the premises of the unit.
- ix. Cesspool vehicles were observed to be parked near the site.

Photographs:



Image B.1: Pool of wastewater at the processing yard.



Image B.2: Leachate Management Unit.

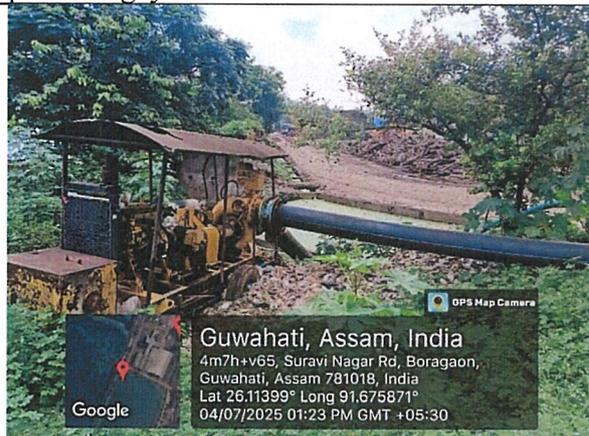


Image B.3: Water pump at the Collection tank/pit.

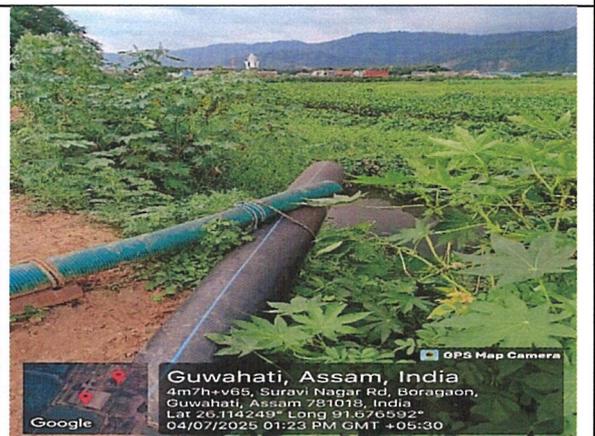


Image B.4: Water pump connected to the nearby marshy area.

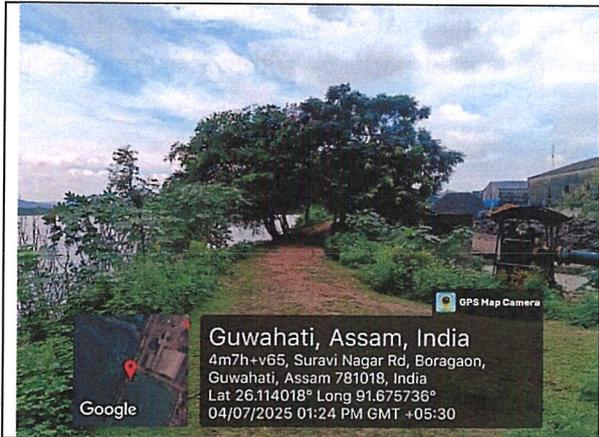


Image B.5: Water body was observed at close proximity to the Biomining site and the earthen road in between.



Image B.6: Display board and cesspool vehicle parked at the site.

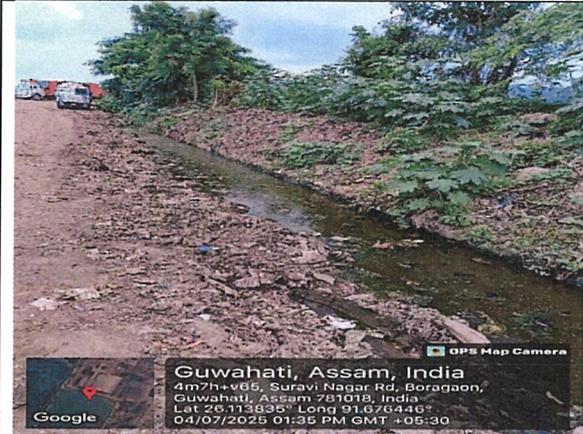


Image B.7: Stormwater drain.

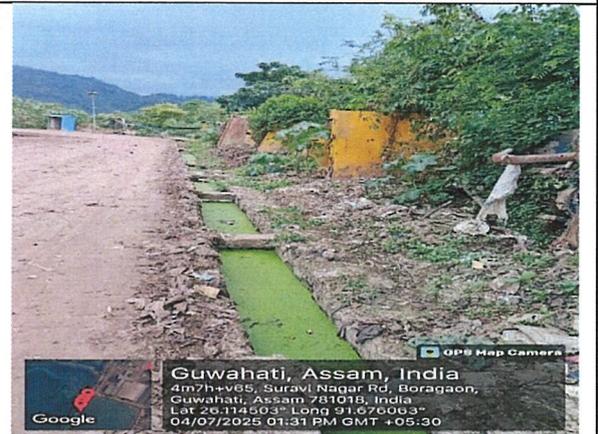


Image B.8: Drain connected to the collection tank/pit.

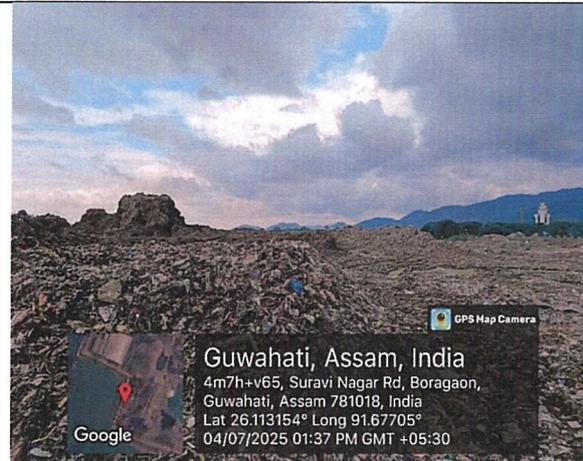


Image B.9: Legacy Waste

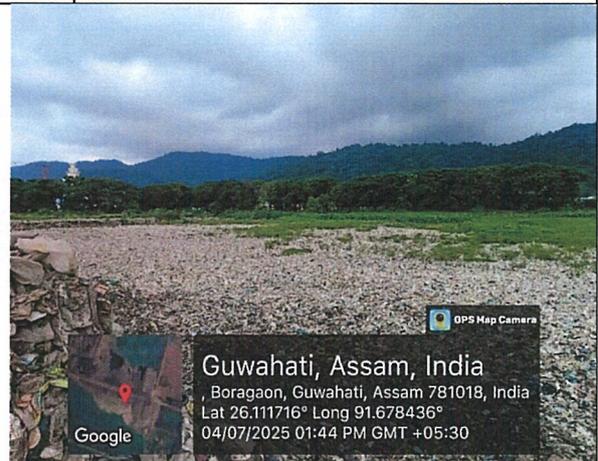
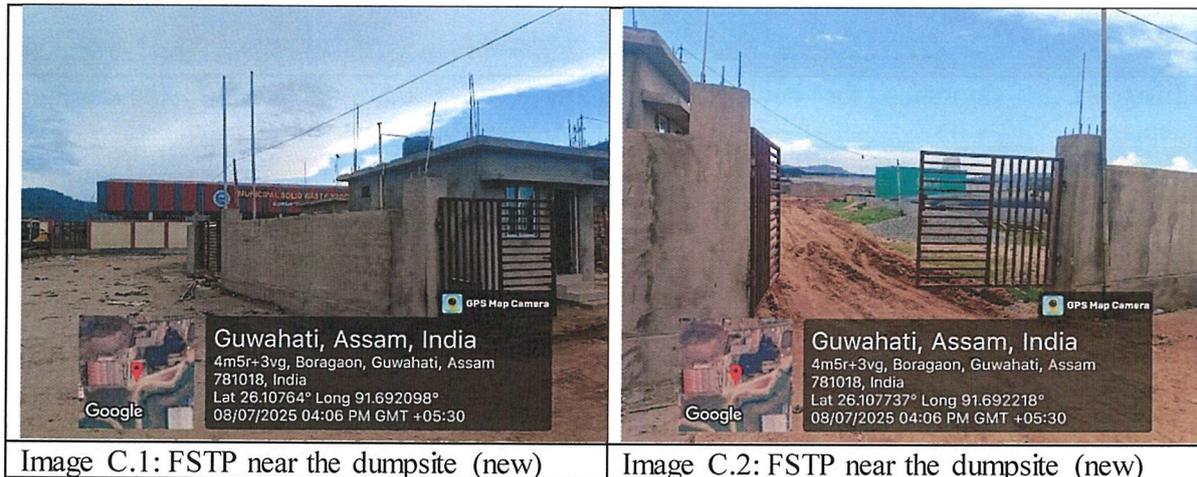


Image B.10: As stated, site after biomining.

C) Guwahati Faecal Sludge Treatment Plant located at Belortol, Paschim Boragaon, Guwahati. (near the Municipal Solid Waste Management Project, GMC New Dumping Yard).

- i. The unit undertakes treatment of septage collected by cesspool vehicles. Consent to Establish vide No. PCBA/GUW/T-4688/23-24/05-A dated 5th February, 2024 was granted to the Faecal Sludge Treatment Plant. Consent to Operate was granted vide No. PCBA/GUW/T-4688/23-24/10 dated 11th July, 2024 for the Faecal Sludge Treatment Plant with validity till 31.03.2029. (Copies of CTE/CTO enclosed).
- ii. Geotubes for dewatering of septage and Sequential Batch Reactor (SBR) for treatment of geo-filtrate (generated from Dewatering of septage) was observed including other unit processes and operations.
- iii. Spillage of waste likely to be sludge as well as liquid waste was observed within the premises of the unit.
- iv. Provisions for bypass for discharge of wastewater were observed.
- v. A nearby water channel likely to be Pamohi river was observed.
- vi. Floating waste etc. including plastic waste were observed in the low-lying water-logged area, adjacent to the boundary of the unit.

Photographs:



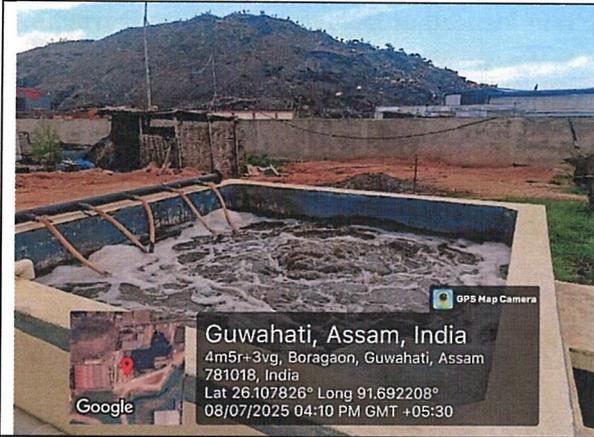


Image C.3: SBR in operation



Image C.4: Spilled waste.

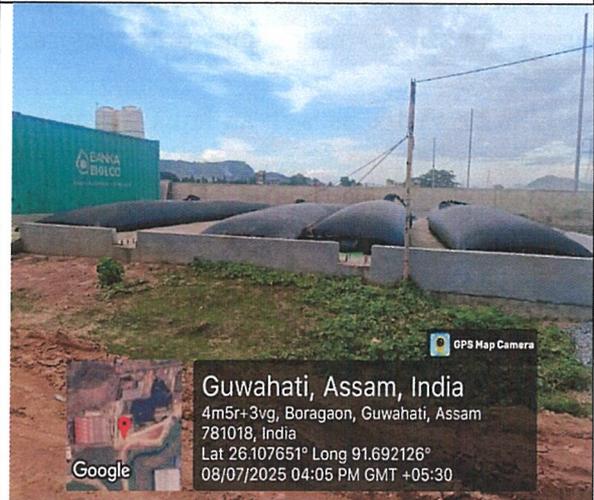


Image C.5: Geotubes for dewatering of septage.



Image C.6: Some of the unit processes/operations of the plant.



Image C.7: Provision for bypass of wastewater.

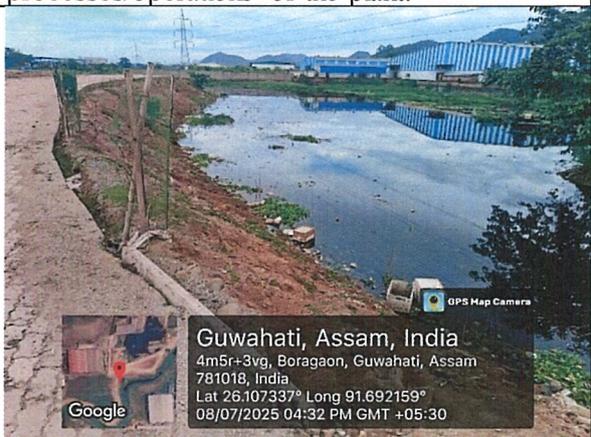
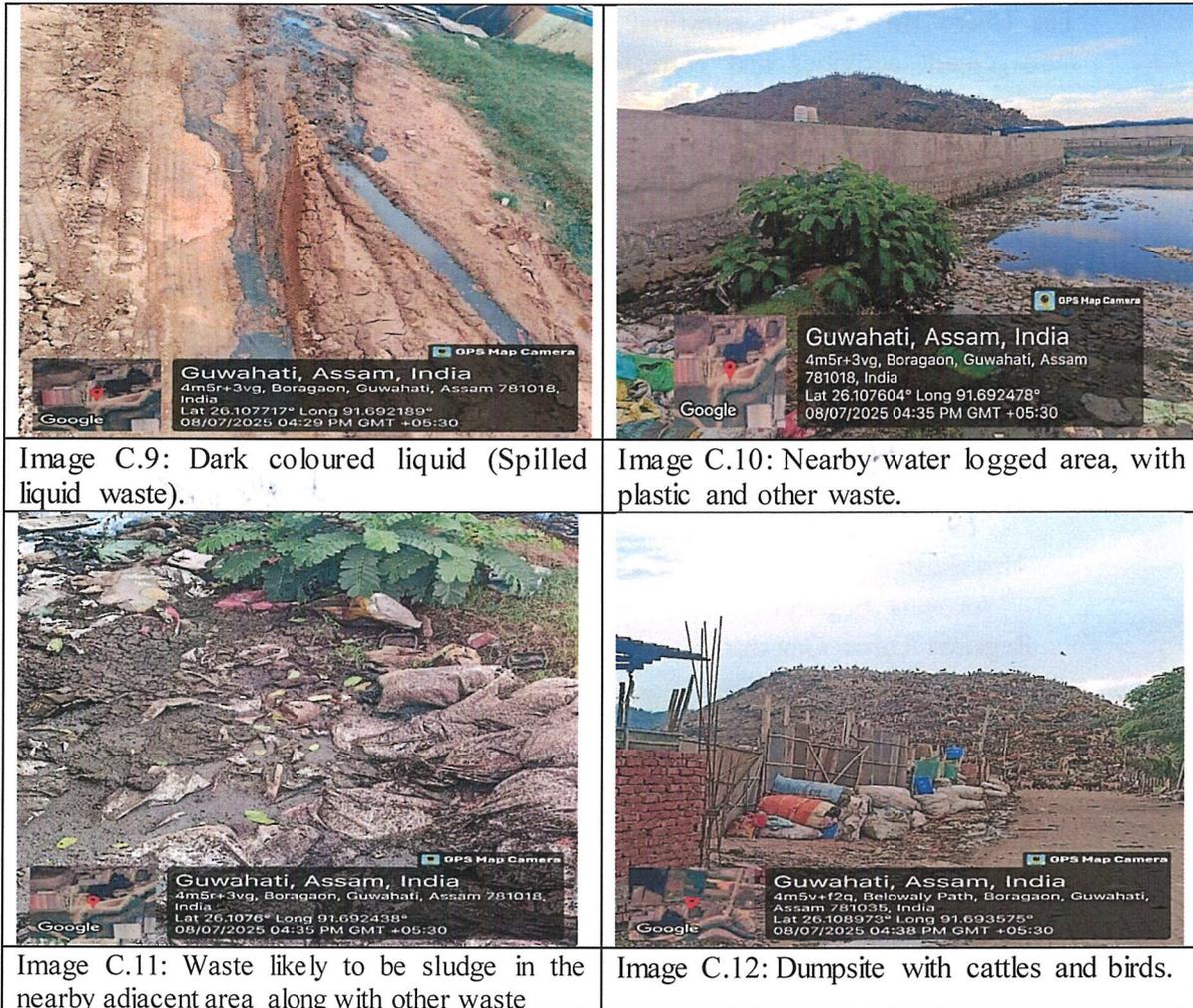


Image C.8: Nearby water channel likely to be Pamohi river, with floating waste.



Comments:

- i. Sampling and analysis of leachate, stormwater, ground water, as well as water from nearby surface water bodies at the Boragaon area, may be carried out in order to ascertain the possibility as well as subsequent level of contamination.
- ii. Concerned authorities may perhaps be requested to submit up to date details of solid waste collected and transported to the Belortol dumpsite against the quantum of waste processed, in order to quantify accumulation of solid waste at the site.
- iii. Many small waste (mostly plastic bottles etc.) collection units were observed near the vicinity of the dumping grounds.
- iv. Many water logged areas with floating garbage were observed near the vicinity of the aforementioned installations and dump sites.
- v. The water channel likely to be Pamohi River (which possibly discharges into the Deepor Beel wetland) was observed to be visually turbid and dark in colour, moreover trash material was observed to be floating in it.

- vi. The Board may perhaps constitute a committee for further assessment of waste management activities and corresponding status of compliance with regulatory standards.

Report Prepared by:

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ANNEXURE R/2

A REPORT ON WATER QUALITY PARAMETERS OF DEEPOR BEEL

The water quality of Deepor Beel is monitored on a monthly basis at eight locations spread across the entire beel. The monitoring stations are strategically located at:

- ✓ Near viewpoint/ Bird watching Tower of the Deepor Beel
- ✓ Near picnic spot, 200 meters from the railway bridge, East Side of the Beel
- ✓ Near Dharapur Bridge
- ✓ At Howrapara, Khanamukh before mixing with Khanamukhjan
- ✓ Near the MSW Dumping Site, Boragaon
- ✓ Near Assam Engineering College, Jalukbari
- ✓ Near Azara railway station, Ganakpara, Chakardoil
- ✓ At the center of Deepor Beel

CPCB has identified Deepor beel under polluted river stretch based on the BOD concentration found in the year 2016-2017. In 2018, Deepor Beel was categorized under Priority III (BOD values observed between 10mg/L to 20mg/L). However, at present the water quality of Deepor Beel falls under Priority V (BOD values ranging from 3mg/l to 6mg/L).

As per CPCB guidelines, the desired Dissolved Oxygen (DO) level should be greater than 5mg/l , while BOD value should be below 3mg/l. Additionally, the Fecal coliform value should be less than 500MPN/100 ml, which is the bathing standard prescribed by CPCB, in accordance with the directions of Hon'ble NGT.

Water quality analyses show that key parameters such as pH, dissolved oxygen (DO), chemical oxygen demand (COD), heavy metals, and nutrients like nitrate and phosphate, as well as coliform bacteria counts, are all within acceptable ranges.

- ✓ However, the biological oxygen demand (BOD) value is observed to be higher than the bathing standard (3 mg/L) as per the recent analytical data (till July, 2025).

Quina
20/8/25

CM

Water Quality of Deepor Beel at Howrapara, Khanamukh before mixing with Khanamukhjaan

Parameters	Month of Sampling		
	March, 25	April, 2025	May, 2025
Temperature	24	27	28
Dissolved O ₂ (mg/L)	5.2	5.8	5.1
pH	6.9	7.2	6.8
Conductivity (mho/cm)	454	458	400
BOD (mg/L)	5	5.4	5
NitrateN (mg/L)	1.5	0.9	0.7
Turbidity (mg/L)	9	10	7
Total Alkalinity (mg/L)	82	80	158
Chlorides (mg/L)	12	14	20
COD (mg/L)	20.2	21.8	18.6
Total Kjeldahl Nitrogen (mg/L)	1.8	1.82	1.76
Ammonical-N (mg/L)	0.74	0.78	0.8
Total Hardness (mg/L)	180	184	142
Ca as CaCo ₃ (mg/L)	102	124	92
Mg as CaCo ₃ (mg/L)	78	60	50
Sulphate (mg/L)	20.4	13.7	10
Sodium (mg/L)	26.8	28.2	24.9
Total Dissolved Solids (mg/L)	280	278	210
Total Fixed Solids (mg/L)	70	70	54
Total Suspended Solids (mg/L)	36	38	35
Phosphate (mg/L)	0.97	0.99	1.9
Boron (mg/L)	0.8	0.84	0.62
Potassium (mg/L)	18	20	5.8
Fluoride (mg/L)	0.7	0.72	0.7
Fecal Coliform (MPN/100ml)	600	730	720
Total Coliform (MPN/100ml)	1500	1600	1400
Fecal Streptococci (MPN/100ml)	210	240	210

Water Quality of Deepor Beel at the center of Deepor Beel

Parameters	Month of Sampling		
	March, 25	April, 2025	May, 2025
Temperature	24	28	29
Dissolved O ₂ (mg/L)	7.2	14.9	5.4
pH	8.8	8.1	6.9
Conductivity (mho/cm)	340	352	318
BOD (mg/L)	5.3	5.1	5.4
NitrateN (mg/L)	1.2	2.4	1.9
Turbidity (mg/L)	8	9	9
Total Alkalinity (mg/L)	70	68	96
Chlorides (mg/L)	14	16	22
COD (mg/L)	22	20.6	16
Total Kjeldahl Nitrogen (mg/L)	1.74	1.76	1.72
Ammonical-N (mg/L)	0.7	0.78	0.8
Total Hardness (mg/L)	132	140	110
Ca as CaCo ₃ (mg/L)	78	76	76
Mg as CaCo ₃ (mg/L)	54	64	34
Sulphate (mg/L)	18.4	19.1	18.6
Sodium (mg/L)	34	36.2	22.9
Total Dissolved Solids (mg/L)	220	238	198
Total Fixed Solids (mg/L)	54	60	52
Total Suspended Solids (mg/L)	26	28	40
Phosphate (mg/L)	0.96	0.99	2.2
Boron (mg/L)	0.88	0.9	0.67
Potassium (mg/L)	10.8	12.6	7.7
Fluoride (mg/L)	0.73	0.7	0.74
Fecal Coliform (MPN/100ml)	600	600	360
Total Coliform (MPN/100ml)	1200	1200	1100
Fecal Streptococci (MPN/100ml)	210	210	120

Water Quality of Deepor Beel at Boragaon near IASST, Guwahati, Assam

Parameters	Month of Sampling		
	March, 25	April, 2025	May, 2025
Temperature	25	27	29
Dissolved O ₂ (mg/L)	5.4	5.9	5.8
pH	7.2	7.4	6.9
Conductivity (mho/cm)	454	436	410
BOD (mg/L)	5.2	5.6	5.2
NitrateN (mg/L)	1.4	0.9	0.5
Turbidity (mg/L)	9	10	5
Total Alkalinity (mg/L)	72	76	158
Chlorides (mg/L)	16	18	22
COD (mg/L)	18.8	19.2	14.6
Total Kjeldahl Nitrogen (mg/L)	1.8	1.86	1.9
Ammonical-N (mg/L)	0.74	0.78	0.8
Total Hardness (mg/L)	190	184	174
Ca as CaCo ₃ (mg/L)	114	112	122
Mg as CaCo ₃ (mg/L)	76	72	52
Sulphate (mg/L)	16	13.9	7.4
Sodium (mg/L)	30.4	34	23.5
Total Dissolved Solids (mg/L)	292	284	256
Total Fixed Solids (mg/L)	74	72	66
Total Suspended Solids (mg/L)	30	32	36
Phosphate (mg/L)	0.99	1	2
Boron (mg/L)	0.92	0.96	0.71
Potassium (mg/L)	17.2	19.6	5.2
Fluoride (mg/L)	0.7	0.7	0.7
Fecal Coliform (MPN/100ml)	730	720	910
Total Coliform (MPN/100ml)	1500	1400	2000
Fecal Streptococci (MPN/100ml)	240	210	290

Water Quality of Deepor Beel near Dharapur Chariali, Guwahati, Assam

Parameters	Month of Sampling		
	March, 25	April, 2025	May, 2025
Temperature	24	28	28
Dissolved O ₂ (mg/L)	5	5.4	5
pH	6.9	7.2	7
Conductivity (µmho/cm)	456	460	402
BOD (mg/L)	5.4	5.8	5.4
NitrateN (mg/L)	1.3	0.9	0.7
Turbidity (mg/L)	9	10	3
Total Alkalinity (mg/L)	76	82	158
Chlorides (mg/L)	14	12	20
COD (mg/L)	24.6	22.4	12.7
Total Kjeldahl Nitrogen (mg/L)	1.7	1.8	1.72
Ammonical-N (mg/L)	0.7	0.74	0.78
Total Hardness (mg/L)	198	192	138
Ca as CaCo ₃ (mg/L)	136	134	90
Mg as CaCo ₃ (mg/L)	62	58	48
Sulphate (mg/L)	18.2	29	24.8
Sodium (mg/L)	32.3	20.4	232.9
Total Dissolved Solids (mg/L)	298	290	232
Total Fixed Solids (mg/L)	74	72	58
Total Suspended Solids (mg/L)	38	42	42
Phosphate (mg/L)	0.98	1	2
Boron (mg/L)	0.79	0.82	0.66
Potassium (mg/L)	21.6	20	5.5
Fluoride (mg/L)	0.69	0.72	0.69
Fecal Coliform (MPN/100ml)	720	910	910
Total Coliform (MPN/100ml)	1400	2100	1900
Fecal Streptococci (MPN/100ml)	210	290	290

Water Quality of Deepor Beel near Assam Engineering College, Jalukbari

Parameters	Month of Sampling		
	March, 25	April, 2025	May, 2025
Temperature	24	27	29
Dissolved O ₂ (mg/L)	5.2	5.3	5.7
pH	6.9	7	6.8
Conductivity (mho/cm)	454	450	402
BOD (mg/L)	5.6	5.2	5.4
NitrateN (mg/L)	1.3	0.8	0.7
Turbidity (mg/L)	10	12	3
Total Alkalinity (mg/L)	80	78	160
Chlorides (mg/L)	16	18	20
COD (mg/L)	24.6	26	21.4
Total Kjeldahl Nitrogen (mg/L)	1.76	1.8	1.76
Ammonical-N (mg/L)	0.74	0.78	0.8
Total Hardness (mg/L)	184	180	144
Ca as CaCo ₃ (mg/L)	104	122	90
Mg as CaCo ₃ (mg/L)	80	58	54
Sulphate (mg/L)	18.6	14	12.2
Sodium (mg/L)	30	34	24.7
Total Dissolved Solids (mg/L)	284	280	220
Total Fixed Solids (mg/L)	72	70	56
Total Suspended Solids (mg/L)	40	38	37
Phosphate (mg/L)	1	0.98	2.1
Boron (mg/L)	0.81	0.8	0.64
Potassium (mg/L)	20.4	22.6	5.7
Fluoride (mg/L)	0.74	0.76	0.68
Fecal Coliform (MPN/100ml)	730	360	730
Total Coliform (MPN/100ml)	1600	910	1500
Fecal Streptococci (MPN/100ml)	240	120	240

Water Quality of Deepor Beel near Azara Railway Station, Ganakpara, Chakardoi

Parameters	Month of Sampling		
	March, 25	April, 2025	May, 2025
Temperature	25	28	29
Dissolved O ₂ (mg/L)	9.2	15.7	6.1
pH	8.7	8.1	6.9
Conductivity (mho/cm)	398	402	322
BOD (mg/L)	5.5	5.4	5
NitrateN (mg/L)	1	2.8	0.8
Turbidity (mg/L)	10	10	12
Total Alkalinity (mg/L)	78	80	100
Chlorides (mg/L)	16	14	20
COD (mg/L)	26.8	27.2	24
Total Kjeldahl Nitrogen (mg/L)	1.78	1.76	1.68
Ammonical-N (mg/L)	0.7	0.74	0.76
Total Hardness (mg/L)	162	170	92
Ca as CaCo ₃ (mg/L)	114	124	62
Mg as CaCo ₃ (mg/L)	48	46	30
Sulphate (mg/L)	17.5	29	28.1
Sodium (mg/L)	28.4	22.4	24.5
Total Dissolved Solids (mg/L)	256	270	190
Total Fixed Solids (mg/L)	64	68	48
Total Suspended Solids (mg/L)	32	36	38
Phosphate (mg/L)	0.99	0.96	2.4
Boron (mg/L)	0.82	0.88	0.62
Potassium (mg/L)	22.4	21.8	8.7
Fluoride (mg/L)	0.68	0.7	0.71
Fecal Coliform (MPN/100ml)	620	720	1100
Total Coliform (MPN/100ml)	1300	1500	2100
Fecal Streptococci (MPN/100ml)	240	210	290

Water Quality of Deepor Beel near Picnic Spot, 200 mtr from the Railway Bridge

Parameters	Month of Sampling		
	March, 25	April, 2025	May, 2025
Temperature	25	28	29
Dissolved O2 (mg/L)	13.2	16.7	5
pH	8.3	8.1	6.9
Conductivity (mho/cm)	438	440	314
BOD (mg/L)	5.4	5	5.4
NitrateN (mg/L)	1	2.6	2.3
Turbidity (mg/L)	8	10	10
Total Alkalinity (mg/L)	76	72	96
Chlorides (mg/L)	16	14	22
COD (mg/L)	20.1	22.4	8.5
Total Kjeldahl Nitrogen (mg/L)	1.78	1.82	1.88
Ammonical-N (mg/L)	0.7	0.76	0.82
Total Hardness (mg/L)	178	172	110
Ca as CaCo3 (mg/L)	120	104	72
Mg as CaCo3 (mg/L)	58	68	38
Sulphate (mg/L)	14.6	24.4	21.3
Sodium (mg/L)	38.6	32	22.5
Total Dissolved Solids (mg/L)	280	280	198
Total Fixed Solids (mg/L)	70	70	52
Total Suspended Solids (mg/L)	28	32	38
Phosphate (mg/L)	0.98	0.99	2
Boron (mg/L)	0.84	0.88	0.76
Potassium (mg/L)	18	20.2	8.1
Fluoride (mg/L)	0.71	0.72	0.66
Fecal Coliform (MPN/100ml)	720	730	730
Total Coliform (MPN/100ml)	1400	1500	1500
Fecal Streptococci (MPN/100ml)	210	240	290

Water Quality of Deepor Beel near view point Bird watching Tower

Parameters	Month of Sampling		
	March, 25	April, 2025	May, 2025
Temperature	24	28	28
Dissolved O2 (mg/L)	11	16.9	5.1
pH	8.8	8.2	6.8
Conductivity (mho/cm)	408	394	318
BOD (mg/L)	5.7	5.5	5.8
NitrateN (mg/L)	1.5	2.5	2
Turbidity (mg/L)	9	10	10
Total Alkalinity (mg/L)	68	64	94
Chlorides (mg/L)	14	16	20
COD (mg/L)	18.6	20.4	16.4
Total Kjeldahl Nitrogen (mg/L)	1.68	1.72	1.7
Ammonical-N (mg/L)	0.72	0.76	0.78
Total Hardness (mg/L)	154	160	106
Ca as CaCo3 (mg/L)	86	102	72
Mg as CaCo3 (mg/L)	68	58	34
Sulphate (mg/L)	19	20.2	22.8
Sodium (mg/L)	34.8	30.6	23.9
Total Dissolved Solids (mg/L)	254	260	196
Total Fixed Solids (mg/L)	64	64	52
Total Suspended Solids (mg/L)	36	30	38
Phosphate (mg/L)	0.94	0.98	2.1
Boron (mg/L)	0.76	0.8	0.64
Potassium (mg/L)	18	22.4	7.6
Fluoride (mg/L)	0.71	0.76	0.69
Fecal Coliform (MPN/100ml)	720	1100	730
Total Coliform (MPN/100ml)	1400	2000	1600
Fecal Streptococci (MPN/100ml)	240	290	210