

BEFORE THE NATIONAL GREEN TRIBUNAL SOUTHERN ZONE
AT CHENNAI

Appeal No. 77 of 2022

M/s.Varalakshmi Starch Industries (P) Ltd.,
Rep. by its Managing Director V. Anbalagan
Having its office at:
"Varalakshmi Tower"
No.127/1, 2nd floor,
Gandhi Road,
Salem - 636007.

...Appellant

AND

Tamil Nadu Pollution Control Board
Rep. by its Chairperson
76, Anna Salai, Guindy Industrial Estate,
Guindy,
Chennai – 600032 & Ors.,

...Respondents

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For Varalakshmi Starch Industries (P) Ltd

(V. ANBALAGAN)
Managing Director

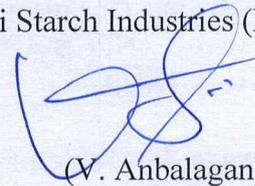
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The Documents filled above are certified as true copies of their respective Originals.

Dated at Chennai on this the 20th Day of January 2026

Appellant

For Varalakshmi Starch Industries (P) Ltd



(V. Anbalagan)
Managing Director

BEFORE THE NATIONAL GREEN TRIBUNAL SOUTHERN ZONE

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M/s. Varalakshmi Starch Industries (P) Ltd.,

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No.127/1, 2nd floor,

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Tamil Nadu Pollution Control Board (TNPCB)

Rep. by its Chairperson

76, Anna Salai, Guindy Industrial Estate,

Guindy,

Chennai – 600032 &Ors.,

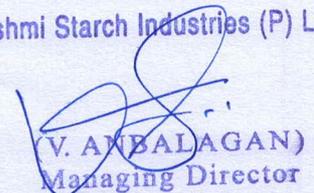
...Respondents

AFFIDAVIT ON BEHALF OF THE APPELLANT

I, V. Anbalagan, Son of R. Varadharajan, Hindu, aged about 69 years, having office at “Varalakshmi Tower”, 2nd Floor, 127/1 Gandhi Road, Hasthampatty, Salem – 636007, now temporarily come down to Chennai do hereby solemnly affirm and state as under:

I am the Managing Director of the Appellant herein and as such fully acquainted with the facts and circumstances of the present case. I am filing this affidavit on behalf of the Appellant Company.

For Varalakshmi Starch Industries (P) Ltd


V. ANBALAGAN
Managing Director

1. It is respectfully submitted that the Respondent TNPCB vide its affidavit Dt. 28.04.2025 filed before the Hon'ble NGT has provided their Report /Remarks for the inspection conducted on 29.01.2025 based on the Appellant's compliance of the Respondent's directions Dt. 16.02.2023.
2. It is respectfully submitted that the TNPCB initially communicated to the Appellant vide in their proceedings dated 17.10.2022 containing 07 directions for compliance. But the Closure Order dated 08.11.2022 issued by them contained 10 findings alleged to be non-compliance wherein 3 new directions were included. Thereafter, on 16.02.2023 the number of directions was further increased to 13. Thus the directions for compliance were enhanced.
3. It is respectfully submitted that the Appellant vide the affidavit dated 08.06.2025 filed before the Hon'ble Tribunal has already submitted the status of compliances of the 13 directions of TNPCB dated 16.02.2023 and is now submitting the current status of compliances of the 13 directions as under.

S. No. (as mentioned in directions Dt. 16.02.2023)	TNPCB directions dated 16.02.2023	Status/Remarks reported by the Respondent TNPCB in its affidavit Dt.28.04.2025	Present status of Compliance as on 20.01.2026 of the directions of TNPCB dated 16.02.2023 submitted by the Appellant
1	The unit shall furnish a time bound action plan for completing the ETP revamping works, so as to satisfy the treated trade effluent standards prescribed by the Board within a month's time	COMPLIED.	It is respectfully submitted that all works relating to the improved ETP revamping were fully completed long ago. The treated waste water Test Certificates issued multiple times by the Tamil Nadu Pollution Control Board during the intervening years, from the inception of the issue until the present, unequivocally establish that the ETP revamping has been duly completed and that the treated trade effluent consistently meets the standards allowed by the TNPCB for discharge. The TNPCB itself has confirmed the entire completion of ETP revamping works. Accordingly the direction is complied.

For Varalakshmi Starch Industries (P) Ltd

<p>2</p>	<p>The unit shall furnish a time bound action plan to replace all the SeemaiKaruvellam trees in the premises with the native species as recommended by the Agriculture Department along with the proposal for safe disposal of entire quantity of treated effluent with adequate green belt area within 15 days.</p>	<p>PARTIALLY COMPLIED.</p>	<p>The Direction for compliance is that the unit shall furnish time bound action plan to replace the semmai karuvellam trees within 15 days from the date of show cause notice of TNPCB dated 17.10.2022 and the closure order dated 8.11.2022.</p> <p>Accordingly if the unit had furnished the time bound action plan it is confirmed that the direction is complied and the unit has already submitted the time bound action plan in its response dated 28.10.2022 for the show cause notice dated 17.10.2022..</p> <p>In this situation, the TNPCB's status remark to the NGT that the direction is "partially complied" is the remark without applying mind for the time bound action submitted by the unit.</p> <p>In keeping with the said action plan, 80% to 85% of the removal of the Seemaikaruvellam trees have been completed as on date as shown below:</p> <ul style="list-style-type: none"> • Total Green Belt Area: 38 acres • Removal completed as of 08.06.2025: 25 acres • Removal Completed from 08.06.2025 to 14.12.2025: 8 acres Accordingly 33 acres completed. • Balance to be completed within six months: 5 acres <p>- Annexure 1</p> <p>The on-going removal of the Seemaikaruvellam trees will be completed within one year (2027) as per the above time bound action plan and thereafter the entire Tree will stand removed</p> <p>Accordingly the direction was complied</p>
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3

The unit shall furnish the layout of the premises marking the green belt area that are being maintained for utilization of treated effluent along with the plantation details such as number of plants, name of the plants species, plantation area etc. within 15 days

**PARTIALLY
COMPLIED.**

The Appellant has already submitted the layout of premises marking the green belt area for utilization of treated effluent to DEE, Dharmapuri vide letter VSIPL/PCB/2024-25/37 Dt. 25.04.2024 and by mail Dt. 29.10.2024. The same was also submitted to Hon'ble NGT vide affidavit Dt. 08.06.2025. **Annexure -2**

The plantation details submitted are as follows:

- Neem – 5800
- Mahogany – 1000
- Naaval – 200
- Pungam – 1300
- Casuarina – 4100
- Seluer Oak - 2800

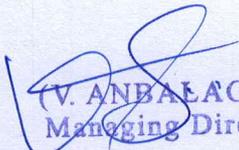
Total - 15200

Inspite of the above, the basis on which the Respondent TNPCB in its affidavit Dt. 28.04.2025 filed purposefully in OA 47/2023 instead in Appeal No.77/2022 is not known. It has recorded the status as 'partially complied' without applying mind as stated above.

The Layout of the premises marking the green belt area that are being maintained for utilization of treated effluent along with the plantation details such as number of plants, name of the plants species and plantation area, is once again enclosed for favour of ready reference - **Annexure 3**

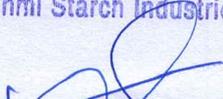
Accordingly is direction is complied

For Varalakshmi Starch Industries (P) Ltd


(V. ANBALAGAN)
Managing Director

4	The unit shall cover the storage area of wet tapioca thippy by providing a shed within a month's time.	COMPLIED.	<p>Wet Thippi is a valuable by product which is not a waste. The authority should issue directions only if it is waste. In the early consent orders it is perfectly mentioned that thippi is a saleable by-product and TNPCB does not concerned in this subject to issue directions.</p> <p>Despite the above, the Unit has duly completed putting up the roof over the wet Thippi storage area by investing around Rs. 50 Lacs. The TNPCB has also acknowledged and accepted the said compliance.</p> <p>Accordingly, the condition stands fully complied with.</p>
5	The unit shall conduct water and wastewater audit through reputed institution like Anna university, Chennai/IIT Madras and furnish report to the Board. The time bound action plan for the same shall be furnished within a month's time, as the unit has made payment to the Anna University, Chennai to carry out ETP Adequacy study only and not for the water and wastewater audit as directed by the Board vide proceeding 17.10.2022	NOT COMPLIED.	<p>The TNPCB issued Proceeding No.: TNPCB /T2 / F.025102 /Directions / Water / 2022 dated 17.10.2022 wherein in Point No. 2, directions were issued as below:</p> <p>“The Unit has to conduct detailed study by a reputed institution by Anna University, Chennai / IIT Chennai on water and waste water audit and adequacy of their existing and proposed effluent treatment plant systems”.</p> <p>Accordingly, the Appellant engaged Anna University, Chennai to conduct the detailed water and waste water audit at their processing areas and adequacy of the existing ETP of the Unit and the Anna University had submitted the Design adequacy report containing 8 chapters as follows,-</p>

For Varalakshmi Starch Industries (P) Ltd


(V. ANBALAGAN)
Managing Director

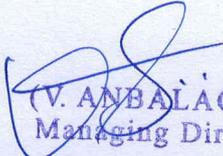
- 1.0 - Introduction
- 2.0 – Geographical Location of Varalakshmi Starch Industries (P) Ltd.
- 2.1 – Manufacturing Process at Varalakshmi Starch
- 2.1.1 – Manufacturing Process at Tapioca Starch
- 2.1.2 – Manufacturing Process at Tapioca Sago
- 2.1.3 – Manufacturing Process at Maize Starch
- 3.0 – Varalakshmi Starch Industries – ETP Scenario
- 4.0 – Status and observations of Varalakshmi Starch ETP on 24thFebruary 2023
- 5.0 - Electromagnetic Flow Meter Readings
- 6.0 - Green Belt Area
- 7.0 – Safety Measures
- 8.0 – Summary (Conclusion and Recommendations) – **Annexure 4**

It is discussed in Chapters 2.1.1, 2.1.2 and 2.1.3 about the water flow. The adequacy study includes water and waste water audit also in the process area and the waste water flow also monitored and discussed in pages 34 to 43.

Annexure 5 -

It is respectfully submitted that despite the above, TNPCB now conveniently for creating an image of non-compliance omits the word ‘adequacy’ and directs to conduct water and wastewater audit through reputed institutions as though it is different.

For Varalakshmi Starch Industries (P) Ltd


(V. ANBALAGAN)
Managing Director

Both are one and the same. This shows the deliberate intention of TNPCB to drag on the issue indefinitely.

Accordingly the direction is perfectly complied and the report also submitted to both NGT and TNPCB.

For non engaging a third party audit institution for another audit, it is respectfully submitted that the third-party audit institutions are insisting upon unrestricted access to the entire production plant, including stage-wise production processes, production machinery, proprietary technology, and know-how.

Granting such access to external agencies poses significant security and confidentiality risks, as it would inevitably expose hard earned high-value international standard high tech trade secrets, including technical information, proprietary processes, manufacturing technology, software systems, and consistent quality-assurance protocols integral to the Unit's competitive and commercial integrity. In the last hearing, it was brought to the notice of the Honourable NGT and the Tribunal has also accepted it.

Accordingly the condition is complied.

For Varalakshmi Starch Industries (P) Ltd


(V. ANBALAGAN)
Managing Director

6

The unit shall conduct ground water quality study through reputed institution like Anna University, Chennai / IIT Madras in the green belt areas that are being maintained utilizing the treated effluent and furnish the report to the Board within a month's time.

NOT COMPLIED.

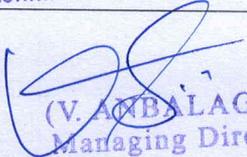
It is respectfully submitted that the Anna University has already studied the ground water quality and reported in their design adequacy report itself regarding the study of ground water (green belt area) in Sl.Nos. 12 & 13 under table 4 in page No. 30.

Based on the instructions of NGT during the last hearing the Appellant Unit has since engaged **Tamilnadu Agriculture University, Coimbatore** who is **competent to conduct agricultural related studies (since some complaints are from farmers)** and got conducted a comprehensive groundwater quality study at Green Belt Area. The report of the study given by TNAU has been duly submitted and the hard copy of the report is enclosed – **Annexure 6 -**

Their conclusion: A total of 11 samples of groundwater from various Piezometer wells, Open Wells, Bore Well and Pond were collected from the greenbelt area that was maintained utilizing the treated trade effluent of Varalakshmi Starch Industries at Pappireddipatti. The Analytical results of all these samples are enclosed with this report. The physiochemical and organic inference drawn from the analytical results have been given in this report and overall, it can be concluded that there has been no noticeable deterioration in the ground water quality in the study area of the greenbelt due to the discharge of the industry's treated trade effluent.

According this direction is duly complied.

For Varalakshmi Starch Industries (P) Ltd

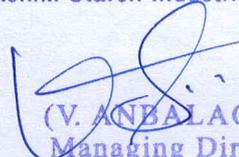

(V. ANBALAGAN)
Managing Director

7	<p>The unit shall provide adequate piezometric (monitoring wells) in the green belt area to monitor the ground water quality and furnish the report to the TNPCB regularly in view of repeated complaint received. An action plan shall be submitted within a month's time.</p>	<p>PARTIALLY COMPLIED.</p>	<p>It is respectfully submitted that the Unit has long back ago installed three piezometric (monitoring) wells in the green-belt area and in addition, has provided one more piezometric well on the north-eastern side as per the advice of Honourable NGT. Thus, a total of four piezometric wells are available within the Green Belt Area for continuous monitoring of groundwater quality by TNPCB..</p> <p>All the water test reports and all the Piezometric well water test reports are also enclosed for the period from 26.11.2024 to 18.08.2025. After that, samples are collected thrice and reports are yet to be received from TNPCB.</p> <p>Annexure 7</p> <p>Accordingly, the direction stands fully complied with.</p>
8	<p>The unit shall stop discharging treated/untreated trade effluent through the outfall located near ETP area into the Peeniar canal immediately and shall ensure that there is no access for the treated/untreated trade effluent to nearby water bodies, outside the premises either directly and indirectly. The action taken in this regard shall be reported to the Board within a week's time.</p>	<p>COMPLIED.</p>	<p>- Our Tapioca and Maize crushing waste water is not a waste. The Unit is producing 30000 m³ biogas every day and accordingly it is a valuable by-product for the Appellant. For recovering bio gas, the unit has made capital investment of more than Rs. 8 crores .The technology was provided by New Jersey Institute of Technology, USA under UNDP Demo Project. We never discharge such valuable processed water with high organic(waste water)/untreated processed water) outside our premises</p> <p>Annexure 8 –</p> <p>The TNPCB itself has also confirmed that the direction is complied.</p>

For Varalakshmi Starch Industries (P) Ltd

9	The unit shall dewater the stagnation of water in the pit provided for the proposed anaerobic reactors immediately and shall maintain the sludge drying beds properly and shall report to the Board within a week's time.	COMPLIED.	Complied and already confirmed by TNPCCB
10	The unit shall check the stability of the ETP, by engaging reputed institution like Anna University, Chennai/IIT Madras and furnish the report to the TNPCCB within a month's time.	COMPLIED.	Complied and already confirmed by TNPCCB
11	The unit shall install / maintain Electro Magnetic Flow Meter with computer recording arrangement at the inlet and outlet of the ETP within a month's time and shall furnish monthly report to the Board.	COMPLIED.	Complied and already confirmed by TNPCCB
12	In order to ensure the compliance of all the above said directions 1 to 11. The unit shall furnish a Bank Guarantee for Rs.50 Lakhs valid for one year to the TNPCCB within a month's time (Format enclosed)	NOT COMPLIED.	It is respectfully submitted that the intention behind requiring a Bank guarantee of Rs. 50 Lakhs from the Appellant is to secure compliance of the ETP revamping works so as to satisfy that the treated trade effluent meets the standards prescribed by the Board. Now, in as much as the TNPCCB itself have accepted and confirmed through TNPCCB direction dated 16.02.2023 in Sl. No. 1 that this direction has been complied, the purpose of the Bank guarantee has been fulfilled and hence the same is not warranted any more.

For Varalakshmi Starch Industries (P) Ltd


(V. ANBALAGAN)
Managing Director

			<p>Hence, the Appellant vide their letter addressed to the Chairman, TNPCB in Letter No. VSIPL/TNPCB/Chairperson/2025-26/218 dated 08.08.2025 submitted that all the directions as per closure order dated 8.11.2022 are complied and requested the Chairman, TNPCB for waiver of furnishing bank guarantee of Rs. 50 Lakhs. For the past 150 days, the Appellant have neither received any demand from the Board nor received any refusal of their request leading to an inference that the Board has agreed to our request for waiver of the bank guarantee</p> <p>Annexure 9</p> <p>Accordingly the direction is deemed accepted and relaxed by TNPCB.</p>
13	<p>The unit shall ensure the compliance of all the above said conditions and furnish the compliance report to the Board so as to examine the issue of renewal of consent to the unit</p>		<p>As per the above 12 submission, the unit has complied with all the conditions and directions fully and the Board shall issue renewal of the consent to the unit immediately.</p> <p>The Appellant Unit therefore respectfully requests the Hon'ble Tribunal to pass an early and appropriate order to enable the smooth functioning of this Agro based Rural Export Oriented Food Industry Unit and to restore its lost export and domestic customers.</p>

10. The above table with 13 complied conditions would evidently (Annexures 1 to 9) bring out that the Appellant has complied with all of the above improvement directions issued on 17.10.2022, 8.11.2022 and 16.2.2023 by TNPCB both prior to as well as after the issue of the Closure order and that the charges under Section 33A of Water (Prevention and control of Pollution) Act, 1974 levelled against the Appellant factory stand resolved and consequently would not sustain and our humble request to Hon'ble NGT is that our appeal

be allowed. From 2021 onwards, due to non-availability of valid consent order for our unit, we have lost our past 20 years developed international customers and domestic blue chip company customers. Our Company sales has diminished from 100 crores to 80 crores and at the same time due to our low performance due to the non availability of valid consent order for a long time for us, our competitor has grown up to 450 crores from his 100 crore turnover and well settled with brand value also. The direct and equal production capacity competitor Company viz., Shri Varalakshmi Sago Foods Pvt. Ltd. in Namakkal district is granted consent order without being imposed with necessary and serious conditions and whereas our unit is denied consent order for based on the improvement conditions. We are the only exporter of Tapioca Starch in India and due to the stagnation of our products in the absence of exports, the entire quantity has been diverted to domestic market which resulted surplus in the indian market and the price of the Tapioca starch has drastically come down to Rs. 36000/- from Rs. 56000/- per MT in the year 2020. The impact of fall in price of the finished product is adversely passed on to the Tapioca tuber cultivating farmers by which tapioca tuber price has fallen down from Rs. 12000/- to Rs. 5000/- per MT.

The Appellant unit being agro based rural large public utility industry (10000 rural farmers, 500 rural work force, foreign exchange earnings, Government revenue), if disturbed it will have huge impact on the livelihood of more than 10000 rural farmers and work force and will have huge decrease in foreign exchange earnings and govt. revenue.

We therefore humbly pray the Hon'ble NGT to consider our above submissions and to issue a valid order to keep the industry from destructions and to save many livelihood of rural farmers and rural work force.

The Appellant humbly prays that all the below mentioned directions should be similar for all the units (Sago & Starch) in TNPCB jurisdiction and all the units should be treated on par in regard to compliance to pollution control norms whether statutory or otherwise so that a level playing ground is established for all the units for pollution free state in addition to a common and uniform cost of production due to the statutory conditions and levies and should be framed as a settled law as per act and rulings.

- The uniform treated waste water standards either on land discharge/ surface water discharge
- Water and waste water audit study through reputed relevant Government institutions,
- Stability of the ETP study through reputed relevant Government institutions,

- ETP adequacy study through reputed relevant Government institutions,
- Ground water quality study through reputed Government institutions,
- Providing shed to cover the storage area of wet Thippi
- Piezometric well in green belt area/where the treated waters is discharged
- Variety and quantity of planted trees in Green Belt Area
- Lay out of factory premises
- Lay out of Green belt area with SF No., village and ownership
- Month wise test reports of raw waste water, treated waste water, Piezometric well water, Green belt area water
- NOC as per GO No. 142 dated 23.07.2014 of Public Works (R2) Department. and all other Statutory requirements etc.

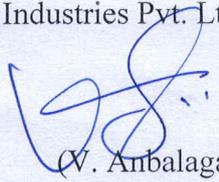
In the interest of the whole Tapioca Starch and Sago industry, we earnestly pray that the Honourable NGT may cause necessary action in this specific subject and to direct the TNPCB to issue consent order immediately and also to direct the TNPCB to frame uniform conditions, special conditions, addition special conditions and general conditions etc. for all the similar units.

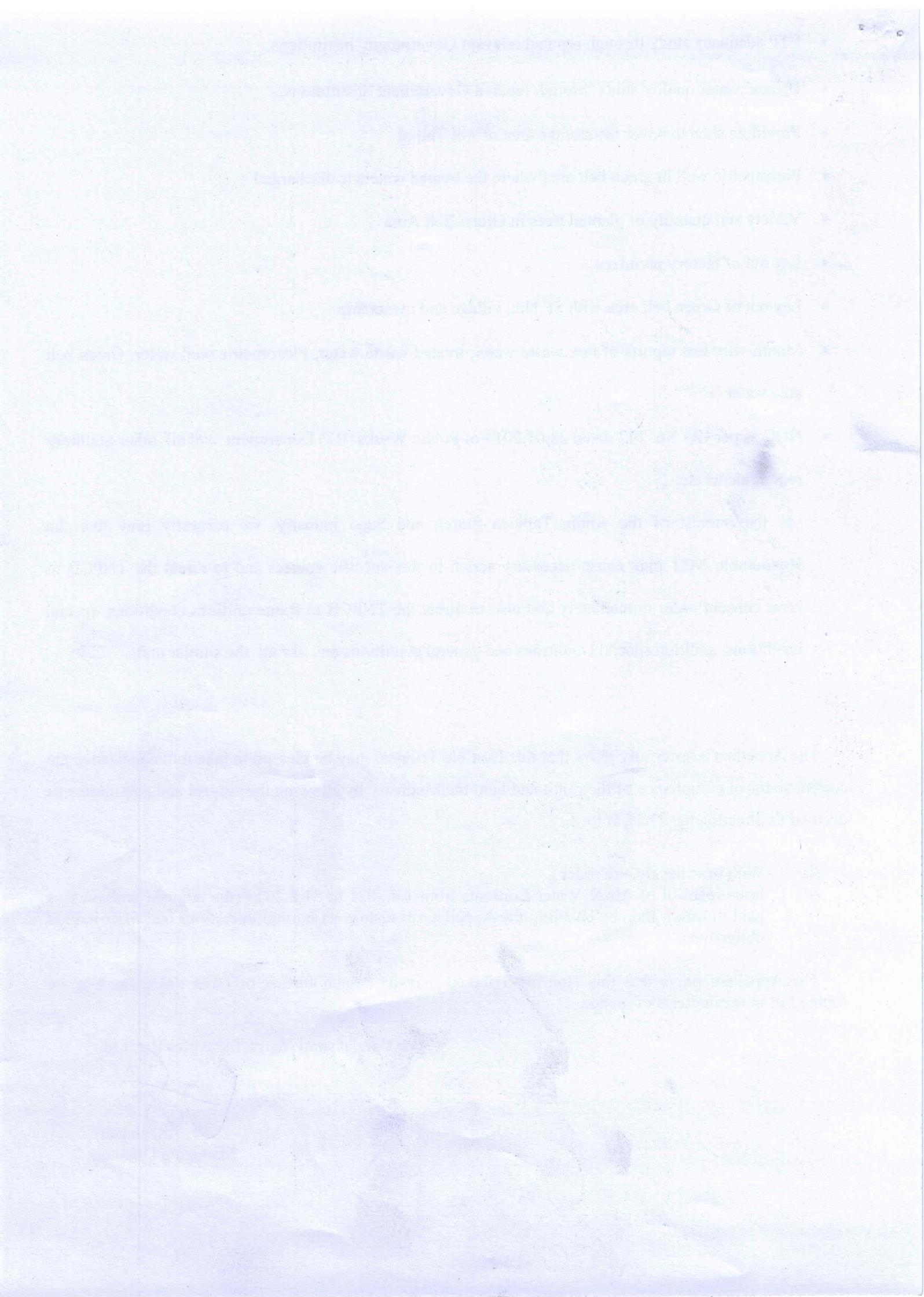
The Appellant respectfully prays that this Hon'ble Tribunal may be pleased to take into cognizance the current status of compliance of their unit and help their industry by allowing the Appeal and pass orders as deemed fit directing the TNPCB to:

- Withdraw the closure order
- Issue renewal of Air & Water Consents from 1.4.2021 to 31.3.2029 (the relevant consent fees paid in time) thereby enabling the Appellant to restore its normal operations and meet market obligations.

The Appellant prays that this Hon'ble Tribunal may pass such further or other orders as may be deemed fit in the interests of justice.

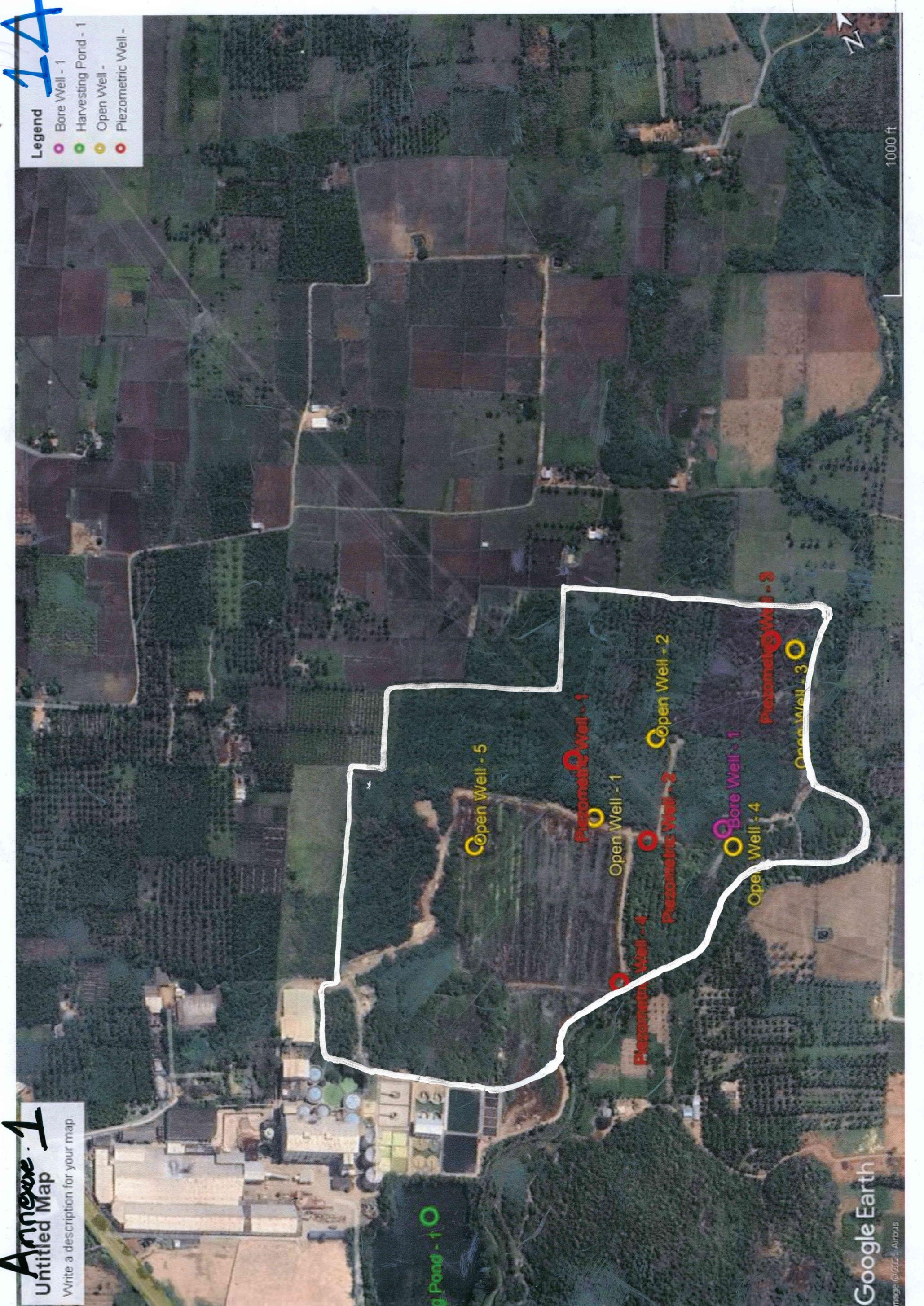
For Varalakshmi Starch Industries Pvt. Ltd.


(V. Anbalagan)
Managing Director



Annex - 1
Untitled Map
Write a description for your map.

- Legend**
- Bore Well - 1
 - Harvesting Pond - 1
 - Open Well -
 - Piezometric Well -



g Pond - 1

Open Well - 5

Piezometric Well - 1

Open Well - 1

Piezometric Well - 4

Piezometric Well - 2

Open Well - 4

Bore Well - 1

Open Well - 3

Piezometric Well - 3

Open Well - 3

Google Earth

Image © 2015 Airbus

1000 ft





Annexure - 2 01/15

VARALAKSHMI STARCH INDUSTRIES (P) LTD.

MRFSS & EXPORTERS · SUPER HIGH GRADE TAPIOCA SAGO, TAPIOCA STARCH, MAIZE STARCH, MODIFIED STARCHES & SAGO PAPADS

VS IPL/PCB/2024-25/37

25.04.2024

To

The Chairman,
Tamil Nadu Pollution Control Board,
Chennai

Madam,

Sub: Re-submission of our Online Consent to Operate (CTO) Renewal Application No.53943486 for Water & Air Consent Reg.

Ref: 1. Our Online Application for Renewal of Consent orders submitted on 20/04/2021 with a payment of Rs.4,54,756/- by SBI DD Bearing No. 765824 dated 17/04/2021-got auto deleted due to TAT days during covid.

2. Our Online Application for Renewal of Consent Orders submitted on 09/10/2021.
3. Return of our Application with Scrutiny Report dated 18/10/2021.
4. Our letter No.VSIPL/PCB/2021-22/337 dated 08/11/2021with Photos of our ETP
5. Resubmission of our Online Application for Renewal of Consent Orders on 16/11/2021.
6. Return of our Application with Scrutiny Report dated 17/11/2021 citing to The DEE letter F.DMP.0013/DEE/TNPCB/DMP/OL/2021 dated 17/11/2021.
7. Resubmission of our Online Application for Renewal of Consent Orders on 18/11/2021.
8. Our letter No. VSIPL/PCB/2021-22/366 dated 20/11/2021 addressed to The Chairman PCB with a CC marked to the Member Secretary and The DEE & Resubmission.
9. Return of our Application with Scrutiny Report dated 17/12/2021 citing The DEE letter F.DMP.0013/DEE/TNPCB/DMP/OL/2021 dated 16/12/2021.
10. Resubmission of our Online Application for Renewal of Consent Orders on 29/01/2022 for keeping the application active in portal.
11. Return of our Application with Scrutiny details received through OCMMS portal on 04/02/2022
12. Our Submissions to DEE vide letter No. VSIPL/PCB/2021-22/525 dated 24/02/2022.
13. Resubmission of our Online Application for Renewal of Consent Orders on 19/03/2022.
14. Return of our Application with Scrutiny details dated 28/03/2022.
15. TNPCB Board's Proceeding No. TNPCB/T2/F.025102/DMP/OL/Directions/W/2021/dated 18/04/2022 received on 25/04/2022.
16. Our letter No. VSIPL/PCB/2022-23/037 dated 02/05/2022 addressed to The Chairman, PCB with a CC marked to the DEE.
17. Our Online Application -fresh submission for Hazardous Waste Management submitted on 11/05/2022, second time.
18. Our 2nd letter No. VSIPL/PCB/2022-23/060 dated 11/05/2022 addressed to The Chairman, PCB, in continuation to our letter dated 02/05/2022 with a CC marked to the DEE.
19. Our Online Resubmission of Application for Renewal of Consent Orders on 02/05/2022.
20. Return of our Hazardous Waste Management Application with details dated 21/05/2022.
21. Return of our Renewal Application with Scrutiny details dated 23/05/2022.

Regd. Office: "Varalakshmi Tower", II Floor, No. 127/1, Gandhi Road, Salem - 636 007. T.N. India.

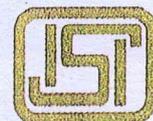
Email : office@varalakshmistarch.com | Mobile : 94426 13174, 94421 33794

Factory : No. 7/114-126, Bommidi Main Road, Pappireddipatti (Po), Dharmapuri Dt. - 636 905.

GSTIN : 33AABCV0094P1Z2 | CIN No. U01532TZ1995PTC006136

www.varalakshmistarch.com

IS : 899



CM/L-6100012769
TAPIOCA SAGO

IS : 1319



CM/L-6299891
TAPIOCA STARCH



22. Inspection of our unit by the The JCEE (M), The DEE and The AEE on 04/08/2022.
23. Letter from The JCEE (M) on 18/08/2022 vide Lr.No.JCEE(M) VLR-Z/TNPCB/DMP/15/10/2022 Dt.16/08/2022
24. Resubmission of Application for Renewal of Consent Orders on 19/08/2022 –To keep active.
25. Meeting with JCEE (M) on 22/08/2022 followed by our letter No. VSIPL/PCB/2022-23/242 dated 25/08/2022.
26. Return of our Renewal Application with Scrutiny details dated 23/08/2022.
27. TNPCB Board's Proceeding No. TNPCB/T2/F.025102/ Directions/Water/2022/dated 17/10/2022 received on 25/10/2022 by Speed Post.
28. Our letter No. VSIPL/PCB/2022-23/335 dated 19/10/2022 addressed to The Chairman PCB, seeking copies of the letters referred in 2, 3 & 4 of the Proceedings cited in reference 28, with a CC marked to the JCEE& DEE.
29. The DEE letter F.DMP.0013/DEE/TNPCB/DMP/OL/2021 dated 22/10/2022 stating the copies sought for - are internal correspondences
30. Our Letter No. VSIPL/PCB/2022-23/343/RPAD dt 28.10.2022 – addressed to The Chairman for the Proceedings dated 17.10.2022 – reg. the renewal of Consent order to our industry.
31. TNPCB proceedings No.TNPCB/T2/F.25102/DMP/Closure/Water/2022 dt 08.11.2022 received by us as soft copy on request by e-mail from DEE, TNPCB on 10.11.2022 and original copy received through Speed post on 15.11.2022.
32. Our Letter No.VSIPL/PCB/2022-23/379 dt 21.11.2022 – our submission towards revocation of closure order and disconnection of power supply.
33. Our letter No. VSIPL/PCB/H.D/COLLECTOR/2022-23/378 dt 21.11.2022 – Sudden disconnection of power supply to our Agro based industry by TNPCB on 08.11.2022.
34. NGT Interim order dated 09.12.2022, there will be an order of Interim Stay of the Impugned Order dated 08.11.2022 and the 4th Respondent is directed to restore the power supply immediately.
35. Our letter No. VSIPL/PCB/2022-23/402/RPAD dt 15.12.2022 to The Chairman, TNPCB regarding renewal of Consent.
36. TNPCB Proceedings No. TNPCB/T2/F.025102/Directions/Water/2023, dt 16.02.2023.
37. Resubmission of Online renewal application Letter No. VSIPL/PCB/2022-23/DT 01.03.2023
38. Our reply No. VSIPL/PCB/2022-23/498/RPAD dt 02.03.2023 for the Proceedings from TNPCB dt 16.02.2023.
39. Our letter No.VSIPL/PCB/2022-23/513/RPAD dt 14.03.2023 Reg. Consent Renewal Constraints being faced due to consent order validity got over.
40. Our letter No. VSIPL/PCB/2022-23/38 DT 06.06.2023 reg - our renewal application deleted and consent fee forfeited on 05.06.2023.
41. Our letter No. VSIPL/PCB/2023-24/RPAD/74 dt 05.07.203 – Restoration of our online renewal application.
42. Our Online renewal CTO application submitted in the OCMMS portal on 11.07.2023.
43. Online renewal application returned by TNPCB on 21.07.2023.
44. Our Letter No.VSIPL/PCB/2023-24/94 DT 28.07.2023 – Resubmission of online application.
45. Online renewal application returned by TNPCB on 03.10.2023.
46. Our Reply for the second online return to your scrutiny compliances dt 21.07.2023 and 03.10.2023 - Letter No. VSIPL/PCB/2023-24/266 dt 29.12.2023.
47. Our Letter No. VSIPL/PCB/2023-24/272 dt 01.01.2024 for the online resubmission of Consent Renewal Application.
48. Online renewal application returned by TNPCB on 29.01.2024.



Our industry is a Rural Agro Based Medium Scale Export Oriented Industry located in the Backward District of Dharmapuri, manufacturing Tapioca Starch, Sago, Pappad, Maize Starch and Modified starches out of Tapioca Tubers and Maize Kernels operating for the past 25 years with valid Consent orders from TNPCB. We are the only exporter of Tapioca starch from India and providing Foreign Exchange to our Country.

We had submitted our online renewal application well within the time for the renewal of our consent, but the DEE of the Dharmapuri TNPCB office have been returning our online application several times by citing several similar compliance directions and also artificially added additional compliance directions whenever our online application was being returned and moreover these directions are only related to minor improvements but are being cited for withholding the renewal.

While our renewal applications are being withheld, we have received information through RTI that other similar large starch and sago industries located in Namakkal and Erode Districts are being given consents for further expansion of their industries without any impediment. For these other industries, the District Environmental Engineers of Namakkal and Erode Districts never sought such stringent compliances for providing consent for expansion or consent renewal and NOC from PWD for drawal of groundwater for industrial use was also not insisted though such industry was located in an Over-Exploited Area. But for us, the Dharmapuri DEE was insisting on NOC from PWD though our industry is located in a Semi-Critical area even though we have not applied the consent for expansion. Similarly, the DEE's of Namakkal and Erode also never insisted for Water & Wastewater Audit, Groundwater quality Audit, Stability study, Adequacy report of the ETP by reputed institutions like Anna University or IIT Madras, but the DEE of Dharmapuri had been insisting us to obtain such audits and studies. This has led to these other similar industries using the same raw materials and manufacturing the same finished products as us getting big business and earning huge profits. Due the delay in consent renewal to us, we have lost huge business and lost our market share in the sago and starch market and lost our international buyers for the last 3 years. Our industrial income has reduced drastically but expenditure has increasing alarmingly in the past 3 years mainly due to non-renewal of our consent. The principle of natural justice requires that all including industries are treated equally in India but the Dharmapuri TNPCB officials are insisting on various compliances from us and are continuously on monthly basis collecting the treated wastewater and groundwater samples and testing the same at their own laboratory and confirms in the test reports that our parameters are well within the standards prescribed by the TNPCB, but the same compliances and monitoring are not followed in other similar competing industries in neighbouring districts. We cannot understand what the strategy is behind this. We want Justice then only we can survive in this field.



At present our industry is functioning with the Interim stay order issued by The Hon'ble National Green Tribunal, Southern Zone, Chennai on our appeal against TNPCB closure order dated 08.11.2022. In the interim order, Hon'ble Judicial Member Smt. Pushpa Sathyanarayana and Hon'ble Expert Member Dr.Satyagopal Korlapati clearly narrated that "whatever has been pointed out in the Impugned order are rectifiable and does not warrant the closure of the unit". Accordingly, the Hon'ble NGT also confirmed that the directions for compliance issued by TNPCB are merely only improvement compliances and it is not a serious issue for closure of the industry and denying the consent renewal.

With the instructions from the TNPCB, we had approached the Centre for Environmental Studies Department, Anna University to conduct a detailed study of our ETP. And they provided a detailed Adequacy report of our ETP on 29.05.2023. Later the CES Department of Anna University had cancelled the Adequacy report on 08.07.2023 stating that scientific interpretations with regard to the TDS removal happening in the ETP has to be studied based on the discussions with TNPCB. Following this we had provided information including from our ETP consultant to the Centre for Environmental Studies, Anna University regarding scientific Interpretation on removal of TDS and also submitted the Coimbatore Agricultural University field study report about the TDS in the Sago and Starch industries in Salem and Namakkal Districts. The Centre for Environmental Studies, Anna University on receiving sufficient clarifications approved their Design Adequacy Report dated 29.05.2023 of our ETP vide their email dated 21.03.2024 and the same email was also marked to you by CES Anna University. The CES Department of Anna University confirmed that functioning of our ETP is well within parameters prescribed by the TNPCB Consent orders.

Because of the delay in renewal of consent orders by the TNPCB, we are unable to retain our international buyers as well as big domestic buyers. So we have lost the entire export business which was developed by us for the past 20 years resulting in multi crore loses to our industry for the past 3 years. At present our industry is kept alive due to the Interim stay order against your closure order issued by The Hon'ble NGT, Southern Zone, Chennai against TNPCB closure order dated 08.11.2022.

We have enclosed the reply to your scrutiny report dated 29.01.2024. We have submitted the reply for the all the previous compliances then and there related with renewal of consents. We would like to inform you that there are no changes in the products manufactured and its production capacity or raw materials and there is no change in the quantity of raw water consumption or trade effluent generation.

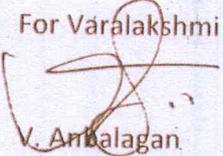


Our industry is a Rural Agro Based Export Oriented Industry located in the Backward district of Dharmapuri. More than 10000 Rural, Small, Tiny and Tribal farmers who were cultivating Tapioca and Maize are benefitted from our industry and more than 400 Rural work force are dependent on our Factory for their livelihood. Hence, kindly peruse and consider our renewal application and issue the renewal consent order for Water and Air as early as possible as per the application applied from 01.04.2023 to 31.03.2029 and consent fees of Rs. 13,84,440/- upto 31.03.2029 was also paid. We will always obey the rules and regulations insisted by the TNPCB. Our bankers are insisting to submit the valid consent order from TNPCB, otherwise the financial assistance will be stopped by the bankers. So, kindly provide us the renewal of consent orders to operate our industry smoothly and do the needful.

Thanking you,

Yours faithfully,

For Varalakshmi Starch Industries Private Limited,


V. Anbalagan

Managing Director.

CC to: 1) The Member Secretary, Tamil Nadu Pollution Control Board, Chennai.

2) The District Environmental Engineer, Tamil Nadu Pollution Control Board, Dharmapuri.

Encl: 1. Our reply for Scrutiny Report dated 29.01.2024.

2. EMFM Reading Reports from January 2024 to March 2024.

3. Monitoring wells location map.

**TNPB CONSENT RENEWAL APPLICATION RETURNED IN OCMMS PORTAL on 29.01.2024
with 11 - compliance and our reply**

S. No	Scrutiny Description	Our Reply
1	The unit has been already requested to correct the application and furnish the all documents/particulars requested vide note history dated 21.07.2023 and 03.10.2023. But the unit has not furnished/corrected the details called for and the application submitted is incomplete.	Our Consent renewal application (without any modification) for renewal of our Consent order No.2005130094389 and No.2005230094389 dated 02.03.2020 with all necessary supportive documents and status of compliances were submitted earlier and in our submissions through OCMMS portal dated 01.08.2023 and 29.12.2023.
2	The unit shall add all the raw material used to manufacture each product in the application as per the Anna University report 2009, since the unit has informed that that there is no change in raw material and product detail after expansion of the unit.	There are no expansion or additions in our raw material after Year 2009. We had applied only for the renewal of our Consent order No.2005130094389 and No.2005230094389 dated 02.03.2020 without any changes in product or raw materials.
3	The unit uses sulphur/SMBS in the sulphitation plant to steep the maize before getting the maize starch and other by products and hence the unit shall add the details of sulphur/SMBS usage in the application	The Sulphitation plant has already been included during the construction of Maize plant in the year 2009 itself and is available in the Consent order No.2005130094389 and No.2005230094389 dated 02.03.2020. There is no other addition in this plant.
4	The unit shall enter the manufacturing process of modified starch along with raw material used since the unit has informed that only dry process is being followed to manufacture modified starches.	The production of modified starch is already there in our Consent order No.2005130094389 and No.2005230094389 dated 02.03.2020 for which only renewal is being sought now without any new modified starch production. This is for your kind information.


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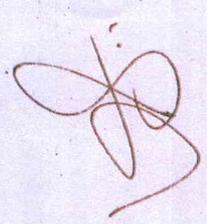
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5	<p>The unit has provided Membrane Bio-reactor, Filter Press as a component of ETP. Hence, the unit shall include the MBR and other component details installed for the treatment of effluent in the application.</p>	<p>The MBR Plant is not in the ETP. This plant is an experimental plant for re-use of wastewater in our industry. Because of this reason we have not included MBR in the ETP. Our treated wastewater samples from ETP are collected monthly by TNPCB officials and tested at their own laboratory and the results confirms that our treated wastewater is within the standards for own land irrigation prescribed by the TNPCB.</p>
6	<p>The unit shall include the additional stacks in the maize plant from gluten dryer, flash drier, etc noticed in the emission sources details and its APC measures in the application.</p>	<p>There are no additional Stacks with emission sources in the Maize plant.</p>
7	<p>The unit has not yet to furnished the report of water and wastewater audit study as per the Bd's direction issued vide Proc. dated 16.02.2023.</p>	<p>As per Board's proceedings dated 16.02.2023 we have approached The Centre for Environmental Studies, Anna University to conduct water and wastewater audit study and we had paid the fees requested by them. The Anna University wants access to our entire production plant apart from the ETP and wants to inspect stage wise our production plant which requires us to allow then access to our production machinaries and production technology and knowhow. Since we fear that allowing third party access to our production unit will compromise our technology knowhow, the audit is held up.</p>
8	<p>The unit has not yet to furnished the report of ground water quality study in the green belt area that are being maintained utilizing the treated effluent as per the Bd's direction issued vide Proc. dated 16.02.2023.</p>	<p>The TNPCB officials for the last two years have taken so many samples of groundwater in our own greenbelt area, Farmers wells and Public wells in the surrounding one kilometer radius. They tested the water samples in their own laboratory and reveals that the parameters of the ground water were well within standards prescribed by the TNPCB.</p>
9	<p>The unit has not yet to furnished the monthly report of EMFMs reading provided at the inlet and out let of ETP as per the Bd's direction dated 16.02.2023. Hence, the same shall be uploaded.</p>	<p>Upto December 2023 we had submitted the EMFM reading on 01.01.2024. Herewith we have enclosed the monthly report of EMFMs reading at the inlet and outlet of the ETP from Jan 2024 to March 2024.</p>


 2

21

<p>10</p> <p>The unit in its compliance status of Bd's direction dated 16.02.2023 in S.no.7 it was informed that "have already provided piezometric (monitoring well) in the greenbelt area". However, the unit has not enclosed any document showing the location of the same the same. Hence, the unit shall furnish the detail of piezometric well provided</p>	<p>We had provided the piezometric (monitoring well) wells in the green belt area. The location map is enclosed for your reference.</p>
<p>11</p> <p>The unit shall furnish the present status of compliance for the violations noticed in closure order dated 08.11.2022. Further, the cases filed before the Hon'ble NGT (SZ) vide Appeal No.77/2022 (against the closure order of the Board by the unit) and vide O.A.47/2023 (Against the operation of the unit by the Complainant Thiru Suresh) were pending. Also, Still Complaints have been received against the operation of the unit in every Farmers Grievances day meeting. Hence the application is returned for correction in the application, want of additional particulars and compliance of the Board's directions</p>	<p>The compliances referred in the closure order dt 08.11.2022 are mainly for the development/improvement of the industry and not related to the closure of the industry. This was clearly confirmed in the Interim stay order dated 09.12.2022 issued by the Hon'ble NGT that "whatever has been pointed out in the impugned order are rectifiable and does not warrant the closure of the unit". So there is no violation on our part. The hearing on our appeal No. 77 of 2022 at NGT is scheduled on 31.05.2024. With regard to the said farmers complaints mentioned in your scrutiny report, we had already sent a letter to you on 22.04.2024 for obtaining details. Please provide the details of the said farmers complaints against our unit said to have been raised in the recent farmers grievance day meetings so that we can fine tune our ETP if required. We had replied on all the compliances and submitted the relevant supportive documents for your reference. Kindly process our OCMMS online application and provide the Consent order renewal to run our industry smoothly because for the benefit of more than 10000 small, rural, tiny and tribal tapioca and maize growing farmers and village work force who are depend for their livelihood on our industry in the Backward Dharmapuri District.</p>

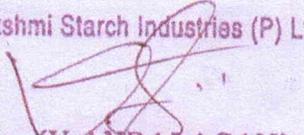


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Varalakshmi Starch Industries Private Limited
EMFM Inlet Readings Details

Date	Opening reading (m3)	Today reading (m3)	Total (m3)
01.01.2024	0	215	215
02.01.2024	215	335	550
03.01.2024	550	210	760
04.01.2024	760	164	924
05.01.2024	924	412	1336
06.01.2024	1336	358	1694
07.01.2024	1694	252	1946
08.01.2024	1946	175	2121
09.01.2024	2121	215	2336
10.01.2024	2336	185	2521
11.01.2024	2521	379	2900
12.01.2024	2900	316	3216
13.01.2024	3216	424	3640
14.01.2024	3640	259	3899
15.01.2024	3899	222	4121
16.01.2024	4121		4121
17.01.2024	4121		4121
18.01.2024	4121	6	4127
19.01.2024	4127	190	4317
20.01.2024	4317	86	4403
21.01.2024	4403	168	4571
22.01.2024	4571	250	4821
23.01.2024	4821	269	5090
24.01.2024	5090	355	5445
25.01.2024	5445	362	5807
26.01.2024	5807	292	6099
27.01.2024	6099	380	6479
28.01.2024	6479	350	6829
29.01.2024	6829	334	7163
30.01.2024	7163	245	7408
31.01.2024	7408	381	7789

For Varalakshmi Starch Industries (P) Ltd,

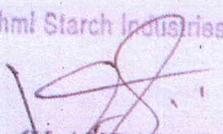

(V. ANBALAGAN)
 Managing Director

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Varalakshmi Starch Industries Private Limited
EMFM Inlet Readings Details

Date	Opening reading (m3)	Today reading (m3)	Total (m3)
01.02.2024	7789	360	8149
02.02.2024	8149	360	8509
03.02.2024	8509	420	8929
04.02.2024	8929	403	9332
05.02.2024	9332	410	9742
06.02.2024	9742	377	10119
07.02.2024	10119	154	10273
08.02.2024	10273	377	10650
09.02.2024	10650	382	11032
10.02.2024	11032	350	11382
11.02.2024	11382	357	11739
12.02.2024	11739	282	12021
13.02.2024	12021	300	12321
14.02.2024	12321	331	12652
15.02.2024	12652	229	12881
16.02.2024	12881	295	13176
17.02.2024	13176	251	13427
18.02.2024	13427	284	13711
19.02.2024	13711	240	13951
20.02.2024	13951	300	14251
21.02.2024	14251	198	14449
22.02.2024	14449	199	14648
23.02.2024	14648	267	14915
24.02.2024	14915	310	15225
25.02.2024	15225	300	15525
26.02.2024	15525	230	15755
27.02.2024	15755	210	15965
28.02.2024	15965	250	16215
29.02.2024	16215	241	16456

For Varalakshmi Starch Industries (P) Ltd

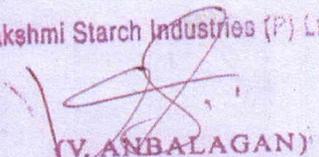

(V. ANBALAGAN)
Managing Director

25

Varalakshmi Starch Industries Private Limited
EMFM Inlet Readings Details

Date	Opening reading (m3)	Today reading (m3)	Total (m3)
01.03.2024	16456	360	16816
02.03.2024	16816	309	17125
03.03.2024	17125	271	17396
04.03.2024	17396	124	17520
05.03.2024	17520	246	17766
06.03.2024	17766	260	18026
07.03.2024	18026	109	18135
08.03.2024	18135	120	18255
09.03.2024	18255	186	18441
10.03.2024	18441	121	18562
11.03.2024	18562	102	18664
12.03.2024	18664	215	18879
13.03.2024	18879	235	19114
14.03.2024	19114	205	19319
15.03.2024	19319	139	19458
16.03.2024	19458	202	19660
17.03.2024	19660	141	19801
18.03.2024	19801	210	20011
19.03.2024	20011	0	20011
20.03.2024	20011	180	20191
21.03.2024	20191	0	20191
22.03.2024	20191	120	20311
23.03.2024	20311	69	20380
24.03.2024	20380	100	20480
25.03.2024	20480	100	20580
26.03.2024	20580	0	20580
27.03.2024	20580	180	20760
28.03.2024	20760	220	20980
29.03.2024	20980	181	21161
30.03.2024	21161	20	21181
31.03.2024	21181	-	21181

For Varalakshmi Starch Industries (P) Ltd


(V. ANBALAGAN)
 Managing Director

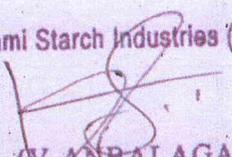
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26

Varalakshmi Starch Industries Private Limited
EMFM Outlet Readings Details

Date	Opening reading (m3)	Today reading (m3)	Total (m3)
01.01.2024	0	198	198
02.01.2024	198	221	419
03.01.2024	419	288	707
04.01.2024	707	163	870
05.01.2024	870	303	1173
06.01.2024	1173	374	1547
07.01.2024	1547	195	1742
08.01.2024	1742	395	2137
09.01.2024	2137	199	2336
10.01.2024	2336	178	2514
11.01.2024	2514	353	2867
12.01.2024	2867	279	3146
13.01.2024	3146	461	3607
14.01.2024	3607	240	3847
15.01.2024	3847	206	4053
16.01.2024	4053		4053
17.01.2024	4053		4053
18.01.2024	4053	47	4100
19.01.2024	4100	217	4317
20.01.2024	4317		4317
21.01.2024	4317	259	4576
22.01.2024	4576	231	4807
23.01.2024	4807	290	5097
24.01.2024	5097	290	5387
25.01.2024	5387	330	5717
26.01.2024	5717	430	6147
27.01.2024	6147	330	6477
28.01.2024	6477	351	6828
29.01.2024	6828	350	7178
30.01.2024	7178	338	7516
31.01.2024	7516	118	7634

For Varalakshmi Starch Industries (P) Ltd

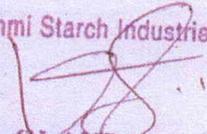

(V. ANBALAGAN)
 Managing Director

27

Varalakshmi Starch Industries Private Limited
EMFM Outlet Readings Details

Date	Opening reading (m3)	Today reading (m3)	Total (m3)
01.02.2024	7634	486	8120
02.02.2024	8120	389	8509
03.02.2024	8509	418	8927
04.02.2024	8927	262	9189
05.02.2024	9189	425	9614
06.02.2024	9614	344	9958
07.02.2024	9958	241	10199
08.02.2024	10199	393	10592
09.02.2024	10592	366	10958
10.02.2024	10958	235	11193
11.02.2024	11193	417	11610
12.02.2024	11610	280	11890
13.02.2024	11890	426	12316
14.02.2024	12316	260	12576
15.02.2024	12576	300	12876
16.02.2024	12876	267	13143
17.02.2024	13143	293	13436
18.02.2024	13436	270	13706
19.02.2024	13706	240	13946
20.02.2024	13946	300	14246
21.02.2024	14246	150	14396
22.02.2024	14396	230	14626
23.02.2024	14626	226	14852
24.02.2024	14852	344	15196
25.02.2024	15196	231	15427
26.02.2024	15427	250	15677
27.02.2024	15677	211	15888
28.02.2024	15888	276	16164
29.02.2024	16164	211	16375

For Varalakshmi Starch Industries (P) Ltd


(V. ANBALAGAN)
Managing Director

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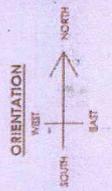
Varalakshmi Starch Industries Private Limited
EMFM Outlet Readings Details

Date	Opening reading (m3)	Today reading (m3)	Total (m3)
01.03.2024	16375	383	16758
02.03.2024	16758	287	17045
03.03.2024	17045	268	17313
04.03.2024	17313	142	17455
05.03.2024	17455	262	17717
06.03.2024	17717	173	17890
07.03.2024	17890	206	18096
08.03.2024	18096	86	18182
09.03.2024	18182	200	18382
10.03.2024	18382	80	18462
11.03.2024	18462	140	18602
12.03.2024	18602	136	18738
13.03.2024	18738	200	18938
14.03.2024	18938	178	19116
15.03.2024	19116	150	19266
16.03.2024	19266	193	19459
17.03.2024	19459	47	19506
18.03.2024	19506	172	19678
19.03.2024	19678	163	19841
20.03.2024	19841	39	19880
21.03.2024	19880	143	20023
22.03.2024	20023	238	20261
23.03.2024	20261	61	20322
24.03.2024	20322	115	20437
25.03.2024	20437	90	20527
26.03.2024	20527	0	20527
27.03.2024	20527	180	20707
28.03.2024	20707	220	20927
29.03.2024	20927	35	20962
30.03.2024	20962	169	21131
31.03.2024	21131	-	21131

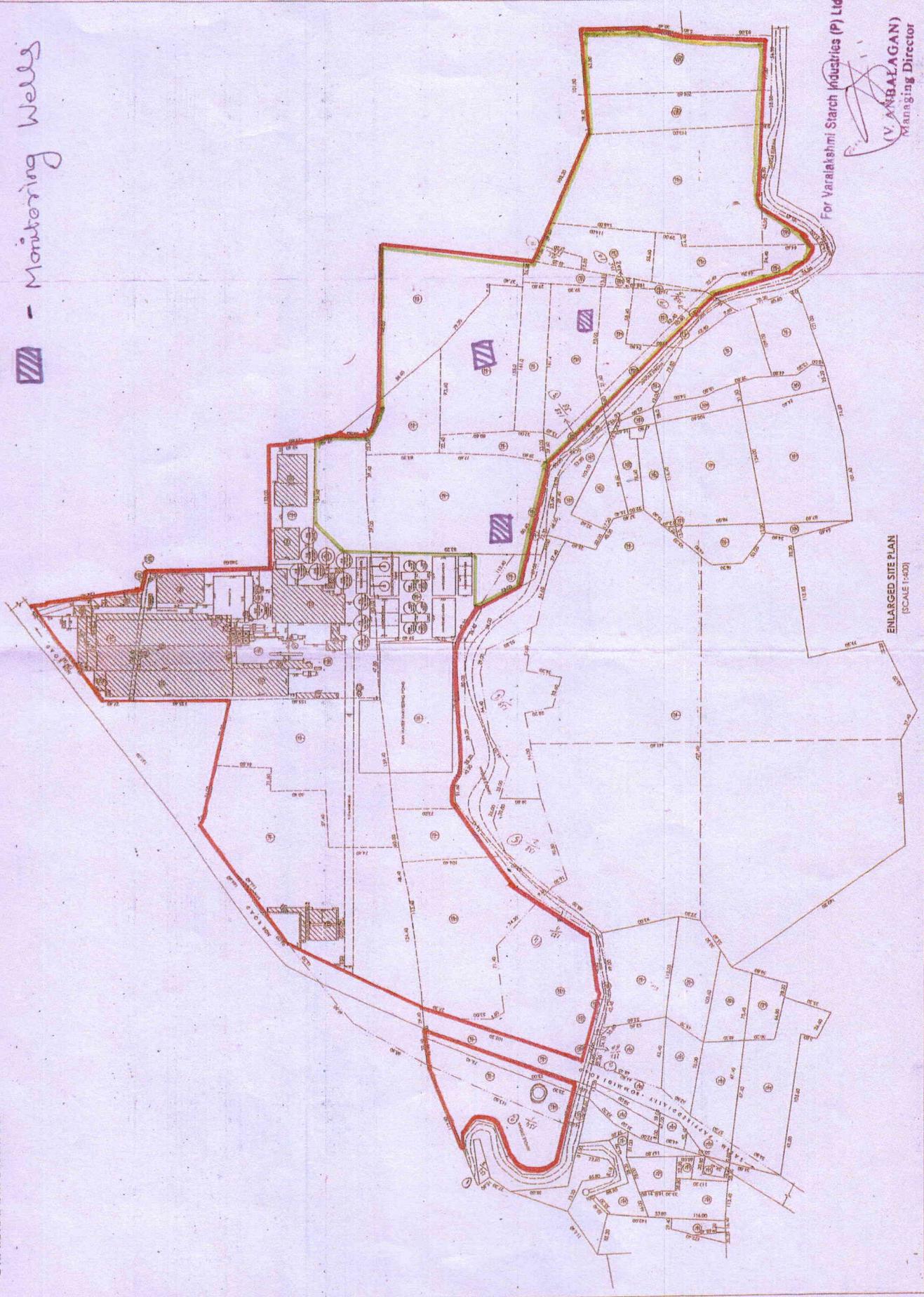
For Varalakshmi Starch Industries (P) Ltd

(W. ANBALAGAN)
Managing Director

VARALAKSHMI STARCH INDUSTRIES (P) LTD.,
PAPPIREDDIPATTY TALUK,
PAPPIREDDIPATTY VILLAGE & ALAMELUPURAM VILLAGE,
DHARMAPURI DISTRICT.



-  Factory layout
-  - Green Belt Area
-  - Monitoring Wells



ENLARGED SITE PLAN
(SCALE 1:400)

For Varalakshmi Starch Industries (P) Ltd

(V. ANBALAGAN)
Managing Director

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Office @ Varalakshmi Starch <office@varalakshmistarch.com>

Green Belt Area

1 message

Office @ Varalakshmi Starch <office@varalakshmistarch.com>

Tue, Oct 29, 2024 at 4:45 PM

To: DEE DMP TNPCB <deedmp@tnpcb.gov.in>

Cc: "JMD @ Varalakshmi Starch" <JMD@varalakshmistarch.com>, vsilmd <vsilmd@gmail.com>

To,
The DEE,
TNPCB,
Dharmapuri.

Dear madam,

Please find the attached document for Seemaikaruvelam Trees removed and native trees replanted in our green belt area, this is for your kind information.

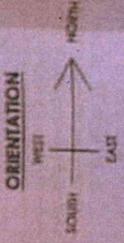
Thanking you

For Varalakshmi Starch Industries Pvt. Ltd

Varalakshmi Tower, 2nd floor, 127/1 Gandhi Road Salem 636007, Tamilnadu, India

 Green Belt Area.pdf
1650K

VARALAKSHMI STARCH INDUSTRIES (P) LTD.,
 PAPPIREDDIPATTY TALUK,
 PAPPIREDDIPATTY VILLAGE & ALAMELUPURAM VILLAGE,
 DHARMAPURI DISTRICT.



- Green Belt Area
- ▨ Seemai Karuvulam Trees (Part 1)
- ▨ Seemai Karuvulam Trees (Part 2)

The Removal of Seemai Karuvulam Trees and Replanting of Native trees in the Remaining Parts (P3, P5, P6) will be completed in Phased manner before 2023

P4 → Seemai Karuvulam Trees removed.
 Native Trees replanted partly.
 1) Venbu } Baby Trees Planted
 2) Pungan }

— NoE in Scale —



Prepared by: [Signature]
 (A. VISVATHANARAYAN)
 Designer

ENLARGED SITE PLAN
 (SCALE 1:400)

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**BEFORE THE NATIONAL GREEN TRIBUNAL SOUTHERN ZONE
AT CHENNAI**

Appeal No. 77 of 2022

M/s.Varalakshmi Starch Industries (P) Ltd.,
Rep. by its Managing Director V. Anbalagan
Having its office at:
"Varalakshmi Tower"
No.127/1, 2nd floor,
Gandhi Road,
Salem - 636007.

...Appellant

AND

Tamil Nadu Pollution Control Board
Rep. by its Chairperson
76, Anna Salai, Guindy Industrial Estate,
Guindy,
Chennai – 600032 & Ors.,

...Respondents

INDEX

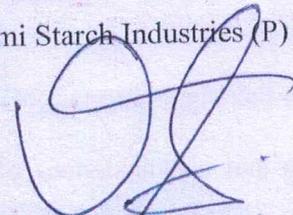
S. No.	Date	Description	Pg. No.
	08.06.2025	Affidavit on behalf of the Appellant	1-13

The documents filled above are certified as true copies of their respective
Originals

Dated at Chennai on this the 08th day of June, 2025

Appellant

For Varalakshmi Starch Industries (P) Ltd.,



(V. Anbalagan)
Managing Director

33 1

BEFORE THE NATIONAL GREEN TRIBUNAL SOUTHERN ZONE

AT CHENNAI

Appeal No. 77 OF 2022

M/s. Varalakshmi Starch Industries (P) Ltd.,

Rep. by its Managing Director V. Anbalagan

Having its office at:

“Varalakshmi Tower”

No.127/1, 2nd floor,

Gandhi Road,

Salem - 636007.

....Appellant

AND

Tamil Nadu Pollution Control Board (TNPCB)

Rep. by its Chairperson

76, Anna Salai, Guindy Industrial Estate,

Guindy,

Chennai – 600032 & Ors.,

...Respondents

AFFIDAVIT ON BEHALF OF THE APPELLANT

I, V. Anbalagan, Son of R. Varadharajan, Hindu, aged about 68 years, having office at “Varalakshmi Tower”, 2nd Floor, 127/1 Gandhi Road, Hasthampatty, Salem – 636007, now temporarily come down to Chennai do hereby solemnly affirm and state as under:

I am the Managing Director of the Appellant herein and as such fully acquainted with the facts and circumstances of the present case. I am filing this affidavit on behalf of the Appellant Company.

For Varalakshmi Starch Industries (P) Ltd


(V. ANBALAGAN)
Managing Director

1. It is respectfully submitted that a Closure Order had been issued by TNPCB to the Appellant industry on 08.11.2022 under Proceeding No. TNPCB/T2/F.025102/DMP/Closure/Water/2022 under Section 33A of the Water (Prevention and Control of Pollution) Act, 1974, as amended, listing out certain directions which were said to be non-fulfilled. The Appellant appealed to the Hon'ble Tribunal, and the Hon'ble Tribunal was pleased to issue a stay order as under against the Closure Order of TNPCB by observing as

"all those short comings whatever has been pointed out in the impugned order are rectifiable and does not warrant the closure of the unit.

Therefore, there will be an order of interim stay of the impugned order dated 08.11.2022, and the 4th respondent is directed to restore the power supply immediately on 09.12.2022."

2. It is respectfully submitted that as per the directions of the Hon'ble National Green Tribunal (NGT), Southern Zone in their Order Dt. 16.12.2024, the Respondent TNPCB Dharmapuri intimated vide their letter Dt.23.01.2025 (Letter No. DEE/TNPCB/DMP/F.DMP0013/OL/2025 Dt. 23/01/2025) that an inspection would be conducted on 29.01.2025 at the appellant's entire plant. **Accordingly, the TNPCB officials DEE, AEE and AE have inspected the Appellant unit on 29.01.2025.** They also collected treated waste water samples from ETP, Piezometric Wells 1, Piezometric Wells 2, Piezometric Wells 3 and Jungle Stream Water.

3. It is submitted that during the hearing before the Hon'ble NGT on 13.02.2025, the Ld. Counsel for the Respondent had stated the inspection of the Appellant unit has been completed but the report was yet to be filed and sought time for filing the report and at the request of the Ld. Counsel for the Respondent, the matter was posted for further

For Varalakshmi Starch Industries (P) Ltd

(V. ANBALAGAN)
Managing Director

hearing on 15.04.2025. In the meantime, further surprise inspection of the Appellant's unit was also conducted on 20.02.2025 and on 21.03.2025 and samples were collected, all of which were reported to be within the discharge standards prescribed by the TNPCB.

4. It is submitted that TNPCB has filed their Inspection Report to the Hon'ble National Green Tribunal (NGT), Southern Zone vide their filing dated 28.04.2025 stating that the Unit and its Effluent Treatment Plant were in operation and further confirming in their report that *"The official of O/o.DEE, TNPCB Dharmapuri inspected on 29.01.2025 and observed that, the unit was in operation. ETP was also under operation. Latest RoA of the treated effluent sample collected on 29.01.2025 revealed that all parameters are within the standards prescribed by the Board"*.

5. It is further submitted that apart from the inspection conducted by TNPCB officials on 29.01.2025 as per the directions of the Hon'ble National Green Tribunal (NGT), Southern Zone, surprise inspections and collection of treated wastewater and groundwater samples were also undertaken by TNPCB officials on 20.02.2025 and 21.03.2025. The Report of Analysis of all the samples (treated wastewater and groundwater) collected on 29.01.2025, 20.02.2025 and 21.03.2025 provided to the Appellant by TNPCB proves that all the parameters of the treated wastewater are within the discharge standards and groundwater samples from piezometric wells are also within the standards prescribed by TNPCB. These Analysis Reports were submitted to the Hon'ble NGT vide the Appellant's Affidavit dated 14.04.2025.

6. It is submitted that TNPCB in their Inspection Report dated 28.04.2025 have submitted their observed present status of compliance as on 29.01.2025 of the Board's Direction

For Varalakshmi Starch Industries (P) Ltd

(V. ANBALAGAN)
Managing Director

issued to the Appellant vide Proceedings dated 16.02.2023. TNPCB has reported full compliance with the directions Sl.Nos. 1, 4, 8, 9, 10 and 11 mentioned in the Board's Proceedings dated 16.02.2023 and for the sake of brevity, the same are not discussed hereunder. The appellant's submission as to the compliance in respect of the other directions stated by TNPCB to be partially complied and not complied are as follows:

S.No as mentioned in directions dt 16.02.2023	TNPCB direction dated 16.02.2023	Present Status/Remarks on inspection dt 29.01.2025 as reported by TNPCB	Appellant's submission of its compliance
1	The unit shall furnish a time bound action plan for completing the ETP revamping works, so as to satisfy the treated trade effluent standards prescribed by the Board within a month's time	COMPLIED	COMPLIED
2	The unit shall furnish a time bound action plan to replace all the SeemaiKaruvclam trees in the premises with the native species as recommended by the Agriculture Department along with the proposal for safe disposal of entire quantity of treated effluent with adequate green belt area within 15 days.	PARTIALLY COMPLIED. The layout of the Greenbelt area furnished by the unit has been mentioned that the removal of seemai karuvclam trees will be completed before 2028 in phased manner.	The Appellant has already long started replacing the Seemaikaruvclam trees with native spices in a phased manner as it will take minimum 5 years for any native spices to grow. Due to this practical reason, the replacement of Trees is done in a phased manner . As on date, in the Greenbelt area comprising of 38 acres, Seemaikaruvclam trees in 25 acres are removed and replanted with Native trees.

For Varalakshmi Starch Industries (P) Ltd

(V. ANBALAGAN)
Managing Director

			<p>Within another 3 years i.e. within the year 2028, the remaining Seemaikaruvelam trees will be replaced also.</p> <p>Since the Seemaikaruvelam trees in nearly 70% of the green belt area have been replaced and the removal in rest of the area is ongoing, the report of the TNPCB as "partially complied" is incorrect.</p>
3	<p>The unit shall furnish the layout of the premises marking the green belt area that are being maintained for utilization of treated effluent along with the plantation details such as number of plants, name of the plants species, plantation area etc. within 15 days</p>	<p>PARTIALLY COMPLIED.</p> <p>The Unit has furnished the layout of the premises marking the green belt area for utilization of treated effluent. However, the unit has not furnished the plantation details of fresh tree saplings such as number of plants, name of the plants species, plantation area etc.</p>	<p>In the 25 Acres already planted, the details of the Trees planted are:</p> <ul style="list-style-type: none"> • Neem saplings-5800 nos • Magkani saplings-1000 nos • Naaval saplings-200 nos • Pungam saplings-1300 nos • Casurina saplings-4100 nos <p>Total: 12400 nos of tree saplings.</p> <p>The Layout of the greenbelt has already been earlier submitted and received by TNPCB. Therefore, the report of the Respondent as "partially complied" is incorrect.</p>
4	<p>The unit shall cover the storage area of wet tapioca thippy by providing a shed within a month's time</p>	<p>COMPLIED</p>	<p>COMPLIED</p>

For Varalakshmi Starch Industries (P) Ltd

(V. ANBALAGAN)
Managing Director

5	<p>The unit shall conduct water and wastewater audit through reputed institution like Anna university, Chennai/IIT Madras and furnish report to the Board. The time bound action plan for the same shall be furnished within a month's time, as the unit has made payment to the Anna University, Chennai to carry out ETP Adequacy study only and not for the water and wastewater audit as directed by the Board vide proceeding 17.10.2022</p>	<p>NOT COMPLIED</p> <p>The District Environmental Engineer, Dharmapuri has reported that, the unit had submitted the adequacy report of ETP obtained from the Anna University, Chennai. Earlier, the unit in its letter dated 11.07.2023 has informed that "the Project given to Anna University to conduct water audit, waste water audit and ground water quality study they have raised demand that demand also we paid. The project will be completed within six months". After that the unit vide letter dated 25.04.2024 stated that "the Anna University wants access to our entire production plant apart from the ETP and wants to inspect stage wise our production plant which requires us to allow then access to our production machineries and production technology and knowhow. Since we fear that allowing third party access to our</p>	<p>At the request of the Appellant, the Environment Department of Anna University conducted the study and provided their comprehensive combined adequacy report containing</p> <ol style="list-style-type: none"> (1) Production process with Raw water usage, (2) Wastewater treatment (ETP), (3) Disposal of treated wastewater and (4) Groundwater analysis <p>In the combined Adequacy report issued by Anna University after 6 months study, in Chapter 2 of the report, the production process with flow charts has been reported showing the volume of raw water consumed and wastewater generated and how the Unit is minimizing the water consumption by the process of recycling the process water within the process.</p> <p>In Chapter 3 of the report, the wastewater treatment process has been reported with process description, flowchart with flowrate of each treatment process has been reported.</p>
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For Varalakshmi Starch Industries (P) Ltd

(V. ANBALAGAN)
Managing Director

		<p>production unit will compromise our technology knowhow, the audit is held up." The unit has not yet conducted the water and wastewater audit through reputed institution like Anna University, Chennai/IIT Madras as directed by the Board.</p>	<p>Without taking this into cognizance, the Respondent simply states that this direction is not complied.</p> <p>If more specifically water and waste water audit is wanted, the Anna University requires entire manufacturing plant inside details with all data which are based on our valuable international Standard manufacturing technology. In India only in Tamil Nadu, only 3 industries are having such world high-tech machines with technology which is highly paid and valuable. But the TNPCB is enforcing this audit for the Appellant Industry alone and not for the other two industries located within the jurisdiction of TNPCB in Namakkal and Erode (Perundurai) Districts.</p>
<p>6</p>	<p>The unit shall conduct ground water quality study through reputed institution like Anna University, Chennai / IIT Madras in the green belt areas that are being maintained utilizing the treated effluent and furnish the report to the Board within a month's time.</p>	<p>NOT COMPLIED</p> <p>The District Environmental Engineer, Dharmapuri has reported that, the unit had submitted the adequacy report of ETP obtained from the Anna University, Chennai. However, the unit has not yet conducted ground water quality</p>	<p>Anna University also conducted the study of ground water. The test report is given in page No.30, Sl.No.12 & 13 of their adequacy report.</p> <p>Further, as per directions of TNPCB, the Appellant have provided piezometric wells in the greenbelt area and samples of groundwater are being</p>

For Varalakshmi Starch Industries (P) Ltd

(V. ANBALAGAN)
Managing Director

		<p>study in the green belt areas through reputed institution like Anna University, Chennai/IIT Madras in the green belt area as directed by the Board.</p>	<p>drawn from them for the past 8 months by the TNPCB officials themselves and have been tested in their own lab for studying and monitoring the groundwater quality.</p> <p>Also, during the inspection on 29.01.2025, recently on 20.02.2025 and 21.03.2025, samples of groundwater have been collected and analyzed by TNPCB officials from the Piezometric wells.</p>
7	<p>The unit shall provide adequate piezometric (monitoring wells) in the green belt area to monitor the ground water quality and furnish the report to the TNPCB regularly in view of repeated complaint received. An action plan shall be submitted within a month's time.</p>	<p>PARTIALLY COMPLIED.</p> <p>The official of O/o. DEE, TNPCB, Dharmapuri inspected the unit on 29.01.2025 and observed that the unit has provided 03. Nos. of piezometric (monitoring) wells in the green belt areas to monitor the ground water quality. However, the unit has not provided at north-eastern side of the green belt area, where the allegation of contamination of groundwater was raised by the complainant. Further, the following was submitted in the previous reports that "in order to assess the impact of waste</p>	<p>The Appellant has already provided 3 Piezometric (monitoring) wells in different areas covering the entire Greenbelt Area. The TNPCB has never indicated the places where Piezometric (monitoring) wells have to be installed. We have already committed to install additional piezometric well in the greenbelt wherever TNPCB insists once the monsoon is over and the same will be completed before the commencement of the forthcoming tapioca season. The TNPCB officials have already been inspecting the same and samples are being drawn from three piezometric wells regularly and tested to monitor groundwater quality.</p>

For Varalakshmi Starch Industries (P) Ltd

(V. ANBALAGAN)
Managing Director

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		water disposal on land, an exhaustive Hydrogeological study is requisite to be carried out in and around the unit's premises through reputed agency."	
8	The unit shall stop discharging treated/ untreated trade effluent through the outfall located near ETP area into the Peeniar canal immediately and shall ensure that there is no access for the treated/untreated trade effluent to nearby water bodies, outside the premises either directly and indirectly. The action taken in this regard shall be reported to the Board within a week's time.	COMPLIED	COMPLIED
9	The unit shall dewater the stagnation of water in the pit provided for the proposed anaerobic reactors immediately and shall maintain the sludge drying beds properly and shall report to the Board within a week's time.	COMPLIED	COMPLIED
10	The unit shall check the stability of the ETP, by engaging reputed institution like Anna University, Chennai/IIT Madras and	COMPLIED	COMPLIED

For Varalakshmi Starch Industries (P) Ltd


(V. ANBALAGAN)
Managing Director

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	furnish the report to the TNPCB within a month's time.		
11	The unit shall install / maintain Electro Magnetic Flow Meter with computer recording arrangement at the inlet and outlet of the ETP within a month's time and shall furnish monthly report to the Board.	COMPLIED	COMPLIED
12	In order to ensure the compliance of all the above said directions 1 to 11. the unit shall furnish a Bank Guarantee for Rs.50 Lakhs valid for one year to the TNPCB within a month's time (Format enclosed)	NOT COMPLIED The DEE, TNPCB, Dharmapuri has reported that the unit has not furnished Bank Guarantee for Rs.50 Lakhs as directed by the Board.	Therefore, with the TNPCB themselves confirming vide their Inspection report dated 28.04.2025 that the Unit's ETP is meeting the standards prescribed by the Board and indicating compliance in regard to the 9 of the 11 directions, the Appellant is requesting for waiver of furnishing the Bank Guarantee for Rs.50 lakhs which would cast financial burden on us since BG can be obtained from Bank only against 100% margin money from working capital. The appellant has also submitted representations in this regard to TNPCB which has not been considered so far. The objective behind furnishing of Bank Guarantee is to secure guarantee for compliance of the directions

For Varalakshmi Starch Industries (P) Ltd

(V. ANBALAGAN)
Managing Director

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			issued by TNPCB. As long all the primary directions are reported to be complied, we request that this condition of furnishing Bank Guarantee of Rs.50 lakhs may be caused to be waived.
13	The unit shall ensure the compliance of all the above said conditions and furnish the compliance report to the Board so as to examine the issue of renewal of consent to the unit.		The Appellant have furnished all compliance report in respect of 12 directions discussed above to the TNPCB. In respect of the directions vide Sl.No.12, we have requested for waiver of Bank guarantee. Hence, renewal of consent and revocation of closure order shall be considered.

7. It is submitted that the appellant industry is a rural agro-based medium-scale industry manufacturing Starch and Sago out of seasonal and highly perishable raw material. In a year, around 5 to 7 months only the plant is utilizable due to the seasonal availability of raw material viz. Tapioca Tuber. It is submitted that due to the non-availability of valid Consent Order, all their international customers and Indian big customers hard earned over the last twenty years have stopped their purchases resulting in a significant decline in sales turnover. It is submitted that there are financial losses not only to our company but also to the farmers in and around Dharmapuri District in selling their tapioca at a loss at Rs.4500/- to 5000/- per MT against Rs.10000/- to 11000/- prevailing previously.

8. It is submitted that the Appellant industry is in fulfilment of the conditions imposed while obtaining the original Consent Order to Establish and Operate and has been

For Varalakshmi Starch Industries (P) Ltd

(V. ANBALAGAN)

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periodically renewing its Consent from Year 1997 until recently. There were no instances of violations and deterrent actions taken by the TNPCB till recently. For the past 3 years, without a valid Consent Order, the industry has been operating pursuant to the stay granted by the Hon'ble Tribunal.

9. It is submitted that during the hearing dated 16.12.2024, the Hon'ble Tribunal observed that the Closure Order was issued by TNPCB under Sec 33A without considering the submissions made by the Appellant in response to the proceedings and the Hon'ble Tribunal decided to conclude the issue based on the test reports of Treated Waste Water samples collected from our industry after an inspection. Accordingly, the TNPCB inspected the unit on 29.01.2025, 20.02.2025 and 21.03.2025 and collected samples and issued Reports showing that all parameters are within the prescribed standards. The report on the inspection filed by TNPCB indicates positive development in regard to the 9 directions and most importantly concludes that the ETP is meeting the discharge standards prescribed by TNPCB. The remaining are furnishing of Bank Guarantee, ground water study and water audit. It is submitted that these three requirements are only secondary and in so far as the other directions show positive results, the remaining three could be considered for waiver. It is also submitted that these objective behind the above three is only to secure positive results in compliance with PCB norms.
10. It is humbly prayed that the Hon'ble National Green Tribunal (NGT) may be pleased to pass orders for causing withdrawal of the closure order and issue directions to TNPCB to issue renewal of Consent to the Appellant unit, as we are already eligible for deemed consent renewal as per Section 25(7) of the Water (Prevention and Control of Pollution) Act, 1974, so that we can re-establish the market and continue our operations.

For Varalakshmi Starch Industries (P) Ltd

(V. ANBALAGAN)
Managing Director

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11. It is submitted that the Appellant industry is in perilous situation and looking at the Hon'ble Tribunal to come to its rescue to save it.
12. It is humbly prayed that the Hon'ble Tribunal may be pleased to direct that in the event of any future issues pertaining to the appellant factory, the TNPCB before taking any adverse steps may follow the due process of law and principles of natural justice by way of issuance of notice, followed by show cause notice clearly outlining the issues and providing an opportunity for personal hearing before initiating any coercive action.
13. Therefore, it is humbly prayed that this Hon'ble National Green Tribunal (NGT) may be pleased to pass such further order or other orders as this Hon'ble Tribunal may deem fit and proper in the facts and circumstance of this case and thus render justice to save this rural agro based exporting industry.

For Varalakshmi Starch Industries (P) Ltd

(V. ANBALAGAN)
Managing Director

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**BEFORE THE NATIONAL GREEN TRIBUNAL SOUTHERN ZONE
AT CHENNAI**

Appeal No. 77 of 2022

M/s. Varalakshmi Starch Industries (P) Ltd.,
Rep. by its Managing Director V.Anbalagan
Having its office at:
"Varalakshmi Tower"
No.127/1, 2nd floor,
Gandhi Road,
Salem- 636 007.

...Appellant

AND

Tamil Nadu Pollution Control Board
Rep. by its Chairperson
76, Anna Salai, Guindy Industrial Estate,
Guindy,
Chennai – 600032 & Ors.,

... Respondents,

AFFIDAVIT FILED BY THE APPELLANT

DATE: 08.06.2025

Annexure 3

47

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

Original Application No: 47 of 2023

Suresh S/o Pachiyappan,
6/36, Alamelupuram, Paddirreddipatti,
Dharmapuri, Tamil Nadu -636905
Ph: +91 95662 54546
Email: yogeshwaranadv@gmail.com.

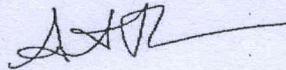
....Applicant.

-Vs-

1. Tamil Nadu Pollution Control Board,
Rep. by its Chairperson,
76, Anna Salai, Guindy Industrial Estate,
Guindy, Chennai - 600 032 & 5 ors.

.INDEX

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Advocate
Thiru.S. Sai Sathya Jith,
Advocate, Chennai.

**BEFORE THE NATIONAL GREEN TRIBUNAL
SOUTHERN ZONE, CHENNAI
Original Application No. 47 of 2023**

Suresh S/o Pachiyappan,
6/36, Alamelupuram, Paddireddipatti,
Dharmapuri, Tamil Nadu -636905
Ph: +91 95662 54546
Email: yogeshwaranadv@gmail.com.

....Applicant

-Vs-

1. Tamil Nadu Pollution Control Board,
Rep. by its Chairperson,
76, Anna Salai, Guindy Industrial Estate,
Guindy, Chennai - 600 032
Phone No.: 044-22353134
Email: ssjtnpcb@gmail.com
2. The Executive Engineer,
Water Resource Department,
Public Works Department,
Upper pennaiyar Division,
Dharmapuri - 05
Phone No: Not known
Email: Not known
3. The Executive Engineer,
Ground water Division,
Water Resources Department, PWD, Vellore.
Phone No: Not known
Email: Not known
4. The Assistant Engineer,
Irrigation Department, Vanियaru Dam,
Public Works Department,
Pappireddipatti, Dharmapuri.
Phone No: Not known
Email: Not known
5. The District Collector,
1stFloor, Main Building
District Collectorate
Dharmapuri-636 705
Phone: 043 4223 0500
E-Mail: collrdpi@nic.in

Suresh
29/04/2023

JOINT CHIEF ENVIRONMENTAL ENGINEER
TAMIL NADU POLLUTION CONTROL BOARD
No.76, MOUNT SALAI, GUINDY,
CHENNAI-600 032.

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6. M/s. Varalakshmi Starch Industries (P) Ltd.
Rep. by its Director A. Vinoth Kumar,
"Varalakshmi Tower", No. 127/1,
2ndFloor, Gandhi Road, Salem - 636 007.
Phone No: Not known
Email: office@varalakshmistarch.com.

...Respondents

REPORT FILED ON BEHALF OF THE FIRST RESPONDENT
- TAMIL NADU POLLUTION CONTROL BOARD.

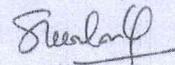
I, S. Malarvizhi, D/o.Thiru. Subburam, aged about 58 years, having my office at No.76, Mount Salai, Guindy, Chennai-600032, do hereby solemnly affirm and sincerely state as follows:

1. I submit that I am working as the Joint Chief Environmental Engineer, Tamil Nadu Pollution Control Board, Chennai and I am filing this report on behalf of the First respondent - Tamil Nadu Pollution Control Board and I am well acquainted with the facts of the case as per records available at our office.

2. It is respectfully submitted that on 16.12.2024, the Hon'ble NGT, SZ has directed the "Tamil Nadu Pollution Control Board (TNPCB) to inspect the industry.

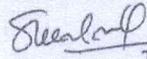
3. It is respectfully submitted that Notice of inspection was sent to the unit on 23.01.2025 and subsequently the unit M/s.Varalakshmi Starch Industries Pvt. Ltd was inspected by the DEE, AEE & AE, TNPCB, Dharmapuri on 29.01.2025 and the following were noticed

- a. The unit was in operation.
- b. The Effluent treatment plant was in operation.
- c. The present status of compliance of the Board's Direction vide Proc. dated 16.02.2023 is submitted below.



JOINT CHIEF ENVIRONMENTAL ENGINEER
TAMIL NADU POLLUTION CONTROL BOARD
No.76, MOUNT SALAI, GUINDY,
CHENNAI-600 032.

S. No	TNPCB direction dated 16.02.2023	Unit's reply dated 13.01.2025 received on 20.01.2025	Present Status on 29.01.2025	Remarks
1.	The unit shall furnish a time bound action plan for completing the ETP revamping works, so as to satisfy the treated trade effluent standards prescribed by the Board within a month's time	We have completed all the ETP revamping work, by replacing surface aeration systems with Diffused Aeration systems by installing around 1200 number of fine air diffuse in the 8 aeration tanks to enhance effluent treatment further consistently. All ETP components that are included in the Consent Order issued by the TNPCB are in use.	The official of O/o.DEE, TNPCB Dharmapuri inspected on 29.01.2025 and observed that, the unit was in operation. ETP was also under operation. Latest RoA of the treated effluent sample collected on 29.01.2025 revealed that all parameters are within the standards prescribed by the Board.	Complied
2.	The unit shall furnish a time bound action plan to replace all the SeemaiKaruvellam trees in the premises with the native species as recommended by the Agriculture Department along with the proposal for safe disposal of entire quantity of treated effluent with adequate green belt area within 15 days.	TNPCB in its consent order dated 29.06.2007 had imposed under special conditions Sl.No.16 as "The industry has to ensure that minimum of three varieties of trees (Eucalyptus, Subabul and any other suitable variety) are planted at the density of not less than 1,000 trees per acre of land. The trees may be planted along with boundaries of the industry or industrial premises. This Plantation is stipulated over and above the bulk plantation of trees in that area and maintain them" to plant any other suitable variety of trees within the premises for discharge of treated wastewater. Therefore, in the year 2007, seemai karuvellam trees were planted in around 48 acres of own land numbering around 500 trees per hectare which have been consuming the entire discharged treated effluents perfectly, drought resistance and free from theft. Government and Hon'ble Court have ordered to remove the seemai karuvellam trees because these consume high level of ground water causing deficit in the water body in the people living area. But in the case of our industry, we had to plant trees which should consume huge water to dispose of the treated waste water.	The officials of O/o. DEE, TNPCB, Dharmapuri observed that the unit has partially removed the seemai karuvellam trees planted by the unit. Also reported that, the unit has informed in its letter dated 01.01.2024 and 22.10.2024 that Seemai Karuvellam trees are removed in about 14 Acres of land and replanted with native species in about 9 Acres land. Further, the unit has reported that they have "planned to replace seemai karuvellam trees with native plant species in a phased manner. i.e., about 10 acres per annum to ensure that the entire treated wastewater gets consumed by the existing trees within the green belt area and at the same time the seemai karuvellam trees are replaced in a phased gradual manner within 5 years. Last year we have removed seemai karuvellam trees in about 7 acres of the green belt area. The	Partially complied


 24/04/2025
 JOINT CHIEF ENVIRONMENTAL ENGINEER
 TAMIL NADU POLLUTION CONTROL BOARD
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	<p>The treated waste water should not go into the ground.</p> <p>If these trees are all cut at a stretch, then sufficient tree planted land will not be available for discharge of current treated wastewater of 480KLD per day and any replaced baby tree cannot consume the water 35 KLD per Hectare. The baby plant would need at least 5 years growth for consuming 35KLD per hectare</p> <p>Hence, we have planned to replace seemakaruvelam trees with native plant species in a phased manner. i.e., about 10 acres per annum to ensure that the entire treated wastewater gets consumed by the existing trees within the green belt area and at the same time the seemakaruvelam trees are replaced in a phased gradual manner within 5 years.</p> <p>Last year we have removed seemakaruvelam trees in about 7 acres of the greenbelt area. The Forest Department have supplied Native tree saplings such as Pungam tree, Vembu tree, Teak tree, etc., and all are planted. Now in another 7 acres, seemakaruvelam trees have been removed and native trees have been planted and after the monsoon season, we are going to remove the remaining 7 acres within 3 months and replant Native Trees.</p> <p>The same process will be continued to remove the entire Seemaikaruvelam trees in a phased manner in the remaining area of greenbelt area and replant them with the native trees within 4 years without affecting the purchases of Tapioca and corn from farmers, plant production and market continuity. It is enclosed.</p>	<p>Forest Department have supplied Native tree saplings such as Pungam tree, Vembu tree, Teak tree, etc., and all are planted. Now in another 7 acres, seemakaruvelam trees have been removed and native trees have been planted and after the monsoon season, we are going to remove the remaining 7 acres within 3 months and replant Native Trees.</p> <p>The same process will be continued to remove the entire Seemaikaruvelam trees in a phased manner in the remaining area of greenbelt area and replant them with the native trees within 4 years without affecting the purchases of Tapioca and corn from farmers, plant production and market continuity".</p> <p>Further, the layout of the Greenbelt area furnished by the unit has been mentioned that the removal of seemaikaruvelam trees will be completed before 2028 in phased manner.</p>		
3.	The unit shall furnish the layout of the premises marking the green belt	The layout of the entire premises with Greenbelt area being maintained for the utilization of	The District Environmental Engineer, Dharmapuri has reported that, the unit has	Partially complied

Sheela

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	area that are being maintained for utilization of treated effluent along with the plantation details such as number of plants, name of the plants species, plantation area etc. within 15 days	treated effluent had been submitted to PCB.	furnished the layout of the premises marking the green belt area for utilization of treated effluent. However, the unit has not furnished the plantation details of fresh tree saplings such as number of plants, name of the plants species, plantation area etc.	
4.	The unit shall cover the storage area of wet tapioca thippy by providing a shed within a month's time	The roof shed for the storage area of the wet Thippy yard has been completed. Photo enclosed	The District Environmental Engineer, Dharmapuri has reported that, the unit has constructed shed to store the wet tapioca thippy.	Complied
5.	The unit shall conduct water and wastewater audit through reputed institution like Anna university, Chennai/IIT Madras and furnish report to the Board. The time bound action plan for the same shall be furnished within a month's time, as the unit has made payment to the Anna University, Chennai to carry out ETP Adequacy study only and not for the water and wastewater audit as directed by the Board vide proceeding dated 17.10.2022	In the combined report issued by Anna University, under para 2.1.1 "Manufacturing Process of Tapioca Starch", they have discussed in detailed and also in the process flow chart from Page No.3-7 about the raw water consumption and how we are minimizing the water consumption by the process of recycling within the process. Also, the mass balance of the outlet waste water is briefly discussed with Treatment process flow diagram in Page No.14.	The District Environmental Engineer, Dharmapuri has reported that, the unit had submitted the adequacy report of ETP obtained from the Anna University, Chennai. Earlier, the unit in its letter dated 11.07.2023 has informed that <i>"the Project given to Anna University to conduct water audit, waste water audit and ground water quality study they have raised demand that demand also we paid. The project will be completed within six months"</i> . After that the unit vide letter dated 25.04.2024 stated that <i>"the Anna University wants access to our entire production plant apart from the ETP and wants to inspect stage wise our production plant which requires us to allow them access to our production machineries and production technology and knowhow. Since we fear that allowing third party</i>	Not complied

Suresh
JOINT CHIEF ENVIRONMENTAL ENGINEER
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			<p><i>access to our production unit will compromise our technology knowhow, the audit is held up."</i></p> <p>The unit has not yet conducted the water and wastewater audit through reputed institution like Anna University, Chennai/IIT Madras as directed by the Board.</p>	
6.	<p>The unit shall conduct ground water quality study through reputed institution like Anna university, Chennai/IIT Madras in the green belt areas that are being maintained utilizing the treated effluent and furnish the report to the Board within a month's time.</p>	<p>Anna University conducted the study of ground water. The test report is given in page No.30, Sl.No.12 & 13 in the combined report. Further, the TNPCB officials themselves for the last two years have taken so many samples of groundwater in our own green belt area, nearby farmers wells, nearby jungles stream and public wells in the surrounding one kilometer radius. They tested the water samples in their own laboratory and found that the parameters of the ground water were well with no contamination and no complaints were raised by them in this regard.</p>	<p>The District Environmental Engineer, Dharmapuri has reported that, the unit had submitted the adequacy report of ETP obtained from the Anna University, Chennai.</p> <p>However, the unit has not yet conducted ground water quality study in the green belt areas through reputed institution like Anna University, Chennai/IIT Madras in the green belt area as directed by the Board.</p>	Not complied
7.	<p>The unit shall provide adequate piezometric (monitoring wells) in the green belt area to monitor the ground water quality and furnish the report to the TNPCB regularly in view of repeated complaint received. An action plan shall be submitted within a month's time.</p>	<p>We have already provided 3 Piezometric (monitoring) wells in the greenbelt area. Location map and photo are enclosed. ROA test certificate for bore well sample. The TNPCB officials have already inspected the same.</p>	<p>The official of O/o. DEE, TNPCB, Dharmapuri inspected the unit on 29.01.2025 and observed that the unit has provided 03. Nos. of piezometric (monitoring) wells in the green belt areas to monitor the ground water quality.</p> <p>However, the unit has not provided at north-eastern side of the green belt area, where the allegation of contamination of groundwater was raised by the complainant.</p> <p>Further, the following was submitted in the previous reports that "in order to assess the impact of waste</p>	Partially complied

Sreedhar
20/01/2025

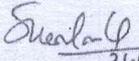
JOINT CHIEF ENVIRONMENTAL ENGINEER
TAMIL NADU POLLUTION CONTROL BOARD
No.78, MOUNT SALAI, GUINDY,
CHENNAI-600 032.

			water disposal on land, an exhaustive Hydrogeological study is requisite to be carried out in and around the unit's premises through reputed agency."	
8.	The unit shall stop discharging treated / untreated trade effluent through the outfall located near ETP area into the Peeniar canal immediately and shall ensure that there is no access for the treated/untreated trade effluent to nearby water bodies, outside the premises either directly and indirectly. The action taken in this regard shall be reported to the Board within a week's time.	At no point of time, we are letting out the raw effluent as well as the treated effluent into any water bodies. Our waste water not a waste but it is a valuable by-product for us. We are generating Biogas from the waste water more than 30000 m ³ per day. So we will never discharge valuable trade effluent (our bye-product) to the outside of our premises after recovering the Bio-gas and final treatment. We are discharging the treated effluent only in the greenbelt area belonging to us. The unit was also inspected by the Board Officials of TNPCB on 16.03.2022 and many surprise inspections were conducted by the District level officials also. During inspection, it was observed and confirmed that there was no flow of our waste water or treated waste water in the Peeniyar jungle stream. Also, the treated effluent generated from the unit was discharged only in our own greenbelt area, land around 50 acre.	The official of the O/o. DEE, TNPCB, Dharmapuri inspected the unit on 29.01.2025 and noticed that there was no outfall observed in the Peeniyar canal located adjacent to the ETP area. However, the unit shall be instructed to provide buffer space between green belt area and Peeniyaru stretch so as to monitor and ensure that there is no discharge of treated / untreated effluent into the nearby water body.	Complied
9.	The unit shall dewater the stagnation of water in the pit provided for the proposed anaerobic reactors immediately and shall maintain the sludge drying beds properly and shall report to the Board within a week's time.	The stagnated sparkling / spring water available in the pit of the proposed anaerobic reactors during the monsoon period was dewatered. The 5 Nos. of sludge drying beds are also being properly maintained.	The official of the O/o. DEE, TNPCB, Dharmapuri inspected the unit on 29.01.2025 and observed that, the unit has dewatered the stagnated water / wastewater stored in the earthen pit made for the purpose of providing proposed anaerobic reactors. The unit may be directed to close down those pits proposed for construction of anaerobic reactors to	Complied

Sivalakshmi
27/01/2025

JOINT CHIEF ENVIRONMENTAL ENGINEER
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			<p>avoid stagnation of water / wastewater and also for safety reasons.</p> <p>The unit has maintained sludge drying beds.</p>	
10.	<p>The unit shall check the stability of the ETP, by engaging reputed institution like Anna University, Chennai/IIT Madras and furnish the report to the TNPCB within a month's time.</p>	<p>The Stability Study of the ETP was completed by the Government College of Engineering, Salem and a stability Report dated 26.09.2023</p>	<p>The DEE, TNPCB, Dharmapuri has reported that, the unit has furnished the report on "<i>Assessment of the structural condition and strength of structure of various treatment units</i>" except Anaerobic lagoon carried out by the Department of Civil Engineering, Government College of Engineering, Salem.</p>	Complied
11.	<p>The unit shall install / maintain Electro Magnetic Flow Meter with computer recording arrangement at the inlet and outlet of the ETP within a month's time and shall furnish monthly report to the Board.</p>	<p>Submitted reports of EMFMs reading at the inlet and outlet of the ETP till March 2024 to TNPCB, Dharmapuri. It is available for verification.</p>	<p>The DEE, TNPCB Dharmapuri has reported that, the unit has provided Electro Magnetic Flow Meter with computer recording arrangement at the inlet and outlet of the ETP and flow meter readings are maintained</p>	Complied
12.	<p>In order to ensure the compliance of all the above said directions 1 to 11, the unit shall furnish a Bank Guarantee for Rs.50 Lakhs valid for one year to the TNPCB within a month's time (Format enclosed)</p>	<p>As explained above, the ETP is well revamped and meeting the prescribed discharge standards which has also been confirmed by the report of (PCB own lab) ROA, TNPCB every month for the past three years totalling more than 20 reports and also by report of the Anna University dated 29.05.2023 vide page 30 Col.No.11). This has been achieved through the existing revamped Primary and Secondary ETP performance. Copies of all treated test report issued by ROA, TNPCB and Anna University are enclosed. Hence, due to ETP revamping work already completed, waiver of Bank guarantee for Rs.50 Lakhs required</p>	<p>The DEE, TNPCB, Dharmapuri has reported that the unit in its letter dated 02.03.2023 for the compliance of the Board's Direction dated 16.02.2023 has stated the following "<i>....we had already voluntarily commenced installation of a secondary Treatment Plant as an extension to the existing ETP by installing Membrane Bioreactor Plant....</i>"</p> <p>Further the unit in its letter dated 01.01.2024, with respect to the status of compliance for the Board's</p>	Not Complied


 24/01/2024
 JOINT CHIEF ENVIRONMENTAL ENGINEER
 TAMIL NADU POLLUTION CONTROL BOARD
 No.76, MOUNT SALAI, GUINDY,
 CHENNAI-600 032.

		<p>under earlier direction on 17.10.2022 was requested. It is submitted that Bank Guarantee of Rs.50 Lakhs could be obtained only against cash deposit for an equal sum.</p> <p>Last three years, we have been disturbed by this PCB issue. So, we are not having sufficient money for this deposit. Hence we are requesting to review based on the compliances achieved by us.</p>	<p>Proc. dated 16.02.2023 has stated that</p> <p><i>"...we have voluntarily, without the insistence of TNPCB also imported and installed a high-tech Membrane Bioreactor (MBR) technology as an extension (tertiary treatment) to the existing ETP...."</i></p> <p>Based on the above, the unit has requested to waive off the Bank Guarantee for Rs.50 Lakhs, since the unit has invested Rs.420 lakhs in setting up of secondary treatment plant.</p> <p>But, the unit in its letter dated 25.04.2024 has changed its stand and stated that</p> <p><i>"The MBR plant is not in the ETP & it is an experimental plant for re-use of wastewater in our industry for which it is not included in the ETP".</i></p> <p>The DEE, TNPCB, Dharmapuri has reported that the unit has not furnished Bank Guarantee for Rs.50 Lakhs as directed by the Board.</p>	
13.	The unit shall ensure the compliance of all the above said conditions and furnish the compliance report to the Board so as to examine the issue of renewal of consent to the unit	We have furnished all compliance report in respect of 11 directions discussed above to the PCB. In respect of the directions vide Sl.No.12, we have requested for waiver of Bank guarantee. Hence, renewal of consent and revocation of closure order may be considered		

Suealal
26/04/2025

JOINT CHIEF ENVIRONMENTAL ENGINEER
TAMIL NADU POLLUTION CONTROL BOARD
No.76, MOUNT SALAI, GUNDEY,
CHENNAI-600 032.

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Therefore, it is humbly prayed that this Hon'ble National Green Tribunal (Southern Zone) may be pleased to pass such further or other orders as this Hon'ble Tribunal may deem fit and proper in the facts and circumstances of this case and thus render justice.

S. Malarvizhi
20/04/2025

JOINT CHIEF ENVIRONMENTAL ENGINEER
TAMIL NADU POLLUTION CONTROL BOARD
No.76, MOUNT SALAI, GUINDY,
CHENNAI-600 032.

VERIFICATION

I, S.Malarvizhi, D/o.Thiru.Subburam, working as Joint Chief Environmental Engineer, Tamil Nadu Pollution Control Board, Chennai, do hereby verify that the contents of above report are true to the best of my knowledge through records.

S. Malarvizhi
20/04/2025

JOINT CHIEF ENVIRONMENTAL ENGINEER
TAMIL NADU POLLUTION CONTROL BOARD
No.76, MOUNT SALAI, GUINDY,
CHENNAI-600 032.

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

Original Application No. 47 of 2023

Suresh S/o Pachiyappan,
6/36, Alamelupuram, Paddireddipatti,
Dharmapuri, Tamil Nadu -636905
Ph: +91 95662 54546
Email: yogeshwaranadv@gmail.com.
.....Applicant.

-Vs-

1. Tamil Nadu Pollution Control Board,
Rep. by its Chairperson,
76, Anna Salai, Guindy Industrial Estate,
Guindy, Chennai - 600 032 & 5 ors.
...Respondents

**REPORT FILED ON BEHALF OF
THE FIRST RESPONDENT- TAMIL
NADU POLLUTION CONTROL
BOARD.**

**Advocate for Respondent: TNPCB
Thiru.Sai Sathya Jith,
Advocate, Chennai.**

Date of filing :28.04.2025

Date of hearing on:09.06.2025



Annexure 4
CENTRE FOR ENVIRONMENTAL STUDIES
ANNA UNIVERSITY, CHENNAI - 600 025.

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Dr. S. KANMANI, B.E., M.E., Ph.D.
Professor & Director

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 skanmani@annauniv.edu, skanmani@hotmail.com

Date: 29.05.2023

To
Mr. V. Anbalagan
Managing Director
Varalakshmi Starch Industries Pvt Ltd,
Varalakshmi Tower, 2nd floor,
No.127/1 Gandhi Road,
Hasthampati (po),
Salem - 636007

Sir,

Sub: Consultancy work on "Design Adequacy for Existing Effluent Treatment Plant" in M/s. Varalakshmi Starch Industries Private Limited, Dharmapuri - Report sent – Reg.

With reference to the above, I enclose 4 copies of the final Report on "Design Adequacy for Existing Effluent Treatment Plant" in M/s. Varalakshmi Starch Industries Private Limited, Dharmapuri. Kindly acknowledge the **Receipt** and issue the **Completion Certificate** for the consultancy work.

Thanking you,

Yours faithfully,


DIRECTOR-CES

Encl: Report - 4 Nos.

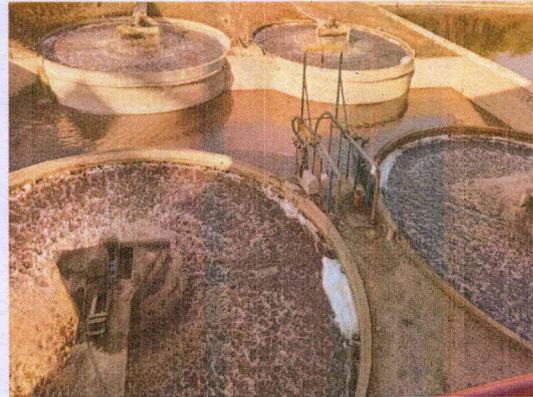
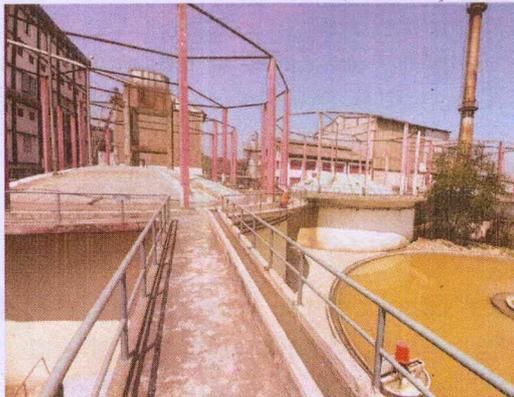
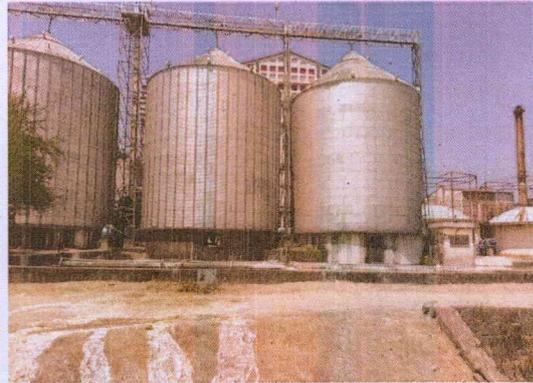
Dr. S. Kanmani, B.E., M.E., Ph.D.
Professor & Director
Centre for Environmental Studies
Anna University, Chennai - 600 025

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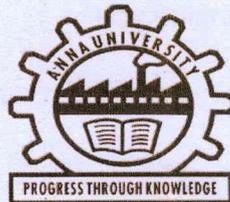
**DESIGN ADEQUACY REPORT FOR EXISTING EFFLUENT
TREATMENT PLANT**

for

**M/s. VARALAKSHMI STARCH INDUSTRIES PRIVATE
LIMITED, DHARMAPURI**



Prepared by



**CENTRE FOR ENVIRONMENTAL STUDIES
DEPARTMENT OF CIVIL ENGINEERING
ANNA UNIVERSITY, CHENNAI - 600 025
MAY 2023**

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2.1 MANUFACTURING PROCESS AT VARALAKSHMI STARCH INDUSTRY

2.1.1 MANUFACTURING PROCESS OF TAPIOCA STARCH

The manufacturing process flow diagram for Tapioca starch and sago is represented in Figure 2. The extraction of starch from tapioca is a process of separating starch granules from the tuber in their pure form. The granules are locked in cells together with other constituents of the protoplasm (proteins, soluble carbohydrates, fats, etc.,) and can only be removed by a purification process in the aqueous phase without any additives. The roots of tapioca should be processed within 48 hours after harvesting. The essential factor in the production of food grade tapioca starch is that the whole process, from harvesting the roots to completion of the final drying, should be carried out in the shortest time possible since deterioration sets in from the time of root extraction and proceeds throughout the process.

Fresh Tapioca Tuber Arrival & Dry Peeling (Cleaning)

Fresh tapioca tubers received at the factory are passed through a dry peeler, which removes the outermost skin and all soil particles adhering to the Tapioca tubers. This dry peeling and pre-cleaning not only improve the quality of the end product but also reduce the consumption of water in the washing process, thereby reducing the load on ETP to a large extent (Sand and Mud 95% removed).

Wet Washing of Tubers

The pre-cleaned tapioca tubers are peeled and washed in an automatic washer using clarified water obtained from the Decanter.

Chopping & Rasping

Washed tapioca tubers are fed into a chopper and chopped into small bits. This initial chopping reduces the load on the raspers as well as now the water requirement in the rasping process, as the Tapioca tubers are fed into the raspers for rasping in a disintegrated form, requiring less water for crushing.

The finely chopped tapioca tubers are fed into raspers, where they are crushed into a fine slurry. The SO₂ solution (not more than 80 ppm) is added through the column to prevent bacterial growth. The raspers used in the process employ modern technology using serrated, high-tensile

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rasper blades. By using this method, the requirement for water is brought down considerably, as the rasper blades used here can crush the tapioca tubers into fine slurry with less water. The raspers are so designed that they can crush the tapioca tubers into micro particles, so that the Tapioca starch recovery will be high. The water usage will also be low, so the load on the decanters at the next stage of manufacturing will be reduced.

Decanting

The Fine slurry from the raspers is then fed into the high speed Centrifugal Decanters for removal of the impure fruit water from the fine slurry. This fruit water is then used as process water in the earlier stage for washing of the Tapioca tubers. This stage is introduced in the manufacturing process to reduce the washing load on the subsequent washing stage thereby leading to reduction of water consumption.

Extraction

Finely decanted tapioca slurry is passed through pulp extractors where the pulp (Thippi) is extracted from the tapioca slurry by adopting centrifugal separation method. The pulp separated here is passed through belt press where most of the remaining water from the tapioca pulp (Thippi) is removed. The tapioca pulp which comes out of the belt press is of semi solid consistency with 50-55% water.

Multistage Hydrocyclone washing

The tapioca starch milk obtained in the previous section is passed through separators which remove the 50% process water from the starch milk employing centrifugal principle. Tapioca starch milk coming out of these multistage hydrocyclone is further refined and concentrated in multi-stage hydrocyclones. In this stage, the entire impurity is removed and 70% water and 30% starch is obtained.

Centrifugal Separator

The fibre removed slurry have 5-8% matured starch, 0.1-0.2% partially matured starch and 92-94% water. The centrifugal separator removes around 50-60% process water which used for raw tapioca rasping and chopping.

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Dehydrating

The concentrated tapioca starch milk is passed through centrifugal de-hydrators where water from the tapioca starch is removed by centrifugal method. The resultant wet tapioca starch will be in small lumps with about 35-40% moisture. The process water removed from the tapioca starch by de-hydrators is passed to Separators inlet (Step VI) to recover escaped tapioca starch particles.

Starch drying & Sieving

The lumps of wet tapioca starch obtained from the dehydrators are passed through a disintegrator to convert them into fine Tapioca starch powder. The powdery wet tapioca starch from the disintegrators is fed into flash dryers and dry the tapioca starch automatically using hot air generated from a hot air furnace, which is used to reduce the moisture in the finished tapioca starch to about 10%–12%.

Drying & Packing

The dried native tapioca starch powders obtained from the flash dryers is passed through feeder and sifters and gets bagged.

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2.1.2 MANUFACTURING PROCESS OF TAPIOCA SAGO

The concentrated tapioca starch milk obtained in the Tapioca Starch manufacturing process is diverted for manufacturing of Tapioca Sago as follows.

De-hydrating

The concentrated tapioca starch milk is passed through centrifugal de-hydrators and Rotary drum Vacuum filters where water from the tapioca starch milk is removed. The resultant wet tapioca starch will be in small lumps with about 40 % moisture.

Sago balls making

The wet tapioca starch lumps are then made into wet Sago in the form of globules / pearls and sieved for the desired size.

Roasting

The sieved sago is roasted/boiled at high temperature in Thermic fluid oil heated Roasters.

Drying

The Roasted/Boiled Sago is dried in dryer to reduce moisture content to about 10-12%. Then the dried Sago is disintegrated to break the lumps and separate the Sago pearls.

Sieving & Packing

After disintegration the sago is sieved to remove powder and un-sized sago and then the Sago is packed.

The process flow diagram for the manufacture of Tapioca Starch and Tapioca

Sago

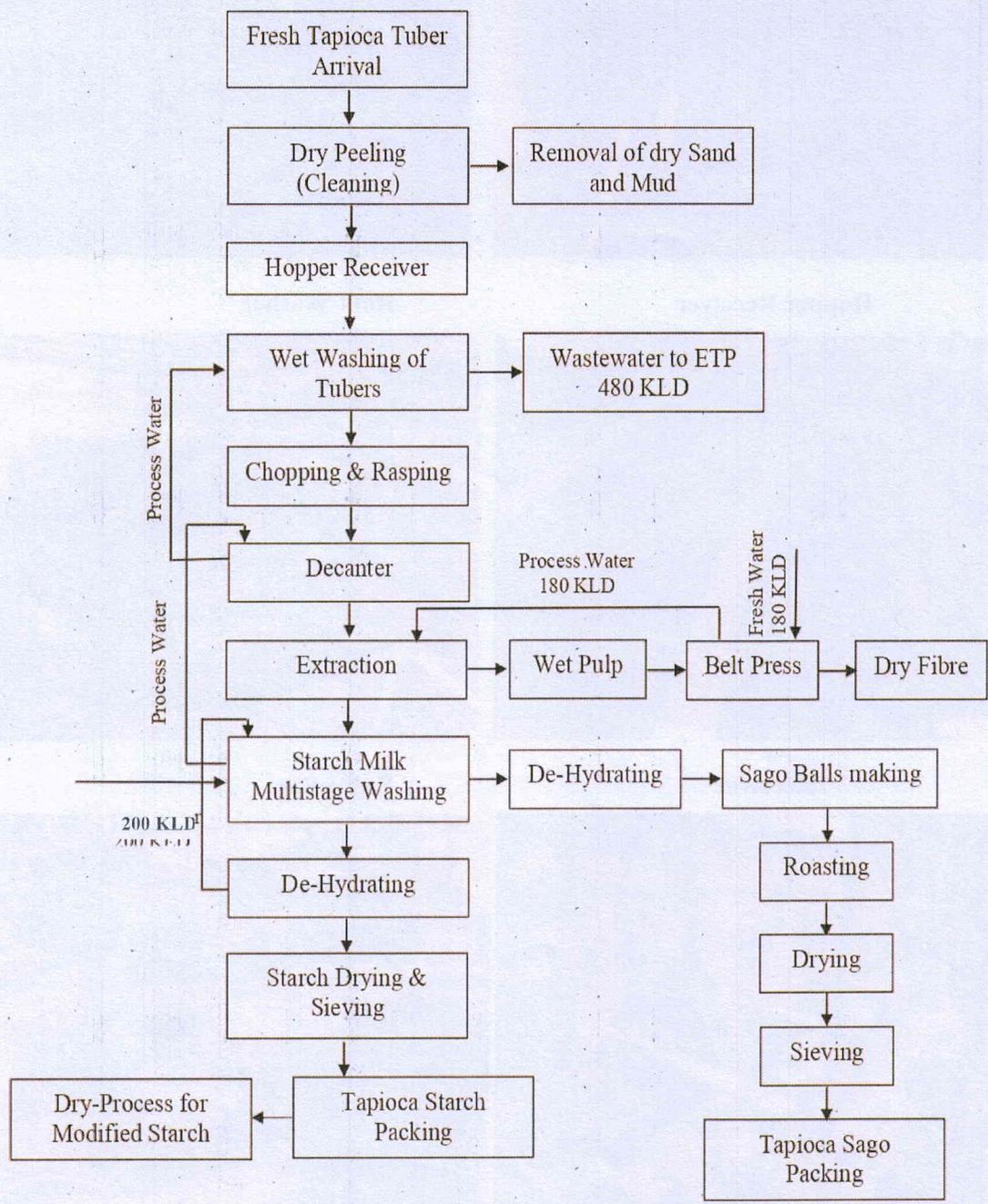
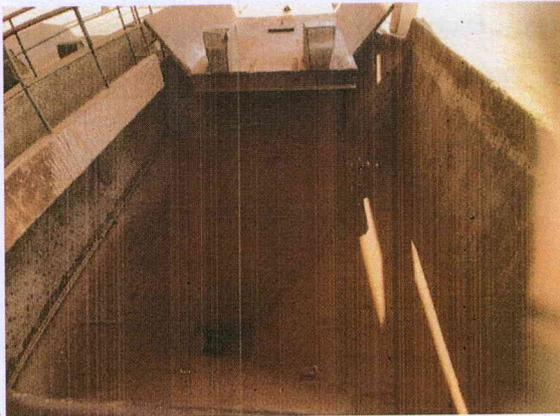


Figure 2 Manufacturing Process Flow Diagram of Tapioca starch and sago

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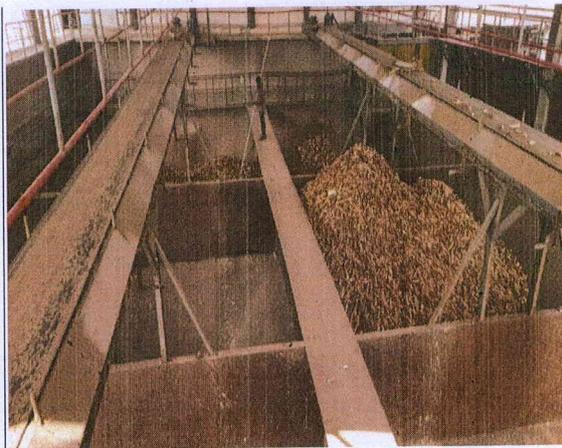
Tube Receiver



Dry Peeler



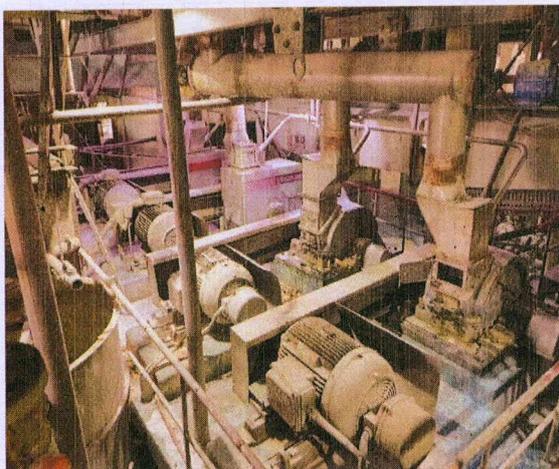
Hopper Receiver



Root Washer



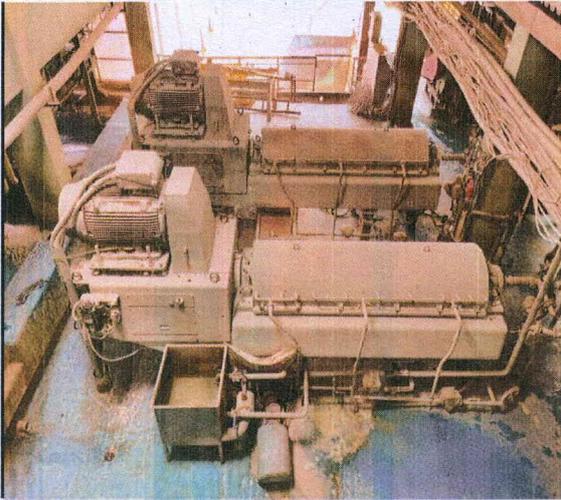
Receiver



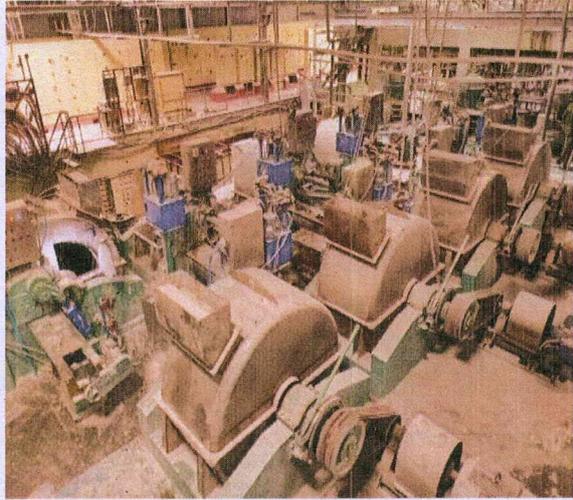
Separator



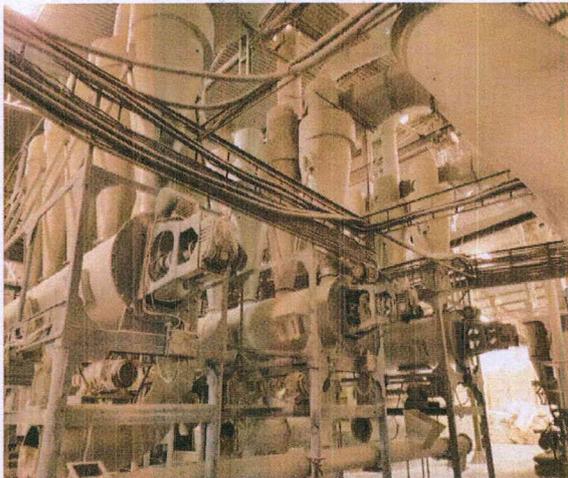
Decanter



Centrifuge



Dryer



Packing

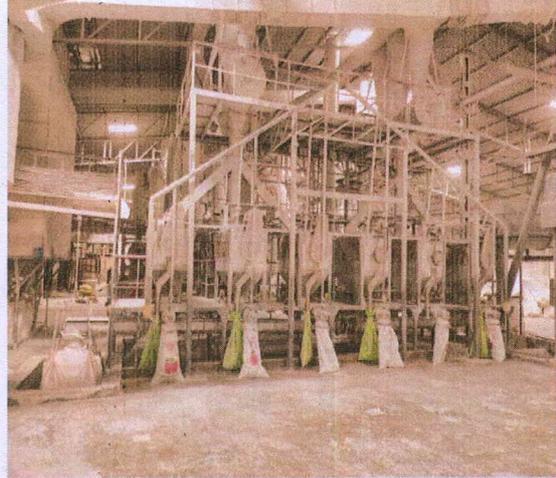


Figure 3 Manufacturing Process of Tapioca starch and sago

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2.1.3 MANUFACTURING PROCESS OF MAIZE STARCH

The manufacturing process flow diagram of Maize starch is represented in Figure 4.

Unloading and Cleaning

Raw Maize received from farmers is unloaded and it is cleaned to remove solid impurities like cob, chaffs, sand and other undesirable foreign matter. The solid waste items and packing material are returned to the farmers and then cleaned maize is taken for process or stored into silos.

Maize Steeping

The cleaned maize is softened by steeping process by using recycled process water for duration of 40 to 60 hours at a temperature of 48 to 52 degree Celsius. In this process the maize absorbs water and become soft to enable easy separation of Germ. After steeping, the water from the steeping tanks is fed into biomethanation reactors to produce biogas and to reduce the BOD and COD in the effluent.

Pre-Milling and Germ Separation

The softened maize is subjected to coarse grinding/pre-milling where the maize is coarsely ground to release the germs without damaging them. As the germ is much light in density than the broken maize kernels, the germ is easily separated by using cyclones. The germ coming out of germ separating cyclones sent to dewatering section where the water from the germ is separated and sent back for steeping processing. The wet germ from the germ separation section is then dried in a germ drier and sold as a byproduct to Oil expellers for extraction of Corn Oil.

Fine Milling and Fiber Separation

The coarsely ground maize kernels free from germs are then ground through impact mill, finally to liberate maize slurry containing fiber, starch and gluten. The fiber is removed from the slurry by (Dutch State Mines) DSM Screens. The fiber thus removed is sent to fiber de-watering section where the free water from the wet fiber is removed and recycled into steeping processing. The fiber after reducing of water is either sold in wet condition or dried and sold as a byproduct for use as cattle feed.

Gluten Separation

The mixture of Gluten and Starch slurry free from fiber and germ is sent to primary Gluten Separator. Here the Gluten is of lower density than starch and so gluten slurry and starch slurry both

are separated. The gluten slurry separated in this section is sent to Gluten concentrator (Gluten Thickening Separator) and concentration section where the excess water is removed from the Gluten and the water recycled into steeping process. The concentrated Gluten cake from vacuum belt filter is sent to Gluten drying section where it is dried as a byproduct for poultry feed use.

Starch Slurry Washing and Dewatering

The starch milk after releasing the gluten is then thoroughly washed with the help of fresh water through 12 stage Hydro cyclones. After washing, the process water is removed from the starch milk and the water is recycled into milling section processing.

Starch Dewatering

The concentrated starch milk (Starch 40% and Water 60%) is passed through De-Hydrating Centrifuge for reducing moisture content upto 35% - 40%. The outlet water contains small portion of starch and it is recycled to starch slurry dewatering section.

Starch Drying

The wet starch /starch cake with 35-40% water obtained from dewatering section is then dried in flash drier by using hot air. The dry starch with 10-12% moisture obtained from the starch drier is sieved and then fine starch powder is packed and sold as finished product.

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The Process flow diagram for the manufacture of Maize Starch

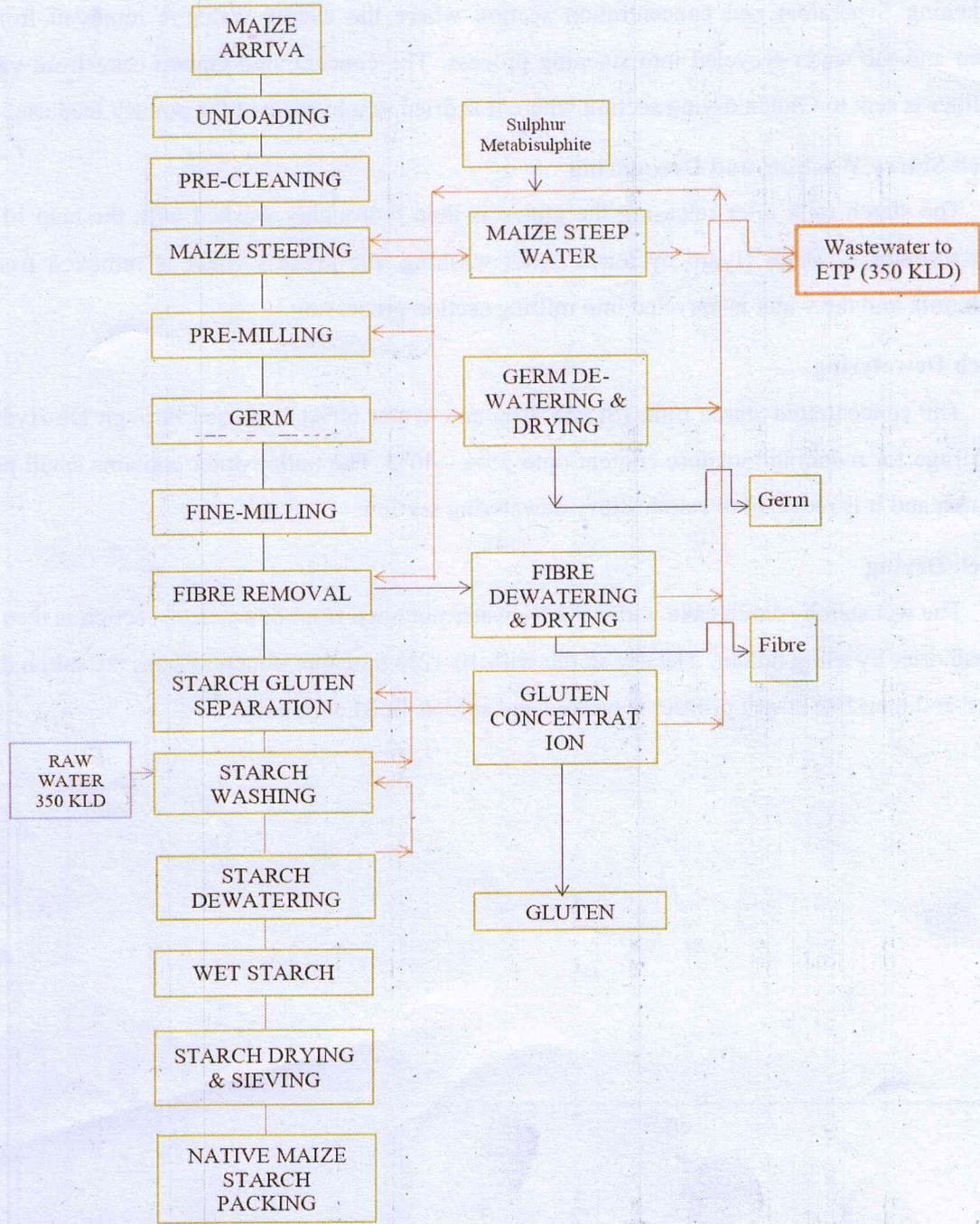


Figure 4 Manufacturing Process Flow Diagram of Maize starch

Annexure 6



Report for

Economic and Environmental Impact of Sago Industry Effluent on Ground Water Quality: A Physicochemical, Metal and Microbial Assessment



Submitted By
The Dean (Agriculture)
Agricultural College and Research Institute
Tamil Nadu Agricultural University
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Report on

**Economic and Environmental Impact of Sago Industry Effluent
on Groundwater Quality: A Physicochemical, Metal, and
Microbial Assessment**



Submitted by

**The Dean (Agriculture)
Agricultural College & Research Institute
Tamil Nadu Agricultural University
Coimbatore- 641 003**

PROGRESS REPORT

- 1. Title of the project** : Economic and Environmental Impact of Sago Industry Effluent on Groundwater Quality: A Physicochemical, Metal, and Microbial Assessment
- 2. Project duration** : Three Months
- 3. Objectives** :
 - To survey and collect the water samples the entire green belt area within industrial premises (Open wells, piezometric wells, bore wells, and rainwater harvesting and artificial recharge wells)
 - To determine the concentrations of the physico-chemical and microbiological quality parameters of collected water samples.
 - To assess the levels of heavy metals (Fe, Pb, Zn, Cd, and Cr) in collected water samples
 - To study the Economic and Environmental Impact through the quantify ground water pollution by monitored heavy metals in the study area using Pollution Load Index, Geo-accumulation Index, Enrichment Ratio and Contamination Degree of drinking ground water samples.

About Varalakshmi Starch Industries (P) Ltd.

Varalakshmi Starch Industries (P) Ltd was established in the year 1995 as a rural agro-based medium-scale industry for the manufacture of super high-grade starch and sago products. Varalakshmi Starch Industries (P) Ltd is a composite, integrated, and the largest unit engaged in the manufacture of Tapioca Starch, Tapioca Sago, Maize Starch, at par with international standards using Tapioca tuber and Maize (Corn) in India. It is the first ISO 9001, 14001, 18001 certified company in India in the field of Starch and Sago. It is the first industry to produce and export international standard Tapioca Starch in India.

The industry was the first to produce Tapioca-based Starches that led to large-scale import substitution of our products in India. It is the only unit in India with accreditation of BIS Certification for both edible-grade Tapioca Starch and Tapioca Sago. It is licensed by the Central & State FSSAI (Food Safety and Standards Authority of India). It is the first integrated starch industry in India with the facility to process Tapioca and Maize in a single premise,

Mr. S. Srinivas

adopting the latest technology by installing world-class, fully automated machinery imported from various European and U.S. countries for the continuous process, untouched by hands, engaged in a hygienic atmosphere with an installed capacity to process 800 tons per day of Tapioca and 400 tons per day of Maize.



A fully well-equipped lab with imported machinery in-built ensures testing the quality of products at all stages of the process, ensuring excellence in compliance with domestic and international standards. Owing to its rigorous maintenance of quality by setting a Zero-Defect Goal as the only acceptable level of performance, the industry has developed a reputed regular customer/clientele base from over 25 countries across the world. Products are being exported to South Africa, Denmark, Japan, Germany, Netherlands, Malaysia, Sri Lanka, Mexico, Saudi Arabia, Taiwan, New Zealand, Canada, Norway, Dubai, Oman, Jordan, Nepal, Bangladesh, Egypt, Qatar, Sweden, etc. For the first time in India, about 25,000 MT of its tapioca starch products were exported.

The industry facilitates the rural, tribal, small, and tiny farmers of the dry region to get assured markets and remunerative prices for their agricultural produce by directly procuring from the farmers, eliminating the middlemen. It is also engaging around 1000+ rural workforce directly & indirectly in day-to-day operations throughout the year, and that's why the industry is being constantly and continuously recognized by both State & Central Government of India and has received many prestigious awards for its activities and

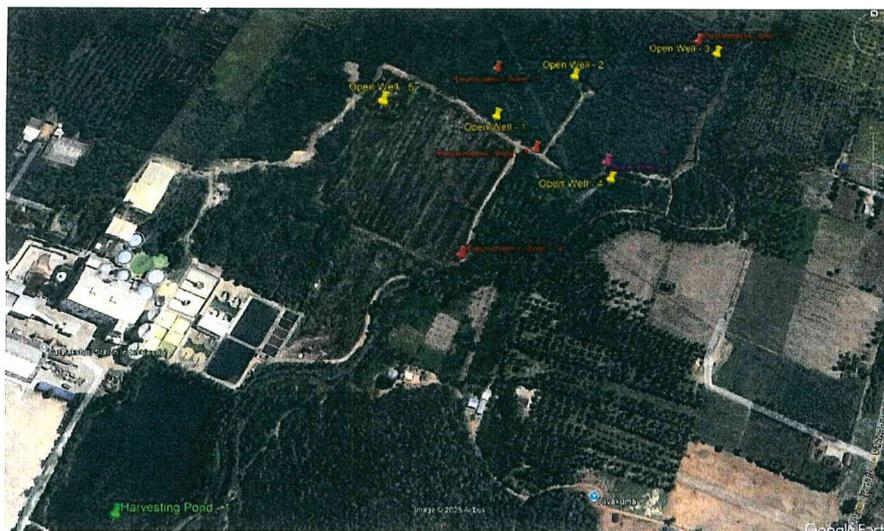
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achievements in promoting rural agro-based industries, for producing quality products, and creating value addition for agricultural produce.

Varalakshmi Starch Industries (P) Ltd has set up under UNDP Demonstrations plant by adapting The Technology given by New Jersey institute of Technology in the year 2002, Bio-Methanation plant to generate 30,000 m³ biogas per day from starch processing wastewater, which is further used to fuel biogas gensets to generate up to 2 MW of renewable power. This has led to a reduction in methane emissions to the atmosphere by capturing the methane in bio digesters, and the captured methane is utilized for thermal applications and power generation, replacing HSD and furnace oil and its associated greenhouse gas emissions.

Sample collection Locations

S. No	Particulars	Latitude	Longitude
1	Open Well	11.899024°	78.377771°
2	Piezometric Well	11.899599°	78.377824°
3	Piezometric Well	11.898617°	78.378133°
4	Open Well	11.899458°	78.378631°
5	Piezometric Well	11.899825°	78.380013°
6	Open Well	11.899654°	78.380182°
7	Open Well	11.898235°	78.378846°
8	Bore Well	11.898425°	78.378829°
9	Open Well	11.899253°	78.376601°
10	Piezometric Well	11.897514°	78.377302°
11	Rainwater Harvesting Pond	11.895043°	78.374386°



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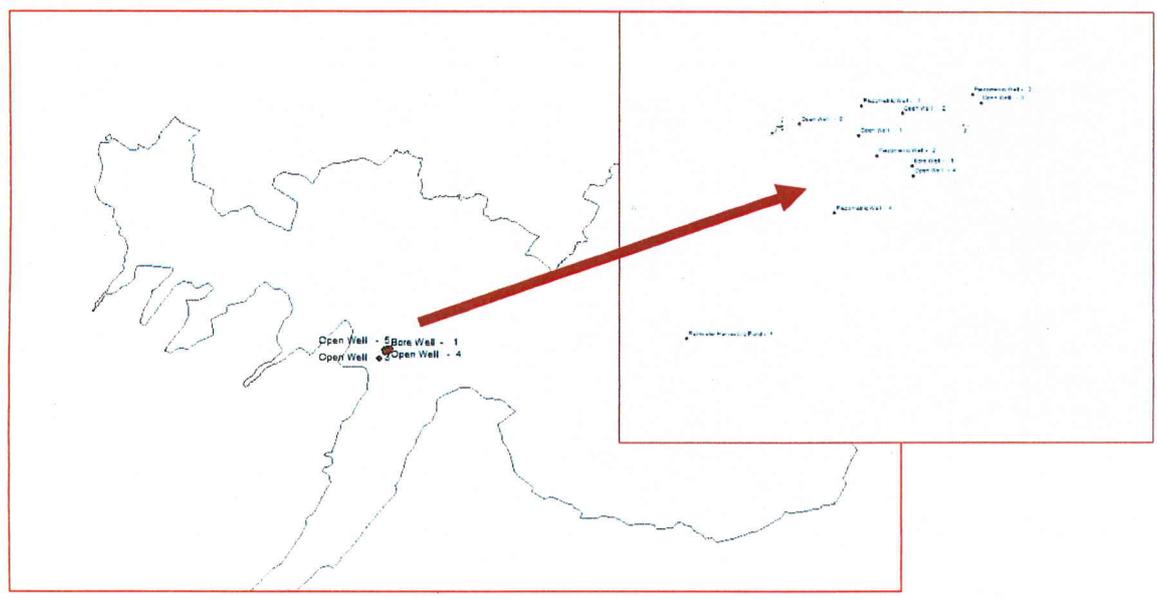


Fig. 1. Soil and Water sampling locations

Methodology:

Methodology followed in the physico-chemical and microbial analyses of the water samples are detailed below.

Table. 1. Standard Methods for physico-chemical and microbial analyses of water samples

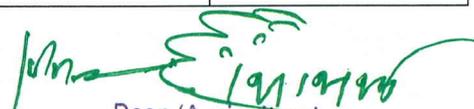
Particulars	Unit	Remarks	References
Physico-chemical properties			
pH	-	Soil:Water suspension @1:2.5	Jackson (1973)
EC	dS m ⁻¹	Soil:Water suspension @1:2.5	Jackson (1973)
Organic carbon	per cent	Wet digestion method	Walkley and Black (1934)
Available N	kg ha ⁻¹	Alkaline permanganate method	Subbiah and Asija (1956)
Available P	kg ha ⁻¹	Photoelectric colorimeter at 660 nm	Olsen <i>et al.</i> (1954)
Available K	kg ha ⁻¹	Flame photometer	Stanford and English (1948)
Exchangeable Na	cmol (p ⁺) kg ⁻¹	Ammonium acetate (Flame photometer)	Jackson (1973)
Exchangeable Ca	cmol (p ⁺) kg ⁻¹	Versanate titration method	Jackson (1973)
Exchangeable Mg	cmol (p ⁺) kg ⁻¹	Versanate titration method	Jackson (1973)

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Exchangeable K	cmol (p ⁺) kg ⁻¹	Ammonium acetate extract (Flame photometer)	Jackson (1973)
Exchangeable Sodium Percentage (ESP)	per cent	Na ⁺ ----- 100 Na ⁺ +Ca ⁺⁺ +Mg ⁺⁺ +K ⁺	Saxena <i>et al.</i> (1978)
Available heavy metals	mg kg ⁻¹	DTPA extract analysis in MP-AES	O'Connor (1988)
Microbial properties			
Bacteria	x 10 ⁶ CFU g ⁻¹	Nutrient agar	Waksman and Fred (1922)
Fungi	x 10 ⁴ CFU g ⁻¹	Martin's rose bengal agar	
Actinomycetes	x 10 ² CFU g ⁻¹	Ken Knight's agar	

Table 2. Standard methodology for the analyses of water samples

Parameters	Unit	Method	Reference
pH	-	Measured using digital pH meter	Jackson (1973)
EC	dS m ⁻¹	Measured using conductivity bridge (CM 180 Elico conductivity bidge)	Jackson (1973)
DO	mg L ⁻¹	Azide modification iodimetric method	APHA (1980)
BOD	mg L ⁻¹	Incubation method	Gupta (2002)
COD	mg L ⁻¹	Refluxed for 2 hrs and titrated against 0.5N FAS using ferroin indicator	Gupta (2002)
Organic Carbon	per cent	Chromic acid wet digestion method	Walkley and Black (1934)
Phosphorus	mg L ⁻¹	Photoelectric colorimeter at 660 nm	Olsen <i>et al.</i> , (1954)
Carbonates	mg L ⁻¹	Titration with 0.1N H ₂ SO ₄ using phenolphthalein indicator	Piper (1966)
Bicarbonates	mg L ⁻¹	Titration with 0.1N H ₂ SO ₄ using methyl orange indicator	Piper (1966)
Calcium	mg L ⁻¹	Versenate titration method	Jackson (1967)
Magnesium	mg L ⁻¹	Versenate titration method	Jackson (1967)
Sodium	mg L ⁻¹	Flame photometer	Jackson (1967)
Potassium	mg L ⁻¹	Flame photometer	Jackson (1967)
Chloride	mg L ⁻¹	Mohr's method	Jackson (1967)
Sulphates	mg L ⁻¹	Turbidimetric method	Jackson (1967)


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Results:**Characterization of water samples in the bench mark sites****pH, EC, TDS and TSS**

The pH of all piezometer, pond, bore well and open well water samples range from 7.40 to 8.40, slightly alkaline to moderately alkaline and lies well within the treated trade effluent standards as well as the range prescribed for irrigation effluents. This indicates no immediate acidity/alkalinity hazard, although values approaching the upper irrigation limit in some open wells suggest long-term monitoring.

Electrical conductivity and total dissolved solids are moderate but remain within the acceptable range below the irrigation limit of 2100 mg/l, suggesting suitability for irrigation though with some salinity load. Total suspended solids are low and far below the limit for treated trade effluent discharge, indicating limited particulate pollution in all samples. All water samples are colourless and free from foul odour, which indicates the absence of obvious contamination or industrial colouring. Turbidity is either below detection or very low in the measurable samples, implying good clarity of the water sources.

DO, BOD, COD

Dissolved oxygen is generally between 1.0 – 2.0 mg/l in Piezometers and reaches higher values of upto 3.0 mg/l in open wells, pond and bore well, reflecting better aeration and lower organic load at these locations compared to piezometers. The DO levels of 1 - 2 mg/l combined with BOD levels of 8 – 12 mg/l and COD levels of 26 – 36 mg/l in piezometer subsurface waters in the greenbelt indicates that the organic matter in the treated trade effluent discharged in the greenbelt area are within the standards for discharge of treated trade effluent.

Biological oxygen demand values of 8 – 12 mg/l in piezometer samples, BOD values of 2 – 8 mg/l in open wells, pond and bore well, Chemical oxygen demand follows a similar pattern, with piezometers and open wells recording COD levels ranging between 12 – 40 mg/l indicating that the organic matter in the treated trade effluent discharged in the greenbelt area are within the standards for discharge of treated trade effluent and have no effect on the groundwater quality.



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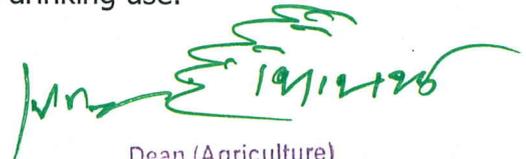
Nitrogen and phosphate contaminants

Ammoniacal nitrogen, nitrate-N, nitrite-N and phosphate are predominantly below detection or present at very low concentrations, all well below standards for discharge of treated trade effluent, suggesting absence of acute nutrient pollution or eutrophication risk at the time of sampling.

Ions, salinity and fluoride

Sulphate, chloride, carbonate, bicarbonate, calcium and magnesium concentrations in all samples lie within the standards for discharge of treated trade effluent and irrigation effluent limits, indicating that hardness and salinity are moderate but not excessive. Sodium levels are relatively high in several open wells and piezometers, yet calculated sodium adsorption ratio (SAR) values remain well below the critical threshold of 26, showing no sodium hazard for irrigation.

Residual sodium carbonate values are mostly negative or low positive and remain within the safe limit of 5 mg/l, further confirming that none of the waters pose an RSC-related sodicity risk to soils. Fluoride, however, exceeds the upper permissible limit for drinking water (1.5 mg/l) in most piezometer and open well samples, while the bore well remains within the acceptable range, indicating localized fluoride enrichment and restricting many sources for safe drinking use.



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Sri Varalakshmi Starch Industries – Greenbelt water samples

S. No.	Parameters	Sample 1	Sample 2	Sample 3	Sample 4	Sample 5	Sample 6	Sample 7	Sample 8	Sample 9	Sample 10	Sample 11	Standards for discharge of treated trade effluent for irrigation
		Peizometer 1	Peizometer 2	Peizometer 3	Peizometer 4	Open Well 1	Open Well 2	Open Well 3	Open Well 4	Open Well 5	Pond	Bore well	
1.	pH	7.40	7.80	7.70	7.40	8.20	7.90	8.30	8.40	7.40	7.90	8.00	5.5 – 9.0
2.	EC (dS m ⁻¹)	2.03	1.87	1.91	2.10	2.41	2.58	2.20	2.67	2.77	1.60	0.21	-
3.	Odour	Absence of Foul odour	Absence of Foul odour	Absence of Foul odour	Absence of Foul odour	Absence of Foul odour	Absence of Foul odour	Absence of Foul odour	Absence of Foul odour	Absence of Foul odour	Absence of Foul odour	Absence of Foul odour	-
4.	Colour	Colourless	-										
5.	Turbidity (NTU)	*BDL	*BDL	0.30	*BDL	2.50	*BDL	*BDL	*BDL	1.60	*BDL	1.7	-
6.	Dissolved Oxygen (mg/l)	1.00	2.00	2.00	1.50	2.00	3.00	3.00	3.00	2.5	3.0	5.4	-
7.	Biological Oxygen Demand (mg/l)	12	8	10	12	14	6	5	5	8	5	2	<30 (BOD ₃)
8.	Chemical Oxygen Demand (mg/l)	36	26	28	28	40	16	16	24	36	24	12	<250 (COD)


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S. No.	Parameters	Sample 1	Sample 2	Sample 3	Sample 4	Sample 5	Sample 6	Sample 7	Sample 8	Sample 9	Sample 10	Sample 11	Standards for discharge of treated trade effluent for irrigation
		Peizometer 1	Peizometer 2	Peizometer 3	Peizometer 4	Open Well 1	Open Well 2	Open Well 3	Open Well 4	Open Well 5	Pond	Bore well	
9.	Total Dissolved Solids (mg/l)	1318	1216	1247	1364	1558	1668	1428	1736	1801	1042	136	<2100
10.	Total Suspended Solids (mg/l)	26	32	24	32	42	40	36	45	42	56	16	<100
11.	Sulphate (mg/l)	34	24	26	33	15	27	25	32	30	29	*BDL	<1000
12.	Chloride (mg/l)	371	323	275	310	412	583	583	564	489	305	38	<1000
13.	Carbonate (mg/l)	11	11	27	21	39	24	36	27	57	12	*BDL	-
14.	Bicarbonate (mg/l)	509	498	569	587	503	552	363	586	660	314	52	-
15.	Calcium (mg/l)	116	101	83	112	158	123	92	112	132	77	16	-
16.	Magnesium (mg/l)	40	48	41	54	70	67	60	75	77	36	9	-
17.	Sodium (mg/l)	207	181	166	209	119	266	217	234	203	146	*BDL	-
18.	Potassium (mg/l)	16	5	32	20	91	*BDL	*BDL	35	118	*BDL	*BDL	-

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S. No.	Parameters	Sample 1	Sample 2	Sample 3	Sample 4	Sample 5	Sample 6	Sample 7	Sample 8	Sample 9	Sample 10	Sample 11	Standards for discharge of treated effluent for irrigation
		Peizometer 1	Peizometer 2	Peizometer 3	Peizometer 4	Open Well 1	Open Well 2	Open Well 3	Open Well 4	Open Well 5	Pond	Bore well	
19.	Ammoniacal N (mg/l)	*BDL	*BDL	*BDL	*BDL	0.56	*BDL	*BDL	*BDL	*BDL	*BDL	*BDL	<50
20.	Nitrate N (mg/l)	0.28	0.28	0.28	0.28	*BDL	*BDL	*BDL	*BDL	*BDL	0.28	*BDL	-
21.	Nitrite N (mg/l)	*BDL	*BDL	*BDL	*BDL	*BDL	*BDL	*BDL	*BDL	*BDL	*BDL	*BDL	-
22.	Phosphate (mg/l)	*BDL	*BDL	*BDL	*BDL	0.88	*BDL	*BDL	*BDL	*BDL	*BDL	*BDL	-
23.	Oil and Grease (mg/l)	*BDL	*BDL	*BDL	*BDL	*BDL	*BDL	*BDL	*BDL	*BDL	*BDL	*BDL	<10
24.	Total Phenol (mg/l)	*BDL	*BDL	*BDL	*BDL	*BDL	*BDL	*BDL	*BDL	*BDL	*BDL	*BDL	<1
25.	Total Lead (mg/l)	*BDL	*BDL	*BDL	*BDL	*BDL	*BDL	*BDL	*BDL	*BDL	*BDL	*BDL	<0.1
26.	Total Chromium (mg/l)	*BDL	*BDL	*BDL	*BDL	1.2	*BDL	*BDL	*BDL	*BDL	*BDL	*BDL	<2
27.	Total Nickel (mg/l)	*BDL	*BDL	*BDL	*BDL	1.0	0.05	*BDL	*BDL	*BDL	*BDL	*BDL	<3.0
28.	Total Cadmium (mg/l)	*BDL	*BDL	*BDL	*BDL	*BDL	*BDL	*BDL	*BDL	*BDL	*BDL	*BDL	<2


 12/11/1998

S. No.	Parameters	Sample 1	Sample 2	Sample 3	Sample 4	Sample 5	Sample 6	Sample 7	Sample 8	Sample 9	Sample 10	Sample 11	Standards for discharge of treated trade effluent for irrigation
		Peizometer 1	Peizometer 2	Peizometer 3	Peizometer 4	Open Well 1	Open Well 2	Open Well 3	Open Well 4	Open Well 5	Pond	Bore well	
29.	Total Fluoride (mg/l)	1.5	1.5	1.8	2	2	1.5	1.5	1.8	2.2	1.2	0.5	<2.0
30.	Total Mercury (mg/l)	*BDL	*BDL	*BDL	*BDL	*BDL	*BDL	*BDL	*BDL	*BDL	*BDL	*BDL	<0.01
31.	Total Copper (mg/l)	*BDL	*BDL	*BDL	*BDL	0.6	*BDL	*BDL	*BDL	*BDL	*BDL	*BDL	<3
32.	Sodium absorption Ratio (meq/l)	5.96	5.23	5.25	5.72	2.79	6.75	6.09	5.91	4.89	4.85	0.00	-
33.	Residual sodium carbonate (meq/l)	-0.42	-0.52	2.66	0.22	-4.19	-1.88	-2.45	-1.34	-0.30	-1.30	-0.70	-
34.	Bacteria (CFU/ml)	1	2	1	2	2	1	1	1	2	2	Nil	-
35.	Fungi (CFU/ml)	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	-
36.	Actinomycetes (CFU/ml)	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	-
37.	Total Coli forms (MPN/100 ml)	23	11	9	11	28	Nil	4	Nil	9	23	Nil	-



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S. No.	Parameters	Sample 1	Sample 2	Sample 3	Sample 4	Sample 5	Sample 6	Sample 7	Sample 8	Sample 9	Sample 10	Sample 11	Standards for discharge of treated trade effluent for irrigation
		Peizometer 1	Peizometer 2	Peizometer 3	Peizometer 4	Open Well 1	Open Well 2	Open Well 3	Open Well 4	Open Well 5	Pond	Bore well	
38.	E. coli forms (MPN/100 ml)	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	-
39.	Salmonella (No./100 ml)	Nil	Present	Present	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	-

Handwritten signature and date: 19/12/2024

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Trace metals, oil, grease and phenol

Most heavy metals including lead, cadmium, mercury, oil and phenols are below detection in all samples, which is favourable in terms of toxic metal contamination. Chromium and nickel are also mostly below detection in most samples except Chromium in open well 1 showing level of 1.2 mg/l and Nickel in open well 1&2 showing level of 1.0 and 0.05 mg/l respectively but these levels are also still below standards for discharge of treated trade effluent, all indicating that the discharge of treated trade effluent in the greenbelt area has not resulted in any noticeable contamination of heavy metals in the groundwater.

Microbial parameters

Bacterial counts are low but several samples contain total coliforms and some show Salmonella, while E. coli is absent in all samples. The presence of coliforms and Salmonella indicates faecal or environmental contamination and means that microbiological treatment or disinfection is essential before using these waters for drinking.

Conclusion

A total of 11 samples of groundwater from various Piezometer wells, Open Wells, Bore Well and Pond were collected from the greenbelt area that was maintained utilizing the treated trade effluent of Varalakshmi Starch Industries at Pappiredipatti. The Analytical results of all these samples are enclosed with this report. The physiochemical and organic inference drawn from the analytical results have been given in this report and overall, it can be concluded that there has been no noticeable deterioration in the ground water quality in the study area of the greenbelt due to the discharge of the industry's treated trade effluent.

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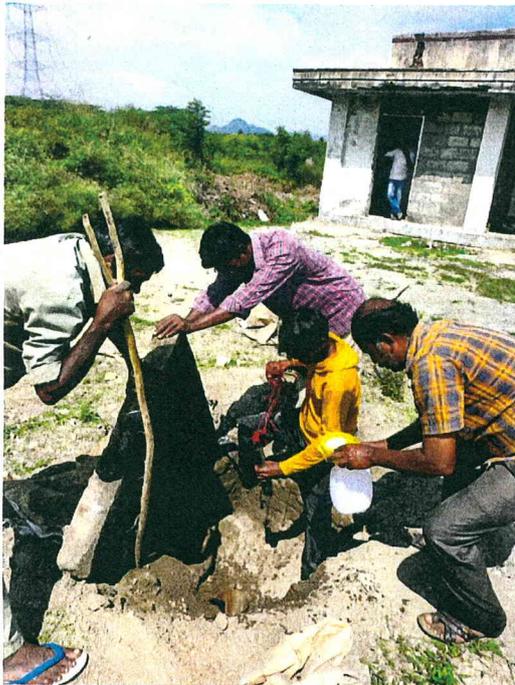
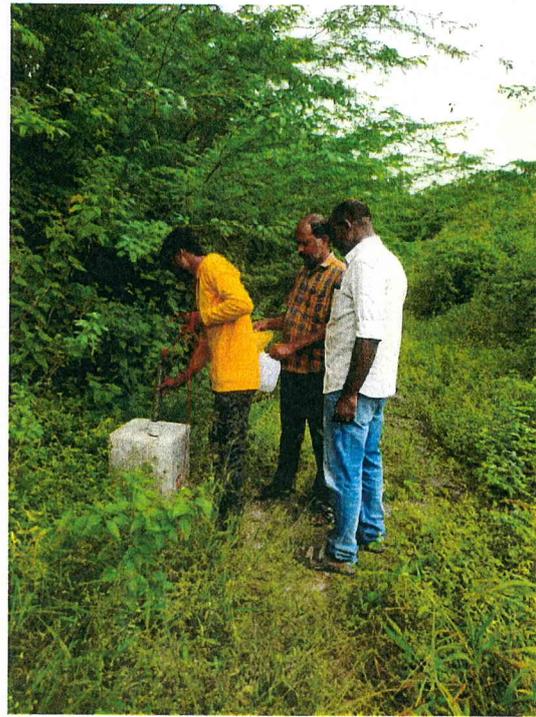
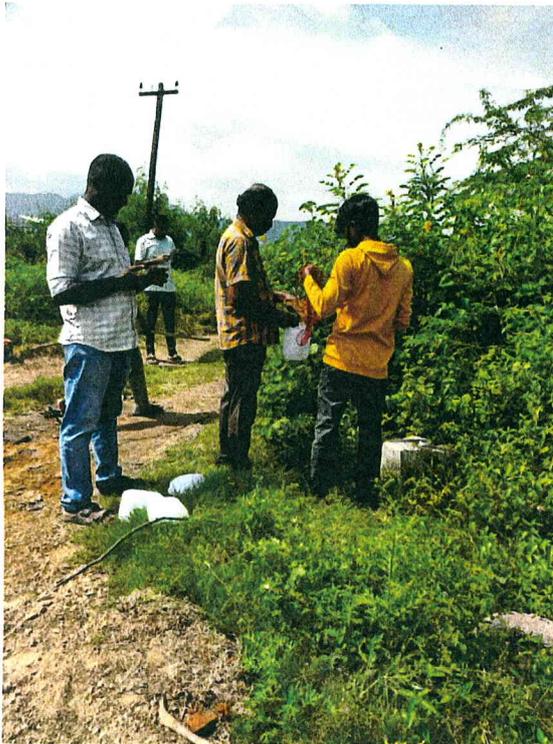


Plate 1: Collection of Peizometer Water Samples

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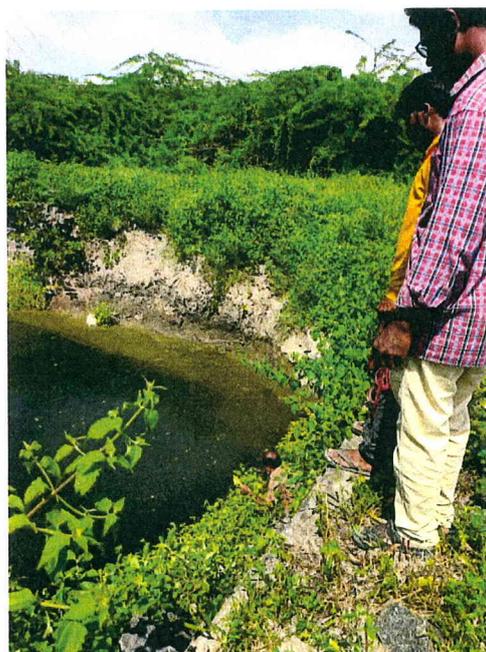
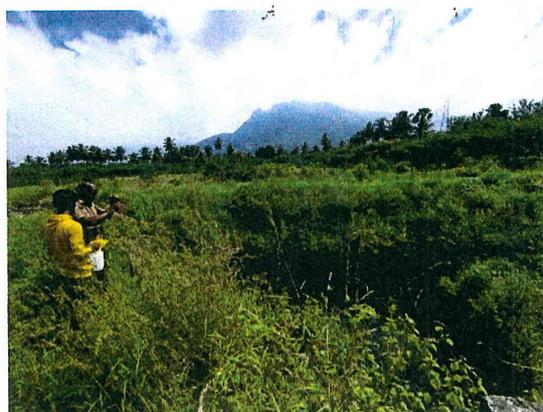


Plate 2: Collection of Open Well Water Samples

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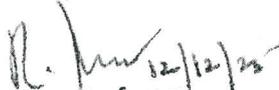
Nature of Sample : Water Sample No.1 - Piezometer 1
Received from : Varalakshmi Starch Industries Private Limited., Varalakshmi
Tower, 127/1, 2nd Floor, Gandhi Road, Salem - 636 007.
Parameters analyzed : As below

Parameters	Values	Parameters	Values
pH	7.40	Nitrite N (mg/l)	*BDL
EC (dS m ⁻¹)	2.03	Phosphate (mg/l)	*BDL
Odour	Absence of Foul odour	Oil and Grease (mg/l)	*BDL
Colour	Colourless	Total Phenol (mg/l)	*BDL
Turbidity (NTU)	*BDL	Total Lead (mg/l)	*BDL
Dissolved Oxygen (mg/l)	1.00	Total Chromium (mg/l)	*BDL
Biological Oxygen Demand (mg/l)	12	Total Nickel (mg/l)	*BDL
Chemical Oxygen Demand (mg/l)	36	Total Cadmium (mg/l)	*BDL
Total Dissolved Solids (mg/l)	1318	Total Fluoride (mg/l)	1.5
Total Suspended Solids (mg/l)	26	Total Mercury (mg/l)	*BDL
Sulphate (mg/l)	34.45	Total Copper (mg/l)	*BDL
Chloride (mg/l)	371	Sodium Absorption Ratio	5.96
Carbonate (mg/l)	11	Residual Sodium Carbonate (meq/l)	-0.42
Bicarbonate (mg/l)	509	Bacteria (CFU/ml)	1
Calcium (mg/l)	116	Fungi (CFU/ml)	Nil
Magnesium (mg/l)	40	Actinomycetes (CFU/ml)	Nil
Sodium (mg/l)	207	Total Coli forms (MPN/100 ml)	23
Potassium (mg/l)	16	E. coli forms (MPN/100 ml)	Nil
Ammoniacal N (mg/l)	*BDL	Salmonella	Nil
Nitrate N (mg/l)	0.28		

*BDL-Below Detectable Limit

Note: The above results are communicated with the following conditions.

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Nature of Sample : Water Sample No.2 - Piezometer 2
Received from : Varalakshmi Starch Industries Private Limited., Varalakshmi
Tower, 127/1, 2nd Floor, Gandhi Road, Salem - 636 007.
Parameters analyzed : As below

Parameters	Values	Parameters	Values
pH	7.80	Nitrite N (mg/l)	*BDL
EC (dS m ⁻¹)	1.87	Phosphate (mg/l)	*BDL
Odour	Absence of Foul odour	Oil and Grease (mg/l)	*BDL
Colour	Colourless	Total Phenol (mg/l)	*BDL
Turbidity (NTU)	*BDL	Total Lead (mg/l)	*BDL
Dissolved Oxygen (mg/l)	2.00	Total Chromium (mg/l)	*BDL
Biological Oxygen Demand (mg/l)	8	Total Nickel (mg/l)	*BDL
Chemical Oxygen Demand (mg/l)	26	Total Cadmium (mg/l)	*BDL
Total Dissolved Solids (mg/l)	1216	Total Fluoride (mg/l)	1.5
Total Suspended Solids (mg/l)	32	Total Mercury (mg/l)	*BDL
Sulphate (mg/l)	24.4	Total Copper (mg/l)	*BDL
Chloride (mg/l)	323	Sodium Absorption Ratio	5.23
Carbonate (mg/l)	11	Residual Sodium Carbonate (meq/l)	-0.52
Bicarbonate (mg/l)	498	Bacteria (CFU/ml)	2
Calcium (mg/l)	101	Fungi (CFU/ml)	Nil
Magnesium (mg/l)	48	Actinomycetes (CFU/ml)	Nil
Sodium (mg/l)	181	Total Coli forms (MPN/100 ml)	11
Potassium (mg/l)	5	E. coli forms (MPN/100 ml)	Nil
Ammoniacal N (mg/l)	*BDL	Salmonella	Present
Nitrate N (mg/l)	0.28		

*BDL-Below Detectable Limit

Note: The above results are communicated with the following conditions.

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Nature of Sample : Water Sample No.3 - Piezometer 3
Received from : Varalakshmi Starch Industries Private Limited., Varalakshmi Tower, 127/1, 2nd Floor, Gandhi Road, Salem - 636 007.
Parameters analyzed : As below

Parameters	Values	Parameters	Values
pH	7.70	Nitrite N (mg/l)	*BDL
EC (dS m ⁻¹)	1.91	Phosphate (mg/l)	*BDL
Odour	Absence of Foul odour	Oil and Grease (mg/l)	*BDL
Colour	Colourless	Total Phenol (mg/l)	*BDL
Turbidity (NTU)	0.30	Total Lead (mg/l)	*BDL
Dissolved Oxygen (mg/l)	2.00	Total Chromium (mg/l)	*BDL
Biological Oxygen Demand (mg/l)	10	Total Nickel (mg/l)	*BDL
Chemical Oxygen Demand (mg/l)	28	Total Cadmium (mg/l)	*BDL
Total Dissolved Solids (mg/l)	1247	Total Fluoride (mg/l)	1.8
Total Suspended Solids (mg/l)	24	Total Mercury (mg/l)	*BDL
Sulphate (mg/l)	25.95	Total Copper (mg/l)	*BDL
Chloride (mg/l)	275	Sodium Absorption Ratio	5.25
Carbonate (mg/l)	27	Residual Sodium Carbonate (meq/l)	2.66
Bicarbonate (mg/l)	569	Bacteria (CFU/ml)	1
Calcium (mg/l)	83	Fungi (CFU/ml)	Nil
Magnesium (mg/l)	41	Actinomycetes (CFU/ml)	Nil
Sodium (mg/l)	166	Total Coli forms (MPN/100 ml)	9
Potassium (mg/l)	32	E. coli forms (MPN/100 ml)	Nil
Ammoniacal N (mg/l)	*BDL	Salmonella	Present
Nitrate N (mg/l)	0.28		

*BDL-Below Detectable Limit

Note: The above results are communicated with the following conditions.

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Nature of Sample : Water Sample No.4 - Piezometer 4
Received from : Varalakshmi Starch Industries Private Limited., Varalakshmi
Tower, 127/1, 2nd Floor, Gandhi Road, Salem - 636 007.
Parameters analyzed : As below

Result

Parameters	Values	Parameters	Values
pH	7.40	Nitrite N (mg/l)	*BDL
EC (dS m ⁻¹)	2.10	Phosphate (mg/l)	*BDL
Odour	Absence of Foul odour	Oil and Grease (mg/l)	*BDL
Colour	Colourless	Total Phenol (mg/l)	*BDL
Turbidity (NTU)	*BDL	Total Lead (mg/l)	*BDL
Dissolved Oxygen (mg/l)	1.50	Total Chromium (mg/l)	*BDL
Biological Oxygen Demand (mg/l)	12	Total Nickel (mg/l)	*BDL
Chemical Oxygen Demand (mg/l)	28	Total Cadmium (mg/l)	*BDL
Total Dissolved Solids (mg/l)	1364	Total Fluoride (mg/l)	2
Total Suspended Solids (mg/l)	32	Total Mercury (mg/l)	*BDL
Sulphate (mg/l)	33.45	Total Copper (mg/l)	*BDL
Chloride (mg/l)	310	Sodium Absorption Ratio	5.72
Carbonate (mg/l)	21	Residual Sodium Carbonate (meq/l)	0.22
Bicarbonate (mg/l)	587	Bacteria (CFU/ml)	2
Calcium (mg/l)	112	Fungi (CFU/ml)	Nil
Magnesium (mg/l)	54	Actinomycetes (CFU/ml)	Nil
Sodium (mg/l)	209	Total Coli forms (MPN/100 ml)	11
Potassium (mg/l)	20	E. coli forms (MPN/100 ml)	Nil
Ammoniacal N (mg/l)	*BDL	Salmonella	Nil
Nitrate N (mg/l)	0.28		

*BDL-Below Detectable Limit

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Nature of Sample : Water Sample No.5 - Open well 1
Received from : Varalakshmi Starch Industries Private Limited., Varalakshmi
Tower, 127/1, 2nd Floor, Gandhi Road, Salem - 636 007.
Parameters analyzed : As below

Parameters	Values	Parameters	Values
pH	8.20	Nitrite N (mg/l)	*BDL
EC (dS m ⁻¹)	2.41	Phosphate (mg/l)	0.88
Odour	Absence of Foul odour	Oil and Grease (mg/l)	*BDL
Colour	Colourless	Total Phenol (mg/l)	*BDL
Turbidity (NTU)	2.50	Total Lead (mg/l)	*BDL
Dissolved Oxygen (mg/l)	2.00	Total Chromium (mg/l)	1.2
Biological Oxygen Demand (mg/l)	14	Total Nickel (mg/l)	1.0
Chemical Oxygen Demand (mg/l)	40	Total Cadmium (mg/l)	*BDL
Total Dissolved Solids (mg/l)	1558	Total Fluoride (mg/l)	2
Total Suspended Solids (mg/l)	42	Total Mercury (mg/l)	*BDL
Sulphate (mg/l)	15.15	Total Copper (mg/l)	0.6
Chloride (mg/l)	412	Sodium Absorption Ratio	2.79
Carbonate (mg/l)	39	Residual Sodium Carbonate (meq/l)	-4.19
Bicarbonate (mg/l)	503	Bacteria (CFU/ml)	2
Calcium (mg/l)	158	Fungi (CFU/ml)	Nil
Magnesium (mg/l)	70	Actinomycetes (CFU/ml)	Nil
Sodium (mg/l)	119	Total Coli forms (MPN/100 ml)	28
Potassium (mg/l)	91	E. coli forms (MPN/100 ml)	Nil
Ammoniacal N (mg/l)	0.56	Salmonella	Nil
Nitrate N (mg/l)	*BDL		

*BDL-Below Detectable Limit

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Nature of Sample : Water Sample No.6 - Open well 2
Received from : Varalakshmi Starch Industries Private Limited., Varalakshmi
Tower, 127/1, 2nd Floor, Gandhi Road, Salem - 636 007.
Parameters analyzed : As below

Parameters	Values	Parameters	Values
pH	7.90	Nitrite N (mg/l)	*BDL
EC (dS m ⁻¹)	2.58	Phosphate (mg/l)	*BDL
Odour	Absence of Foul odour	Oil and Grease (mg/l)	*BDL
Colour	Colourless	Total Phenol (mg/l)	*BDL
Turbidity (NTU)	*BDL	Total Lead (mg/l)	*BDL
Dissolved Oxygen (mg/l)	3.00	Total Chromium (mg/l)	*BDL
Biological Oxygen Demand (mg/l)	6	Total Nickel (mg/l)	0.05
Chemical Oxygen Demand (mg/l)	16	Total Cadmium (mg/l)	*BDL
Total Dissolved Solids (mg/l)	1668	Total Fluoride (mg/l)	1.5
Total Suspended Solids (mg/l)	40	Total Mercury (mg/l)	*BDL
Sulphate (mg/l)	27.5	Total Copper (mg/l)	*BDL
Chloride (mg/l)	583	Sodium Absorption Ratio	6.75
Carbonate (mg/l)	24	Residual Sodium Carbonate (meq/l)	-1.88
Bicarbonate (mg/l)	552	Bacteria (CFU/ml)	1
Calcium (mg/l)	123	Fungi (CFU/ml)	Nil
Magnesium (mg/l)	67	Actinomycetes (CFU/ml)	Nil
Sodium (mg/l)	266	Total Coli forms (MPN/100 ml)	Nil
Potassium (mg/l)	*BDL	E. coli forms (MPN/100 ml)	Nil
Ammoniacal N (mg/l)	*BDL	Salmonella	Nil
Nitrate N (mg/l)	*BDL		

*BDL-Below Detectable Limit

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Nature of Sample : Water Sample No.7 - Open well 3
Received from : Varalakshmi Starch Industries Private Limited., Varalakshmi
Tower, 127/1, 2nd Floor, Gandhi Road, Salem - 636 007.
Parameters analyzed : As below

Result

Parameters	Values	Parameters	Values
pH	8.30	Nitrite N (mg/l)	*BDL
EC (dS m ⁻¹)	2.20	Phosphate (mg/l)	*BDL
Odour	Absence of Foul odour	Oil and Grease (mg/l)	*BDL
Colour	Colourless	Total Phenol (mg/l)	*BDL
Turbidity (NTU)	*BDL	Total Lead (mg/l)	*BDL
Dissolved Oxygen (mg/l)	3.00	Total Chromium (mg/l)	*BDL
Biological Oxygen Demand (mg/l)	5	Total Nickel (mg/l)	*BDL
Chemical Oxygen Demand (mg/l)	16	Total Cadmium (mg/l)	*BDL
Total Dissolved Solids (mg/l)	1428	Total Fluoride (mg/l)	1.5
Total Suspended Solids (mg/l)	36	Total Mercury (mg/l)	*BDL
Sulphate (mg/l)	24.6	Total Copper (mg/l)	*BDL
Chloride (mg/l)	583	Sodium Absorption Ratio	6.09
Carbonate (mg/l)	36	Residual Sodium Carbonate (meq/l)	-2.45
Bicarbonate (mg/l)	363	Bacteria (CFU/ml)	1
Calcium (mg/l)	92	Fungi (CFU/ml)	Nil
Magnesium (mg/l)	60	Actinomycetes (CFU/ml)	Nil
Sodium (mg/l)	217	Total Coli forms (MPN/100 ml)	4
Potassium (mg/l)	*BDL	E. coli forms (MPN/100 ml)	Nil
Ammoniacal N (mg/l)	*BDL	Salmonella	Nil
Nitrate N (mg/l)	*BDL		

*BDL-Below Detectable Limit

Note: The above results are communicated with the following conditions.

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Nature of Sample : Water Sample No.8 - Open well 4
Received from : Varalakshmi Starch Industries Private Limited., Varalakshmi Tower, 127/1, 2nd Floor, Gandhi Road, Salem - 636 007.
Parameters analyzed : As below

Parameters	Values	Parameters	Values
pH	8.40	Nitrite N (mg/l)	*BDL
EC (dS m ⁻¹)	2.67	Phosphate (mg/l)	*BDL
Odour	Absence of Foul odour	Oil and Grease (mg/l)	*BDL
Colour	Colourless	Total Phenol (mg/l)	*BDL
Turbidity (NTU)	*BDL	Total Lead (mg/l)	*BDL
Dissolved Oxygen (mg/l)	3.00	Total Chromium (mg/l)	*BDL
Biological Oxygen Demand (mg/l)	5	Total Nickel (mg/l)	*BDL
Chemical Oxygen Demand (mg/l)	24	Total Cadmium (mg/l)	*BDL
Total Dissolved Solids (mg/l)	1736	Total Fluoride (mg/l)	1.8
Total Suspended Solids (mg/l)	45	Total Mercury (mg/l)	*BDL
Sulphate (mg/l)	32.55	Total Copper (mg/l)	*BDL
Chloride (mg/l)	564	Sodium Absorption Ratio	5.91
Carbonate (mg/l)	27	Residual Sodium Carbonate (meq/l)	-1.34
Bicarbonate (mg/l)	586	Bacteria (CFU/ml)	1
Calcium (mg/l)	112	Fungi (CFU/ml)	Nil
Magnesium (mg/l)	75	Actinomycetes (CFU/ml)	Nil
Sodium (mg/l)	234	Total Coli forms (MPN/100 ml)	Nil
Potassium (mg/l)	35	E. coli forms (MPN/100 ml)	Nil
Ammoniacal N (mg/l)	*BDL	Salmonella	Nil
Nitrate N (mg/l)	*BDL		

*BDL-Below Detectable Limit

Note: The above results are communicated with the following conditions.

- The results indicate only the actual content of parameters requested by the stakeholders for the samples provided by them.
- In no way, this can be claimed as a complete composition / makeup of the sample
- This communication cannot be treated / recommended as a certificate
- Its use for publicity, arbitration or as evidence in legal disputes is strictly forbidden.

[Signature]
Associate Professor
Dept. of Env. Sciences

[Signature]
Professor and Head
Dept. of Env. Sciences

Department of Environmental Sciences
Tamil Nadu Agricultural University
Coimbatore - 641 003.



ANALYTICAL ADVISORY UNIT

ANALYTICAL REPORT

Nature of Sample : Water Sample No.9 - Open well 5
Received from : Varalakshmi Starch Industries Private Limited., Varalakshmi
Tower, 127/1, 2nd Floor, Gandhi Road, Salem - 636 007.
Parameters analyzed : As below

Parameters	Values	Parameters	Values
pH	7.40	Nitrite N (mg/l)	*BDL
EC (dS m ⁻¹)	2.77	Phosphate (mg/l)	1.05
Odour	Absence of Foul odour	Oil and Grease (mg/l)	*BDL
Colour	Colourless	Total Phenol (mg/l)	*BDL
Turbidity (NTU)	1.60	Total Lead (mg/l)	*BDL
Dissolved Oxygen (mg/l)	2.5	Total Chromium (mg/l)	*BDL
Biological Oxygen Demand (mg/l)	8	Total Nickel (mg/l)	*BDL
Chemical Oxygen Demand (mg/l)	36	Total Cadmium (mg/l)	*BDL
Total Dissolved Solids (mg/l)	1801	Total Fluoride (mg/l)	2.2
Total Suspended Solids (mg/l)	42	Total Mercury (mg/l)	*BDL
Sulphate (mg/l)	30.2	Total Copper (mg/l)	*BDL
Chloride (mg/l)	489	Sodium Absorption Ratio	4.89
Carbonate (mg/l)	57	Residual Sodium Carbonate (meq/l)	-0.30
Bicarbonate (mg/l)	660	Bacteria (CFU/ml)	2
Calcium (mg/l)	132	Fungi (CFU/ml)	Nil
Magnesium (mg/l)	77	Actinomycetes (CFU/ml)	Nil
Sodium (mg/l)	203	Total Coli forms (MPN/100 ml)	9
Potassium (mg/l)	118	E. coli forms (MPN/100 ml)	Nil
Ammoniacal N (mg/l)	*BDL	Salmonella	Nil
Nitrate N (mg/l)	*BDL		

*BDL-Below Detectable Limit

Note: The above results are communicated with the following conditions.

- The results indicate only the actual content of parameters requested by the stakeholders for the samples provided by them.
- In no way, this can be claimed as a complete composition / makeup of the sample
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Associate Professor
Dept. of Env. Sciences

Professor and Head
Dept. of Env. Sciences
Professor and Head
Department of Environmental Sciences
Tamil Nadu Agricultural University
Email: environment@tnau.ac.in



TAMIL NADU AGRICULTURAL UNIVERSITY
DEPARTMENT OF ENVIRONMENTAL SCIENCES
DIRECTORATE OF NATURAL RESOURCE MANAGEMENT
COIMBATORE - 641 003

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ANALYTICAL ADVISORY UNIT

ANALYTICAL REPORT

Nature of Sample : Water Sample No.10 - Pond water
 Received from : Varalakshmi Starch Industries Private Limited., Varalakshmi Tower, 127/1, 2nd Floor, Gandhi Road, Salem - 636 007.
 Parameters analyzed : As below

Parameters	Values	Parameters	Values
pH	7.90	Nitrite N (mg/l)	*BDL
EC (dS m ⁻¹)	1.60	Phosphate (mg/l)	*BDL
Odour	Absence of Foul odour	Oil and Grease (mg/l)	*BDL
Colour	Colourless	Total Phenol (mg/l)	*BDL
Turbidity (NTU)	*BDL	Total Lead (mg/l)	*BDL
Dissolved Oxygen (mg/l)	3.0	Total Chromium (mg/l)	*BDL
Biological Oxygen Demand (mg/l)	5	Total Nickel (mg/l)	*BDL
Chemical Oxygen Demand (mg/l)	24	Total Cadmium (mg/l)	*BDL
Total Dissolved Solids (mg/l)	1042	Total Fluoride (mg/l)	1.2
Total Suspended Solids (mg/l)	56	Total Mercury (mg/l)	*BDL
Sulphate (mg/l)	29.25	Total Copper (mg/l)	*BDL
Chloride (mg/l)	305	Sodium Absorption Ratio	4.85
Carbonate (mg/l)	12	Residual Sodium Carbonate (meq/l)	-1.30
Bicarbonate (mg/l)	314	Bacteria (CFU/ml)	2
Calcium (mg/l)	77	Fungi (CFU/ml)	Nil
Magnesium (mg/l)	36	Actinomycetes (CFU/ml)	Nil
Sodium (mg/l)	146	Total Coli forms (MPN/100 ml)	23
Potassium (mg/l)	*BDL	E. coli forms (MPN/100 ml)	Nil
Ammoniacal N (mg/l)	*BDL	Salmonella	Nil
Nitrate N (mg/l)	0.28		

*BDL-Below Detectable Limit

Note: The above results are communicated with the following conditions.

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- In no way, this can be claimed as a complete composition / makeup of the sample
- This communication cannot be treated / recommended as a certificate
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Associate Professor
 Dept. of Env. Sciences

Professor and Head
 Dept. of Env. Sciences

Department of Environmental Sciences
 Tamil Nadu Agricultural University

Coimbatore - 641 003.
 Email : environment@tnau.ac.in

Phone : 0422-6611252/6611452



ANALYTICAL ADVISORY UNIT

ANALYTICAL REPORT

Nature of Sample : Water Sample No.11 - Bore water
Received from : Varalakshmi Starch Industries Private Limited., Varalakshmi
Tower, 127/1, 2nd Floor, Gandhi Road, Salem - 636 007.
Parameters analyzed : As below

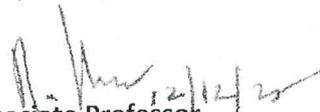
Result

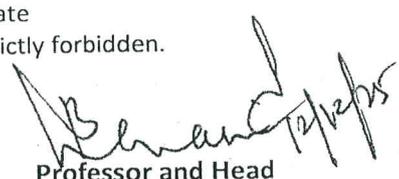
Parameters	Values	Parameters	Values
pH	8.00	Nitrite N (mg/l)	*BDL
EC (dS m ⁻¹)	0.21	Phosphate (mg/l)	*BDL
Odour	Absence of Foul odour	Oil and Grease (mg/l)	*BDL
Colour	Colourless	Total Phenol (mg/l)	*BDL
Turbidity (NTU)	1.7	Total Lead (mg/l)	*BDL
Dissolved Oxygen (mg/l)	5.4	Total Chromium (mg/l)	*BDL
Biological Oxygen Demand (mg/l)	2	Total Nickel (mg/l)	*BDL
Chemical Oxygen Demand (mg/l)	12	Total Cadmium (mg/l)	*BDL
Total Dissolved Solids (mg/l)	136	Total Fluoride (mg/l)	0.5
Total Suspended Solids (mg/l)	16	Total Mercury (mg/l)	*BDL
Sulphate (mg/l)	*BDL	Total Copper (mg/l)	*BDL
Chloride (mg/l)	38	Sodium Absorption Ratio	3.45
Carbonate (mg/l)	*BDL	Residual Sodium Carbonate (meq/l)	-0.70
Bicarbonate (mg/l)	52	Bacteria (CFU/ml)	Nil
Calcium (mg/l)	16	Fungi (CFU/ml)	Nil
Magnesium (mg/l)	9	Actinomycetes (CFU/ml)	Nil
Sodium (mg/l)	*BDL	Total Coli forms (MPN/100 ml)	Nil
Potassium (mg/l)	*BDL	E. coli forms (MPN/100 ml)	Nil
Ammoniacal N (mg/l)	*BDL	Salmonella	Nil
Nitrate N (mg/l)	*BDL		

*BDL-Below Detectable Limit

Note: The above results are communicated with the following conditions.

- The results indicate only the actual content of parameters requested by the stakeholders for the samples provided by them.
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Associate Professor
Dept. of Env. Sciences


Professor and Head
Dept. of Env. Sciences
Professor and Head
Department of Environmental Sciences
Tamil Nadu Agricultural University
Coimbatore - 641 003





TAMIL NADU POLLUTION CONTROL BOARD

Name & Address of the Sender	District Environmental Engineer, Tamil Nadu Pollution Control Board, Dharmapuri - 636809.
ROA NO / 29.09.2025DATE	DEL HSR250692 / 29.09.2025
DEE CODE NO.	DEEDMP250113
Nature & Number of Samples	Piezometric well water- 1
Point of Collection	Piezometric well - 4 Lat: 11.900041 Long: 78.380279
Sample Quantity	Sealed & Fastened In 2.5 Lit Polyethylene Container
Date & Time of Sample Collection	18.8.2025 at 1.10 PM
Date & Time of Sample Receipt at the Lab	19.8.2025 at 12.20 PM
Test Method	Tested as per American Public Health Association (APHA) Standard Method Book
Legend	MDL: Minimum Detectable Limit

Test Report

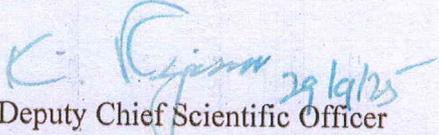
SL.NO	Parameters	Unit	Observed Value
1.	Total Dissolved Solids @ 160°C	-	1460
2.	p H@ 25° C	mg/l	7.28
3.	Total Alkalinity as Calcium Carbonate	mg/l	75
4.	Total Hardness as CaCO ₃	mg/l	340
5.	Colour	mg/l	Slightly Ash
6.	Sulphate as SO ₄ ²⁻	mg/l	94
7.	Calcium as Ca	mg/l	85
8.	Megnesium as Mg	mg/l	31
9.	Turbidity NTU	mg/l	3.5

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**TAMIL NADU POLLUTION CONTROL BOARD**

10.	Total Ammonia-N	mg/l	0.1
11.	Boron as B	mg/l	<MDL
12.	Chlorine gas as Cl ₂	mg/l	<MDL
13.	Chloride as Cl ⁻	mg/l	325
14.	Copper as Cu	mg/l	<MDL
15.	Fluoride as F	mg/l	0.9
16.	Free Residual Chlorine as FRS	mg/l	<MDL
17.	Iron as Fe	mg/l	<MDL
18.	Nitrate as NO ₃	mg/l	1.4
19.	Phenolic Compounds as C ₆ H ₅ OH	mg/l	<MDL
20.	Zinc as Zn	mg/l	0.151
21.	Hydrogen Sulphide (H ₂ S)	mg/l	<MDL
22.	Odour	mg/l	Odourless

---End of Test Result---


Deputy Chief Scientific Officer
District Environmental Laboratory
Tamil Nadu Pollution Control Board
Hosur



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TAMIL NADU POLLUTION CONTROL BOARD

Name & Address of the Sender	District Environmental Engineer, Tamil Nadu Pollution Control Board, Dharmapuri - 636809.
ROA NO / 29.09.2025DATE	DEL HSR250693 / 29.09.2025
DEE CODE NO.	DEEDMP250114
Nature & Number of Samples	Piezometric well water- 1
Point of Collection	Piezometric well - 2 Lat: 11.898611 Long: 78.378193
Sample Quantity	Sealed & Fastened In 2.5 Lit Polyethylene Container
Date & Time of Sample Collection	18.8.2025 at 1.20 PM
Date & Time of Sample Receipt at the Lab	19.8.2025 at 12.20 PM
Test Method	Tested as per American Public Health Association (APHA) Standard Method Book
Legend	MDL: Minimum Detectable Limit

Test Report

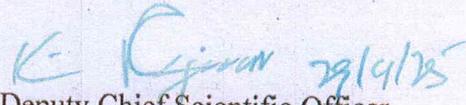
SL.NO	Parameters	Unit	Observed Value
1.	Total Dissolved Solids @ 160°C	-	1290
2.	p H@ 25° C	mg/l	7.55
3.	Total Alkalinity as Calcium Carbonate	mg/l	75
4.	Total Hardness as CaCO ₃	mg/l	345
5.	Colour	mg/l	Clear
6.	Sulphate as SO ₄ ²⁻	mg/l	90
7.	Calcium as Ca	mg/l	86
8.	Megnesium as Mg	mg/l	32
9.	Turbidity NTU	mg/l	2.8

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**TAMIL NADU POLLUTION CONTROL BOARD**

10.	Total Ammonia-N	mg/l	0.2
11.	Boron as B	mg/l	<MDL
12.	Chlorine gas as Cl ₂	mg/l	<MDL
13.	Chloride as Cl-	mg/l	350
14.	Copper as Cu	mg/l	<MDL
15.	Fluoride as F	mg/l	0.95
16.	Free Residual Chlorine as FRS	mg/l	<MDL
17.	Iron as Fe	mg/l	<MDL
18.	Nitrate as NO ₃	mg/l	8.0
19.	Phenolic Compounds as C ₆ H ₅ OH	mg/l	<MDL
20.	Zinc as Zn	mg/l	0.026
21.	Hydrogen Sulphide (H ₂ S)	mg/l	<MDL
22.	Odour	mg/l	Odourless

---End of Test Result---


Deputy Chief Scientific Officer
District Environmental Laboratory
Tamil Nadu Pollution Control Board
Hosur



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TAMIL NADU POLLUTION CONTROL BOARD

Name & Address of the Sender	District Environmental Engineer, Tamil Nadu Pollution Control Board, Dharmapuri - 636809.
ROA NO / 29.09.2025DATE	DEL HSR250694 / 29.09.2025
DEE CODE NO.	DEEDMP250115
Nature & Number of Samples	Piezometric well water- 1
Point of Collection	Piezometric well - 3 Lat: 11.899602 Long: 78.377812
Sample Quantity	Sealed & Fastened In 2.5 Lit Polyethylene Container
Date & Time of Sample Collection	18.8.2025 at 1.25 PM
Date & Time of Sample Receipt at the Lab	19.8.2025 at 12.20 PM
Test Method	Tested as per American Public Health Association (APHA) Standard Method Book
Legend	MDL: Minimum Detectable Limit

Test Report

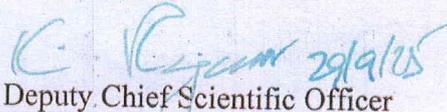
SL.NO	Parameters	Unit	Observed Value
1.	Total Dissolved Solids @ 160°C	-	1680
2.	p H@ 25° C	mg/l	7.53
3.	Total Alkalinity as Calcium Carbonate	mg/l	80
4.	Total Hardness as CaCO ₃	mg/l	525
5.	Colour	mg/l	Clear
6.	Sulphate as SO ₄ ²⁻	mg/l	140
7.	Calcium as Ca	mg/l	131
8.	Megnesium as Mg	mg/l	48
9.	Turbidity NTU	mg/l	3.1

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**TAMIL NADU POLLUTION CONTROL BOARD**

10.	Total Ammonia-N	mg/l	0.2
11.	Boron as B	mg/l	<MDL
12.	Chlorine gas as Cl ₂	mg/l	<MDL
13.	Chloride as Cl-	mg/l	625
14.	Copper as Cu	mg/l	<MDL
15.	Fluoride as F	mg/l	1.3
16.	Free Residual Chlorine as FRS	mg/l	<MDL
17.	Iron as Fe	mg/l	0.054
18.	Nitrate as NO ₃	mg/l	8
19.	Phenolic Compounds as C ₆ H ₅ OH	mg/l	<MDL
20.	Zinc as Zn	mg/l	0.231
21.	Hydrogen Sulphide (H ₂ S)	mg/l	<MDL
22.	Odour	mg/l	Odourless

---End of Test Result---


Deputy Chief Scientific Officer
District Environmental Laboratory
Tamil Nadu Pollution Control Board
Hosur

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**ADVANCED ENVIRONMENTAL LABORATORY,
TAMILNADU POLLUTION CONTROL BOARD,
SALEM - 636 004.**

ROA No. 1247 /ROA/AEL/SLM/2024-25, Dated : 09.04.2025

1.	Name and address of the sender	The District Environmental Engineer, Tamil Nadu Pollution Control Board, Dharmapuri.
2.	Date and time of collection	21.03.2025 at 12.23 PM To 12.26 PM
3.	Date and time of receipt at Lab.	21.03.2025 at 04.20 PM
4.	Condition of seal, fastening and Container	Sealed/Unfastened Condition in Polythene carbuoy 2.5 lits X 2 Nos.
5.	Nature and Number of samples	2 No. of Piezometric well water Samples
6.	Date of Analysis	21.03.2025 - 09.04.2025

DEE Code No.	Lab Code No.	Point of Collection	Whether Untreated/ Treated
DEEDMP240361	3559	Piezometric well -1 Lat : 11.897428; Long: 78.377275	--
DEEDMP240362	3560	Piezometric well -2 Lat : 11.898611; Long: 78.378193	--

TEST REPORT

Sl. No.	Parameters	Unit	Test sample code Nos.		Test Method
			DEEDMP 240361/ 3559	DEEDMP 240362/ 3560	
1.	pH at 25°C	Number	7.29	7.27	APHA 23 rd Edn 2017 (4500 H ⁺)
2.	TDS at 180°C	mg/l	1460	1276	APHA 23 rd Edn.2017 (2540 C)
3.	Chloride as Cl	mg/l	420	400	APHA 23 rd Edn.2017 (4500 Cl B)
4.	Sulphates as SO ₄	mg/l	94	70	APHA 23 rd Edn.2017 (4500 SO ₄ -E)
5.	Phenolic Compounds	mg/l	<0.01	<0.01	APHA 23 rd Edn. 2017 (5530 C)
6.	Ammonical Nitrogen as NH ₃ -N	mg/l	0.56	0.56	APHA 23 rd Edn. 2017 (4500 - NH ₃ C)
7.	Nitrate Nitrogen as NO ₃	mg/l	1.341	1.062	APHA 23 rd Edn. 2017 (4500 NO ₃ - B)
8.	Sulphide	mg/l	<1	<1	APHA 23 rd Edi.2017 4500 S ² F
9.	Total Hardness as CaCO ₃	mg/l	570	550	APHA 23 rd Edn. 2017 (2340 C)
10.	Calcium as Ca	mg/l	92	96	APHA 23 rd Edn.2017 (3500 Ca B)

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11.	Magnesium as Mg	mg/l	84	90	APHA 23 rd Edn. 2017 (3500 Mg)
12.	Fluoride as F	mg/l	0.927	0.866	APHA 23 rd Edn. 2017 (4500-F B,D)
13.	Alkalinity as CaCO ₃	mg/l	72	72	APHA 23 rd Edn. 2017 (2320 B)
14.	Iron Total as Fe	mg/l	<0.05	<0.05	APHA 23 rd Edn. 2017 (3500 Fe B)
15.	Boron	mg/l	<0.002	<0.002	APHA 23 rd Edi.2017-4500-B-C
16.	Total Residual Chlorine	mg/l	<1	<1	APHA 23 rd Edi.2017 4500 Cl B
17.	Copper as Cu	mg/l	<0.03	<0.03	APHA 23 rd Edn. 2017 (3111-B)
18.	Zinc as Zn	mg/l	<0.01	<0.01	APHA 23 rd Edn. 2017 (3111-B)
19.	Manganese	mg/l	<0.02	<0.02	APHA 23 rd Edn 2017 (3550-Mn)
20.	Turbidity	NTU	3.58	3.16	APHA 23 rd Edn 2017 (2130 B)

Note: < = Indicates Less than Minimum Detectable Limit.

Checked by
[Signature]
09/09/25
Environmental Scientist

Approved By
[Signature]
09/09/25
Assistant Director (Lab)
AEL, TNPCB, Salem.

- End of Test Report -

Page No : 2 of 2



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**ADVANCED ENVIRONMENTAL LABORATORY,
TAMILNADU POLLUTION CONTROL BOARD,
SALEM – 636 004.**

ROA No. 1247 /ROA/AEL/SLM/2024-25, Dated : 09.04.2025

1.	Name and address of the sender	The District Environmental Engineer, Tamil Nadu Pollution Control Board, Dharmapuri.
2.	Date and time of collection	21.03.2025 at 12.30 PM To 12.40 PM
3.	Date and time of receipt at Lab.	21.03.2025 at 04.20 PM
4.	Condition of seal, fastening and Container	Sealed/Unfastened Condition in Polythene carbuoy 2.5 lits X 2 Nos.
5.	Nature and Number of samples	1 No. of Piezometric well water Samples
6.	Date of Analysis	21.03.2025 – 09.04.2025

DEE Code No.	Lab Code No.	Point of Collection	Whether Untreated/ Treated
DEEDMP240363	3561	Piezometric well -3 Lat : 11.899602; Long: 78.377812	--
DEEDMP240364	3562	Stagnation Pond	--

TEST REPORT

Sl. No.	Parameters	Unit	Test sample code Nos.		Test Method
			DEEDMP 240363/ 3561	DEEDMP 240364/ 3562	
1.	pH at 25°C	Number	7.47	8.85	APHA 23 rd Edn 2017 (4500 H+)
2.	TSS at 103°C – at 105°C	mg/l	-	92	APHA 23 rd Edn 2017 (2540 -D)
3.	TDS at 180°C	mg/l	1400	1712	APHA 23 rd Edn.2017 (2540 C)
4.	Chloride as Cl	mg/l	340	500	APHA 23 rd Edn.2017 (4500 Cl B)
5.	Sulphates as SO ₄	mg/l	75	98	APHA 23 rd Edn.2017 (4500 SO4-E)
6.	BOD (at 27°C for 3 days)	mg/l	-	22	IS 3025 (Part-44)
7.	COD	mg/l	-	120	APHA 23 rd Edn 2017 (5220 B)
8.	Phenolic Compounds	mg/l	<0.01	-	APHA 23 rd Edn. 2017 (5530 C)
9.	Ammonical Nitrogen as NH ₃ -N	mg/l	0.56	2.24	APHA 23 rd Edn. 2017 (4500 - NH ₃ C)
10.	Total Kjeldahal Nitrogen	mg/l	-	2.48	APHA 23 rd Edn. 2017 (4500-N-B)
11.	Nitrate Nitrogen as NO ₃	mg/l	1.405	2.00	APHA 23 rd Edn. 2017 (4500 NO ₃ - B)
12.	Sulphide	mg/l	<1	-	APHA 23 rd Edi.2017 4500 S ² F

13.	Total Hardness as CaCO ₃	mg/l	550	580	APHA 23 rd Edn. 2017 (2340 C)
14.	Calcium as Ca	mg/l	90	28	APHA 23 rd Edn.2017 (3500 Ca B)
15.	Magnesium as Mg	mg/l	82	68	APHA 23 rd Edn. 2017 (3500 Mg)
16.	Fluoride as F	mg/l	0.905	-	APHA 23 rd Edn. 2017 (4500-F B,D)
17.	Alkalinity as CaCO ₃	mg/l	76	42	APHA 23 rd Edn. 2017 (2320 B)
18.	Cyanide as CN	mg/l	-	<0.008	APHA 23 rd Edn.2017 (4500-CNE)
19.	Iron Total as Fe	mg/l	0.05	-	APHA 23 rd Edn. 2017 (3500 Fe B)
20.	Boron	mg/l	<0.002	-	APHA 23 rd Edi.2017-4500-B-C
21.	Free Residual Chlorine	mg/l	<1	-	APHA 23 rd Edi.2017 4500 Cl B
22.	Copper as Cu	mg/l	<0.03	-	APHA 23 rd Edn. 2017 (3111-B)
23.	Zinc as Zn	mg/l	<0.01	-	APHA 23 rd Edn. 2017 (3111-B)
24.	Manganese	mg/l	<0.02	-	APHA 23 rd Edn 2017 (3550-Mn)
25.	Turbidity	NTU	<1	-	APHA 23 rd Edn 2017 (2130 B)

Note: <= Indicates Less than Minimum Detectable Limit.

Checked by

Environmental Scientist

[Signature]
09/04/25

Approved By

Assistant Director(Lab)
AEL, TNPCB, Salem.

[Signature]
09/04/25

- End of Test Report -

Page No : 2 of 2

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**ADVANCED ENVIRONMENTAL LABORATORY,
TAMILNADU POLLUTION CONTROL BOARD,
SALEM – 636 004.**

ROA No. 1116 /TNPCB/AEL/SLM/2024– 25, Dated: 24.03.2025

1.	Name and address of the sender	The District Environmental Engineer, Tamil Nadu Pollution Control Board, Dharmapuri.
2.	Date and time of collection	20.02.2025 at 01:50 PM and 02:00 PM
3.	Date and time of receipt at Lab.	20.02.2025 at 05:40 PM
4.	Condition of seal, fastening and Container	Sealed/Unfastened Condition in Polythene carbuoy 2.5 lits X 2 Nos.
5.	Nature and Number of samples	2 Nos. of Piezometric well water Samples.
6.	Date of Analysis	20.02.2025 - 24.03.2025

DEE Code No.	Lab Code No.	Point of Collection	Whether Untreated/ Treated
DEEDMP 240316	3223	Piezometric Well - 1 (Lat : 11.897428, Long : 78.377275)	-
DEEDMP 240317	3224	Piezometric Well - 2 (Lat : 11.898611, Long : 78.378193)	-

TEST REPORT

Sl. No	Parameters	Unit	Test sample code Nos.		Test Method
			DEEDMP 240316/ 3223	DEEDMP 240317/ 3224	
1	Colour	Hazen	<5	<5	APHA 23 rd Edn 2017 (2130 B)
2	Turbidity	NTU	<1	<1	APHA 23 rd Edn 2017 (2120 B)
3	pH at 25°C	Number	7.19	7.20	APHA 23 rd Edn 2017 (4500 H+)
4	Total Dissolved Solids at 180°C	mg/l	1464	1244	APHA 23 rd Edn.2017 (2540 C)
5	Chloride as Cl	mg/l	405	335	APHA 23 rd Edn.2017 (4500 Cl B)
6	Sulphates as SO ₄	mg/l	99	147	APHA 23 rd Edn.2017 (4500 SO ₄ -E)
7	Ph.Compounds	mg/l	<0.01	<0.01	APHA 23 rd Edn.2017 (5530 C)
8	Ammonical Nitrogen as NH ₃ N	mg/l	0.56	0.56	APHA 23 rd Edn.(4500 - NH3)
9	Nitrate Nitrogen NO ₃	mg/l	1.178	1.150	APHA 23 rd Edn.(4500 - NO ₃ -B)
10	Sulphide	mg/l	<1	<1	APHA 23 rd Edn.(4500 – S ² -F)
11	Total Hardness as CaCO ₃	mg/l	500	500	APHA 23 rd Edn.2017 (2340 C)
12	Calcium as Ca	mg/l	92	96	APHA 23 rd Edn.2017 (3500 Ca B)

Sl. No	Parameters	Unit	Test sample code Nos.		Test Method
			DEEDMP 240316/ 3223	DEEDMP 240317/ 3224	
13	Magnesium as Mg	mg/l	75	63	APHA 23 rd Edn. 2017 (3500 Mg)
14	Fluoride as F	mg/l	0.794	0.927	APHA 23 rd Edn. 2017 (4500 F-D)
15	Alkalinity as CaCO ₃	mg/l	76	72	APHA 23 rd Edn. 2017 (2320 B)
16	Iron Total as Fe	mg/l	<0.05	<0.05	APHA 23 rd Edn. 2017 (3500 Fe B)
17	Boron	mg/l	<0.002	<0.002	APHA 23 rd Edn. 2017 (4500- B C)
18	Total Residual Chlorine	mg/l	<1	<1	APHA 23 rd Edn. 2017 (4500- Cl B)
19	Copper	mg/l	<0.03	<0.03	APHA 23 rd Edn. 2017 (3111-B)
20	Zinc	mg/l	<0.01	<0.01	APHA 23 rd Edn. 2017 (3111-B)
21	Manganese	mg/l	<0.02	<0.02	APHA 23 rd Edn. 2017 (3550-Mn)

Note: < = Indicates Less than Minimum Detectable Limit.

Checked by

DK
24/03/2025
Environmental scientist

Authorized Signatory

S. D. B. H.
24/03/25
Assistant Director (Lab),
AEL, TNPCB, Salem.

- End of Test Report -

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**ADVANCED ENVIRONMENTAL LABORATORY,
TAMILNADU POLLUTION CONTROL BOARD,
SALEM - 636 004.**

ROA No. 1116 /TNPCB/AEL/SLM/2024- 25, Dated: 24.03.2025

1.	Name and address of the sender	The District Environmental Engineer, Tamil Nadu Pollution Control Board, Dharmapuri.
2.	Date and time of collection	20.02.2025 at 02:10 PM
3.	Date and time of receipt at Lab.	20.02.2025 at 05:40 PM
4.	Condition of seal, fastening and Container	Sealed/Unfastened Condition in Polythene carbuoy 2.5 lits X 1 No.
5.	Nature and Number of samples	1 No. of Piezometric well water Sample.
6.	Date of Analysis	20.02.2025 - 24.03.2025

DEE Code No.	Lab Code No.	Point of Collection	Whether Untreated/ Treated
DEEDMP 240318	3225	Piezometric Well - 3 (Lat : 11.899602, Long : 78.377812)	-

TEST REPORT

Sl. No	Parameters	Unit	Test sample code Nos.	Test Method
			DEEDMP 240318/ 3225	
1	Colour	Hazen	<5	APHA 23 rd Edn 2017 (2130 B)
2	Turbidity	NTU	<1	APHA 23 rd Edn 2017 (2120 B)
3	pH at 25°C	Number	7.08	APHA 23 rd Edn 2017 (4500 H+)
4	Total Dissolved Solids at 180°C	mg/l	1312	APHA 23 rd Edn.2017 (2540 C)
5	Chloride as Cl	mg/l	365	APHA 23 rd Edn.2017 (4500 Cl B)
6	Sulphates as SO ₄	mg/l	82	APHA 23 rd Edn.2017 (4500 SO ₄ -E)
7	Ph.Compounds	mg/l	<0.01	APHA 23 rd Edn.2017 (5530 C)
8	Ammonical Nitrogen as NH ₃ N	mg/l	0.56	APHA 23 rd Edn.(4500 - NH3)
9	Nitrate Nitrogen NO ₃	mg/l	1.110	APHA 23 rd Edn.(4500 - NO ₃ -B)
10	Sulphide	mg/l	<1	APHA 23 rd Edn.(4500 - S ² -F)
11	Total Hardness as CaCO ₃	mg/l	540	APHA 23 rd Edn.2017 (2340 C)
12	Calcium as Ca	mg/l	88	APHA 23 rd Edn.2017 (3500 Ca B)

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Sl. No	Parameters	Unit	Test sample code Nos.	Test Method
			DEEDMP 240318/ 3225	
13	Magnesium as Mg	mg/l	60	APHA 23 rd Edn. 2017 (3500 Mg)
14	Fluoride as F	mg/l	1.172	APHA 23 rd Edn. 2017 (4500 F-D)
15	Alkalinity as CaCO ₃	mg/l	68	APHA 23 rd Edn. 2017 (2320 B)
16	Iron Total as Fe	mg/l	<0.05	APHA 23 rd Edn. 2017 (3500 Fe B)
17	Boron	mg/l	<0.002	APHA 23 rd Edn. 2017 (4500- B C)
18	Total Residual Chlorine	mg/l	<1	APHA 23 rd Edn. 2017 (4500- Cl B)
19	Copper	mg/l	<0.03	APHA 23 rd Edn. 2017 (3111-B)
20	Zinc	mg/l	<0.01	APHA 23 rd Edn. 2017 (3111-B)
21	Manganese	mg/l	<0.02	APHA 23 rd Edn. 2017 (3550-Mn)

Note: < = Indicates Less than Minimum Detectable Limit.

Checked by

DW
24/03/2025
Environmental scientist

Authorized Signatory

S. D. G. 4
24/03/25
Assistant Director (Lab).
AEL, TNPCB, Salem.

- End of Test Report -



**ADVANCED ENVIRONMENTAL LABORATORY,
TAMILNADU POLLUTION CONTROL BOARD,
SALEM – 636 004.**

ROA No. 1014 /TNPCB/AEL/SLM/2024– 25, Dated: 05.02.2025

1.	Name and address of the sender	The District Environmental Engineer, Tamil Nadu Pollution Control Board, Dharmapuri.
2.	Date and time of collection	29.01.2025 at 11:00 AM and 11:15 AM
3.	Date and time of receipt at Lab.	29.01.2025 at 03:25 PM
4.	Condition of seal, fastening and Container	Sealed/Unfastened Condition in Polythene carbuoy 2.5 lits X 2 Nos.
5.	Nature and Number of samples	2 Nos. of Piezometric well water Samples.
6.	Date of Analysis	29.01.2025 - 05.02.2025

DEE Code No.	Lab Code No.	Point of Collection	Whether Untreated/ Treated
DEEDMP-240276	2973	Piezometric Well- 1 (Lat : 11.897428, Long : 78.377275)	-
DEEDMP-240277	2974	Piezometric Well - 2 (Lat : 11.898611, Long : 78.378193)	-

TEST REPORT

Sl. No	Parameters	Unit	Test sample code Nos.		Test Method
			DEEDMP-240276/ 2973	DEEDMP-240277/ 2974	
1	Colour	Hazen	<5	<5	APHA 23 rd Edn 2017 (2130 B)
2	Turbidity	NTU	<1	<1	APHA 23 rd Edn 2017 (2120 B)
3	pH at 25°C	Number	7.10	7.18	APHA 23 rd Edn 2017 (4500 H+)
4	Total Dissolved Solids at 180°C	mg/l	1468	1348	APHA 23 rd Edn.2017 (2540 C)
5	Chloride as Cl	mg/l	390	320	APHA 23 rd Edn.2017 (4500 ClB)
6	Sulphates as SO ₄	mg/l	109	93	APHA 23 rd Edn.2017 (4500 SO4-E)
7	Ph.Compounds	mg/l	<0.01	<0.01	APHA 23 rd Edn.2017 (5530 C)
8	Nitrate Nitrogen NO ₃	mg/l	2.065	1.341	APHA 23 rd Edn.(4500 - NO ₃ -B)
9	Sulphide	mg/l	<1	<1	APHA 23 rd Edn.2017 (4500 S ² F)
10	Total Hardness as CaCO ₃	mg/l	530	560	APHA 23 rd Edn.2017 (2340 C)

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Sl. No	Parameters	Unit	Test sample code Nos.		Test Method
			DEEDMP-240276/2973	DEEDMP-240277/2974	
11	Calcium as Ca	mg/l	100	108	APHA 23 rd Edn.2017 (3500 Ca B)
12	Magnesium as Mg	mg/l	68	70	APHA 23 rd Edn. 2017 (3500 Mg)
13	Fluoride as F	mg/l	0.939	0.861	APHA 23 rd Edn. 2017 (4500 F-D)
14	Alkalinity as CaCO ₃	mg/l	76	72	APHA 23 rd Edn. 2017 (2320 B)
15	Iron Total as Fe	mg/l	<0.05	<0.05	APHA 23 rd Edn. 2017 (3500 Fe B)
16	Total Ammonia	mg/l	<0.5	<0.5	Distillation, Titration and Calculation Method
17	Boron	mg/l	<0.002	<0.002	APHA 23 rd Edn. 2017 (4500- B C)
18	Total Residual Chlorine	mg/l	<1	<1	APHA 23 rd Edn. 2017 (4500- Cl B)
19	Copper	mg/l	<0.03	<0.03	APHA 23 rd Edn. 2017 (3111-B)
20	Zinc	mg/l	<0.01	<0.01	APHA 23 rd Edn. 2017 (3111-B)
21	Manganese	mg/l	<0.02	<0.02	APHA 23 rd Edn. 2017 (3550-Mn)

Note: < = Indicates Less than Minimum Detectable Limit.

Checked by

[Signature]
05/02/2015
Environmental Scientist

Authorized Signatory

[Signature]
S.D. - Col
05/02/2015
Assistant Director (Lab),
AEL, TNPCB, Salem.

- End of Test Report -

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**ADVANCED ENVIRONMENTAL LABORATORY,
TAMILNADU POLLUTION CONTROL BOARD,
SALEM – 636 004.**

ROA No. 1014 /TNPCB/AEL/SLM/2024– 25, Dated: 05.02.2025

1.	Name and address of the sender	The District Environmental Engineer, Tamil Nadu Pollution Control Board, Dharmapuri.
2.	Date and time of collection	29.01.2025 at 11:10 AM and 11:25 AM
3.	Date and time of receipt at Lab.	29.01.2025 at 03:25 PM
4.	Condition of seal, fastening and Container	Sealed/Unfastened Condition in Polythene carbuoy 2.5 lits X 2 Nos.
5.	Nature and Number of samples	1 No. of Piezometric well water Sample and 1 No. of River Water Sample
6.	Date of Analysis	29.01.2025 - 05.02.2025

DEE Code No.	Lab Code No.	Point of Collection	Whether Untreated/ Treated
DEEDMP-240278	2975	Piezometric Well - 3 (Lat : 11.899602, Long : 78.377812)	-
DEEDMP-240279	2976	Peeniyaru River (Lat : 11.898478, Long : 78.379767)	-

TEST REPORT

Sl. No	Parameters	Unit	Test sample code Nos.		Test Method
			DEEDMP-240278/ 2975	DEEDMP-240279/ 2976	
1	Colour	Hazen	<5	<5	APHA 23 rd Edn 2017 (2130 B)
2	Turbidity	NTU	<1	<1	APHA 23 rd Edn 2017 (2120 B)
3	pH at 25°C	Number	7.58	7.93	APHA 23 rd Edn 2017 (4500 H+)
4	Total Dissolved Solids at 180°C	mg/l	1236	1080	APHA 23 rd Edn.2017 (2540 C)
5	Chloride as Cl	mg/l	280	235	APHA 23 rd Edn.2017 (4500 ClB)
6	Sulphates as SO ₄	mg/l	130	150	APHA 23 rd Edn.2017 (4500 SO4-E)
7	Ph.Compounds	mg/l	<0.01	<0.01	APHA 23 rd Edn.2017 (5530 C)
8	Nitrate Nitrogen NO ₃	mg/l	13.968	1.405	APHA 23 rd Edn.(4500 - NO ₃ -B)
9	Sulphide	mg/l	<1	<1	APHA 23 rd Edn.2017 (4500 S ² F)
10	Total Hardness as CaCO ₃	mg/l	620	520	APHA 23 rd Edn.2017 (2340 C)

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Sl. No	Parameters	Unit	Test sample code Nos.		Test Method
			DEEDMP-240278/2975	DEEDMP-240279/2976	
11	Calcium as Ca	mg/l	120	100	APHA 23 rd Edn.2017 (3500 Ca B)
12	Magnesium as Mg	mg/l	78	66	APHA 23 rd Edn. 2017 (3500 Mg)
13	Fluoride as F	mg/l	0.917	0.905	APHA 23 rd Edn. 2017 (4500 F-D)
14	Alkalinity as CaCO ₃	mg/l	72	56	APHA 23 rd Edn. 2017 (2320 B)
15	Iron Total as Fe	mg/l	<0.05	<0.05	APHA 23 rd Edn. 2017 (3500 Fe B)
16	Total Ammonia	mg/l	<0.5	<0.5	Distillation, Titration and Calculation Method
17	Boron	mg/l	<0.002	<0.002	APHA 23 rd Edn. 2017 (4500- B C)
18	Total Residual Chlorine	mg/l	<1	<1	APHA 23 rd Edn. 2017 (4500- Cl B)
19	Copper	mg/l	<0.03	<0.03	APHA 23 rd Edn. 2017 (3111-B)
20	Zinc	mg/l	<0.01	<0.01	APHA 23 rd Edn. 2017 (3111-B)
21	Manganese	mg/l	<0.02	<0.02	APHA 23 rd Edn. 2017 (3550-Mn)

Note: <= Indicates Less than Minimum Detectable Limit.

Checked by

[Signature]
05/02/24
Environmental Scientist

Authorized Signatory

[Signature]
05/02/24
Assistant Director (Lab),
AEL, TNPCB, Salem.

- End of Test Report -

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**ADVANCED ENVIRONMENTAL LABORATORY,
TAMILNADU POLLUTION CONTROL BOARD,
SALEM - 636 004.**

ROA No.927/ROA/AEL/SLM/2024-25, Dated : 27.01.2025

1.	Name and address of the sender	The District Environmental Engineer, Tamil Nadu Pollution Control Board, Salem.
2.	Date and time of collection	27.12.2024 at 02.50 PM To 03.00 PM
3.	Date and time of receipt at Lab.	27.12.2024 at 06.00 PM
4.	Condition of seal, fastening and Container	Sealed/Unfastened Condition in Polythene carbuoy 2:5 lits X 2 Nos.
5.	Nature and Number of samples	2 No. of Surface Water Samples
6.	Date of Analysis	27.12.2024 - 27.01.2025

DEE Code No.	Lab Code No.	Point of Collection	Whether Untreated/Treated
DEEDMP240262	2705	Piezometric well- 3	--
DEEDMP240263	2706	Piezometric well- 2	--

TEST REPORT

Sl. No.	Parameters	Unit	Test Sample Code Nos.		Test Method
			DEEDMP 240262/ 2705	DEEDMP 240263/ 2706	
1.	pH at 25°C	Number	7.28	7.66	APHA 23 rd Edn 2017 (4500 H+)
2.	TDS at 180°C	mg/l	1404	1316	APHA 23 rd Edn.2017 (2540 C)
3.	Chloride as Cl	mg/l	440	440	APHA 23 rd Edn.2017 (4500 Cl B)
4.	Sulphates as SO ₄	mg/l	86	90	APHA 23 rd Edn.2017 (4500 SO ₄ -E)
5.	Phenolic Compounds	mg/l	<0.01	<0.01	APHA 23 rd Edn. 2017 (5530 C)
6.	Ammonical Nitrogen as NH ₃ -N	mg/l	1.12	2.24	APHA 23 rd Edn. 2017 (4500 - NH ₃ C)
7.	Nitrate Nitrogen as NO ₃	mg/l	2.573	5.665	APHA 23 rd Edn. 2017 (4500 NO ₃ - B)
8.	Sulphide	mg/l	<1	<1	APHA 23 rd Edi.2017 4500 S ² F
9.	Total Hardness as CaCO ₃	mg/l	500	560	APHA 23 rd Edn. 2017 (2340 C)
10.	Calcium as Ca	mg/l	100	92	APHA 23 rd Edn.2017 (3500 Ca B)
11.	Magnesium as Mg	mg/l	61	80	APHA 23 rd Edn. 2017 (3500 Mg)

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12.	Fluoride as F	mg/l	0.438	0.411	APHA 23 rd Edn. 2017 (4500-FB,D)
13.	Alkalinity as CaCO ₃	mg/l	72	76	APHA 23 rd Edn. 2017 (2320 B)
14.	Iron Total as Fe	mg/l	<0.05	<0.05	APHA 23 rd Edn. 2017 (3500 Fe B)
15.	Boron	mg/l	<0.002	<0.002	APHA 23 rd Edi.2017-4500-B-C
16.	Free Residual Chlorine	mg/l	<1	<1	APHA 23 rd Edi.2017 4500 Cl B
17.	Copper as Cu	mg/l	<0.03	<0.03	APHA 23 rd Edn. 2017 (3111-B)
18.	Zinc as Zn	mg/l	<0.01	<0.01	APHA 23 rd Edn. 2017 (3111-B)
19.	Manganese	mg/l	<0.02	<0.02	APHA 23 rd Edn 2017 (3550-Mn)
20.	Turbidity	NTU	1	1.22	APHA 23 rd Edn 2017 (2130 B)
21.	Colour	Hazen	<5	<5	APHA 23 rd Edn 2017 (2120 B)

Note: < = Indicates Less than Minimum Detectable Limit.

Checked by

RK
21/01/25

Environmental scientist

Authorized Signatory

S. D. 04
21/01/25

Assistant Director(Lab)
AEL, TNPCB, Salem.

- End of Test Report -

Page No : 2 of 2



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**ADVANCED ENVIRONMENTAL LABORATORY,
TAMILNADU POLLUTION CONTROL BOARD,
SALEM – 636 004.**

ROA No. 927 /ROA/AEL/SLM/2024-25, Dated : 27.01.2025

1.	Name and address of the sender	The District Environmental Engineer, Tamil Nadu Pollution Control Board, Salem.
2.	Date and time of collection	27.12.2024 at 03.10 PM To 03.25 PM
3.	Date and time of receipt at Lab.	27.12.2024 at 06.00 PM
4.	Condition of seal, fastening and Container	Sealed/Unfastened Condition in Polythene carbuoy 2.5 lits X 2 Nos.
5.	Nature and Number of samples	2 No. of Surface Water Samples
6.	Date of Analysis	27.12.2024 – 27.01.2025

DEE Code No.	Lab Code No.	Point of Collection	Whether Untreated/ Treated
DEEDMP240264	2707	Piezometric well- 1	--
DEEDMP240265	2708	Rainwater Harvesting Pond	--

TEST REPORT

Sl. No.	Parameters	Unit	Test Sample Code Nos.		Test Method
			DEEDMP 240264/ 2707	DEEDMP 240265/ 2708	
1.	pH at 25°C.	Number	7.17	7.02	APHA 23 rd Edn 2017 (4500 H+)
2.	TDS at 180°C	mg/l	1428	772	APHA 23 rd Edn.2017 (2540 C)
3.	Chloride as Cl	mg/l	490	480	APHA 23 rd Edn.2017 (4500 ClB)
4.	Sulphates as SO ₄	mg/l	109	89	APHA 23 rd Edn.2017 (4500 SO4-E)
5.	Phenolic Compounds	mg/l	<0.01	<0.01	APHA 23 rd Edn. 2017 (5530 C)
6.	Ammonical Nitrogen as NH ₃ -N	mg/l	1.68	1.64	APHA 23 rd Edn. 2017 (4500 - NH ₃ C)
7.	Nitrate Nitrogen as NO ₃	mg/l	6.108	0.995	APHA 23 rd Edn. 2017 (4500 NO ₃ - B)
8.	Sulphide	mg/l	<1	<1	APHA 23 rd Edi.2017 4500 S ² F
9.	Total Hardness as CaCO ₃	mg/l	580	380	APHA 23 rd Edn. 2017 (2340 C)
10.	Calcium as Ca	mg/l	88	76	APHA 23 rd Edn.2017 (3500 Ca B)
11.	Magnesium as Mg	mg/l	87	46	APHA 23 rd Edn. 2017 (3500 Mg)

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12.	Fluoride as F ⁻	mg/l	0.394	0.290	APHA 23 rd Edn. 2017 (4500-F B,D)
13.	Alkalinity as CaCO ₃	mg/l	72	60	APHA 23 rd Edn. 2017 (2320 B)
14.	Iron Total as Fe	mg/l	<0.05	<0.05	APHA 23 rd Edn. 2017 (3500 Fe B)
15.	Boron	mg/l	<0.002	<0.002	APHA 23 rd Edi.2017-4500-B-C
16.	Free Residual Chlorine	mg/l	<1	<1	APHA 23 rd Edi.2017 4500 Cl B
17.	Copper as Cu	mg/l	<0.03	<0.03	APHA 23 rd Edn. 2017 (3111-B)
18.	Zinc as Zn	mg/l	<0.01	<0.01	APHA 23 rd Edn. 2017 (3111-B)
19.	Manganese	mg/l	<0.02	<0.02	APHA 23 rd Edn 2017 (3550-Mn)
20.	Turbidity	NTU	1.98	<1	APHA 23 rd Edn 2017 (2130 B)
21.	Colour	Hazen	<5	<5	APHA 23 rd Edn 2017 (2120 B)

Note: < = Indicates Less than Minimum Detectable Limit.

Checked by

D.K.
27/01/25

Environmental scientist

Authorized Signatory

S. D.
27/01/25

Assistant Director(Lab)
AEL, TNPCB, Salem.

- End of Test Report -

Page No : 2 of 2

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**ADVANCED ENVIRONMENTAL LABORATORY,
TAMILNADU POLLUTION CONTROL BOARD,
SALEM – 636 004.**

ROA No. 802 /TNPCB/AEL/SLM/2024– 25, Dated: 06.12.2024

1.	Name and address of the sender	The District-Environmental Engineer, Tamilnadu Pollution Control Board, Dharmapuri.
2.	Date and time of collection	26.11.2024 at 04:15 PM and 04:33 PM
3.	Date and time of receipt at Lab.	27.11.2024 at 12:10 PM
4.	Condition of seal, fastening and Container	Sealed/Unfastened Condition in Polythene carbuoy 2.5 lits X 2 Nos.
5.	Nature and Number of samples	2 Nos. of Trade effluent Samples.
6.	Date of Analysis	27.11.2024 - 06.12.2024

DEE Code No.	Lab Code No.	Point of Collection	Whether Untreated/ Treated
DEEDMP-240216	2377	Piezometric Well - 1 (Lat : 11.897428, Long : 78.377275)	-
DEEDMP-240217	2378	Piezometric Well - 2 (Lat : 11.898611, Long : 78.378193)	-

TEST REPORT

Sl. No	Parameters	Unit	Test sample code Nos.		Test Method
			DEEDMP-240216/ 2377	DEEDMP-240217/ 2378	
1	Colour	Hazen	<5	<5	APHA 23 rd Edn 2017 (2130 B)
2	Turbidity	NTU	1.20	1.24	APHA 23 rd Edn 2017 (2120 B)
3	pH at 25°C	Number	7.82	8.18	APHA 23 rd Edn 2017 (4500 H+)
4	TSS at 103°C – 105°C	mg/l	12	12	APHA 23 rd Edn.2017 (2540 D)
5	Total Dissolved Solids at 180°C	mg/l	1160	1044	APHA 23 rd Edn.2017 (2540 C)
6	Chloride as Cl	mg/l	395	345	APHA 23 rd Edn.2017 (4500 Cl B)
7	Sulphates as SO ₄	mg/l	48	51	APHA 23 rd Edn.2017 (4500 SO4-E)
8	COD	mg/l	72	64	APHA 23 rd Edn 2017 (5220 B)
9	Phenolic Compounds	mg/l	<0.01	<0.01	APHA 23 rd Edn. 2017 (5530 C)
10	Nitrate Nitrogen NO ₃	mg/l	7.005	5.351	APHA 23 rd Edn.(4500 - NO ₃ -B)
11	Total Hardness as CaCO ₃	mg/l	530	550	APHA 23 rd Edn.2017 (2340 C)
12	Calcium as Ca	mg/l	108	108	APHA 23 rd Edn.2017 (3500 Ca B)

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Sl. No	Parameters	Unit	Test sample code Nos.		Test Method
			DEEDMP-240216/2377	DEEDMP-240217/2378	
13	Magnesium as Mg	mg/l	63	68	APHA 23 rd Edn. 2017 (3500 Mg)
14	Fluoride as F	mg/l	0.300	0.161	APHA 23 rd Edn. 2017 (4500 F-D)
15	Alkalinity as CaCO ₃	mg/l	80	64	APHA 23 rd Edn. 2017 (2320 B)
16	Iron Total as Fe	mg/l	<0.05	<0.05	APHA 23 rd Edn. 2017 (3500 Fe B)
17	Total Residual Chlorine	mg/l	<1.0	<1.0	APHA 23 rd Edi.2017 4500 Cl B
18	Copper	mg/l	<0.03	<0.03	APHA 23 rd Edn. 2017 (3111-B)
19	Zinc	mg/l	<0.01	<0.01	APHA 23 rd Edn. 2017 (3111-B)

Note: < = Indicates Less than Minimum Detectable Limit.
 *** Not Performed.

Checked by

D.K.
06/12/24

Environmental scientist

Authorized Signatory

S.D. *coll*
06/12/2024

Assistant Director (Lab),
 AEL, TNPCB, Salem.

- End of Test Report -

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**ADVANCED ENVIRONMENTAL LABORATORY,
TAMILNADU POLLUTION CONTROL BOARD,
SALEM – 636 004.**

ROA No. 802 /TNPCCB/AEL/SLM/2024– 25, Dated: 06.12.2024

1.	Name and address of the sender	The District Environmental Engineer, Tamilnadu Pollution Control Board, Dharmapuri.
2.	Date and time of collection	26.11.2024 at 04:25 PM
3.	Date and time of receipt at Lab.	27.11.2024 at 12:10 PM
4.	Condition of seal, fastening and Container	Sealed/Unfastened Condition in Polythene carbuoy 2.5 lits X 1 No.
5.	Nature and Number of samples	1 No. of Trade effluent Samples.
6.	Date of Analysis	27.11.2024 - 06.12.2024

DEE Code No.	Lab Code No.	Point of Collection	Whether Untreated/ Treated
DEEDMP-240218	2379	Piezometric Well - 3 (Lat : 11.899602, Long : 78.377812)	-

TEST REPORT

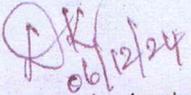
Sl. No	Parameters	Unit	Test sample code No.	Test Method
			DEEDMP-240218/ 2379	
1	Colour	Hazen	<5.0	APHA 23 rd Edn 2017 (2130 B)
2	Turbidity	NTU	<1.0	APHA 23 rd Edn 2017 (2120 B)
3	pH at 25°C	Number	7.72	APHA 23 rd Edn 2017 (4500 H+)
4	TSS at 103°C – 105°C	mg/l	8	APHA 23 rd Edn.2017 (2540 D)
5	Total Dissolved Solids at 180°C	mg/l	1236	APHA 23 rd Edn.2017 (2540 C)
6	Chloride as Cl	mg/l	450	APHA 23 rd Edn.2017 (4500 Cl B)
7	Sulphates as SO ₄	mg/l	45	APHA 23 rd Edn.2017 (4500 SO ₄ -E)
8	COD	mg/l	56	APHA 23 rd Edn 2017 (5220 B)
9	Ph.Compounds	mg/l	<0.01	APHA 23 rd Edn.2017 (5530 C)
10	Nitrate Nitrogen NO ₃	mg/l	3.924	APHA 23 rd Edn.(4500 - NO ₃ -B)
11	Total Hardness as CaCO ₃	mg/l	540	APHA 23 rd Edn.2017 (2340 C)
12	Calcium as Ca	mg/l	124	APHA 23 rd Edn.2017 (3500 Ca B)

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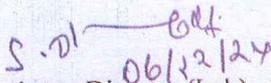
Sl. No	Parameters	Unit	Test sample code No.	Test Method
			DEEDMP-240218/ 2379	
13	Magnesium as Mg	mg/l	56	APHA 23 rd Edn. 2017 (3500 Mg)
14	Fluoride as F	mg/l	0.483	APHA 23 rd Edn. 2017 (4500 F-D)
15	Alkalinity as CaCO ₃	mg/l	72	APHA 23 rd Edn. 2017 (2320 B)
16	Iron Total as Fe	mg/l	<0.05	APHA 23 rd Edn. 2017 (3500 Fe B)
17	Total Residual Chlorine	mg/l	<1.0	APHA 23 rd Edn. 2017 (4500- Cl B)
18	Copper	mg/l	<0.03	APHA 23 rd Edn. 2017 (3111-B)
19	Zinc	mg/l	<0.01	APHA 23 rd Edn. 2017 (3111-B)

Note: < = Indicates Less than Minimum Detectable Limit.
*** Not Performed.

Checked by


06/12/24
Environmental scientist

Authorized Signatory


S. D. 06/12/24
Assistant Director (Lab),
AEL, TNPCB, Salem.

- End of Test Report -

A Public
Research University

October 23, 2000

Mr. R. Sathpathy, IAS
Chairman and Managing Director
Tamilnadu Energy Development Agency
EVK Sampath Maaligai, V Floor
College Road, Chennai 600 006
India

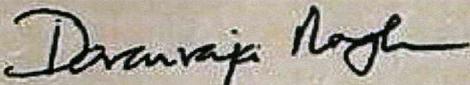
Subject: Biomethanation Sub - Project at Varalakshmi Starch
Industries Ltd., Salem, Tamilnadu, India

Dear Mr. Sathpathy:

Please find enclosed 3 (three) copies of the MOU titled "International Consultant Contract Proposal - High Rate Biomethanation Project for Sago/Starch Wastewaters". Dr. Sudhi Mukherjee and myself have signed these proposals on behalf of the Technology Assistance Provider. We would greatly appreciate it if you could send back one copy to my attention after obtaining the required signature(s) from your organization.

We look forward to working with you and the other project participants on this project. Please feel free to contact Sudhi or me if you should have any questions.

Sincerely,



Dorairaja, Raghu, Ph.D., PE

cc. Sudhi Mukherjee, Ph.D.

Enc.



தமிழ்நாடு எரிசக்தி வளர்ச்சி நிறுவனம்
 Tamilnadu Energy Development Agency
 5th Floor EVK Sampath Maaligal, College Road, Chennai 600 006
 ☎: 8224830, 8236592, Fax No.: 8222971

Lr.No. 4703/BE/97 dated 1.6.2000

To
 Shri V K Jain
 Principal Scientific Officer
 National Bio Energy Board
 Ministry of Non conventional Energy Sources
 Block No.14, CGO Complex,
 Lodhi Road, New Delhi 110 003

Sir,

Sub: Setting up of High rate Biomethanation based demonstration plant at
 M/s. Varalakshmi Starch Industries, Salem

As decided during the discussion on 25th May 2000 at MNES office, please find enclosed the xerox copy of the advertisement for reinvitation of bids on the above subject.

The consent of number of digesters as accepted by the Technical Consultant Dr. Sudhi Mukherjee, Research Professor, New Jersey Institute of Technology (NJIT), Newark, U.S.A. may be indicated immediately in order to finalise the specification.

May I look forward for your immediate response in this regard?

Yours faithfully
 for Tamilnadu Energy Dev. Agency

for Chairman & Managing Director

Copy to:
 Thiru. V. Anbalagan
 Managing Director
 Varalakshmi Starch Industries Limited
 150 D, Manimekalai Street, Fairlands, Salem 636 016

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Annexure 9

VARALAKSHMI STARCH INDUSTRIES (P) LTD.

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MRFS. & EXPORTERS : SUPER HIGH GRADE TAPIOCA SAGO, TAPIOCA STARCH, MAIZE STARCH, MODIFIED STARCHES & SAGO PAPADS

VS IPL/TNPCB/Chair Person/2025-26/218

Date: 08.08.2025

To:

The Chairperson,

Tamil Nadu Pollution Control Board,

76, Mount Salai, Guindy,

Chennai- 600032

Sub: Request to withdraw the direction of providing Bank Guarantee of Rs. 50 lakhs as per TNPCB Proceeding No.TNPCB/T2/F.025102/Directions/Water/2023 Dt. 16.02.2023 and Renewal of our original Consent order.

Respected Sir/Madam,

Our industry, M/s. Varalakshmi Starch Industries Private Limited, is an Agrobased rural medium scale and export-oriented Industry. Our Industry has been operating for the past 24 years with valid consent orders from TNPCB continuously without any violations in regard to compliance to PCB Norms.

Currently our industry is operating without a valid consent order from the TNPCB and operating only on the basis of the Order of Stay on TNPCB's closure order provided by the Hon'ble NGT (Appeal No. 77 of 2022) with huge loss of Exports and loss of money.

In this regard, as per the TNPCB proceeding dated 16.02.2023, we have complied all the 11 directions as mentioned in the Proceedings Dt. 16.02.2023. Also Mrs. S Malarvizhi JCEE, TNPCB, Chennai in her report Dt.24.04.2025 filed under Appeal No.77/2022 on behalf of first Respondent TNPCB with the Hon'ble NGT also confirmed that we have complied with the directions issued in the Proceedings Dt. 16.02.2023 other than Ground Water Quality Study which is under progress we will submit within the next hearing (Enclosure No. 1). For the Last 2 years (Jan 2023 to March 2025), samples of treated waste water were collected by the TNPCB Officials at the outlet of our ETP and tested in their Advanced Environmental laboratory, Salem. All the Report of Analysis of the treated waste water were within the standards proving that our ETP is operating efficiently for treating our waste water and achieves the treated effluent standards prescribed by the Board (Enclosure 2).

Received
by
S/E
JCEE.

Regd. Office : " Varalakshmi Tower ", II Floor, No. 127/1, Gandhi Road, Salem - 636 007. T.N. India.

Email : office@varalakshmistarch.com | Mobile : 94426 13174, 94421 33794

Factory : No. 7/114-126, Bommidi Main Road, Pappireddipatti (Po), Dharmapuri Dt. - 636 905.

GSTIN : 33AABCV0094P1Z2 | CIN No. U01532TZ1995PTC006136

www.varalakshmistarch.com

IS : 899

IS : 1319



CML-6100012769
TAPIOCA SAGO



CML-6299891
TAPIOCA STARCH



The final 12th direction cited in the TNPCB Proceedings dated 16.02.2023 states: "In order to ensure compliance with all the above directions 1 to 11, the unit shall furnish a Bank Guarantee of Rs. 50 lakhs valid for one year to the TNPCB within a month's time."

Since we have duly complied with all the other directions 1 to 11 mentioned in the proceedings dt. 16.02.2023, with all the revamping works in our ETP completed, we humbly request you to withdraw the direction of providing a bank guarantee of Rs. 50 lakhs as given in the Proceedings Dt. 16.02.2023 and provide us the renewal of our consent order.

Thanking you.

For Varalakshmi Starch Industries Private Limited,

V. Anbalagan

(Managing Director)

Enclosures:

1. Report Dt. 24.04.2025 of Mrs. S Malarvizhi JCEE, TNPCB under O.A. 47/2023 on behalf of the first Respondent TNPCB.
2. ROA from Advanced Environmental Laboratory, Salem of our treated waste water collected by the TNPCB Officials from Jan 2023 to March 2025.

Copy to: The Member Secretary, TNPCB, Chennai.

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Annexure

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see reference

Treated Effluent Quality of Common Effluent treatment Plant [Concentration in mg/l except pH & Temperature]			
Parameters	Into inland surface waters	On land for irrigation	Into Marine Coastal areas
pH	5.5-9.0	5.5-9.0	5.5-9.0
BOD [3days at 27 °C]	30	100	100
Oil & Grease	10	10	20
Temperature	Shall not exceed 40 °C in any section of the stream within 15 meters down stream from the effluent outlet	-	45 °C at the point of discharge.
Suspended Solids	100	200	(a) For process waste water-100 (b) For cooling water effluent 10 percent above total suspended matter of effluent cooling water
Dissolved Solids (inorganic)	2100	2100	-
Total residue chlorine	1.0	-	1.0
Ammonical nitrogen(As N)	50	-	50
Total Kjeldahl nitrogen(as N)	100	-	100
Chemical Oxygen Demand	250	-	250
Arsenic (as As)	0.2	0.2	0.2
Mercury (as Hg)	0.01	-	0.01
Lead (as Pb)	0.1	-	1.0
Cadmium (as Cd)	1.0	-	2.0
Total Cadmium (as Cr)	2.0	-	2.0
Copper (as Cu)	3.0	-	3.0
Zinc (as Zn)	5.0	-	15
Selenium (as Se)	0.05	-	0.05
Nickel (as Ni)	3.0	-	5.0
Boron (as B)	2.0	2.0	-
Percent Sodium	-	60	-
Cynide (as CN)	0.2	0.2	0.2
Chloride (as Cl)	1000	600	-
Fluoride (as F)	2.0	-	15
Sulphate (as SO ₄)	1000	1000	-
Sulphide (as S)	2.8	-	5.0
Pesticides	Absent	Absent	Absent
Phenolic compounds (as C ₆ H ₅ OH)	1.0	-	5.0

Note: All efforts should be made to remove colour and unpleasant odour as far as possible.

BEFORE THE NATIONAL GREEN TRIBUNAL SOUTHERN ZONE

AT CHENNAI

Appeal No. 77 OF 2022

M/s. Varalakshmi Starch Industries (P) Ltd.,

Rep. by its Managing Director V. Anbalagan

Having its office at:

“Varalakshmi Tower”

No.127/1, 2nd floor,

Gandhi Road,

Salem - 636007.

....Appellant

AND

Tamil Nadu Pollution Control Board (TNPCB)

Rep. by its Chairperson

76, Anna Salai, Guindy Industrial Estate,

Guindy,

Chennai – 600032 & Ors.,

...Respondents

AFFIDAVIT ALONG WITH ANNEXURES

DATE: 20.01.2026