

**IN THE HON'BLE NATIONAL GREEN TRIBUNAL,
PRINCIPAL BENCH, NEW DELHI
ORIGINAL APPLICATION NO. 539 OF 2019**

IN THE MATTER OF:

ADIL ANSARI

...Applicant

VERSUS

DHAMPUR SUGAR MILLS LTD. ASMOLI & ORS.

...Respondents

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FILED THROUGH

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Place: New Delhi

Date: .11.2025



IN THE HON'BLE NATIONAL GREEN TRIBUNAL,
PRINCIPAL BENCH, NEW DELHI
ORIGINAL APPLICATION NO. 539 OF 2019

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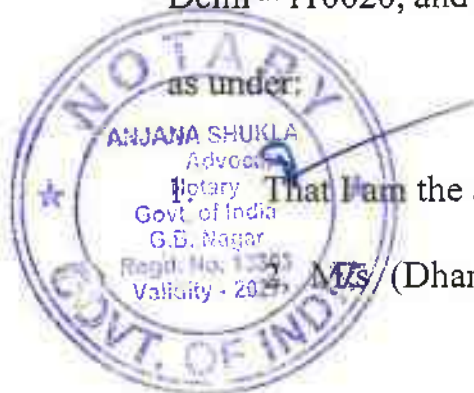
...Respondents

**AFFIDAVIT OF COMPLIANCE ON BEHALF OF RESPONDENT
NO. 2 I.E., M/s DHAMPUR SUGAR MILLS LTD., DHAMPUR,
(SUGAR AND DISTILLERY UNIT)**

MOST RESPECTFULLY SHOWETH:-

I, Somesh Rattan, S/o Shri C.P. Agnihotri, aged about 47 years, working as Senior General Manager (Legal) of Dhampur Sugar Mills Ltd., having its office at 6th Floor, Max House, Okhla Industrial Estate, Phase – III, New Delhi – 110020, and presently at Noida, do hereby solemnly affirm and state

as under:



That I am the authorized signatory for the answering Respondent No.

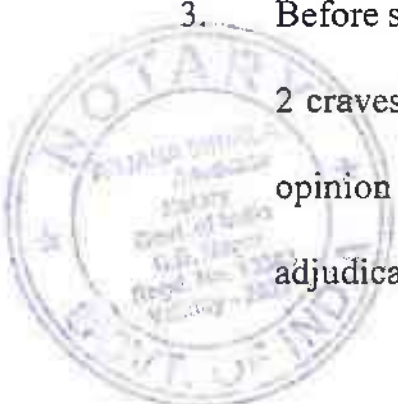
M/s (Dhampur Sugar Mills Ltd, Village Alhaipur and Tehsil

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Dhampur, Bijnor District, Uttar Pradesh) and am well conversant with the facts and circumstances of the matter as per the records of the answering Respondent No. 2 that are made available to me. As such, I am competent to swear and affirm this affidavit.

2. This Hon'ble Tribunal *vide* its order dated 02.04.2025 had directed Respondents No 8 and 9 i.e. UPPCB and CGWA to file affidavits disclosing the status of compliance of the directions of this Hon'ble Tribunal contained in its Judgment dated 01.09.2021. The Respondent No. 2 had entered appearance on 03.02.2025 after the said case was remanded by the Hon'ble Supreme Court *vide* Order dated 07.01.2025 and for abundant precaution, the answering Respondent herein is filing the instant Affidavit to place on record the updated status of compliance of the directions passed by this Hon'ble Tribunal in its Judgment dated 01.09.2021 and in view of the Order dated 07.01.2025 passed by the Hon'ble Supreme Court.

3. Before submitting the said Status of Compliance, the Respondent No. 2 craves leave to place on record certain facts which, in the humble opinion of the Respondent No. 2 are crucial for the holistic adjudication of the issue.



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BRIEF FACTS:

4. That M/s Dhampur Sugar Mills Ltd, Village and Tehsil Dhampur, Bijnor District, Uttar Pradesh has two units under this Original Application, namely, the Sugar Unit and the Distillery Unit.
5. The instant Original Application (“OA”) was filed by the one Mr. Adil Ansari, Applicant, making baseless and misleading allegations against the units of the answering Respondent seeking directions of this Hon’ble Tribunal *inter alia* against the above said units of the Respondent. It is important to emphasize that the Applicant is a resident of Village Garhi Mendu, Seelampur, New Delhi, where he has failed to establish his locus as to how he is aggrieved from the said plants where he does not reside or is remotely connected with the location of the said units as described above.
6. That in *State of Uttar Pradesh v. Uday Education and Welfare Trust, 2022 SCC OnLine SC 1469*, the Hon’ble Supreme Court has categorically held that the credentials and bonafides of the litigator ought to be considered and tested, especially when the rights of many are going to be adversely affected. That further in *Anand Kumar Jha Union of India and Ors., I.A.No.78/2021/EZ in Appeal*



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No.05/2021/EZ, this Hon'ble Tribunal stated that there is a need for thorough examination of litigants' credentials before allowing cases with significant ramifications. It further stated that the National Green Tribunal must verify the genuineness and intentions of such litigants, particularly when their grievances could affect numerous rights and interests. Further, in *Rana Sengupta v. Union of India, 2013 SCC OnLine NGT 31*, it was held that the Appellant did not have locus as the Appellant could not show any expertise to evaluate impact on environment and there was no record of appellant's participation the public consultation process and raised any issue regarding the environment or socioeconomic adverse impact on account of establishment of the proposed project. The Answering Respondent craves liberty to place the same on record, if so, directed by this Hon'ble Tribunal.

7. It is clear from the above that this case may be dismissed on this ground alone.

8. That before responding to the remission by the Hon'ble Supreme Court, it is important to summarize the proceedings prior to the same. That this Hon'ble Tribunal vide Judgment dated 01.09.2021 in OA



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No. 539/2019 passed the following directions with respect to Respondent No. 2:

"157. We are further of the opinion that following directions are necessary for ensuring compliance of environmental norms by the units:-

- i.) All the Units must ensure continuous running of ETPs even during the non-crushing season for the adequate maintenance of required bio-mass so that the ETP is able to take the load/shock when it receives the pollution load/effluent at the start of the crushing season.*
- ii.) All the Units in question must provide for separate Energy Meter for entire ETP setup including its accessory units with data logging facility which shall be inspected by UPPCB and CPCB from time to time.*
- iii.) UPPCB must ensure Interlocking of Pollution Control Devices with production processes (one way but not vice-versa) so as to ensure that whenever ETPs/PCDs are intentionally closed, the production also comes to halt.*
- iv.) Regular inspections should be carried out by the statutory authorities in both halves of the crushing season and also at least once in non-crushing season.*



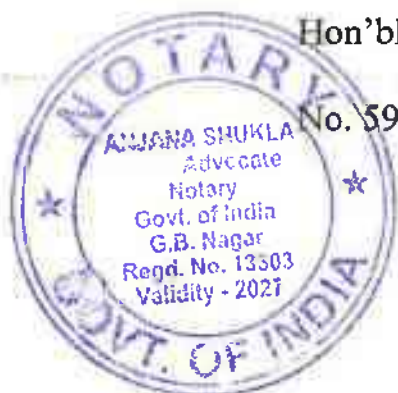
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v.) *Since the Asmoli Unit falls in the critical zone with respect to ground water withdrawal, an assessment of water recharge needs to be carried out by CGWA or UPGWB before issuance of NOC. The Statutory Authorities are directed to ensure the above directions strictly so that industries may run without causing damage or loss to the environment as well as to the local inhabitants and farmers residing nearby the Units.*

Further, vide the above-mentioned Judgment dated 01.09.2021, a Committee comprising representatives of the CPCB, UPPCB and District Magistrates of Sambhal, Bijnor and Bareilly districts was also constituted to assess the extent of the alleged damage caused to the environment by the answering Respondent units and submit its report to the CPCB within a period of three months.

A copy of this Hon'ble Tribunal's Judgment dated 01.09.2021 is annexed herewith and marked as Annexure 1.

9. That aggrieved by the aforesaid Judgment dated 01.09.2021 of this Hon'ble Tribunal, the Respondents preferred a Civil Appeal bearing No. 5975 of 2021 before the Hon'ble Supreme Court on 20.09.2021.



[Signature]

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10. That the Hon'ble Supreme Court vide its order dated 08.10.2021, while issuing Notice, stayed the impugned Judgment dated 01.09.2021 to the extent of the direction for payment of compensation of Rs. 5 crores by each unit and costs of Rs. 10 lakhs imposed on Respondent Nos. 1 to 3. Further, the Hon'ble Supreme Court directed the constitution of a Committee as directed by this Hon'ble Tribunal in its Judgment dated 01.09.2021, to make a detailed study, and also directed that no further steps shall be taken by the Committee, for a period of six weeks from the said date. A copy of the Hon'ble Supreme Court's order dated 08.10.2021 in Civil Appeal No. 5975 of 2021 is annexed herewith and marked as Annexure 2.
11. In compliance with the directions of the Hon'ble Supreme Court as well as of this Hon'ble Tribunal, the Joint Committee of CPCB, Uttar Pradesh Pollution Control Board, Central Ground Water Authority and District Magistrates of Bijnor, Sambhal and Bareilly submitted a detailed study report dated 15.11.2022 (hereinafter referred to as the First Joint Committee Report). The said report was submitted by the CPCB- Respondent No. 7 herein. In the aforesaid report, the following recommendations for all the four Respondent Units i.e. Respondent No. 1, M/s Dhampur Bio Organics Ltd.(Sugar Unit),

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Village Asmoli, Sambhal Tehsil and District, Uttar Pradesh, Respondent No.3, (M/s Dhampur Bio Organics Ltd (Sugar Unit), Village Sindhauli, Meerganj Tehsil, Bareilly District, Uttar Pradesh as above and Respondent No 2 (Dhampur Sugar Mills Ltd. (Dhampur Sugar and Distillery Units) Village and Tehsil Dhampur, District Bijnor, Uttar Pradesh were made after carrying out a detailed study between 15th - 18th November, 2021 of Respondent Nos. 1 and 3 and 1st – 2nd December of Respondent No. 2:

“8. Recommendations

- The contamination in Ground Water has been observed at shallow depth handpumps/borewells, hence it is recommended that UPGWD & Nalkoop Vibhag may be asked to look into the matter, and arrangement for deep borewell shall be made.*
- UPGWD to ensure marking and sealing of unsafe borewells/ handpumps.*
- Also, for ensuring availability of safe drinking water to the residents of villages highlighted in the report UP Jal Nigam should make provisions for supplying tap water.*

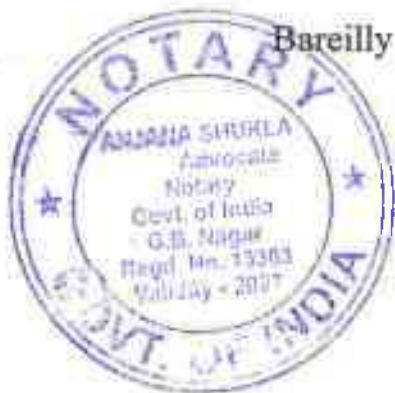


[Signature]

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- *Units shall ensure that installed ESP/ Bag filters are operated effectively.*
- *Feasibility of in-situ remediation for restoration & rejuvenation of River Sot shall be explored and action plan for the same to be prepared by the concerned department such as U.P. Irrigation Department in consultation with all the concerned agencies. If necessary an expert agency may be engaged.*
- *To prevent the impact of Ikra drain, Dhampur (Bijnor) on water quality of river Karula, feasibility of constructed wetland shall be explored before the confluence of Ikra drain into Karula river.*
- *UPPCB shall issue necessary directions to the units for ensuring that no discharge of partially treated/ untreated effluent takes place into Pilakhar River, Sot River & Ikra drain or any water body takes place.”*

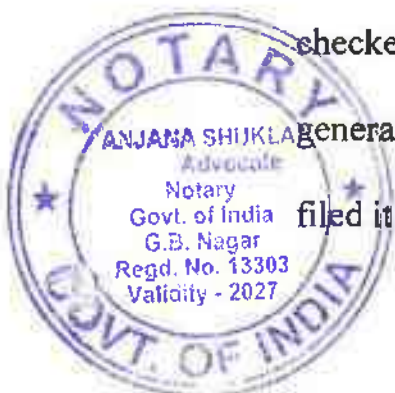
A copy of the detailed study report dated 15.11.2022 filed before the Hon'ble Supreme Court by the Joint Committee of CPCB, UPPCB, CGWA and District Administrations of District Bijnor, Sambhal and Bareilly is annexed herewith and marked as **Annexure 3**.



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12. Thereafter, on 06.09.2024, the Hon'ble Supreme Court further directed that "*A Joint Report by the CPCB and the State Pollution Control Board shall be filed indicating the compliances as per the directions of the National Green Tribunal and also after taking into account the subsequent Committee reports. The report shall also indicate about the compliances of the conditions specified in the environmental clearances and further steps which need to be taken by the appellant(s)*". A copy of the Hon'ble Supreme Court's order dated 06.09.2024 in Civil Appeal No. 5975 of 2021 is annexed herewith and marked as **Annexure 4**.

13. Subsequently, the Joint Committee of CPCB and UPPCB inspected the four units of the Respondent Nos. 1, 2 and 3 as mentioned above and the inspection for Respondent No.2 herein was carried out on 16.10.2024. During the said inspection, the team collected the samples from aeration tanks of effluent treatment plants (ETPs), Sewage Treatment Plant (STP), bore wells and recipient drain and checked logbooks for ETPs, STPs, bore wells, ash and sludge generation, energy consumption. On 19.12.2024, the Joint Committee filed its detailed report. A copy of the report dated 19.12.2024 filed by



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the joint committee of CPCB and UPPCB before the Hon'ble Supreme Court is annexed herewith and marked as Annexure 5.

14. That in the above-mentioned Report, the following conclusions and recommendations were made by the Joint Committee viz. Respondent No. 2:

“Unit wise conclusions and recommendations are reproduced below:

2.3 M/s Dhampur Sugar Mills Limited, Village Alhaipur, Tehsil Dhampur, District Bijnor (Sugar Unit)

Conclusion

- 1. Unit was non-operational during joint site inspection by CPCB and UPPCB on 16.10.2024 due to non-crushing season.*
- 2. Analysis results of samples collected from Ikra drain and bore well indicate no industrial impact.*
- 3. The unit has complied with recommendations of Joint Inspection report dated 02-03 Feb 2021 (detailed findings in Part C), except following:*



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a. Unit has not reclaimed/filled up 4000 m³ capacity lagoon near its agricultural fields completely. It was partially filled with mud and rainwater and HDPE lining still exists.

b. Unit has not implemented the suggestion to enhance capacity of water tank for filter backwashing. The unit explained that the existing capacity has been sufficient which can be verified in periodic inspections of the unit in operational condition by UPPCB.

4. The details of the verification of the directions of Hon'ble NGT passed vide judgement dated 01.09.2021 are mentioned in Part D of the report. Unit has complied all the points except the directions regarding interlocking of Pollution Control Devices with production processes.

Inspections by third party institutes authorised by CPCB in the past

A third party technical institute authorised by CPCB carried out annual inspection on 12-01-2022 and 14-02-2023. Unit was found not complying standards during inspection on 12-01-2022 and UPPCB issued show-cause notice to the unit on 22-02-2022 which was later withdrawn as unit was found complying standards in subsequent inspection by UPPCB. Unit was found complying standards during

inspection on 14-02-2023 by third party technical institute authorised by CPCB.

Recommendations:

- 1. The unit shall either cover the 4000 m³ capacity earthen lagoon, which was used for storing treated effluent in the past, with brick-lining or reclaim/fill up it completely.*
- 2. Unit shall implement a system for interlocking of the pollution control plants / devices and the production process, as directed by Hon'ble NGT-PB.*
- 3. UPPCB shall carry out random inspection of the unit in operational condition.*

2.4 M/s Dhampur Sugar mills limited Chemical Division., (Distillery Division) Dhampur District Bijnor on 16.10.2024

Conclusion:

- 1. Unit was non-operational during joint site inspection by CPCB and UPPCB on 16.10.2024 due to shortage of raw material (molasses &*



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2. The unit has complied with the recommendations of Joint Inspection report dated 02nd Feb 2021. Details of the same are mentioned in Part B of the report.

3. The detailed compliance status of Environmental Clearance (EC) conditions is mentioned at Part C. The unit has not complied with the following conditions:

a. DG is not provided with acoustic enclosure.

Inspections by third party institutes authorised by CPCB in the past:

A third party technical institutes authorised by CPCB carried out annual inspection of the unit in operational condition on 15.01.2022 and 18.03.2023 and the unit was found complying no effluent discharge condition during both inspections.

Recommendations:

1. Unit shall provide acoustic enclosure at the DG set.
2. UPPCB shall carry out random inspection of the unit in operational



A handwritten signature in blue ink, likely belonging to Somesh Rattan.

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15. That the Hon'ble Supreme Court took cognizance of the Final Report and vide its order dated 07.01.2025 observed that the Report speaks about the compliance rather non-compliances by the four units. Accordingly, the Hon'ble Supreme Court directed this Hon'ble Tribunal to monitor the compliances and ensure that the Judgment dated 01.09.2021 is fully implemented. Further, disposing of the Civil Appeal, the Hon'ble Supreme Court held that this Hon'ble Tribunal may revisit the directions with respect to payment of compensation and pass such order as may be necessary. Accordingly, the Hon'ble Supreme Court remanded back the matter to this Hon'ble Tribunal. A copy of the Hon'ble Supreme Court's order dated 07.01.2025 in Civil Appeal No. 5975 of 2021 is annexed herewith and marked as **Annexure 6.**

16. Upon the matter being remanded back to this Hon'ble Tribunal, and in view of the Hon'ble Supreme Court's Order dated 07.01.2025, the Answering Respondent is seeking liberty to file an Affidavit disclosing the status of compliance of the directions of this Hon'ble Tribunal.



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17. The directions passed by this Hon'ble Tribunal vide Judgment dated 01.09.2021 and the observations made by the Hon'ble Supreme Court in its order dated 07.01.2025 the Civil Appeal and the status of compliance are captured in the table hereinbelow:

A) Status of compliance of Directions passed by this Hon'ble Tribunal vide its Judgment dated 01.09.2021

Issue	Status of Compliance
All the Units must ensure continuous running of ETPs even during the non-crushing season for the adequate maintenance of required bio-mass so that the ETP is able to take the load/shock when it receives the pollution load/effluent at the start of the crushing season.	Complied. CPCB in its Final Report dated 19.12.2024 filed before the Hon'ble Supreme Court reported that the compliance status as on 16.10.2024 was as follows: <i>"At the time of visit, the unit was non-operational due to off-season. Team observed that the ETP was under stabilization and aeration was being done to maintain active bio mass to enable smooth ETP operations in the crushing season. For the maintenance of adequate bio-mass aeration tank was found operational.</i> <i>Unit has two aeration tanks and samples were collected from both tanks. Analysis results are as follows:</i> <i>Aeration tank 1:</i>



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MLSS = 737 mg/l

MLVSS = 463 mg/l

Aeration tank 2:

MLSS = 812 mg/l

MLVSS = 590 mg/l

Analysis results showed MLVSS/MLSS ratio as 0.62 and 0.72 for both tanks which indicates that unit is in process of developing active biomass for stabilizing ETP prior to commencement of crushing season."

MLVSS is Mixed Liquor Volatile Suspended Solid and MLSS is Mixed Liquor Suspended Solids.

For the Sugar Unit:

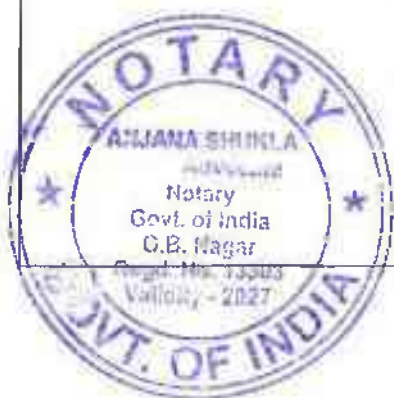
Further, as per the Reply dated 02.08.2025 filed by the UPPCB in the instant OA, it has been observed that several inspections were undertaken and the unit was found complying with treated effluent discharge norms. The unit was found closed due to off-season on 29.07.2025. The Report further notes that ETPs are stabilised one month before the crushing season and the cleaning process is completed after one month. The Board has been duly intimated.



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	For the Distillery Unit: As per the said Reply dated 02.08.2025 filed by the UPPCB in the instant OA, the plant is a Zero Liquid Discharge Unit and has obtained consent for operation for 365 days, and also duly provides intimation of its non-operation to the Board alongwith reasons.												
All the Units in question must provide for separate Energy Meter for entire ETP setup including its accessory units with data logging facility which shall be inspected by UPPCB and CPCB from time to time.	Complied. CPCB in its Final Report dated 19.12.2024 filed before the Hon'ble Supreme Court reported that the compliance status as on 16.10.2024 was as follows: <i>“The unit has installed separate energy meter for the ETP. The unit has maintained log book for the same. The team has collected log book of energy meter for the last crushing season from Nov 2023- March 2024 and the details are as follows:</i> <table border="1"> <thead> <tr> <th>Month</th><th>Consumption (KWH)</th></tr> </thead> <tbody> <tr> <td>Nov, 2023</td><td>22204</td></tr> <tr> <td>Dec, 2023</td><td>30408</td></tr> <tr> <td>Jan, 2024</td><td>35601</td></tr> <tr> <td>Feb, 2024</td><td>31213</td></tr> <tr> <td>March, 2024</td><td>32975</td></tr> </tbody> </table>	Month	Consumption (KWH)	Nov, 2023	22204	Dec, 2023	30408	Jan, 2024	35601	Feb, 2024	31213	March, 2024	32975
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Nov, 2023	22204												
Dec, 2023	30408												
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	For the Sugar unit: Further, as per the Reply dated 02.08.2025 filed by the UPPCB in the instant OA, it is noted that the unit has installed separate energy meter for entire ETP setup as well as OCEMS which is connected to the CPCB server. The same is the recommendation for the distillery unit as well.
UPPCB must ensure the Interlocking of Pollution Control Devices with production processes (one way but not vice-versa) so as to ensure that whenever ETPs/PCDs are intentionally closed, the production also comes to halt.	For both the Sugar and the Distillery Units: This condition is neither feasible nor practicable for the unit. The reasons of which are as follows: I. In the case of Tandur Citizens Welfare Society Rangareddy District v. State of Telangana, as per the directions of this Hon'ble Tribunal, the CPCB, vide Order dated 02.02.2022 constituted a Committee comprising of the representative of NEERI Nagpur, National Chemical Laboratory, Pune, WBPCB, Maharashtra PCB and the CPCB to examine the feasibility of introduction of interlocking systems in various industrial sectors where OCEMS are installed. II. 1st meeting of the Committee was conducted on 05.02.2022 which observed that implementation of interlocking system to stop production process in case of failure of



pollution control system need to be implemented based on following considerations:

- a. Use of interlocking should be between the production process and the emission/effluent control equipment through a PLC and SCADA systems. It is not desirable to use such interlocking with OCEMS.
- b. Instant shutting down of some industrial processes may pose risk of safety and health hazard to workers, due release of fugitive emissions/gases or discharges. Therefore, interlocking system may not be feasible in sectors such as pharmaceutical, petrochemical, etc.
- c. Industrial processes are diversified across the sectors and specific arrangements/protocols may be required for each sector.
- d. Interlocking systems may be implemented in only those industries, where such interlocking systems does not pose risk of safety and health hazard to workers.
- e. Further, within industry, there is a need to identify feasible process areas where



	interlocking systems can be implemented effectively and safely f. Interlocking systems may be implemented in phased manner in noncritical processes as part of the production process The aforestated minutes form part of the report dated 08.02.2022 filed by CPCB in the said matter. III. Accordingly, CPCB filed its final report dated 06.05.2022, wherein CPCB has concluded that “...it is not recommendable to force industries to install interlocking system between OCEMS and production processes, across all the sectors”. IV. The relevant para of Tandur judgement dealing with CPCB’s report is reproduced hereinbelow for ease of reference: <i>“7. Further report has been filed by CPCB on 06.05.2022 with regard to feasibility of interlocking of industrial process with OCEMS and assessment of feasibility of interlocking of industrial processes with OCEMS. Relevant extracts from the report is as follows:—</i> <i>.....</i> <i>During the meetings held on 05.02.2022 and 02.05.2022, the Committee examined the matter and recommended the following:</i>

- i. *The purpose of OCEMS is to regulate and minimize inspection of industries on routine basis by bringing self-discipline in the industries to exercise self-monitoring and compliance. Further, through continuous access of effluent and emission data, SPCBs/PCCs and CPCB also ensure constant vigil on environmental compliance by industries.*
- ii. *OCEMS are linked to both CPCB and SPCB servers and SMS messages/alerts get generated in case of value of pollutant parameter exceeds prescribed environmental norms, non-acceptable variations in data and offline behaviour of OCEMS. The existing set up is adequate for self- monitoring and to initiate corrective action, including regulating the production process.*
- iii. *It is not recommendable to use OCEMS based interlocking for instant shutting down of industrial processes, as the same may pose risk to safety, health hazard and uncontrolled emissions, due to incomplete chemical reactions/processing, especially in the industrial sectors such as chemical*



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industries, copper smelters, thermal power plants etc.

6. Conclusion:

Considering the present status of OCEMS and also keeping in view the risk to safety, health hazard and uncontrolled emissions in case of sudden shut-down of processes, it is not recommendable to force industries to install interlocking system between OCEMS and production processes, across all the sectors."

Thus, from a bare perusal of the conclusion of the CPCB report dated 06.05.2022, it can be submitted that industries other than cement industries need not be forced to install interlocking systems.

A copy of the aforesaid judgement along with CPCB's report dated 06.05.2022 and 08.02.2022 is annexed herewith as marked as Annexure 7 (Colly.).

V. No requirement of Interlocking Systems provided in Charter 2.0 of CPCB

- It is submitted that even the CPCB's Comprehensive Charter for Water Conservation and Pollution Prevention by Sugar Industries (Charter 2.0) issued in July



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2024, and then in May 2025, does not contemplate any such requirement of interlocking of the pollution control plants/devices and the production process.

A copy of the CPCB's Comprehensive Charter for Water Conservation and Pollution Prevention by Sugar Industries (Charter 2.0) is annexed herewith and marked as **Annexure 8**.

VI. Expert Opinion sought from Shri Narendra Mohan, Former Director of National Sugar Institute, Kanpur ("NSI Kanpur")

- An opinion was sought from Shri Narendra Mohan on the technical feasibility of Interlocking of effluent treatment and air emission control system in a Sugar Unit & Distillery, as directed in NGT's Order.
- *Vide* a letter dated 01.02.2025, Shri Mohan's opinion are as follows:
 - i) The raw materials used for production of sugar i.e., sugarcane and other process intermediaries such as sugarcane juice, syrups, etc. deteriorate upon retention. Thus, continuity in operation is a must for sugar units and sugar units cannot be

equated with other industries viz. cement, textile, electrical and electronics and so on.

ii) If because of any temporary issue with pollution control devices, the production process is stopped, it will result in decomposition of process house liquors as reflected from deterioration of bag-able sugar to the extent of almost no commercial use. For e.g., Sucrose starts getting inverted the moment manufacturing process is stopped and thus, in such a situation, stagnated material would require removal through deep cleaning of the entire plant before it is to be operated again.

iii) Any stoppage in manufacturing process will cause huge loss to the sugar unit due to loss of sugar and miscellaneous other losses due to suspension of crushing operations and expenses on cleaning.

iv) Therefore, considering *“the perishable nature of raw materials and many other relevant factors e.g. power generation to meet captive requirements and also to export, necessitating it to be a continuous operation, interlocking of sugar production process in sugar units with pollution*



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control devices does not seem to be feasible."

- v) In any case, as data related to emissions is regularly transmitted to CPCB/SPCB through OCEMS, any deliberate or accidental stopping of pollution control devices shall be explicitly clear to the CPCB/SPCB enabling them taking any appropriate action as they may deem fit.
- vi) Pertinently, *"even as per the latest issued "Sugar Charter 2.0" there is no provision of interlocking of Effluent Treatment Plant and/or Air Emission Control System and the Charter 2.0 is silent on this issue meaning thereby no such regulation is required to be imposed."*

A copy of the opinion sought from expert authority, Mr. Narendra Mohan, Former Director of National Sugar Institute, Kanpur on the technical feasibility of Inter-locking of effluent treatment and air emission control system in a Sugar Unit & Distillery is annexed herewith and marked as **Annexure 9.**

- From the aforesaid, it can be safely concluded that OCEMS are enough to monitor the pollution control devices and it is not feasible



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	for the units to implement a system for interlocking of the pollution control plants / devices and the production process, as directed by the NGT. The rigour of OCEMS, the periodic monitoring by SPCB as well as third party audits carried out by the PP is rigorous enough to comply with the law VII. The UPPCB Reply dated 02.08.2025 notes that ETP is equipped with flow meters and OCEMS and connected with CPCB servers, Air Pollution Control Devices are inter-locked with boiler alarm system, equipped with OCEMS and connected with CPCB server.
Regular inspections should be carried out by the statutory authorities in both halves of the crushing season and also at least once in non-crushing season.	Complied. CPCB in its Final Report dated 19.12.2024 filed before the Hon'ble Supreme Court reported that the compliance status as on 16.10.2024 was as follows: <i>"During crushing season 2022-23 & 2023-24, sampling was carried out six times i.e. on 05-04-2023, 30-05-2023, 22-11-2023, 12-12-2023, 06-04-2024, 10-10-2024 by UPPCB. Unit was found complying standards during all these</i>



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inspections. Analysis reports are attached at Annexure 4F-a, 4F-b, 4F-c, 4F-d, 4F-e & 4F-f.

Also, third party technical institutes authorised by CPCB carried out annual inspection on 12-01-2022 & 14-02-2023. Unit was found not complying standards during inspection on 12-01-2022 and unit was issued show-cause notice by UPPCB on 22-02-2022 which was later withdrawn as unit was found complying standards in subsequent inspection. The reports are attached at Annexure 4F-g & 4F-h."

Refer to Part-D of Final Report dated 21.12.2024.

For the Sugar Unit:

As per the Reply dated 02.08.2025 filed by the UPPCB, it is noted that the Unit is regularly being inspected, including by third -party institutions authorised by CPCB and is found compliant with treated effluent discharge norms.

For the Distillery Unit:

As per the Reply dated 02.08.2025 filed by the UPPCB, the unit was found operational during inspection on 06.04.2024 and 29.01.2025 wherein ZLD facility was found operational and adequate. During inspection on 29.07.2025, the



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	unit was found closed for maintenance, for which unit had given intimation letter. Unit is regularly being inspected, including by third - party institutions authorised by CPCB and is found compliant.

B) Status of compliance of recommendations made by CPCB in its Final report submitted before the Hon'ble Supreme Court

Issue	<u>Status of compliance</u>
Dhampur Sugar Mills Ltd., Sugar Unit, District Bijnor	
The unit shall either cover the 4000 m3 capacity earthen lagoon, which was used for storing treated effluent in the past, with brick-lining or reclaim/fill up it completely.	Complied. The capacity of 4000 m3 lagoon has been completely filled and reclaimed. Respondent No. 2 has also removed the HDPE Lining completely. A photo of the filled lagoon is annexed herewith and marked as <u>Annexure 10</u> . The Reply of the UPPCB dated 02.08.2025 also notes that the unit has completely filled up the 4000 m3 lagoon with soil which was verified during inspection done by RO officials, Bijnor on 29.07.2025.
Unit shall implement a system for interlocking of the pollution control plants, devices and the production process, as	There are several challenges and difficulties, as has been explained above, in adopting the interlocking systems. The contents of the response in table A above of the instant affidavit

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directed by Hon'ble NGT-PB.	are reiterated and not repeated herein for the sake of brevity.
Dhampur Sugar Mills Ltd., Distillery Unit, District Bijnor	
Unit shall provide acoustic enclosure at the Diesel Generator ("DG") set	Complied. The Unit has built an acoustic enclosure at the DG set. Further, the height of stack has also been increased. The same has been verified by the UPPCB Reply dated 02.08.2025. A copy of the acoustic enclosure built at the DG set is annexed herewith and marked as Annexure 11.
Unit has not implemented the suggestion to enhance capacity of water tank for filter backwashing.	Complied. It is submitted that the existing capacity is sufficient for running the system.

18. Thus, from the above-mentioned tables, it is evident that the Respondent No. 2 has complied with all of the directions passed by this Hon'ble Tribunal *vide* its order dated 01.09.2021, except for the direction of interlocking pollution control devices, which in our humble submission is neither feasible nor practicable for the unit with



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the production process. The detailed explanation for this has been provided in the above-mentioned table.

19. The Respondent No. 2 *vide* its letter bearing no. DSM/UPPCB/24 – 25/ 293 dated 25.03.2025 has also requested the Regional Officer, Uttar Pradesh Pollution Control Board, Bijnor to verify the compliance done by Respondent No. 2 in furtherance of the Final Report dated 19.12.2024. A copy of the letter dated 25.03.2025 issued to Regional Officer, Uttar Pradesh Pollution Control Board, Bijnor is annexed herewith and marked as Annexure 12.
20. The Respondent No. 2 craves leave of this Hon'ble Tribunal to add further facts and submissions, if required, at a later stage and during the hearing on the instant OA. The Respondent No.2 craves leave to respond to any submissions made by any other party against the Respondent no.2 in the present proceedings. Further, the Respondent No. 2 craves leave of this Hon'ble Tribunal to file any additional documents as it deems fit in the interest of justice to assist this Hon'ble Tribunal in the effective adjudication of the instant OA.



DEPONENT

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Dhammur Sugar Mills Ltd.
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VERIFICATION

I, the Deponent hereinabove, do hereby verify that the contents of this affidavit of compliance which is based on official record and information available in the office are true and correct to the best of my knowledge and belief. Nothing material has been concealed therefrom.

Verified at New Delhi on this 5th day of November, 2025.


I identified the deponent who
has signed in my presence



ATTESTED

ANJANA SHUKLA
Advocate Notary
Distt. Gautam Budh Nagar (U.P.)


DEPONENT

Somesh Rattan
General Manager (Legal)
Dhampur Sugar Mills Ltd.
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5 NOV 2025

Annexure 1

**BEFORE THE NATIONAL GREEN TRIBUNAL
PRINCIPAL BENCH
NEW DELHI**

**Original Application No.539/2019
(I.A.No.376/2020)**

IN THE MATTER OF:

Adil Ansari

S/o Mohd. Naushad Ansari

Mob: 9614861414

Add: 2 New Silampur, Garhi Medhu

New Delhi-110053

Applicant

Verses

1. M/s Dhampur Sugar Mills Ltd., Asmoli (Sugar Unit)

Asmoli- Madhan Road, Asmoli

Dist- Sambhal (U.P) 244304

2. M/s Dhampur Sugar Mills Ltd., Dhampur (Sugar and Distillery Unit)

Dhampur, Dist- Bijnor (U.P) 246761

3. M/s Dhampur Sugar Mills Ltd., Meerganj

Sindhauri Road, Meerganj

Dist- Bareilly (U.P) 203504

4. District Magistrate

Collectorate, Behjoi

Dist- Sambhal (U.P) 244302

5. District Magistrate

Collectorate, Dist- Bijnor (U.P) 246701

6. District Magistrate

Collectorate, Station Road

Civil Lines, Dist- Bareilly (U.P) 243001

7. Central Pollution Control Board

Through its member Secretary

“Parivesh Bhawan” East Arjun Nagar

Near- Karkarduma Court, Shahdara

Dist- East Delhi, 110092 (New Delhi)

8. Uttar Pradesh Pollution Control Board

Through its Member Secretary

Building No. – TC-12-V, Vibhuti Khand

Gomti Nagar, Dist- Lucknow (Uttar Pradesh) 226001

9. Central Ground Water Authority

Wing -3, West Block-2, Sector – 1

R.K. Puram, New Delhi - 11006

Respondent(s)

Counsel for Applicant(s):

Ms. Preeti Singh, Advocate

Counsel for Respondent(s):

Mr. Raj Kumar, Advocate for CPCB.

Mr. Pradeep Misra and Mr. Daleep Dhyani, Advocates for UPPCB.

Mr. A.A. Aron, Advocate for M/s. Dhampur Sugar Mills Ltd.

Mr. Sandeep Singh, Advocate for the State of UP.

JUDGMENT**PRESENT:**

HON'BLE MR. JUSTICE ADARSH KUMAR GOEL, CHAIRPERSON

HON'BLE MR. JUSTICE SUDHIR AGARWAL, JUDICIAL MEMBER

HON'BLE MR. JUSTICE M. SATHYANARAYANAN, JUDICIAL MEMBER

HON'BLE MR. JUSTICE BRIJESH SETHI, JUDICIAL MEMBER

HON'BLE DR. NAGIN NANDA, EXPERT MEMBER

Reserved on: 23rd July, 2021

Pronounced and uploaded on: 01st September, 2021

BY HON'BLE MR. JUSTICE BRIJESH SETHI, JUDICIAL MEMBER

1. Vide this judgment, we shall dispose of Original Application No. 539/2019 and also Interim Application No. 376/2020 filed by the applicant Mr. Adil Ansari seeking directions of this Tribunal to direct the appropriate penal action against the units of the respondents including the imposition of the appropriate environmental compensation for non-compliance of Environmental norms/laws. It was further prayed that action be taken against the violators under relevant provision of The Environment (Protection) Act 1986, Air (Prevention and Control of Pollution) Act, 1981 and Water (Prevention and Control of Pollution) Act, 1974

2. The brief facts as stated in the original application bearing no. 539/2019, are that damage to environment has been caused by units of Dhampur Sugar Mills and distillery which are as follows:-

“1. Dhampur Sugar Mills, Sugar Unit, Dhampur, Bijnore;

- 2. Dhampur Sugar Mills, Distillery Unit, Dhampur, District Bijnor;
- 3. Dhampur Sugar Mills, Sugar Unit, Asmoli, Sambhal;
- 4. Dhampur Sugar Mills, Sugar Unit, Meerganj, Barielly.”

3. It is submitted that respondent units are so unconscionable that despite specific orders by this Tribunal, they have failed to adhere to environmental norms. The environmental damage done by respondent units is massive and if no immediate steps are taken against these industrial units/respondents, substantial environmental damage will be caused to the entire area which comprises of natural flora fauna, agricultural land, human beings, animals and water bodies. Since all these industrial units have completely failed to abide by the environmental norms, the continuous increase in heavy toxic pollution by these industries in their respective areas has led to a substantial increase in air and water borne diseases.

4. It may be pointed out that these Units have earlier history of violation of environmental laws. In Year 2015, an Original Application. bearing no. 35/2015 was also filed by one Mr. Shailesh Singh titled “Shailesh Singh vs. D.S.M. Sugar Distillery Division Asmauli, Sambhal, U.P. & Ors.”.

5. In the said matter, the Tribunal after hearing the contentions of parties and considering the inspection report, had ordered for closure the unit vide order dated 23.04.2015 which runs as follows;

“	Date and Remarks	Orders of the Tribunal
	Item No. 12 April 23, 2015 SS	We have heard the Learned Counsel appearing for parties. The report of the Joint Inspection Team has been filed on record. In terms of this

	<i>report the DSM Sugar Distillery Division unit is not adhering to the prescribed norms. The sample collected and analysed by the Joint Inspection Team is beyond the prescribed limits for different parameters. It is further stated that treated effluent from ETP is not meeting the criteria for the BOD and TSS for disposal on land. The treated effluent storage tank with capacity of 24000 KL was damaged.</i> <i>Furthermore, there was short circuiting at the primary clarifier Unit. DG set was not equipped with acoustic enclosure.</i> <i>The Learned Counsel appearing for the industries submits that they will be conducting effective steps in terms of the recommendation made.</i> <i>Further the Applicant contended that the Groundwater has been polluted to the extent that the population of the nearby localities is suffering from Cancer and some other diseases. It is their contention that there is serious air pollution. Allegations made by the Applicant are of course denied by the industry respondents. In the circumstances afore-stated we direct that this industry shall be closed forthwith. However, industry has liberty to take remedial measures and apply to the Joint Inspection Team for a fresh inspection. The inspection would be conducted by the Joint Inspection Team only in furtherance to the order of the Tribunal. Recommendation of the Joint Inspection Team then would be placed before the Tribunal. Liberty to the Respondent industry to move the Tribunal for seeking permission to operate after achievement of the prescribed standards in respect of its effluent as per the prescribed norms and carrying out rectification of various defects and deficiencies pointed out in the inspection. Both Sugar and Distillery units will remain closed.</i> <i>With the above directions the</i>

	<i>Original Application No. 35 of 2014 as well as all other M.A. No. 348 of 2015 and M.A. No. 349 of 2015 are disposed of. Liberty to Applicant to move as prayed.</i>

6. Against the said order the industrial unit/respondent had preferred a review application no. 13 of 2015 in original application No. 35/2015 wherein this Tribunal after observing the ‘**environmental damage**’, caused by this Industrial Unit had passed the following order on 10.12.2015.

“ Thus, we have to apply the above principals while directing the industry to pay environment compensation in terms of Section 15 and 17 of the National Green Tribunal Act, 2010. In view of our discussion, we pass the following order:-

- 1) The Industry is permitted to start its manufacturing activity.*
- 2) Before commencing its sugar manufacturing and distillery it must comply with the discrepancies pointed out by the Joint Inspection Team.*
- 3) The Unit will be inspected by the Joint Inspection Team immediately upon commencement gets operative.*
- 4) **The industry is held to be liable pay the Environmental Compensation of Rs. 1 Crore within one month to UPPCB and furnish a bank guarantee as well to the extent of Rs. 10 lakh.***
- 5) The amount of Rupees One Crore paid to the UPPCB shall be spent upon taking preventive measures, removing of the various pollutants lying in the area, as well as steps for restoring of the environment and ecology as per the records of this file and ensure that no sludge spent wash, fly-ash or other pollutants generated by this industry is permitted to remain in the soil, ground water and even on the land of the industry.*
- 6) If the unit performs strictly within the prescribed parameters and as per the conditions imposed and is found to be compliant and non-polluting industry, the bank guarantee could be released after a period of two years, failing which the bank guarantee shall be encashed and the amount utilized for prevention and control of pollution in that area.”*

7. It is the case of the applicant that even after above observation/order from the Tribunal, the unit did not bother to comply with environmental norms. The respondent units are still polluting the surrounding area and the pollution caused by these units is directly impacting the health of the villagers and new born children. It is further submitted that despite protest by villagers, these respondent units have ignored the environment issue.

8. It has further submitted that notices under Section 5 of the Environment (Protection) Act, 1986 were issued against the respondents and the same run as follows:

Name of Industries/ Date	Contents
1). M/s Dhampur Sugar Mills Ltd., Vill- Asmoli, Dist- Sambhal (Sugar Division) (20 May 2019)	AND WHEREAS , the unit was inspected by CPCB on 18.03.2019 in which the unit was found operational and following key observations are made by the inspection team: 1. The analysis of treated effluent samples showed pH- 7.36 against the norms of 5.5-9.0, BOD: 19mg/ml against the norms of 30mg/l; TSS- 12mg/l against the norms of 30mg/l; COD- 68mg/l against the norms of 250mg/l and TDS- 680mg/l against the norms of 2100 mg/l which indicates compliance with respect to discharge norms of Environment (Protection) Rules 1986. 2. Analysis of treated effluent samples of lagoon showed pH- 7.58, BOD- 11mg/l, COD-60mg/l, TSS- 26mg/l and TDS- 836 mg/l. 3. Mill has installed the flow meters but not maintained the logbook of hot and cold water and effluent generation. 4. The mill should install flow meter at power turbine and process cooling tower make-up.

	5. Logbook should be maintained for after consumption at various points as sugar plant, cogeneration and residential. 6. The Unit is having high pressure boiler and should install the CPU for treatment of condensate to ensure its reuse and recycle within the process. AND NOW, THEREFORE, in view of above observation and in exercise of the power delegated to the Chairman, CPCB under section 5 of the Environment (Protection) Act, 1986, the unit M/s Dhampur Sugar Mills Ltd., Asmouli, Sambhal, U.P. is directed to comply of the following direction: 1. The unit shall install Condensate polishing Unit for the Highpressure boiler. 2. The unit shall maintain logbooks of cold and hot water consumption. 3. The unit shall maintain logbooks for individual process units for recording daily water consumption and effluent generation also. 4. The unit shall submit the implementation status of charter in the form of Affidavit and documentary proof of the completion of work as committed in the action plan.
2) M/s Dhampur Sugar Mills Ltd., Dhampur Dist. Bijnor (U.P.) (Distillery Division) (06 February, 2018)	Whereas, as per the methodology for assessing penalty and environmental compensation, the environmental compensation to be levied to the unit is calculated as Rs. 46,80,000/- (Forty- Six lakhs eighty thousand Rupees only) for the non-compliance period (11.11.2018 to 15.04.2019), for the crushing season 2018-19 ; and NOW, THEREFORE, in exercise of powers delegated to Chairman CPCB under section 5 of the Environment (Protection) Act, 1986, the unit (M/s Dhampur Sugar Mills, Dhampur, Bijnor, U.P.) is directed close down its manufacturing operations immediately and deposit Rs. 46,80,000/- within 15 days in CPCB A/c No. 532702050000164 (Bank name: Union Bank of India, IP Extension Branch,

	Vikas Marg, Extn., Delhi; IFSC: UBINO553271)/ demand draft in favour of EC by CPCB towards environmental compensation and shall comply with the following direction; 1. The unit shall close down its sugar manufacturing operations with immediate effect and shall not resume its operations. 2. The unit shall dismantle the bypass arrangements and stop discharge of untreated/ partially treated effluent discharge immediately. 3. The unit shall install flow meters at Mill, fibrizer, power turbine cooling, B and C massecuite cooling, and outlet of R.O. water reject. 4. The unit shall install condensate polishing unit for high pressure boilers, 105 kg/cm2. 5. The unit shall install adequate Multi grade filter and Activated carbon filter. 6. The unit shall install mechanical sludge handling system of adequate capacity. 7. The unit shall seek permission from CPCB, after compliance of the above directions, before resumption of operation.
3. M/s Dhampur Sugar Mills (DSM) Ltd. (Formerly J.K. Sugar Limited), Sidhauli Road, Meerganj, Bareilly (U.P.) (Sugar Division), (15 March, 2018)	WHEREAS, the unit was inspected on 28.03.2019 by officials from CPCB, Delhi and following observations are made: 1. The unit was operational at the time of inspection. 2. Analysis of treated effluent sample from ETP outlet showed pH-7.40 against the norms of 5.5-8.5, BOD- BDL mg/l against norms of 100 mg/l, COD- 10.9 mg/l against norms of 250 mg/l, TDS- 452 mg/l against norms of 2100 mg/l, and TSS- 27.4 mg/l against norms of 100 mg/l. However, MLSS in aeration tank 2018) was 1291 mg/l which indicated that the aeration tank was unstabilized. Further, Significant reduction of BOD (100%), COD (99:93%), TSS 98.1%) along with low MLSS level indicate that the ETP system was

	<i>diluted.</i> <i>3. Analysis of treatment effluent sample from lagoon showed pH-7.52 against the norms of 5.5-8.5, BOD-BDL mg/l against norms of 100 mg/l, COD- 8 mg/l against norms of 250 mg/l, TDS- 465 mg/l against norms of 2100 mg/l and TSS- 54.4 mg/l against norms of 100 mg/L.</i> <i>4 BOD level is below detection limit at different treatment operations, It seems that unit has diluted ETP system at different stages.</i> <i>5. As reported unit representative, the boiler ash and press mud are provided to local farmers for blending in their agricultural field/ land filling. But the unit was unable to provide any documentary evidence for the same.</i> <i>6. The flow observed at the ETP outlet is equal to that at the ETP inlet even though the spray pond treated effluent is also being dis charged into the ETP.</i> <i>It is evident that aeration tank to ETP system is not properly stabilized due to poor operation and maintenance of ETP system there is possibility of dilution of ETP system.</i> <i>NOW, THEREFORE,</i> <i>in view of the above observations and in exercise of the powers, delegated to the Chairman, CPCB under Section 5 of the Environment (Protection) Act, 1986, notice is hereby served to the unit (M/s Dhampur Sugar Mills, (DSM) Ltd., U.P.) to Show cause, why the unit should not be closed down until all the necessary pollution control measures are planned and implemented so as to comply with the prescribed effluent discharge standards notified under Environment (Protection) Act 1986 to satisfaction of CPCB.</i>

9. Applicant has submitted that the respondent units are violating the fundamental rights of the villagers as they are unable to get healthy

pollution free environment. In these circumstances, it is prayed that these Units are required to be shut down with immediate effect.

10. It has next submitted that because of these Units, the entire area is facing the problem of contaminated water. The toxic discharge directly into drain/river and the discharge of industrial effluent in the land has affected the soil properties.

11. It is, therefore, prayed that direction be issued for closure of respondent units and heavy compensation be imposed upon these Units for non-compliance of Environmental norms/laws. It was further prayed that action be taken against the violators under relevant provision of The Environment (Protection) Act 1986, Air (Prevention and Control of Pollution) Act, 1981 and Water (Prevention and Control of Pollution) Act, 1974.

12. Vide order dated 27.06.2019, notices were issued to the respondents for 19.07.2019 in the present Original Application no. 539/2019.

13. On 19th July, 2019, the matter was adjourned for 14.08.2019. On 14.08.2019, the following order was passed:-

“1. Grievance in this application is that M/s Dhampur Sugar Mills Ltd. (Sugar Division), District Sambhal and sugar mill units in District Bijnor and District Bareilly and Distillery in District Bareilly were operating in violation of environmental norms. The unit at Dhampur was directed to be closed earlier vide order dated 23.04.2015 passed by this Tribunal and was allowed to reopen by subsequent order subject to certain conditions, including payment of Rs. 1 Crore towards environmental compensation and furnishing a bank guarantee of Rs. 10 lakhs. However, the pollution still continues to operate without compliance of conditions. Other units in Bijnor and Bareilly Districts are also operating illegally and so is the Distillery unit in Bareilly District.

2. On 27.06.2019, Notice was issued by this Tribunal with reference to the allegations in the application. Reply has been filed by the UP State PCB which is practically of no value. Reply has been filed by the CPCB is that the closure directions have been issued in respect of Dhampur unit of Sugar Mill. Besides, show cause notices have been issued to other two Sugar Mills at Bareilly and Sambhal. Distillery unit at Bareilly is non-functional on account of off season.

3. Let the CPCB and State PCB furnish a further joint factual and action taken report with regard to all the four Units (three sugar mills and one distillery unit) by 30.11.2019 by e-mail at judicial-ngt@gov.in.

List for further consideration on 11.12.2019.”

14. On 11th December, 2019, the matter was adjourned for 04.02.2020 and thereafter, it was taken up on 03.07.2020 and thereafter on 09.11.2020. The order dated 09.11.2020 is a very detailed one and sums up all the proceedings which have taken place right from the inception of the case till the said date.

15. The order dated 09.11.2020 passed by Ld. Principal Bench runs as follows;

“1. The issue for consideration is the remedial action for violation of environmental norms by M/s Dhampur Sugar Mills Ltd. (Sugar Division), District Sambhal, sugar mill units in District Bijnor and District Bareilly and Distillery in District Bareilly.

2. The matter has been earlier considered by several orders including orders dated 14.08.2019, 04.02.2020 and 03.07.2020. It will be suffice to reproduce the relevant part from the said orders. Order dated 14.08.2019 is as follows:-

“1. Grievance in this application is that M/s Dhampur Sugar Mills Ltd. (Sugar Division), District Sambhal and sugar mill units in District Bijnor and District Bareilly and Distillery in District Bareilly were operating in violation of environmental norms. The unit at Dhampur was directed to be closed

earlier vide order dated 23.04.2015 passed by this Tribunal and was allowed to reopen by subsequent order subject to certain conditions, including payment of Rs. 1 Crore towards environmental compensation and furnishing a bank guarantee of Rs. 10 lakhs. However, the pollution still continues to operate without compliance of conditions. Other units in Bijnor and Bareilly Districts are also operating illegally and so is the Distillery unit in Bareilly District.

2. On 27.06.2019, Notice was issued by this Tribunal with reference to the allegations in the application. Reply has been filed by the UP State PCB which is practically of no value. Reply has been filed by the CPCB is that the closure directions have been issued in respect of Dhampur unit of Sugar Mill. Besides, show cause notices have been issued to other two Sugar Mills at Bareilly and Sambhal. Distillery unit at Bareilly is non-functional on account of off season.

3. Let the CPCB and State PCB furnish a further joint factual and action taken report with regard to all the four Units (three sugar mills and one distillery unit) by 30.11.2019 by e-mail at judicial-ngt@gov.in.”

3. Order dated 04.02.2020 is as follows:-

“4.0 M/s Dhampur Sugar Mills Ltd (Sugar Unit), Dhampur, Bijnor – Inspected on 27.11.2019 and 28.11.2019

4.8 Observations

i. The Unit and ETP were found operational during the inspection.

ii. The Unit have valid consent to operate issued by UPPCB, under of Water Act and Air Act till 31.12.2019.

iii. The primary clarifier was found non-operational during inspection. However, as per analysis report of sample collected from ETP outlet, TSS was below detectable limit, therefore the possibility of dilution cannot be ruled out.

iv. The Unit has not installed flow meters at Mill Fibrizer, Mescuite cooling and RO reject as it was recommended in validation report of ETP for session 2018-19 by National Sugar Institute (NSI), Kanpur.

v. The Unit has not installed the Hazardous tank in the boiling house.

- vi. The treated effluent is stored in lagoon of 4000 KL capacity for utilization for irrigation purposes.
- vii. The Unit has provided Kachcha lagoon (for storage of treated effluent) having lining of PVC sheets, which is not proper and it may result in leaching under wear & tear condition.
- viii. The Unit has installed two dryers (for baggase), using the flue gases from stack of the boiler. The utilization of boiler ash at bio-compost site was observed and transport receipts were verified and found matching.
- ix. The Unit has not yet installed the Condensate Polishing Unit (CPU) for high pressure boilers (105 Kg/cm2).
- x. The Unit has installed additional MGF and ACF for tertiary treatment as the installed capacity of MGF and ACF was inadequate.
- xi. The mechanical sludge handling system for better management of sludge waste is not provided by the Unit. As reported by representative of the Unit, the purchase order has been issued for Decanter of 6 m3 per hour capacity.
- xii. The Unit has not provided and did not maintained the logbook for the generation and disposal of ETP sludge, Boiler ash and other solid wastes.
- xiii. The unit is yet to comply with CPCB direction dated 01.07.2019 by dismantling the bypass provision. However, during visit the discharge of effluent was not observed by the team.
- xiv. The team also collected the wastewater sample from the local drain (Ikara Nalla) flowing adjacent to the Unit premises. The characteristic of the wastewater is as:

Table 4 Characteristics of Wastewater flowing through Ikara drain.

Sampling point	Latitude/ Longitude	pH	COD (mg/L)	BOD (mg/L)	Sulphate (mg/L)	TSS (mg/L)	TDS (mg/L)	NH3-N (mg/L)	Phosphate (mg/L)
Ikara Drain at u/s of the Unit	29.292038/ 78.510125	5.88	438	122	137	1200	500	34	3

<i>Ikara Drain at d/s of the Unit</i>	<i>29.290151/78.5088303</i>	<i>7.11</i>	<i>776</i>	<i>177</i>	<i>73</i>	<i>1435</i>	<i>468</i>	<i>35</i>	<i>3.1</i>

xv. The value of COD in the drain waste water is more than that for raw sewage, which shows the addition of industrial effluent in to drain.

xvi. The Unit does not have STP facility for the treatment of domestic wastewater. The domestic waste water is collected, Treated in septic tank and disposed through Soak pits installed in the Units premises.

4.9 Recommendation:

- 1. The Unit must dismantle the by-pass line provided within the premises and ensure that only treated effluent shall be discharged outside the premises.**
- 2. The Unit shall maintain the log-book for the generation and disposal of ETP sludge, Boiler Ash and other solid wastes.**
- 3. The Unit shall ensure to implement the recommendation made by National Sugar Institute (NSI), Kanpur in validation report of ETP (for season 2018-19).**
- 4. The Unit shall install Condensate Polishing Unit (CPU) for high pressure boilers (105 Kg/cm²).**
- 5. The Unit shall explore the possibility of maximum utilization of treated effluent in different process.**
- 6. The lagoon must be properly lined to prevent leaching/ contamination of ground water.**
- 7. Domestic waste water (sewage) generated within the premises and colony shall be discharged after proper treatment. The Unit shall install Sewage Treatment Plant (STP) for the treatment of Sewage.**
- 8. The Unit shall obtain NOCs from CGWA for withdrawal of groundwater at earliest, as the NOC has already expired in April, 2019.**
- 9. The Unit's NOC from CGWA expired on 27.04.2019, but Unit has continued to withdraw groundwater without valid NOC. The CGWA may be requested to verify the status of ground water recharge by the unit and accordingly EC may be calculated.**

4.10 Action taken status

- 1. In crushing season 2016-17, unit was non-operational during the inspection due to off- season.**

CPCB issued compliance direction dated 02.11.2017 under section 5 of the Environment (Protection) Act, 1986 for carrying out adequacy assessment of ETP through govt. reputed institutions.

2. In crushing season 2017-18, CPCB issued show cause notice dt.07.05.2018 under section 5 of the Environment (Protection) Act, 1986 to the unit for non-compliance of BOD-53 mg/l against norms of 30 mg/l with surface water discharge norms prescribed under Environment (Protection) Rules, 1986.

3. CPCB issued compliance direction dated 16.11.2018 under section 5 of the Environment (Protection) Act, 1986 for implementation of charter.

4. In crushing season 2018-19, unit was found non-complying w.r.t. bypass of untreated effluent. BOD- 56 mg/l, TSS-35 mg/l and CPCB issued closure direction dated 23.04.2019 and 01.07.2019 under section 5 of the Environment (Protection) Act, 1986 and levied Environmental Compensation (EC) of Rs 57,30,000/-.

5. CPCB issued compliance direction dated 06.11.2019 under section 5 of the Environment (Protection) Act, 1986 and levied EC of Rs 16,20,000/- As per the revised policy dated 04.09.2019 and 01.11.2019.

6. The unit deposited EC in ESCROW account and submitted action plan for utilization of the EC amount. Action plan has been evaluated by CPCB and approved for execution.

B. 5.0 M/s Dhampur Sugar Mills Ltd (Distillery Unit), Dhampur, Bijnor

5.6 Observations:

i. On the day of inspection, the distillery unit and spent wash management system were found operational.

ii. The Unit has consent to operate at 200 KLPD under Water Act, 1974 and Air Act, 1981 both having validity up to 31.12.2019. (Annexure 2a, 2b).

iii. The Unit has three bore-wells to meet the water requirement of production and domestic consumption. Out of three bore-wells, only two are in use, as per information

provided by industry officials. Flow meters have been installed on each bore well. Average daily water consumption is calculated as 1234.44 KLPD based on three months (Sept, 2019-Nov, 2019) logbook data of flow meters. However, as per water balance data provided by Unit, fresh water requirement is 1726 KLPD.

iv. The Unit's NOC for groundwater abstraction has expired on 07.04.2019 and it has applied for renewal of NOC on 17.02.2019.

v. Total alcohol production during last six months (May, 2019-Oct,2019) was 36429.06 KL. Therefore the average production is 6071.51 KL/month i.e. 202.38 KLPD.

vi. The Unit has provided production data certified by Excise department, data of raw spent wash generation, details of MEE- concentrate and condensate generation, utilization; as well as spent wash consumption for bio-composting and incineration.

vii. As per adequacy report of April, 2019 prepared by NSI, Kanpur, the adequacy of ZLD system has been certified for 250 KLPD.

viii. The Unit has installed mass flow meters with totalizer at inlet and outlet of SMEE as well as inlet and outlet of IMEE. All mass flow meters are connected to CPCB sever. Mass flow meter readings at the time of inspection is presented below:

Table 8: Details of mass flow meters

SI. No	Mass flow meter	Totalizer reading at inlet	Totalizer reading at outlet
1.	SMEE	1218230.02 MT	278455.46 MT
2.	IMEE	107701 MT	33854 MT.

ix. The raw spent generation as per mass flow meter data during last six months (May, 2019- Oct, 2019) was 3,52,943 MT while concentrated spent wash generation for 6 months is 28736 MT (for 30 °Bx) and 86492 MT (for 58 °Bx) against consumption of 27682 MT in bio-composting and 86442 MT in incineration respectively.

x. As per logbook data of six months, overall average spent wash generation is 9.59 KL per KL of alcohol produced.

xi. As per information provided by industry officials, the average efficiency achieved through SMEE and IMEE is 67.35%.

xii. The concentrated spent wash after third stage evaporator having 30°Bx is utilized for bio composting while concentrated spent wash after the finisher evaporation having 55-60°Bx is incinerated and process condensate is treated in the Condensate-Polishing Unit (CPU).

xiii. At the time of inspection, 120 KLPD distillation Unit with integrated Multi Effect Evaporator (IMEE) was not in operation due to power tripping on 27.11.2019 morning as informed by industry officials. It could only restart on 28.11.2019 afternoon.

xiv. At the time of inspection, the density of spent wash at inlet and outlet of the standalone MEE was 1026.87 Kg/m³ and 1226.89 Kg/m³ respectively.

xv. As per logbook data, average feed to SMEE is 1044 KLPD while average quantity withdrawn after third stage is 287.8 KLPD and average conc. Spent wash from SMEE after fifth stage is 277.7 m³/day.

xvi. The Unit has installed Condensate Polishing Unit (CPU) consisting of three stage RO technology. As per information provided by the industry, the design capacity of the CPU is 2600 m³/day whereas as per revalidated adequacy report dated 29.05.2019, the design capacity of the CPU is 2500 m³/day. The sources of effluent coming into CPU include MEE condensate (2100 m³/day), spent lees (300 m³/day), cooling tower and boiler blow downs (200 m³/day). While the RO permeate (2000 m³/day) is used in process and non-process activities like molasses dilution, cooling tower make up as well as non-process activities like fire safety and gardening, the RO reject (600 m³/day) is circulated back to the MEE.

xvii. There are total of seven tanks/lagoons of which six tanks for spent wash management are within the Unit premises and one at the bio-compost yard site. Details of the tanks within premise and in bio-compost yard are given below:

Table 9: Details of lagoons for spent wash management

SI. No.	Identification	Condition during inspection	Capacity (as provided by the Unit)	Purpose
1.	Settling tank	Filled	2492KL	Used as Settling Tank
2.	Settling tank	Filled	3396KL	Used as Settling Tank
3.	Tank 1	Completely filled	1500KL	Used as buffer tank before SMEE
4.	Lagoon 3	Half filled	6050KL	Storage of conc. spent wash, raw spent wash, RO reject
5.	Lagoon 4	Empty	10,000KL	Used as standby for storage of spent wash in case of sudden breakdown of operations.
6.	Tank 2	60% filled	400KL	Storage of MEE concentrate before bio composting
7.	Tank 3	Closed tank. Conc. Spent wash (slop)	207KL	Storage-cum- Pump sump of MEE concentrate before incineration.

On the day of inspection, settling tank-1 (2492 KL) and settling tank-2 (3396 KL) were observed to be full with raw spent wash combined with RO reject and storm water accumulated in open drains in the industry premises.

Based on above data, total raw spent wash plus CPU (RO) reject stored in all tanks work out to be 10413KL (2492+3396+1500+0.5*6050).

xviii. There was a 10,000 KL capacity empty lagoon which was informed to be used for storage of effluent in cases of emergency breakdown of ZLD system.

xix. The Consent to Operate does not indicate the amount of spent wash to be utilized in bio-composting and amount to be incinerated. As per revalidated adequacy report submitted in May, 2019, 10.56 M³/hr of 30°Bx concentrated spentwash is utilized in bio composting while 22.5 M³/hr of 57.9°Bx is incinerated in incineration boiler while based on logbook data in May,2019, 36.86% is utilized in bio composting while 63.14% is used in incineration, similarly, in June, 2019, 46.93% is used in biocomposting and 53.67% is incinerated. For the period from July, 2019 to October, 2019, 10% of concentrated spentwash is utilized in

biocomposting while 89% of the spentwash is incinerated in slop furnace (as boiler fuel).

xx. The existing active area for bio-composting is 16 acres while required area for 4 cycles of biocomposting is 14.6 acres.

xxi. The unit has installed only one piezowell/piezometer in the bio-compost yard of 10 acres area.

xxii. Incinerator design capacity is 75 TPH with maximum feed rate of 26 MT/hr and at the time of inspection it was operating at feed rate of 18TPH.

xxiii. The Unit uses 25.5 TPH of MEE slop with 13-15 TPH of bagasse as fuel for the incinerator boiler. Flow meter is installed at the feed line of the slop boiler. At the time of inspection, flow meter reading was 1088.77 kg/hr. Around 30 MT/day of ash is generated from the incinerator, which is utilized for mixing with bio-compost and for land filling within the Units premises.

xxiv. The Unit has installed mass flow meters at inlet and outlet of SMEE as well as inlet and outlet of IMEE. Also, PTZ camera is installed at the bio-compost area.

xxv. The Unit has a bottling plant and sample was collected from its final outlet. The effluent from bottling plants collected, pumped and reused into cooling tower. Cooling tower blow down is treated through CPU.

xxvi. At the time of inspection, samples were collected from various locations of the distillery unit to verify the efficiency of the ZLD system. Analysis results are represented below:

Table 10: **Characteristics of spent wash and other effluents in distillery Unit**

S.No	Sample location	Parameters					
		pH	COD (mg/ l)	BOD (mg/ l)	TSS (mg/ l)	TDS (mg/ l)	TS (mg/ l)
1.	Raw spentwash	4.72	154776	-	-	-	167330
2.	MEE feed	5.42	121967	-	-	-	120590
3.	MEE concentrate	5.2	283353	-	-	-	485910
4.	Conc. Spentwash in storage tank	5.04	494155	-	-	-	496010
5.	SW in buffer tank	4.73	192825	-	-	-	196390

6.	<i>SW in lagoon of biocompost yard</i>	4.85	280935	-	-	-	260610
7.	<i>Feed to incinerator</i>	4.85	471987	-	-	-	444270
8.	<i>CPU feed</i>	4.77	2697	1230	15	1548	-
9.	<i>CPU permeate</i>	4.3	1013	323	<10	164	-
10.	<i>CPU reject</i>	4.98	9332	5083	<10	4000	-
11.	<i>MEE condensate</i>	3.52	16076	9750	-	756	840
12.	<i>Spent lees</i>	3.76	5668	3200	-	400	488
13.	<i>Final outlet of bottling plant</i>	5.41	333	234	-	-	164

xxvii. As per the analysis report, raw spentwash has COD of 154776 mg/I and total solids 167330 mg/I while raw spentwash stored in buffer tank has COD of 192825 mg/I and total solids of 196390 mg/I.

xxviii. Analysis report indicates that feed to SMEE has COD and TS of 121967 mg/I and 120590 mg/I respectively while concentrated spentwash has COD of 283353mg/I and TS of 485910 mg/I.

xxix. Samples collected from lagoons for concentrated spentwash and spentwash in the lagoon in biocompost yard indicated TS of 496010 mg/I and 260610 mg/I respectively.

xxx. As per the analysis report, CPU permeate has **pH of 4.3, COD- 1013 mg/I, BOD-323 mg/I** and TDS of 164 mg/I and is reported to be used for both process and non-process activities including fire safety and gardening. The quality of treated condensate indicate noncompliance w.r.t land discharge norms.

xxxi. The analysis report indicate acidic characteristic of CPU permeate, reject, MEE condensate and final effluent from bottling plant.

xxxii. Analysis report of sample collected from final outlet of bottling plant indicated pH 5.41, BOD of 234 mg/I and COD 333 mg/I. It was informed that effluent from bottling plant is stored in a tank and further pumped as cooling tower makeup water.

xxxiii. The team also collected wastewater sample from the local drain (Ikara Nalla) flowing adjacent to the unit premises. The characteristic of the wastewater is as follows:

Sampling point	Latitude/ Longitude	pH	COD (mg/L)	BOD (mg/L)	Sulphate (mg/L)	TSS (mg/L)	TDS (mg/L)	NH ₃ _N (mg/L)	Phosphate (mg/L)
Drain at u/s of the unit	29.292038 / 78.510125	6.88	438	122	137	1200	500	34	3
Drain at D/s of the unit	29.290151 / 78.5088303	7.11	776	177	73	1435	468	35	3.1

5.7 Recommendations.

1. The utilization of CPU permeate having pH of 4.3, COD- 1013 mg/I against 250 mg/I and BOD- 323 mg/I against 100 mg/I in non-process activities like gardening, is a violation of ZLD norms and should be stopped immediately.

2. The Unit's NOC from CGWA expired on 07.04.2019, but Unit has continued to withdraw groundwater without valid NOC. The CGWA may be requested to verify the status of ground water recharge by the unit and accordingly EC may be calculated.

3. Based on the available active area for biocomposting (16 acres), Unit can have lagoon capacity of ~9675 M³ for 30 days' storage of conc. spentwash (30°Bx) and 3116 M³ for seven days' storage of concentrated spentwash (55 °Bx) in compliance to CPCB direction dated 07.12.2015. The extra lagoon of capacity 10,000 m³ shall remain vacant and not be used without obtaining permission from UPPCB.

4. The Unit should install three piezowells around biocompost yard as per SOP for distilleries.

5.8 Action taken status of CPCB on M/s Dhampur Sugar Ltd (Distillery Sector), Bijnor

1. The Unit was issued Show Cause Notice dated 06.02.2018 for noncompliance to direction dated 14.06.2017 issued under Section 5 of Environment (Protection) Act, 1986.

2. The Show Cause Notice was revoked on 08.08.2018 following compliance to CPCB direction dated 06.02.2018.

5.9 Action taken status of UPPCB on M/s Dhampur Sugar Ltd (Distillery Sector), Bijnor, U.P

1. Based on inspection carried out by UPPCB officials on 02.08.2019, a Show cause notice dated 13.08.2019 along with imposition of environmental compensation of Rs. 6,75,000/- has been issued to the Unit for violation of ZLD norms, illegal disposal of spentwash in agricultural fields of nearby village-Fena, Chandpur.

C. 6.0 M/s Dhampur Sugar Mills Ltd (Sugar Unit), Asmoli, Sambhal.

Observations

- i. The manufacturing unit and ETP were found operational during the inspection.
- ii. The Unit have CTO (Consent to Operate) under Water Act, 1974 and Air Act, 1981 valid till 31.12.2019.
- iii. The Unit has installed flow meters at fresh water, cold water and hot water consumptions points as recommended by National Sugar Institute (NSI), Kanpur.
- iv. The Unit has installed three (3Nos) of Hazardous tanks with capacity of 43m³, 27m³ and 36m³ for collecting of wash water generated during chemical /mechanical cleaning of evaporators.
- v. The treated effluent from ETP is stored in a lagoon of 16000 KL capacity for utilization for irrigation purposes.
- vi. The Unit has installed two dryers (for baggase), using the flue gases from stack of the boiler. Dryers were found operational.
- vii. Wet scrubber (common to 70 TPH & 50 TPH boilers) was not in working condition.
- viii. The Unit has installed two stage, 2Nos Reverse osmosis (RO) plants for the treatment of 2 nos boilers blow down.
- ix. A new MGF (Multigrade Filter) and ACF (Activated Carbon Filter) for tertiary treatment was under

installation as the installed capacity of existing MGF and ACF was inadequate.

x. The Unit has not provided/maintained the logbook for the generation and disposal of ETP sludge and other solid wastes. However, for boiler ash disposal, documents of transportation and receipts were shown and verified with logbook at Bio- compost yard site of distillery of M/s Dhampur group.

xi. The team also collected the sample from drain (Lat. 28.711214, Long. 78.544426) flowing adjacent to the Unit premises. The characteristic of the wastewater is as:

Table 14: Characteristic of wastewater flowing through drain adjacent to M/s Dhampur Sugar Mills Ltd., Asmoli

Samplingpoint	pH	COD (mg/L)	BOD (mg/L)	Sulphates (mg/L)	TSS (mg/L)	TDS (mg/L)
<i>Drain after mixing</i>	7.85	70	15	238	44	1236
<i>Drain /sewage</i>	7.45	195	97	16	99	700
<i>Ponding, in Sot river</i>	7.82	73	12	127	39	1204

xii. The Unit does not have facility for the treatment of domestic wastewater and untreated sewage is discharged and mixed with treated effluent of the sugar Unit.

Recommendations:

- 1.Unit shall maintain the log-book for the generation and disposal of ETP sludge and other solid wastes including boiler ash generation.**
- 2.Unit should install Condensate Polishing Unit (CPU) for high pressure boilers (105 Kg/cm2) to treat process condensate for reuse in process. This will help in reduction of fresh water consumption.**
- 3.The Unit must ensure the maximum reuse of treated effluent in process.**

4. Wet scrubber (attached to Boilers 70TPH & 50TPH) should be made operational before start of the attached boiler.

5. All domestic waste water generated within the Unit's premises and residential colony shall be discharged after proper treatment. The Unit shall install Sewage Treatment Plant (STP) of adequate capacity for the treatment of domestic wastewater.

6. The Unit shall obtain NOCs from CGWA for withdrawal of groundwater at earliest as the CGWA NOC has already been expired in May, 2019.

7. The Unit's NOC from CGWA expired on 02.05.2019, but Unit has continued to withdraw groundwater without valid NOC. The CGWA may be requested to verify the status of ground water recharge by the unit and accordingly EC may be calculated.

6.10 Action taken status

1. In crushing season 2016-17, unit was found non-complying w.r.t. discharge standard and CPCB issued show cause notice dt.16.01.2017 under section 5 of the Environment (Protection) Act, 1986.

2. CPCB issued direction dated.29.06.2017 under section 5 of the Environment (Protection) Act, 1986 for carrying out adequacy assessment of ETP through govt. reputed institutions.

3. CPCB issued compliance direction dated 02.11.2017 under section 5 of the Environment (Protection) Act, 1986 for carrying out adequacy assessment of ETP through govt. reputed institutions.

4. In crushing season 2017-18, unit was found non-complying w.r.t. bypass of untreated effluent and CPCB issued closure dt.07.02.2018 under section 5 of the Environment (Protection) Act, 1986.

5. CPCB issued compliance direction dated 22.10.2018 under section 5 of the Environment (Protection) Act, 1986.

6. In crushing season 2018-19, unit was found complying and CPCB issued compliance direction

dt.20.05.2018 under section 5 of the Environment (Protection) Act, 1986.

D.7.0 M/s DSM Sugar Meerganj, Sidhauri Road, Meerganj, Bareilly,

7.8 Observations

i. The manufacturing unit and ETP were found operational during the inspection. The inflow to ETP (flow meter reading) during the inspection was observed 34.0 m³/hour which is equivalent to 616 KLD against the installed capacity of 1000 KLD ETP.

ii. The oil skimmer in oil grease trap was not properly installed and the level of effluent was at bottom/ below the belt.

iii. MLSS growth in Aeration tank was observed satisfactory.

iv. The Unit has not installed flow meters at power turbine cooling, boiler, wet scrubber, B & C Masseccuite cooling as it was recommended by National Sugar Institute (NSI), Kanpur in validation report of ETP for season 2018-19.

v. The Unit has installed MGF and ACF for tertiary treatment.

vi. The mechanical sludge dewatering/handling system for better management of wet sludge is not provided by the Unit.

vii. The Unit has not provided/maintained logbook for daily effluent generation and treatment, disposal of ETP sludge, Boiler ash and other solid wastes.

viii. A part of Cooling Tower overflow is being mixed with raw effluent and the rest is being treated in lamella through a separate channel. The channel carrying Cooling Tower overflow to raw effluent channel should be regulated by valve or sluice gate which may be controlled once Unit starts making refined sugar using Double Sulphitation Process.

ix. The Unit was bypassing the untreated effluent through a pipeline laid underground up to Peelakhar

River in Sindholi Village (Lat: 28.556169 and Long: 79.241446) which ultimately meets River Ramganga. This was shown to the Unit’s representatives, who accepted the discharge of wastewater and they explained that the PVC pipeline is laid for disposal of storm/rain water from the mill premises to Peelakhar.

x. Samples of untreated effluent bypassed through PVC pipe and flowing through a drain were collected by the CPCB team. The characteristics of the effluent are is given below:

Table 18: **Characteristics of by-passed effluent by M/s Dhampur Sugar Mills Ltd., Meerganj**

Sample Analysis	pH	COD (mg/l)	BOD (mg/l)	TSS (mg/l)	TDS (mg/l)	Sulphate (mg/l)	Color (Hazen)
Multiple outlet/ bypass (drain)	5.40	1306	890	248	2464	274	216
Multiple outlet/ bypass (pipe)	5.33	1640	967	212	2412	220	237

xi. Samples were also collected from the upstream and downstream of the Peelakhar river where the effluent from the bypass line was meeting with the river water. Analysis results of the water are provided in the following table. The high value of BOD and COD in down stream of the confluence point of bypass line and river shows the impact of untreated effluent being discharged by the Unit.

Table 19: **Water quality of river Peelakhar**

Sampling point	pH	COD (mg/L)	BOD (mg/L)	Color (Hazen)
River Peelakhar at u/s bypass line	8	BDL	BDL	BDL
River Peelakhar at u/s bypass line	7.7	37	5.3	BDL

xii. The Unit does not have facility for the treatment of domestic wastewater. Untreated domestic effluent was found being discharged outside the premises of the Unit through a hole in the wall of the Unit.

7.9 Recommendations:

- 1. It is proposed that direction under section 18(1)(b) shall be issued to UPPCB to take appropriate action to stop discharge of wastewater in river Peelakhar and to levy environmental compensation of suitable amount to the Unit for illegal discharge/bypass of untreated effluent.**
- 2. The Unit must dismantle the bypass line (PVC pipe) from the premises to the river Peelakhar and ensure that the untreated/partially treated effluent shall not be discharged outside the premises in any case.**
- 3. Unit must take corrective measures to prevent the leaching of untreated effluent into the soil/ ground water.**
- 4. Unit shall maintain the logbook for the generation and disposal of ETP effluent, sludge, Boiler Ash, hazardous waste and other solid wastes.**
- 5. Unit shall ensure to implement the recommendations made by National Sugar Institute (NSI), Kanpur in validation report of ETP for session 2018-19.**
- 6. Unit shall install the flow meters at the places as recommended by the National Sugar Institute (NSI), Kanpur.**
- 7. All domestic wastewater generated within the premises and colony shall be discharged after proper treatment. The Unit shall install Sewage Treatment Plant (STP) for the treatment of domestic wastewater.**

7.10 Action taken status

- 1. In crushing season 2016-17, unit was found complying and CPCB issued compliance direction dated 08.11.2017 under section 5 of the Environment (Protection) Act, 1986 for carrying out adequacy assessment of ETP through govt. reputed institutions.*
- 2. In crushing season 2017-18, unit was found non-complying and CPCB issued show cause notice dt.15.03.2018 under section 5 of the Environment (Protection) Act, 1986 for non-*

compliance w.r.t. BOD-31.2 mg/I, TSS- 111 mg/I, MLSS- 684mg/I.

3. CPCB issued compliance direction dated 26.10.2018 under section 5 of the Environment (Protection) Act, 1986 for charter implementation.

4. In crushing season 2018-19, CPCB issued show cause notice dt.14.06.2018 under section 5 of the Environment (Protection) Act, 1986 for low MLSS-1291mg/I in aeration tank and BOD at outlet was found BDL and TSS-27.4 mg/I which showed chances of dilution.

5. CPCB issued compliance direction dated 09.08.2019 under section 5 of the Environment (Protection) Act, 1986.

6. In crushing season 2019-2020, unit was found non-complying w.r.t. bypass of untreated effluent and CPCB issued direction under section 18 (1) (b) on 02.01.2020 to UPPCB. In compliance, UPPCB has imposed EC of Rs. 17,70,000/- vide letter dated 21-01-2020 to the unit.”

4. Last order dated 03.07.2020 is as follows:-

“4. Accordingly, a further report has been filed by the CPCB on concluding as follows:

“Compliance status of the units are as follows:

a. **UPPCB has imposed Environmental Compensation of Rs. 17,70,000/- on M/s Dhampur Sugar Mills, Sugar Unit, Meerganj, Bareilly.** Unit has deposited the same and by-pass line has been permanently removed.

b. UPPCB has issued directions to M/s Dhampur Sugar Mills (Distillery Unit) Dhampur, Bijnore vide letter dated 17-06-2020 under Section 33A of Water (Prevention and Control of Pollution) Act, 1974 as amended to utilize the excess stored 1100 KLD and also submit time bound action plan for dismantling the excess storage capacity.

c. **UPPCB vide letter dated 17-06-2020 has issued directions to M/s Dhampur Sugar Mills, Sugar Unit, Dhampur, Bijnore to deposit the EC amount of Rs. 16,20,000/- imposed by CPCB immediately in the account of UPPCB in compliance of directions of Hon’ble NGT.**

d. UPPCB vide letter dated 17-06-2020 has **asked CGWA for imposition of EC on M/s Dhampur Sugar Mills, Sugar Unit, Asmoli, Sambhal due to withdrawal of Ground Water without NOC.**

e. The M/s Dhampur Sugar Mills Ltd. (Sugar unit), Asmoli, Sambhal Moradabad was not found by passing the effluent in the joint inspection.

f. The status of NOC from CGWA is as follows:

- M/s Dhampur Sugar Mills Ltd (Sugar Unit), Dhampur, Bijnor has obtained NOC from CGWA.
- M/s Dhampur Sugar Mills Ltd (Distillery Unit), Dhampur, Bijnor has obtained NOC from CGWA.
- M/s DSM Sugar Meerganj, Sidhauri Road, Meerganj, Bareilly has obtained NOC from CGWA.
- M/s Dhampur Sugar Mills Ltd (Sugar Unit), Asmoli, Sambhal applied NOC from CGWA. UPPCB vide letter dated 17-06- 2020 has asked CGWA for imposition of EC on M/s Dhampur Sugar Mills, Sugar Unit, Asmoli, Sambhal due to withdrawal of Ground Water without NOC.

5. The above shows that while for two units, compensation has been assessed by the State PCB, for the other two units, compensation has been left to be determined by the CGWA. There is no consistency. If in two cases, the State PCB has assessed compensation, there is no reason why for other two units it should not have done so. It is also not clear whether the compensation is as per norms and covers the entire period of illegal drawl of ground water and whether the deterrence factor has been taken into account.

6. Let the State PCB take further action which may be overseen by the CPCB. The CPCB may after coordination with the State PCB furnish a further action taken report before the next date by e-mail at judicial-ngt@gov.in preferably in the form of searchable PDF/ OCR Support PDF and not in the form of Image PDF.

5. Accordingly, the CPCB has filed its report dated 05.10.2020:-

“Based on the deliberations held in meeting, following decisions were made:

- 1. UPPCB would request District Collector and CGWA for calculating and levying EC as per the Hon'ble NGT order dated 28.08.2019 in the matter of Paryavaran Suraksha Samiti & Anr. Versus Union of India & Ors, OA. No. 593 of 2017, which authorizes District Collector/CGWA to levy EC for illegal extraction of ground water.*
- 2. UPPCB was requested to give a statement to CPCB mentioning that UPPCB has not assessed or levied EC on these units.*
- 3. UPPCB was requested to incorporate their stand/opinion about levying of EC for ground water extraction and also the referred Hon'ble NGT order dated 28.08.2019 which authorizes COW Al District Collector to assess and levy EC in the point-wise compliance report (as per the recommendations of the committee) to be submitted by them to CPCB by 25.09.2020.*
- 4. UPPCB was requested to update CPCB about the deposition status of the levied Environmental Compensation as per the compliance report.*

As decided in the meeting, UPPCB sent its comments on the issue raised in the meeting submitting that UPPCB had sent two letters to CGWA, dt 17.06.2020 (Annexure-IV) and 21.09.2020 (Annexure-V) requesting to levy EC on M/s Dhampur Sugar Mills Ltd (Sugar Unit), Asmoli, Sambhal for extraction of ground water without obtaining NOC as CGWA is the authority to levy EC for illegal extraction of ground water. Also, UPPCB submitted updated compliance status report of the units as per the recommendations of joint inspection team to CPCB, which is annexed as Annexure-VI. As per the aforementioned report, all 04 units have complied with the recommendations of the Joint Inspection Team.

*CPCB respectfully submits that out of 04 units in the matter, only M/s Dhampur Sugar Mills Ltd (Sugar Unit), Asmoli, Sambhal has not obtained NOC from CGW A. Rest all three units have already obtained NOC from CGW A for extraction of ground water. **Therefore, EC for the illegal extraction of ground was is to be levied on the sugar unit, M/s Dhampur Sugar Mills Ltd (Sugar Unit), Asmoli, Sambhal for which CGW A is required to calculate the amount. The EC already levied on the two units (Mis Dhampur Sugar Mills Ltd (Sugar Unit),***

Meerganj, Bareilly and M/s Dhampur Sugar Mills Ltd (Sugar Unit), Dhampur, Bijnor) as mentioned above was for noncompliance with respect to environmental norms. Now, this Compliance Report is submitted in compliance of Hon'ble NGT order dated 03.07.2020."

6. I.A. No. 376/2020 has been filed on behalf of the applicant on 06.11.2020 inter-alia as follows:-

A. M/s Dhampur Sugar Mills (Sugar Unit), Dhampur, District – Bijnor

"1 to 7. xxx.....xxx xxx

(8) That some of the major violations /non-compliances committed by the said unit as observed by the said joint inspection team during the said Joint Inspection are as follows:

(i).The unit has not installed-flow meters at Mill Fibrizer, Mescuite Cooling and RO Reject as it was recommended in validation report of ETP for session 2018-19 by National Sugar Institute (NSI), Kanpur;

(ii). The Unit has not installed the Hazardous Tank in the boiling house;

(iii). The unit has provided kachcha lagoon (for storage of treated effluent) having lining of PVC sheets, which is not proper and it may result in leaching under wear & tear condition;

(iv). The unit has not yet installed the Condensate Polishing Unit (CPU) for high pressure boilers (105 kg/cm²);

(v). The Mechanical Sludge handling system for better management of sludge waste is not provided by the unit.;

(vi). The unit has not provided and did not maintained the log book for the generation and disposal of ETP sludge, Boiler ash and other solid waste;

(vii). The unit is yet to comply with CPCB direction dated 01.07.2019 by dismantling the by-pass provision.

9. That as per the aforesaid Compliance Report dated 19.06.2020 submitted by the CPCB before this Hon'ble Tribunal, the so called "Action Taken" by the statutory

authorities i.e. the CPCB as well as the UPPCB against the said unit of the Respondent No.1 is to impose an Environmental Compensation of Rs.16,20,000/- (Rupees Sixteen Lakhs and Twenty Thousand only) for 54 days (28.03.2019 to 20.05,2019).

10....xxx.....xxx xxx

11. That said Letter dated 06.11.2019 issued by the CPCB is a follow-up Letter of the previous Letters dated 23.04.2019 and 01.07.2019 issued by the CPCB. That a perusal of the aforesaid Letters i.e. Letter dated 23.04.2019; Letter dated 01.07.2019 and Letter dated 06.11.2019 issued by the CPCB reveals the below- mentioned facts:

(i). That all the aforesaid Letters i.e. Letter dated 23.04.2019; Letter dated 01.07.2019 and Letter dated 06.11.2019 issued by the CPCB pertains for the "Crushing Season — 2018-2019";

(ii). That said Unit starts its operation /production during the said "Crushing Season — 2018 -2019" on 11.11.2018;

(iii). That inspection of the said unit was conducted by the team of CPCB officials on 28.03.2019 i.e. after approximately 3.5 months after the start of the operation /production by the said unit;

(iv). That during the said inspection conducted on 28.03.2019 by the team of CPCB officials, **the said unit was found by-passing the untreated effluent through a separate channel into the outside drains adjacent to the premises of the mill;**

(v). That despite the fact that the said unit was found indulged in such a serious violation of "by-passing the untreated effluent", the officials of the CPCB instead of immediately dismantling and sealing the said by-pass arrangement of the said unit, allow the said unit to continue its operation /production and also allow the said unit to continue the by-passing of the untreated effluent during the said crushing season 2018-19 which was initially supposed to end on 15.04.2019;

(vi). That CPCB firstly issued Closure Notice vide the said Letter dated 23.04.2019 i.e. after the initial date of the end of the crushing season 2018-19 which was 15.04.2019 for the said Unit. That the major directions

issued by the CPCB vide the said Letter dated 23.04.2019 are as under:

- a) The unit shall close down its sugar manufacturing operations with immediate effect and shall not resume its operation;*
- b) The Unit shall dismantle the bypass arrangements and stop discharge of untreated /partially treated effluent discharge immediately;*

That, further, the CPCB, vide the said Letter dated 23.04.2019, has initially levied an Environmental Compensation of Rs.46,80,000/- (Rupees Forty Six Lakhs and Eighty Thousand only) [for time period from 11.11.2018 to 15.04.2019];

(vii). That although the direction to close down the manufacturing process issued by the CPCB vide the said Letter dated 23.04.2019 after the end of the crushing season (which was initially on 15.04.2019 for the said Unit) is merely a paper formality, however, the said Unit, in utter violation of the said direction issued by the CPCB, continues its operation /production till 20.05.2019;

(viii). That not only the said Unit, in utter violation of the said direction issued by the CPCB vide Letter dated 23.04.2019, continues its operation /production till 20.05.2019, but also the said Unit did not dismantled the said by-pass arrangement and keeps on discharging its untreated effluent through the said by-pass arrangement;

ix) That despite the gross violation of the directions issued by the CPCB vide the said Letter dated 23.04.2019 committed by the said Unit, the only action taken by the CPCB is to issue a second Letter dated 01.07.2019 by which the CPCB has increased the Environmental Compensation to Rs.57,30,000/- (Rupees Fifty Seven Lakh and Thirty Thousand only) [for time period from 11.11.2018 to 20.05.2019];

(x). That once again the CPCB, vide the said Letter dated 01.07.2019, issued direction to dismantle the said bypass arrangement. That, however, the said Unit once again made the mockery of the directions issued by the CPCB and did not dismantled the said by-pass arrangement;

(xi). That, thereafter, the CPCB issued the said Letter dated 06.11.2019 by means of which the CPCB has taken

the so called action against the said Unit. That some of the important "Action Taken" against the said Unit by the CPCB vide the said Letter dated 06.11.2019 are mentioned here-in-under:

(a). The CPCB, vide the said Letter dated 06.11.2019, reduced the said Environmental Compensation from Rs.57,30,000/- (Rupees Fifty Seven Lakh and Thirty Thousand only) to Rs.16,20,000/- (Rupees Sixteen Lakhs and Twenty Thousand only);

(b). The CPCB, vide the said Letter dated 06.11.2019, allow the said Unit to resume its operation for the "Crushing Season — 2019- 20"

(xii) That the CPCB has, vide its said Letter dated 06.11.2019, reduced the Environmental compensation levied on the said Unit on the pretext that the CPCB vide Office Order dated 04.09.2019 has issued a policy for levying Environmental Compensation of industries which prescribe that EC for closure direction issued on the ground on non-compliance of prescribed discharge /emission norms shall be levied for the period between the date of inspection and monitoring to the date of closing of manufacturing operation;

(xiii). That on the pretext of the aforesaid reasoning, the CPCB educed the Environmental Compensation to be levied on the said Unit by reducing the time period of violation /noncompliance i.e. from 191 days (11.11.2018 to 20.05.2019) to 54 days (28.03.2019 to 20.05.2019);

(xiv). That, however, the act of reducing the Environmental Compensation by the CPCB, as aforesaid, on the pretext of its aforesaid Office Order dated 04.09.2019 is illegal, arbitrary and without any basis. That the said Office Order dated 04.09.2019 of the CPCB deals with "EC for closure direction issued on the ground on non-compliance of prescribed discharge /emission norms" which is not the case of the said Unit. That the said Unit was, at the time of inspection held on 28.03.2019, found directly discharging its untreated effluent into the outside drain through by pass arrangement, which is a very serious offence and posses a direct threat to the local Environment and also to the life & health of the local /nearby residents;

(xv). That not only the CPCB has reduced the Environmental Compensation levied on the said unit, as

aforesaid, but also the CPCB has not found the said act of directly discharging its untreated effluent into the outside drain through by pass arrangement committed by the said Unit serious enough to include "Deterrent Factor" while calculating the Environmental Compensation to be levied on the said unit. That the CPCB has simply imposed the reduced Environmental Compensation for 54 days (28.03.2019 to 20.05.2019) without "Deterrent Factor" on the said unit;

(xvi). That moreover, the CPCB vide the said Letter dated 06.11.2019 allowed the said Unit to operate /start manufacturing for the "Crushing Season - 2019-20", as aforesaid. That, however, the CPCB, while allowing the said Unit to operate /start manufacturing for the "Crushing Season - 2019-20" vide the said Letter dated 06.11.2019, has not even bothered to inspect the said unit so as to ensure that whether the said by-pass arrangement has been dismantled by the said Unit or not.

(xvii). That a perusal of the said Letter dated 06.11.2019 issued by the CPCB shows that the CPCB has not even issued direction to dismantle the said by-pass arrangement while allowing the said Unit to operate /start manufacturing for the "Crushing Season - 2019-20" vide the said Letter dated 06.11.2019;

(xviii). That apparently the said by-pass arrangement continued in existence till 03.12.2019 (as mentioned in the said Compliance Report dated 19.06.2020 filed by the CPCB before this Hon'ble Tribunal). That, however, both the statutory authorities i.e. CPCB and UPPCB has not bothered to levy the Environmental Compensation on the said Unit for the time period from 28.03.2019 (date of observation) to 03.12.2019 (date of compliance).

Copies of the Letter dated 23.04.2019, Letter dated 01.07.2019 and Letter dated 06.11.2019 issued by the CPCB (downloaded from the web-site of the CPCB) is annexed as Annexure: A (Cony).

(12). That the other major violation /non-compliance committed by the said Unit, as observed by the said joint inspection team during the said Joint Inspection of the said unit held on 27.11.2019 and 28.11.2019 was to store the treated effluent in a permeable lagoon/kachcha lagoon which may result in the penetration of the said treated effluent through the ground /soil below and may result in the contamination of the ground water of the area

concerned. That in this context this Hon'ble Tribunal may take note of the below-mentioned submissions of the Applicant:

i. That the said violation /non-compliance committed by the said Unit (to store the treated effluent in a permeable lagoon /kachcha lagoon) was observed by the officials of the CPCB during the inspection of the said Unit held on 22.03.2018;

ii. That the recommendation to store the treated effluent in an impermeable lagoon was made by the NSI, Kanpur in its revalidated adequacy assessment report which was submitted by the said Unit vide Letter dated 10.10.2018;

iii. That the CPCB, vide Letter dated 16.11.2018, issued direction to implement the observations and recommendations made by the NSI, Kanpur in its aforesaid revalidated adequacy assessment report;

iv. That, however, apparently, the said Unit has not complied with the said direction of the CPCB issued vide Letter dated 16.11.2018 and therefore, the said Joint Inspection Team of the CPCB and UPPCB in its said Compliance Report dated 31.01.2020 filed before this Hon'ble Tribunal has observed that the said Unit has provided kachcha lagoon (for storage of treated effluent) having lining of PVC sheets, which is not proper and it may result in leaching under wear & tear condition.

v. That, however, both the statutory authorities i.e. CPCB as well as UPPCB has not taken any action against the said unit for the said violation /non-compliance and the said statutory authorities has not even bothered to impose Environmental Compensation on the said Unit for the said violation /non-compliance.

Copy of the Letter dated 16.11.2018 issued by the CPCB (downloaded from the web-site of the CPCB) is annexed as Annexure: B.

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13. That with respect to the other violations /non-compliances_ committed by the said Unit, as observed by the said joint inspection team during the said Joint Inspection of the said unit held on 27.11.2019 and

28.11.2019, it is submitted that the direction with respect to the said violations were issued by the CPCB vide its aforesaid Letter dated 16.11.2019, which apparently the said Unit has not complied with. That, however, both the statutory authorities i.e. CPCB as well as UPPCB has not taken any action against the said unit for the said violation /non-compliance and the said statutory authorities has not even bothered to impose Environmental Compensation on the said Unit for the said violation/non-compliance.

14. It is submitted that while imposing the Environmental Compensation on the said Unit for the two major violations committed by the said Unit, namely, (a) by-passing the untreated effluent through a separate channel into the outside drains adjacent to the premises of the mill and (b) to store the treated effluent in a permeable lagoon /kachcha lagoon, the CPCB has violated its own Report /Guideline for EC Calculation”

B. Sambhal Unit-

“21 That the said Unit of the Respondent No.1 has a history of serious violations /non-compliances, however, neither any Environmental Compensation has ever been imposed on the said Unit nor any prosecution proceedings has been initiated against concerned officials of the said Unit by the statutory authorities i.e. CPCB as well as UPPCB.

22. That the inspection of the said Unit of the Respondent No.1 was conducted by the officials of the CPCB on **08.12.2016**. That during the said inspection, the said Unit was found **discharging the spray pond overflow outside the premises** of the said Unit. That, moreover, during the said Inspection the said Unit was also found non-complying with respect to the prescribed standards of BOD of the ETP effluent sample. That, however, no action was taken against the said Unit by the statutory authorities i.e. CPCB as well as UPPCB and the said Unit was allowed to start its operation vide a letter dated 02.11.2017 issued by the CPCB. Copy of the Letter dated 02.11.2017 issued by the CPCB (downloaded from the web- site of the CPCB) is annexed as **Annexure: D**.

23. That again the inspection of the said Unit of the Respondent No.1 was conducted by the officials of the CPCB on **10.01.2018**. That during the said inspection, the said Unit was again found **to be by-passing untreated**

effluent discharge from the spray pond overflow and cooling tower 'lowdown being discharged outside the premises region through the drain — connecting to SOT river which meets river Ganga.

24. That, however, once again the officials of the CPCB neither bothered to dismantle and seal the said by-pass arrangement immediately nor bothered to immediately stop the manufacturing process of the said Unit, rather the CPCB preferred to issue the direction to close down the manufacturing process and also the direction to dismantle the said by-pass arrangement on 07.02.2018 i.e. approximately after one month of the said inspection.

25. xxx.....xxx..... xxx

26. That, till date, the statutory authorities i.e. the CPCB as well as UPPCB, in gross violations of the aforesaid Report / Guidelines for EC Calculation issued by the CPCB, does not bother to conduct a detailed investigation from expert institution / organisation so as to know the actual extent of damage caused to the environment due to aforesaid violation / non-compliance committed by the said Unit, namely, (a) discharging the spray pond overflow outside the premises and (b) by-passing untreated effluent discharge from the spray pond overflow and cooling tower blow-down being discharged outside the premises region through the drain connecting to SOT river which meets river Ganga.”

C. Bareilly Unit:-

27. That in compliance of the directions issued by this Hon'ble Tribunal, the joint inspection of the Sugar Unit of M/s Dhampur Sugar Mills situated at Meerganj, District - Bareilly (U.P.) was conducted by the Joint Inspection Team of the CPCB and UPPCB on 29.11.2019.

28. That some of the major violations / non-compliances committed by the said Unit as observed by the said Joint Inspection Team during the inspection of the said Unit conducted on 29.11.2019 are as under:

- (i) The said Unit was found by-passing the untreated effluent through a pipeline laid underground up-to Peelakhar River in Sindholi Village which ultimately meets Ramganga River;

(ii) The said Unit was found discharging its untreated domestic effluent outside the premises of the said Unit through a hole in the wall of the said Unit.

29. That the so-called "Action taken" by the statutory authorities i.e. CPCB and UPPCB against the said Unit for committing such serious violations /non-compliances is to impose an Environmental Compensation of Rs.17,70,000/- (Rupees Seventeen Lakh and Seventy Thousand only). That in the case of this Unit of the Respondent No.1 also, the statutory authorities i.e. CPCB and UPPCB does not find the illegal act of "discharging the untreated effluent directly into the River" serious enough to initiate the prosecution proceedings against the officials of the said Unit responsible for the said violation /non-compliance.

30. xxx.....xxx..... xxx

31. It is pertinent to mention here that the said Unit of the Respondent No.1 has also a history of violations /non-compliances. That during the inspection of the said Unit by the officials of the CPCB held on 10.01.2017, it was found that the said Unit has not integrated all process stream and route them to ETP. That during the inspection of the said Unit by the officials of the CPCB held on 25.01.2018, the treated effluent sample taken from the outlet of the ETP of the said Unit was found non-compliant with respect to BOD & TSS norms. That officials of the CPCB during the inspection held on 25.01.2018 observed that the aeration tank of the ETP system of the said Unit was not properly stabilised due to poor operation and maintenance of the ETP system and the treated effluent discharged does not meet the prescribed standards. That again during the inspection held on 28.03.2019, the officials of CPCB again observed that the aeration tank of the ETP system of the said Unit was not properly stabilised due to poor operation and maintenance of the ETP system and there is possibility of dilution of ETP system. Copies of the Letter dated 08.11.2017, Letter dated 15.03.2018 and Letter dated 14.06.2019 issued by the CPCB (downloaded from the web-site of the CPCB) is annexed as Annexure: F (Colly).

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37. That it is pertinent to bring to the notice of this Hon'ble Tribunal, that the case of the Units of the Respondent No.1 is not the only case where the CPCB has shown extreme

leniency /favouritism towards the violator and despite serious violations, has reduced the Environmental Compensation to a great extent by reducing the time period /days of violation on the pretext of the aforesaid Office Order dated 04.09.2019. That the modus — operandi adopted by the officials of the CPCB is same in all such cases, which is as under:

- a) Conduct the inspection of the unit of the violator after passing off substantial time period of the crushing season;
- b) At first levy Environmental Compensation for whole crushing period on the unit of the violator;
- c) Issue Closure Notice after the end of the crushing season;
- d) After conducting meeting(s) with the representatives of the violators, reducing the Environmental Compensation substantially by reducing the time period /days of violation on the pretext of the aforesaid Office Order dated 04.09.2019;
- e) Finally, resuming the operation /manufacturing of the units of the violators before the next crushing season.”

7. No sufficient ground has been explained to meet out the irregularities nor environmental compensation have been calculated by the CPCB and UPPCB for which they are directed to submit a further action taken report on these points.

8. It is further argued that previously joint Committee calculated environmental compensation and later on it was re-examined and re-calculated as per Annexure 1 below which is lower than previous calculation and no sufficient reason has been explained. Either of the two calculations may be wrong. The environmental compensation and its calculation are intended to prevent the further mischief and irregularities by the industrial units and is penal in nature apart from recovering cost of restoration.

Table 1 has been annexed to the IA 376/2020 which is as follows:

S. N.	Industry Name	Operation Period (2018-19)	Date of Inspection and Main Observation	Closure Notice and E.O Levied	2 nd Notice Date (Resume Operation) and Reduced E.C.	Previous Inspection Date
1	Anamika Sugar Mills	04.11.2018 To 12.05.2019	29.03.2019 1) Unit was found to	23.05.2019 Rs.57,60,00/-	06.11.2019 Rs.13,50,00/-	Date: 06.02.2018 Unit is discharging untreated

	Limited, Bulandsha shr (U.P.)		By-pass dark grey colour waste water/ untreated effluent through a cemented channel under the boundary wall. The untreated effluent was found stored in low-lying non-lined permeable area , across the road; 2) Mill was discharging colony domestic sewage into road side low lying areas			sewage outside the premises through a channel and there is possibility of discharging the untreated effluent of the process or spray pond through this channel
2	Avadh Sugar & Energy Limited, Shahjahan pur (U.P.)	11.11.2018 to 06.05.2019	29.03.2019 An underground pipeline was traced carrying the industrial effluent from the unit which discharges into the drain behind the unit. It was informed by the local people that the discharge from the said pipeline is made during the night;	30.05.2019 Rs.1,39,20,000/-	07.11.2019 Rs.11,70,000/-	30.01.2018 Spray pond is partially bypassed and discharged directly outside the premises through channel into drain which meets Garra River and ultimately to Ganga River;
3	Bajaj Hindustan Limited, Shahjahan pur (U.P.)	10.11.2018 to 22.04.2019	Date: 30.03.2019 Non-compliance with respect to the parameters, namely, BOD and COD of treated effluent samples from lagoon.	28.05.2019 Rs.1,28,40,000/-	06.11.2019 Rs.7,20,000/-	08.03.2018 1) Non-compliance with respect to the parameters, namely, BOD, COD and TSS of treated effluent samples; 2) Non-compliance with respect to the parameters, namely, BOD, COD and TSS of treated effluent samples from lagoon.
4	Bisalpur Kisan Sahkari Chini Mills Limited, Bilaspur (U.P.)	27.11.2018 to 14.05.2019	26.03.2019 1) Unit has multiple outlets for the discharge of treated /untreated effluents; 2) Spray pond overflow is directly discharged outside the unit's premises	24.05.2019 Rs.1,37,70,000/-	06.11.2019 Rs.16,50,000/-	01.02.2018 1) Treated effluent from secondary clarifier outlet was found to be discharged directly into the drain; 2)Inlet channel of

			without any treatment;			ETP was found broken and untreated effluent was bypassed to outside nallah; 3) Spray pond tank was also found broken and spray pond overflow was bypassed without any treatment to outside nallah.
5	Indian Potash Limited (Sugar Unit), Meerut (U.P.)	15.11.2018 to 28.04.2019	04.04.2019 1) Non-compliance with respect to the parameters, namely, BOD, COD and TSS of treated effluent samples; 2) Non-compliance with respect to the parameters, namely, BOD and COD of treated effluent samples from lagoon; 3) Unit used a Kaccha Lagoon for storage of treated effluent.	30.05.2019 Rs.1,34,10,000/-	07.11.2019 Rs.7,50,000/-	05.01.2018 1) Untreated spray pond overflow is stored in lagoon; 2) Untreated effluent from the storage is discharged on land; 3) Unit is having two outlets.
6	Kisan Sahkari Chini Mill, Amroha (U.P.)	06.11.2018 To 12.05.2019	26.03.2019 1) Non-compliance with respect to the parameters, namely, BOD, COD and TSS of treated effluent samples; 2) Ponding of waste water was observed within the industry premises and analysis result of sample shows BOD — 805 mg/l, COD — 1589 mg/l and TSS — 151 mg/l indicating discharge of untreated effluent; 3) Non-compliance with respect to the parameters, namely, COD and TSS of treated effluent samples from lagoon.	28.05.2019 Rs.1,51,20,000/-	06.11.2019 Rs.14,40,000/-	17.01.2018 1. Non-Compliance to the parameters, namely, BOD, COD and TSS of treated effluent samples; 2. Operation and maintenance of in aeration tank of ETP was poor as the MLSS of the aeration tank was 334 mg/l' 3. Tertiary treatment system was not in use and effluent was discharged from secondary clarifier

7	Kisan Sahkari Chini Mills Limited Badaun (U.P.)	30.11.2018 to 13.04.2019	26.03.2019 1) No valid CTO under Water & Air Acts and Hazardous Waste Authorization; 2) The unit has not made proper boundary wall to surround the ETP area to avoid the unauthorized encroachment and discharge of treated /untreated waste water;	21.06.2019 Rs.40,50,000/-	07.11.2019 Rs.5,70,000/-	24.01.2018 1. Treated effluent discharge is 374 l/ton which is higher than permissible limit (200 l/ton); 2. MLSS in aeration tank was 918 mg/l which indicates unestablished ASP system operation and maintenance of ETP system;
8	Kisan Sahkari Chini Mills Limited, Bareilly (U.P.)	28.11.2018 to 12.05.2019	28.03.2019 1) No valid CTO under Water & Air Acts (CTO expired on 31.12.2017); 2) Spray pond overflow of unit was being directly discharged outside premises of the unit without any treatment; 3) Non-compliance with respect to the parameters, namely, BOD and COD of effluent samples from lagoon.	24.05.2019 Rs.1,31,40,000/-	06.11.2019 Rs.13,80,000/-	24.01.2018 1) Unit has bypass arrangement for Untreated effluent through drainage to local drain. Analysis of effluent sample collected from bypass drain showed BOD — 656 mg/l, TSS — 438 mg/l and COD — 1130 mg/l which indicates discharge of untreated effluent; 2. Final waste water discharge is 235 l/ton which is higher than permissible limit
9	Kisan Sahkari Chini Mills Limited, Najibabad (U.P.)	12.11.2018 to 14.05.2019	20.03.2019 1) Non-compliance with respect to the parameters, namely, BOD, and COD of treated effluent sample; 2) Unit has not installed mechanical sludge handling system as well as colour coding in the process pipeline;	23.05.2019 Rs.55,20,000/-	07.11.2019 Rs.15,00,000/-	08.03.2018 1) MLSS in aeration tank was 458 mg/l which indicates unestablished ASP system due to poor operation and maintenance of ETP system; 2) Sludge drying beds were overflowing in ETP plant

10	Kisan Sahkari Chini Mills Limited, Pilibhit (U.P.)	25.11.2018 To 21.04.2019	25.03.2019 1) The Unit was found by-passing untreated effluent into outside nallah; 2) Inlet of the ETP was found with provisions of bypass of the untreated effluent to outside nallah and during visit bypass was observed; 3) The spray pond overflow of the unit was being directly discharged outside premises of the unit without any treatment.	24.07.2019 Rs.1,01,40,000/-	06.11.2019 Rs.37,20,000/-	01.02.2018 1.The treated effluent from secondary clarifier outlet was found to, be discharged directly into the drain; 2.The Unit has by-pass arrangement for untreated effluent from spray pond overflow outside the premises 19.12.2018 1) Unit was found operations but the ETP was found non-operational; 2) InletLine (Open Channel) of the ETP was found with provision of bypassing the untreated effluent to outside nallah; 3) The spray pond verflow was being directlydischar ged outside the premises of the unit without treatment.
11.	Kisan Sahkari Chini Mills Limited, Shahjahanpur (U.P.)	18.11.2018 To 12.05.2019	30.03.2019 1) Spray pond overflow was discharged directly without any treatment outside the premises; 2)The unit has multiple outlets for discharge of effluent; 3)The unit has permission for one bore- well for ground water extraction from the CGWA but has two functional bore-	06.06.2019 Rs.1,40,10,000/-	06.11.2019 Rs. 13,20,000/-	29.01.2018 1. Analysis of treated effluent sample shows non-compliance with respect to BOD & COD 2. Analysis of underground water Total Hardness – 270 mg/I, Ca ²⁺ - 75.2 and Alkalinity – 357 mg/I, which is higher than the permissible limit.

			well; 4) Boiler ash is dumped indiscriminately within the premises.			
12.	Lakshmiji Sugar Mills Co. Ltd., Raja — ka — Sahaspur, Bilari, Moradabad (U. P.)	01.12.2018 To 18.04.2019	02.04.2019 1) Lagoon made for storing treated effluent was found filled with molasses; 5) The unit discharges treated effluent into a drain (near railway track) outside the premises; 6) Unlined / permeable lagoon was also observed within the unit's premises near the main gate containing diluted molasses.	21.06.2019 Rs.41,70,000/-	06.11.2019 Rs.5,10,000/-	09.01.2018 1. The unit does not have valid authorization of Hazardous Waste Management; 2. The treated effluent through the pipeline which opens outside into nearby drain; 3. At the time of visit, the drain was found carrying the hot effluent being discharged from the industrial premises. The drain shortly opens into the Sot River which is a tributary river of River Ganga.
13.	P.B.S Foods (Sugar) Pvt. Ltd., Chandpur, District — Bijnor (U.P.)	25.11.2018 To 14.05.2019	18.03.2019 1) Channel carrying waste water was observed coming out of the unit's premises and discharging into nearby agricultural fields; 2) The unit has not installed the spray pond overflow treatment system	Rs.1,37,10,000/-	Rs.16,20,000/-	The unit does not have provision for the treatment of spray pond overflow. The unit has not installed flow meter at the overflow of the spray pond and overflow water is discharged through open drain into a kachcha pond which poses threat to ground water pollution.
14.	Rana Sugars Ltd., Rampur (U.P.)	15.11.2018 To 09.04.2019	03.04.2019 1) Untreated water was found logged at various places inside the premises of the unit; 2) Inlet channel was found full and overflowing; 3) Spray pond overflow was found mixing with the	30.05.2019 Rs.43,80,000/-	06.11.2019 Rs.2,10,000/-	07.03.2018 1) The unit was in operation. However, ETP was non-operational at the time of inspection; 2) The unit does not have provision for

			<i>treated effluent which is directly connected to lagoon.</i>			<i>treatment of spray pond overflow.</i>
15.	<i>Rana Sugars Ltd., Moradabad (U.P.)</i>	<i>14.11.2018 To 15.04.2019</i>	<i>01.04.2019</i> 1). Bypass arrangement was identified in ETP inlet line near sugar storage godown which was temporarily blocked by sand bangs. 2). Water logging of treated/untreated effluent on open land near industry premises was observed; 3) Temporary pumping arrangement with flexible pipelines were found inside the premises having outlet in a drain parallel to Industrial premises and along the roadside; 4) An opening was found in the secondary treated water collection chamber from clarifier which can be directly discharged into outlet slump without treating it from sand and activated carbon filter; 5) The unit has unlined permeable lagoon outside the premises; 6) Leakage /overflow from spray pond was observed to be accumulating in a kachcha channel near the spray pond boundary.	<i>26.04.2019 & 21.06.2019</i> <i>Rs.45,90,000/-</i>	<i>07.11.2019</i> <i>Rs.4,50,000/-</i>	
16.	<i>Rudra Bilas Kisan Sahkari Chini Mills Ltd., Bilaspur (U.P.)</i>	<i>30.11.2018 To 13.04.2019</i>	<i>03.04.2019</i> 1.Treated effluent are stored in lagoon and utilized in cleaning and irrigation purposes; 2. Lagoon was found full of algae, no proper cleaning done;	<i>12.06.2019</i> <i>Rs.40,50,000/-</i>	<i>07.11.2019</i> <i>Rs.3,30,000/-</i>	<i>08.03.2018</i> The unit does not have provision for treatment of spray pond overflow

17.	Wave Industries Pvt. Ltd., Bijnor (U.P.)	28.11.2019 To 12.04.2019	19.03.2019 The unit was bypassing the untreated effluent from inlet channel of ETP to nearby land and pond in nearby land;	06.05.2019 Rs.75,60,000/-	06.11.2019 Rs.14,40,000/-	16.01.2018 Treated effluent is discharged into a municipal drain by the unit.
18.	Wave Industries Pvt. Ltd., Bulandshahr (U.P.)	26.11.2018 To 15.04.2019	19.03.2019 The unit has not obtained valid consent to operate under Water Act, 1974 and Air Act, 1981.	14.06.2019 Rs.1,13,70,000/-	07.11.2019 Rs.8,40,000/-	05.02.2018 The unit was operational. However, ETP was functional and treated effluent was not flowing from outlet of ETP. Therefore, lagoon was empty and sample could not be taken from outlet of ETP due to non-availability of treated water
19.	Wave Industries Pvt. Ltd., Dhanaura, J.P. Nagar (U.P.)		25.03.2019 A channel was found before inlet which should be emptied and dismantled and waste water should be treated through ETP	24.06.2019 Rs.32,10,000/- (30.01.2018 to 16.05.2018) For crushing season 2017-18	28.11.2019 Nil	30.01.2018 1) Huge amount of water logging was found just outside the boundary wall of the industry in an unlined pool, on the north- west side, this area has an opening of pipelines coming from ETP, which as per industry representative is meant for irrigation purposes: 2) Analysis of sample collected from unlined pool adjacent to boundary wall as found non-compliant with respect to BOD, COD and TSS parameters.
20.	Mawana Sugar Mills,	04.01.2018 To 16.05.2019	26.03.2019 The unit has open	21.06.2019 Rs. 39,90,000/-	22.11.2019 Nil	04.01.2018 1) the unit does not have

	Mawana, (UP)		pipeline system for transferring effluent to the ETP and some effluent was seen accumulate in the sugar cane field near the ETP inlet drain.			provision for the treatment of spray pond overflow; 2) The unit was bypassing the untreated effluent from the process into the drain outside the premises of the unit in the front gate of the unit 28.02.2018 Bypass arrangements opening into outside drain (Municipal Drain was found blocked /closed at the time at inspection. However, an open unlined drain was observed which was opening outside boundary of industry situated around 150-200 meters from Ram Mandir towards the rear side boundary wall in the industry premises and was found discharging into the Mawana drain passing through the field.
21.	U.P. State Sugar Corporation Ltd. Meerut (UP)	11.11.2018 To 15.05.2019	02.04.2019 The unit was bypassing the untreated effluent from ETP inlet channel and equilisation tank of ETP to the adjacent drain (Shekhpur drain) which meet Kadrabad drains and ultimately falls into the East Kali	06.05.2019 Rs. 90,60,000/-	07.11.2019 Rs. 8,70,000/-	

9. We have heard learned Counsel for the parties appearing before us. Learned Counsel for the applicant submitted that there is large scale violation of Environmental Law as shown by the above table but on account of collusion of the State PCB, no effective steps are taken.

10. Learned Counsel for the State PCB states that according to the understanding of the State PCB, if somebody has applied for extraction of ground water, earlier NOC continues. In the present case, the earlier NOC was upto 02.05.2019 and the unit applied for extension on 04.04.2019 and on that account no action has been taken for illegal extraction of ground water. Reliance has been placed on Notification dated 24.09.2020 issued by the Ministry of Jal Shakti stating as follows:-

“11(vi). If the application for renewal is submitted in time and the CGWA/the respective State/UT Authority is unable to process the application in time, No Objection Certificate shall be deemed to be extended till the date of renewal of No Objection Certificate.”

11. As against above, learned Counsel for the applicant submits that this Tribunal has specifically held that ground water can be allowed to be extracted only in the light of water availability data and if water level is at safe levels. No general permission can be granted without evaluation and by default. In this regard, reliance has been placed on the order of this Tribunal dated 20.07.2020 in Original Application No. 176/2015, Shailesh Singh v. Hotel Holiday Regency, Moradabad & Ors. as follows:-

“1 to 38..xxx.....xxx.....xxx

39. In the light of the above discussion, we direct as follows:

a. MoJS may ensure requisite manning and effective functioning of CGWA so as to ensure **sustainable ground water management** in terms of the Hon’ble Supreme Court mandate by which CGWA was created.

b. Let CGWA and MoJS comply with the directions of this Tribunal in orders dated 3.1.2019, 7.5.2019 and 11.9.2019, to have a meaningful regulatory regime and institutional mechanisms for ensuring prevention of depletion and unauthorized extraction of ground water and sustainable management of groundwater in OCS areas. **Regard must be had to water availability and safe levels to which its drawal**

can be allowed, especially for commercial purposes, based on available and assessed data in each “Assessment unit”. Procedures for assessment of individual applications and institutional mechanism may be clearly laid down.

c. As per orders dated 3.1.2019, undertaking an impact study in light of projected data for the next 50 years (in phased manner with action plan decade-wise).

d. There must be **no general permission for withdrawal of ground water, particularly to any commercial entity, without environment impact assessment of such activity on individual Assessment units in cumulative terms covering carrying capacity aspects by an expert committee.** Such permission should as per Water Management Plans to be prepared in terms of this order based on mapping of individual assessment units. Any permission should be for specified times and for specified quantity of water and not in perpetuity, and be necessarily subject to digital flow meters which cannot be accessed by proponents, with mandatory annual calibration by authorized agency at proponents' cost. **An annual review by independent and expert evaluation must audit and record ground water levels as well as compliance with the conditions of the permission.** Such audits must be published online for transparency and to track compliance and year-on-year change in ground water levels, and swift action taken against those who fail audit, including withdrawal of permission, blacklisting, initiation of prosecution and recovery of deterrent compensation as per CPCB regime. Records must be maintained online and for a sufficient and reasonable time.

e. As observed in para (a) above, **all OCS assessment units must undergo water mapping. Water Management Plans need to be prepared for all OCS assessment units in the country based on the mapping data, starting with Over-exploited blocks. The Water Management Plans, data on water availability or scarcity and policy of CGWA must be uploaded on its website for transparency and public involvement. Such exercise may be done expeditiously, preferably within next three months.”**

12. In view of above, learned Counsel for the applicant submitted that no order to the contrary can prevail in view of Section 33 of the National Green Tribunal Act, 2010 under which the order of this Tribunal has overriding effect over any other order issued under any other law. No executive order can annul the orders of the Tribunal which are binding, unless set-aside by a higher Judicial forum. The direction of this Tribunal under section 15 read with Section 20 of the NGT Act, 2010 is binding on the Ministry of Jalshakti which has to be followed by the State PCB. Moreover, the principle of sustainable development will have no value if ground water is allowed to be extracted merely on account of pendency of an application without evaluation of availability of adequate ground water and compliance of conditions which may be necessary to be laid down. This will also be failure of directions of the Hon'ble Supreme Court requiring the CGWA to regulate extraction of groundwater. We find merit in the contention.

13. Accordingly, we direct the State PCB to take further appropriate action by way of prohibiting any activity in violation of law, initiating prosecution and recovering compensation as per applicable norms, following due process of law. The State PCB may also respond to the IA filed by the applicant with particulars in the table annexed to the application, reproduced above and file an action taken report before the next date by e-mail at judicial-ngt@gov.in preferably in the form of searchable PDF/ OCR Support PDF and not in the form of Image PDF. The CPCB and State PCB may undertake necessary inspection for the purpose.

List for further consideration on 11.02.2021.

A copy of this order be forwarded to the CPCB, the State PCB, the Secretary, Ministry of Jal Shakti and the CGWA by e-mail for compliance.

Adarsh Kumar Goel, CP

S.K. Singh, JM

Dr. S.S. Garbyal, EM

Dr. Nagin Nanda, EM

November 09, 2020

Original Application No. 539/2019”

Reply by CPCB.

16. In compliance of the directions, Central Pollution Control Board has filed its reply dated 26.03.2021. It is submitted that the directions to the M/s Dhampur Sugar Mills Ltd. (hereinafter referred as 'unit') were issued under Section 5 of the Environment (Protection) Act, 1986. As per Section 16 (c) of the National Green Tribunal Act, 2010, National Green Tribunal is the Appellate Authority with respect to the directions issued under Section 5 of the Environment (Protection) Act, 1986.

The said section of the National Green Tribunal Act, 2010 is as follows:

"Section 16 (c) Tribunal to have appellate jurisdiction: Any person aggrieved by directions issued, on or after the commencement of the National Green Tribunal Act, 2010, by a Board, under section 33A of the Water (Prevention and Control of Pollution) Act, 1974 (6 of 1974) may, within a period of thirty days from the date on which the order or decision or direction or determination is communicated to him, prefer an appeal to the Tribunal"

17. It is next submitted that this petition may be rejected as directions have been issued by CPCB & UPPCB in pursuance of orders of the National Green Tribunal, Principal Bench, New Delhi and the petitioner has an alternative, efficacious, legal and speedy remedy available with NGT.

18. It is further submitted that this Tribunal vide order dated 14.08.2019 in the matter of Adil Ansari Vs. M/s Dhampur Sugar Mills Ltd. and Ors. O.A. No. 539/2019 directed CPCB and UPPCB to furnish a joint factual and action taken report with regard to four units (three

sugar mills and one distillery unit) of M/s Dhampur Sugar Mills Ltd. thereafter, both statutory authorities had carried out a joint inspection during 27.11.2019 to 29.11.2019 of the following units:

- “a. Dhampur Sugar Mills, Sugar Unit, Asmoli, Sambhal*
- b. Dhampur Sugar Mills, Sugar Unit, Dhampur, Bijnor*
- c. Dhampur Sugar Mills, Sugar Unit, Meerganj, Bareilly*
- d. Dhampur Sugar Mills, Distillery Unit, Dhampur, Bijnor.”*

19. Thereafter, the compliance report was filed by CPCB and UPPCB before this Tribunal on 31.01.2020. The CPCB issued directions to UPPCB vide letter dated 05.03.2020 and 14.05.2020 under Section 18 (1) (b) of the Water (Prevention and Control of Pollution) Act, 1974 to comply with the following;

- “i. UPPCB shall issue appropriate directions to the four units to ensure compliance of observations/ recommendations made in the joint inspection reports filled in NGT in O.A. No. 539/2019 in the matter of Adil Ansari vs M/s Dhampur Sugar Mills Ltd. and Ors.*
- ii. UPPCB shall issue appropriate direction to M/s Dhampur Sugar Mills, Sugar Unit, Meerganj, Bareilly, to deposit Rs.16,20,000/- toward EC as levied by CPCB vide direction dated 06/11/2019 under section 5 of Environment (Protection) Act, 1986 into UPPCB account open for such fund.*
- iii. UPPCB shall take appropriate legal action for closure and prosecution of M/s Dhampur Sugar mills Ltd. (Sugar unit), Asmoli, Sambhal Moradabad and Dhampur Sugar Mills, Sugar Unit, Meerganj, Bareilly, which were found to be bypassing the effluents into drains.*
- iv. Compensation for withdrawal of ground water without permission will be recovered by these units.”*

20. It is further submitted that a joint meeting was convened by CPCB with officials of UPPCB to review the action taken in compliance to this Tribunal's order. The relevant submissions regarding each Unit is as follows.

M/s Dhampur Sugar Mills, Sugar Unit, Dhampur, Bijnor

21. It is submitted that CPCB conducts annual inspection of the sugar units during each crushing season. Generally, the crushing season of sugar units starts from October- December every year and continues up to April-May. A one-month time is necessary by the Sugar unit to stabilize ETP, hence inspection of the sugar units is planned from January to March every year. As there are 122 number of sugar units in Ganga main stem states that are categorized as Gross Polluting Industries (GPIs), these units are inspected as per the schedule prepared based on the work force availability.

22. The inspection of the above unit was undertaken on 28.03.2019 and direct discharge of untreated effluent into the outside drain through by-pass arrangement was found which possess direct threat to the environment.

23. Accordingly, CPCB issued Closure directions on 23.04.2019 to M/s Dhampur Sugar Mills (Sugar Unit), Dhampur, Bijnore under Section-5 of the Environment (Protection) Act, 1986, and imposed Environmental Compensation of Rs. 46,80,000/- after the lab analysis

results confirmed the non-compliance w.r.t effluent discharge standards (period of violation from 11.11.2018 to 15.04.2019).

24. However, since the unit kept operating till 20.05.2019 in violation of the closure directions (as informed vide unit's reply dated 10.05.2019), therefore, CPCB vide its subsequent direction dated 01.07.2019, recalculated the EC amount to Rs. 57,30,000/-considering period of violation from 11.11.2018 to 20.05 2019.

25. The Environmental Compensation has been imposed in compliance to this Tribunal order in the matter of O.A. No. (WP (CIVIL) No. 375/2012), Paryavaran Suraksha Samiti & Anr. Vs. Union of India & Ors., which directed CPCB that:

"It may take penal action for failure, if any, against those accountable for setting up and maintaining STPs, CETPs and ETPs. CPCB may also assess and recover compensation for damage to the environment and said find may be kept in a separate account and utilized in terms of an action plan for protection of the environment".

26. However, some sugar units filed Appeals before this Tribunal vide Appeal No. 34/2019 (WZ) titled M/s Madhukar Sahakari Sakhar Karkhana Ltd. Vs. CPCB, Appeal No. 05/2019 titled Morinda Co-op. Sugar Mills Ltd. Vs. CPCB and Appeal No. 23 of 2019(WZ) against order passed by CPCB requiring the Appellants to pay Environmental Compensation. Thereafter, units namely Shri Vitthalsai SSK Ltd. and Bhairavnath Sugar Works Ltd. approached this Tribunal in Appeal No.

27/2019 (WZ) with Appeal No. 35/2019 (WZ) against the Environmental Compensation levied by CPCB.

27. This Tribunal vide Order dated 22.05.2019 in Appeal No. 27/2019 (WZ) (I.A. No. 49/2019, I.A. No. 50/2019 & I.A. No. 66/2019) with Appeal No. 35/2019 (WZ) (I.A. No.68/2019 & LA. No.69/2019) directed that;

"5. CPCB may treat the impugned order as tentative and pass further appropriate order after permitting the affected parties to furnish their viewpoint. The appellant may furnish its viewpoint to the CPCB within two weeks from today. Similar opportunity may also be given to other affected parties where such orders have been passed in connected cases, including Appeal No. 34/2019(WZ), M/s Madhukar Sahakari Sakhar Karkhana Ltd. vs. Central Pollution Control Board, Appeal No. 05/2019, Morinda Coop. Sugar Mills Ltd. vs. Central Pollution Control Board and Appeal23/2019(WZ), Babasaheb Ambedkar SSK vs. The Member Secretary, CPCB & Ors."

6. Till further order is passed by the CPCB, the impugned order may not be given effect. The fresh order may be passed as far as possible within two months. Further, the Hon'ble NGT vide its Order dated 29.07.2019 in Appeal No. 22/2019 (I.A. No.430/2019) with Appeal No. 12/2019 (I.A. No. 391/2019), Appeal No. 13/2019 (I.A. No. 392/2019), Appeal No. 14/2019 (I.A. No. 393/2019), Appeal No. 15/2019 (I.A. No. 397/2019), Appeal No. 16/2019 (I.A. No. 398/2019), Appeal No. 17/2019 (I.A. No. 400/2019) and Appeal No. 18/2019 (I.A. No. 406/2019) in the matter of The Kisan Sahkari Chini Mills Ltd. Vs. The Member Secretary, Central Pollution Control Board & Ors. directed that;

"It is not disputed that the present matters are identical to the one disposed of by this Tribunal vide order dated 22.05.2019 in Appeal No. 27/2019 (WZ), Shri Vitthalsai SSK Ltd. vs. Central Pollution Control Board. Accordingly, these appeals are disposed of in same terms. On the pattern of above orders, the impugned order will be treated as tentative till further order is passed after considering the viewpoint of the appellants. The appellants may furnish their viewpoint to the

Central Pollution Control Board (CPCB) within two weeks. It is made clear that we have not expressed any opinion on the merits."

28. It is submitted that CPCB vide order dated 04.09.2019, developed the "Policy for levying Environmental Compensation (EC) for industries" to bring uniformity for levying Environmental Compensation (EC) for all industrial sectors. As per policy, one of the conditions to be considered for EC calculation is as follows:-

"Unless there is substantial evidence, date of non-complying days would start with effect from date of non-compliance observed during inspection."

29. Further CPCB held personal hearing of 32 sugar mills on 18.09.2019 and 24.09.2019 in compliance to the NGT order wherein representations were received from individual sugar mills of U.P. Co-operative Sugar Factories Federation Ltd. and Secretary General of UPSMA.

30. It is further submitted that E.C. was recalculated for 32 sugar units including M/S Dhampur Sugar Mills, Sugar Unit, Dhampur, Bijnor, considering the number of days of violation based on the prevailing CPCB policy and Methodology for assessing Environmental Compensation (E.C). Also, 'Deterrent Factor' is not applicable to the unit based on the Methodology for assessing Environment Compensation, Annexure-I, since the unit closed the operation on 20.05.2019 and subsequent crushing season, no illegal discharge was

found during inspection conducted between 26.11.2019 to 27.11.2019.

31. It is submitted that the unit was inspected on 22.03.2018 and found non-complying w.r.t BOD-53 mg/l against the norms of 30 mg/l at ETP outlet. In response, CPCB issued Show-Cause notice vide its letter dated 07.05.2018 under section 5 of E (P) Act, 1986 to the unit. Thereafter, the unit replied vide letter dated 20.07.2018 and 10.10.2018 confirmed the compliance status and submitted the revalidated adequacy assessment report prepared by NSI, Kanpur. Accordingly, CPCB issued compliance direction to the unit vide its letter dated 16.11.2018.

32. It is submitted that a detailed investigation from expert institution for EC calculation is to be undertaken only in the cases where Intentional discharge to the environment results into acute injury or damage to the environment or if there is injection of treated/partially treated/untreated effluent to ground water as listed in Policy guideline for levying Environmental Compensation for Industries whereas the unit was found non-complying with respect to surface water discharge norms of Environment (Protection) Act, 1986.

33. It is submitted that as per the submission made in the above paras regarding Environmental Compensation, the calculation have been made by CPCB.

M/s Dhampur Sugar Mills (Sugar Unit), Asmoil, Sambhal U.P.

34. It is submitted that inspection of the unit was undertaken on 10.01.2018 and the unit was found by-passing untreated effluent from the spray pond overflow and cooling tower blow down, through the drain connecting to Sot River.

35. CPCB had, therefore, issued direction under section-5 of Environment (Protection) Act, 1986 to the unit vide its letter dated 07.02.2018, for discharging untreated effluent with BOD-577 mg/l against norms of 30 mg/l & TSS- 198 mg/l against the norms of 30 mg/l through drain and also directed to dismantle the by-pass arrangement.

36. The unit requested to revoke the closure direction vide its letters dated 15.02.2018 & 03.03.2018 and submitted the following;

- “a. The unit has dismantled the bypass arrangement and has stopped the discharge of untreated effluent*
- b. The unit has upgraded the ETP system up to tertiary treatment level*
- c. The unit has submitted waste water analysis reports from EPA approved laboratory*
- d. The unit has submitted the revalidated adequacy assessment report of ETP & irrigation management plan”*

37. Therefore, the unit was re-inspected on 01.03.2018 by CPCB and it was observed that the unit has dismantled the bypass arrangement and ETP was complying w.r.t surface water discharge norms.

38. The unit had also submitted the revalidated adequacy assessment reports prepared by NSI, Kanpur vide letter dated 18.06.2018.

39. In addition, CPCB constituted an Expert committee comprising members from National Sugar Institute (NSI), Vasantdada Sugar Institute (VSI), IITs and representatives from sugar mills to prepare a charter for water recycling. The unit vide letter dated 01.09.2018 submitted their compliance status of the Charter, which was examined and following observations were made:

- “1. The unit has installed necessary flow meters at requisite points as prescribed under the Charter.*
- 2. The unit has submitted action plan/ compliance report on up-gradation of ETP.*
- 3. The unit is maintaining proper logbook for bore-well readings thereby recording their fresh water consumption on regular basis.*
- 4. The unit has stated that no untreated/ partially treated effluent is being discharged on land.*
- 5. The unit shall employ hydro-jet for cleaning of heat exchanger unit.*
- 6. The unit has already set up environmental laboratory with dedicated technical staff.*
- 7. The unit has planned to arrange training for its technical staff on ETP Operation and Maintenance.*
- 8. The unit has submitted compliance report on BMT for Water Recycling and Pollution Prevention.”*

40. The three Member Committee in its meeting held on 04.10.2018 examined the revalidated adequacy assessment report and implementation status of charter. Based on the recommendations of three Member Committee, CPCB issued revoke direction to the unit under section 5 of the Environment (Protection) Act, 1986.

41. It is submitted that a detailed investigation from expert institution for EC calculation is to be undertaken only in the cases

where intentional discharge to the environment results into acute injury or damage to the environment or if there is injection of treated/partially treated/untreated effluent to ground water as listed in Policy guideline for levying Environmental Compensation for Industries, whereas the unit has found non-compliance with respect to surface water discharge norms of Environment (Protection) Act, 1986.

M/s Dhampur Sugar Mills (Sugar Unit), Meerganj, Bareilly, U.P.

42. It is submitted that a detailed investigation from expert institution for EC calculation is to be undertaken only in the cases where intentional discharge to the environment resulting into acute injury or damage to the environment or if there is injection of treated/partially treated/untreated effluent to ground water as listed in Policy guideline for levying Environmental Compensation for Industries, whereas the unit found non-compliance with respect to surface water discharge norms of Environment (Protection) Act, 1986.

43. It is submitted that the unit was inspected by the officials of CPCB on 10.01.2017 and following observations were made:

“1. The unit has generated 236.6 L/T wastewater, which is higher than the permissible limit.

2. The unit has not integrated all process streams and route them to ETP.”

44. The CPCB had, thereafter, issued direction dated 28.02.2017 to the unit to ensure compliance of wastewater discharge norms as per the

notification dated January 14, 2016. The unit's reply dated 10.03.2017 was examined by CPCB and, thereafter, CPCB issued closure direction dated 15.05.2017 to the unit and directed the unit to install on-line effluent monitoring system and provide its connectivity to CPCB server.

45. The unit was re-inspected by CPCB officials on 25.01.2018 and found non-complying w.r.t. discharge norms for BOD and COD. The MISS concentration in the aeration tank was very low, i.e. 684 mg/l, leakages were observed from syrup pumps, sulphide used pumps, magma pumps, condensate pumps etc. The unit did not submit the revalidated ETP adequacy assessment report within 45 days to CPCB. Accordingly, CPCB issued Show Cause Notice under section 5 of the Environment (Protection) Act, 1986, dated 15.03.2018 for non-compliance of stipulated standards.

46. In response, the unit submitted revalidated ETP adequacy assessment report and irrigation management plan validated by NSI, Kanpur vide letter dated 15.06.2018.

47. Subsequently, CPCB issued direction dated 26.10.2018 under section 5 of the Environment (Protection) Act, 1986 to the unit to submit the implementation status of the Charter and performance audit of ETP including actual assessment of water consumption & effluent generation duly validated by reputed expert institute namely NSI, Kanpur, VSI, Pune, IITs during crushing season and submit the report to CPCB within 60 days from resumption period.

48. CPCB and UPPCB carried out inspection of all four units of Dhampur Sugar Mills during 27.11.2019 to 29.11.2019 in compliance to NGT order dated 14.08.2019. **M/s DSM Sugar Mills, Meerganj, Bareilly** was inspected on 29.11.2019 and found non-complying w.r.t effluent discharge standards.

49. Accordingly, CPCB directed UPPCB to take necessary action to stop discharge of untreated effluent into river by the unit and levy Environmental Compensation vide its direction dated 02.01.2020 issued u/s 18(1)(b) of the Water (Prevention and Control of Pollution) Act, 1974. In compliance to this direction, UPPCB imposed an EC amount of Rs. 17,70,000/- on M/s Dhampur Sugar Mills, Sugar Unit, Meerganj, Bareilly. The unit deposited the levied EC and informed that bypass line has been permanently dismantled.

50. It is submitted that, as submitted earlier, a detailed investigation from expert institution for EC calculation is to be undertaken only in the cases where intentional discharge to the environment resulting into acute injury or damage to the environment or if there is injection of treated/partially treated/untreated effluent to ground water as listed in Policy guideline for levying Environmental Compensation for Industries, whereas the unit found non-compliance with respect to surface water discharge norms of Environment (Protection) Act, 1986. That, CPCB is empowered under the Environment (Protection) Act, 1986 to take action against industrial units/authorities to ensure

compliance of notified Environmental standards. Also, CPCB is empowered under the Water (prevention and Control of Pollution) Act, 1974 to issue directions to the state boards.

51. It is submitted that CPCB conducts annual inspection of the sugar units during each crushing season. Generally, the crushing season of sugar units starts from October- December every year and continues up to April-May. A one-month time is necessary by the Sugar unit to stabilize ETP, hence inspection of the sugar units is planned from January to March every year. As there are 122 no. of sugar units, in the Ganga main stem states that are categorized as Grossly Polluting Industries (GPIs), the units are inspected as per the schedule prepared based on the work force availability, limited infrastructure facilities at CPCB laboratory to analyze the ETP effluent/Drain samples.

52. It is submitted that CPCB vide order dated 04.09.2019, in compliance of NGT order in the matter of OA No. 593/2017 (WP (CIVIL) No. 375/2012, Paryavaran Suraksha Samiti & Anr. Vs. Union of India & Ors.), constituted a Committee for developing a formula for imposing penalty and Environmental Compensation on industrial units. As per committee recommendation, the following condition shall be considered for EC calculation;

“Unless there is substantial evidence, date of non-complying days would start with effect from date of non-compliance observed during inspection”

53. In short, the CPCB has justified its stand that the Environmental Compensation imposed by it on the Units is in accordance with law and as per the Office Order dated 04.09.2019, which runs as follows:-

“CENTRAL POLLUTION CONTROL BOARD

DELHI

F.No. B-400(S)/IPC-111/2019-20\162

September 04", 2019

OFFICE ORDER

**POLICY FOR LEVYING ENVIRONMENTAL COMPENSATION
(EC) FOR INDUSTRIES**

In compliance of Hon'ble NGT order in the matter of OA No. 593/2017 (WP (CIVIL) No. 375/2012, Paryavarán Suruksha Sarnia & Anr. Vs. Union of India & Ors.) a Committee was constituted by CPCB for developing a formula for imposing penalty and environmental compensation on industrial units.

As per the Committee recommendations, following cases are considered for levying environmental compensation:

- a) Discharges in violation of consent conditions, mainly prescribed standards/ consent limits.*
- b) Not complying with the directions issued, such as direction for closure due to non-installation of OCEMS, non-adherence to the action plans submitted etc*
- c) Intentional avoidance of data submission or data manipulation by tampering the Online Continuous Emission/ Effluent Monitoring systems.*
- d) Accidental discharge lasting for short durations resulting into damage to the environment.*
- e) Intentional discharges to the environment - land, water and air resulting into acute injury or damage to the environment.*
- f) injection of treated/ partially treated/ untreated effluents in to ground water.*

In the instances as mentioned at a, b and c above, Pollution Index shall be used as a basis to levy the

Environmental Compensations. CPCB has published guidelines for categorization of industries into Red, Orange, Green and White bases on concept of Pollution Index (PI). The Pollution Index is arrived after considering quantity & quality of emissions/effluents generated, types of hazardous wastes generated and consumption of resources. Pollution Index of an industrial sector is a numerical number in the range of 0 to 100 and can be represented as follows:

PL=F (Water Pollution Score, Air Pollution Score & IIW Generation Score)

Pollution Index is a number from 0 to 100 and increasing value of PI denotes the increasing degree of pollution hazard from the industrial sector.

After considering various factors including the policy implementation issues, Committee has derived following formula for levying the Environmental Compensation in instances as mentioned at a, b and c including non-compliance of the environmental standards / violation of directions.

$$EC = PI \times N \times R \times S \times L \times F$$

Where,

PI (pollution Index), N (number of days of violation), R (Rupees factor), S (Scale of operation), L.F (location factor).

In case of d, e and f, the Environmental Compensation may be levied based on the detailed investigations by Expert Institutions/Organizations.

Conditions/policy/operational protocol for levying EC shall be as below:

- 1. Prior to imposition of EC, a Show Cause Notice (SCN) for imposing EC alongwith an opportunity to reply/ hearing be given.*
- 2. Method adopted for calculation of EC may be shared with the concerned industry/ agency if asked during hearing or through reply.*

3. *Unless there is substantial evidence, date of non-complying days would start w.e.f. date of non-compliance observed during inspection.*
4. *In Sugar industry, number of days of violation is calculated based on actual number of days operated during crushing season(s) based on Excise Form RT-8C submitted by the unit.*
5. *EC for non-compliance to CPCB's closure direction regarding installation & connectivity of OCEMS shall apply till establishment of initial uninterrupted data connectivity for all the specified parameters in all the permitted outlets /stacks, as verified by the IT division.*
6. *EC for the closure direction issued on the ground of non-compliance of prescribed discharge/ emission norms shall apply for the period between date of inspection & monitoring to date of closing of manufacturing operation.*
7. *Direction for closure or revocation and direction for imposition of EC to be dealt separately.*

This issues in supersession of the earlier approach & methodology being followed in calculation of EC amount on the ground of non-compliance of closure direction regarding OCEMS and circular no. B19004/NGRBA/CPCB/2015-16(part file) dated 15.05.2019 regarding calculation of EC amount on the ground of non-compliance of notified norms for sugar mills.

*(Prashant Gargava)
Member Secretary”*

54. In view of the above submissions, it was submitted that CPCB has issued requisite directions from time to time and has imposed adequate compensation as per the order dated 04.09.2019.

Action taken report by UPPCB

55. UPPCB has also filed its action taken report on 22.07.2021 in Compliance of the direction passed by NGT on 09.11.2020. It is

submitted that a joint Inspection of the Unit Dhampur Group was conducted by UPPCB. The date of inspection of Dhampur units is tabulated as below:-

M/s Dhampur Sugar Mills Ltd (Sugar Unit), Dhampur, Bijnor	
Date of Inspection	02-02-2021 and 03-02-2021.
Major Observations	1. The analysis result of sample collected from drain coming from colony along front boundary wall of sugar unit shows pH- 4.6, COD-2448 mg/l , BOD-1604 mg/l, which are on higher side of typical sewage characteristics i.e. pH in range of 6.5 to 8.5, BOD in range of 200 mg/l -300 mg/l, COD in range of 400 mg/l -550 mg/l which indicates that the Sugar effluent got mixed with the domestic sewage drain, however no bypass of effluent/waste water was observed from the boundary wall into the drain as the drain was covered. 2. The unit has not installed Sewage Treatment Plant (STP) for sewage generated from colony located inside the unit premises; however, the unit provided purchase order of STP (P.O. No.4100007977) dated 16.10.2020 with capacity of 220 KLD, which was under installation. 3. The unit had two lagoons for storage of treated effluent. One with impermeable base having capacity of 10000 m3 and second having PVC sheets with 4000 m3 capacity and retention time of 15 days. The second lagoon was a Kachcha lagoon with improper lining of PVC sheets also mentioned in previous finding. Treated effluent is being used for irrigation purpose.
Compliance made by the unit w.r.t. recommendations of Joint Team.	
Recommendations	Compliance verified on inspection dated 09-06-2021 by UPPCB.
The unit shall take measures to stop discharge of spillage /	Unit has sealed the leakage points for spillage runoff and there was no

surface runoff containing waste water from industrial premises into drain (Ikra drain and drain coming from city along boundaries of sugar unit) and shall maintain water quality of the drain. • The unit shall install the CPU for high-pressure boiler at earliest. • The unit shall install the Sewage Treatment Plant (STP) for sewage generated from colony at the earliest. • The unit shall convert the 4000 m3 capacity storage lagoon in to lined impermeable lagoon to avoid any possibility of leakages and must ensure the compliance of stored treated effluent w.r.t. notified discharge standards under E(P) Rules, 1986. • The unit shall dismantle the sump having capacity of 100 KL located in bio-compost yard of 10 acres. • Unnecessary lines for ETP feed near falling structure shall be dismantled immediately. • Abandoned old pumping station along with connected line shall be dismantled. • Filter backwashing tank of suitable design capacity shall be installed for filter backwashing. Existing fresh water line in ETP area shall be dismantled. • Provision shall be made for DM plant CIP reject shall be treated in ETP only	leakage found during inspection dated 09-06-2021. • Unit has installed CPU for high-pressure boiler and RO membrane (72 cubic meter per hour capacity). • Unit has installed STP of 220 KLD capacity for the treatment of sewage generated from sugar & distillery units. • Unit has submitted vide letter dated 19-06-2021 for conversation of storage lagoon of 4000 cubic meter in impermeable lagoon before the next crushing season. • Unit has also submitted vide letter dated 19-06-2021 that the dismantling of unused lines installed earlier, installation of filter back, washing tank and provision of treatment of reject of DM plant and CEP plant shall be done before next crushing season.						
The comparative chart of monitoring at different points on 02-02-2021 and 09-06-2021 is as below:							
<table><tr><th>Sr. No.</th><th>Monitoring Points Dated 02-02-2021</th><th>Monitoring Points Dated 09-06-2021</th></tr><tr><td>1</td><td>Old Lagoon (Capacity 4000 m3) BOD-117 mg/litre</td><td>Old Lagoon (Capacity 4000 m3) BOD-26 mg/litre</td></tr></table>		Sr. No.	Monitoring Points Dated 02-02-2021	Monitoring Points Dated 09-06-2021	1	Old Lagoon (Capacity 4000 m3) BOD-117 mg/litre	Old Lagoon (Capacity 4000 m3) BOD-26 mg/litre
Sr. No.	Monitoring Points Dated 02-02-2021	Monitoring Points Dated 09-06-2021					
1	Old Lagoon (Capacity 4000 m3) BOD-117 mg/litre	Old Lagoon (Capacity 4000 m3) BOD-26 mg/litre					

2	<i>New Lagoon (Capacity 10000 m3)</i> BOD-187 mg/litre COD-370 mg/litre	<i>New Lagoon (Capacity 10000 m3)</i> BOD-24 mg/litre COD-192 mg/litre
3	<i>Ikara Drain at UP Stream of the unit</i> COD-296 mg/litre BOD-125 mg/litre TSS-146 mg/litre	<i>Ikara Drain at UP Stream of the unit</i> COD-288 mg/litre BOD-120 mg/litre TSS-126 mg/litre
4	<i>Ikara Drain at Down Stream of the Unit</i> COD-536 mg/litre BOD-296 mg/litre TSS-74 mg/litre	<i>Ikara Drain at Down Stream of the Unit</i> COD-296 mg/litre BOD-130 mg/litre TSS-132 mg/litre
5	<i>Drain near main gate of Sugar mill</i> COD-1604 mg/litre TSS-28 mg/litre TDS-508 mg/litre	<i>Drain near main gate of Sugar mill</i> COD-208 mg/litre TSS-56 mg/litre TDS-418 mg/litre
6	<i>STP is not installed.</i>	<i>STP is installed and operational.</i> Outlet parameter COD-40 mg/litre BOD-08mg/litre TSS-27 mg/litre
7	<i>Local drain behind the spray pond overflow treatment system</i> COD-606 mg/litre BOD-342 mg/litre TSS-194 mg/litre	<i>Local drain behind the spray pond overflow treatment system was found dry.</i>
Action Taken by UPPCB		
Considering above facts UPPCB has issued following directions against the unit- 1. UPPCB has issued show cause notice vide letter number H61711/Jal-70/2021 dated 13-04-2021 under section 33A read with 27 (2) of Water (Prevention and Control of Pollution) Act 1974 as amended and also issued notice for imposition of Environmental Compensation of Rs. 30,000/- per day from 02-02-2021 till the date of compliance made by the unit. Copy of show-cause letter dated 13-04-2021 is Annexed as Annexure No.1.		

2- UPPCB vide letter number H62603/C-7/Jal-70/21 dated 22-06-2021 has imposed environmental compensation of Rs. 35,40,000/- against the unit. Annexed as **Annexure No.2**.

M/s Dhampur Sugar Mills Ltd (Sugar Unit), Asmoli, Sambhal	
Date of Inspection	13-01-2021
Major Observations	1- The unit was found operational with consented capacity of 9000 TCD and the ETP was operational at the time of inspection. On the day of inspection, the unit was producing only raw sugar for export purpose. 2- As per Daily Manufacturing Reports (DMRs) and RT-TC from 1 Nov, 2020 to 12 Jan, 2021 provided by the unit, average cane crushing is found 8501.36 TCD. 3- Unit is having valid Consent to Operate under section 21/22 of the Air (Prevention & Control of Pollution) Act, 1981 (as amended) and Water under section 25/26 (Prevention & Control of Pollution) Act, 1974 (as amended) for discharge, both valid up to 31st December, 2021. 4- The unit is also having valid Authorization under the provisions of Hazardous and Other Wastes (Management and Transboundary Movement) Rules, 2016 for storage and disposal of hazardous wastes valid up to 27th December, 2022. 5- The NOC for ground water withdrawal is expired on 02.05.2019, however, the unit has applied the same from Ground Water Department, Uttar Pradesh on 30.11.2020. 6- The unit has provided 2 stream of DM plant having capacity 30 m³/hr & 50 m³/hr for water treatment for boiler use. Both units consist of MGF, RO unit, degasser, cationic and anionic resin unit. Regeneration reject from DM plant along with spray pond overflow & IBD & CBD goes to spray pond treatment system for treatment. The unit had single UGR of capacity 540 m³ for Hot and Cold-water recirculation system. 7- The unit has provided separate physio-chemical treatment for spray pond overflow (Design capacity 60 m³/hr.) which comprises of equalization tank, flash mixer, flocculator and lamella clarifier. Manual dosing of line observed

	<i>in the equalization tank.</i> <i>8- Decanter is also installed but yet to commissioned for mechanical sludge handling. The unit has provided Proforma Invoice/ Purchase Order (P.O. No.-4100007358) dated 30.07.2020.</i> <i>9- Unit has provided OCEMS at outlet of ETP for continuous monitoring of treated effluent parameters and found connected with CPCB server. OCEMS reading w.r.t. flow-50.60 m³/hr, pH7 .91 COD-77.2 mg/l, BOD-17.7 mg/l and TSS-18.31 mg/l were recorded during inspection. The flow at outlet was 25 m³/hr as measured by V-notch installed at outlet of channel.</i> <i>10- MLSS in AT-I and AT-II measured 3155 mg/l & 2708 ml/l respectively which indicate that both aeration tanks were in stabilized condition.</i> <i>11- MLVSS/MLSS ratio in AT-I and AT-II measured 0.87 & 0.86 respectively indicating that optimum active microbial consortium exists in both aeration tanks.</i> <i>12- The lagoon capacity of 16000 m³ is adequate for 10-11 days, which is less than the 15 days of holding capacity of treated effluent storage during no demand of period for irrigation purpose. However, it is also mentioned in validation of ETP performance report performed by National Sugar Institute, Kanpur, submitted of 14.10.2020.</i> <i>13- Unit is in the process of installation of 36 m³/hr Condensate Polishing Unit (CPU) for condensate recycling.</i>
Conclusions	<i>1- The unit is operating with valid Consent to Operate Authorization.</i> <i>2- The unit has disposed huge quantity of scrap metal near ETP in open area in the unit premises.</i> <i>3- Partition wall of one sludge drying bed was in damaged condition.</i> <i>4- The unit has installed Decanter which is yet to be commissioned for sludge handling.</i> <i>5- Storage lagoon of final treated effluent with capacity of 16000 m³ is adequate for only 10-11 days which is less than maximum permissible storage of 15days.</i> <i>6- The unit is planning for installation of Condensate Polishing Unit (CPU) for condensate recycling.</i>

	7- Analysis result of sample collected from ETP outlet (pH-7.2 against 5.5-8.5, COD- 128 mg/l against 250mg l.BOD-36 mg l against 100 mg.TSS-64 against 100 mg/l, TDS- 732 mg/l against 2100 mg l. 0 & G-06 against 10 mg l and Lagoon outlet (pH-7.4 against 5.5-8.5, COD- 76 mg/l against 250 mg l.BOD-11 mg l against 100 mg/l. TSS- 25 against 1 00 mg/l, TDS- 896 mg/ l against 2100 mg.l) are complying wr.t the discharge standards for land disposal. 8- The unit has not installed Sewage Treatment Plant (STP) for treatment of sewage generated from residential colony. 9- Toe analysis of sample taken from sewage drain coming from residential area discharging into irrigation channel outside the unit premises and ponding in downstream of drain merging in Sot River indicates the characteristics of untreated domestic sewage.
Compliance made by the unit w.r.t. recommendations of Joint Team.	
Recommendations	Compliance verified on inspection dated 12-07-2021 by UPPCB.
• The unit shall provide suitable capacity dosing pump for dosing of chemicals like lime and polyelectrolyte solution for optimum utilization of chemical as per feed flow condition. • The unit shall safely dispose crap/metal. • The unit shall commission Decanter for better sludge management. • The unit shall repair partition wall sludge drying bed. • The unit shall install Condensate Polishing Unit CPU). • The unit shall install Sewage Treatment Plant (STP) for treatment of sewage generated from	• Complied. • Unit is disposing the metals scrap through authorised vender. Complied. • Complied. • Complied. • Unit has installed Condensate Polishing Unit (CPU). Complied. • Unit has installed STP of 60 KLD capacity, which shall be operational very soon.

<i>residential colony as soon as possible.</i> <i>• The unit shall restrict the drainage of domestic sewage into irrigation channel coming from residential area.</i> <i>• The unit shall obtain the NOC from Ground Water Department, Uttar Pradesh as soon as earliest.</i>	<i>• The drainage of domestic sewage shall be restricted after operation of the STP.</i> <i>• Unit has obtained registration from UP ground water department.</i>
Action Taken by UPPCB	
<i>UPPCB has issued directions to the unit vide letter number H61712/Jal-59/2021 dated 13-04-2021 to comply with the recommendations/suggestions of the Joint Team. Copy of letter dated 13-04-2021 is Annexed as Annexure No.3</i>	

M/s Dhampur Sugar Mills Ltd. (Sugar Unit), Meerganj, Bareilly	
<i>Date of Inspection</i>	<i>14-02-2021</i>
<i>Major Observations</i>	<i>1- NOC issued by CGWA was valid up to 07.06.2020 for the abstraction of ground water from 04 tube wells of total quantity 743 m3/day (not exceeding 99,356 m3/year). The unit has applied for renewal of CGWA NOC dated 28.04.2020. Apart from 04 permitted borewells, one additional bore-well was observed near residential colony of the unit, which is violation of CGWA NOC conditions, however the unit has provided the photographic evidence of this dismantled borewell.</i> <i>2- The unit is engaged in production of sugar with consented capacity of 5000 TCD using sugarcane. On the day of inspection, the unit was found operational. The unit started cane crushing on 3rd November, 2020. On the date of 13.01.2021, the sugar plant was operated at 5350 TCD. The ETP was reported to be operational from 27.09.2020.</i> <i>3- The earlier reported bypass of untreated effluent through a pipeline laid underground up to Peelakhar river in Sindholi Village, found removed and a slope joining Peelakhar river also found</i>

	<i>dry during the inspection.</i> <i>4- Previously, the unit had two lagoons of 5000 m3 and 2200 m3 capacity for storage of final treated effluent. However, during joint inspection, it was found that, the unit has kept only one lagoon of 5000 m3 capacity for storage of final treated effluent and the second lagoon of 2200 m3 capacity converted into aeration tank for spray pond overflow treatment.</i> <i>5- The lagoon capacity of 5000 m3 is adequate for only 6-7 days, which is less than the maximum permissible storage of 15. However, it is also mentioned in validation of ETP performance report performed by National Sugar Institute, Kanpur in the month of March, 2020.</i> <i>6- Treated effluent as claimed by unit was being provide to farmers via fixed HDPE pipeline but unit was not able to make the line operational and no flow was observed at the point of treated effluent supply to farm land. After about 3-4 hours, the flow was observed at the point in farmland in the HDPE line from where sample was collected. This indicates that unit is not providing regularly for irrigation via HDPE pipeline. Sample analysis also shows high BOD (122 mg/l) and COD (196 mg/l) indicates no supply of treated effluent for irrigation regularly.</i> <i>7- To treat the domestic wastewater generated from this colony, the unit has installed 50 KLD Sewage Treatment Plant (STP) and laying of the pipeline connection was under progress. STP was not operational at the time of inspection.</i> <i>8- Ponding of untreated sewage observed besides the boundary wall of the sugar mill.</i>
Compliance made by the unit w r.t. recommendations of Joint Team.	
Recommendations	Compliance verified on inspection dated 21-01-2021 and 01-07-2021 by UPPCB.
<i>ETP inlet flowmeter should be installed at the main inlet of ETP.</i>	<i>Unit has installed ETP inlet flow meter.</i>

• Periodic removal of sludge shall be ensured. • Flow meter shall be installed at mill house and boiling house outlet for monitoring of generated effluent. • The oil skimmer shall be installed within a tank having approximate retention time of 45 min. • The treated effluent discharges for irrigation shall comply with MOEFF&CC Notification dated 14.01.2016 (G.S.R. (35E)) for land disposal. • Installed STP shall be made operational for treatment of generated sewage. Treated sewage shall be utilized for irrigation & other purposes. • The unit shall keep only single arrangement to pump the treated effluent from the lagoon to irrigation supply. • Unit shall obtain amended Hazardous waste authorization from UPPCB to handle and safe disposal of discarded containers, oily rags, cotton waste, O&G and spray pond ETP sludge.	• Complied. • Complied. • Unit has submitted that the compliance shall be made before the next crushing season. • Complied. • The sample collected from the outlet of STP by UPPCB on 21-01-2021 and 01-07-2021 were found to be complying. • Unit has submitted that the compliance shall be made before the next crushing seasons. • Unit has applied for amended authorisation on 19-07-2021 which is under process. • Unit has obtained NOC from UP Ground Water Authority for abstraction of ground water, valid till 18-05-2026.
Action Taken by UPPCB	
Considering above facts UPPCB has issued following directions against the unit- 1- Third Party NSI Kanpur authorized by CPCB has inspected the unit on 28-01-2021, during inspection the unit was found complying w.r.t. discharge norms and the various units of	

treatment plants were considered adequate.

2- UPPCB has issued show cause notice vide letter number H61710/Ja1-773/2021 dated 13-04-2021 under section 33A read with 27 (2) of Water (Prevention and Control of Pollution) Act 1974 as amended and issued notice for imposition of Environmental Compensation of Rs. 30,000/- per day from 14-01-2021 till the date of compliance made by the unit. Copy of letter dated 13-04-2021 is Annexed as **Annexure No.4**.

M/s Dhampur Sugar Mills Ltd (Distillery Unit), Dhampur Bijnor	
Date of Inspection	02-02-2021
Major Observations	1- The Unit has installed mass flow meters with totalizer at inlet and outlet of SMEE, IMEE and at incineration boiler feed. All mass flow meters are connected to CPCB server. At the time of inspection, the reading of mass flow meters (totalizer and flow rate) were noted and are as follows: a. Reading of mass flow meter (totalizer and flow rate) at IMEE; i. At inlet of IMEE: totalizer reading-527719 T, flow rate-52.2 T/hr (49.24 m³/hr, considering Sp.Gr.1.06) ii. At outlet of IMEE (IMEE Concentrate): totalizer reading-151864 T, flow rate- 13.56 T/hr (11.69 m³/hr, considering Sp.Gr.1.16) b. Reading of mass flow meter (totalizer and flow rate) at SMEE; i. At inlet of SMEE: totalizer reading-1693558 T, flow rate-54.8 T/hr (51.69 m³/hr, considering Sp.Gr.1.06) ii. At outlet of SMEE (SMEE Concentrate): totalizer reading-371896 T, flow rate- 12.20 T/hr (10.52 m³/hr, considering Sp.Gr.1.16) c. Reading of mass flow meter (totalizer and flow rate) at Incineration boiler; i. At inlet of incineration boiler:

	<i>totalizer reading-587 T, Slop (Concentrate) flow rate-26 T/hr (20.15 m³/hr, considering Sp.Gr.1.29)</i> <i>2- In CPU, the unit has installed flow meter at RO-Feed, RO-Permeate and RO-Reject, at the time of inspection flow meter totalizer reading were found 66827 .5 m³ (flow rate: 116.5. m³/hr), 61918.3 m³ (flow rate: 71 m³/hr) and 3072.2 m³ (flow rate: 39 m³/hr) respectively.</i> <i>3- Previously, the unit had opted bio-composting as well as incineration boiler for achieving Zero Liquid Discharge (ZLD), however as informed by the unit representative that the process of bio-composting has been discontinued from June-2020 and presently the unit has opted for concentration incineration system. During joint inspection, the bio-composting operation was found not in operation.</i> <i>4- Presently, in 10 acres of active bio-compost yard, the unit is mixing boiler ash coming from distillery & sugar plant with press mud and after mixing, the prepared mixture is distributed to the farmers at free of cost through open trolleys.</i> <i>5- As per the submitted purchase order, STP will be comprising of bar screen, equalization tank, oil & grease trap, chemical dosing system, tube settler, aeration tank, multi grade sand filter, activated carbon filter, chlorine dosing system and treated water storage tank.</i> <i>6- Analysis of effluent samples collected from inlet of Condensate Polishing Unit shows pH- 4.2, COD - 4120 mg/1 and BOD-1933 mg/1, TDS-1096 mg/1 and colour-12 Hazen. Sample collected from the outlet of CPU permeate shows pH- 5.2, COD - 1272 mg/l and BOD-833 mg/1, TDS-156 mg/l and colour-BDL.</i> <i>7- Analysis of samples collected from the inlet of SMEE and IMEE (common) shows pH4.8, COD - 92000 mg/1 and BOD-29500 mg/l and TS- 126448 mg/ 1 (12%). Sample collected from the outlet of SMEE and IMEE shows pH- 4.6, COD - 467200 mg/1 and BOD-142000 mg/l, TS-425784 mg/1 (42%) and pH- 4.7, COD - 614400 mg/1 and BOD-208000 mg/ 1, TS-640892 mg/1 (64%).</i> <i>8- Concentrated spent wash (slop) collected from the feed line of the boiler</i>

	shows pH4.6, COD - 550400 mg/1 and BOD-200000 mg/1 and TS- 495472 mg/1 (49%).
Compliance made by the unit w r.t. recommendations of Joint Team.	
Recommendations	Compliance verified on inspection dated 09.06.2021 by UPPCB.
• The unit has total 03 nos. of tube wells against 02 nos. of permitted tube wells as per CGWA NOC. The unit shall dismantle the 3"1 no. of non-operational tube well. • The unit shall obtain hazardous waste authorization from the respective state pollution control board. • The unit shall complete the construction work of STP at the earliest and shall treat the sewage generating from the residential colony as well as industrial plants in STP only. • The unit shall ensure complete filling of both the lagoons of capacity 6159.60 KL and 10,173 KL with ash. • If the concerned state pollution control board allows the unit to carry out temporary bio-composting for utilization of bio-methanated sludge, in that case the unit shall comply with the following; • The unit shall ensure to consume the bio-methanated spent wash in bio-composting before monsoon season.	• Unit has dismantled 03rd tubewell. Complied. • The unit has obtained authorization for disposal of Hazardous Waste vide letter dated 16-05-2021 of UPPCB valid till 16-05-2026. Annexure No. 5 • Unit has installed STP of 220 KLD which was found operational during inspection dated 09-06-2021. Complied. • Unit has completed the work of filling of both the lagoons of capacity 6159.60 KL and 10,173 KL with ash. Complied. • Complied

• After completion of the temporary bio-composting, the unit shall completely dismantle the pump sump of MEE concentrate, which is located at bio-compost yard of 10 acres. • After completion of the temporary bio-composting, the unit shall completely dismantle the newly built pipeline.	• Complied • Complied
Action Taken by UPPCB	
• CPCB inspected the Ikra drain on 02-11-2020, during the monitoring of upstream and downstream of the unit it was found that the wate quality of the drain is effected by the polluted discharge by the unit. • Considering above UPPCB vide letter number H57268/C-7/Ja1-105/2021 dated 12-01-2021 has issued show cause notice under section 33A of Water (Prevention and Control of Pollution) Act, 1974 to the unit for closure and also issued notice for imposition of environmental composition of Rs. 30,000/- per day from 02-11-2020 till the compliance made by the unit. Annexure no. 6. • UPPCB vide letter number H63682/C-7/Ja1-105/Aaswani/21 dated 20-07-2021 has imposed environmental compensation of Rs. 65,70,000/- against the unit. Annexure no. 7.	

Additional written submissions by CPCB

56. In addition to its reply dated 26.03.2021, CPCB has further filed its written submission dated 30.07.2021 which is as follows;

“In the above mentioned O.A. No. 539/2019 further action has been taken that UP Pollution Control Board has filed complaint case number 3306 of 2021 on 27-07-2021 against M/s Dhampur Sugar Mills Ltd., (Sugar Unit) Dhampur Bijnor under section-43 of the Water (Prevention & Control of Pollution) Act, 1974 in the Court of Special Judicial Magistrate (Water & Air Pollution Control), Lucknow.”

Written submissions by Resp. no. 1 to 3.

57. Respondent no. 1 to 3 have filed their Written Submissions on 04.08.2021. Respondent no. 1 to 3 at the very outset have submitted

that they deny each and every statement, averments and allegations contained in the Original Application filed by the Applicant. It is submitted that the applicant has filed the present Original Application being O.A. No.539 of 2019 against the four units of the said M/s Dhampur Sugar Mills Ltd., namely, M/s Dhampur Sugar Mills, Asmoli (Sugar Unit), M/s Dhampur Sugar Mills, (Sugar Unit and Distillery Unit), Dhampur and M/s Dhampur Sugar Mills, Meerganj which are arrayed-as Respondent No.1, Respondent No.2 and Respondent No.3 respectively in the present Original Application.

58. It is next submitted that the Applicant in the present Original Application has, alleged that the answering Respondents are not complying with the environmental norms referring to the final Judgment dated 10-12-2015 passed by this Tribunal in Original Application No.35 of 2015 titled as "Shailesh Singh vs. M/s D.S.M. Sugar Distillery Division Asmoli & Ors." and the directions of the CPCB vide Letter dated 23-04-2019 (Dhampur Sugar Unit), Letter dated 2005-2019 (Asmoli Sugar Unit) and Show Cause Notice dated 14-06-2019 (Meerganj Sugar Unit).

59. It is further submitted that this Tribunal, vide Order dated 27.06.2019, admitted the present Original Application and further directed to issue notice to the Respondents by registered post /acknowledgement due and dasti as well. It is submitted that however, no notice was ever served upon the answering Respondents and the answering Respondents came to know about the present Original Application from their counsel. It is further submitted that during the whole proceedings in the present Original Application before this Tribunal, no opportunity of hearing was ever provided to the Respondents no. 1 to 3.

60. It is further submitted by the respondents no. 1 to 3 that this Tribunal, during the proceedings in the present Original Application being O.A. No.539 of 2019, has directed for the inspection of the answering Respondents through the Joint Inspection Team consisting of the officials of the Respondent No.7 i.e. Central Pollution Control Board (CPCB) and the Respondent No.8 i.e. Uttar Pradesh Pollution Control Board (UPPCB) and in compliance to the directions issued by this Tribunal, the Joint Inspection Team has conducted several inspections of the answering Respondents and various directions were issued time to time by the Joint Inspection Team during the said inspections. The Respondent No.7 i.e. Central Pollution Control Board (CPCB) has filed several Compliance Reports before this Tribunal and the Respondent No.8 i.e. Uttar Pradesh Pollution Control Board (UPPCB) has also filed several Action Taken Reports before this Tribunal.

61. It is submitted that a perusal of the Compliance Reports filed by the Respondent No.7 i.e. Central Pollution Control Board (CPCB) and the Action Taken Reports filed by the Respondent No.8 i.e. Uttar Pradesh Pollution Control Board (UPPCB) clearly shows that the answering Respondents are complying with the directions / recommendations issued by the Joint Inspection Team. However, because of some discrepancies noticed by the Joint Inspection Team during the said inspections of the answering Respondents, the Respondent No.7 i.e. Central Pollution Control Board (CPCB) and the Respondent No.8 i.e. Uttar Pradesh Pollution Control Board (UPPCB) have levied the Environmental Compensation on the Respondents no. 1 to 3.

62. It is next submitted that in compliance with the directions issued by this Tribunal, the latest inspection of the answering Respondents was conducted by the Joint Inspection Team on the following dates:

S.No	Name of the Unit	Date of Joint Inspection
1.	M/s Dhampur Sugar Mills Ltd. (Sugar Unit), Asmoli, Sambhal, U.P.	13.01.2021
2.	M/s Dhampur Sugar Mills Ltd. (Sugar Unit), Meerganj, Bareilly, U.P.	14.01.2021
3.	M/s Dhampur Sugar Mills Ltd. (Distillery Unit), Dhampur, Bijnor, U.P.	02.02.2021
4.	M/s Dhampur Sugar Mills Ltd. (Sugar Unit), Dhampur, Bijnor, U.P.	03.02.2021

63. It is further submitted that the Respondent No.8 i.e. Uttar Pradesh Pollution Control Board (UPPCB) has filed an Action Taken Report before this Tribunal with respect to the aforesaid Joint Inspections of the answering Respondents. The Joint Inspection Team has issued several recommendations with respect to the aforesaid latest Joint Inspections of the answering Respondents.

64. It is further submitted that the answering Respondents have complied with the said recommendations issued by the Joint Inspection Team with respect to the aforesaid latest Joint Inspections of the answering Respondents. On 22.07.2021, the Respondent No.8 i.e. Uttar Pradesh Pollution Control Board (UPPCB) has filed a Response to I.A. No.376/2020 in O.A. No.539/2019 and the said Response contains the Compliance Status with respect to the said recommendations as verified by the Respondent No.8 i.e. Uttar Pradesh Pollution Control Board (UPPCB). The relevant contents of the said response are as under:

Dhampur Sugar Mills Limited (Sugar Unit), Asmoli, Sambhal (the Respondent No.1 herein):

Recommendations	Compliance verified on Inspection dated 12-07- 2021 by UPPCB	Status as per the answering Respondent
• The Unit shall provide suitable capacity dosing pump for dosing of chemicals like lime and polyelectrolyte solution for optimum utilization of chemical as per feed flow condition.	• Complied.	• Complied
• The Unit shall safely dispose scrap /metal.	• Unit is disposing the metals scrap through authorized vendor. Complied.	• Complied
• The unit shall commission Decanter for better sludge Management	• Complied.	• Complied
• The Unit shall repair partition wall sludge drying bed.	• Complied.	• After installation of Decanter, sludge bed not required. Damaged sludge bed has been removed
• The Unit shall install the Condensate Polishing Unit (CPU)	• Unit has installed the Condensate Polishing Unit (CPU). Complied	• Complied
• The Unit shall install the Sewage Treatment Plant (STP) for treatment of sewage generated from residential colony as soon as possible.	• Unit has installed STP of 60 KLD capacity, which shall be operational very soon.	• Complied, delayed due to COVID. Shall be operational soon
• The Unit shall restrict the drainage of domestic sewage into irrigation channel coming from residential area.	• . The drainage of domestic sewage shall be restricted after operation of the STP.	• Complied
• The Unit shall obtain the NOC from Ground Water Department, Uttar Pradesh as soon as earliest.	• Unit has obtained registration from UP ground water department.	• Complied. Unit has obtained NOC valid till 28-06-2026 for all the three tube-wells from UP Ground Water Authority

Copy of NOC issued by the Ground Water Department, Ministry of Jal Shakti (U.P.) (valid till 28-06-2026) bearing Registration Nos. 202104000082, 202104000085 & 202104000117 for the Sugar Unit, **Asmoli** has also been placed on record.

“(ii) Dhampur Sugar Mills Limited (Sugar & Distillery Unit), Dhampur, Bijnor (the Respondent No.2 herein):

Recommendations	Compliance verified on Inspection dated 09-06.2021 by UPPCB	Status as per the answering Respondent
• The Unit shall take measures to stop discharge of spillage /surface runoff containing waste water from industrial premises into drain (Ikra drain and drain coming from city along boundaries of Sugar Unit) and shall maintain water quality of the drain.	• Unit has sealed the leakage points for spillage runoff and there was no leakage found during inspection dated 09-06-2021.	• Complied
• The Unit shall install the CPU for high pressure boiler at earliest.	• Unit has installed CPU for high pressure boiler and RO membrane (72 cubic meter per hour capacity).	• Complied. Confirmed as per Inspection dated 09-06-2021
• The Unit shall install the Sewage Treatment Plant (STP) for sewage generated from colony at the earliest.	• Unit has installed STP of 220 KLD capacity for the treatment of sewage generated from sugar & distillery units.	• Complied. Confirmed as per Inspection dated 09-06-2021
• The Unit shall convert the 4000 m3 capacity storage lagoon in to lined impermeable lagoon to avoid any possibility of leakages and must ensure the compliance of stored treated effluent w.r.t. notified discharge standards under EP	• Unit has submitted vide letter dated 19.06.2021 for conversation of storage lagoon of 4000 cubic meter in impermeable lagoon before the next crushing season.	• Job to be completed before the start of the next crushing season

Rules,1986.		
•The Unit shall dismantle the sump having capacity of 100KL located in bio-compost yard of 10 acers.	•Unit has also submitted vide letter dated 19-06-2021 that the dismantling of unused lines installed earlier, installation of filter back, washing tank and provision of treatment of reject of DM plant and CEP plant shall be done before next crushing season.	• Complied
• Unnecessary lines of ETP feed near falling structure shall be dismantled immediately.		• Complied. All unnecessary lines have been dismantled
• Abandoned old pumping station along with connecting line shall be dismantled.		• Complied. Old pumping station and connection lines have been dismantled
• Filter back washing tank of suitable design capacity shall be installed for filter backwashing. Existing freshwater line in ETP area shall be dismantled.		• Complied. Filter back washing tank to be operational in the next crushing season
• Provision shall be made for DM plant CIP reject shall be treated in ETP only.		• DM plant CIP reject arrangement will be operative before the next crushing season

65. Copy of CGWA NOC for Ground Water Extraction valid till 26-04-2022 and the Certificates of Registration issued by the Ground Water Department, Ministry of Jal Shakti (U.P.) bearing Registration Nos. 202104000201, 202104000202, 202104000203 & 202104000204 for the Sugar Unit, Dhampur has also been placed on record.

Distillery

Recommendations	Compliance verified on Inspection dated 09-06.2021 by UPPCB	Status as per the answering Respondent

The Unit has total 03 nos. of tube wells against 02nos. of permitted tube wells as per CGWA NOC. The Unit shall dismantle the 3rd no. of non-operational tube well.	Unit dismantled has 03rd tube-well. Complied.	Complied
The Unit shall obtain hazardous waste authorization from the respective State Pollution Control Board.	The unit has obtained authorization for disposal of Hazardous Waste vide letter dated 16-05-2021 of UPPCB valid till 16-05-2026.	Complied.
The Unit shall complete the construction work of STP at the earliest and shall treat the sewage generating from the residential colony as well as industrial plants in STP only.	Unit has installed STP of 200 KLD which was found operational during inspection dated 09-06-2021. Complied	Complied.
The Unit shall ensure complete filling of both the lagoons of capacity 6159.60 KL and 10,173 with ash.	Unit has completed the work of filing of both the lagoons of capacity 6159.60 KL and 10,173 with ash. Complied	Complied.
- If the concerned State Pollution Control Board allows the unit to carry out temporary bio-composting for utilization of bio methanated sludge, in that case the Unit shall comply with the following. - The unit shall ensure to consume the Bio- methanated spent wash in bio- composting	Complied.	Complied.

before monsoon season.		
After completion of the temporary bio-composting, the unit shall completely dismantle the pump sump of MEE concentrate, which is located at bio-compost yard of 10 acres.	Complied.	Complied.
After completion of temporary bio-composting, the unit shall completely dismantle the newly built pipeline.	Complied.	Complied.

Copy of CGWA NOC for Ground Water Extraction valid till 06-042022 and the Certificate of Registration issued by the Ground Water Department, Ministry of Jal Shakti (U.P.) bearing Registration Nos. 202104000250 & 202104000251 for the Distillery Unit, Dhampur has also been filed on record.

(iii) M/s Dhampur Sugar Mills Ltd. (Sugar Unit), Meerganj, Bareilly, UP (the Respondent No.2 herein)

Recommendations	Compliance verified on Inspection dated 21.01.2021 and 01.07.2021 by UPPCB		Status as per the answering Respondent
ETP inlet flow meter should be installed at the main inlet of ETP.	Unit has installed ETP inlet flow meter.		Complied
Periodic removal of sludge shall be	Complied.		Complied

ensured.			
•Flow meter shall be installed at Mill house and boiling house outlet for monitoring of generated effluent.	•Complied.	•	•Complied
•The Oil Skimmer shall be installed within a tank having approximate retention time, of 45 minute.	•Unit has submitted that the compliance shall be made before the next crushing season.	•	•Complied. A new Oil Skimmer has been installed
•The treated effluent discharges for irrigation shall comply with MOEF&CC Notification dated 14.01.2016 (G.S.R. (35E)) for land disposal.	•Complied.	•	•Complied
•The installed STP shall be made operational for treatment of generated sewage. Treated sewage shall be utilised for irrigation and other purposes.	•. The sample collected from the outlet of STP by UPPCB on 21-01-2021 and 01-07-2021 were found to be complying.	•	•Complied
•The Unit shall keep only single arrangement to pump the treated effluent from lagoon to irrigation supply.	•Unit has submitted that the compliance shall be made before the next crushing season.	•	•Complied. Single arrangement for pumping the treated effluent from the lagoon has already been made.
•The Unit shall obtain amended Hazardous waste authorisation from UPPCB to handle and safe disposal of discarded containers, oily rags, cotton waste, O&G and spray pond ETP sludge	•Unit has applied for amended authorisation on 19-07-2021 which is under process	•	•Complied. Applied for the amended authorization

Copy of NOC issued by the Ground Water Department, Ministry of Jal Shakti (U.P.) (Valid till 1805-2026) bearing Application Serial Nos. BRLY0421NIN0027, BRLY0421NIN0028, BRLY0421NIN0029 &

BRLY0421NIN0030 for the Sugar Unit, Meerganj has also been placed on record.

66. It is further submitted that the aforesaid facts show that the Respondents have already complied with the directions made by the Joint Inspection Team during the aforesaid latest Joint Inspections of the Respondent units. **Though some of the recommendations complied can become operative only during the cane crushing season.**

67. It is next submitted that as far as the subject matter of the Original Application No.35 of 2015 titled as "*Shailesh Singh vs. M/s D.S.M. Sugar Distillery Division Asmoli & Ors.*" is concerned, it is submitted that this Tribunal, vide Order dated 23-04-2015, has provided liberty to the Sugar and Distillery units of the DSM Sugar, Asmoli at Asmoli, District — Sambhal (U.P.) [arrayed as Respondent No.2 in the present Original Application] to take remedial measures and thereafter to apply to the Joint Inspection Team for a fresh inspection of the said Sugar and Distillery units. This Tribunal, vide the said Order dated 23-04-2015, has provided further liberty to the said Sugar and Distillery units to move this Tribunal for seeking permission to operate after achievement of the prescribed standards in respect of its effluents as per the prescribed norms and carrying out rectification of the various defects and deficiencies pointed out in the inspection.

68. It is further stated that the said Sugar and Distillery units, after rectification of the various defects and deficiencies pointed out in the inspection and as directed by this Tribunal vide the aforesaid Order dated 23.04.2015, filed a Review Application being Review Application No.13 of 2015 in the said Original Application No.35 of 2015. This Tribunal, vide

order dated 10-12-2015, disposed off the said Review Application No.13 of 2015 filed by the said Sugar and Distillery units.

69. It is next submitted that a perusal of the said Judgment dated 10.12.2015 passed by this Tribunal shows that while allowing the said Sugar and Distillery units to start its operation, this Tribunal has observed that the said Sugar and Distillery units has complied with the major recommendations of the Joint Inspection Team and said Sugar and Distillery units herein becomes a compliant unit.

70. It is further submitted that, however, this Tribunal, vide the said Judgment dated 10.12.2015, has imposed an Environmental Compensation of Rs.1 Crore and further directed to furnish a Bank Guarantee of Rs.10 Lakhs. That on 07-01.2016 the said DSM Distillery Division, Asmoli has duly deposited the said Environmental Compensation of Rs.1 Crore as well as furnished the said Bank Guarantee of Rs.10 Lakhs as directed by this Tribunal.

71. In the facts and circumstances as stated above, it has prayed for dismissal of the present Original Application being Original Application No.539 of 2019 titled as "***Adil Ansari vs. M/s Dhampur Sugar Mills Ltd. & Ors.***" filed by the Applicant.

Analysis of the submissions:

72. We have considered the rival submissions. The present matter is a classic example of total indifference, lack of concern and sensitivity by respondent no. 1 to 3 towards compliance of environmental laws. Persistent non-compliance, defiance of directions of CPCB and apathy towards the ecosystem has been the attitude of all the four units. It will

not be an exaggeration to state that respondent units while working have ignored, disregarded and given a good bye to all established principles of sustainable development. In short, it is a matter which shows self-concern rather than concern for others. The respondents have run the industry as per their own will showing total indifference for established rules, regulations and norms. Each and every inspection of the Units has only shown deficiencies and shortcomings regarding compliance of environmental laws. Though this case is pending since the year 2019 but it has earlier history of litigation of non-compliance of the year 2015 when an OA No. 35/2015 was filed against one of the units of the respondent no.1 to 3 and directions were issued for closure of the same vide order dated 23.04.2015. However, the matter was reviewed on 10.12.2015 and unit was allowed to operate with the direction that it will comply with the discrepancies pointed by Joint Inspection Team and Unit was also held liable to pay environmental compensation of Rs. 1 Crore within one month to UPPCB and furnish a Bank Guarantee of Rs. 10 lakhs.

73. So far as role of CPCB & UPPCB is concerned, it also no doubt shows failure on their part to act and do their statutory duty and take action when gross violations were observed by them. Their latitude, soft corner and a meek approach in taking prompt action when it was immediately required speaks a lot about their working.

74. The functioning of respondent no.1 to 3, as will be highlighted in the coming paras will reveal that Units have never shown any concern towards environmental norms and thereby they have violated the fundamental rights of others. The respondent Units have forgotten the concept that protection and cleaning of environment was the essence of

‘*Vedic Culture*’. Nature had a special place of respect in the ancient texts. They attached great attachment to protection and purity of environment. They persisted on safeguarding the habitation and firmly believed in the principle of non-pollution. The man was taught to live in harmony with nature and to recognize the fact that diversity prevails in all elements. Our ancestors treated nature holistically giving utmost reverence to preserving its various entities and elements.

75. “माता भूमि पुत्रोहं पृथिव्या”

“Earth is my mother and I am her Son”

The above Sanskrit Shloka clearly indicates the relationship of humans with Earth which is like a mother and child inferring that one should not harm either the environment or its flora and fauna.

76. The Hon’ble Supreme Court in number of its judgments has also emphasized the need for a clean environment and has held that Article 21 of the Constitution includes the right to enjoyment of pollution free water and air for full enjoyment of life. In **Subhash Kumar vs. State of Bihar, 1991 AIR 420**, the Hon’ble Apex Court has held that right to life is a fundamental right under Article 21 of the Constitution and it includes the right of enjoyment of pollution free water and air for full enjoyment of life.

77. In “**T. Damodhar Rao And Ors. vs The Special Officer, Municipal, AIR 1987 AP 171**”, the High Court of Andhra Pradesh has held that the slow poisoning by the polluted atmosphere caused by environmental pollution and spoliation should also be regarded as amounting to violation of Article 21 of Indian Constitution.

78. With the above background let us proceed to analyze the submissions made by the parties and various reports showing violations by respondent units of environmental norms.

79. The first **OA No. 35/2015** was filed by one Mr. Shailesh Singh against DSM Sugar Distillery Division and Ors. and order dated 23rd April, 2015 speaks a lot about the working of Distillery at the said time. The said order runs as follows:-

	Date and Remarks	Orders of the Tribunal
	Item No. 12 April 23, 2015. SS	We have heard the Learned Counsel appearing for parties. The report of the Joint Inspection Team has been filed on record. In terms of this report the DSM Sugar Distillery Division unit is not adhering to the prescribed norms. The sample collected and analysed by the Joint Inspection Team is beyond the prescribed limits for different parameters. It is further stated that treated effluent from ETP is not meeting the criteria for the BOD and TSS for disposal on land. The treated effluent storage tank with capacity of 24000 KL was damaged. Furthermore, there was short circuiting at the primary clarifier Unit. DG set was not equipped with acoustic enclosure. The Learned Counsel appearing for the industries submits that they will be conducting effective steps in terms of the recommendation made. Further the Applicant contended that the Groundwater has been polluted to the extent that the population of the nearby localities is suffering from Cancer and some other diseases. It is their contention that there is serious air pollution. Allegations made by the Applicant are of course denied

		by the industry respondents. In the circumstances afore-stated we direct that this industry shall be closed forthwith. However, industry has liberty to take remedial measures and apply to the Joint Inspection Team for a fresh inspection. The inspection would be conducted by the Joint Inspection Team only in furtherance to the order of the Tribunal. Recommendation of the Joint Inspection Team then would be placed before the Tribunal. Liberty to the Respondent industry to move the Tribunal for seeking permission to operate after achievement of the prescribed standards in respect of its effluent as per the prescribed norms and carrying out rectification of various defects and deficiencies pointed out in the inspection. Both Sugar and Distillery units will remain closed. With the above directions the Original Application No. 35 of 2014 as well as all other M.A. No. 348 of 2015 and M.A. No. 349 of 2015 are disposed of. Liberty to Applicant to move as prayed.

80. Perusal of the above order reveals that as per the joint inspection team report, the sample collected and analyzed was far beyond the prescribed limits for different parameters. After examining the report, this Tribunal had ordered for closure of unit forthwith. However, thereafter a review application was filed and the Tribunal had passed the following order on 23.04.2015:-

“Thus, we have to apply the above principals while directing the industry to pay environment compensation in terms of Section 15 and 17 of the National Tribunal Act, 2010. In view of our discussion, we pass the following order:-

- 1) "The Industry is permitted to start its manufacturing activity.
- 2) Before commencing its sugar manufacturing and distillery it must comply with the discrepancies pointed out by the Joint Inspection Team.
- 3) 3) The Unit will be inspected by the Joint Inspection Team immediately upon commencement gets operative.
- 4) The industry is held to be liable pay the Environmental Compensation of Rs. 1 Crore within one month to UPPCB and furnish a bank guarantee as well to the extent of Rs. 10 lakh.
- 5) The amount of Rupees One Crore paid to the UPPCB shall be spent upon taking preventive measures, removing of the various pollutants lying in the area, as well as steps for restoring of the environment and ecology as per the records of this file and ensure that no sludge spent wash, fly-ash or other pollutants generated by this industry is permitted to remain in the soil, ground water and even on the land of the industry.
- 6) If the unit performs strictly within the prescribed parameters and as per the conditions imposed and is found to be compliant and non-polluting industry, the bank guarantee could be released after a period of two years, failing which the bank guarantee shall be encashed and the amount utilized for prevention and control of pollution in that area."

81. Even after the above order, the respondents had not bothered to comply with the environmental norms and, therefore, the present OA no. 539/2019 was filed by the applicant alleging that respondent Units are still polluting the surrounding area and directly impacting the health of the villagers. Perusal of record reveals that notices under Section 5 of the Environment (Protection) Act were issued against the industry in the year 2018 as well as 2019. The record further reveals that a notice under Section 5 of the Environment Protection Act was issued against M/s.

Dhampur Sugar Mills Ltd., Village Asmoli, Distt. Sambhal on 20th May, 2019 categorically mentioning that inspection was carried out on 18th March, 2019 and the samples show that Mill has installed the flow meters but not maintained the log book of hot and cold water and effluent generation. It further shows that mill was advised to install flow meter at power turbine and process cooling tower make-up. It was further directed that log book should be maintained regarding consumption at various points as sugar plant, cogeneration and residential. It was further observed that Unit should install CPU for treatment of condensate to ensure its reuse and recycle within the process.

82. Similarly, a notice u/s. 5 of the Environment (Protection) Act was issued against M/s. Dhampur Sugar Mills Ltd. Dhampur, Distt. Bijnor i.e. a Distillery Division on 06.02.2018. The report shows that an environmental compensation of Rs. 46,80,000/- was imposed upon the Unit for non-compliance for the period dated 11.11.2018 to 15.04.2019 for crushing season 2018-19. The said notice also contemplated that Unit shall close down its Sugar manufacturing operations with immediate effect and it shall also dismantle the bypass arrangements and stop discharge of untreated/ partially treated effluent discharge immediately. The Unit shall also install flow meters at Mill, fibrizer, power turbine cooling, B and C massecuite cooling, and outlet of R.O. water reject. The unit shall install condensate polishing unit for high pressure boilers, 105 kg/cm². The unit shall install adequate Multi grade filter and Activated carbon filter. The unit shall install mechanical sludge handling system of adequate capacity.

83. The record further shows that a notice dated 15.03.2018 u/s. 5 of the Environmental Act was issued to M/s. Dhampur Sugar Mills, (DSM) Ltd., Sidhauri Road, Meeraganj, Bareilly (U.P.) (Sugar Division) observing

that inspection was carried out on 28th March, 2019 and analysis of treatment effluent sample from lagoon showed pH-7.52 against the norms of 5.5-8.5, BOD-BDL mg/l against norms of 100 mg/l, COD 8 mg/l against norms of 250 mg/l, TDS- 465 mg/l against norms of 2100 mg/l and TSS- 54.4 mg/l against norms of 100 mg/l. BOD level was below detection limit at different treatment operations. It was observed that unit has diluted ETP system at different stages. Though, it was reported by unit representative that the boiler ash and press mud are provided to local farmers for blending in their agricultural field/ land filling but the unit was unable to provide any documentary evidence regarding the same. The flow observed at the ETP outlet was equal to that at the ETP inlet even though the spray pond treated effluent was also being discharged into the ETP. It was, thus, evident that aeration tank to ETP system was not properly stabilized. Due to poor operation and maintenance of ETP system there was possibility of dilution of ETP system. A show-cause notice was, thus, issued to the Unit as to why it should not be closed down until all the necessary pollution control measures are planned and implemented.

84. According to the applicant, the said Unit has not complied with environmental norms and is violating the fundamental rights of the villagers. It was also submitted that because of non-adherence to environmental norms, the entire area is facing problem of contaminated water and toxic effluent is being directly discharged into drain which ultimately goes to River and discharge of effluent in the land is also affecting the soil and, therefore, he has filed the present Original Application OA no. 539/2019. The order dated 14th August, 2019 of the Tribunal sums up the grievance of the applicant. It runs as follows:-

“1. Grievance in this application is that M/s Dhampur Sugar Mills Ltd. (Sugar Division), District Sambhal and sugar mill units in District Bijnor and District Bareilly and Distillery in District Bareilly were operating in violation of environmental norms. The unit at Dhampur was directed to be closed earlier vide order dated 23.04.2015 passed by this Tribunal and was allowed to reopen by subsequent order subject to certain conditions, including payment of Rs. 1 Crore towards environmental compensation and furnishing a bank guarantee of Rs. 10 lakhs. However, the pollution still continues to operate without compliance of conditions. Other units in Bijnor and Bareilly Districts are also operating illegally and so is the Distillery unit in Bareilly District.

2. On 27.06.2019, Notice was issued by this Tribunal with reference to the allegations in the application. Reply has been filed by the UP State PCB which is practically of no value. Reply has been filed by the CPCB is that the closure directions have been issued in respect of Dhampur unit of Sugar Mill. Besides, show cause notices have been issued to other two Sugar Mills at Bareilly and Sambhal. Distillery unit at Bareilly is non-functional on account of off season.

3. Let the CPCB and State PCB furnish a further joint factual and action taken report with regard to all the four Units (three sugar mills and one distillery unit) by 30.11.2019 by e-mail at judicial-ngt@gov.in.”

85. The record further reveals that CPCB had filed a report on 31.01.2020 in respect of inspection of all the four Units from 27.11.2019 to 29.11.2019. The said reports which have been placed on record again point out the violations of environmental laws by the Units on the earlier date of inspection i.e. May, 2019 in case of Dhampur Sugar Mills, Sambhal and inspection carried out on 06.02.2018 in respect of M/s. Dhampur Sugar Mills Ltd. Bijnor as well as the Distillery Unit and the inspection dated 15.03.2018 of M/s. Dhampur Sugar Mill DCM Ltd. at Meerganj.

86. Let us first take up the case of Dhampur Sugar Mill, Bijnor.

M/s. Dhampur Sugar Mill, Bijnor.

87. Inspection of the above unit which took place on 27.11.2019 & 28.11.2019 shows that Unit has not installed the flow meters, it has not installed the hazardous tank, it has provided a Kachha Lagon (for storage of treated effluent) having lining of PVC sheets, which is not proper and it may result in leaching because of wear & tear. The Unit has also not installed Condensate Polishing Unit (CPU) for high pressure boilers. It has also not gone for mechanical sludge handling system. The Unit has not provided and did not maintain the logbook for generation and disposal of ETP sludge. The Unit has also not complied with the direction of CPCB dated 01.07.2019 regarding dismantling of bypass provision. The CPCB had, therefore, recommended that the Unit must dismantle the bypass and maintain the logbook and follow other directions given in the inspection report. It was also observed that examination of waste water samples collected from the local drain (Ikara Nalla) flowing adjacent to the Unit premises revealed that COD in the drain waste water was more than that for raw sewage, which shows the addition of industrial effluent in to the drain. It was further observed that Unit did not have STP facility for treatment of domestic waste water. It was further observed that NOC obtained for the Unit from CGWA had expired on 27th April, 2019 but Unit continued to withdraw ground water without valid NOC. In crushing season 2018-2019, Unit was not found complying with respect to bypass of untreated effluent and an environmental compensation of **Rs. 57,30,000/-** was imposed upon it. However, thereafter, CPCB had reduced the environmental compensation to **Rs. 16,20,000/-** as per the revised policy dated 04.09.2019.

M/s Dhampur Sugar Mills Ltd. (Distillery Unit), Dhampur, Bijnor.

88. Perusal of the inspection report of CPCB in respect of above Unit's inspection conducted on 27.11.2019 & 28.11.2019 reveals that utilization of CPU permeate having pH of 4.3, COD- 1013 mg/l against 250 mg/l and BOD-323 mg/l against 100 mg/l in non-process activities like gardening was found to be in violation of ZLD norms and required to be stopped immediately. It was observed that Unit's NOC from CGWA expired on 07.04.2019 but Unit has continued to withdraw groundwater without valid NOC. The unit was asked to install three Piezowells around bio compost yard as per SOP for distilleries. The report further reveals that based upon inspection carried out by UPPCB officials on 02.08.2019, a Show cause notice for environmental compensation of **Rs. 6,75,000/-** was issued to the Unit for violation of ZLD norms and illegal disposal of spentwash in agricultural fields of nearby Village-Fena, Chandpur.

M/s. Dhampur Sugar Mills Ltd (Sugar Unit) Asmoli, Sambhal.

89. During inspection of the above unit on 28.11.2019, it was observed that wet scrubber (common to 70 TPH & 50 TPH boilers) was not in working condition. It was also observed that a new MGF (Multigrade Filter) and ACF (Activated Carbon Filter) for tertiary treatment was under installation as the installed capacity of existing MGF and ACF was inadequate. The Unit has not provided/maintained the logbook for the generation and disposal of ETP sludge and other solid wastes.

90. The Inspection Team had also collected sample from the drain flowing adjacent to the Unit premises. It further showed that the Unit did not have facility for the treatment of domestic waste water and untreated sewage was discharged and mixed with treated effluent of the sugar Unit.

91. It was observed that Unit has not maintained the logbook for the generation and disposal ETP sludge and other solid wastes including boiler ash generation. It was further observed that Unit should install Condensate Polishing Unit (CPU) for high pressure boilers (105 Kg/cm²) to treat process condensate for reuse in process. This will help in reduction of fresh water consumption. It was also observed that the Unit must ensure the maximum reuse of treated effluent in process. It was further observed that wet scrubber (attached to Boilers 70TPH & 50TPH) should be made operational before start of the attached boiler. It was also observed that all domestic waste water generated within the Unit's premises and residential colony shall be discharged after proper treatment. The Unit shall install Sewage Treatment Plant (STP) of adequate capacity for the treatment of domestic wastewater. It was further observed that the Unit shall obtain NOCs from CGWA for withdrawal of groundwater at earliest as the CGWA NOC has already been expired in May, 2019. It was also observed that the Unit's NOC from CGWA expired on 02.05.2019, but Unit has continued to withdraw groundwater without valid NOC.

M/s DSM Sugar Meerganj, Sidhauri Road, Meerganj, Bareilly, UP

92. Perusal of the inspection report of the above Unit dated 29.11.2019 reveals that the Unit has not installed flow meters at power turbine cooling, boiler, wet scrubber. The mechanical sludge dewatering/handling system for better management of wet sludge was not provided by the Unit. The Unit did not provide/maintain logbook for daily effluent generation and treatment, disposal of ETP sludge, Boiler ash and other solid wastes.

93. It was further observed that the Unit was bypassing the untreated effluent through a pipeline laid underground up to Peelakhar River in Sindholi Village (Lat: 28.556169 and Long: 79.241446) which ultimately meets River Ramganga. Samples of untreated effluent bypassed through PVC pipe and flowing through a drain were also collected by the CPCB team. The examination of the same revealed high value of BOD and COD in downstream of the confluence point of bypass line and river showed the impact of untreated effluent being discharged by the Unit.

94. The water quality of river Peelakhar was also examined and it was found that Unit doesn't have facility for the treatment of domestic wastewater and untreated domestic effluent was found being discharged outside the premises of the Unit through a hole in the wall of the Unit.

95. The Unit was directed to dismantle the bypass line. It was directed to take corrective measures to prevent the leaching of untreated effluent into the soil/ ground water. Unit was directed to maintain the logbook for the generation and disposal of ETP effluent, sludge, Boiler Ash, hazardous waste and other solid wastes. Unit was asked to implement the recommendations made by National Sugar Institute (NSI), Kanpur in validation report of ETP for session 2018-19. Unit was advised to install the flow meters at the places as recommended by the National Sugar Institute (NSI), Kanpur. It was directed that all domestic wastewater generated within the premises and colony shall be discharged after proper treatment and Unit must install Sewage Treatment Plant (STP) for the treatment of domestic wastewater.

96. The action taken status mentioned that UPPCB has imposed EC of **Rs. 17,70,000/-** vide letter dated **21.01.2020** upon the unit.

97. Thus, in short, the above inspection reports reveal gross violation of environmental norms i.e. non-installation of flow meters, discharge of untreated effluent into drain as well as other non-compliances which are essential for running a Unit without causing damage to the environment.

98. Thereafter, an I.A. bearing no. 376/2020 was filed by the applicant in which several objections were raised. The first objection related to the Dhampur Sugar Mills (Sugar Unit) Bijnor. The learned counsel for the applicant has referred to the inspection report which revealed number of deficiencies. Since these deficiencies have been pointed out in detail in earlier part of the judgment and these are, therefore, not being repeated for the sake of repetition. However, some additional points were also raised by Ld. Counsel for the applicant. It was submitted in the Interim Application that earlier an inspection of the Unit was conducted on 28.03.2019 and the said Unit was found bypassing the untreated effluent through a separate channel into the outside drain adjacent to the premises of the Mill, however, the officials of CPCB instead of immediately dismantling the same had allowed the Unit to function. Even the closure notice was issued on 23.04.2019 (after the crushing season was over on 15.04.2019). It was further submitted that CPCB by the said notice dated 23.04.2019 had levied an environmental compensation of Rs. 46,80,000/- for the period i.e. from 11.11.2018 to 15.04.2019).

99. It was further submitted by Ld. Counsel for the applicant that Unit had continued to operate despite closure order 23.05.2019 and, therefore, an enhanced environmental compensation of Rs. 57,30,000/- for the period from 11.11.2018 to 20.05.2019 was imposed upon it. However, strangely the CPCB vide its letter dated 06.11.2019 reduced the compensation to Rs. 16,20,000/- on the basis of CPCB order dated 04.09.2019 which contemplates that EC for closure direction issued on

the ground of non-compliance of described discharge/emission norms shall be levied for the period between the date of inspection and monitoring to the date of closing of manufacturing operation. In these circumstances, time period for violation was reduced from 191 days i.e. from 11.11.2018 to 20.05.2019 to 54 days i.e. from 28.03.2019 to 20.05.2019.

100. It was further submitted that the said reduction is illegal because the said Unit at the time of inspection on 28.03.2019 was found directly discharging the untreated effluent into the outside drain through bypass arrangement which is a serious offence and imposes direct threat to the local environment and also to the life and health of local/ nearby residents. It was submitted that the CPCB has not considered the deterrent factor while imposing the environmental compensation as the said bypass arrangement had continued for a considerable time i.e. up to 27.11.2019 and the inspection report dated 03.12.2019 has revealed that it was closed by RCC by the concerned Unit.

M/s Dhampur Sugar Mills, Dhampur, Sambhal.

101. So far as Sambhal Unit is concerned, it is submitted that it has a history of serious violation. On 08.12.2016 when inspection was conducted the Unit was discharging untreated effluent overflow outside the premises of the Unit. Thereafter, the inspection of the said Unit was conducted by CPCB on 10.01.2018 and it was again found to be bypassing untreated effluent discharge from the spray pond overflow and cooling tower, lowdown being discharged outside the premises region through the drain connecting to SOT river which meets river Ganga.

102. It was next alleged that a detailed investigation from expert institution/ organization has not been conducted regarding the actual damage caused to the environment due to the above-said violations.

M/s Dhampur Sugar Mills (Sugar Unit), Meerganj, District - Bareilly (U.P.)

103. Objections were also raised regarding functioning of Bareilly Unit and action taken by Pollution Board. It was observed that the Unit was bypassing the untreated effluent to a pipeline laid underground up to Peelakhar River in Sindholi Village which ultimately meets Ramganga River. It was further observed that said Unit was found discharging its untreated domestic effluent outside the premises of the said Unit through a hole in the wall. An environmental compensation of Rs. 17,70,000/- only was imposed upon the said Unit.

104. It was observed that even during the inspection of the said unit by CPCB on 10.01.2017, it was found that the said unit has not integrated all process stream and route them to ETP. Thereafter, inspection of the said unit was conducted by CPCB on 25.01.2018. The treated effluent sample taken from the outlet of the ETP of the said unit was found non-compliant with respect to BOD and DSS norms. The report further reveals that CPCB during the inspection held on 25.01.2018 had observed that the aeration tank of the ETP system of the said Unit was not properly established due to poor operation and maintenance of the ETP system and the treated effluent discharged doesn't meet the prescribed standards. It was also observed that the aeration tank of the ETP system of the said Unit was not properly established due to poor operation and maintenance of the ETP system and there is possibility of dilution of ETP system. It was, thus, submitted that CPCB has shown

extreme leniency /favouritism towards the violator, despite the serious violations and has even reduced the Environmental Compensation and all these factors need to be considered by this Tribunal.

105. The above facts have been taken by the Learned Counsel for the applicant from the reports and these, no doubt, point out towards gross violation of the environmental norms which shows indifferent attitude of the respondents in complying with environmental norms and this has caused great damage to the environment.

106. The above deficiencies noted during various inspections, thus, reveal that units have been carrying out their working without bothering about environment. The untreated water was being discharged into the drain but surprisingly the officials of CPCB had not taken immediate action and ordered for dismantling the bye-pass arrangement. No prosecution was launched against erring units under Water (Prevention and Control of Pollution) Act, 1974 except in case M/s. Dhampur Sugar Mills Ltd., (Sugar Unit) Dhampur, Bijnor. These issues will be discussed by us while deciding appropriate action against the erring unit, let us first examine the written submissions filed by CPCB.

107. The CPCB has filed written submissions and tried to justify its actions and also raised a preliminary objection that notices under Section 5 of The Environmental Protection Act, 1986, were issued to the units and if a person is aggrieved against the said direction, he or she can file an appeal under Section 16(c) of the NGT Act. The petitioner has, thus, an alternative efficacious remedy and should have approached the Tribunal in appeal against the said directions. It was further submitted that environmental compensation has been levied against the Units and their illegal activities have been stopped and restricted.

108. We have considered the objection raised by Learned counsel for CPCB, but are afraid that the same cannot be accepted for the simple reason that Original Application No. 539/2019 has not been filed only against the notices issued under Section 5 of the Environmental (Protection) Act but for the gross violation of environmental norms by all the four Units which have caused water pollution and affected the flora and fauna, ground water & soil and caused damage to the environment, which stands clearly established in the inspections carried out by CPCB and UPPCB.

109. The CPCB in its submissions has admitted the violations committed by all four Units and has submitted that it had issued directions to UPPCB vide letter dated 05.03.2020 and 14.05.2020 under Section 18(1)(b) of the Water (Prevention and control of Pollution) Act 1974 to comply with the following directions:-

- i. UPPCB shall issue appropriate directions to the four units to ensure compliance of observations/recommendations made in the joint inspection reports filled in NGT in O.A. No. 539/2019 in the matter of Adil Ansari vs M/s Dhampur Sugar Mills Ltd. and Ors.,*
- ii. UPPCB shall issue appropriate direction to M/s Dhampur Sugar Mills, Sugar Unit, Meerganj, Bareilly, to deposit Rs.16,20,000/- toward EC as levied by CPCB vide direction dated 06/11/2019 under section 5 of Environment (Protection) Act, 1986 into UPPCB account open for such*
- iii. UPPCB shall take appropriate legal action for closure and prosecution of M/s Dhampur Sugar mills Ltd. (Sugar unit), Asmoli, Sambhal Moradabad and Dhampur Sugar Mills, Sugar Unit, Meerganj, Bareilly, which were found to be bypassing the effluents into drains.*
- iv. Compensation for withdrawal of ground water without permission will be recovered by these units.*

110. The CPCB has further pointed out that a joint meeting was also convened by CPCB with officials of UPPCB to review the action taken in compliance to this Tribunal's Order. The relevant observation regarding each Unit is discussed in coming paras and it reveals that violations of environmental norms were found and these continued for a considerable time.

Observations regarding deficiencies found in M/s Dhampur Sugar Mills, Sugar Unit, Dhampur, Bijnor

111. It is admitted that an inspection was undertaken on **28.03.2019** and it was observed that Unit was discharging its untreated effluent into the outside drain through bypass. Thereafter closure directions were issued on 23.04.2019 to the unit and Environmental Compensation of **Rs. 46,80,000/-** was imposed upon it and, thereafter, since the unit had kept operating till 20.05.2019 despite direction of closure, the EC amount was increased to **Rs. 57,30,000/-**. However, the CPCB vide its order dated 04.09.2019 has come out with a new policy relating to environmental compensation and as per the said policy, one of the condition to be considered for EC calculation is as under:-

“Unless there is substantial evidence, date of non-complying days would start with effect from date of non-compliance observed during inspection.”

112. It was also submitted that ‘Deterrent Factor’ is not applicable to the unit based on the methodology for assessing Environmental Compensation, since the unit closed the operation on 20.05.2019 and in subsequent crushing season, no illegal discharge was found during inspection conducted between 27.11.2019 to 28.11.2019. It was further submitted that there was no need for a detailed investigation from expert institution for EC calculation for the reason that such

calculation is to be undertaken only in the cases /instances of intentional discharges to the environment resulting into acute injury or damage to the environment or in case of injection of treated/partially treated/untreated effluent into ground water as per order dated 04.09.2019 issued by CPCB. The CPCB had, therefore, reduced the environmental compensation to Rs. 16,20,000/- vide its letter dated 06.11.2019. It may also be pointed out that UPPCB had thereafter further imposed an environmental compensation of Rs. 35,40,000/- vide its letter dated 22.06.2021.

113. In our opinion, since the inspection reports appearing on record reveal that Units were continuously polluting and damaging the environment, the CPCB has not correctly interpreted its order dt. 04.09.2019. The CPCB has ignored the fact that there was substantial evidence of continuous breach of environmental laws by the Unit in inspection reports dated 27.11.2019 and 28.11.2019. During the inspection on 27.11.2019 and 28.11.2019 it was observed that as per analysis of report of sample collected from ETP outlet, TSS was below detectable limit and therefore, the possibility of dilution cannot be ruled out. The unit had not installed Hazardous Tank in the boiling house. The Unit has provided Kachcha lagoon (for storage of treated effluent) having lining of PVC sheets, which is not proper and it may result in leaching because of wear & tear. The unit had not installed the condensate polishing unit. The unit had not provided mechanical sludge handling system for better management of sludge waste. The unit had not provided and maintained the log book for the generation and disposal of ETP sludge. The unit had not complied with CPCB direction dated 01.07.2019 of dismantling the bye-pass. The value of COD in the drain was more than that of raw sewage which shows the addition of industrial

effluent in drain. The unit did not have STP facility for treatment of domestic waste water. The inspection conducted by UPPCB on 23.09.2020 revealed that unit had yet to install STP. Thereafter a joint inspection of CPCB and UPPCB of the unit was carried out on 02.02.2021 & 03.02.2021 and it was observed that sugar effluent was getting mixed with the domestic sewage drain. The unit had, thus, not installed STP. The unit had also not installed condensate polishing unit till that date. In view of the above discussion, it is difficult to say that there is no substantial evidence to show continuous non-compliance of environmental norms by the Unit. It is also difficult to accept the argument that acute damage has not been caused to environment in view of the violations appearing on record.

M/S Dhampur Sugar Mills, Sugar Unit Asmoli, Sambhal, U.P.

114. Regarding the second unit i.e. M/S Dhampur Sugar Mills, Sugar Unit Asmoli, Sambhal, U.P, the CPCB has admitted the fact that unit was discharging effluents into the drain and had also made a bypass arrangement through which the untreated effluent was thrown into the drain when the premises was inspected on 10.01.2018. Thereafter, the unit was re-inspected on **01.03.2018** and it was observed that the unit had dismantled the bypass arrangements.

115. The unit was inspected on 28.11.2019 by joint committee. It was found that wet scrambler (Common to 70 TPH to 50 TPH boilers) was not in working condition. The unit had not provided/maintained the log book for the generation of RTP sludge and other solid wastes. The unit does not have facility for the treatment of domestic waste water and untreated sewage was discharged and mixed with treated effluent of sugar unit.

116. An inspection by UPPCB on 23.09.2020 also revealed that the unit was not found to have installed CPU. The STP was promised to be installed before start of crushing season.

117. As stated earlier, it is strange that despite the fact that there was a bypass arrangement vide which the effluent was discharged into the drain and it had continued for a long time, the CPCB had not thought fit to impose adequate compensation and had failed to launch prosecution against erring officials under Water (Prevention and Control of Pollution) Act, 1974 and has not bothered to conduct detailed investigation for EC calculation and since there was no STP, the untreated sewage discharge was being thrown into drain which ultimately merges into river and therefore, it cannot be said that there was no substantial evidence of continuous violation of norms and no injury was caused to the environment.

118. An inspection carried out on 14.01.2020 revealed that Decanter was installed but was yet to made functional. The team had observed that unit was discharging Sewage into Sot river through a channel which was also connected with the treated effluent storage lagoon for irrigation. The unit had not installed STP even on the said date.

119. The UPPBC has observed in its latest report dated 12.07.2021 that unit has installed Condensate Polishing Unit (CPU). However, STP plant for domestic sewage was yet to be made operational. The report also reveals that unit has installed condensate polluting unit on 12.07.2021 which ought to have been installed years ago.

120. It is strange that despite the above observations, the CPCB and UPPCB have taken a lenient view. We are, thus, not inclined to accept the argument of learned counsel for CPCB that there is no substantial

evidence showing continuous harm caused to environment by the Unit in question.

Dhampur Sugar Mills situated at Meerganj, District - Bareilly (U.P.)

121. We have also examined the submission of CPCB regarding the above Unit. The CPCB has admitted the fact that that vide its directions dated 28.02.2017, the Unit was directed to ensure compliance of wastewater discharge norms as per the notification dated January 14, 2016. Reply given by the Unit on 10.03.2017 was examined by CPCB and, thereafter, closure directions were issued on 15.05.2017 and unit was also asked to install online effluent monitoring system and to provide its connectivity to DPCB server. The unit was, thereafter, re-inspected on 25.01.2018 and CPCB had found non-compliance with respect to discharge norms for BOD and COD. The MISS concentration in the Aeration tank was very low. The leakages were observed from the syrup pumps, sulphide used pumps, magma pumps and condensate pumps. Since the unit had not submitted the adequacy assessment report a show-cause notice was issued under section 5 of the Environment (Protection) Act, 1986, dated 15.03.2018 for non-compliance of stipulated standards.

122. The unit had, thereafter, submitted revalidated ETP adequacy assessment report and irrigation management plan validated by NSI, Kanpur vide letter dated 15.06.2018. Other deficiencies regarding ETP were informed to the unit vide notice under Section 5 of the Environmental Protection Act dated 26.10.2018. Thereafter, CPCB and UPPCB had carried out inspections of all four units of M/s Dhampur Sugar Mills on 29.11.2019.

123. CPCB had directed UPPCB to take necessary action to stop discharge of untreated effluent into river by the unit and levy Environmental Compensation vide its direction dated 02.01.2020 issued u/s 18(1)(b) of the Water (Prevention and Control of Pollution) Act, 1974 and UPPCB had imposed an EC amount of Rs. 17,70,000/- on M/s Dhampur Sugar Mills, Sugar Unit, Meerganj, Bareilly.

124. During inspection on 29.11.2019, it was noticed that treated effluent is used for irrigation purpose of about 128 areas of land. However, the presence of BOD and COD in sample collected from bore well indicates that ground water is contaminated. It was found that unit had not installed flow meters at power Turbine cooling, boiler, wet scrubber, B & C Massecuite cooling as it was recommended by National Sugar Institute, Kanpur. The unit had not provided mechanical sludge handling system for better management of wet sludge. The unit was not maintaining log book for daily effluent generation and treatment, disposal of ETP sludge, Boiler Ash and other solid wastes. The unit was bypassing the untreated effluent through a pipeline laid underground up to Peelakhar river which ultimately meets river Ramganga. Samples were collected from upstream and downstream of the Peelakhar River. The high value of BOD and COD in downstream shows untreated effluent was being discharged by the unit.

125. Thereafter, inspection of the Unit was conducted on 14.02.2021 and it was observed that untreated sewage water was found besides the boundary wall of sugar unit. It was observed that the Sewage Treatment Plant (STP) for sewage generated from colony located inside the unit premises was not yet made operational.

126. The perusal of above reports presents a very grim picture regarding the working of unit. The inspection carried out on 14.02.2021 has revealed that sewage water plant was not yet made operational by the unit even till that date for sewage generated from colony located inside the unit. It is, therefore, difficult to accept the contention of learned counsel for the CPCB that substantial evidence is not on record regarding continuous violations of environmental norms and damage caused to the environment.

127. The UPPCB has, thereafter, given its report regarding inspection of Dhampur Sugar Mill Ltd. Bareilly on 14.02.2021 and has observed that treated effluent as claimed by unit was being provided to farmers via a fixed HDPE pipeline but unit was not able to make the line operational and no flow was observed at the point of treated effluent supply to farm land. After about 3-4 hours, the flow was observed at the point in farmland in the HDPE line from where sample was collected. This indicates that unit is not providing treated effluent regularly for irrigation via HDPE pipeline. Sample analysis of treated effluent also showed high BOD and COD. STP was not found operational at the time of inspection. Untreated sewage was observed besides the boundary wall of the sugar mill. Thereafter, it is submitted that inspection was conducted on 01.07.2021 by UPPCB and it was found that much of the compliances have been made but some of them were still to be done and unit had assured UPPCB that it will be done before the next crushing season. The UPPCB has also issued notices to impose environmental compensation of Rs. 30,000/- per day from 14.01.2021 till the date of compliance made by the unit u/S 33A read with 27 (2) of Water (Prevention and Control of Pollution) Act 1974.

128. The above report also presents a dismal picture regarding functioning of unit and shows gross non-compliance regarding supply of untreated effluent to the farms. No doubt, considerable number of directions have been complied with but after inordinate delay and, therefore, it is nothing but failure of duty on the part of UPPCB to impose nominal environment compensation without carrying out a detailed study. The casual approach of CPCB is not appreciable and more painful is the fact that they have defended a wrong and asserted that no detailed investigation or study is required to assess the detailed actual damage though violations are writ large and admitted by it in its inspection reports.

M/S Dhampur Sugar Mills Ltd. (Distillery Unit) Dhampur, Bijnor.

129. We have also assessed the inspection report of the above unit. The joint inspection team had inspected the Ikra drain on 02.02.2021. The monitoring of upstream of the unit had revealed that the water quality of the drain is affected by the sewage discharge by the unit. The UPPCB had, thereafter issued show cause notice under Section 33A of Water Prevention and Control of Pollution) Act for closure of the unit and imposing environmental Compensation of Rs.30,000/- per day from 02.11.2020 till compliance was made by the unit. The UPPCB vide letter dated 20.07.2021, had also imposed environmental compensation of Rs. 65,70,000/- against the unit. The CPCB had, thereafter made a submission to the effect that UPPCB had filed a Complaint case bearing no. 3306/20-21 on 27.07.2021 against M/s Dhampur Sugar Mill Ltd. (Sugar Unit) Dhamrpur Bijnor U/S 43 of the Water (Prevention and control of Pollution) Act,. 1974 in the court of special Judicial Magistrate.

130. This report further reveals that unit was still polluting the drain and ultimately the river where its water merges with it. The polluted discharge has, continued for a considerable time.

131. Respondents no.1 to 3 at the very outset have made a submission in their written arguments that they were never served or heard in the present matter. It will be better to first decide the contention raised by the respondents. Perusal of the ordersheet reveals that the Tribunal vide its order dated 27.06.2019 had directed for the service of the respondents for 19.07.2019. Perusal of the record reveals that registered post letters have been dispatched to the respondents. There is, thus, a presumption that service has been effected upon them as per Section 27 of the General Clauses Act. The respondents No. 1 to 3 have also filed written submissions and in these circumstances, the contention of the respondents that they were never served or given an opportunity to present their version cannot be accepted.

132. Respondents no. 1 to 3, in their written submissions, have denied each and every allegation made in the application filed by the applicant. It is submitted that various directions issued by this Tribunal as well as directions issued by the joint inspection team have been complied with by the units. Environmental compensation imposed against the units has been paid and it is clear from the reports filed by the CPPCB and UPPCB that all the deficiencies stand removed. The units have also obtained NOC from CGWA for ground water abstraction.

133. Thus, in short, the respondents no. 1 to 3 have submitted that they have complied with all the recommendations made by the joint committee. It is further submitted that vide its earlier order in Shailesh Singh's case (Supra), the unit was allowed to operate on filing of review

application. The unit even at that time had complied with all the major recommendations of the inspection team and the same is clear from the order also.

134. We have given our thoughts to the matter. Perusal of the various inspections reports filed by CPCB and UPPCB clearly reveals that there was continuous violation of environmental laws by the Units for a considerable time and has continued as late as conclusion of final arguments. One thing which has very clearly emerged from above discussions is that all the four Units were continuously violating the environmental laws and have shown indifferent attitude and non-concern towards the harmful effect of pollution on environment. These Units, in fact, have deprived the other persons and local inhabitants of their right to live in a pollution free environment. There are flagrant violations of the environmental norms as have appeared clearly in various inspection reports filed by CPCB & UPPCB. These inspection reports have also not been disputed by respondent no.1, 2 & 3.

135. As discussed in earlier paras, no proper assessment of damages caused to the environment has been assessed. The action taken by the authorities can by no stretch of imagination can be said to be adequate. The CPCB as well as UPPCB have given their own explanation that they have issued requisite notices under Section 5 of Environmental Protection Act and have given various directions to the units to rectify the deficiencies and to stop the violation of environmental laws and have levied sufficient environmental compensation and have thus discharged their duty in accordance with law. However, as discussed in detail above, the CPCB & UPPCB have failed to take appropriate action on the violations appearing in their own reports.

136. It is, thus, clear that Units have totally ignored the Principle of sustainable development which contemplates that development should be brought without jeopardising environmental interest.

137. In **K. Guruprasad Rao v. State of Karnataka, (2013) 8 SCC 418**, the Hon'ble Apex Court explained the ambit and scope of sustainable development. In this case, the appellant had filed a PIL praying for the cancellation of a mining lease granted to the respondent and to stop mining within the radius of 1km. from Jambunatheswara Temple. The Court held that sustainable development includes preservation and protection of historical/ archaeological monumental wealth for future generations. Right to development includes the right to whole spectrum of civil, cultural, economic, political and social process for the improvement of people's well being and realisation of their full potential.

138. In **Citizen, consumer and Civic Action Group v. Union of India, AIR 2002 Mad. 298**, the Court has held that there should be a proper balance between protection of environment and development activities which are essential for progress. There can be no dispute that the society has to prosper, but it shall not be at the expense of environment. In the like vein, the environment shall have to be protected, but not at the cost of development of the society. Both development and environment shall co-exist and go hand-in-hand.

139. Unfortunately, the Units have not followed the Principle of sustainable development. They have followed the Principle of its own sustenance and unjust enrichment at the cost of damage to the environment.

140. Let us now examine the fact whether the Pollution Boards have levied just and adequate compensation. As discussed earlier, it is clear

that CPPCB and UPPCB have been very lenient towards the violations of environmental laws committed by these units and whatever has been done is a paper formality. The appropriate action has not been taken at the appropriate time and the officials have not performed their duty when it was required most to curb the pollution. The officials had shut their eyes towards the violations and were happy in issuing notices for compliance and by levying nominal compensation forgetting the fact that to keep the environment clean is their basic duty. They have forgotten the fact that people have imposed faith upon them so that they (people) can live in a pollution free atmosphere. It is disheartening to note the conduct of the officials and the action taken by them against the above four units which has encouraged the units to violate the norms. No doubt, the units had to comply with most of the norms in the end because of the directions issued by this Tribunal. However, even in last compliance report, it is submitted that some part of directions will be complied with before the next crushing season. Thus, compliance of directions issued were not complete even on the date of conclusion of final arguments.

141. We may now sum up the violations of environmental norms by each industrial unit and environmental compensation imposed upon it by CPCB and UPPCB.

(i) M/s Dhampur Sugar Mills Ltd., District Sambhal.

The unit has a history of serious violation/ non-compliances. However, neither any environmental compensation has ever been imposed upon it nor any prosecution has been initiated against it. During the inspection on 08.12.2016 by CPCB, the unit was found discharging the spray pond overflow outside the premises of the unit. The unit was also not found complying with the prescribed

standards of BOD of the ETP effluent sample. The unit was again inspected by CPCB on 10.01.2018. The unit was again found to be by-passing untreated effluent discharge from the spray pond overflow and cooling tower outside the premises through the drain which was connected to Sot River. During the inspection on 28.11.2019, it was found that unit did not have the STP facility for treatment of domestic waste water. The untreated sewage was being discharged mixed with treated effluent of the Sugar Unit. The unit had not installed Condensate Polishing Unit (CPU) for high pressure boilers. The unit had also not maintained the logbook for generation and disposal of ETP sludge and other solid wastes. The STP was not made operational till 12.07.2021 by the unit.

(ii) M/s Dhampur Sugar Mills Ltd., District Bijnor.

This unit was also found violating the environmental norms. The unit was inspected on 27.11.2019 and 28.11.2019. It had not installed flow meters at Mill Fibrizer, Massecuite cooling and RO reject. The Unit had not installed the Hazardous tank in the boiling house. The Unit had provided Kachcha lagoon (for storage of treated effluent) having lining of PVC sheets, which was not proper as it may result in leaching under wear & tear condition. The Unit had not yet installed the Condensate Polishing Unit (CPU) for high pressure boilers (105 Kg/cm²). The unit had not provided mechanical sludge handling system. The Unit had not provided and did not maintain the logbook for the generation and disposal of ETP sludge, Boiler ash and other solid wastes. The unit had not complied with CPCB direction dated 01.07.2019 for dismantling the bypass provision. The team also collected the wastewater sample from the local drain (Ikara Nalla) flowing adjacent to the Unit

premises. The value of COD in the drain waste water was found more than that for raw sewage, which showed the addition of industrial effluent in to drain. The Unit did not have STP facility for the treatment of domestic wastewater. The inspections carried out on 02.02.2021 and 03.02.2021 revealed that unit had not installed STP till the said date. The unit till 09.06.02021 had not converted the storage lagoon of 4,000 cubic meter to impermeable lagoon and had submitted that it will be done before the next crushing season.

Perusal of the record reveals that CPCB had first imposed an environmental compensation of Rs. 57,30,000/- on 01.07.2019 which was later on reduced to Rs. 16,20,000/- vide letter dated 06.11.2019. However, UPPCB on 22.06.2021 had imposed an environmental compensation of Rs. 35,40,000/-.

(iii) M/s Dhampur Distillery Unit, District Bijnor.

The unit was inspected on 27.11.2019 and 28.11.2019. it was found that there were violations of ZLD norms. The unit had not installed piezowells around biocompost yard as per SOP for distilleries.

An environmental compensation of Rs. 6,75,000/- was imposed upon the unit for violation of ZLD norms, illegal disposal of spentwash in agricultural fields of nearby village-Fena, Chandpur. The UPPCB had thereafter further imposed environmental compensation of Rs. 65,70,000/- vide letter dated 20.07.2021.

(iv) M/s Dhampur Sugar Mills Ltd., Meerganj, District Bareilly.

The unit was inspected on 27.11.2019 and 28.11.2019. It was found that the unit had not installed flow meters at power turbine cooling, boiler, wet scrubber, B & C Massequite cooling. The unit

had not installed mechanical sludge dewatering/handling system. The unit had not provided/maintained logbook for daily effluent generation and treatment, disposal of ETP sludge, Boiler ash and other solid wastes. The Unit was found bypassing the untreated effluent through a pipeline laid underground up to Peelakhar River in Sindholi Village which ultimately meets River Ramganga. Samples were also collected from the upstream and downstream of the Peelakhar river where the effluent from the bypass line was meeting with the river water. The high value of BOD and COD in downstream of the confluence point of bypass line and river showed the impact of untreated effluent being discharged by the Unit. The Unit did not have facility for the treatment of domestic wastewater. Untreated domestic effluent was found being discharged outside the premises of the Unit through a hole in the wall of the Unit.

The CBCP had levied environmental compensation of Rs. 46,80,000/- vide letter dated 23.04.2019 and thereafter UPPCB had levied environmental compensation of Rs. 17,70,000/- vide letter dated 02.01.2020. The UPPCB had further issued notice for imposition of environmental compensation of Rs. 30,000/- per day from 14.01.2021 till the date of compliance made by the unit.

142. Keeping in mind the above facts and the discussion and gross violations of environmental norms by all the four units, this Tribunal is of the opinion that the compensation levied by CPCB and UPPCB upon the units is inadequate and insufficient as they have taken a very lenient view while imposing environmental compensation. The CPCB and UPPCB in fact have ignored the continuous violation of environmental norms by these units, with the result that these units have enriched themselves at

the cost of environment. The ‘Polluter Pays’ principle contemplates that the Units which have polluted the environment must also pay the compensation not only to the victims of pollution but also for the cost of restoring the environment. The Hon’ble Supreme Court in “**Indian Council for Enviro-Legal Action v Union of India, 2011 (8) SCC 161**” has defined the principle of ‘Polluters Pay’. The said principle demands that the financial costs of preventing or remedying the damage caused by pollution should lie with the undertakings which cause the pollution. The respondents no. 1 to 3 will, therefore, have to pay adequate environmental compensation as per the above principle which also finds mentioned in Section 20 of the National Green Tribunal Act, 2010.

143. The Hon’ble Supreme Court in number of cases has laid down the criteria for assessing the compensation for causing damage to the environment. In **M C Mehta vs. Union of India, (1987) 1 SCC 395**, the Hon’ble Apex Court has held that while granting the compensation, the court must keep in mind the magnitude and financial capacity of the enterprise so that the compensation is such that it has a deterrent effect. The relevant para of the judgment runs as follows:

“31. We would also like to point out that the measure of compensation in the kind of cases referred to in the preceding paragraph must be co-related to the magnitude and capacity of the enterprise because such compensation must have a deterrent effect. The larger and more prosperous the enterprise, the greater must be the amount of compensation payable by it for the harm caused on account of an accident in the carrying on of the hazardous or inherently dangerous activity by the enterprise.”.

144. The Hon’ble Apex Court in **Municipal Corporation of Delhi vs. Uphaar Tragedy Victims Association, 2011 14 SCC 481** has held that compensation should not only be compensatory but also punitive in nature so that it should deter future misconduct. It was further held that

several factors such as conduct of wrongdoer, gravity of the violation and willful disregard for safety norms have to be kept in mind while determining the punitive damages.

145. In **Sterlite Industries (India) Ltd. & Ors Vs. UOI, (2013) 4 SCC 575**, the Hon'ble Apex Court has held that while awarding compensation, the magnitude, capacity and prosperity of the errant company needs to be considered and has observed as under:-

"47. In the Annual Report 2011 of the appellant-company, at pages 20 and 21, the performance of its copper project is given. We extract hereinbelow the paragraph titled Financial Performance:

PBDIT for the financial year 2010-11 was Rs.1,043 Crore, 40% higher than the PBDIT of Rs.744 Crore for the financial year 2009-10. This was primarily due to higher LME prices and lower unit costs at Copper India and with the improved by-product realization.

Considering the magnitude, capacity and prosperity of the appellant company, we are of the view that the appellant-company should be held liable for a compensation of Rs. 100 crores for having polluted the environment in the vicinity of its plant and for having operated the plant without a renewal of the consents by the TNPCB for a fairly long period and according to us, any less amount, would not have the desired deterrent effect on the appellant-company."

146. In **Samaj Parivartana Samudaya & Ors. vs. State of Karnataka & Ors., (2013) 8 SCC 154**, the Hon'ble Apex Court was considering the issue of illegal mining by the lease-holders in District Bellary, State of Karnataka. The Hon'ble Court in the said case after observing flagrant violations by the lease holders had imposed a compensation of 10% of the sale-proceeds for reclamation and rehabilitation of the mining area.

147. The Hon'ble Apex Court in **M/s Goel Ganga Developers India Pvt. Ltd. vs. Union of India, MANU/SC/0841/2018**, while deciding an appeal against the order of this Tribunal imposing environmental compensation for restoration and restitution of environment damage by the project proponent had imposed a cost of Rs. 100 Crores or 10% of the

project cost which was to be in addition to further compensation of Rs. 5 Crores for contravening mandatory provisions of several environmental laws.

148. The Hon'ble Supreme Court in **M.C. Mehta Vs. Union of India, (2018) 18 SCC 397** had imposed compensation of 10% of the total project cost which was about Rs. 50 Crores upon one R. Kant & Co. who had developed Kant Enclave in Aravalli Hills for causing damage to the environment. The relevant para in this regard runs as follows:

“134. The Polluter Pays Principle is a wholesome principle that has been universally accepted and also adopted and applied in our country through several decisions of this Court. In this context, we may draw attention to among two of the earliest decisions rendered by this Court, namely, Indian Council for Enviro-Legal Action v. Union of India²⁴ and Vellore Citizens' Welfare Forum v. Union of India.²⁵ The law having been settled for more than two decades, we are of the view that it must be applied in a case such as the present. The damage caused to the Aravalli hills, as already noted, is irreversible. However, perhaps some of the damage could be remedied - (1996) 3 SCC 212 (1996) 5 SCC 647 at least we hope so. According to R. Kant & Co. it has expended 50 crore in developing Kant Enclave. We do not know the exact or accurate figure but proceed on the basis as stated. In our opinion, it would be reasonable to require R. Kant & Co. to deposit 10% of this amount (that is, 5 crore) for rehabilitation of the damaged areas. This amount should be deposited by R. Kant & Co. in the Aravalli Rehabilitation Fund within one month and in any case on or before 31st October, 2018”.

149. Thus, adequate compensation in the present case has to be assessed keeping in view the above principles laid down by the Hon'ble Apex Court in its various pronouncements regarding damage caused to the environment. As discussed earlier, the Respondent No. 1 to 3 have blatantly violated the environmental norms for a considerable long time and these violations would have continued but for the directions issued by this Tribunal. In case, the criteria laid down by the Hon'ble Supreme Court in the above judgments is applied and units are imposed 10% of the turnover as environmental compensation, it would have come to

approximately Rs. 400 Crores, since the information shown on the website of M/s Dhampur Sugar Mills Ltd. shows that the unit had a turnover of Rs. 3245.54 Crore in the financial year 2020-2021 and it had earned a profit of Rs. 120.62 Crore and similarly, the distillery/ chemical unit shows the turnover of Rs. 843.12 Crore and profit of Rs. 199.82 Crore. However, keeping in mind the fact that the units have complied with the orders of this Tribunal and directions issued by the concerned authorities and this fact stands confirmed by UPPCB, we deem it proper to impose a compensation of Rs. 5 Crores (Rupees Five Crores) against each unit which will be in addition to the compensation already levied by the Pollution Boards.

150. Each unit i.e. (i) M/s Dhampur Sugar Mills Ltd., District Sambhal, (ii) M/s Dhampur Sugar Mills Ltd., District Bijnor, (iii) M/s Dhampur Distillery Unit, District Bijnor and (iv) M/s Dhampur Sugar Mills Ltd., Meerganj, District Bareilly is now directed to pay environmental compensation of Rs. 5 Crores (Rupees Five Crores) each as mentioned above within a period of 30 days from today.

151. We have also noticed that prosecution has been initiated against M/s Dhampur Sugar Mills Ltd., District Bijnor by UPPCB under Section 24 of the Water (Prevention and Control of Pollution) Act, 1974 which is punishable under section 43 of the said Act. However, no prosecution seems to have been launched against the other three units. Let the CPCB and UPPCB examine this aspect and if there is incriminating material on record, they may initiate the proceedings against the other units as well under the above Act, as per law.

152. The amount of compensation as stated above may be deposited with the CPCB so that the above amount can be utilized for remedial

action to be taken for restoration of flora and fauna, damage caused to the soil, agricultural crops as well as to the ground water.

153. A detailed study, of course, needs to be carried out regarding extent of damage caused to the environment. For that purpose, we constitute a Committee which will have three Members from CPCB (to be nominated by Chairman, CPCB), one from UPPCB and the District Magistrates concerned. The Committee will be constituted within a period of 15 days from today. The committee will hold its first meeting within 15 days, thereafter. It is further directed that the said Committee will assess the damage caused to the environment which includes contamination of the soil, underground water, loss to the agricultural crops, contamination of river Sot and river Peelakhar as well as the damage caused due to air pollution by the units. The Committee will also interact with the farmers and local inhabitants who may have suffered loss/ damage because of pollution caused by the units. It shall thus, assess the compensation not only for the loss/ damage caused to the local inhabitants but also for the cost of remediation and submit its report to the Chairman, CPCB within a period of three months from today.

154. On the basis of the above report, the remediation work will be carried out under the supervision and directions of the Chairman CPCB, who will also ensure compliance thereof. In case, after carrying out the remediation work, if some balance amount remains out of the amount of environmental compensation, it will be utilized for the purpose of cleaning the environment and if, the remediation requires more funds, the deficiency will be made good by the respondents no. 1 to 3. It is further directed that the said Committee will complete the above task within a period of one year.

155. The Units will deposit the compensation amount within one month from the date of judgment. In case they fail to do so, the CPCB will issue directions for closure of Units till the payment of compensation. In an eventuality the compensation is not paid within one month, the realization of the same will also be ensured by the District Magistrates concerned. It is ordered accordingly.

156. We also impose a litigation cost of Rs. 10 lacs which shall be paid by respondents no. 1 to 3 to CPCB within a period of one month and the said amount will be utilized for the protection and preservation of environment.

157. We are further of the opinion that following directions are necessary for ensuring compliance of environmental norms by the units:-

- i.) All the Units must ensure continuous running of ETPs even during the non-crushing season for the adequate maintenance of required bio-mass so that the ETP is able to take the load/shock when it receives the pollution load/effluent at the start of the crushing season.
- ii.) All the Units in question must provide for separate Energy Meter for entire ETP setup including its accessory units with data logging facility which shall be inspected by UPPCB and CPCB from time to time.
- iii.) UPPCB must ensure Interlocking of Pollution Control Devices with production processes (one way but not vice-versa) so as to ensure that whenever ETPs/PCDs are intentionally closed, the production also comes to halt.
- iv.) Regular inspections should be carried out by the statutory authorities in both halves of the crushing season and also at least once in non-crushing season.
- v.) Since the Asmoli Unit falls in the critical zone with respect to ground water withdrawal, an assessment of water recharge needs to be carried out by CGWA or UPGWB before issuance of NOC.

The Statutory Authorities are directed to ensure the above directions strictly so that industries may run without causing damage or loss to the

environment as well as to the local inhabitants and farmers residing nearby the Units.

158. A copy of this judgment be forwarded to CPCB, UPPCB, District Magistrates of District-Sambhal, Bijnor and Bareilly by e-mail for compliance.

159. In view of above judgment, the Original Application no. 539/2019 and I.A. No. 376/2020 stand disposed of.

Adarsh Kumar Goel
Chairperson

Sudhir Agarwal,
Judicial Member

M. Sathyanarayanan,
Judicial Member

Brijesh Sethi,
Judicial Member

Dr. Nagin Nanda,
Expert Member

September 01, 2021
Original Application No. 539/2019
Interim Application No. 376/2020
AP, AG & AS

ITEM NO.20

Court 8 (Video Conferencing)

SECTION XVII

S U P R E M E C O U R T O F I N D I A
RECORD OF PROCEEDINGS

Civil Appeal No. 5975/2021

M/S DHAMPUR SUGAR MILLS LTD. & ORS.

Appellant(s)

VERSUS

ADIL ANSARI & ORS.

Respondent(s)

(IA No.123838/2021-EXEMPTION FROM FILING C/C OF THE IMPUGNED
JUDGMENT and IA No.123836/2021-STAY APPLICATION and IA
No.123839/2021-EXEMPTION FROM FILING O.T.)

Date : 08-10-2021 This appeal was called on for hearing today.

CORAM : HON'BLE MS. JUSTICE INDIRA BANERJEE
HON'BLE MR. JUSTICE J.K. MAHESHWARI

For Appellant(s) Mr. Mukul Rohatgi, Sr. Adv.
Mr. Shyam Divan, Adv.
Ms. Amita Katragadda, Adv.
Ms. Jyoti Dastidar, Adv.
Mr. Prakhar Pandey, Adv.
Mr. Aman Chandola, Adv.
For M/S. Cyril Amarchand Mangaldas Aor, AOR

For Respondent(s) Ms. Preeti Singh, AOR
Mr. Sunklan Porwal, Adv.
Mr. shubham Kaushik, Adv.
Ms. Saumya Dwivedi, Adv.

UPON hearing the counsel the Court made the following
O R D E R

Issue notice, returnable in six weeks.

In the meanwhile there will be a stay of the order impugned to
restricted to the direction for payment of compensation of
Rs.5,00,00,000/- (Rupees five crores only) in respect of each unit
and to the costs of Rs.10,00,000/- imposed on the Respondent Nos. 1

to 3.

A committee may be constituted to make a detailed study as directed by the order impugned, but no further steps shall be taken by the Committee for a period of six weeks from date.

(GULSHAN KUMAR ARORA)
AR-CUM-PS

(MATHEW ABRAHAM)
COURT MASTER (NSH)

IN THE SUPREME COURT OF INDIA
CIVIL APPELLATE JURISDICTION
CIVIL APPEAL No. 5975 of 2021

In the Matter of: -

M/S DHAMPUR BIO ORGANICS LIMITED

.... Appellant

Versus

Adil Ansari & Ors

.... Respondents

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Date: 15.11.2022

Place: Delhi

Saurabh Mishra
Advocate-on- Record
AOR Code:1597
For the Respondent No. 5/CPCB

**Detailed study report on
"Extent of damage caused to the environment"
due to sugar units of
M/s Dhampur Sugar Mills Ltd. in Distt. Sambhal, Distt. Bijnor and Distt. Bareilly
and Distillery Unit in Bijnor, U.P
(15-18th November 2021 & 1-2nd December 2021)**

**In the matter of
Adil Ansari Vs.
M/s Dhampur Sugar Mills Ltd., Asmoli
(Sugar Unit) &
M/s Dhampur Sugar Mills Ltd., Dhampur
(Sugar and Distillery Unit) &
M/s Dhampur Sugar Mills Ltd., Meerganj
(Sugar Unit)
[O.A. NO. 539/2019]**

**-Prepared by-
The Joint Committee of CPCB, UPPCB, CGWA and District Administrations of
Bareilly, Sambhal and Bijnor
Constituted by
Hon'ble National Green Tribunal
(Order dated 01st September, 2021)**

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DETAILED STUDY REPORT ON EXTENT OF DAMAGE CAUSED TO THE ENVIRONMENT DUE TO UNITS OF M/S DHAMPUR SUGAR MILLS LTD. & ORS., IN DIST. SAMBHAL, DIST. BIJNORE & DIST. BAREILLY AS PER HON'BLE NGT ORDER DATED 01.09.2021 CARRIED OUT BY JOINT COMMITTEE OF CPCB, UPPCB, CGWA & DISTRICT ADMINISTRATIONS OF DISTT. BIJNOR, SAMBHAL & BAREILLY ON 15TH TO 18 NOVEMBER, 2021 AND 1ST TO 2ND DECEMBER 2021

1. Subject Matter

Matter: Adil Ansari Vs. M/s. Dhampur Sugar Mills Ltd. & Ors, O.A. No. 539/2019

Subject: Detailed study report on assessment of the damage caused to the environment which includes contamination of soil, underground water, loss to agricultural crops, contamination of River Sot and river Pilakhar as well as due to air pollution due to Units of M/s Dhampur Sugar Mills Ltd. & ors. in distt. Bijnor, distt. Bareilly and distt. Sambhal.

2. Order of Hon'ble NGT dated 01.09.2021

The Hon'ble NGT in the said matter passed the following directions vide its order dated 01.09.2021:

"A detailed study, of course, needs to be carried out regarding extent of damage caused to the environment. For that purpose, we constitute a Committee which will have three Members from CPCB (to be nominated by Chairman, CPCB), one from UPPCB and the District Magistrates concerned. The Committee will be constituted within a period of 15 days from today. The committee will hold its first meeting within 15 days, thereafter. It is further directed that the said Committee will assess the damage caused to the environment which includes contamination of the soil, underground water, loss to the agricultural crops, contamination of river Sot and river Pilakhar as well as the damage caused due to air pollution by the units. The Committee will also interact with the farmers and local inhabitants who may have suffered loss/ damage because of pollution caused by the units. It shall thus, assess the compensation not only for the loss/ damage caused to the local inhabitants but also for the cost of remediation and submit its report to the Chairman, CPCB within a period of three months from today"

3. Constitution of committee as per Hon'ble NGT Order dated 01.09.2021 and Joint Survey and Monitoring in the surrounding areas of Dhampur Sugar Mills Ltd. & Ors on 15.11.2021 to 18.11.2021 and 01.12.2021 to 02.12.2021.

In compliance of Hon'ble NGT order, CPCB constituted a committee having representative from CPCB, UPPCB and concerned District Magistrates vide office order B-19123/WQM-II/Legal/NGT-6/CPCB/2020-21, dated 29.09.2021.

First meeting of the committee was held on 11.10.2021. The committee noted the Supreme Court order dated 08.10.2021 in Civil Appeal No. - 5975/2021 in the matter of M/S Dhampur Sugar Mills Ltd. & Ors. Vs Adil Ansari & Ors., where the Hon'ble Supreme Court has directed that *"a committee may be constituted to make a detailed study. However, no further steps shall be taken by the committee for a period of six weeks"*.

The committee members agreed that there is no stay on undertaking the study by the committee. The committee members undertook deliberation to plan the study as per terms of reference of the committee. After detailed deliberation, the committee arrived at the following decisions;

1. Teams shall be constituted, each team comprising officials from CPCB, UPPCB, District Administration, District Agricultural/ Horticulture Departments, Uttar Pradesh Ground Water Department (UPGWD), Uttar Pradesh Jal Nigam (UPJN), District Health Departments and Department of Fisheries for carrying out study for assessment of the damage to environment which includes contamination of the soil, underground water, loss to the agricultural crops, contamination of river Sot and river Pilakhar as well as the damage caused due to air pollution by the units. The Committee will interact with the farmers and local inhabitants who may have suffered loss/ damage because of pollution caused by the units.
2. UPPCB and District administrations will ensure the participation of officials from concerned department like, District Agricultural/ Horticulture departments, UPGWD, Uttar Pradesh Jal Nigam (UPJN), District Health Departments and Department of Fisheries.
3. Field visit and sampling shall be carried out from 20th Oct, 2021 onwards.
4. Assessment of damage to the soil will be done by District Agricultural Departments. Sampling and testing if required will also be done by District Agricultural Departments.
5. Data for groundwater aquifer flow and groundwater depth shall be provided by UPGWD.
6. Assessment of damage to groundwater will be done by UPGWD. Groundwater sampling for this purpose will be done by UPGWD. Testing of groundwater may be done either by UPGWD or CPCB.
7. Mapping of River Sot, Pilakhar and Ikra drain from origin to confluence, for identification of pollution sources and impact of concerned unit on their quality shall be carried out by teams of officials from CPCB, UPPCB and district administration.
8. Damage caused due to air pollution by the units shall be assessed in terms of loss of yield and produce of crops and fruits. If required local health service center will be contacted to ascertain facts on health impact through District Health Department.
9. Loss to agriculture crops and fruit orchards in terms of yield and productivity shall be assessed by District Agricultural/ Horticulture Departments.
10. The study being carried out by committee shall be video-graphed/ photographed. The videography and photography shall be arranged by UPPCB.
11. UPPCB shall also provide details of public complaints/ newspaper clippings published in past related to the pollution carried by the units.

4. Joint survey of study areas around the units of DSM

Joint teams comprising of officials from CPCB, UPPCB, UPGWB and District administrative officials from Jal Nigam, Agriculture department, Horticulture department carried out survey of the surrounding areas of units of M/s Dhampur Sugar Mills Ltd. & ors. in Meerganj (Bareilly), Asmoli (Sambhal) and Dhampur (Bijnor) on 15.11.2021 to 18.11.2021 and 01.12.2021 to 02.12.2021. The grid sampling method has been adopted for monitoring to assess the damage caused to the environment, with each grid of distance 1.5 km covering a peripheral area of 4 km around the unit.

Joint teams collected samples of ground water from borewell, handpumps and samples of soil from agriculture lands under cultivation, for assessment of any impact on soil and ground water. Joint teams also interacted with the villagers to evaluate the impact of pollution caused by these units i.e., discharge of treated/untreated effluent and boiler ash on health of villagers, animal health and crop productivity. Photography and videography of all inspections/Sampling were carried out during the survey.

5. Joint survey and monitoring in the surrounding areas of M/s Dhampur Sugar Mills Ltd (DSM), Meerganj, District Bareilly (Sugar Unit) and River Pilakhar during Nov. 15-16, 2021

Four teams comprising of officials from CPCB, UPPCB, UPGWB and District administrations, carried out survey and monitoring to assess the damage caused to the environment of 11 selected villages around the DSM unit and monitoring of River Pilakhar during Nov. 15-16, 2021. M/s DSM unit situated at Meerganj tehsil in the Bareilly District of U.P. The peripheral area of 4 km was taken for grid sampling with each grid length of 1.5 km, sampling has been done from each grid. The unit is located between NH24 on its west direction and Nahal canal & Pilakhar River in its north and North-East directions. Pilakhar river flows from North direction of the unit and joins Nahal canal in Sindhauli village of Bareilly thereafter flows towards south and joined Bakhra river. Based on the catchment of Pilakhar and Bakhra river contour gradient considered from the unit towards the flow directions of both the river in North and North-East directions.

Following 11 villages/ area were included in the survey;

- i. Village Sindhauli Block-Meerganj, Dist- Bareilly, U.P
- ii. Village Nagariya Kalayanpur Block-Meerganj, Dist- Bareilly, U.P
- iii. Village Juner Block-Meerganj, Dist- Bareilly, U.P
- iv. Village Gula. Block-Meerganj, Dist- Bareilly, U.P
- v. Village Nagariya Sadat, Block-Meerganj, Dist- Bareilly, U.P.
- vi. Village- Nausana, Block-Meerganj, Dist- Bareilly, U.P.
- vii. Village- Kulchha Khurd, Block-Meerganj, Dist- Bareilly, U.P.
- viii. Village Sillapur Block-Meerganj, Dist- Bareilly, U.P
- ix. Village Khamariya sani Block-Meerganj, Dist- Bareilly, U.P
- x. Village Sanjarpur Block-Meerganj, Dist- Bareilly, U.P
- xi. Village Thiriya Brahmpur Block-Meerganj, Dist- Bareilly, U.P

Details of survey and monitoring are as under:

5.1. Assessment of contamination of soil

Twenty-two soil samples were collected from 11 selected villages to assess the soil health with respect to 12 parameters i.e. three macro-nutrients namely Nitrogen (N), Phosphorus (P) and Potassium (K); one secondary nutrient, Sulphur (S); five micro nutrients namely Boron (B), Zinc (Zn), Copper (Cu), Iron (Fe) and Manganese (Mn); and three physical parameters, pH, Electrical conductivity (EC) and Organic carbon (OC).

Location of soil samples collected with respect to the DSM unit are shown in figure 1 below;

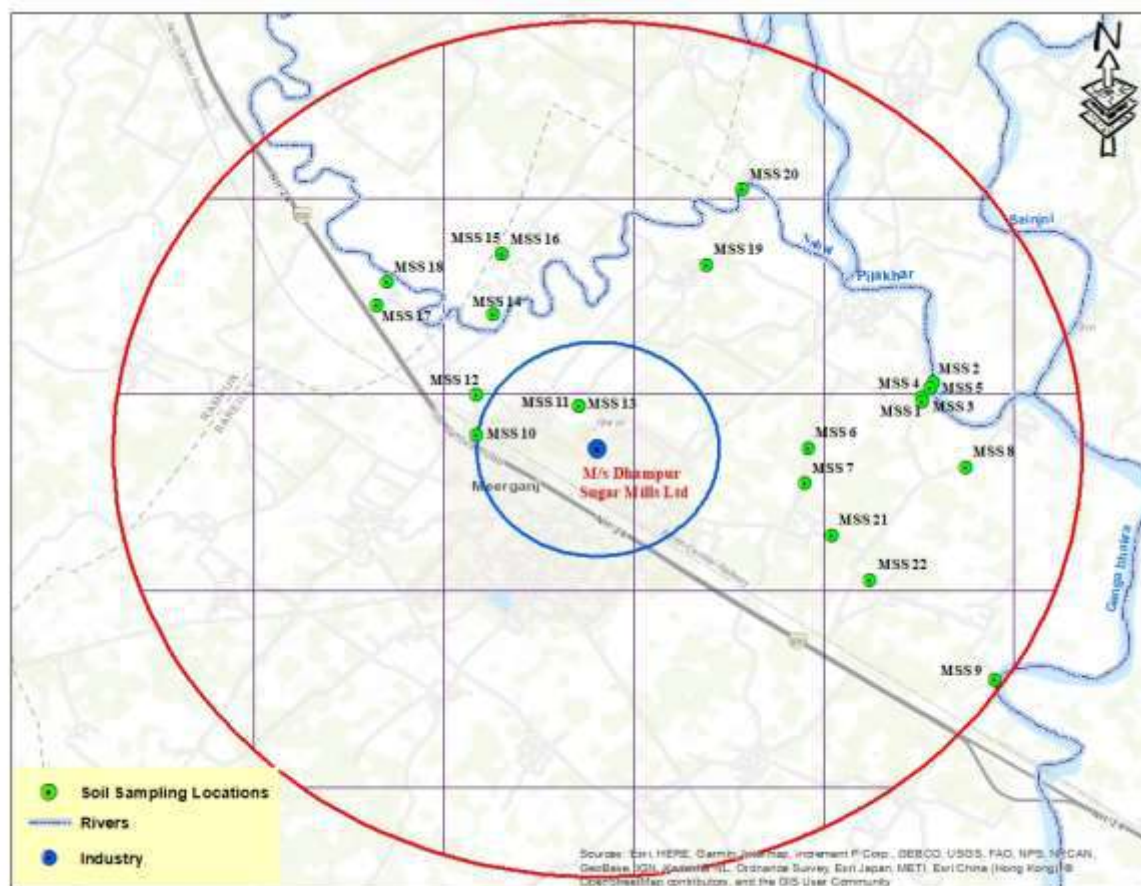


Figure 5.1 Location of soil sample collected in Meerganj block, Bareilly

Table 5.1 Details of soil samples collected from Meerganj block

Sample code	Sample location	Coordinate		Remark
		Latitude	Longitude	
MSS 1	Village- Sidhauli	28.555370,	79.241129	Ploughed field
MSS 2	Village- Sidhauli	28.555805,	79.241376	River bed of Pilkhar River
MSS 3	Village- Sidhauli	28.555307,	79.241068	Reported effluent discharge point near River Pilkhar
MSS 4	Village- Sidhauli	28.554621,	79.240418	Ploughed field
MSS 5	Village- Sidhauli	28.554231,	79.240413	Sugarcane field

Sample code	Sample location	Coordinate		Remark
		Latitude	Longitude	
MSS 6	Village- Sidhauli	28.550261,	79.230822	Ploughed field
MSS 7	Village- Nagariya Kalayanpur	28.5473173,	79.2304540	Ploughed field
MSS 8	Village- Jauner	28.548647,	79.244092	Sugarcane field
MSS 9	Village- Gula	28.530777,	79.246527	Ploughed field
MSS 10	Village- Nagariya Sadat	28.551421	79.2027740	Sugarcane
MSS 11	Village- Nagariya Sadat	28.5538	79.2114105	Ploughed field
MSS 12	Village- Nagariya Sadat	28.5548019	79.2027740	Mustard/Sugarcane
MSS 13	Village- Nagariya Sadat	28.5538444	79.21141052	Banana Orchard
MSS 14	Village- Nausana	28.56155586	79.20422363	Guava Orchard
MSS 15	Village- Nausana	28.56662	79.204939	Mustard field
MSS 16	Village- Nausana	28.566635	79.204968	Sugarcane field
MSS 17	Village- Kulchha Khurd	28.56234	79.1944	Mustard field
MSS 18	Village- Kulchha Khurd	28.56428	79.19519	Garlic field
MSS 19	Village-Sillapur	28.56573	79.2222	Sugarcane field
MSS 20	Village- Khamariya Sani	28.5721	79.22517	Sugarcane field
MSS 21	Village- Sanjarpur	28.54294	79.23276	Wheat field
MSS 22	Village-Thiriya Brahmpur	28.53915	79.236	Sugarcane field

Analysis results of soil samples collected are as below;

Table 5.2 Analysis results of physical parameters and macro-nutrients of soil samples collected from Meerganj block

Sample Code	pH	Available Organic Carbon		Available Phosphate		Available Potash		Available Nitrogen		Electrical Conductivity	
		(%)	Fertility Class	kg/ha	Fertility Class	kg/ha	Fertility Class	kg/ha	Fertility Class	dS m ⁻¹	Fertility Class
MSS 1	7.1	0.34	L	9	L	89.6	L	76.5	L	1	CG
MSS 2	7.4	0.28	L	4.5	L	67.2	L	63	L	1.8	CG
MSS 3	7.7	0.34	L	18	M	123.2	M	76.5	L	1.2	CG
MSS 4	7.5	0.3	L	9	L	44.8	L	67.5	L	1.5	CG
MSS 5	7.1	0.39	L	4.5	L	44.8	L	87.75	L	1	CG
MSS 6	6.5	0.21	L	9	L	44.8	L	47.25	L	1.2	CG
MSS 7	6.5	0.36	L	4.5	L	33.6	L	81	L	1.5	CG
MSS 8	6.9	0.16	L	4.5	L	56	L	36	L	1.5	CG
MSS 9	7	0.19	L	4.5	L	56	L	42.75	L	1.6	CG
MSS 10	7.9	0.09	L	9	L	67.2	L	20.25	L	1.4	CG
MSS 11	7.5	0.19	L	4.5	L	44.8	L	42.75	L	1.1	CG
MSS 12	7.2	0.27	L	4.5	L	67.2	L	60.75	L	1.5	CG
MSS 13	6.8	0.25	L	9	L	67.2	L	56.25	L	1.7	CG
MSS 14	7.3	0.37	L	4.5	L	67.2	L	83.25	L	1	CG
MSS 15	7.9	0.16	L	9	L	33.6	L	36	L	1.1	CG
MSS 16	7.1	0.24	L	9	L	78.4	L	54	L	1	CG
MSS 17	7.1	0.34	L	4.5	L	44.8	L	76.5	L	1.6	CG
MSS 18	7.4	0.21	L	4.5	L	134.4	M	47.25	L	1.3	CG
MSS 19	7.2	0.25	L	4.5	L	44.8	L	56.25	L	1.3	CG
MSS 20	7.2	0.12	L	4.5	L	67.2	L	27	L	2	CGSC
MSS 21	6.9	0.13	L	4.5	L	56	L	29.25	L	1.2	CG
MSS 22	7.3	0.12	L	4.5	L	56	L	27	L	1	CG

Note: Values of Nitrogen (N), Phosphorus (P) and Potassium (K) are in kg/hectare. Unit of Electrical conductivity (EC) is in deci Seimens per meter (dS m⁻¹). Organic carbon (OC) is represented in %.

***L- Low, M-Medium, CG - Critical for germination, CGSC – Critical for Growth of Sensitive Crops**

Table 5.3 Analysis results of secondary nutrient and micro-nutrients of soil samples collected from Meerganj block

Sample Code	S	B	Cu	Fe	Mn	Zn
MSS 1	10.73	0.97	0.23	3.44	3.76	0.04
MSS 2	12.9	0.62	0.46	6.36	2.55	1.41
MSS 3	17.19	1.09	0.12	5.38	4.88	0.03
MSS 4	12.76	0.72	0.23	4.89	5.1	0.02
MSS 5	14.06	0.62	0.23	4.78	4.37	0.03
MSS 6	12.64	0.56	0.23	4.83	3.76	0.02
MSS 7	11.34	0.82	0.35	4.83	5.45	0.03
MSS 8	11.08	1.05	0.35	4.94	5.86	0.03
MSS 9	10.44	0.74	0.58	4.78	5.2	0.05
MSS 10	0.69	4.93	0.6	0.04	10.73	4.34
MSS 11	0.46	5.96	0.68	0.03	12.64	4.17
MSS 12	0.58	5.53	0.95	0.03	9.14	4.89
MSS 13	0.58	5.08	0.44	0.03	9.98	4.28
MSS 14	0.46	5.33	0.36	0.02	13.54	4.67
MSS 15	0.81	4.85	0.82	0.04	11.37	4.78
MSS 16	0.46	5.18	0.72	0.02	10.44	4.61
MSS 17	0.46	4.22	0.72	0.03	12.47	4.56
MSS 18	0.46	4.68	0.56	0.02	13.08	5.44
MSS 19	12.64	0.56	0.58	5.38	4.95	0.03
MSS 20	12.79	0.56	0.58	3.54	5.35	0.04
MSS 21	12.96	0.72	0.92	3.54	5.38	0.03
MSS 22	13.54	0.89	0.42	4.67	5.56	0.06

Note: values of Boron (B), Zinc (Zn), Copper (Cu), Iron (Fe), Manganese (Mn) and Sulphur (S) are in ppm.

Observation based on interaction with farmers on Soil health:

Residents of Sindhauli village and labours working in the agricultural field of Sindhauli village informed the team about effluent discharge into river Pilakhar. The joint team visited the reported discharge point near Pilakhar River and observed the outlet of the pipeline covered with sacks, hay/agricultural waste. However, no discharge was observed at the time of inspection. Joint team collected sample MSS3 from the mentioned location, which doesn't show any physio-chemical characteristics different from other soil samples collected from Sindhauli village.

Observations based on the analysis results of soil samples:

1. pH, Electrical conductivity (EC) and Organic carbon (OC) value range from 6.5 - 7.9, 1 - 2 dS m⁻¹ and 0.09 - 0.39%, respectively.
2. Nitrogen (N), Phosphorus (P), Potassium (K) and Sulphur (S) value range from 20.25 - 87.75 kg/hectare, 4.5 - 18 kg/hectare, 33.6 - 134.4 kg/hectare and 0.46 - 17.19 ppm, respectively
3. Boron (B), Zinc (Zn), Copper (Cu), Iron (Fe) and Manganese (Mn) value range from 0.56 - 5.96 ppm, 0.02 - 5.44 ppm, 0.12 - 0.95 ppm, 0.02 - 6.36 ppm and 2.55 - 13.54 ppm, respectively.
4. District Agriculture Department, Bareilly, vide letter dated 23.03.2022 (**Annexure-1**) has reported that;
 - *No industrial factor was evident which damage the crops and crop yield.*
 - *pH of 22 soil samples found normal and values of other parameters are also in range as found in the area.*
 - *Damage to crops/agricultural field due to industry not evident since last 05 years as District Agriculture Department conduct periodic survey to monitor the crop productivity/cultivation. In past few years the crop production was found normal.*

5.2. Assessment of contamination of ground water

Ground water samples were collected from 11 villages to assess its quality. Samples were collected from handpumps and borewell located in surveyed villages and tube well located in agricultural fields at different depths of 40 ft to 200 ft to evaluate the groundwater quality. Surface water samples were also collected from 02 different locations in Village Sindhauli.

Location of ground water and surface water samples collected from surrounding localities of the DSM unit are shown in figure below:

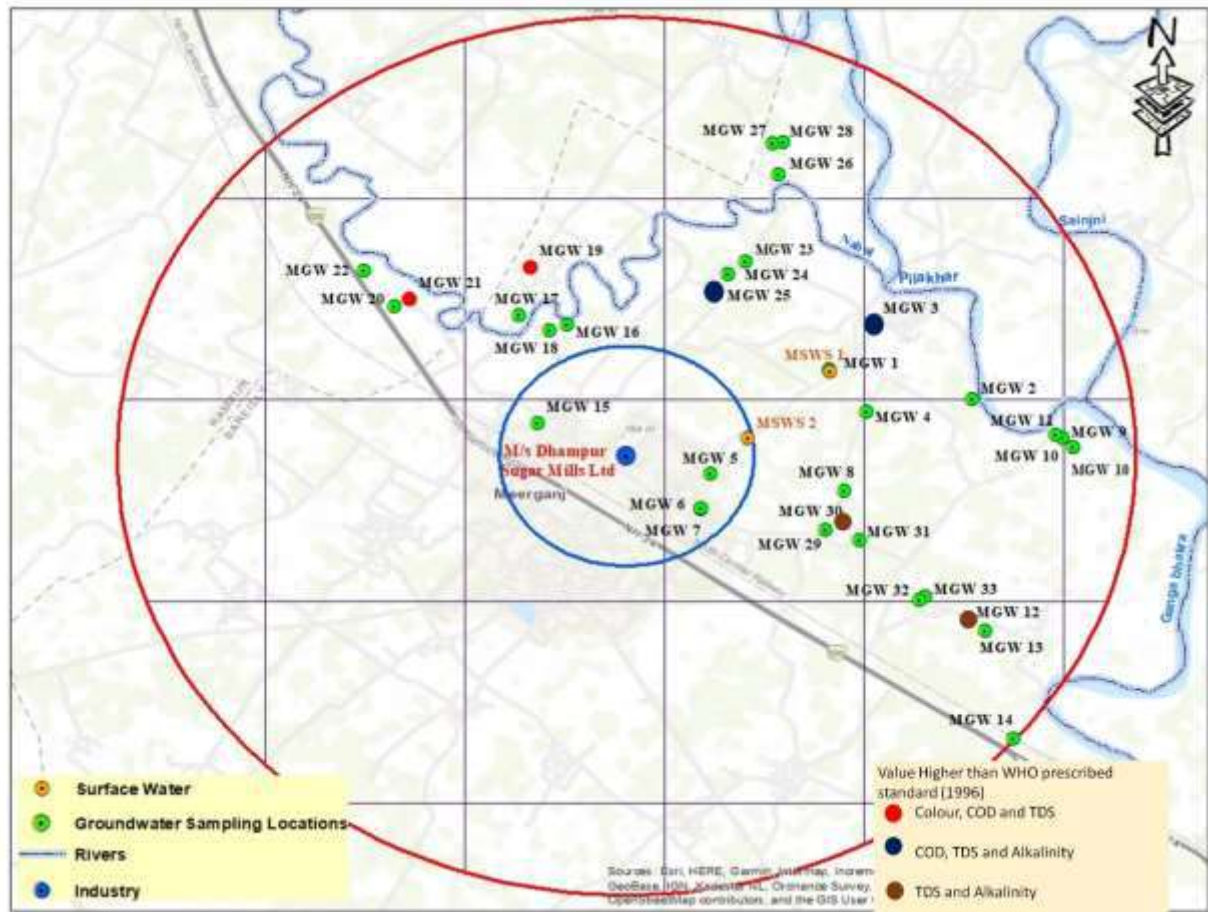


Figure 5.2 Sampling locations of ground water and surface water samples collected in Meerganj

Details of ground water samples collected:

33 groundwater samples were collected from borewell/ handpumps and tubewells around 11 villages. All samples were analysed for general parameter and analysis for heavy metals were carried out for 11 samples (one sample from each village). River Pilakhar flows from north (Bazpur, Uttarakhand) towards south and confluence with river Bakhra at Village Jauner, Bareilly. Considering contour gradient of the study area towards confluence point of river Pilakhar with river Bakhra at Jauner Village, location upstream side (U/s) of the confluence point may be considered as having less potential of impact of any discharge on groundwater and villages/locations at downstream (D/s) side of confluence point may be considered as high potential of groundwater contamination due to any discharge from industrial unit. 14 groundwater samples were collected from U/s locations and 19 groundwater samples were collected from D/s locations. The groundwater samples were compared with prescribed specification of ionic concentration in groundwater by WHO standards (1996).

Details of the samples collected are as follow:

Table 5.4 Details of ground water samples collected

Sample code	Sample location	Bore well / Handpump	Depth (ft)	MOC of pipe	Coordinate	
					Latitude	Longitude
MGW 1	Village Sidhauli	Hand pump	150	GI	28.557365	79.229294
MGW 2	Village Sidhauli	Hand pump	100	GI	28.554841	79.240812
MGW 3	Village Sidhauli	Hand pump	20	MS	28.561023	79.232951
MGW 4	Village Sidhauli	Hand pump	100	MS	28.553796	79.232273
MGW 5	Village Nagariya kalyanpur	Hand pump	100	MS	28.5487713	79.219740
MGW 6	Village Nagariya kalyanpur	Hand pump	55	PVC	28.545840	79.219013
MGW 7	Village Nagariya kalyanpur	Hand pump	100	MS	28.545921	79.218970
MGW 8	Village Nagariya kalyanpur	Bore-well	200	GI	28.5473173	79.230454
MGW 9	Village Jauner	Hand pump	45	PVC	28.551639	79.248017
MGW 10	Village Jauner	Hand pump	45	PVC	28.551941	79.247473
MGW 11	Village Jauner	Hand pump	40	MS	28.550869	79.248862
MGW 12	Village Gula	Hand pump	40	PVC	28.536777	79.240470
MGW 13	Village Gula	Hand pump	100	GI	28.535848	79.241833
MGW 14	Village Gula	Hand pump	100	GI	28.526925	79.244092
MGW 15	Village Nagariya Sadat	Handpump	150	GI	28.552877	79.205871
MGW 16	Village Nagariya Sadat	Handpump	80	PVC	28.560958	79.208282
MGW 17	Village Nausana	Handpump	80	GI	28.561769	79.204338
MGW 18	Village Nausana	Handpump	120	PVC	28.560485	79.206871
MGW 19	Village Nausana	Handpump	40	PVC	28.565702	79.205314
MGW 20	Village Kulchha Khurd	Handpump	150	GI	28.562509	79.194396
MGW 21	Village Kulchha Khurd	Borewell	65	GI	28.563056	79.195581

Sample code	Sample location	Bore well / Handpump	Depth (ft)	MOC of pipe	Coordinate	
					Latitude	Longitude
MGW 22	Village Kulchha Khurd	Borewell	200	MS	28.565441	79.191913
MGW 23	Village Sillapur	Hand pump	180	GI	28.56621	79.22253
MGW 24	Village Sillapur	Hand pump	80	MS	28.56518	79.22114
MGW 25	Village Sillapur	Hand pump	60	MS	28.5636	79.22021
MGW 26	Village Khamariya sani	Hand pump	180	MS	28.57335	79.22524
MGW 27	Village Khamariya sani	Hand pump	80	MS	28.57596	79.22557
MGW 28	Village Khamariya sani	Hand pump	80	MS	28.57593	79.22472
MGW 29	Village Sanjarpur	Hand pump	80	MS	28.54412	79.22895
MGW 30	Village Sanjarpur	Hand pump	60	MS	28.54474	79.23039
MGW 31	Village Sanjarpur	Hand pump	100	MS	28.54331	79.23171
MGW 32	Village Thiriya Brahmpur	Hand pump	100	MS	28.53864	79.23696
MGW 33	Village Thiriya Brahmpur	Hand pump	60	MS	28.53837	79.23655

Analysis results of ground water samples collected during survey is tabled below;

Table 5.5 Analysis results of ground water samples

Sample Code	Depth (ft)	pH	Color	COD	TDS	Total Alkalinity	Total Hardness	Cl ⁻	F ⁻	SO ₄ ²⁻	NO ₃ ⁻ N	As	Co	Cr	Cu	Fe	Mn	Ni	Pb	Zn
WHO Std.				4.0	500	30-500	250-500	100	1.5 – 2.4	250	10-45	0.1	0.05	0.01	0.2	5.0	0.2-0.3	0.2	0.1	2.0
MGW1	150	7.4	BDL	BDL	416	363	291	8	BDL	34	BDL	-	-	-	-	-	-	-	-	-
MGW2	100	7.7	BDL	BDL	454	363	154	14	BDL	39	BDL	0.01	BDL	BDL	BDL	2.06	0.12	BDL	BDL	0.29
MGW3	20	7.5	BDL	6	642	528	311	30	BDL	100	BDL	BDL	BDL	BDL	0.2	3.71	0.44	BDL	BDL	5.18
MGW4	100	7.6	BDL	8	350	282	182	12	BDL	33	BDL	-	-	-	-	-	-	-	-	-
MGW5	100	7.4	BDL	BDL	288	250	255	8	BDL	BDL	BDL	-	-	-	-	-	-	-	-	-
MGW6	55	7.6	BDL	9	474	411	327	18	BDL	28	BDL	0.02	BDL	BDL	BDL	1.98	0.24	BDL	BDL	0.01
MGW7	100	7.7	BDL	6	342	314	323	16	BDL	11	BDL	-	-	-	-	-	-	-	-	-
MGW8	200	7.3	BDL	BDL	356	302	295	10	BDL	25	BDL	0.01	BDL	BDL	BDL	0.36	0.14	BDL	BDL	BDL
MGW9	45	7.6	BDL	BDL	602	403	319	10	0.3	93	8.6	BDL	BDL	BDL	BDL	0.4	0.08	BDL	BDL	0.02
MGW10	45	7.4	BDL	BDL	428	371	242	20	BDL	43	2.1	-	-	-	-	-	-	-	-	-
MGW11	40	7.2	BDL	BDL	374	294	190	10	0.3	46	BDL	BDL	BDL	BDL	BDL	1.58	0.31	BDL	BDL	0.14
MGW12	40	7.5	BDL	BDL	696	580	400	42	0.2	109	BDL	-	-	-	-	-	-	-	-	-
MGW13	100	7.6	BDL	BDL	374	298	537	12	BDL	57	BDL	0.02	BDL	BDL	BDL	1.16	0.13	BDL	BDL	0.15
MGW14	100	7.4	BDL	BDL	344	242	263	8	0.2	61	BDL	-	-	-	-	-	-	-	-	-
MGW15	150	7.1	BDL	BDL	546	431	380	14	BDL	84	BDL	-	-	-	-	-	-	-	-	-
MGW 16	80	7.5	BDL	6	716	467	501	40	BDL	273	BDL	BDL	BDL	BDL	BDL	3.52	0.46	BDL	BDL	0.39
MGW 17	80	7.7	BDL	5	366	298	267	12	BDL	42	BDL	-	-	-	-	-	-	-	-	-
MGW 18	120	7.5	BDL	BDL	316	262	267	10	BDL	38	BDL	-	-	-	-	-	-	-	-	-

Sample Code	Depth (ft)	pH	Color	COD	TDS	Total Alkalinity	Total Hardness	Cl ⁻	F ⁻	SO ₄ ²⁻	NO ₃ ⁻ N	As	Co	Cr	Cu	Fe	Mn	Ni	Pb	Zn
MGW 19	40	7.2	24	10	948	709	634	108	BDL	115	BDL	0.01	BDL	BDL	BDL	3.37	0.61	BDL	BDL	0.12
MGW 20	150	7.7	BDL	BDL	362	298	287	16	BDL	27	BDL	-	-	-	-	-	-	-	-	-
MGW 21	65	7.1	96	9	718	472	404	72	BDL	138	BDL	BDL	BDL	BDL	BDL	7.94	1.14	BDL	BDL	BDL
MGW 22	200	7.5	BDL	BDL	436	326	255	16	BDL	56	BDL	-	-	-	-	-	-	-	-	-
MGW 23	180	7.3	BDL	BDL	388	286	339	12	BDL	85	BDL	BDL	BDL	BDL	BDL	1.16	0.17	BDL	BDL	0.05
MGW 24	80	7.2	BDL	BDL	522	480	368	12	BDL	38	BDL	-	-	-	-	-	-	-	-	-
MGW 25	60	7.4	BDL	29	1014	806	343	106	0.4	BDL	0.3	0.11	BDL	BDL	BDL	7.88	1.57	BDL	BDL	BDL
MGW 26	180	7.6	BDL	BDL	488	391	271	28	BDL	83	BDL	0.02	BDL	BDL	BDL	2.24	0.29	BDL	0.02	0.27
MGW 27	80	7.6	BDL	BDL	352	294	311	12	BDL	62	BDL	-	-	-	-	-	-	-	-	-
MGW 28	80	7.6	BDL	BDL	366	294	271	14	0.2	75	BDL	0.01	BDL	BDL	BDL	0.85	0.11	BDL	BDL	0.09
MGW 29	80	7.5	BDL	BDL	318	250	218	18	BDL	49	BDL	0.02	BDL	BDL	BDL	2.58	0.12	BDL	BDL	0.14
MGW 30	60	7.4	BDL	BDL	842	617	493	34	BDL	296	0.3	-	-	-	-	-	-	-	-	-
MGW 31	100	7.5	21	BDL	332	294	295	12	BDL	29	BDL	-	-	-	-	-	-	-	-	-
MGW 32	100	7.5	BDL	BDL	334	262	263	14	BDL	40	BDL	0.03	BDL	BDL	BDL	0.23	0.17	BDL	BDL	0.04

Sample Code	Depth (ft)	pH	Color	COD	TDS	Total Alkalinity	Total Hardness	Cl ⁻	F ⁻	SO ₄ ⁻²	NO ₃ ⁻ N	As	Co	Cr	Cu	Fe	Mn	Ni	Pb	Zn
MGW 33	60	7.3	BDL	BDL	466	391	303	32	0.4	35	BDL	-	-	-	-	-	-	-	-	-

Note: All units in mg/l except pH and colour; colour measured in colour units

WHO standard values are indicated below the name of the respective parameter. Higher observed values are highlighted.

Observation based on interaction with farmers on ground water:

1. Resident of village Sindhauli, Gula, Kulchha, Thiriya Brahmpur, Nagariya Sadat and Nausana informed that ground water from handpump/borewell turns yellowish after keeping it in vessels for few hours. Total 17 groundwater samples were collected from village Sindhauli (4 samples), Gula (3 samples), Kulchha (3 samples), Thiriya Brahmpur (2 samples), Nagariya Sadat (2 samples) and Nausana (3 samples). Out of 17 groundwater samples collected from above mentioned villages, seven groundwater samples (two samples from village Sindhauli and one sample each from above mentioned villages) were analysed for heavy metals. The groundwater analysis of samples from these villages suggests Fe value (Fe - 7.91 ppm) higher than WHO groundwater standard (1996) in one sample (village Kulcha) and higher than drinking water standard ISO:10500 (2012) in six samples (village Sindhauli, Gula, Kulcha, Nagariya Sadat and Nausana). All the samples were from depth 20-80 ft, which suggest that, the changes in colour of water to yellow after few minutes of storing might be due to oxidation of iron present in groundwater. Out of seven samples analysed for heavy metals three sample were from u/s of the unit and other four sample were d/s side of the unit.
2. Residents of Village Kulchha Khurd and Nausana informed that they are getting sick (majorly stomach related diseases and issue of stone formation) due to continuous consumption of groundwater for drinking purposes. Cattles are also getting sick due to continuous consumption of groundwater for drinking purposes. Total six samples were collected from village Kulchha Khurd (3 samples) and Nausana (3 samples); out of six samples two samples (MGW 19 and 21), one from each village show high TDS, Total Alkalinity and Total Hardness of 948 & 718 mg/l, 709 & 472 mg/l and 634 & 404 mg/l respectively for MGW 19 & 21, which may be the reason of gastro-intestinal issues. Both the samples were collected from 40-65 ft of depth from North & North -west direction of the unit.

Observations based on the analysis results of ground water:

1. **Colour** (24 & 96 hazen), **COD** (10 & 9 mg/l) and **TDS** (948 & 718 mg/l) were found higher than WHO prescribed limit at MGW 19 and 21, respectively, which is near left and right bank of Nahal canal, respectively. Both locations were u/s side of the unit having less potential of impact of any discharge on groundwater.
2. **COD** (6 & 29 mg/l), **TDS** (642 & 1014 mg/l), and **Alkalinity** (528 & 806 mg/l) were higher than WHO prescribed limit at MGW 3 and MGW 25, respectively. **TDS** (696 & 842 mg/l) and **Alkalinity** (580 & 617 mg/l) were higher than WHO prescribed limit at MGW 12 and MGW 30 respectively. All the mentioned samples were from shallow depth of 20-80ft of borewell/ handpump. All the locations were from outside 1 km of radial distance from the unit. Sample MGW 3 and MGW 25 were nearer to Nahal Canal and River Pilakhar at u/s side of the unit and MGW 12 and 30 were towards d/s side of the unit. Thus, both u/s and d/s side of the unit shows higher COD, TDS, and Alkalinity which do not show any distinct pattern of groundwater contamination.
3. All heavy metals are within WHO prescribed limit of groundwater quality except **Fe** and **Mn** at MGW – 21 & 25 (Fe – 7.94 & 7.88 mg/l and Mn – 1.14 & 1.57 mg/l, respectively at

MGW 21 and 25) and Mn at MGW 3, MGW 11, MGW 16, MGW 19, MGW 21 and MGW 25 (varies from 0.31 to 1.57 mg/l).

5.3. Assessment of crop damage

Observation based on interaction with farmers on crop damage:

- Sh. Sumeri Lal, a farmer and resident of village Sindhauli engaged in growing vegetables (cabbage and coriander) informed the pollution is caused by boiler ash from chimney of nearby sugar mill. He informed that boiler ash has adverse impact on yield/productivity in vegetables (loss by 30% in production), which results in less income from the vegetables. The same issues were informed in case of nearby Banana orchard. Photographic evidence of ash deposition on leaves of cabbage and nearby crops in vegetable field were collected.
- Residents of Village Nagariya Sadat informed that fly ash (boiler ash) coming from stack of nearby sugar mill cause difficulty in breathing and deposits over the crops resulting in damage to crops (in the form of low yield).

Observation based on assessment of Agricultural, Horticulture and Regional Forest Department on crop damage:

- District Agriculture Department, Bareilly has informed that around 2850 hectare of agriculture land exist around the DSM unit which is generally used for cultivation of sugar cane and others crops but no adverse impact has been found of crop damage in last five-years by district office during regular inspections.
- Based on the observation of District Horticulture Department, Bareilly, no evidence has been found of orchard/garden damage due to the pollution by DSM Meerganj unit in the surveyed areas.
- As informed by Regional Forest Department, Meerganj range, Bareilly, no evidence of damage has been found on trees due to the pollution by DSM Meerganj unit.
- It may be concluded from findings of survey conducted by District Agriculture, Horticulture and Forest departments and interaction with local farmers & residents that there are no evidence of loss of yield or damage to crop, however, deposition of fly ash on leaves of crops/ orchard & cloths of residents of nearby villages do occur which may cause inconvenience/ uneasiness.
- District Cane Officer, Bareilly vide letter dated 29.03.2022 has provided the statistical data of sugarcane crop production for the last 05 years (i.e. year 2017-18, 2018-19, 2019-20, 2020-21 and 2021-22) of nearby areas of M/s DSM, Meerganj, District Bareilly (Sugar Unit). **Annexure-2**
- District Horticulture Officer, Bareilly submitted that *there was no issue observed regarding any type of damage to gardens or orchard due to industrial pollution during survey of villages located nearby M/s DSM, Meerganj, District Bareilly (Sugar Unit).* **Annexure-6**
- Regional Forest Officer, Meerganj Range, Bareilly also reported that *there was no adverse impact of industrial pollution on vegetation found in villages located nearby M/s DSM, Meerganj, District Bareilly (Sugar Unit) and no evidence of any factor was observed regarding environmental damage.* **Annexure-7**

5.4. Survey and monitoring of Pilakhar river

Survey and monitoring of the river Pilakhar and its tributaries were carried out on 15th and 16th November 2021. River water samples were taken during monitoring to assess the river water quality. River Pilakhar originates from Bazpur area. River Pilakhar is a seasonal river and receive flow from local drains, canals and surface runoff during rainy season. Details of surveyed location are shown in Figure 5.3 and 5.4;

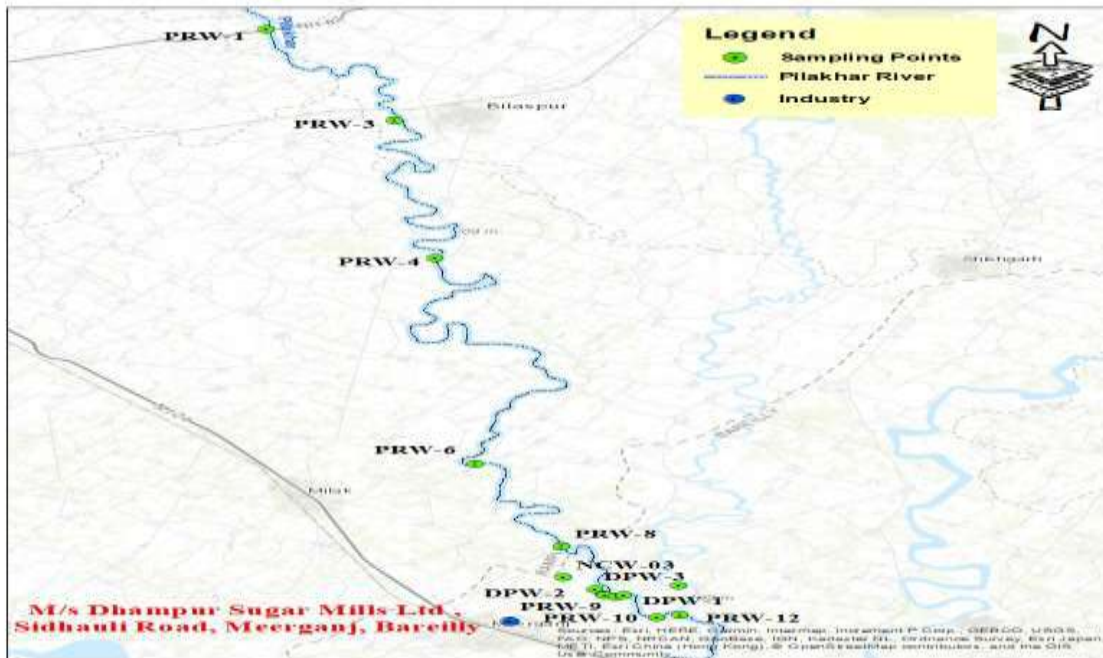


Figure 5.3 Sampling locations of Pilakhar river

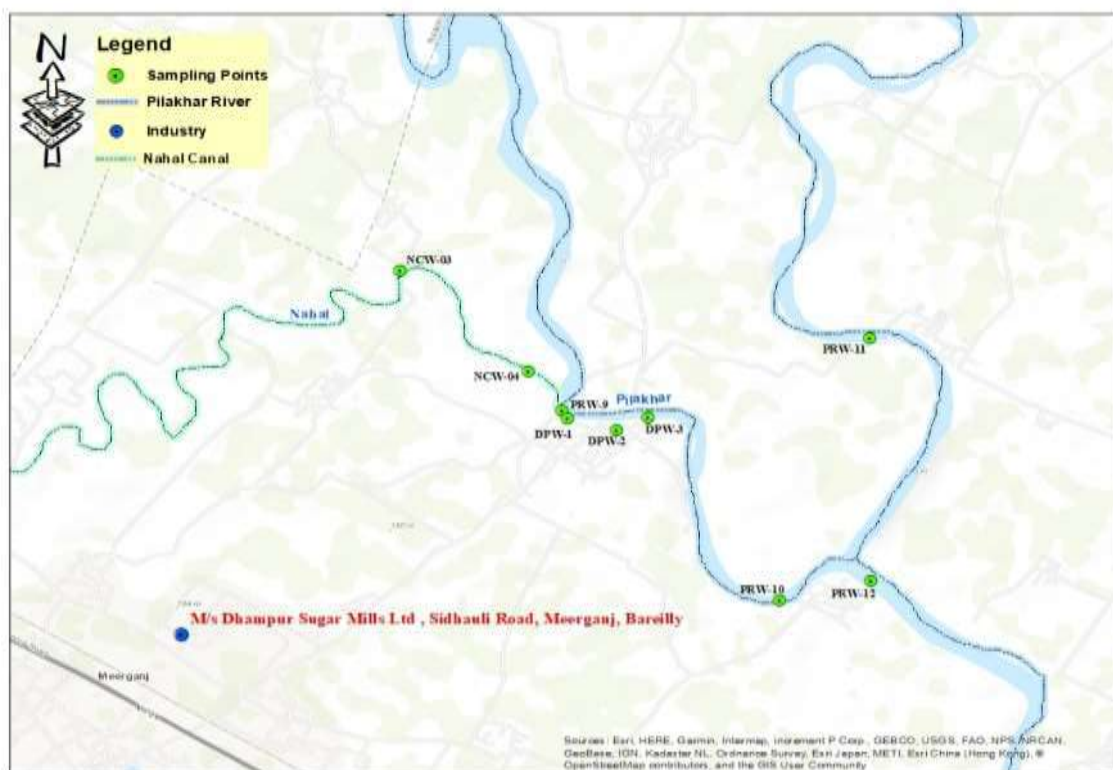


Figure 5.4 Sampling locations of Pilakhar river

Details of surveyed locations are tabled below:

Table 5.6 Details of surveyed locations of river Pilakhar

Location code	Sampling location	Co-ordinate	Flow condition	Sample taken (Y/N)	Major observation
Sampling details of river water e.g. Sot river					
PRW-1	River Pilakhar near Bhot Police station, Rampur-Bilaspur road, Lalavpur, UP	28.847994, 79.1587143	Flowing	Yes	- Flow is observed in Pilakhar River - As informed by locals the river water is being used for irrigation purpose.
PRW-2	River Pilakhar at Ashokpur village d/s to Bhot	28.831808, 79.164582	Flowing	No	- As informed by locals the river water is used for irrigation purpose. - No drains were observed to be discharging into the river.
PRW-3	River Pilakhar at Kemri dam bridge, Rampur Road	28.802164, 79.187453	Flowing	Yes	River water was found being used for the irrigation purpose.
PRW-4	River Pilakhar at Simra, Rampur	28.733113, 79.196484	Stagnant water due to barrage	Yes	Located on the passage-way bridge at Simra, Rampur.
PRW-5	River Pilakhar at Khamariya village d/s to Simra Rampur	28.699273, 79.190348	Stagnant	No	- No drains were observed to be discharging directly from the village to river Pilakhar during visit. - The river water was observed stagnant.
PRW-6	River Pilakhar at Pashupura bridge, near Zamapur, Dist. Rampur	28.629507, 79.205264	Stagnant	Yes	- The river water was observed stagnant at this location. - No drains were observed to be discharging into the river
PRW-7	River Pilakhar at Chak Behta d/s to Pashupura bridge, near Zamapur, Rampur	28.609064, 79.213309	Stagnant	No	- No drains were observed discharging directly from the village to river Pilakhar during visit. - The river water was observed stagnant
PRW-8	River Pilakhar at U/s of Sindhauli	28.588194,	Flowing	Yes	Flow was observed in River

Location code	Sampling location	Co-ordinate	Flow condition	Sample taken (Y/N)	Major observation
	near village Saijna-Ki-Gotia	79.224394			No pollution source was observed in nearby area.
NCW-01	River channel (Peria canal) near Saijana-Ki-Gotia before c/f with river Pilakhar (Dry/water body stagnant)	28.587313, 79.232517	Stagnant and dry at pockets	No	- As informed, Peria canal discharge into river Pilakhar - Peria canal was found having patches of water at upstream of road.
NCW-02	Nahal canal near Kulcha Khurd village U/s of Khamaraia Sani village	28.560123, 79.203597	Dry	No	- It is informed that Nahal canal which earlier discharged into river Pilakhar but found dry during survey. - Only backflow of river Pilakhar in monsoon period/ high flow reaches the upstream locations of its confluence with Pilakhar.
NCW-03	Nahal (Canal Channel) near village Khamaria Sani bridge	28.572361, 79.224893	Stagnant	Yes	- Only backflow of river Pilakhar in monsoon period/ high flow of Pilakhar reaches the location near Khamaria Sani. - Nahal Canal Water observed stagnant and clear in patches.
NCW-04	Nahal (Canal Channel) near Sindhauli bridge before C/f with river Pilakhar (Lean flow)	28.566242, 79.231911	Lean/meagre flow	Yes	- This sampling location on Nahal canal just 100 meters before confluence of river Pilakhar near cremation ghat. - Very lean flow was observed in Nahal canal during monitoring at this location.
PRW-9	River Pilakhar near Sindhauli bridge u/s of Sindhauli village after confluence of Nahal Channel	28.563889, 79.233761	Flowing	Yes	- River water at this location found muddy. - Depth of river water approximately was 8-10 feet and width were approximately 15 meters.

Location code	Sampling location	Co-ordinate	Flow condition	Sample taken (Y/N)	Major observation
					Sindhauli drain -1 (DPW-01) was observed in D/s from this sampling location.
DPW-1	Drain-1 from Sindhauli village near Sindhauli bridge and Chaukidar house	28.56339, 79.234057	Flow observed but not measurable	Yes	- Drain was carrying domestic sewage & confluence at right bank of the river Pilakhar. - Lean flow was observed
DPW-2	Drain-2 from Sindhauli village near Purana Mandir, Sindhauli	28.562652, 79.236775	Flow observed but not measurable	Yes	- Drain carries domestic sewage from village and colour of the drain water was observed dark grey/black at the time of visit. - Flow was observed but flow not measurable due to lean flow - Drain was covered with solid waste and construction RCC material from nearby houses and old drain channel.
DPW-3	Drain-3 from Sindhauli village near Mathia D/s	28.56345, 79.238492	Flow observed	Yes	- Drain was carrying domestic sewage & confluence with at right bank of the river Pilakhar. - Lean flow was observed.
PRW-10	River Pilakhar before c/f with river Bhakhra at u/s of Jauner village near Shiv Mandir	28.552318, 79.245683	Flowing	Yes	- This sampling location of river Pilakhar is at U/s of Jauner village and before confluence with river Bhakhara. - No pollution source observed in vicinity.
PRW-11	River Bhakhra near Narkhera village, Brhamdev Mandir u/s of c/f with river	28.568276, 79.250597	Flowing	Yes	- Flow was observed in River. - No pollution source observed in vicinity.

Location code	Sampling location	Co-ordinate	Flow condition	Sample taken (Y/N)	Major observation
PRW-12	River Bhakhra after C/F of river Pilakhar at D/s of Jauner village	28.553501, 79.250693	Flowing	Yes	• River Bhakhara flows near the farm lands on bank of river, hazy water observed after confluence of river Pilakhar. • A drain from Jauner village was observed at D/s from this sampling locations discharging into river Bhakhara.

Analysis results of sample collected during survey and monitoring of Pilakhar river is tabled below:

Table 5.7 Analysis results of Pilakhar River/Canal/drain

	Location code	pH	Colour	COD	BOD	TSS	TDS	Cl ⁻	NO ₃ ⁻ -N	SO ₄ ²⁻	PO ₄ ⁻ -P	NH ₃ ⁻ -N	DO	Cr	Cu	Fe	Mn	Ni	Pb	V	Zn
Stretch - I	PRW-1	8	103	8	1.7	40	498	20	0.5	118	BDL	0.4	7.9	BDL	BDL	1.35	0.06	BDL	BDL	BDL	0.02
	PRW-3	8.1	110	6	1.3	46	460	18	0.7	104	0.03	0.4	6.8	BDL	BDL	1.77	0.06	BDL	BDL	BDL	0.02
Stretch - II	PRW-4	8.1	138	8	1	61	440	14	0.7	94	0.05	0.4	7.2	BDL	BDL	1.34	0.1	BDL	BDL	BDL	0.02
	PRW-6	8	121	9	4	53	430	16	0.5	82	0.05	0.3	5.4	BDL	BDL	1.67	0.08	BDL	BDL	BDL	0.03
Stretch - III	PRW-08	8.1	106	12	1.3	56	406	14	0.3	79	0.03	0.4	7.5	BDL	BDL	1.84	0.08	BDL	BDL	BDL	0.01
	NCW-03	7.8	58	BDL	BDL	7	270	8	BDL	21	0.05	0.2	5.1	BDL	BDL	1.11	0.06	BDL	BDL	BDL	BDL
	NCW-04	7.8	37	13	1.1	29	438	14	0.6	86	0.09	0.5	5.3	BDL	BDL	0.42	0.33	BDL	BDL	BDL	BDL
Stretch - IV	PRW-09	8.1	169	7	1	61	330	10	0.4	55	0.09	0.4	7.8	BDL	BDL	1.88	0.07	BDL	BDL	BDL	0.02
	PRW-10	8.2	215	7	BDL	80	300	12	0.4	57	0.05	0.4	7.8	BDL	BDL	2.53	0.09	BDL	BDL	BDL	0.02
	DPW-1	7.3	112	252	127	89	904	147	9.1	116	0.152	44	-	BDL	0.03	1.28	0.36	BDL	BDL	0.09	0.03
	DPW-2	7.1	206	483	153	602	1160	22	8.51	177	0.202	55	-	0.02	0.04	36	1.53	0.02	0.03	0.06	0.12
	DPW-3	7.1	134	459	148	267	860	144	2.6	282	3.58	46	-	BDL	0.03	6.38	0.56	BDL	BDL	0.12	0.06
Stret ch -	PRW-11	8.1	60	11	1.2	12	274	10	BDL	23	0.11	0.4	5.5	BDL	BDL	0.81	0.22	BDL	BDL	BDL	0.02
	PRW-12	8.1	115	5	BDL	39	372	12	0.6	68	0.06	0.3	7.1	BDL	BDL	1.62	0.07	BDL	BDL	BDL	0.01

Note: All units are in mg/l except pH and colour in colour unit (PR: River; NC: Canal; DP: drain)

Observation based on Interaction with Farmers on river Pilakhar/drains/Canal:

As per the water consent provided by UPPCB under Water (Prevention and Control) Act, 1974, M/s DSM, Meeraganj has been authorized to utilize the treated effluent for irrigation/river through drain. The unit has laid about 3 km pipeline of treated sugar effluent from mill up to river Pilakhar via agricultural land of village Sindhauli. Residents of village Sindhauli informed that no treated effluent is provided by the sugar mill through irrigation pipeline and outlets are non-functional. Villagers also complained that the irrigation pipeline carries untreated effluent which is ultimately discharged to the river Pilakhar during every crushing season. However, during the visit outlet of the pipeline (i.e. 100 meters before Pilakhar River) was found covered with sacks, hay/agricultural waste and no discharge of treated/untreated effluent was observed in the river.

Physico-chemical characteristics of river Pilakhar/drains/Canal:

River Pilakhar originates from Bazpur area of Uttarakhand. It is a seasonal river and receives water from local drains, canals and surface runoff during rainy season. The River Pilakhar flows from North to South direction of DSM unit. The closest distance of river Pilakhar to the Unit is 2.5 km north east direction from the Unit. To monitor the river water quality, samples have been taken from river Pilakhar from Lalavpur, UP to Jauner, UP. Samples were also collected from Nahal Canal and River Bhakhra. Based on flow and water quality river Pilakhar was classified into five stretches for the study purpose.

1. Stretch – I - from village Lalavpur, UP to Kemri dam bridge, Rampur Road, UP. Two samples (PRW 1 and 3) were collected from this stretch, which is located in u/s side of the sugar unit. Water flow was observed in this stretch of river. Based on the analysis results of physiochemical parameters in this stretch the quality of river water was found clean as pH was found in the range 8-8.1, BOD 1.3-1.7mg/l & TSS- 40-46mg/l. All heavy metals were below detectable limit except Fe (1.3 to 1.8 mg/l), Mn (0.06 mg/l) and Zn (0.02 mg/l).
2. Stretch – II – from village, Simra Rampur to Zamapur, Rampur. Two samples (PRW 4 and 6) were collected from this stretch, both located in u/s side of the unit. Stagnant water was observed in this stretch. As per primary water quality criteria for bathing water all parameter were well within the limit. All heavy metals were below detectable limit except Fe (1.3 to 1.7 mg/l), Mn (0.08 – 0.1 mg/l) and Zn (0.02 mg/l).
3. Stretch – III – River Pilakhar u/s of Sindhauli, near village Saijna-ki-Gotia to confluence of Nahal canal with river Pilakhar. Three samples (PRW – 8, NCW – 3 and 4) were collected from this stretch, one sample from River Pilakhar and two samples from Nahal canal, all samples located in u/s side from the unit. Water flow was observed in this stretch of river Pilakhar. Stagnant water or dry condition was observed in Nahal canal at NCW-3 and lean flow at NCW-4. The physiochemical water quality parameters in this stretch were found satisfactory. All heavy metals were below detectable limit except Fe (1.1 to 1.84 mg/l), Mn (0.08 – 0.36 mg/l) and Zn (<0.01 mg/l).
4. Stretch – IV – River Pilakhar after confluence with Nahal Canal to before confluence with river Bhakhra. Two river water sample (PRW – 9 and 10) and three drain samples (DPW – 1, 2 and 3) were collected from this stretch.

Drain samples shows high colour (112 – 206 Hazen), COD (252 – 483 mg/l), BOD (127 – 153 mg/l) TSS (89 – 602 mg/l), TDS (860 – 1160 mg/l), Cl (22 – 147 mg/l), Nitrate (2.6 – 9.1 mg/l), ammoniacal nitrogen (44 - 55 mg/l), Fe (6.38 – 36 mg/l) and DO was nil.

The physiochemical water quality parameters in this stretch were found satisfactory. All heavy metals were below detectable limit except Fe (1.8 to 2.53 mg/l), Mn (0.07 – 0.09 mg/l) and Zn (0.02 mg/l).

5. Stretch – V – River Bhakhra before and after confluence of river Pilakhar. Two sample (PRW – 11 and 12) were collected in this stretch, both samples were from d/s side of the unit. After confluence of river Pilakhar high colour and TDS were observed. The physiochemical water quality parameters in this stretch were found satisfactory. All heavy metals were below detectable limit except Fe (0.81 to 1.62 mg/l), Mn (0.07 – 0.22 mg/l) and Zn (0.01 - 0.02 mg/l).

Conclusion of survey conducted in Meerganj:

1. Based on the soil analysis report of 22 samples collected, District Agriculture Department, Bareilly opined that pH of soil samples is normal and values of other parameters are also in range as found in this area.
2. The changes in colour of groundwater to yellow after few minutes of storing might be due to oxidation of iron and manganese present in groundwater. The geology of the area seems to have influence on groundwater parameters.
3. Cases of damage of trees/crop/orchard/garden due to the pollution by DSM Meerganj unit were not reported by concerned district agencies; however, deposition of fly ash/ dust on leaves were observed.
4. Flow in the River Pilakhar was observed in entire stretch. Water quality of river Pilakhar in terms of pH, COD and BOD varies from 8 – 8.1, 5-12 mg/l and BDL – 4 mg/l respectively. Three drains DPW 1, 2 and 3 discharge into stretch IV of river Pilakhar. These drains bring sewage having pH 7.1- 7.3; COD 252 - 483 mg/l; BOD 127 – 153 mg/l; TDS 860 – 1160 mg/l and ammoniacal nitrogen 44-55 mg/l, which shows impact of sewage in River Pilakhar in this stretch.
5. Groundwater samples indicating high values of COD (8 samples: MGW3, MGW4, MGW6, MGW9, MGW16, MGW17, MGW21 and MGW25), Alkalinity (5 samples: MGW3, MGW12, MGW19, MGW25 and MGW30) and TDS (10 samples: MGW3, MGW9, MGW12, MGW15, MGW16, MGW19, MGW25 and MGW30) than WHO prescribed limit were taken from shallow depth of 20-80ft. The locations where higher values of above parameters observed are random in nature and no specific pattern can be identified.
6. Chief Medical Officer, Bareilly vide letter dated 27.12.2021 capitulated that *health surveys of people/locals/villagers living in 08 villages (Sindhauri, Jauner, Khamaraia Sani, Narkhera, Mandanpur, Sahjana, Meerganj, Nagariya Sadat) located in the close vicinity of M/s DSM, Meerganj, District Bareilly (Sugar Unit) was conducted. During survey neither any adverse health impact nor any documented information regarding public health issue was available. Annexure-3*
7. Chief Veterinary Officer, Bareilly vide letter dated 17.12.2021 reported that *a survey dated 15.11.2021 and 16.11.2021 along with CPCB, UPPCB and other concerned district departments was conducted in nearby villages of M/s DSM, Meerganj, District Bareilly*

(Sugar Unit) wherein no adverse impact on health of domestic animals was found and no evidence of any factor was observed regarding environmental damage. **Annexure-4**

8. District Pisciculture Officer, Bareilly vide letter dated 17.12.2021 submitted that *in survey dated 15.11.2021 and 16.11.2021, no adverse impact observed due to the industrial pollution on aquatic animals which were found in ponds located in villages nearby to M/s DSM, Meerganj, District Bareilly (Sugar Unit) and Pilakhar river.* **Annexure-5**

Remedial measure for rejuvenation of Pilakhar River

Analysis results of water quality indicates that River Pilakhar is relatively clean in entire stretch. Three drains namely DPW 1, 2 and 3 which discharges untreated sewage into stretch IV of river Pilakhar shall be treated to mitigate the pollution impact of these drains on river Pilakhar water quality. CPCB guideline for "*Alternative treatment technologies for wastewater treatment of drains*" prepared in compliance of Hon'ble NGT direction in the matter of OA no. 06/2012 may be referred for interim measure.

Remedial measure for Groundwater contamination

As per Central Ground Water Board (CGWB), report on National Compilation on Dynamic Groundwater Resource of India, 2020, out of 16 monitored locations, four blocks/ towns of Bareilly fall under semi-critical area and Bareilly city under over-exploited area. As per published research papers (in journals like Pollution Research and Journal of Industrial Pollution Control), alkalinity, heavy metal like As & Fe was found higher than permissible limit suggesting their geogenic origin (Neetu Saxena and Harinder Kaur, 2004; Gaidhane et al., 2017). As per Uttar Pradesh Ground Water Department (UPGWD) on present survey/sampling report no adverse impact of industry in groundwater was found. However, it is recommended to:

- 1) Identify location of safe drinking groundwater and marking all unsafe groundwater to avoid their use for drinking purposes.
- 1) 33 groundwater samples were collected from borewell/ handpumps, tubewells around 11 villages. Ground water quality shows higher than WHO permissible limit for **Colour** at Village Nausana, Kulchha Khurd and Village Sanjarpur; **COD** at Village Sidhauli, Nagariya kalyanpur, Nagariya Sadat, Nausana, Kulchha Khurd and Sillapur; **TDS** at Village Sidhauli, Jauner, Gula, Nagariya Sadat, Nausana, Kulchha Khurd, Sillapur and Sanjarpur; Alkalinity at Village Sidhauli, Gula, Nausana, Sillapur and Sanjarpur; **Fe** at Village Kulchha Khurd and Sillapur; Mn at Village Kulchha Khurd, Sillapur, Sidhauli, Jauner, Nagariya Sadat and Nausana and **Zn** at Village Sidhauli at shallow depth. These villages need to get deep bore well by the unit or concerned district administration.
- 2) A detailed study may be carried out for groundwater quality and plan shall be made for recharge of ground water by state government agencies like ground water board or district administration.

Photographs taken during detailed study in Meerganj

	
Ground water sample from Sillapur Village	Soil Sample collection from Sanjarpur Village, Meerganj
	
Discharge outlet of irrigation pipeline (lat-28.555307, long-79.241068)	Outlet for treated effluent discharge for irrigation in agriculture fields
	
Deposition of boiler ash on leaf surface in the field of Sh. Sumeri Lal, a farmer and resident of village Sindhauli	Ground water sample in Sindauli village



River pilkhar at Lalavpur, UP



River Pilakhar at U/s of Sindhauli near village Saijna-Ki-Gotia



River Bhakhra after C/F of river Pilakhar at D/s of Jauner village



Nahal (Canal Channel) near Sindhauli bridge before C/f with river Pilakhar



Drain from Sindhauli village near Sindhauli bridge and Chaukidar house



Drain from Sindhauli village near Mathia

6. Joint survey and monitoring in the surrounding areas of M/s Dhampur Sugar Mills Ltd., Asmoli, District Sambhal (Sugar unit) and Sot river on 17.11.2021 & 18.11.2021.

Four teams comprising of officials from CPCB, UPPCB, UPGWB and District administrative officials from Jal Nigam, Agriculture department, Horticulture department carried out survey and monitoring of 17 selected villages around the DSM unit and monitoring of river on 17.11.2021 & 18.11. 2021 to assess the impact on ambient environment. The peripheral area of 5 km was taken for grid sampling with each grid length of 1.25 km, sampling has been done from each grid. Sot river flows from north west (District Amroha) towards the south east (Tahsil Chandausi, district Sambhal). Based on the river catchment of Sot river contour gradient considered from the unit towards the flow direction of river in North- West to South-East direction.

Following 17 villages/ area are included in the study;

1. Village Ramnagar, Block-Asmoli, Dist.- Sambhal, U.P:
2. Village Bilalpat, Block-Asmoli, Dist.- Sambhal, U.P:
3. Village Safat Nagar, Block-Asmoli, Dist.- Sambhal, U.P:
4. Village Khanpur Band, Block-Asmoli, Dist.- Sambhal, U.P:
5. Village Asmoli, Block-Asmoli, Dist.- Sambhal, U.P:
6. Village Ekrotiya, Block-Asmoli, Dist.- Sambhal, U.P:
7. Village Madala Fatepur, Block-Asmoli, Dist.- Sambhal, U.P:
8. Village Rayan Bujurgh Block-Asmoli, Dist.- Sambhal, U.P:
9. Village Burra Begumpur, Block-Asmoli, Dist.- Sambhal, U.P:
10. Village Shahpur Sirpura, Block-Asmoli, Dist.- Sambhal, U.P:
11. Village Dawoi, Block-Asmoli, Dist.- Sambhal, U.P:
12. Village Akbarpur Gahra, Block-Asmoli, Dist.- Sambhal, U.P:
13. Village Dugawar, Block-Asmoli, Dist.- Sambhal, U.P:
14. Village Bela, U.P., Block-Asmoli, Dist.- Sambhal, U.P:
15. Village Heerapur, Block-Asmoli, Dist.- Sambhal, U.P:
16. Village Racheta, Block-Asmoli, Dist.- Sambhal, U.P:
17. Village Chandbar, Block-Asmoli, Dist.- Sambhal, U.P:

6.1. Assessment of contamination of soil

The joint team has surveyed the villages and collected soil samples from those agricultural field locations where the impact of the industrial contamination is expected. District agriculture department collected the soil samples as per protocol. Grid soil sampling was performed to evaluate the soil health in the study area. Total 25 samples were collected from different selected villages. Details of the soil sampling locations are tabled below;

Table 6.1 Description of soil samples collected from Asmoli block

Sample code	Sample location	Coordinate		Remark
		Latitude	Longitude	
ASS 1	Village-Ramnagar	28.702566	78.5572967	Potato
ASS 2	Village-Ramnagar	28.7087780	78.5616952	Ploughed Field
ASS 3	Village-Ramnagar	28.7034628	78.569347	Ploughed Field
ASS 4	Village-Ramnagar	28.7083791	78.552881	Ploughed Field
ASS 5	Village-Ramnagar	28.4158702	78.3320818	Mustard
ASS 6	Village-Bilalpat	28.6992740	78.5711746	Mustard
ASS 7	Village-Safat Nagar	28.703201	78.572769	Ploughed Field
ASS 8	Village-Khanpur Band	28.70206642	78.5473022	Ploughed Field
ASS 9	Village-Khanpur Band	28.6955986	78.549507	Mustard
ASS 10	Village-Khanpur Band	28.6984462	78.5519404	Mustard
ASS 11	Village Asmoli	28.70338821	78.5385055	Mango orchard
ASS 12	Village-Ekrotiya	28.700920	78.514926	Sugarcane
ASS 13	Village Burra Begumpur	28.700441	78.532188	Wheat
ASS 14	Village-Rayyan Bujurgh	28.677364	78.516438	Potato
ASS 15	Village-Madala Fatepur	28.671684	78.539028	Potato
ASS 16	Village- Dawoi	28.729348	78.517838	Sugarcane
ASS 17	Village- Shahpur Sirpura	28.721993	78.505062	Sugarcane
ASS 18	Village- Akbarpur Gahra	28.7111403	78.527381	Ploughed Field
ASS 19	Village- Dugawar	28.710341	78.545611	Ploughed Field
ASS 20	Village- Dugawar	28.710026	78.547724	Ploughed Field
ASS 21	Village- Dugawar	28.719952	78.560638	Ploughed Field
ASS 22	Village Bela	28.71533	78.575297	Ploughed Field
ASS 23	Village Heerapur	28.729132	78.556389	Ploughed Field
ASS 24	Village Racheta	28.742234	78.541329	Ploughed Field
ASS 25	Village Chandbal	28.745012	78.536204	Ploughed Field

Location of soil samples collected with respect to the DSM unit are shown in figure below:

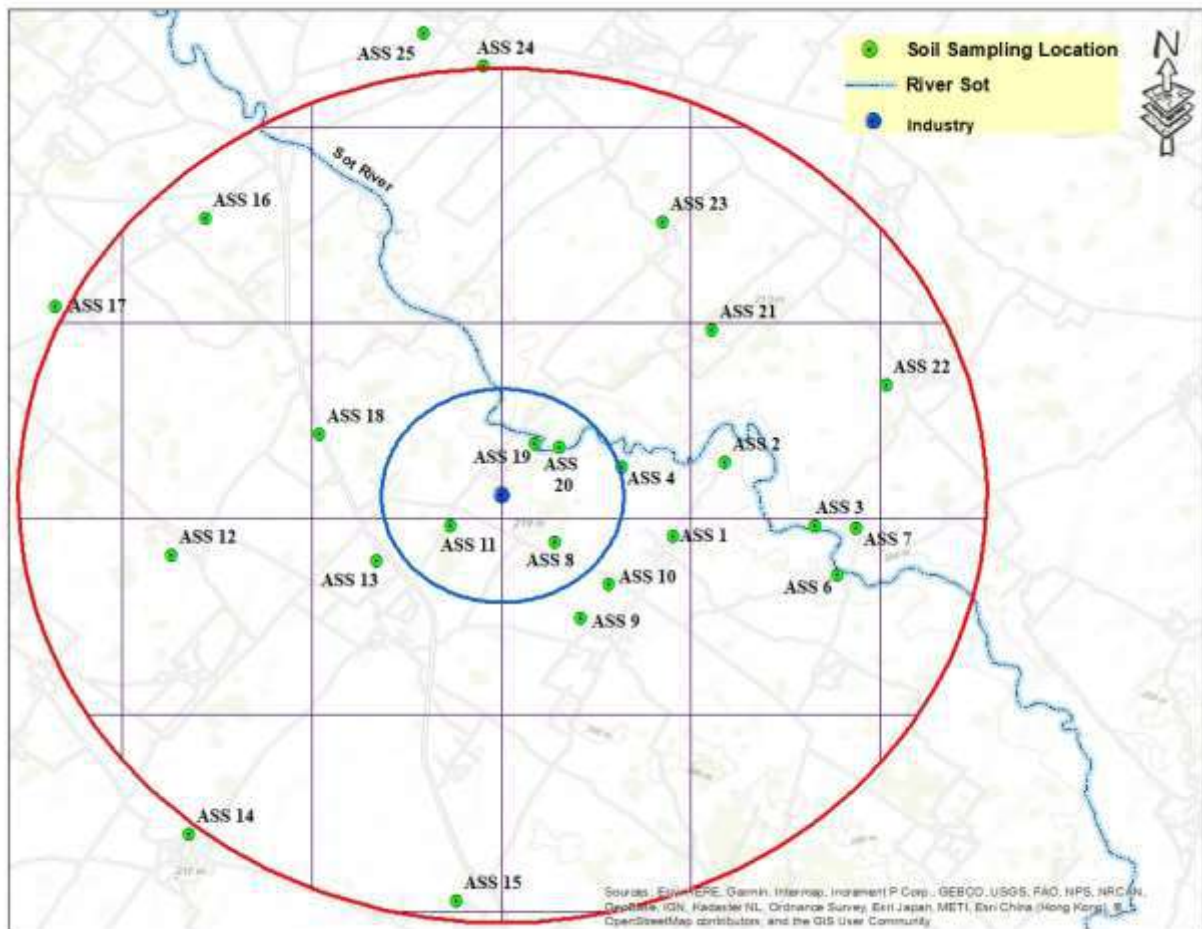


Figure 6.1 Sampling location of soil sample collected in Asmoli, Sambhal

The analysis results of the samples are mentioned below:

Table 6.2 Analysis results of physical parameters and macro-nutrients of soil sample collected from Asmoli block

Sample code	pH	EC	Organic Carbon		Available Nitrogen		Available Phosphorus		Available Potassium	
			(%)	Class	Value	Fertility Class	Value	Fertility Class	Value	Fertility Class
ASS 1	7.4	0.99	0.28	L	63	V.L	18	L	430.08	V.H
ASS 2	7.3	1.51	0.28	L	63	V.L	13.5	V.L	191.52	M.L
ASS 3	7.6	1.38	0.28	L	63	V.L	22.5	L	268.8	M
ASS 4	7.6	0.39	0.28	L	63	V.L	13.5	V.L	203.84	M.L
ASS 5	7.7	1.07	0.28	L	63	V.L	13.5	V.L	183.68	M.L

ASS 6	7.6	1.16	0.35	L	78.75	V.L	18	L	136.64	L
ASS 7	7.3	1.1	0.42	L	94.5	V.L	13.5	V.L	155.68	L
ASS 8	7.2	0.21	0.28	L	63	V.L	9	V.L	137.76	L
ASS 9	7.3	0.22	0.35	L	78.75	V.L	18	L	441.28	V.H
ASS 10	7.2	0.26	0.35	L	78.75	V.L	13.5	V.L	184.8	M.L
ASS 11	7.4	0.23	0.42	L	94.5	V.L	18	L	280	M
ASS 12	7.4	0.63	0.28	L	63	V.L	18	L	197.12	M.L
ASS 13	7.4	0.7	0.28	L	63	V.L	22.5	L	150.08	L
ASS 14	7.4	1.12	0.56	M	126	V.L	22.5	L	784	V.H
ASS 15	7.6	0.69	0.28	L	63	V.L	13.5	V.L	178.08	L
ASS 16	7.7	0.52	0.35	L	78.75	V.L	22.5	L	189.28	M.L
ASS 17	7.2	0.76	0.35	L	78.75	V.L	22.5	L	172.48	L
ASS 18	7.4	0.6	0.28	L	63	V.L	27	L	1120	V.H
ASS 19	7.2	1.48	1.19	H	267.75	L	22.5	L	676.48	V.H
ASS 20	7.4	1.68	0.98	H	220.5	L	27	L	1120	V.H
ASS 21	7.4	0.71	0.28	L	63	V.L	18	L	193.76	M.L
ASS 22	7.7	0.39	0.35	L	78.75	V.L	18	L	187.04	M.L
ASS 23	7.3	0.39	0.21	L	47.25	V.L	31.5	L	181.44	M.L
ASS 24	7.4	0.51	0.14	L	31.5	V.L	18	L	110.88	V.L
ASS 25	7.4	0.54	0.28	L	63	V.L	18	L	109.76	V.L

* L- Low, V.L – very low, M - medium, H – High, M.L – medium low, V.H- very high

Table 6.3 Analysis results of secondary and micro-nutrient of soil sample collected from Asmoli block

Sample code	Cu	Fe	Mn	Zn	S	Bo
ASS 1	0.24	3.96	3.1	0.89	9.5	0.64
ASS 2	0.4	5.9	3.9	2.6	8.82	0.44
ASS 3	0.34	6.3	3.68	2.31	13.44	0.72
ASS 4	0.25	4.15	3.15	0.75	9.8	0.49
ASS 5	0.34	6.2	3.64	1.18	10.32	0.57
ASS 6	0.38	7.5	4.6	2.13	12.2	0.74

ASS 7	0.44	6.8	4.8	2.17	14.22	0.71
ASS 8	0.49	6.7	5.5	2.5	13.05	0.68
ASS 9	0.31	5.91	2.84	1.44	10.6	0.51
ASS 10	0.45	6.92	5.1	2.94	13.8	0.7
ASS 11	0.36	4	2.9	1.6	11.82	0.56
ASS 12	0.35	6.85	3.8	1.91	12.4	0.56
ASS 13	0.42	7.25	3.81	2.32	13.8	0.6
ASS 14	0.31	6.4	3.35	1.35	12.62	0.59
ASS 15	0.34	6	2.89	1.16	11.75	0.59
ASS 16	0.38	7.02	4	2.39	14.05	0.52
ASS 17	0.3	5.9	3.2	1.74	13.4	0.56
ASS 18	0.36	4.8	4.2	1.5	10.02	0.51
ASS 19	0.23	3.96	3.28	0.96	9.1	0.62
ASS 20	0.31	5.2	2.75	1.03	13	0.4
ASS 21	0.39	6.02	2.86	1.55	12.55	0.46
ASS 22	0.21	5.75	3.4	1.63	11.6	0.61
ASS 23	0.37	4.84	3.7	1.38	12.16	0.65
ASS 24	0.19	3.82	2.98	0.75	9.6	0.6
ASS 25	0.32	5.6	3.6	1.2	11.9	0.77

Note: values of Boron (BO), Zinc (Zn), Copper (Cu), Iron (Fe), Manganese (Mn) and Sulphur (S) are in ppm and values of Nitrogen (N), Phosphorus (P) & Potassium (K) are in kg/hectare. Unit of Electrical conductivity is in deci Seimens per meter (dS m⁻¹)

Observation based on the analysis report of soil samples:

As per analysis result of 25 soil samples collected from 17 villages located within 5 km peripheral area around the Unit, following observations were made:

1. pH, Electrical conductivity (EC) and Organic carbon (OC) value ranges from 7.2 - 7.7, 0.21 -1.68 dS m⁻¹ and 0.14 – 1.19 %, respectively.
2. Nitrogen (N), Phosphorus (P), Potassium (K) and Sulphur (S) value ranges from 31.5 – 267.75 kg/hectare, 9.0 – 31.5 kg/hectare, 109.76 – 676.48 kg/hectare and 9.1 – 14.05 ppm, respectively
3. Boron (B), Zinc (Zn), Copper (Cu), Iron (Fe) and Manganese (Mn) value range from 0.4 – 0.77 ppm, 0.75 – 2.94 ppm, 0.19 - 0.49 ppm, 3.82 – 7.5 ppm and 2.86 – 5.5 ppm, respectively.

4. Soil nutrient status data of Asmoli Block, Sambhal district for 2017-18 and 2018-19 under soil health card scheme of Ministry of Agriculture and Farmer Welfare, also shows similar nutrient profile of soils parameters.

6.2. Assessment of contamination of ground water

47 groundwater samples were collected from borewells, hand pumps and tube-wells located in and around 17 villages. All samples were analyzed for general parameters. Analysis of heavy metals were carried out for 35 samples. DSM unit discharge into Sot river, flowing within 100 m distance in south east direction of the unit. Considering the contour gradient of study area towards flow direction of Sot river, villages located at the upstream of DSM unit discharge point may be considered as having less potential of impact of any discharge on ground water and villages located downstream of DSM discharge point may be considered having high potential of ground water contamination due to any discharge from industrial unit. 19 ground water samples were collected from U/s location and 28 were collected from D/s location of discharge point. The groundwater samples were compared with the prescribed specification of ionic concentration in groundwater by WHO standards (1996).

Location of ground water samples collected with respect to the DSM unit are cited in figure 6.2 below:

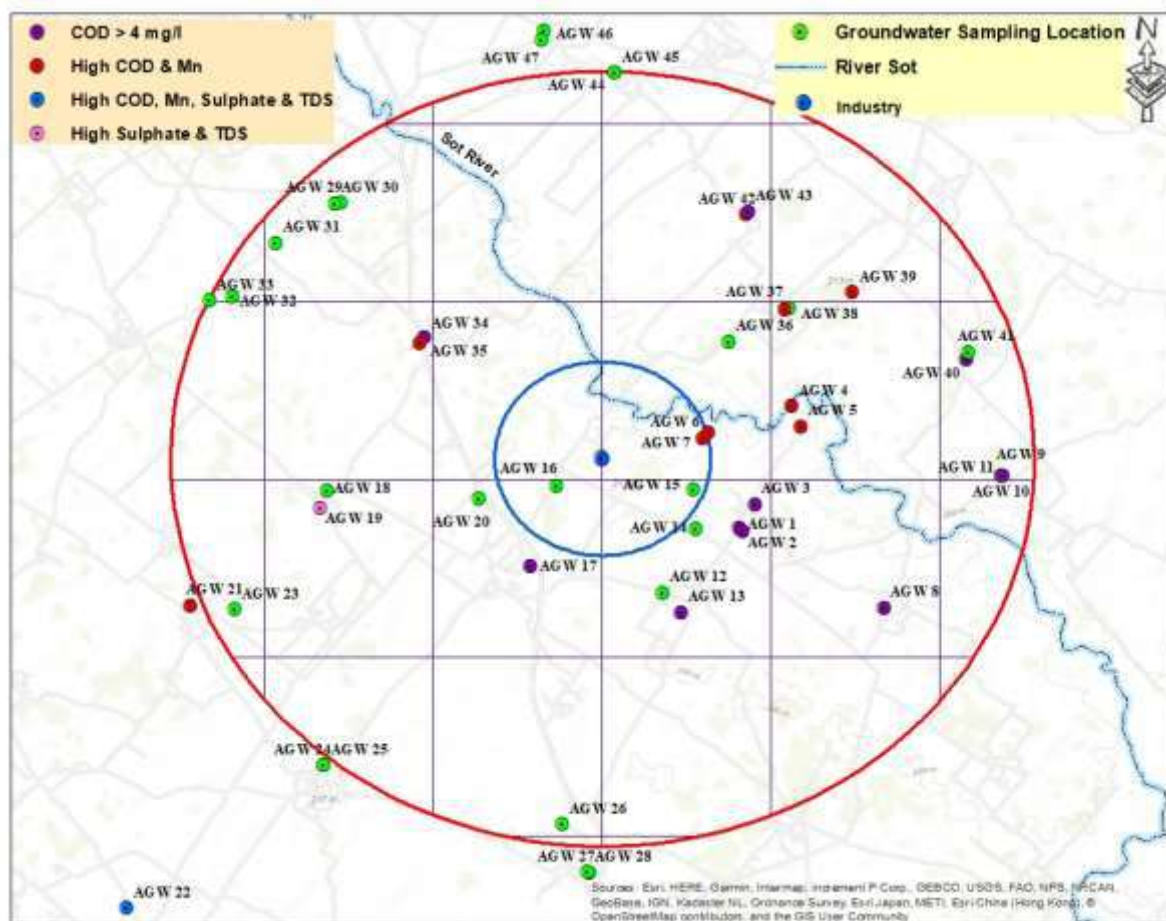


Figure 6.2 Sampling locations of ground water sample collected in Asmoli block

Description of the groundwater sampling locations are mentioned below;

Table 6.4 Details of ground water samples collected from Asmoli block

Sample code	Sample location	Bore well / Handpump	Depth (ft)	MOC of hand pump	Coordinate	
					Latitude	Longitude
AGW 1	Village-Ramnagar	Hand pump	250	GI pipe	28.6994991	78.555770
AGW 2	Village-Ramnagar	Hand pump	80	GI pipe	28.6992054	78.556106
AGW 3	Village-Ramnagar	Hand pump	150	GI pipe	28.7016955	78.557304
AGW 4	Village-Ramnagar	Borewell	220	MS pipe	28.710805	78.560783
AGW 5	Village-Ramnagar	Borewell	200	PVC pipe	28.708942	78.561676
AGW 6	Village-Ramnagar	Borewell	220	PVC pipe	28.708398	78.552879
AGW 7	Village-Ramnagar	Handpump	100	GI pipe	28.707809	78.552307
AGW 8	Village-Bilalpat	Handpump	150	GI pipe	28.692058	78.569534
AGW 9	Village-Bilalpat	Handpump fitted with submersible	200	GI pipe	28.704389	78.580665
AGW 10	Village-Safat Nagar	Handpump fitted with submersible	160	GI pipe	28.704389	78.580665
AGW 11	Village-Safat Nagar	Handpump fitted with submersible	100	GI pipe	28.704395	78.580787
AGW 12	Village-Khanpur Band	Handpump	120	GI pipe	28.693439	78.548515
AGW 13	Village-Khanpur Band	Handpump	105	MS pipe	28.691614	78.550281
AGW 14	Village-Khanpur Band	Borewell	280	GI pipe	28.69939	78.551751
AGW 15	Village Asmoli	Borewell	200	MS pipe	28.703020	78.551490
AGW 16	Village Asmoli	Handpump	Not known	GI pipe	28.703388	78.538505
AGW 17	Village Asmoli	Handpump	85	MS pipe	28.695913	78.536003
AGW 18	Village-Ekrotiya	Hand pump	180	Iron (MS/GI)	28.702931	78.51677
AGW 19	Village-Ekrotiya	Hand pump	90	Iron (MS/GI)	28.70132	78.516069

AGW 20	Village-Ekrotiya	Hand pump	70-72	Iron (MS/GI)	28.702147	78.531123
AGW 21	Village- Burra Begumpur	Hand pump	150	Iron (MS/GI)	28.692259	78.503784
AGW 22	Village- Burra Begumpur	Hand pump	150	Iron (MS/GI)	28.664063	78.497747
AGW 23	Village- Burra Begumpur	Hand pump	140	Iron (MS/GI)	28.691905	78.508045
AGW 24	Village- Rayan Bujurgh	Hand pump	160	Iron (MS/GI)	28.677364	78.516438
AGW 25	Village- Rayan Bujurgh	Hand pump	180	Iron (MS/GI)	28.677366	78.516433
AGW 26	Village-Madala Fatepur	Borewell	160	HDPE	28.671846	78.539018
AGW 27	Village-Madala Fatepur	Hand pump	100	Iron (MS/GI)	28.667357	78.541692
AGW 28	Village-Madala Fatepur	Borewell	80	Iron (MS/GI)	28.667436	78.541418
AGW 29	Village- Dawoi,	Borewell	200	Plastic, HDPE casing	28.729768	78.518062
AGW 30	Village- Dawoi,	Hand pump	95	Iron (MS/GI)	28.729716	78.517463
AGW 31	Village- Dawoi,	Hand pump	90	Iron (MS/GI)	28.726022	78.511912
AGW 32	Village- Shahpur Sirpura	Borewell	180	HDPE	28.721009	78.507731
AGW 33	Village- Shahpur Sirpura	Hand pump	180	HDPE	28.720672	78.505583
AGW 34	Village- Akbarpur Gahra	Hand pump	120	GI	28.717243	78.525916
AGW 35	Village- Akbarpur Gahra	Hand pump	90	GI	28.716664	78.525532
AGW 36	Village- Dugawar	Hand pump	240	GI	28.716847	78.55483
AGW 37	Village- Dugawar	Hand pump	150	MS	28.719888	78.560612
AGW 38	Village- Dugawar	Hand pump	120	MS	28.719802	78.560151

AGW 39	Village- Dugawar	Hand pump	210	MS	28.721407	78.566486
AGW 40	Village- Bela	Hand pump	220	GI	28.715201	78.577344
AGW 41	Village- Bela	Hand pump	150	MS	28.71579	78.57757
AGW 42	Village- Heerapur	Hand pump	220	GI	28.728683	78.556494
AGW 43	Village- Heerapur	Hand pump	150	MS	28.728947	78.556638
AGW 44	Village- Racheta	Hand pump	150	MS	28.741879	78.544018
AGW 45	Village- Racheta	Hand pump	220	GI	28.741867	78.544002
AGW 46	Village- Chandbar	Hand pump	220	GI	28.745823	78.537321
AGW 47	Village- Chandbar	Hand pump	150	MS	28.744914	78.537108

The Ground water samples were analyses for various physico-chemical parameters as well as for heavy metals with reference to BIS and WHO standards. The analysis results of Groundwater samples for physico-chemical parameters and heavy metals are mentioned in Table 6.4

Table 6.5 Analysis result of ground water samples collected from Asmoli

Sample code	Depth (ft)	pH	TDS	COD	BOD	TSS	Total Alkalinity	Total Hardness	Cl ⁻	F ⁻	SO ₄ ⁻²	NO ₃ -N	As	Cu	Fe	Mn	Ni	Pb	Zn
WHO Std.			500	4.0			30-500	250-500	100	1.5 – 2.4	250	10-45	0.1		5.0	0.2-0.3	0.2	0.1	2.0
AGW 1	250	7.3	742	8	-		341	384	132	0.3	143	6.3	-	-	-	-	-	-	-
AGW 2	80	7.2	592	7	-		368	312	60	0.1	65	10	BDL	BDL	6.3	0.01	BDL	BDL	0.1
AGW 3	150	7.3	624	8	-		341	368	54	0.2	106	12.2	-	-	-	-	-	-	-
AGW 4	220	7.5	320	28	BDL	38	205	248	74	0.3	18	0.5	0.01	BDL	1.87	0.62	BDL	BDL	BDL
AGW 5	200	7.4	356	24	2	25	240	260	58	0.2	47	0.5	BDL	BDL	1.14	0.43	BDL	BDL	BDL
AGW 6	220	7.2	544	45	5	20	267	372	200	0.2	73	0.6	0.03	BDL	1.4	1.15	BDL	BDL	0
AGW 7	100	7.6	230	11	-		167	220	16	0.2	73	0.4	0.02	BDL	5.03	0.88	BDL	BDL	0.8
AGW 8	150	7.6	242	9	-		225	220	5	0.4	6	1	BDL	BDL	1.4	0.03	BDL	BDL	0.1
AGW 9	200	7.6	226	7	-		205	236	12	0.5	6	BDL	-	-	-	-	-	-	-
AGW 10	160	7.6	242	BDL	-		217	204	8	0.3	5	0.5	BDL	BDL	0.1	0.09	BDL	BDL	0
AGW 11	100	7.3	452	7	-		349	460	50	0.2	26	4.6	-	-	-	-	-	-	-
AGW 12	120	7.6	342	BDL	-		527	312	14	0.3	9	BDL	BDL	BDL	0.81	0.18	BDL	BDL	0.1
AGW 13	105	7.2	648	14	-		333	340	82	BDL	24	2.8	BDL	BDL	1.34	0.21	0.02	BDL	0.2
AGW 14	280	7.6	276	BDL	-		248	276	16	0.2	7	0.9	BDL	BDL	0.16	0.06	BDL	BDL	BDL

Sample code	Depth (ft)	pH	TDS	COD	BOD	TSS	Total Alkalinity	Total Hardness	Cl ⁻	F ⁻	SO ₄ ⁻²	NO ₃ -N	As	Cu	Fe	Mn	Ni	Pb	Zn
AGW 15	200	7.5	326	BDL	-		279	300	12	0.4	26	1.4	-	-	-	-	-	-	-
AGW 16	Not known	7.4	428	2	-		402	300	18	0.3	17	0.3	BDL	BDL	1.02	0.2	BDL	BDL	0.1
AGW 17	85	7.3	550	6	-		415	348	56	1.2	37	3.8	BDL	BDL	5.8	0.22	BDL	BDL	0.6
AGW 18	180	7.6	442	BDL	-		306	336	30	0.3	31	10.2	-	-	-	-	-	-	-
AGW 19	90	7.5	714	BDL	-		368	504	108	0.3	272	2.1	BDL	0.08	0.9	0.22	BDL	BDL	0.9
AGW 20	70	7.6	304	BDL	-		252	280	20	0.2	26	7.9	-	-	-	-	-	-	-
AGW 21	150	7.6	470	6	3	29	217	356	35	0.4	247	BDL	0.02	0.82	107	2.56	8.1	0.4	6.7
AGW 22	150	7.7	802	21	2	12	306	532	52	0.4	456	0.6	BDL	BDL	2.87	0.83	BDL	BDL	0.1
AGW 23	140	7.8	348	BDL	-		167	296	12	0.2	204	0.3	-	-	-	-	-	-	-
AGW 24	160	7.5	244	BDL	-		194	256	15	0.3	13	0.8	-	-	-	-	-	-	-
AGW 25	180	7.3	480	BDL	-		415	296	42	0.2	32	2.5	BDL	BDL	2.86	0.26	BDL	BDL	0.4
AGW 26	160	7.6	294	BDL	-		271	336	16	0.3	27	2.5	-	-	-	-	-	-	-
AGW 27	100	7.2	876	BDL	-		508	484	108	0.3	90	12.9	BDL	BDL	0.02	0.14	BDL	BDL	BDL
AGW 28	80	7.3	724	BDL	-		422	408	94	0.2	44	10.6	BDL	BDL	1.22	1.19	BDL	BDL	0.2
AGW 29	200	7.5	226	BDL	-		225	288	12	0.3	6	0.7	BDL	BDL	0.75	0.28	BDL	BDL	0.1

Sample code	Depth (ft)	pH	TDS	COD	BOD	TSS	Total Alkalinity	Total Hardness	Cl ⁻	F ⁻	SO ₄ ⁻²	NO ₃ -N	As	Cu	Fe	Mn	Ni	Pb	Zn
AGW 30	95	7.6	222	BDL	-		225	224	12	0.2	BDL	BDL	BDL	BDL	1.45	0.01	BDL	BDL	3
AGW 31	90	7.2	472	BDL			364	312	54	0.1	39	2.6	-	-	-	-	-	-	-
AGW 32	180	7.6	226	BDL	-		202	280	4	0.1	11	BDL	BDL	0.01	3.81	0.22	BDL	BDL	2.1
AGW 33	180	7.7	204	BDL	-		174	284	10	0.3	36	0.3	-	-	-	-	-	-	-
AGW 34	120	7.8	300	27	-		243	232	20	0.2	25	BDL	BDL	BDL	1.3	0.22	BDL	BDL	0.3
AGW 35	90	7.6	408	32	1	12	279	300	46	0.1	39	BDL	BDL	BDL	13.1	0.68	BDL	BDL	1.4
AGW 36	240	8	234	31	-		174	184	18	0.3	5	BDL	BDL	BDL	BDL	0.07	BDL	BDL	BDL
AGW 37	150	7.8	196	BDL	-		143	148	16	0.1	BDL	0.8	BDL	0.02	2.56	0.22	BDL	BDL	0.1
AGW 38	120	7.1	1142	72	-		465	412	215	0.2	208	12.9	BDL	BDL	0.91	1.13	BDL	BDL	0.1
AGW 39	210	7.2	410	14	-		376	280	10	BDL	BDL	1.1	BDL	BDL	1.86	0.43	BDL	BDL	3.5
AGW 40	220	7.5	452	31	-		366	292	34	0.2	21	3.8	BDL	BDL	2.58	0.14	BDL	BDL	0.1
AGW 41	150	7.6	458	BDL	-		395	308	40	0.1	24	1.2	BDL	BDL	0.67	0.37	BDL	BDL	0.3
AGW 42	220	7.3	526	19	-		264	304	64	0.2	34	2.6	BDL	0.01	3.66	0.38	BDL	BDL	0.1
AGW 43	150	7.4	368	28	2	29	384	320	80	0.1	40	2.7	BDL	BDL	9.04	0.21	BDL	BDL	2.3
AGW 44	150	7.7	264	11	-		244	352	30	0.1	153	BDL	BDL	BDL	7.32	0.38	BDL	BDL	0.9

Sample code	Depth (ft)	pH	TDS	COD	BOD	TSS	Total Alkalinity	Total Hardness	Cl ⁻	F ⁻	SO ₄ ⁻²	NO ₃ -N	As	Cu	Fe	Mn	Ni	Pb	Zn
AGW 45	220	7.4	486	BDL	-		248	312	20	0.1	14	BDL	0.01	BDL	0.16	0.14	BDL	BDL	0.2
AGW 46	220	7.3	740	BDL	-		368	344	126	0.1	86	5	BDL	0.01	0.5	0.34	BDL	BDL	0.4
AGW 47	150	7.7	508	BDL	-		171	324	38	0.2	34	1.2	BDL	BDL	0.78	BDL	BDL	BDL	0.6

Note: All units in mg/l except pH and colour; colour measured in colour units

Note: WHO standard values are indicated below the name of the respective parameter. Higher observed values are highlighted.

Observation based on interaction with farmers on ground water:

1. Residents from Ramnagar Village, located at right bank of river Sot, around 1 km D/s direction of DSM unit, raised the issue of ground water pollution and yellow colour in the village and diseases like Jaundice etc. caused due to consumption of polluted/contaminated ground water. Analysis results of seven ground water samples collected from Ramnagar village show TDS in range of 230-742 mg/l, Iron in the range of 1.14-6.30 ppm & Manganese as 0.01-1.15 ppm. COD in the range of 7-45 mg/l is also detected in groundwater samples collected from village indicating the presence of organic matter in the ground water. TDS higher than WHO prescribed limit observed at four locations namely AGW1, 2, 3 & 6. High COD observed in the samples namely AGW 4 (28 mg/l), AGW 5 (24 mg/l) and AGW 6 (45 mg/l) collected at a depth of 200-220 ft. from close proximity of right bank for river Sot indicating the impact of pollution as the Sot River downstream of DSM, Asmoli carries only partially/ untreated effluent and sewage.
2. The groundwater analysis of samples from village Ramnagar indicates higher values of Fe (1.14-6.30ppm) against the permissible 0.3ppm as per drinking water standard ISO:10500 (2012) in all 05 samples analysed for heavy metals. Change in colour of water to yellow might be due to oxidation of iron present in groundwater.
3. No issues related to groundwater contamination raised by residents of villages namely Bilalpat and Safat Nagar, Khanpur Band, Ekrotiya, Asmoli, Rayan Bujurgh, Madala Fatepur, Dawoi, Dugawar, Racheta, Chandbar, Bela and Shahpur Sirpura.

Observations based on the analysis results of ground water:

1. All Heavy metals except Fe and Mn are within permissible limits except in the sample collected from village Burra Begumpur at a depth of 150 ft. at location **AGW 21**, which is located at a distance of around 3 km D/s of DSM unit, where BOD (3mg/l), COD (6 mg/l), TSS (29 mg/l), Fe (107 ppm), Mn (2.56 ppm), Ni (8.1 ppm), Pb (0.4 ppm) and Zn (6.7 ppm) higher than WHO prescribed limit were observed. Two samples were also collected from same village at a depth of 150-160 which doesn't show contamination of heavy metal except Fe (2.87 ppm) and Mn (0.83 ppm). Observed high values of heavy metals at location **AGW 21** might be due to the contamination by encasing Iron pipe of handpump.
2. COD (6 mg/l to 72 mg/l) higher than WHO prescribed limit of 4 mg/l were observed in 21 samples collected at a depth of 80-250 ft (7 in upstream and 14 in downstream of the unit).
3. COD (6 mg/l to 72 mg/l) and Mn (0.38 mg/l to 2.56 mg/l) higher than WHO prescribed limit were observed in 11 samples at a depth of 90-220 ft (five in upstream and six in downstream of the unit).
4. Sulphate concentration higher than WHO prescribed limit of 250 mg/l were observed at location AGW 19 (272 mg/l) & AGW 22 (456 mg/l) which are at around 2 and 5 km D/s of DSM unit respectively. Values observed are random in nature and doesn't reflect any pattern of groundwater contamination.

6.3. Assessment of damage to the crop

Observation based on interaction with farmers on crop damage:

1. In Village Akbarpur Gahra, Dugawar, Heerapur farmers informed that the black coloured ash settles down on the leaves of crops and trees and it affects the yield. Villagers also informed that, in the survey area, average yield of sugarcane is 50-60 quintals/bigha, Rice 350-400 quintals/bigha, wheat 2.5-3 quintals/bigha, cauliflower is 8-10 Quintals/bigha and Potato - 25 quintals/bigha.
2. In Village Ramnagar, farmers informed about problem of crop damage due to fly ash deposition.

Observation based on assessment of Horticulture Department:

1. District Horticulture Department, District Sambhal, informed that no adverse effect of M/s Dhampur Sugar Mills Ltd., Asmoli, were reported on the crops.
2. It is concluded based on joint survey conducted district agriculture, horticulture, forest department and interaction with farmer and residents that though there are no evidence of loss of yield or damage to crop, however deposition of fly ash on leaves of crops/orchard and cloths of residents of nearby villages do occur which may cause inconvenience/uneasiness.

6.4. Survey and monitoring of Sot river

Inspection team has surveyed the Sot river on 17th & 18th of November 2021 and sampling was conducted to assess the impact of Sugar mill effluent on water quality of Sot River. River Sot is a seasonal river which originates from the District Amroha near Dhanaura block. The river has no perennial flow and flow in the river is reported during rainy season and ponding of water takes place after monsoon season on the river bed.

Details of surveyed location are shown in figure 6.3 and 6.4:

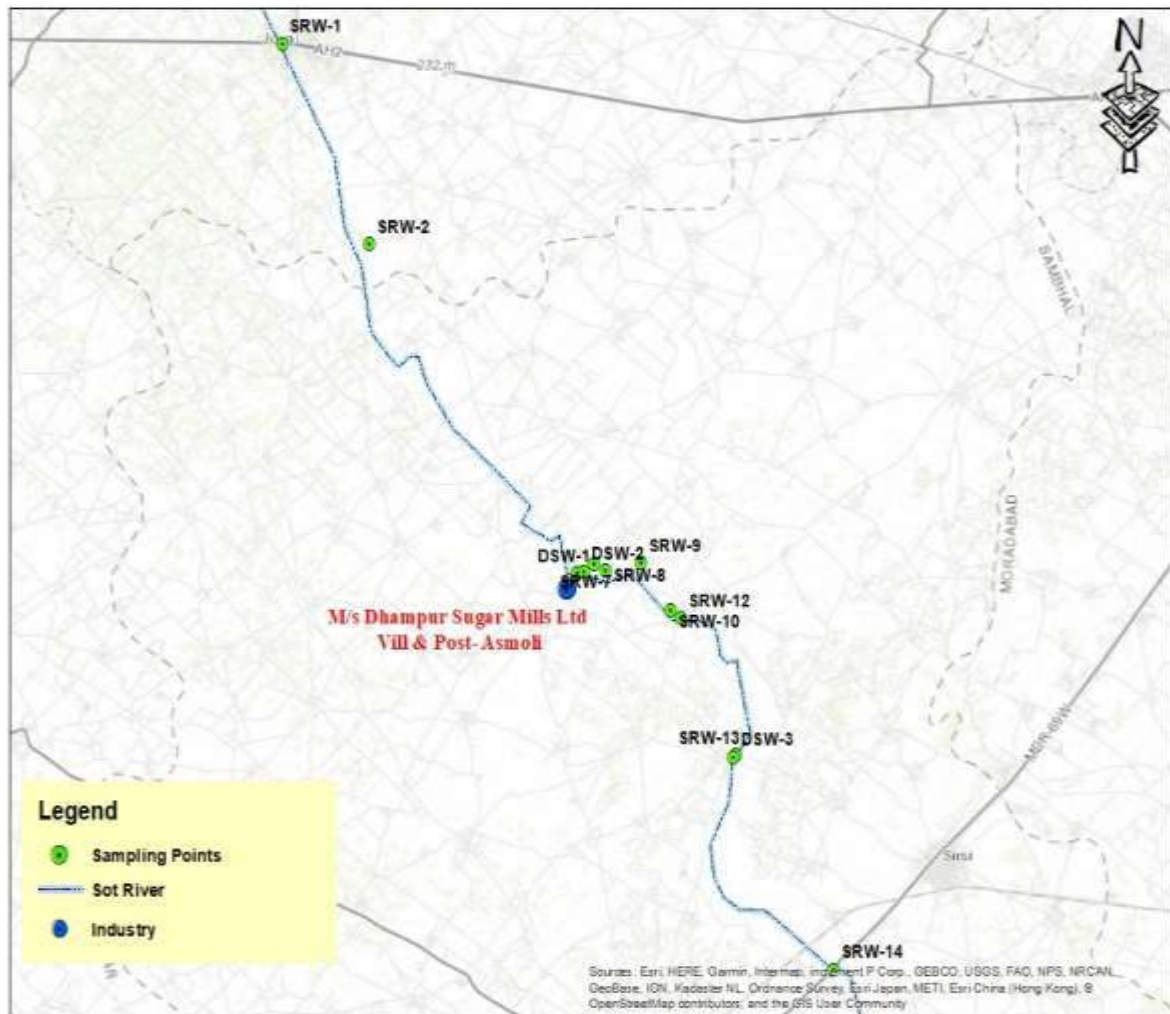


Figure 6.3 Sampling locations of Sot river

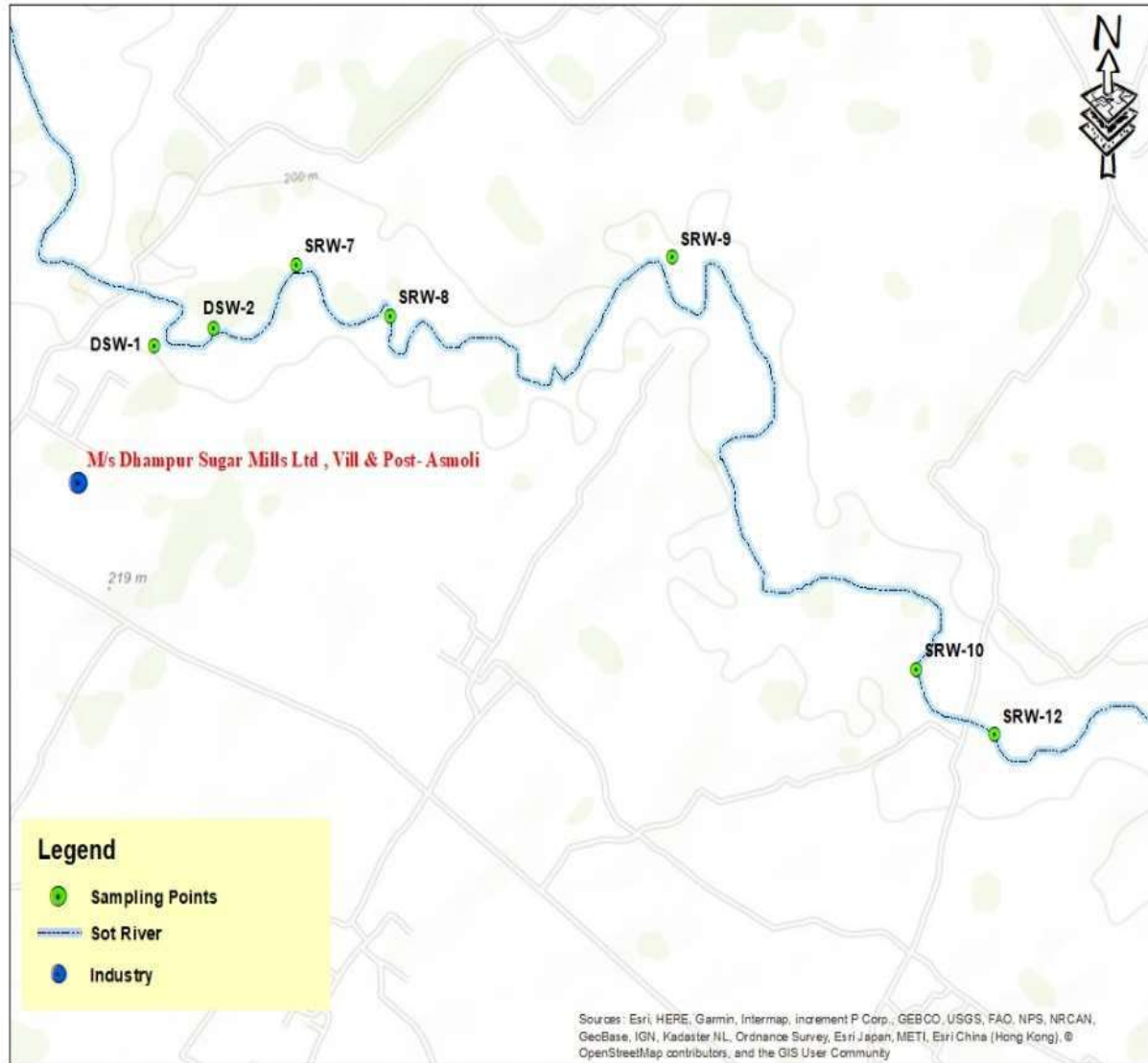


Figure 6.4 Sampling location of Sot river near DSM unit

Details of survey location along with observations for each location is tabled below:

Table 6.6 Details of Sot river surveyed location

Location code	Sampling location	Co-ordinate	Flow condition	Sample taken (Y/N)	Major observation
SRW -1	River Sot at Joya on NH24 road bridge u/s of Asmoli	28.835465, 78.466895	Flowing	Yes	Flow in river observed at this location and mostly carries sewage from Joya town and nearby areas.

					• Solid waste dumping including medicine packets etc were observed dumped on the river bed.
SRW-2	River Sot near Mojahidpur-Salarpur village (near Palaula)	28.787891, 78.490085	Flowing	Yes	• Water from river Sot at this location was being used for irrigation purpose in nearby agriculture fields and diesel pump observed deployed by villagers for same.
SRW -3	Choiyya river near Salimpur Salar Village (Near Palaula) before c/f with Sot river	28.773817, 78.481337	Dry	No	• River Choiyya (tributary of river sot) at Salimpur Salar was found dry and farming being carried out on river bed. • Choiya river confluences with river Sot d/s of this location.
SRW-4	River Sot behind Bharat Petrol Pump near Manouta road on Sambhal-Joya Road u/s of Manouta bridge	28.73899, 78.52278	Dry	No	• River bed was found dry
SRW-5	River Sot at Manouta road bridge u/s of Asmoli on Sambhal-Joya Road	28.735449, 78.523976	Dry	No	• River Sot was found dry at immediate upstream and downstream to the Manouta bridge location which is located at around 5 Km upstream to the DSM Unit at Asmoli.
SRW-6	River Sot on Asmoli Madhan Road near Akbarpur Gohra u/s of DSM Unit Asmoli	28.710954 1, 78.543754 2	Dry	No	• River Sot on Asmoli-Madhan road near the DSM unit boundary was found dry on the culvert. • Ploughing of river bed observed behind the unit boundary for farming.

SRW-7	River Sot Near Asmoli Shamshan Ghat d/s of DSM unit	28.71199, 78.55002	Flowing	Yes	• The river bed at the location behind the DSM Asmoli unit, near Asmoli Shamshan Ghat was found dry with small patches of water. • Flow in river observed through a closed pipeline at this location near river boundry. • River at this location is largely fed with the wastewater coming from the mill as well as storm water during rain. • River bed observed dark-brown in colour.
SRW-8	River Sot near Dugawar Village d/s of DSM unit at Asmoli	28.710578, 78.553164	Flowing (meagre)	Yes	• River Sot at downstream of Asmoli Shamshan Ghat near Dugawar village found to have pooling of wastewater. • Physical appearance of river water was black coloured with dark background of river bed.
SRW-9	River Sot near Dugawar Shamshan Ghat	28.712195, 78.562499	Stagnancy observed (suspended ash)	Yes	• River Sot at near Dugawar Shamshan Ghat was observed to be having in the form of pool and no flow observed at the location. • River water observed blackish in color. • Suspended matter (ash like) was observed in sample collected.
SRW-10	River Sot near Bilal Pat village before diversion through pipeline near Karbala	28.70086, 78.57057	Flow to pipeline	Yes	• The river at this location was found diverted through a pipeline for an approximate distance of 300-400 meters.

SRW-11	River Sot near Bilal Pat-Ramnagar village road	28.699514, 78.572181	Dry	No	• River bed was found dry.
SRW-12	River Sot through pipeline observed near Bilal Pat	28.699059, 78.573172	Flow from pipe	Yes	• Flow observed at this location. • The colour of the sample visually appeared as brown at this location.
SRW-13	River Sot at Shahpur Sot village d/s of village	28.666493, 78.58772	Pooling observed (no flow d/s)	Yes	• Pooling of river Sot was observed at this location. Aquatic organism like fish also observed.
SRW-14	Road near Firozpur village - Sirsi	28.615644, 78.613987	Stagnant pockets	Yes	• Pooling of river Sot was observed at this location with green algae indicating stagnancy of water.
SRW-15	River Sot on Sambhal-Chandausi Road near Tigri village on Bhawanipur Pul (d/s of Sambhal town)	28.567729, 78.646872	Dry	No	• River bed at this location was observed as dry.

Sampling details of drains discharge into Sot river

DSW-1	Outlet Drain coming from DSM unit near the boundary of DSM residential quarter	28.709749 4, 78.545336 7	Flowing	Yes	• Drain contains the discharge from residential area of DSM unit. • Drain joins the Sot river flow route at around 100-meter d/s of the location.
DSW-2	Drain from DSM unit u/s to Asmoli Shamshan Ghat (Near	28.710228, 78.547275	Flowing	Yes	• This drain contains the discharge of treated effluent from ETP of DSM unit.

	JCB work observed for pipeline)				The work for pipeline implant was going on at the location on the edge of river bed downstream to this location.
DSW-3	Drain from Village Shahpur Sot before c/f with River Sot	28.666074, 78.587211	Flowing drain	Yes	The domestic waste water from village reaches through the drain.

Analysis results of sample collected during survey and monitoring of Sot river for general parameters is tabled below;

Table 6.7 Analysis results of sample collected from Sot river and drains

Stretch	Location code	pH	COD	BOD	TSS	TDS	Colour	Cl-	NO ₃ -N	SO ₄ ²⁻	PO ₄ ⁻ P	NH ₃ -N	DO	As	Cu	Fe	Mn	Zn
	Survey location of Sot river upstream of Dhampur sugar mill (Stretch-I)																	
Stretch - I	SRW-1	7.3	18	4	14	200	33	50	0.11	37	1.23	2	0	BDL	BDL	0.4	0.17	0.02
	SRW-2	7.4	32	7	14	236	29	56	0.46	38	0.14	6	0	BDL	BDL	0.91	0.21	BDL
Stretch - II	Sot River was found dry in this stretch, no sample was collected																	
Stretch - III	Survey location of Sot river downstream of Dhampur sugar mill (Stretch-III)																	
	SRW-7	6.8	46	14	52	108	11	71	0.32	146	0.16	1	0	BDL	0.03	3.36	0.21	0.14
	SRW-8	6.9	132	17	223	364	8	85	0.1	105	0.14	3	0	BDL	0.03	4.66	0.25	0.08
	SRW-9	6.8	228	126	590	460	20	104	0.1	96	0.14	6	0	BDL	BDL	2.55	0.41	0.03
	SRW-10	7.4	66	12	11	592	81	133	0.1	74	0.61	-	1.7					
	SRW-12	7.4	60	12	13	896	61	119	0.1	102	0.52	3	1.9	BDL	BDL	0.35	0.34	BDL
	SRW-13	7.5	29	7	22	128	28	13	BDL	26	0.52	2	5.2	BDL	BDL	1.68	0.15	0.02
	SRW-14	7.5	12	3	13	128	44	34	0.36	32	0.05	1	4.4	0.32	BDL	2.85	0.43	0.03
	DSW-1	7.3	72	24	19	716	34	221	0.1	158	BDL	2	-	BDL	BDL	0.06	0.08	BDL
	DSW-2	7.3	106	24	40	648	19	161	BDL	136	0.1	-	-					
	DSW-3	7.2	92	32	77	244	48	62	0.49	71	0.74	7	-	BDL	0.01	2.2	0.41	0.09

Note: All units in mg/l except pH and colour; colour measured in colour units (SR: River; DS: drain)

Physico-chemical characteristics of river Sot/drains

Sampling of river Sot was conducted from Joya town (upstream of DSM unit) to Tigri village located at around 10 km. downstream of DSM unit in District Sambhal. Based on the flow conditions Sot river can be divided into 3 stretches;

Stretch – I: From Joya to Mojahidpur. Flow in river observed in this stretch which is due to discharge of sewage from Joya town and nearby areas. River water quality in this stretch show pH values from 7.3 to 7.4, colour from 29 to 33 colour unit, BOD from 4 to 7 mg/l, COD from 18 to 32 mg/l, TSS 14 mg/l, TDS from 200 to 236 mg/l, Sulphate from 37 to 38 mg/l, nitrate from 0.11 to 0.46 mg/l and ammoniacal nitrogen from 2 to 6 mg/l.

Stretch – II: From Mojahidpur downstream to upstream of DSM unit at Asmoli. River Sot was found dry in this stretch.

Stretch – III: From downstream of DSM unit to Tigri village. No fresh water flow in river was observed in this stretch and river receives treated effluent from ETP lagoon of sugar unit, sewage from residential colony of DSM sugar unit and sewage from Sahpur village which contribute to its flow for few kilometers. River water quality in this stretch show pH values from 6.8 to 7.5, colour from 08 to 81 colour unit, BOD from 3 to 126 mg/l, COD from 12 to 228 mg/l, TSS 11 to 590 mg/l, TDS from 108 to 896 mg/l, Sulphate from 26 to 146 mg/l, nitrate BDL to 0.36 mg/l and ammoniacal nitrogen from 1 to 6 mg/l which indicate that river is polluted as it carries effluent and sewage. The work for pipeline laying was observed D/s of the unit at the time of inspection for release of treated industrial effluent in the agricultural field.

Conclusion of survey conducted in Asmoli, District Sambhal

1. Based on the soil analysis report pH of soil samples was normal and values of other parameters were also in range as found in this locality.
2. The changes in colour of groundwater water to yellow after few minutes of storing might be due to oxidation of iron and manganese present in groundwater. The geology of the area seems to have influence on groundwater parameters.
3. Evidence has not been found of damage to trees/crop/orchard/garden and fish breeding due to the pollution by DSM Asmoli unit.
4. River Sot in stretch – II, from Mojahidpur downstream to upstream of DSM unit at Asmoli, River Sot was found dry. In stretch – III, from downstream of DSM unit to Tigri village, river is polluted as it doesn't have any fresh water source and carries effluent from DSM, Asmoli unit and sewage from residential colony of the unit and nearby villages.
5. In Ramnagar village located on right bank of river d/s of DSM Asmoli unit, pollution on ground water samples even at a depth of 200-220 ft. was observed in terms of high values of COD (11-45mg/l).
6. Ground Water Department, District- Moradabad, vide letter dated 29.12.2021 reported that, *block-Asmoli was notified as semi-critical zone and provided the 05-year pre-& post monsoon ground water level data of Asmoli block i.e. average 17.34 meter (Annexure-8A)*. Ground Water Department, District- Moradabad, vide letter dated 05.05.2022 reported following observations (**Annexure 8B**):
 - a. *It was further noted that at sampling locations having higher concentration of COD along with chloride and Mn was also observed. Chloride is often the most serious*

source of interference in COD determination. This indicates the possible impact of industrial pollution or domestic wastewater as the Sot River downstream of DSM, Asmoli carries only partially/ untreated effluent and sewage. As reported by the villagers the cases of Jaundice are of concern, however the cause of this possibly is drinking water contaminated with Hepatitis virus which is unlikely to due to industrial discharge.

- b. The changes in colour of groundwater water to yellow after few minutes of storing might be due to oxidation of iron and manganese present in groundwater. The sources of these pollutants seem to be geogenic in origin. The geology of the area seems to have influence on groundwater parameters. The COD values also possibly get influenced by higher concentration of chloride and Mn concentrations. Further, the excessive use of pesticides and fertilizers in the area coupled with overexploitation of the ground water also may have contributed to the higher values of COD and Ammoniacal nitrogen.*
7. District Horticulture Officer, Asmoli, Sambhal informed that, *there is 600-700-hectare area for horticulture and 500-600-hectare area for vegetable cultivation is available in block Asmoli. Following crops are reported which are cultivated in 5-kilometer radius of M/s DSM, Asmoli: Potato (400-450 hectare), vegetable (20 hectare), Mango (63 hectare) and Guava (3.2 hectare). No adverse effect of industrial pollution (emission) occur on mango crop vegetable and potato crop. It is also reported that no complaint regarding above issues are received by the farmers of block Asmoli. **Annexure-9***
8. District Pisciculture Officer, Asmoli, Sambhal vide letter dated 29.12.2021 submitted that, *in survey dated 17.11.2021 and 18.11.2021, no adverse impact observed due to the industrial pollution on pisciculture which were present in ponds located in the closed vicinity of M/s DSM, Asmoli and no complaint related to pisciculture against sugar mill was received. **Annexure-10***

Remedial measure for rejuvenation of Sot River

Analysis results of water quality of Sot river in stretch- III down stream of DSM unit indicates that river water is polluted due to lack of any fresh water source. It carries effluent from DSM, Asmoli unit and sewage from residential colony of the unit and nearby villages. Ground water sample taken in this stretch located on right bank of river d/s of DSM unit reflect pollution on ground water in terms of high values of COD (11-45mg/l). No untreated effluent and sewage should be discharge into river. CPCB guideline for "*Alternative treatment technologies for wastewater treatment of drains*" prepared in compliance of Hon'ble NGT direction in the matter of OA no. 06/2012 may be referred for interim measure. Cost of the treatment system generally varies between 50 lacs to 1 crore per unit which shall be bear by either DSM unit or by other concern authority or both. The length of Constructed Wetland (CWS) and number of units depends on the flow of water, wastewater quality (BOD, COD, TSS and DO levels) and width of the drain. These systems can be installed and operated within short gestation period of around 12 - 24 months and not only treat the wastewater but also help in recharging of ground water. For designing of such system, expert institute like Centre for Environmental Management of Degraded Ecosystem (CEMDE), University of Delhi may also be approached for better technical know-how about the natural treatment system.

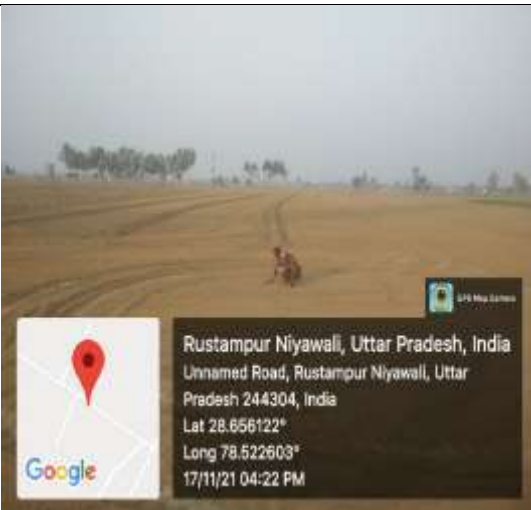
Remedial measure for Groundwater contamination

As per Central Ground Water Board (CGWB), report on National Compilation on Dynamic Groundwater Resource of India, 2020, out of 8 monitored locations, two blocks/ towns of Sambhal fall under semi-critical area, and five blocks/ towns under critical area. As per Uttar Pradesh Ground Water Department (UPGWD) on present survey/sampling report no adverse impact of industry in groundwater was found. However, it is recommended to:

- 1) Identify location of safe drinking groundwater and marking all unsafe groundwater to avoid their use for drinking purposes.
- 2) 47 groundwater samples were collected from borewells, hand pumps and tube-wells located in and around 17 villages. Out of these 17 villages ground water quality shows higher than WHO permissible limit for **TDS** at Village Ramnagar, Khanpur Band, Asmoli, Ekrotiya, Burra Begumpur, Madala Fatepur, Dugawar, Heerapur and Chandbar; **COD** at Ramnagar, Bilalpat, Safat Nagar, Khanpur Band, Asmoli, Burra Begumpur, Akbarpur Gahra, Dugawar, Bela, Heerapur and Racheta; **alkalinity** at Village Khanpur Band and Madala Fatepur; **Fe** at Village Ramnagar, Asmoli, Burra Begumpur, Akbarpur Gahra, Heerapur and Racheta; **Mn** at Village Ramnagar, Burra Begumpur, Madala Fatepur, Akbarpur Gahra, Dugawar, Bela, Heerapur, Racheta and Chandbar and **Zn** at Village Burra Begumpur at shallow depth. These villages need to get deep bore well/handpump by the unit or by concerned agencies.
- 3) A detailed study may be carried out for groundwater quality and plan shall be made for recharge of ground water by central and state government agencies like Central ground water board or concerned agencies.

Photographs taken during detailed study in Asmoli, Sambhal



	
Soil sample collection in Asmoli village	Soil sample collection in Rustampur village
	
GW sample collection in Ramnagar village near Sot river	GW sample collection in Ramnagar village near Sot river
	
River Sot at Joya on NH24 road bridge u/s of Asmoli	River Sot on Asmoli Madhan Road near Akbarpur Gohra u/s of DSM Unit Asmoli

	
Outlet Drain coming from DSM unit near the boundary of DSM residential quarter	River Sot near Dugawar Village d/s of DSM unit at Asmoli
	
Drain from Village Shahpur Sot before c/f with River Sot	River Sot on Sambhal-Chandausi Road near Tigri village on BhawanipurPul (d/s of Sambhal)

7. Joint survey and monitoring in the surrounding areas of M/s Dhampur Sugar Mills Ltd., Dhampur, District Bijnor (Sugar and Distillery unit) and Ikra Drain & Karula river during Dec. 1-2, 2021

Four teams comprising of officials from CPCB, UPPCB, UPGWB and District administrations, were deputed to carry out survey and monitoring on 01.12.21 & 02.12.21 to assess the damage caused to the environment of 21 selected villages/areas around the DSM unit and Ikra drain. The peripheral area of 4 km was taken for grid sampling with each grid length of 1.5 km, sampling has been done from each grid. The unit is located in between SH-49 and Ikra drain. Ikra drain flows north to south direction parallel to Karula River till Kiwar village, Dhampur, Bijnor, UP where it discharges into Karula river around 20 km south of the Unit. Based on the river catchment of Karula river and Ikra drain contour gradient considered from the unit towards flow direction of river and drain in North to South direction of the unit.

Following 21 villages/ area are included in the survey;

1. Village Peepla (Saidpur Veeru), Block-Dhampur, Dist- Bijnaur, U.P
2. Village Haizri (Nurrullapur Cheema), Block-Dhampur, Dist- Bijnaur, U.P
3. Village Mauhdi, Block-Dhampur, Dist- Bijnaur, U.P
4. Village kundipura, Block-Dhampur, Dist- Bijnaur, U.P
5. Village Mirjapur Palla, Block-Dhampur, Dist- Bijnaur, U.P
6. Village Mohda, Block-Dhampur, Dist- Bijnaur, U.P
7. Village Khai khera, Block-Dhampur, Dist- Bijnaur, U.P
8. Village Jaitra, Block-Dhampur, Dist- Bijnaur, U.P
9. City area Dhampur Dist- Bijnaur, U.P
10. Dhampur Hussainpur/Purana Dhampur, Dist- Bijnaur, U.P
11. Village Suhaghpur Block-Dhampur, Dist- Bijnaur, U.P
12. Village Rampur Bhola, Block-Dhampur, Dist- Bijnaur, U.P
13. Village Dittanpur, Block-Dhampur, Dist- Bijnaur, U.P
14. Village Alaipur, Block-Dhampur, Dist- Bijnaur, U.P
15. Village Alavampur, Block-Dhampur, Dist- Bijnaur, U.P
16. Village- Wajidpur, Block-Dhampur, Dist- Bijnaur, U.P.
17. Village- Mohammad Alipur Bhikan, Block-Dhampur, Dist- Bijnaur, U.P.
18. Village- Nindru Khas, Block-Dhampur, Dist- Bijnor, U.P.
19. Village- Khujista Nagar, Block-Dhampur, Dist- Bijnor, U.P.
20. Village- Ajitpurdasi, Block-Dhampur, Dist- Bijnor, U.P.
21. Village- Naseerpur Banwari, Block-Dhampur, Dist- Bijnor, U.P.

7.1. Assessment of contamination of soil

29 soil samples were collected from 21 selected villages existing in 4 Km peripheral area around the DSM unit to assess the soil health with respect to pH, EC, organic carbon, available phosphate and available potash.

The location of soil samples collected with reference to the DSM unit is shown as figure 7.1:

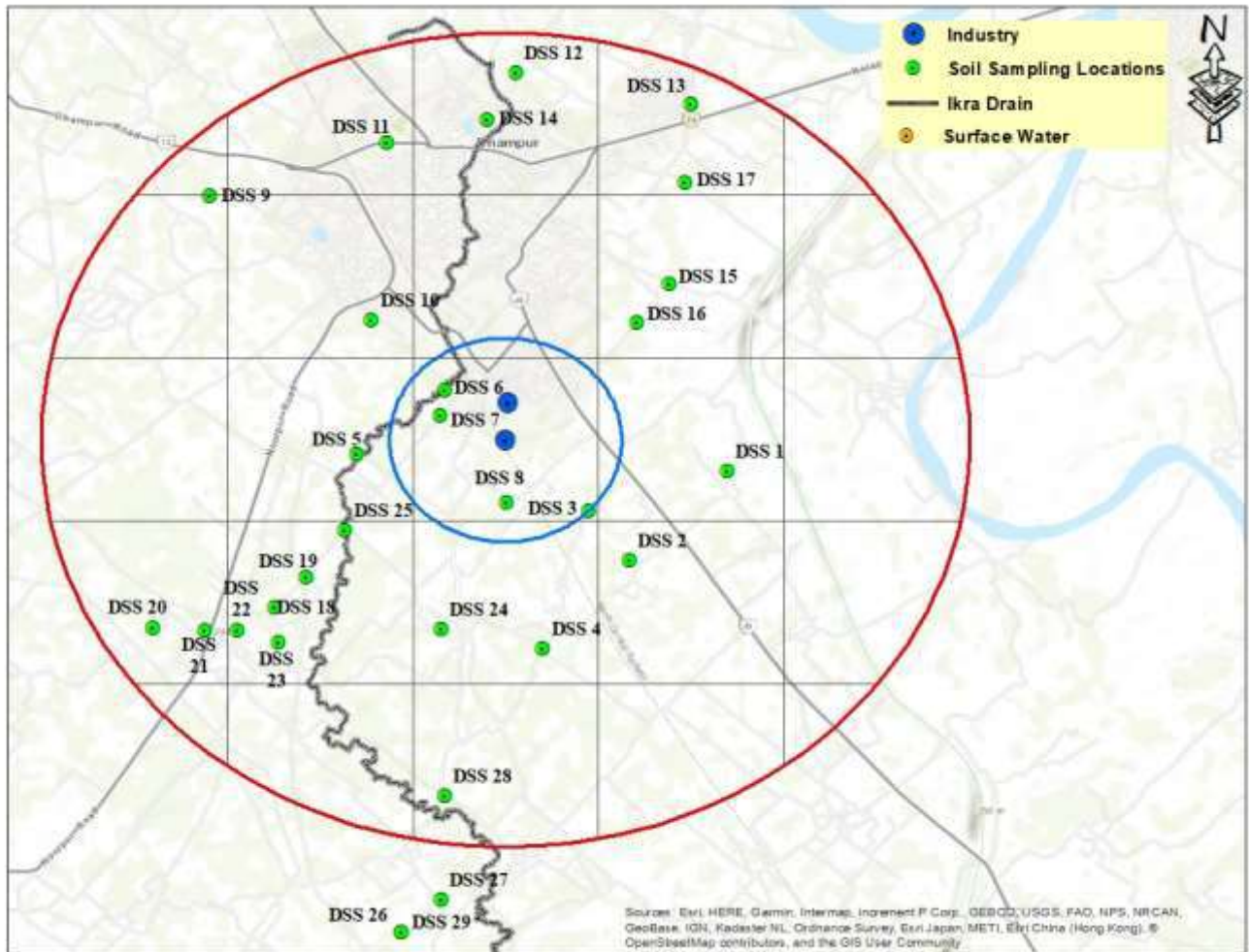


Figure 7.1 Soil sampling locations collected at Dhampur, Bijnor

Details of soil sample collected from 29 locations is tabled below;

Table 7.1 Details of soil samples collected from Dhampur block

Sample code	Sample location	Coordinate		Remark
		Latitude	Longitude	
DSS 1	Village Peepla (Saidpur Biro)	29.282534	78.533764	Drain near the agricultural field of Sh. Lakshman Singh carry waste water and solid wastes in to the fields during rain, which affect the crop productivity.

Sample code	Sample location	Coordinate		Remark
		Latitude	Longitude	
DSS 2	Village Haizri (Nurrullapur Cheema)	29.274592	78.525038	Ploughed field
DSS 3	Village Mauhdi	29.279016	78.521434	Ploughed field
DSS 4	Village Kundipura	29.2667800	78.5174263	Ploughed field
DSS 5	Village Mirjapur Palla	29.284023	78.500944	Ploughed field
DSS 6	Village Mirjapur Palla	29.287585	78.508913	Mango orchard
DSS 7	Village Mohda	29.289683	78.508763	Ploughed field
DSS 8	Village Mohda	29.279799	78.514219	Ploughed field
DSS 9	Village Khai khera	29.306907	78.487825	Ploughed field
DSS 10	Jaitra	29.295933	78.502241	Ploughed field
DSS 11	Dhampur	29.311646	78.503618	Plough field
DSS 12	Village-Dhampur Hussainpur	29.317875	78.515049	Plough field
DSS 13	Village- Suhaghpur	29.315095	78.530566	Plough field
DSS 14	Village- Rampur Bhola	29.313641	78.512505	Potato field
DSS 15	Village- Dittanpur	29.299123	78.5286	Plough field
DSS 16	Village- Alaipur	29.295665	78.525726	Plough field
DSS 17	Village- Alavalpur	29.308074	78.530051	Plough field
DSS 18	Village- Wajidpur	29.270428	78.493618	Sugarcane field
DSS 19	Village- Wajidpur	29.273118	78.496383	Sugarcane field
DSS 20	Village- Mohammad Alipur Bhikan	29.268675	78.4828262	Sugarcane/Mustard
DSS 21	Village- Mohammad Alipur Bhikan	29.26846	78.487448	Sugarcane/Mustard
DSS 22	Village- Nindru Khas	29.268386	78.490289	Mustard
DSS 23	Village- Nindru Khas	29.26735877	78.49394226	Garlic
DSS 24	Village- Khujista Nagar	29.268493	78.508359	Sugarcane/Mustard

Sample code	Sample location	Coordinate		Remark
		Latitude	Longitude	
DSS 25	Village- Khujista Nagar	29.277284	78.499880	Sugarcane/Mustard
DSS 26	Village- Ajitpurdasi	29.241724	78.504849	Plough field
DSS 27	Village- Ajitpurdasi	29.244529	78.5084	Plough field
DSS 28	Village- Naseerpur banwari	29.253791	78.508727	Plough field
DSS 29	Village- Naseerpur banwari	29.241714	78.504849	Plough field

Analysis results of soil samples collected is tabled below:

Table 7.2 Analysis results of soil samples

Soil Sample code	pH	Available Organic Carbon		Available Phosphate		Available Potash		Electrical Conductivity	
		%	Fertility Class	%	Fertility Class	%	Fertility Class	Milli mhos/cm.	Class
DSS 1	7.6	0.35	L	27	M	209.44	M	0.35	Normal
DSS 2	7.5	0.56	M	27	M	179.2	M	0.56	Normal
DSS 3	7	0.21	L	9	V.L	143.36	M	0.45	Normal
DSS 4	7.4	0.07	V.L	13.5	L	168	M	0.55	Normal
DSS 5	7.1	0.63	M	40.5	H	434.56	H	0.4	Normal
DSS 6	7.3	0.84	H	67.5	H	553.28	H	0.46	Normal
DSS 7	7.5	0.28	L	13.5	V.L	115.36	M	0.53	Normal
DSS 8	7.2	0.35	L	13.5	L	143.36	M	0.49	Normal
DSS 9	7.2	0.28	L	22.5	M	129.92	M	0.33	Normal
DSS 10	7.4	0.14	V.L	9	V.L	88.48	L	0.43	Normal
DSS 11	7.2	0.41	L	36	M	204.96	M	0.48	Normal
DSS 12	7.2	0.38	L	31.5	M	126.56	M	0.46	Normal
DSS 13	7.7	0.67	M	45	H	173.6	M	0.54	Normal
DSS 14	7.1	0.31	L	18	L	170.2	M	0.34	Normal
DSS 15	7.1	0.14	V.L	13.5	H	209.44	M	0.43	Normal

Soil Sample code	pH	Available Organic Carbon		Available Phosphate		Available Potash		Electrical Conductivity	
		%	Fertility Class	%	Fertility Class	%	Fertility Class	Milli mhos/cm.	Class
DSS 16	7.3	0.53	M	27	M	116.48	M	0.37	Normal
DSS 17	7.4	0.28	L	40.5	H	92.96	L	0.41	Normal
DSS 18	7	0.28	L	13.5	L	234.08	M	0.42	Normal
DSS 19	7.1	0.25	L	4.5	V.L	119.84	M	0.35	Normal
DSS 20	7.2	0.21	L	4.5	V.L	157.92	L	0.42	Normal
DSS 21	7.1	0.48	L	9	V.L	412.16	H	0.34	Normal
DSS 22	7	0.56	M	9	V.L	400.96	H	0.31	Normal
DSS 23	7.7	0.56	M	27	M	143.36	M	0.33	Normal
DSS 24	7.2	0.49	L	9	V.L	145.6	M	0.42	Normal
DSS 25	6.9	0.24	L	22.5	M	230.72	M	0.37	Normal
DSS 26	7	0.35	L	18	L	439.04	H	0.41	Normal
DSS 27	7.2	0.28	L	18	L	155.68	M	0.32	Normal
DSS 28	6.9	0.21	L	9	V.L	394.24	H	0.34	Normal
DSS 29	7.3	0.29	L	9	V.L	203.84	M	0.35	Normal

* L- Low, M - medium, S – small, V.L – very low

Observations based on the analysis results of soil samples:

As per analysis result of 29 soil samples collected from 21 villages located within 4 km peripheral area around the Unit, following observations were made:

1. pH, Organic Carbon (OC), Potassium (K), Phosphate and Electrical Conductivity (EC) value ranges from 6.9- 7.6, 0.14-0.84 %, 92-553.28 %, 9 - 45 %, and 0.31 – 0.56Milli mhos/cm respectively
2. Soil nutrient status data of Dhampur Block of district Bijnor for 2017-18 and 2018-19 under soil health card scheme of Ministry of Agriculture and Farmer Welfare, also shows similar pattern of nutrient profile of soils parameters.

7.2. Assessment of contamination of ground water

53 groundwater sample were collected from 29 village. All samples were analysed for general parameter and analysis for heavy metals were carried out for 37 samples. Ikra drain flows west of the DSM unit and Preshak canal flows east of DSM unit around 2 Km from the unit. Both Ikra drain and Preshak canal flows from north to south. Considering contour gradient of the study area towards flow direction from north to south, villages/locations located at the

upstream of DSM unit may be considered as having less potential of impact of any discharge on ground water and villages located downstream of DSM discharge point may be considered having high potential of ground water contamination due to any discharge from industrial unit. 26 groundwater samples were collected from u/s locations and 27 groundwater samples were collected from d/s locations. The groundwater sample were compared with prescribed specification of ionic concentration in groundwater by WHO standards (1996).

The location of ground water and surface water sample collected with reference to the DSM unit is shown as figure 7.2:

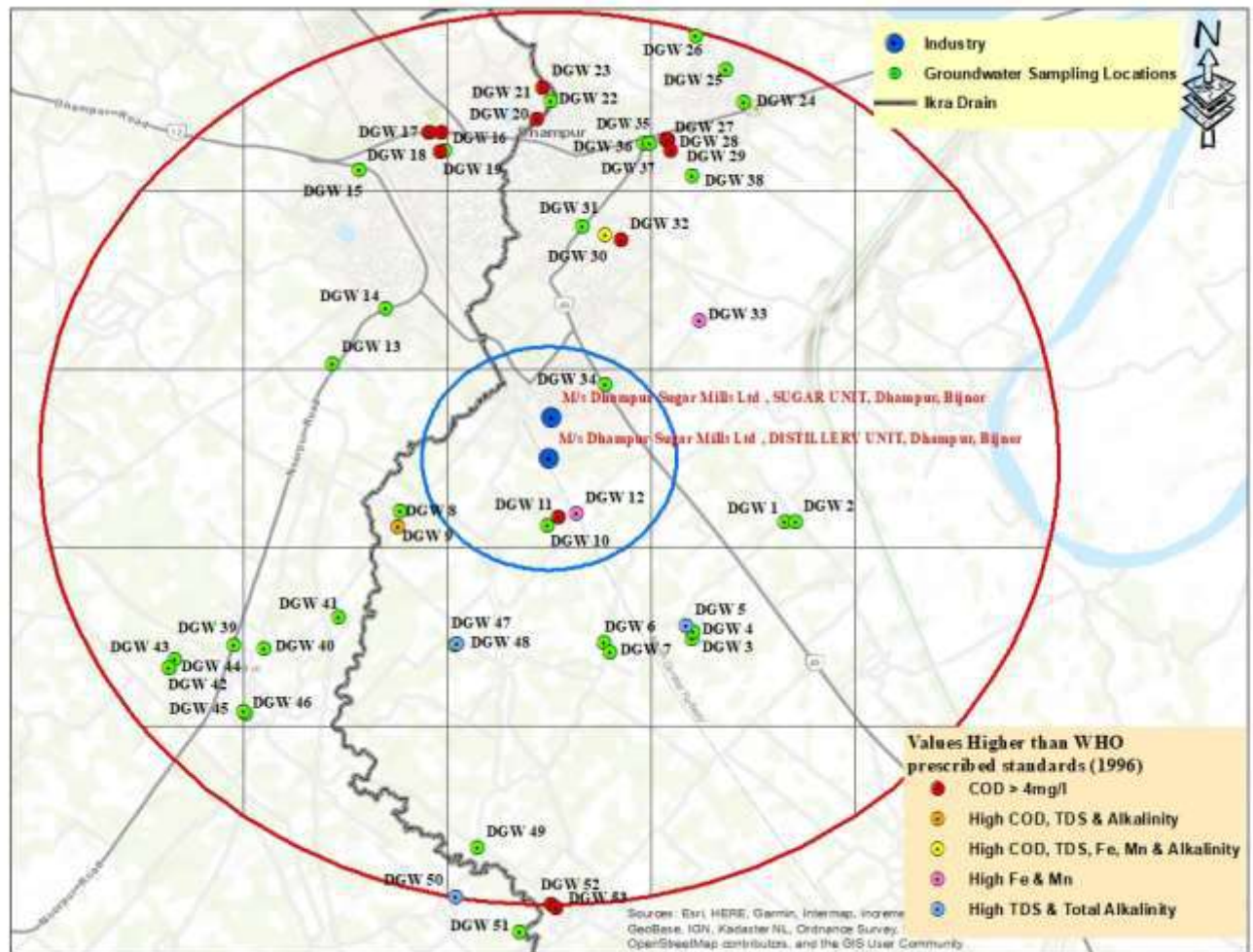


Figure 7.2 Sampling locations ground water and surface water samples collected from Dhampur, Bijnor

Details of ground water samples collected during survey are as under;

Table 7.3 Details of ground water samples collected

Sample code	Sample location	Bore well / Handpump	Depth (ft)	MOC of hand pump	Coordinates	
					Latitude	Longitude
DGW 1	Village Peepla (Saidpur Biro),	Handpump (Govt.)	120-170	GI	29.280163	78.533146
DGW 2	Village Peepla (Saidpur Biro),	Handpump (Pvt.)	50	MS	29.2801447	78.5339970
DGW 3	Village Haizri (Nurrullapur Cheema)	Handpump (Govt.)	150	GI	29.2706802	78.5256527
DGW 4	Village Haizri (Nurrullapur Cheema)	Handpump (Pvt.)	80	MS	29.271262,	78.525713
DGW 5	Village Haizri (Nurrullapur Cheema)	Handpump (Pvt.)	240	GI	29.2717363	78.52520602
DGW 6	Village Mauhdi	Handpump (Pvt.)	65	MS	29.2703673	78.5185559
DGW 7	Village Kundipura	Handpump (Govt.)	180	GI	29.269655	78.519040
DGW 8	Village Mirjapur Palla	Handpump (Govt.)	180	GI	29.2810147	78.5020338
DGW 9	Village Mirjapur Palla	Handpump (Pvt.)	100	MS	29.279747	78.501877
DGW 10	Village Mohda, Vidhan Sabha	Handpump (Govt.)	180	GI	29.279861	78.513945
DGW 11	Village Mohda, Vidhan Sabha	Handpump (Pvt.)	60	MS	29.280552	78.514849
DGW 12	Village Mohda, Vidhan Sabha	Handpump (Pvt.)	60	MS	29.280820	78.516336
DGW 13	Village Khai Khera	Handpump (Pvt.)	80-90	MS	29.292961	78.496625
DGW 14	Village Jaitra	Handpump (Govt.)	180	GI	29.297451	78.500862
DGW 15	Village Jaitra	Handpump (Govt.)	180	GI	29.308643	78.498759
DGW 16	Dhampur city near Saint Mary's school	Hand pump	180-200	Iron (MS/GI)	29.311646	78.505336

Sample code	Sample location	Bore well / Handpump	Depth (ft)	MOC of hand pump	Coordinates	
					Latitude	Longitude
DGW 17	Dhampur city near Saint Mary's school	Hand pump	180	HDPE	29.311625	78.504394
DGW 18	Dhampur city near Saint Mary's school	Hand pump	180	Iron (MS/GI)	29.310149	78.505681
DGW 19	Dhampur city near Saint Mary's school	Hand pump	180-190	Iron (MS/GI)	29.310124	78.50525
DGW 20	Village-Dhampur Hussainpur	Hand pump	180	Iron (MS/GI)	29.312716	78.513094
DGW 21	Village-Dhampur Hussainpur	Borewell	440-450	Iron (MS/GI)	29.311625	78.504394
DGW 22	Village-Dhampur Hussainpur	Hand pump	180	Iron (MS/GI)	29.314139	78.514242
DGW 23	Village-Dhampur Hussainpur	Hand pump	120	Iron (MS/GI)	29.31527	78.513586
DGW 24	Village-Suhaghpur	Hand pump	160	Iron (MS/GI)	29.31407	78.529841
DGW 25	Village-Suhaghpur	Hand pump	95	Iron (MS/GI)	29.31674	78.528383
DGW 26	Village-Suhaghpur	Hand pump	180	Iron (MS/GI)	29.319472	78.525963
DGW 27	Village- Rampur Bhola	Hand pump	180	Iron (MS/GI)	29.311072	78.5235577
DGW 28	Village- Rampur Bhola	Hand pump	240	Iron (MS/GI)	29.311029	78.523668
DGW 29	Village- Rampur Bhola	Hand pump	250	Iron (MS/GI)	29.310166	78.52392
DGW 30	Village- Dittanpur	Hand pump	110	Iron (MS/GI)	29.303997	78.516815
DGW 31	Village- Dittanpur	Hand pump	180	Iron (MS/GI)	29.303367	78.518656
DGW 32	Village- Dittanpur	Hand pump	180	Iron (MS/GI)	29.302941	78.519931
DGW 33	Village- Alaipur	Hand pump	30-40	Iron (MS/GI)	29.296431	78.526214
DGW 34	Village- Alaipur	Hand pump	170	Iron (MS/GI)	29.291274	78.518628
DGW 35	Village- Alaipur	Hand pump	200	Iron (MS/GI)	79.291337	78.5183

Sample code	Sample location	Bore well / Handpump	Depth (ft)	MOC of hand pump	Coordinates	
					Latitude	Longitude
DGW 36	Village- Alavalpur	Hand pump	270	Iron (MS/GI)	29.31076	78.52174
DGW 37	Village- Alavalpur	Hand pump	180	Iron (MS/GI)	29.31073	78.522231
DGW 38	Village- Alavalpur	Hand pump	180	Iron (MS/GI)	29.308113	78.525696
DGW 39	Village- Wajidpur	Handpump	180	GI pipe	29.270173	78.488647
DGW 40	Village- Wajidpur	Handpump	60	MS pipe	29.269886	78.491062
DGW 41	Village- Wajidpur	Borewell	120	MS pipe	29.272456	78.497119
DGW 42	Village- Mohammad Alipur Bhikan	Handpump	180	GI pipe	29.269061	78.483829
DGW 43	Village- Mohammad Alipur Bhikan	Handpump	180	GI pipe	29.268382	78.483446
DGW 44	Village- Mohammad Alipur Bhikan	Handpump	70	MS pipe	29.268351	78.483379
DGW 45	Village- Nindru Khas	Handpump	180	GI pipe	29.2646503	78.48960113
DGW 46	Village- Nindru Khas	Handpump	65	MS pipe	29.264814	78.489382
DGW 47	Village- Khujista Nagar	Handpump	140	GI pipe	29.2702064	78.5064849
DGW 48	Village- Khujista Nagar	Handpump	60	MS pipe	29.2702693	78.50663757
DGW 49	Village- Ajitpurdasi	Handpump fitted with submersible	150	GI pipe	29.253827	78.508287
DGW 50	Village- Ajitpurdasi	Handpump	65	MS pipe	29.249851	78.5065078
DGW 51	Village- Ajitpurdasi	Handpump	65	MS pipe	29.246974	78.511686
DGW 52	Village- Naseerpur Banwari	Handpump	70	MS pipe	29.249297	78.514217

Sample code	Sample location	Bore well / Handpump	Depth (ft)	MOC of hand pump	Coordinates	
					Latitude	Longitude
DGW 53	Village-Naseerpur Banwari	Handpump	240	GI pipe	29.2489509	78.51466369
Surface water sample collected						
SWS 1	Surface water (ponding)	ponding	Surface water ponding near the ash dumping site of M/s Dhampur Sugar Mills Ltd.		29.288670	78.524276

Analysis results of ground water samples collected during survey is tabled below;

Table 7.4 Analysis results of ground water samples collected from Dhampur

Sample Code	Depth (ft)	pH	COD	TSS	TDS	Total Alkalinity	Total Hardness	Cl ⁻¹	F ⁻	SO ₄ ⁻²	NO ₃ -N	As	Cu	Fe	Mn	Zn
WHO Std.		6.5-8.5	4.0		500	30-500	500	100	1.5-2.4	250	10-45	0.1	0.2	5.0	0.2	2-3
DGW 1	120-170	7.7	BDL	-	222	209	275	10	0.3	BDL	BDL	BDL	BDL	0.38	0.1	0.13
DGW 2	50	7.2	BDL	-	488	345	303	48	0.2	23	BDL	BDL	BDL	1.31	0.1	0.2
DGW 3	150	7.7	BDL	-	228	202	295	14	0.3	BDL	BDL	BDL	BDL	1.05	0.08	0.09
DGW 4	80	7.7	BDL	-	228	178	275	8	0.3	BDL	12.8	-	-	-	-	-
DGW 5	240	7.1	BDL	-	778	554	453	114	0.2	81	1.4	BDL	BDL	0.61	0.92	0.09
DGW 6	65	7.4	BDL	-	360	205	384	14	0.2	10	BDL	BDL	BDL	2.75	0.11	0.09
DGW 7	180	7.6	BDL	-	230	178	267	8	0.4	BDL	BDL	BDL	BDL	0.64	0.06	0.07
DGW 8	180	7.7	BDL	13	238	221	263	12	0.6	BDL	13	BDL	BDL	1.34	0.09	0.03
DGW 9	100	7.8	8	20	1480	550	962	236	BDL	297	4.4	BDL	BDL	0.17	0.92	0.03
DGW 10	180	7.1	BDL	10	344	283	436	18	0.4	10	9	BDL	BDL	0.43	0.01	0.34
DGW 11	60	7	9	11	620	391	473	78	0.3	99	1.1	BDL	BDL	0.67	0.01	0.02
DGW 12	60	7.2	BDL	20	410	333	380	40	0.3	101	BDL	BDL	BDL	7.85	1	0.01
DGW 13	80-90	7.5	BDL	-	438	341	307	26	BDL	37	BDL	BDL	0.98	1.62	0.5	2.96

Sample Code	Depth (ft)	pH	COD	TSS	TDS	Total Alkalinity	Total Hardness	Cl ⁻¹	F ⁻	SO ₄ ⁻²	NO ₃ -N	As	Cu	Fe	Mn	Zn
DGW 14	180	7.6	BDL	30	386	562	356	94	0.2	24	BDL	BDL	0.03	9.39	0.09	0.47
DGW 15	180	7.7	BDL	-	206	279	234	24	BDL	14	BDL	BDL	BDL	0.71	0.11	0.04
DGW 16	180-200	7.8	9	-	202	202	319	14	0.5	5	BDL	BDL	BDL	0.49	0.06	0.06
DGW 17	180	7.6	5	-	232	264	234	18	0.6	9	BDL	BDL	BDL	1.18	0.08	0.03
DGW 18	180	7.7	BDL	-	252	217	230	12	0.7	BDL	BDL	BDL	BDL	4.09	0.09	1.07
DGW 19	180-190	7.7	6	-	210	275	259	26	0.5	BDL	BDL	BDL	BDL	1.84	0.05	0.15
DGW 20	180	7.7	5	-	256	229	170	12	0.3	BDL	BDL	BDL	BDL	1.05	0.04	0.16
DGW 21	440-450	7.6	5	-	298	221	251	12	0.3	15	BDL	-	-	-	-	-
DGW 22	180	7.6	BDL	9	430	504	347	100	0.3	42	0.5	-	-	-	-	-
DGW 23	120	7.8	7	-	282	267	226	28	0.3	BDL	BDL	BDL	BDL	0.26	0.16	-
DGW 24	160	7.7	BDL	-	228	209	234	12	0.3	BDL	0.7	-	-	-	-	-
DGW 25	95	7.5	BDL	-	768	256	356	194	0.3	72	6.4	-	-	-	-	-
DGW 26	180	7.7	BDL	-	266	260	275	20	0.3	BDL	BDL	BDL	0.08	0.64	0.17	1.16
DGW 27	180	7.9	8	-	242	205	202	14	0.7	BDL	BDL	-	-	-	-	-
DGW 28	240	7.9	5	-	234	198	234	14	0.4	BDL	BDL	BDL	BDL	0.2	0.08	0.15

Sample Code	Depth (ft)	pH	COD	TSS	TDS	Total Alkalinity	Total Hardness	Cl ⁻¹	F ⁻	SO ₄ ⁻²	NO ₃ -N	As	Cu	Fe	Mn	Zn
DGW 29	250	7.8	5	-	304	186	226	8	0.3	9	BDL	BDL	BDL	4.81	0.99	1
DGW 30	110	7.8	BDL	-	232	360	283	52	0.4	BDL	BDL	-	-	-	-	-
DGW 31	180	7.5	7	-	536	550	420	108	0.4	22	BDL	BDL	0.04	14.5	0.64	0.44
DGW 32	180	7.8	6	-	240	275	311	22	0.06	8	BDL	-	-	-	-	-
DGW 33	30-40	7.5	BDL	127	382	283	259	22	BDL	35	BDL	BDL	0.08	16.7	0.87	2.49
DGW 34	170	7.7	BDL	-	298	407	287	40	0.3	17	BDL	-	-	-	-	-
DGW 35	200	7.6	BDL	-	318	364	295	50	0.6	17	BDL	BDL	-	2.49	0.4	0.62
DGW 36	270	7.6	BDL	-	258	174	234	8	0.5	8	BDL	-	-	-	-	-
DGW 37	180	7.7	BDL	-	250	283	242	18	0.4	17	BDL	-	-	-	-	-
DGW 38	180	7.8	BDL	-	204	182	251	8	0.3	BDL	BDL	-	-	-	-	-
DGW 39	180	7.2	BDL	11	198	202	352	14	BDL	BDL	1.4	BDL	BDL	0.86	0.14	0.12
DGW 40	60	7.2	BDL	10	504	473	347	62	BDL	23	0.9	-	-	-	-	-
DGW 41	120	7.7	BDL	-	442	198	400	26	BDL	56	BDL	BDL	BDL	0.27	0.29	BDL
DGW 42	180	7.3	BDL	-	216	186	291	12	0.3	BDL	BDL	-	-	-	-	-
DGW 43	180	7.1	BDL	10	394	209	311	16	BDL	15	BDL	BDL	BDL	0.86	0.21	0.04

Sample Code	Depth (ft)	pH	COD	TSS	TDS	Total Alkalinity	Total Hardness	Cl ⁻¹	F ⁻	SO ₄ ⁻²	NO ₃ -N	As	Cu	Fe	Mn	Zn
DGW 44	70	7.6	BDL	12	276	283	255	22	BDL	10	1.3	BDL	0.04	2.41	0.51	0.05
DGW 45	180	7	BDL	-	232	287	291	22	0.2	5	12.3	-	-	-	-	-
DGW 46	65	7.6	BDL	52	808	271	436	176	0.3	84	9.3	BDL	0.42	4.08	0.35	0.32
DGW 47	140	7.2	BDL	-	218	190	594	12	BDL	5	1.4	BDL	BDL	0.16	0.09	0.09
DGW 48	60	7.5	BDL	-	720	512	444	98	0.3	115	BDL	BDL	0.02	0.14	0.2	0.03
DGW 49	150	7	BDL	-	256	271	311	12	0.2	BDL	BDL	BDL	BDL	0.3	0.16	0.02
DGW 50	65	7	BDL	26	556	535	529	102	BDL	144	BDL	BDL	BDL	2.01	0.38	BDL
DGW 51	65	8	BDL	6	252	240	234	12	0.2	30	BDL	BDL	BDL	0.25	0.45	BDL
DGW 52	70	7	5	-	500	271	412	26	0.3	154	BDL	-	-	-	-	-
DGW 53	240	7	5	-	220	225	299	12	0.2	BDL	BDL	BDL	BDL	2.81	0.31	0.3

Note: All units in mg/l except pH and colour; colour measured in colour units

Note: WHO standard values are indicated below the name of the respective parameter. Higher observed values are highlighted.

Analysis results of surface water sample collected is tabled below:

Table 7.5 Characteristic of sample collected from surface water/ ponding

Sample code	pH	COD	BOD	TSS	TDS	Color	Cl-1	SO4-2	PO4-P	NO3-N
SWS 1	7.1	2229	1306	345	2032	130	177	281	2.47	8.63

Observations based on the interaction and analysis results of surface water samples:

Resident of village Nurrullapur Cheema informed about a waste material storage site owned by DSM, Dhampur near Alampur village (lat. - 29.288670 and long. - 78.524276). The joint team visited the mentioned site which was located at aerial distance of about 1KM from the unit. The team found ponding of waste water and also dumping of glass wool/ industries scrap in the area of around one acre. The sample (SWS1) collected from the ponding on the site shows very high colour (130Hazen), BOD (1306 mg/l), COD (2229 mg/l), TDS (2032 mg/l) and Sulphate (281 mg/l) which indicates ponding of polluted wastewater.

Observation based on interaction with farmers on ground water:

1. Residents of village Saidpur Biro, Dhampur Hussainpur, Rampur Bhola, Alavalpur, Wajidpur, Mohammad Alipur Bhikan, Nindru khas, Khujista Nagar and Ajitpurdasi informed that the **color** of the ground water turns yellowish after keeping it in vessels for few hours. Total 25 groundwater samples were collected from village Saidpur Biro (2 samples), Dhampur Hussainpur (4 samples), Rampur Bhola (3 samples), Alavalpur (3 samples), Wajidpur (3 samples), Mohammad Alipur Bhikan (3 samples), Nindru khas (2 samples), Khujista Nagar (2 samples) and Ajitpurdasi (3 samples). Out of 25 groundwater samples 16 samples were analysed for heavy metals. The groundwater analysis of samples from these villages suggest **Fe** varying from 0.14 to 4.81 mg/l. Fe levels found within limit as per WHO standard limit of 5 mg/l in all sixteen samples. However, ten samples had higher Fe than Indian drinking water standard ISO:10500 (2012) of 0.3 mg/l. The changes in colour of water to yellow after few minutes of storing might be due to oxidation of iron present in groundwater. Out of 16 samples analysed for heavy metals four samples were from u/s of the unit and 12 samples from d/s of the unit.
2. Residents of village Mohammad Alipur Bhikan, Nindru khas, village Khujista Nagar and Ajitpurdasi raised issues regarding majorly stomach related diseases and issue of stone formation due to continuous consumption of groundwater for drinking purposes. Total ten samples were collected from mentioned villages, Alipur Bhikan (3 samples), Nindru khas (2 samples), village Khujista Nagar (2 samples) and Ajitpurdasi (3 samples). Samples from Nindru khas, village Khujista Nagar and Ajitpurdasi shows higher TDS and alkalinity or higher TDS and Chloride than WHO groundwater standards (1996). As informed by Health department, District- Bijnor, patients with seasonal disease are generally observed in this district and the unit has no contribution/role to these health-related diseases.

Observations based on the analysis results of ground water samples:

1. COD, TDS and alkalinity were found higher than WHO (1996) prescribed limit in groundwater at DGW 9 and DGW 31. TDS and Total Alkalinity was found on higher side at DGW 5, DGW 48 and DGW 50. Chloride was found higher than WHO (1996) prescribed limit of ionic concentration in groundwater at DGW 5, DGW 9, DGW 14, DGW 23, DGW 25 and DGW 31. All the mentioned samples were collected at depth range of 100-240 ft. These samples are randomly distributed and doesn't show any pattern of impact as samples DGW 14, DGW 23, DGW 25 and DGW 31 were from u/s of the unit and others samples from d/s of the unit.
2. COD higher than WHO prescribed limit was observed in 15 samples (11 in upstream and 4 in downstream of the unit). Out of total 15, three samples were collected from shallow depth of 60-120 ft. and remaining twelve samples were collected from deep depth ranging from 180-450 ft. In the samples from deep borewells higher COD values were observed. The 11 samples located u/s of the unit showing high COD values were collected from in and around Dhampur city, this might be due to contamination of groundwater aquifer due to percolation of wastewater/ sewage flows in the Ikra drain.
3. All heavy metals were well within WHO standard (1196) of groundwater except Fe at four locations (one downstream and three upstream of the unit) collected from shallow depth of 30-180 ft. and Mn at 13 locations (eight downstream and five upstream of the unit). Out of total 13 locations for Mn, eight samples were collected from shallow depth of 30-100 ft. and remaining five samples were collected from deep depth ranging from 180-250 ft.

7.3. Assessment of crop damage

Observation based on interaction with farmers on crop damage:

- Residents of village Saidpur Biro village informed that a local drain which flows approx. 200 m away from the agriculture fields. This drain carries waste water of Dhampur sugar mills in to the fields during discharge or whenever it rains, which affect the crop productivity. Villagers informed that average yield of Sugarcane in the area is around 60qtls/bigha.
- Residents of village Ajitpurdasi also raised the issue of crop damage due to overflow of Ikra drain into adjacent crop field. It was also reported that trees in mango orchard (at Lat-29.246974, Long-78.511686) are getting badly affected due to seepage of polluted water from nearby Ikra drain.
- Residents of village Haizri, Block Allahaipur and Mauhdi raised the issue related with the ash that it affects more when wind direction turns towards agricultural land. No issue related with crop productivity and plant diseases were raised.
- Farmers from village Mohra informed that average yield of Sugarcane in the village is around 85qtls/bigha.

Observation based on assessment of Agricultural Department on crop damage:

- District Agriculture Department, Bijnor, informed that soil at these 29 locations was found fertile and is capable for crop production. No impact of industrial pollution was observed on the soil samples.
- It is concluded based on the joint survey conducted by District Agriculture, Horticulture, & Forest Department and interaction with local farmers & residents that though there are no evidence of loss of yield or damage to crop, however, deposition of fly ash on leaves of crops/ orchard & cloths of residents of nearby villages do occur which may cause inconvenience/ uneasiness.

7.4. Survey and monitoring of Ikra drain

Ikra drain originates from a pond (also called “Jheel” by villagers) in Dhampur-Hussainpur village in Dhampur Tehsil of Bijnor district (Uttar Pradesh) and travels approximately 50 km before meeting river Karula near Kiwar village (Uttar Pradesh). Ikra drain receives wastewater from Dhampur city and traverses a distance of ~7-8 km before effluent from Dhampur Sugar Mill is discharged into the drain. Monitoring of Ikra drain was carried out from its origin in Dhampur-Hussainpur village (Uttar Pradesh) to confluence with river Karula near Kiwar village in Uttar Pradesh during Dec 01 – 02, 2021. Sampling locations on Ikra drain and river Karula are shown in Figure 7.3.

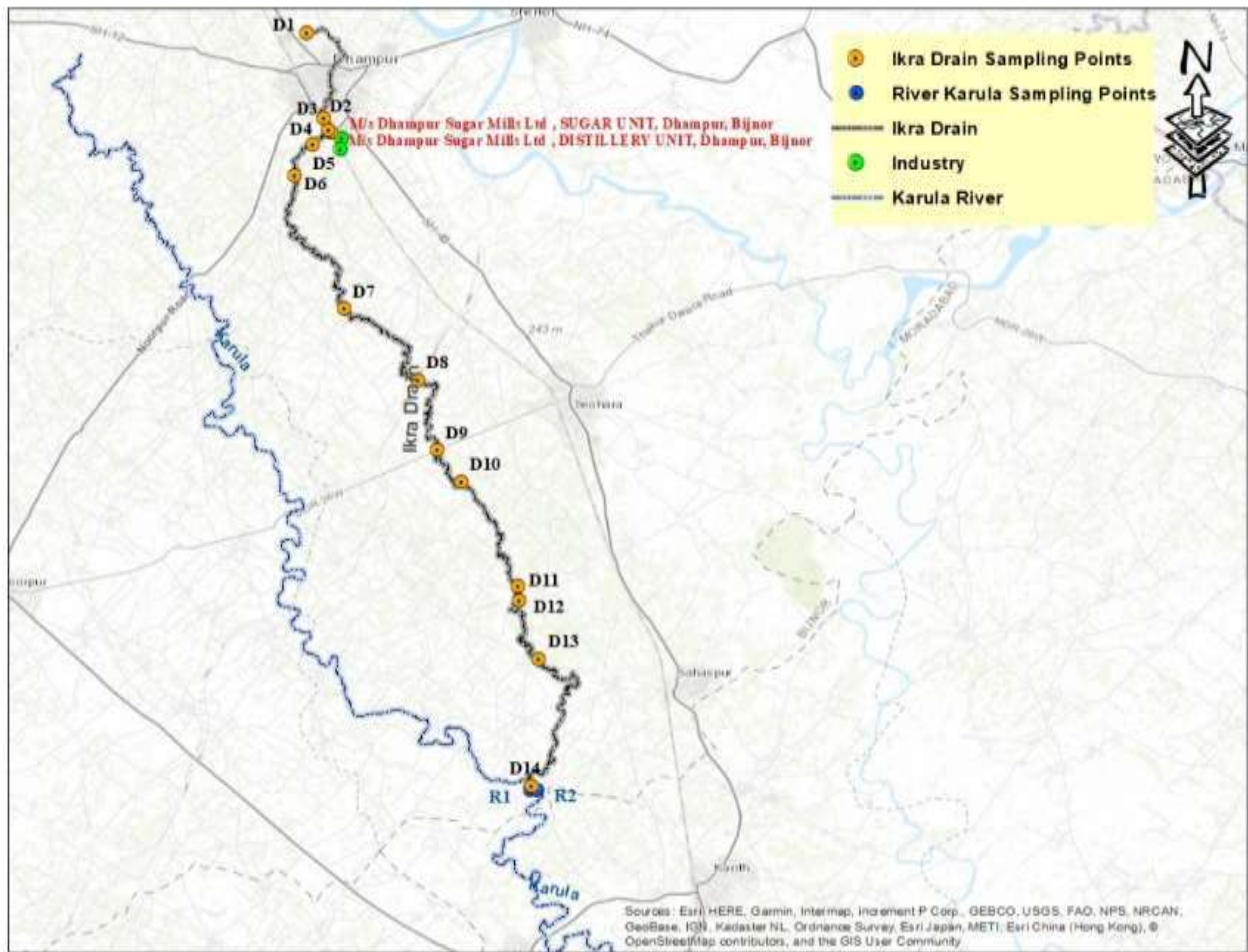


Figure 7.3 Sampling locations on Ikra drain and river Karula

Details of sample collected during survey and monitoring of Ikra drain & karula river is tabled below:

Table 7.6 Sampling details of Ikra drain from origin to confluence with river Karula

Sampling code	Sampling location	Co-ordinate	Flow condition	Sample taken (Y/N)	Major observation
D1	Origin point of Ikra drain i.e., Jheel in Dhampur-Hussainpur village	29.320961, 78.503635	Stagnant	Y	Origin point of Ikra drain is a pond in Dhampur-Hussainpur village which is ~ 7-8 km upstream of Dhampur Sugar Mill.
D2	Ikra drain u/s Dhampur Sugar Mill near Railway Crossing	29.294762, 78.508629	38.88	Y	Sewage from Dhampur city is discharged into Ikra drain at u/s of this location.

Sampling code	Sampling location	Co-ordinate	Flow condition	Sample taken (Y/N)	Major observation
D3	Drain from Dhampur Sugar Mill	29.290605, 78.510880	Lean flow	Y	- Lean flow was observed in the drain. - Wastewater analysis showed BOD-18 mg/l and COD-71 mg/l.
D4	Ikra drain d/s Dhampur Sugar Mill	29.291295, 78.510106	36.86	Y	-
D5	Ikra drain near compost yard of Dhampur Sugar Mill	29.286740, 78.505426	Not measured	Y	Sampling location was along the compost yard of Dhampur Sugar Mill.
D6	Ikra drain near Mirzapur Palla village	29.277206, 78.499738	27.64	Y	D/s of compost yard of DSM unit
D7	Ikra drain near Hariyana village	29.236208, 78.514790	34.56	Y	A villager informed that discharge of molasses in the drain has been observed during May-June months. He also informed that the groundwater is also contaminated at ~ 60-65 feet.
D8	Ikra drain near Alairpur village along Preshak Nahar	29.214444, 78.537310	Not measured	Y	- It was informed by a villager that the drain water was diluted using freshwater from Preshak Nahar on the day before the inspection. The pump was operated for ~ 22 hr. - In Ikra drain, BOD and COD were observed as 36 mg/l and 144 mg/l, respectively. - Also, at this location, a pit was located at the bed of the drain wherein yellow-coloured wastewater was found. Sample analysis showed BOD-29 mg/l, COD-133 mg/l, TDS-3264 mg/l and Sulphate-1271 mg/l. - A villager informed that industries dump chemicals in the drain at this location.

Sampling code	Sampling location	Co-ordinate	Flow condition	Sample taken (Y/N)	Major observation
D9	Ikra drain at Noorpur-Seohara Road	29.192780, 78.543179	30.21	Y	-
D10	Ikra drain near Rampur Krisna village	29.182949, 78.550581	35.36	Y	• Villager (Sh. Ravi) informed that discharge of effluent in Ikra drain 2-3 times in a year and during the rainy season, contaminated water from Ikra drain enters nearby agricultural fields.
D11	Ikra drain near Ratanpura village	29.151057, 78.567997	33.59	Y	• Sewage from Ratanpura village is discharged into the Ikra drain at this location. Samples from the Ikra drain were collected at d/s of sewage discharge location. • BOD-52 mg/l, COD-166 mg/l and TSS-182 mg/l were observed in the drain. • A villager (Sh. Ahmad Ali) informed that effluent from Dhampur Sugar Mill is discharged into the drain throughout the year.
D12	Ikra drain near Dhingrapur village	29.146727, 78.568389	Not measured	Y	• Mixing of irrigation water in Ikra drain near Dhingrapur village as cleaning work of sump in the irrigation canal. • Colour-31 mg/l, BOD-47 mg/l and COD-169 mg/l were observed in Ikra drain.
D13	Ikra drain near Gangadharpur village	29.128423, 78.574209	31.1	Y	• Colour-20 mg/l, BOD-13 mg/l and COD-76 mg/l were observed in Ikra drain.
R1	River Karula b/c Ikra drain	29.088383, 78.571697	Not measured	Y	• Water quality of river Karula b/c Ikra drain was meeting bathing criteria w.r.t. BOD-BDL (against < 3.0 mg/l), DO-10.2 mg/l (against > 5.0 mg/l) and pH-7.0 (against 6.5-8.5). However, water quality of river Karula at this location was not meeting the bathing criteria

Sampling code	Sampling location	Co-ordinate	Flow condition	Sample taken (Y/N)	Major observation
					w.r.t. fecal coliform-4900 MLN/100 ml (against 2500 MPN/100 ml).
D14	Ikra drain b/c river Karula near Kiwar village	29.089367, 78.572155	27.64	Y	• BOD-13 mg/l, COD-75 mg/l, colour-16 Hazen and Sulphate-45 mg/l.
R2	River Karula a/c Ikra drain	29.088338, 78.574015	Not measured	Y	• Water quality of river Karula a/c Ikra drain was meeting bathing criteria w.r.t. pH-7.3 (against 6.5-8.5), DO-9.6 mg/l (against > 5.0 mg/l) and fecal coliform-2300 MLN/100 ml (against 2500 MPN/100 ml) except BOD-4 mg/l (against < 3.0 mg/l).

Analysis results of sample collected during survey of Ikra drain and Karula river for general parameters is tabled below:

Table 7.7 Analysis results of sample collected from Ikra drain and Karula river

	Sampling code	pH	COD	BOD	TSS	TDS	NO ₃ ⁻ -N	SO ₄ ²⁻	NH ₃ ⁻ -N	Total coliform	Fecal coliform	Cr	Cu	Fe	Mn	Ni	Pb	Zn
Sampling location upstream of DSM sugar and distillery unit																		
Stretch - I	D1	7.8	25	4	17	246	0.6	6	0.6	-	-	BDL	BDL	1.27	0.04	BDL	BDL	0.04
	D2	7.1	135	54	64	292	2.08	136	34	-	-	BDL	0.03	1.27	0.18	BDL	BDL	0.17
	D3	7.2	71	18	29	424	1.08	70	7	-	-	0.04	0.17	11.02	0.34	0.02	0.03	0.3
Sampling location downstream of DSM and distillery unit																		
Stretch - II	D4	7.3	226	66	138	316	1.86	48	12	-	-	BDL	0.05	2.81	0.19	BDL	0.03	0.27
	D5	7	198	49	47	332	1.7	36	28	-	-	BDL	0.02	1.92	0.17	BDL	BDL	0.18
	D6	7	391	123	408	244	1.27	60	12	-	-	0.03	0.14	14.41	0.26	0.03	0.09	0.44
	D7	7.1	207	81	49	284	1.34	57	12	-	-	BDL	0.02	1.03	0.17	BDL	BDL	0.03
Stretch - III	D8	7.2	144	36	35	264	1.44	44	9	-	-	BDL	BDL	0.48	0.17	BDL	BDL	0.02
	D9	7.2	160	59	38	360	1.17	47	6	-	-	BDL	BDL	0.21	0.18	BDL	BDL	0.04
	D10	7.1	133	39	35	280	1.58	42	16	-	-	BDL	BDL	0.5	0.2	BDL	BDL	0.04
	D11	7.3	166	52	182	344	1.14	58	6	-	-	BDL	BDL	0.63	0.18	BDL	BDL	0.04
	D12	7.2	169	47	83	368	1.47	53	5	-	-	BDL	BDL	1.52	0.2	BDL	BDL	0.04
	D13	7.4	76	13	20	336	1.43	43	6	-	-	BDL	BDL	0.54	0.17	BDL	BDL	0.01
Stretch - IV	R1	7	12	BDL	15	234	2.6	7	BDL	54000	4900	BDL	BDL	0.03	0.01	BDL	BDL	BDL
	D14	7.5	75	13	19	324	0.93	45	13	3100	1700	BDL	BDL	0.72	0.12	BDL	BDL	0.04
	R2	7.3	18	4	16	110	1.4	13	3.1	7900	2300	BDL	BDL	0.76	0.15	BDL	BDL	0.01

Note: All parameters are expressed as mg/l except pH, conductivity (µmho/cm), colour (Hazen) and TC/FC (MPN/100 ml) (D: drain, R: river)

Physico-chemical characteristics of Ikra drain and Karula River:

Sampling location on Ikra drain and Karula river may be classified into three stretches

- Stretch – I – Ikra drain from origin to upstream of DSM sugar and distillery unit. Discharge of domestic sewage from Dhampur city into Ikra drain were observed in this stretch. Analysis results of two sample collected in this stretch show pH values from 7.1 to 7.8, colour from BDL to 29 colour unit, BOD from 4 to 54 mg/l, COD from 25 to 135 mg/l, TSS 17 to 64 mg/l, TDS from 246 to 292 mg/l, Sulphate from 06 to 136 mg/l, nitrate 0.6 to 2.08 mg/l and ammoniacal nitrogen from 0.6 to 34 mg/l which indicate that water in Ikra drain is polluted as it carries sewage from Dhampur city.
- Stretch – II -Downstream of DSM sugar and distillery unit to Ikra drain at Hariyana village, UP. Four samples (D4, 5, 6 and 7) were collected from this stretch. Waste water analysis shows high BOD (49-123 mg/l), COD (198-391 mg/l) and TSS (47-408). Maximum BOD (123 mg/l), COD (391 mg/l) and TSS (408 mg/l) of entire stretch of Ikra were observed at D6 located just after compost yard of DSM, Dhampur. Analysis results indicate that Ikra drain is more polluted in the stretch than stretch 1. However, no discharge from DSM unit was observed during survey.
- Stretch – III - Sampling location Ikra drain, Hariyana village, UP to confluence with Karula River. Six samples (D8, 9, 10, 11, 12,13 and 14) were collected from this stretch of Ikra drain. Most of the heavy metals are below detectable limit except Iron and Manganese. Analysis results indicate that quality of wastewater in Ikra drain improves in comparison to stretch II which might be due to dilution of Ikra drain by freshwater from Preshak canal on the day before inspection as informed by local residents.
- Stretch – IV – Karula river before and after discharge of Ikra drain. Two samples (R1 and R2) were collected from Karula River. After confluence with Ikra drain, increase in BOD, COD, TSS, TDS, Sulphate, Ammoniacal Nitrogen were observed from BDL to 4 mg/l, 12 to 18 mg/l, 15 to 16 mg/l, 110 to 234 mg/l, 1.4 to 2.6 mg/l, 7 to 13 mg/l and BDL to 3.1 mg/l respectively in Karula river. Results indicate that water quality of river Karula deteriorate slightly after confluence of Ikra drain.

Conclusion based on the survey in Dhampur, District Bijnor:

1. Based on the soil analysis report District agriculture officer, Bijnor, informed that the soil at all locations was found fertile and is capable for crop production. No impact of industrial pollution was observed on the soil samples.
2. The changes in colour of groundwater water to yellow after few minutes of storing might be due to oxidation of iron and manganese present in groundwater. The geology of the area seems to have influence on groundwater parameters.
3. Cases of damage of trees/crop/orchard/garden due to the pollution by DSM Dhampur unit were not reported by concerned district agencies; however, deposition of fly ash/ dust on leaves were observed.
4. Ikra drain is more polluted in D/s DSM unit (stretch II &III) than U/s of unit (stretch I). However, water quality of Ikra drain improve in stretch III before confluence with Karula river which might be due to dilution of Ikra drain by using freshwater from Preshak canal on the day before inspection as informed by local residents

5. Chief Medical Officer, Bijnor vide letter dated 22.12.2021 has submitted its health care report of District Bijnor consulted at Public Health Center (PHC) and Community Health Center (CHC) considering the crushing season from November to May and non-crushing season from June to October. *It is informed that most of the patient were suffering from seasonal cold cough, skin irritation, breathing problem and diseases related to stomach. All these patients are presently recovered from these health-related issues and are in healthy state now. He also informed that patients with seasonal disease are generally observed in this district and the unit M/s Dhampur Sugar Mills Ltd., Bijnor has no contribution/role to these health-related diseases.* **Annexure-11**
6. District Agriculture officer, Bijnor, vide letter dated 23.12.2021 informed that, *the analysis report of the 29 soil samples collected on 01.12.2021 and 02.12.2022 indicate that soil of the inspected area was found capable for crop production and no adverse impact of industrial pollution was observed on crop production. In addition, with this, sown crops were observed in normal condition during the inspection.* **Annexure-12**
7. District Horticulture Officer, Bijnor, vide letter dated 24.12.2021 reported that, *productivity of orchard in the area was normal and no adverse impact was observed.* **Annexure-13**
8. Executive Engineer, Uttar Pradesh Jal Nigam (Rural) vide letter dated 21.12.2021 provided the data of ground water samples collected from Dhampur, Block- Alahpur dated 22.11.2016, 20.4.2017, 09-10.08.2018, 24, 25.08.2018, 28.06.2019, 12.02.2020 and 21.08.2020 which is satisfactory as mentioned in the report. **Annexure-14**
9. Chief Executive Officer, Fisheries Development Agency, Bijnor, reported that, *no pollution generated problem in ponds of villages located in the vicinity of M/s DSM, Asmoli is existing.* **Annexure-15**

Remedial measure for rejuvenation of Ikra drain

Analysis results of water quality of Ikra drain shows that drain water is polluted in entire stretch as it carries sewage from Dhampur city. However, it is pertinent to mention that Ikra drain is more polluted in D/s DSM unit (stretch II & III) than U/s of unit (stretch I). No untreated effluent and sewage shall be discharge into drain. CPCB guideline for "*Alternative treatment technologies for wastewater treatment of drains*" prepared in compliance of Hon'ble NGT direction in the matter of OA no. 06/2012 may be referred for interim measure. Cost of the treatment system generally varies between 50 lacs to 1 crore per unit which shall be bear by either DSM unit or by other concern government agency or by both. The length of Constructed Wetland (CWS) and number of units depends on the flow of water, wastewater quality (BOD, COD, TSS and DO levels) and width of the drain. These systems can be installed and operated within short gestation period of around 12-24 months and not only treat the wastewater but also help in recharging of ground water. For designing of these system, expert institute like Centre for Environmental Management of Degraded Ecosystem (CEMDE), may also be engaged/approached for better technical know-how about the natural treatment system.

Remedial measure for Groundwater contamination

As per Central Ground Water Board (CGWB), report on National Compilation on Dynamic Groundwater Resource of India, 2020, out of 11 monitored locations, four blocks/ towns of Bijnor fall under semi-critical area and one under critical area. As per Uttar Pradesh Jal Nigam on present survey/sampling report no adverse impact of industry in groundwater was found, so, it is recommended to:

- 1) Identify location of safe drinking groundwater and marking all unsafe groundwater to avoid their use for drinking purposes.
- 2) 53 groundwater sample were collected from 29 village. Out of these 29 villages ground water quality shows higher than WHO permissible limit for **COD** at Village Mirjapur Palla, Mohda, Dhampur city near Saint Mary's school, Dhampur Hussainpur, Rampur Bhola, Dittanpur and Naseerpur Banwari; **TDS** at Village Haizri (Nurrullapur Cheema), Mirjapur Palla, Mohda, Suhaghpur, Dittanpur, Wajidpur, Nindru Khas, Khujista Nagar, Ajitpurdasi and Naseerpur Banwari; Alkalinity at Village Haizri (Nurrullapur Cheema), Mirjapur Palla, Jaitra, Dhampur Hussainpur, Dittanpur, Khujista Nagar and Ajitpurdasi; **Fe** at Village Mohda, Vidhan Sabha, Jaitra, Dittanpur and Alaipur; **Mn** at Village Haizri (Nurrullapur Cheema), Mirjapur Palla, Mohda, Khai Khera, Rampur Bhola, Dittanpur, Alaipur, Wajidpur, Mohammad Alipur Bhikan, Nindru Khas, Khujista Nagar, Ajitpurdasi and Naseerpur; **Zn** at Village Khai Khera and Alaipur Banwari at shallow depth for drinking. These villages need to get deep bore well by the unit or by concerned district administration.
- 3) A detailed plan may be made by Central ground water board/ UPGWD for recharge of ground water.

Photographs taken during detailed study in Dhampur region.

 PURANA DHAMPUR Dhampur, Uttar Pradesh, India 8077+37P, Purana Dhampur, Dhampur, Uttar Pradesh 246761, India Lat 28.312716° Long 78.613094° 01/12/21 03:15 PM	 Dhampur, Uttar Pradesh, India 80229+3M Dhampur helpad, Dhampur, Uttar Pradesh 246761, India Lat 28.311825° Long 78.604394° 01/12/21 03:37 PM
GW sample collection in purana Dhampur	GW sample collection in Dhampur city
 Dhampur, Uttar Pradesh, India Udupura Road, Purana Dhampur, Dhampur, Uttar Pradesh 246761, India Lat 28.317846° Long 78.616123° 01/12/21 04:57 PM	
Soil sample collection in purana Dhampur	Soil sample collection in Dhampur
	
Origin point of Ikra drain i.e., Jheel in Dhampur-Hussainpur village	Ikra drain behind DSM unit



Drain from area in front of Dhampur Sugar Mill



Ikra drain near compost yard of Dhampur Sugar Mill



Ikra drain near AliArpur village along Preshak Nahar



River Karula A/c of Ikra drain

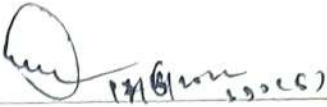
8. Recommendations

- The contamination in Ground Water has been observed at shallow depth handpumps/borewells, hence it is recommended that UPGWD & Nalkoop Vibhag may be asked to look into the matter, and arrangement for deep borewell shall be made.
- UPGWD to ensure marking and sealing of unsafe borewells/ handpumps.
- Also, for ensuring availability of safe drinking water to the residents of villages highlighted in the report UP Jal Nigam should make provisions for supplying tap water.
- Units shall ensure that installed ESP/ Bag filters are operated effectively.
- Feasibility of in-situ remediation for restoration & rejuvenation of River Sot shall be explored and action plan for the same to be prepared by the concerned department such as U.P. Irrigation Department in consultation with all the concerned agencies. If necessary an expert agency may be engaged.
- To prevent the impact of Ikra drain, Dhampur (Bijnor) on water quality of river Karula, feasibility of constructed wetland shall be explored before the confluence of Ikra drain into Karula river.
- UPPCB shall issue necessary directions to the units for ensuring that no discharge of partially treated/ untreated effluent takes place into Pilakhar River, Sot River & Ikra drain or any water body takes place.

Member list

Sr. No.	Members	Signature
1.	Sh. A.K. Vidyarthi, Scientist 'F', Director & DH-WQM- II, CPCB, Delhi	Ajit Kumar Vidyarthi
2.	Sh. Nazimuddin, Scientist 'F', DH- IPC-II, CPCB, Delhi	Nazim
3.	Mrs Reena Satavan, Scientist 'D', CPCB, Delhi	Reena

Sr. No.	Members	Signature
4	District Magistrate, District- Bareilly	
5	Sh. Rohit Singh, Regional Officer, UPPCB, Regional Office- Bareilly	 23/06/22

Sr. No.	Members	Signature
6	District Magistrate, District Sambhal	
7.1	Sh. Vikas Mishra, Regional Officer, UPPCB, Regional Office - Moradabad	
7.2	Sh. Vinay Kumar Mishra, Sub Divisional Magistrate, Tehsil Sambhal, District Sambhal	

Sr. No.	Members	Signature
8	Sub-Divisional Magistrate, Dhampur, District-Bijnor	
9	Sh. Ashutosh Chauhan, Regional Officer UPPCB, Regional Office- Bijnor	
10	Sh. Mahir Hussain, Assistant Environmental Engineer, UPPCB, Regional Office- Bijnor	
11	Sh S.K. Tripathi, Scientific Assistant , UPPCB, Regional Office- Bijnor	

Annexure – I : Groundwater Quality index**Groundwater Quality Index**

For computing WQI three steps are followed. In the first step, each of the 19 parameters has been assigned a weight (w_i) according to its relative importance in the overall quality of water for drinking purposes (Table 1). The maximum weight of 5 has been assigned to the parameter nitrate due to its major importance in water quality assessment. Magnesium which is given the minimum weight of 1 as magnesium by itself may not be harmful. Other In the second step, the relative weight (W_i) is computed from the following equation:

$$W_i = \frac{w_i}{\sum_{i=1}^n w_i}$$

Where, W_i is the relative weight, w_i is the weight of each parameter and n is the number of parameters. Calculated relative weight (W_i) values of each parameter are also given in Table 1.

Table - Relative weight of chemical parameters

Parameter	BIS	Weight (w_i)	Relative Weight (W_i)
pH	6.5-8.5	4	0.117647
Total hardness (TH)	300-600	2	0.058824
Chloride	250-1,000	3	0.088235
Total dissolved solids (TDS)	500-2,000	4	0.117647
Fluoride	1-1.5	4	0.117647
Manganese	0.1-0.3	4	0.117647
Nitrate	45-100	5	0.147059
Iron	0.3-1.0	4	0.117647
Sulphate	200-400	4	0.117647
		$\sum w_i = 34$	$\sum W_i = 1.000$

In the third step, a quality rating scale (q_i) for each parameter is assigned by dividing its concentration in each water sample by its respective standard according to the guidelines laid down in the BIS and the result multiplied by 100:

$$q_i = (C_i / S_i) \times 100$$

where q_i is the quality rating, C_i is the concentration of each chemical parameter in each water sample in mg/L, and S_i is the Indian drinking water standard for each chemical parameter in mg/L according to the guidelines of the BIS 10500, 1991

For computing the WQI, the SI is first determined for each chemical parameter, which is then used to determine the WQI as per the following equation

$$SI_i = W_i \cdot q_i$$

$$WQI = \sum SI_i$$

SI_i is the subindex of i^{th} parameter; q_i is the rating based on concentration of i^{th} parameter and n is the number of parameters. The computed WQI values are classified into five types, “excellent water” to “water, unsuitable for drinking”.

WQI value	Water quality
<50	excellent
50-100	good water
100-200	poor water
200-300	very poor water
>300	Water unsuitable for drinking

Meerganj**Groundwater Quality**

33 groundwater samples were collected from borewell/ handpumps and tubewells around 11 villages. All samples were analysed for general parameter and analysis for heavy metals were carried out for 11 samples (one sample from each village). River Pilakhar flows from north (Bazpur, Uttarakhand) towards south and confluence with river Bakhra at Village Jauner, Bareilly. Considering contour gradient of the study area towards confluence point of river Pilakhar with river Bakhra at Jauner Village, location upstream side (U/s) of the confluence point may be considered as having less potential of impact of any discharge on groundwater and villages/locations at downstream (D/s) side of confluence point may be considered as high potential of groundwater contamination due to any discharge from industrial unit. The groundwater samples were compared with prescribed specification of ionic concentration in groundwater by WHO standards (1996).

The determination of Physio-chemical parameters of groundwater samples was carried out by standard protocol given by APHA, 2012.

Out of 33 groundwater samples seventeen samples (MGW1, MGW2, MGW3, MGW4, MGW16, MGW17, MGW18, MGW19, MGW20, MGW21, MGW22, MGW23, MGW24, MGW25, MGW26, MGW27 and MGW28) located at upstream of the unit; twelve samples (MGW8, MGW9, MGW10, MGW11, MGW12, MGW13, MGW14, MGW29, MGW30, MGW31, MGW32 and MGW33) located at downstream side of the unit and four samples (MGW5, MGW6, MGW7 and MGW15) located within one km radial periphery of the unit.

Physio-chemical Characterization

The pH of the groundwater in the study area is neutral in both upstream and downstream and it varied from 7.1 to 7.7, falls into pH range of natural water (6.5 - 8.5).

The total dissolved solids content of groundwater in the upstream side varied from 316 to 1014 mg/l, 318 to 842 mg/l in downstream side and 288 to 546 mg/l within one km radial periphery of the unit. According to the classification of groundwater on the basis of TDS (Ahouansou et al., 2018), 3.03% of the total groundwater samples are of excellent water quality (<300 mg/l), 72.73% of good water quality (300-600 mg/l), 18.18% of fair water quality (600-900 mg/l) and 6.06% of poor water quality (900-1200 mg/l), indicated that groundwater quality good to fair in terms of TDS.

Table- Classification of water quality on the basis of total dissolved solids

TDS Value (mg/l)	Water Quality	No of Samples	Percentage of Samples
<300	Excellent	1	3.03
300 - 600	Good	24	72.73
600 - 900	Fair	6	18.18

900 -1200	Poor	2	6.06
>1200	unacceptable	0	0.00

Groundwater classification based on total hardness (TH) values, as TH<75 mg/l, 75-150 mg/l, 150-300 mg/l and >300mg/l, designated as soft, moderately hard, hard and very hard respectively (Sawyer and McCarty,1967). Thus, 51.52% belongs to hard water and rest 48.48% samples comprises very hard water. The result indicates that the groundwater quality in the study area is hard to very hard.

Alkalinity has direct relation with hardness and pH of the groundwater. It ranged from 262 to 806 mg/l in upstream side samples, 242 to 617 mg/l in downstream side of sample and 250 to 430 mg/l within one km radial periphery of the unit.

Table - Classification of water quality on the basis of total hardness

TH Value (mg/l)	Water Quality	No of Samples	Percentage of Samples
<75	soft	0	0
75-150	moderately hard	0	0
150-300	hard	17	51.52
>300	very hard	16	48.48

Colour was found in only two samples (MGW19 and MGW21) of upstream side of the unit and one of the samples (MGW31) of downstream side of the unit. COD varied from BDL to 29 mg/l in upstream side and its concentration were found below detectable limit in downstream and within one km radial periphery of the unit. The chloride concentration varied from 8 to 108 mg/l in upstream of the unit, 8 to 42 mg/l in downstream side and 8 to 18 mg/l in one km radial periphery of the unit. The fluoride concentration was found in only two samples (MGW25 and MGW 28) of upstream and five samples (MGW9, MGW11, MGW12, MGW14 and MGW33) of downstream and its concentration was below detectable limit in one km radial periphery of the unit. Fluoride concentration varied from 02. to 0.4 mg/l in upstream and downstream of the unit. Sulphate concentration varies from 27 to 273 mg/l in upstream side, 25 to 296 mg/l downstream side and 11 to 84 mg/l in one km radial periphery on the unit. Nitrate concentration was found only in four samples (MGW25 in upstream and three MGW9, MGW10, MGW30 in downstream sample) having concentration of 0.3 mg/l in upstream and 0.3 to 8.6 mg/l in downstream side of the unit.

The heavy metal concentration of As, Co, Cr, Cu, Ni and Pb were mostly below detectable limit or below WHO standard. Concentration of Fe varied from BDL to 7.94 mg/l in upstream, BDL to 2.58 mg/l in downstream and 1.98 mg/l in one of the samples within one km radial periphery of the unit. Manganese varied from BDL to 1.57 mg/l in upstream, BDL to 0.31 mg/l in downstream and BDL to 0.24 mg/l in one km radial periphery of the unit. Similarly, Zinc varied from BDL to 5.18 mg/l in upstream, BDL to 0.15 mg/l in downstream and BDL to 0.01 mg/l in one km radial periphery on the unit.

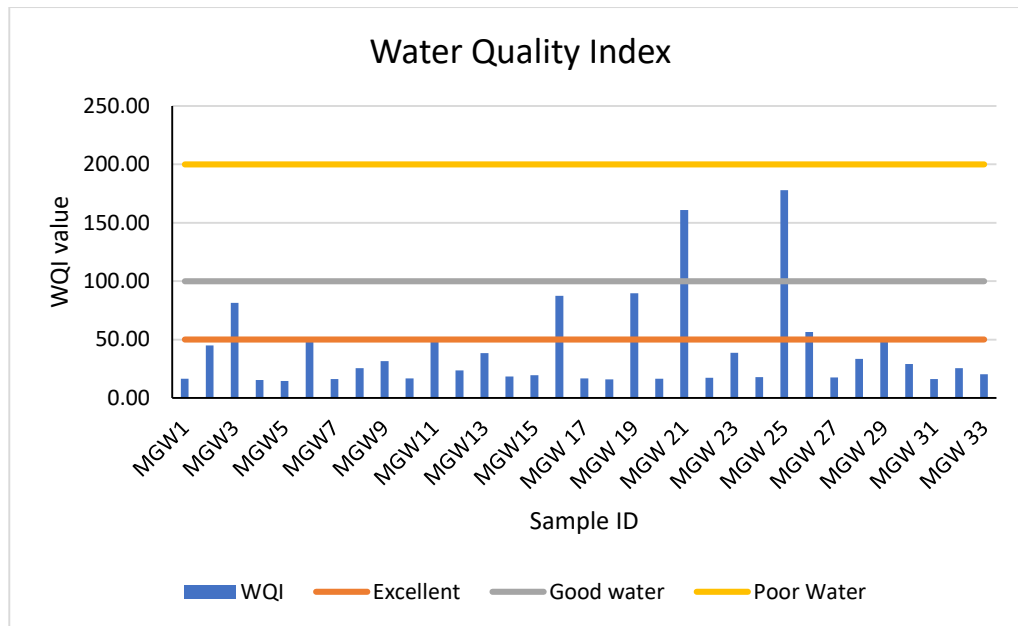
Groundwater Quality

Table - Water quality classification based on WQI value

WQI value	Water quality	No of Samples	Percentage of water samples
<50	excellent	25	75.76
50-100	good water	6	18.18
100-200	poor water	2	6.06
200-300	very poor water	0	0.00
>300	Water unsuitable for drinking	0	0.00

Groundwater quality index were calculated based on Ramakrishnaiah et al. 2009. For quality rating BIS standard as reference concentration were taken in calculation and for parameter where limits are in certain range, the higher value of the BIS standard was taken into consideration.

Groundwater quality index suggest that around 75.76% of sample collected is of excellent water quality, 18.18% of good water quality and 6.06% of poor water quality.



Asmoli**Groundwater Quality**

47 groundwater samples were collected from borewells, hand pumps and tube-wells located in and around 17 villages. All samples were analyzed for general parameters. Analysis of heavy metals were carried out for 35 samples. DSM unit discharge into Sot river, flowing within 100 m distance in south east direction of the unit. Considering the contour gradient of study area towards flow direction of Sot river, villages located at the upstream of DSM unit discharge point may be considered as having less potential of impact of any discharge on ground water and villages located downstream of DSM discharge point may be considered having high potential of ground water contamination due to any discharge from industrial unit. The groundwater samples were compared with the prescribed specification of ionic concentration in groundwater by WHO standards (1996).

The determination of Physio-chemical parameters of groundwater samples was carried out by standard protocol given by APHA, 2012.

Out of 47 groundwater samples twenty one samples (AGW4, AGW5, AGW29, AGW30, AGW31, AGW32, AGW33, AGW34, AGW35, AGW36, AGW37, AGW38, AGW39, AGW40, AGW41, AGW42, AGW43, AGW44, AGW45, AGW46 and AGW47) located at upstream of the unit; twenty two samples (AGW1, AGW2, AGW3, AGW8, AGW9, AGW10, AGW11, AGW12, AGW13, AGW14, AGW17, AGW18, AGW19, AGW20, AGW21, AGW22, AGW23, AGW24, AGW25, AGW26, AGW27 and AGW28) located at downstream side of the unit and four samples (AGW6, AGW7, AGW15 and AGW16) located within one km radial periphery of the unit.

Physio-chemical Characterization

The pH of the groundwater in the study area is neutral in both upstream and downstream and it varied from 7.1 to 8.0, falls into pH range of natural water (6.5 - 8.5).

The total dissolved solids content of groundwater in the upstream side varied from 196 to 1142 mg/l, 226 to 876 mg/l in downstream side and 230 to 544 mg/l within one km radial periphery of the unit. According to the classification of groundwater on the basis of TDS (Ahouansou et al., 2018), 29.79% of the total groundwater samples are of excellent water quality (<300 mg/l), 51.06% of good water quality (300-600 mg/l), 17.02% of fair water quality (600-900 mg/l) and 2.13% of poor water quality (900-1200 mg/l), indicates that groundwater quality of the area is under excellent to fair in terms of TDS.

Table- Classification of water quality on the basis of total dissolved solids

TDS Value (mg/l)	Water Quality	No of Samples	Percentage of Samples
<300	Excellent	14	29.79
300 - 600	Good	24	51.06

600 - 900	Fair	8	17.02
900 -1200	Poor	1	2.13
>1200	unacceptable	0	0.00

Groundwater classification based on total hardness (TH) values, as TH<75 mg/l, 75-150 mg/l, 150-300 mg/l and >300mg/l, designated as soft, moderately hard, hard and very hard respectively (Sawyer and McCarty,1967). Thus, 2.13% samples belong to moderately hard water, 46.81% to hard water and rest 51.06% samples comprises very hard water. The result indicates that the groundwater quality in the study area is hard to very hard.

Alkalinity has direct relation with hardness and pH of the groundwater. It ranged from 143 to 465 mg/l in upstream side samples, 167 to 527 mg/l in downstream side of sample and 167 to 402 mg/l within 1 km radial periphery of the unit.

Table - Classification of water quality on the basis of total hardness

TH Value (mg/l)	Water Quality	No of Samples	Percentage of Samples
<75	soft	0	0
75-150	moderately hard	1	2.13
150-300	hard	22	46.81
>300	very hard	24	51.06

Colour was not found in of the samples. COD varied from BDL to 72 mg/l in upstream side and BDL to 21 mg/l in downstream side and BDL to 45 mg/l within one km radial periphery of the unit. The chloride concentration varied from 4 to 215 mg/l in upstream of the unit, 5 to 132 mg/l in downstream side and 12 to 200 mg/l in one km radial periphery of the unit. Fluoride concentration varied from BDL to 0.3 mg/l in upstream side, BDL to 1.2 mg/l in downstream and 0.2 to 0.4 mg/l within one km radial periphery of the unit. Sulphate concentration varies from 5 to 208 in upstream side, 5 to 456 mg/l downstream side and 17 to 73 mg/l in one km radial periphery on the unit. Nitrate concentration varied from BDL to 12.9 mg/l in upstream side as well downstream side and 0.3 to 1.4 mg/l in one km radial periphery on the unit.

The heavy metal concentration of As, Co, Cr, Cu, Ni and Pb were mostly below detectable limit or below WHO standard. Concentration Fe varied from BDL to 13.1 mg/l in upstream, BDL to 107 in downstream and BDL to 5.03 mg/l within one km radial periphery of the unit. Manganese varied from BDL to 1.13 mg/l in upstream, BDL to 2.56 mg/l in downstream and BDL to 1.15 mg/l in one km radial periphery of the unit. Similarly, Zinc varied from BDL to 3.5 mg/l in

upstream, BDL to 6.7 mg/l in downstream and BDL to 0.8 mg/l in one km radial periphery on the unit.

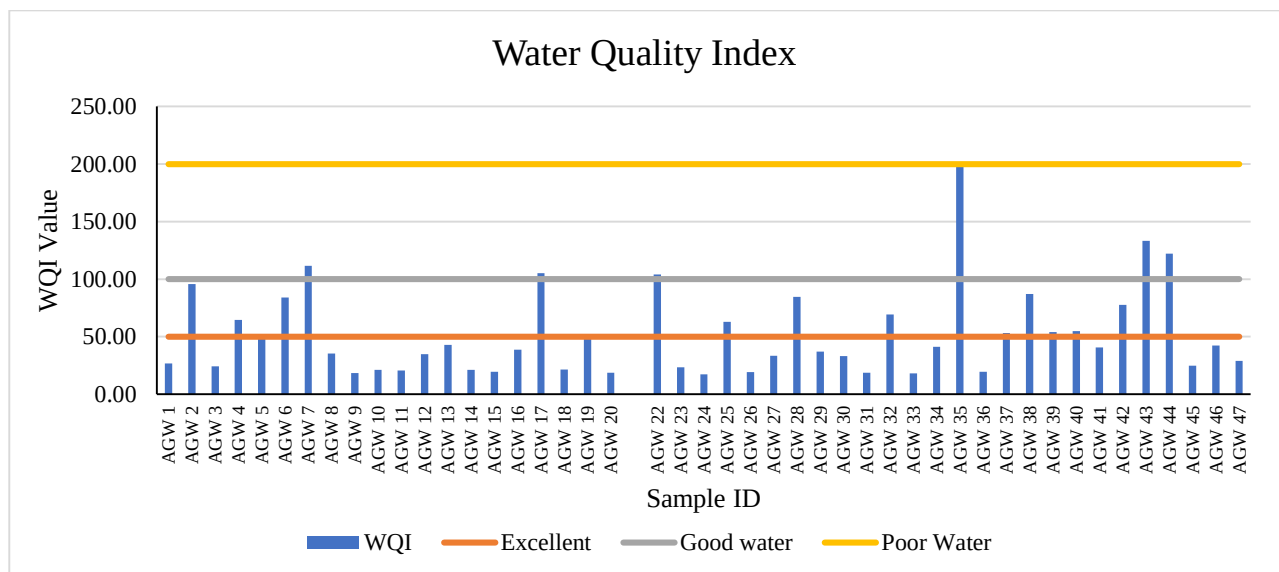
Groundwater Quality

Table - Water quality classification based on WQI value

WQI value	Water quality	Number of Samples	Percentage of water samples
<50	excellent	28	59.57
50-100	good water	12	25.53
100-200	poor water	6	12.77
200-300	very poor water	0	0.00
>300	Water unsuitable for drinking	1	2.13

Groundwater quality index were calculated based on Ramakrishnaiah et al. 2009. For quality rating BIS standard as reference concentration were taken in calculation and for parameter were limits are in certain range, the higher value of the BIS standard was taken into consideration.

Groundwater quality index suggest that around 59.57% of sample collected is of excellent water quality, 25.53% of good water quality, 12.77% of poor water quality and 2.13% of water unsuitable for drinking purpose indicates that groundwater quality falls under excellent to poor water quality in term of water quality index.



#Water quality index value of - AGW21 is 1386 which comes under unsuitable for drinking purpose.

Dhampur**Groundwater Quality**

53 groundwater sample were collected from 29 village. All samples were analysed for general parameter and analysis for heavy metals were carried out for 37 samples. Ikra drain flows west of the DSM unit and Preshak canal flows east of DSM unit around 2 Km from the unit. Both Ikra drain and Preshak canal flows from north to south. Considering contour gradient of the study area towards flow direction from north to south, villages/locations located at the upstream of DSM unit may be considered as having less potential of impact of any discharge on ground water and villages located downstream of DSM discharge point may be considered having high potential of ground water contamination due to any discharge from industrial unit. The groundwater sample were compared with prescribed specification of ionic concentration in groundwater by WHO standards (1996).

The determination of Physio-chemical parameters of groundwater samples was carried out by standard protocol given by APHA, 2012.

Out of 53 groundwater samples twenty five samples (DGW13, DGW14, DGW15, DGW16, DGW17, DGW18, DGW19, DGW20, DGW21, DGW22, DGW23, DGW24, DGW25, DGW26, DGW27, DGW28, DGW29, DGW30, DGW31, DGW32, DGW33, DGW35, DGW36, DGW37 and DGW38) located at upstream of the unit; twenty four samples (DGW1, DGW2, DGW3, DGW4, DGW5, DGW6, DGW7, DGW8, DGW9, DGW39, DGW40, DGW41, DGW42, DGW43, DGW44, DGW45, DGW46, DGW47, DGW48, DGW49, DGW50, DGW51, DGW52 and DGW53) located at downstream side of the unit and four samples (DGW10, DGW11, DGW12 and DGW34) located within one km radial periphery of the unit.

Physio-chemical Characterization

The pH of the groundwater in the study area is neutral in both upstream and downstream and it varied from 7.0 to 8.0, falls into pH range of natural water (6.5 - 8.5).

The total dissolved solids content of groundwater in the upstream side varied from 202 to 768 mg/l, 198 to 1480 mg/l in downstream side and 298 to 620 mg/l within one km radial periphery of the unit. According to the classification of groundwater on the basis of TDS (Ahouansou et al., 2018), 58.49% of the total groundwater samples are of excellent water quality (<300 mg/l), 30.19% of good water quality (300-600 mg/l), 9.43% of fair water quality (600-900 mg/l) and 1.89% of unacceptable water quality (>1200 mg/l), indicates that groundwater quality of the area is under excellent to fair in terms of TDS.

Table- Classification of water quality on the basis of total dissolved solids

TDS Value (mg/l)	Water Quality	No of Samples	Percentage of Samples
<300	Excellent	31	58.49

300 - 600	Good	16	30.19
600 - 900	Fair	5	9.43
900 -1200	Poor	0	0.00
>1200	unacceptable	1	1.89

Groundwater classification based on total hardness (TH) values, as TH<75 mg/l, 75-150 mg/l, 150-300 mg/l and >300mg/l, designated as soft, moderately hard, hard and very hard respectively (Sawyer and McCarty,1967). Thus, 54.72% to hard water and rest 45.28% samples comprises very hard water. The result indicates that the groundwater quality in the study area is hard to very hard.

Alkalinity has direct relation with hardness and pH of the groundwater. It ranged from 174 to 562 mg/l in upstream side samples, 178 to 554 mg/l in downstream side of sample and 283 to 407 mg/l within one km radial periphery of the unit.

Table - Classification of water quality on the basis of total hardness

TH Value (mg/l)	Water Quality	No of Samples	Percentage of Samples
<75	soft	0	0
75-150	moderately hard	0	0
150-300	hard	29	54.72
>300	very hard	24	45.28

Colour was not found in of the samples. COD varied from BDL to 9 mg/l in upstream side and BDL to 8 mg/l in downstream side and BDL to 9 mg/l within one km radial periphery of the unit. The chloride concentration varied from 8 to 194 mg/l in upstream of the unit, 8 to 236 mg/l in downstream side and 18 to 78 mg/l in one km radial periphery of the unit. Fluoride concentration varied from BDL to 0.7 mg/l in upstream side, BDL to 0.6 mg/l in downstream and 0.3 to 0.4 mg/l within one km radial periphery of the unit. Sulphate concentration varies from BDL to 72 mg/l in upstream side, BDL to 297 mg/l downstream side and 10 to 101 mg/l in one km radial periphery on the unit. Nitrate concentration varied from BDL to 6.4 mg/l in upstream side, BDL to 13 mg/l in downstream side and BDL to 9 mg/l in one km radial periphery on the unit.

The heavy metal concentration of As, Co, Cr, Cu, Ni and Pb were mostly below detectable limit or below WHO standard. Concentration Fe varied from BDL to 16.7 mg/l in upstream, BDL to 4.08 mg/l in downstream and BDL to 7.85 mg/l within one km radial periphery of the unit. Manganese varied from BDL to 0.99 mg/l in upstream, BDL to 0.92 mg/l in downstream and BDL to 1 mg/l in one km radial periphery of the unit. Similarly, Zinc varied from BDL to 2.96

mg/l in upstream, BDL to 0.32 mg/l in downstream and BDL to 0.34 mg/l in one km radial periphery on the unit.

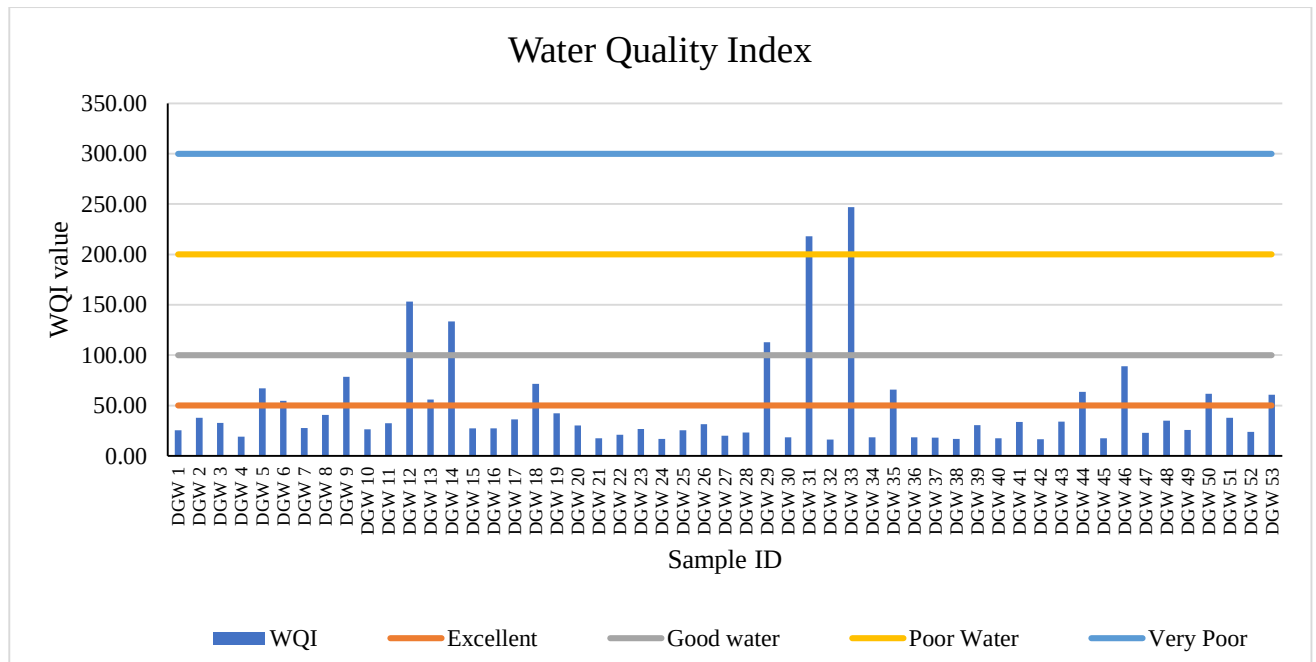
Groundwater Quality

Table - Water quality classification based on WQI value

WQI value	Water quality	Number of Samples	Percentage of water samples
<50	excellent	38	71.70
50-100	good water	10	18.87
100-200	poor water	3	5.66
200-300	very poor water	2	3.77
>300	Water unsuitable for drinking	0	0.00

Groundwater quality index were calculated based on Ramakrishnaiah et al. 2009. For quality rating BIS standard as reference concentration were taken in calculation and for parameter where limits are in certain range, the higher value of the BIS standard was taken into consideration.

Groundwater quality index suggest that around 71.7% of sample collected is of excellent water quality, 18.87% of good water quality, 5.66% of poor water quality and 3.77% of very poor water quality indicates that groundwater quality falls under excellent to poor water quality in term of water quality index.



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Annexure-1

From,

District Agriculture Officer
Bareilly

To,

The Regional Officer
UP Pollution Control Board
Bareilly

Letter No. 1531/4-Agriculture/Camp O. Bilwa/RA.H.A/2021-22 Dated 23-3-22

Sir,

Kindly refer to your office Letter No.-1129/ O.A..NO.-539/19/ 2022 dated 21.03.2022, in continuation to which, it is to inform you that the Report No.-1418/ Camp O. Bilwa/RA.H.A/2021-22, dated 24.12.2021 was already sent to you on WhatsApp group by the undersigned. The report is being sent again.

Encls. Above report

District Agriculture Officer
Bareilly

-:Report:-

Inspection report in O.A. No. 0539/2019 of Hon'ble National Green Tribunal in respect of joint inspection carried out by Central Pollution Control Board, U.P. and various concerned departments on 15. 11.2021 and 16.11.2021 for assessment of environmental damage done by M/s Dhampur Sugar Mill Ltd., Mirganj Bareilly:

In compliance with the directions issued in OA to 0539/2019 by Hon'ble National Green Tribunal for assessment of environmental damage in respect of the above mentioned industry, M/s Dhampur Sugar Mill Ltd., Mirganj Bareilly, a Joint Committee was constituted vide letter dated 29.09.2021 of the Central Pollution Control Board, and vide letter No.-686 / OA No.-539/2019/2021 dated 26.10.2021 of District Magistrate, Bareilly, a meeting district level officers in connection with the matter was convened on 12.11.2021 under the chairmanship of Additional District Magistrate (City) Bareilly. In compliance with the instructions given in this meeting, meeting convened with the Central Pollution Control Board, the undersigned along with the Central Pollution Control Board, U.P. Pollution Control Board and other associated departments carried out survey and collected soil samples from nearby villages of M/s Dhampur Sugar Mill Ltd., Meerganj, Bareilly i.e. Sindhauli, Jainer, Khamaria Sani, Narkheda, Mandanpur, Sahjana, Mirganj and Nagaria Sadat etc. Point wise report is as follows:-

1. During the survey, the industry named M/s Dhampur Sugar Mill Ltd., Meerganj, and Bareilly in nearby villages such as Singhauli, Jainer, Khamaria Sani, Narkheda, Mandanpur, Sahjana, Mirganj and Nagaria Sadat etc. no evidence was found regarding the factors causing the harm to harvested crops / agricultural products from the above mentioned industries. No complaint has been received from the local farmers in this regard so far.
2. During the survey, 22 soil samples were collected and 22 soil samples were tested in the soil testing laboratory, according to the test report, the parameters of all the soil samples were found normal in nature. Soil test reports have been sent directly to Pollution Control Board Bareilly by Soil Testing Laboratory, Bilwa, Bareilly. The pH of the soil is generally normal.

3. There is about 2850 hectares of agricultural land in Singhauli, Jainer, Khamaria Sani, Narkheda, Mandanpur, Sahjana, Mirganj and Nagaria Sadat etc. located around the mentioned industry. Rabi / Kharif and Zayed crops are mainly harvested on the above agricultural land along with the cultivation of sugarcane. Crop surveys are conducted by this office from time to time. During the survey, no evidence was received from the above industry regarding any loss of agricultural land/crops for the last five years. According to the office records, the production of crop in the above area was normal at present as compared to the previous years. As per above mentioned facts, the report is submitted for your perusal in advance for necessary action.

(Dhirendra Singh Chaudhary)

District Agriculture Officer

Bareilly

418/ Camp O. Bilwa/RA.H.A/2021-22, dated 24.12.2021

Copy to

Regional officer, Central Pollution Control Board, Bareilly

Office of District Cane Officer, Bareilly

Letter No.: 2771 / Purchase-4/2021-22 / Date : 29 March 2022

Regional officer

UP Pollution Control Board,

Bareilly

Subject:- Regarding ensuring compliance of the instructions given by the Central Pollution Control Board in the meeting convened on 15.03.2022 through video conferencing in compliance with the order dated 01.09.2021 issued in connection with the O.No.539/2019 Aadi Ansari Vs M/s. Dhampur Sugar Mills Ltd. and others filed with the Hon'ble National Green Tribunal .

In the above mentioned matter, the Central Pollution Control Board with various departments of District Bareilly has conducted the environmental impact analysis on 15.11.2021 and 16.11.2021 in adjoining areas of M/s Dhampur Sugar Mills Ltd. Mirganj. During the above analysis, the report is related to the change in the rate of crop production in the surrounding areas of the said industry and the quantity of production of different years of the crop.

In relation to the above context, the information received from the Meeraganj Council and the statistics section of the office for the last five years in relation to the area and production of sugarcane in Mirganj area by the Sugarcane Development Department is submitted for further action as follows:

S. n o .	Na me of Sug ar Mill	Nam e of Coun cil	2021-22		2020-21		2019-20		2018-19		2017-18	
			Su gar ca ne are a (H ect are)	Sug arca ne pro duc tion (Lak h Qui ntal ls@ 771 .88/ het.)	Sug arca ne area (Hec tare)	Sugarca ne product ion (Lakh Quintall s@771. 88/het.)	Sug arc ne ane are a (He cta re)	Sugarca ne product ion (Lakh Quintall s@771. 88/het.)	Sug arc ne ane are a (He cta re)	Sugarca ne product ion (Lakh Quintall s@771. 88/het.)	Sug arc ne ane are a (He cta re)	Sugarca ne product ion (Lakh Quintall s@771. 88/het.)
1 .	Mir gan j	Mirg anj	10 38 3	80. 14	955 0	73.42	92 15	68.87	11 08 9	88.81	94 33	65.23

Annexure-3

Office of Chief medical officer, Bareilly

Letter no. CMO/Env. Haz/2021-2022/n

date- 27.12.2021

To

Regional officer

UP Pollution Control Board,

Bareilly

Subject:- Regarding the report of Joint inspection conducted by CPCB and UPPCB and various other related departments on 15.11.2021 and 16.11.2021 for the analysis of the environment damage caused by M/s. Dhampur Sugar Mills Ltd., Mirganj, in connection with OA no. 539/2019 filed in Hon'ble NGT.

In relation to the above subject, directions were issued regarding assessment of environmental damage through OA.NO 539/2019 of the Hon'ble National Green Tribunal in respect of M/s Dhampur Sugar Mill Limited, Mirganj, Bareilly. In compliance with these directions, a joint committee was constituted vide Central Pollution Control Board's letter dated 29.09.2021. In compliance of DM's letter Bareilly, letter no. 686/OA No. 539/2019/2021 dated 26.10.2021, a meeting was held on 12.11.2021 under the chairmanship of Additional District Magistrate (City) Bareilly with district level officers in respect of the above matter. In compliance with the instructions given in this meeting, the undersigned has conducted health related surveys were conducted on 15.11.2021 and 16.11.2021 about 08 villages (Sindhali, Jainor, Khamaria Sani Narkheda, Mandanpur, Sahjana, Mirganj Nagaria Sadat) located around M/s Dhampur Sugar Mill

Limited, Meerganj, Bareilly. During the survey, no adverse effect of any kind on the health of the local residents residing in the nearby villages was noticed from the above mentioned industry and as per the office records, no information is available in the office in the past.

The report is submitted for necessary action

From

The Chief Veterinary Officer,
Bareilly.

To

Regional Officer Pollution Control Board, Bareilly.

letter no. 2152/.. 2021-22, dated 17-12-2021

Subject - Regarding the report of Joint inspection conducted by CPCB and UPPCB and various other related departments on 15.11.2021 and 16.11.2021 for the analysis of the environment damage caused by M/s. Dhampur Sugar Mills Ltd., Mirganj, in connection with OA no. 539/2019 filed in Hon'ble NGT.

Please refer the aforementioned subject. The Joint inspection was conducted by CPCB and UPPCB and various other related departments on 15.11.2021 and 16.11.2021 for the analysis of the environment damage caused by M/s. Dhampur Sugar Mills Ltd., Mirganj, in connection with OA no. 539/2019 filed in Hon'ble NGT, the report related to this office is being attached and sent for necessary action in advance.

Sincerely,

(Dr. Lalit Kumar Verma)
Chief Veterinary Officer,
Bareilly.

The Report regarding the Joint inspection conducted by CPCB and UPPCB and various other related departments on 15.11.2021 and 16.11.2021 for the analysis of the environment damage caused by M/s. Dhampur Sugar Mills Ltd., Mirganj, in connection with OA no. 539/2019 filed in Hon'ble NGT.

In relation to the above subject, directions were issued regarding assessment of environmental damage through OA.NO 539/2019 of the Hon'ble National Green Tribunal in respect of M/s Dhampur Sugar Mill Limited, Mirganj, Bareilly. In compliance with these directions, a joint committee was constituted vide Central Pollution Control Board's letter dated 29.09.2021. In compliance of DM's letter Bareilly, letter no. 686/OA No. 539/2019/2021 dated 26.10.2021, a meeting was held on 12.11.2021 under the chairmanship of Additional District Magistrate (City) Bareilly with district level officers in respect of the above matter. In compliance with the instructions given in this meeting, the undersigned has conducted health related surveys were conducted on 15.11.2021 and 16.11.2021 in the villages located around M/s Dhampur Sugar Mill Limited, Meerganj, Bareilly. During the survey, no adverse effect of any kind on the health of animals/cattles being reared by the local residents residing in the nearby villages was noticed from the above mentioned industry. No evidence was found about the environment damage from the said industry.

The report is being attached and sent for necessary action in advance.

Chief Veterinary Officer,

Bareilly.

Annexure-5

The Report regarding the Joint inspection conducted by CPCB and UPPCB and various other related departments on 15.11.2021 and 16.11.2021 for the analysis of the environment damage caused by M/s. Dhampur Sugar Mills Ltd., Mirganj, in connection with OA no. 539/2019 filed in Hon'ble NGT.

In relation to the above subject, directions were issued regarding assessment of environmental damage through OA.NO 539/2019 of the Hon'ble National Green Tribunal in respect of M/s Dhampur Sugar Mill Limited, Mirganj, Bareilly. In compliance with these directions, a joint committee was constituted vide Central Pollution Control Board's letter dated 29.09.2021. In compliance of DM's letter Bareilly, letter no. 686/OA No. 539/2019/2021 dated 26.10.2021, a meeting was held on 12.11.2021 under the chairmanship of Additional District Magistrate (City) Bareilly with district level officers in respect of the above matter. In compliance with the instructions given in this meeting, the undersigned has conducted health related surveys were conducted on 15.11.2021 and 16.11.2021 in the villages located around M/s Dhampur Sugar Mill Limited, Meerganj, Bareilly. During the survey, no adverse effect is found of any kind on animals/creature living under water in the ponds located nearby villages and Peelakhar River from the above mentioned industry. No evidence was found about the environment damage from the said industry.

The report is being attached and sent for necessary action in advance.

District Fisheries Officer,

Bareilly.

Annexure-6

The Report regarding the Joint inspection conducted by CPCB and UPPCB and various other related departments on 15.11.2021 and 16.11.2021 for the analysis of the environment damage caused by M/s. Dhampur Sugar Mills Ltd., Mirganj, in connection with OA no. 539/2019 filed in Hon'ble NGT.

In relation to the above subject, directions were issued regarding assessment of environmental damage through OA.NO 539/2019 of the Hon'ble National Green Tribunal in respect of M/s Dhampur Sugar Mill Limited, Mirganj, Bareilly. In compliance with these directions, a joint committee was constituted vide Central Pollution Control Board's letter dated 29.09.2021. In compliance of DM's letter Bareilly, letter no. 686/OA No. 539/2019/2021 dated 26.10.2021, a meeting was held on 12.11.2021 under the chairmanship of Additional District Magistrate (City) Bareilly with district level officers in respect of the above matter. In compliance with the instructions given in this meeting, the undersigned has conducted health related surveys were conducted on 15.11.2021 and 16.11.2021 in the villages located around M/s Dhampur Sugar Mill Limited, Meerganj, Bareilly. During the survey, no adverse effect is found on the parks and gardens located in villages (Sindhauri, Jainor, Khamaria Sani Narkheda, Mandanpur, Sahjana, Mirganj Nagaria Sadat) from the above mentioned industry. No evidence was found about the environment damage from the said industry.

The report is being attached and sent for necessary action in advance.

District Horticulture Officer,

Bareilly.

Annexure-7

The Report regarding the Joint inspection conducted by CPCB and UPPCB and various other related departments on 15.11.2021 and 16.11.2021 for the analysis of the environment damage caused by M/s. Dhampur Sugar Mills Ltd., Mirganj, in connection with OA no. 539/2019 filed in Hon'ble NGT.

In relation to the above subject, directions were issued regarding assessment of environmental damage through OA.NO 539/2019 of the Hon'ble National Green Tribunal in respect of M/s Dhampur Sugar Mill Limited, Mirganj, Bareilly. In compliance with these directions, a joint committee was constituted vide Central Pollution Control Board's letter dated 29.09.2021. In compliance of DM's letter Bareilly, letter no. 686/OA No. 539/2019/2021 dated 26.10.2021, a meeting was held on 12.11.2021 under the chairmanship of Additional District Magistrate (City) Bareilly with district level officers in respect of the above matter. In compliance with the instructions given in this meeting, the undersigned has conducted health related surveys were conducted on 15.11.2021 and 16.11.2021 in the villages located around M/s Dhampur Sugar Mill Limited, Meerganj, Bareilly. During the survey, no adverse effect is found on the plants and trees growing in villages (Sindhauri, Jainor, Khamaria Sani Narkheda, Mandanpur, Sahjana, Mirganj Nagaria Sadat) from the above mentioned industry. No evidence was found about the environment damage from the said industry.

The report is being attached and sent for necessary action in advance.

Forest Officer,

Bareilly.

Office of Executive Engineer,
Ground Water Department, Block- Moradabad,
Near B-161/ 4 Jigar Vihar Colony,
Civil Lines, Moradabad

Letter No:86/GWDB-Mora/T-4

Dated: 29 December, 2021

Subject: Order No.-539/2019 (R.A. NO-376/2020) passed by Hon'ble National Green Tribunal, New Delhi in O.A. No.539/2019 Adil Ansari vs. M/s Ghampur Sugar Mills & Ors. regarding the inquiry report of joint inspection by the Committee constituted in compliance with R.E.G.I.

Regional Officer Uttar Pradesh Pollution Control Board Moradabad.

Please refer to the above subject and your letter no.-1837/1837. N-13/539/2019/General dated 21-12-2021. In the meantime, the Point No. 4 of the concerned letter was jointly inspected by the Committee in the order and the Government Gazette published by the Government of Uttar Pradesh, Namami Gange and Rural Water Supply Section-3 No. 331/76-3-2020-13, N.G./2020, Lucknow, dated 17.06.2020, the development block of Sambhal district - Asmoli area has been declared as a notified area. (Photocopy attached), Public Notice No.-16 of Central Ground Water Authority 2021, New Delhi dated - 12-10-2021, the said development block has been classified in semi critical category (photocopy enclosed) and pre and post monsoon ground water level measurement data of development block Asmoli the average ground water measurement level of the last 05 years is 17.34 meters. (Photocopy attached).

Enclosures - As Above.

Assistant Engineer

Ground Water Department, Block - Moradabad

Letter No. GWD B- Moradabad/Dated.

Copy- District Officer, Sambhal for information.

Assistant Engineer

Ground Water Department, Block - Moradabad

GROUND WATER DEPARTMENT UP DIVISION-MORADABAD WATER TABLE LEVEL (BGL) (in Meter) From 2017 to 2021 Pre and Post Mansoon (Block-Asmoli, District-Sambhal)													
DISTRICT	LOCKLOCK	HYDROGRAPH STATION	PRM_17	PTM_17	PRM_18	PTM_18	PRM_19	PTM_19	PRM_20	PTM_20	PRM_21	PTM_21	Avg WL Per Hydrograph Station (Meter)
SAMBHAL	ASMOLI	AICHORA KAMBHOH	-	-	-	19.45	-	20.65	21.40	21.15	22.90	22.78	21.39
SAMBHAL	ASMOLI	ASMOLI	16.29	-	-	-	-	-	-	-	18.25	17.75	17.43
SAMBHAL	ASMOLI	DABOIKHUDR	15.75	15.50	18.05	16.50	17.10	17.68	18.40	18.80	23.15	19.95	18.09
SAMBHAL	ASMOLI	GNGADASHPUR*	16.95	16.45	18.55	16.85	17.15	17.62	18.55	16.85	19.52	19.55	17.80
SAMBHAL	ASMOLI	HARTHALA	15.85	15.60	16.40	16.00	16.10	15.90	17.20	17.85	18.50	18.28	16.77
SAMBHAL	ASMOLI	MANAUTA*	15.81	15.60	17.11	15.30	17.30	16.15	17.18	17.05	17.82	17.68	16.70
SAMBHAL	ASMOLI	SAHWAJPUR*	11.28	11.10	16.83	15.80	15.70	15.90	17.20	17.16	17.89	17.55	15.62
SAMBHAL		MALPUR	13.40	13.15	14.55	13.60	13.80	14.18	14.80	14.92	15.60	15.03	14.30
SAMBHAL	ASMOLI	KHASPURR	16.25	16.00	17.55	16.60	16.60	17.10	17.82	18.34	18.92	18.80	17.40
SAMBHAL	ASMOLI	VIKAS KHAND (NHP)	-	-	-	-	-	-	-	-	18.07	17.76	17.92
Average Ground Water Level Data Last Five Year 2017-2021 Pre & Post Mansoon (Block-Asmoli, District Sambhal) In Meter													17.34

Sd/-

Vivek Kumar

Jr. Engineer

Sd/-

Saurabh sah

Asstt. Engineer

Annexure - 8B

From,
Executive Engineer,
Ground Water Department, Block - Moradabad.

To,
Regional Officer,
U.P. Pollution Control Board, Moradabad.

Letter No: 46/GWD Block-Moradabad/NGT

Date/Moradabad/05thMay, 2022

Subject: - Joint Survey of M / S Dhampur Sugar Mills Ltd , Asmoli District - Sambhal in compliance to Hon ble NGT order Dated - 01-09-2021 in the matter of Adil Ansari Vs Dhampur Sugar Mills in O.A. NO.539 / 2019 reg .

Sir,

Please refer to the above subject in letter no. 387/2007 of The District Magistrate Sambhal (Bahjoi). Letter No. -387/N/13/539/2019/ General, dated - 18-04-2022. As per the draft report submitted by the Central Pollution Control Board, the collected sample of ground water of 17 villages around block Asmauli was analyzed. The said draft report has been amended by the Ground Water Department on three points.

Enclosures - As Above.

Assistant Engineer

Ground Water Department, Block - Moradabad

Letter No. GWD B- Moradabad/Dated.

Copy- Forwarded to District Officer, Bahjoi for information.

Assistant Engineer

Ground Water Department, Block - Moradabad

Observation based on interaction with farmers on ground water:**288**

Residents from Ramnagar Village, located at right bank of river Sot, around 1 km D/s direction of DSM unit, raised the issue of ground water pollution & yellow colour in the village and diseases like Jaundice etc. caused due to consumption of polluted/contaminated ground water. Analysis results of total seven ground water samples collected from Ramnagar village show TDS in range of 230-742 mg/l, Iron in the range of 1.14-6.30 ppm & Manganese as 0.01-1.15 ppm. COD in the range of 7-45 mg/l is also detected in all groundwater samples collected from village indicating the presence of organic matter in the ground water. TDS Higher than WHO prescribed limit observed at four locations namely AGW1, 2, 3 & 6. High COD observed in the samples namely AGW 4 (28 mg/l), AGW 5 (24 mg/l) and AGW 6 (45 mg/l) collected at a depth of 200-220 ft. from close proximity of right bank for river Sot. It was further noted that at these sampling locations, higher concentration of COD along with chloride and Mn was also observed. Chloride is often the most serious source of interference in COD determination. This indicates the possible impact of industrial pollution or domestic wastewater as the Sot River downstream of DSM, Asmoli carries only partially/ untreated effluent and sewage. As reported by the villagers the cases of Jaundice is of concern, however the cause of this possibly is drinking water contaminated with Hepatitis virus which is unlikely to due to industrial discharge. **(Point add a report page number 45)**

Conclusion of survey conducted in Asmoli, District Sambhal

2. The changes in colour of groundwater water to yellow after few minutes of storing might be due to oxidation of iron and manganese present in groundwater. The sources of these pollutants seems to be geogenic in origin. The geology of the area seems to have influence on groundwater parameters. The COD values also possibly get influenced by higher concentration of chloride and Mn concentrations. Further, the excessive use of pesticides and fertilizers in the area coupled with overexploitation of the ground water also may have contributed to the higher values of COD and Ammoniacal nitrogen. **(Point add a report page number 54)**

Recommendations

- The contamination in Ground Water has been observed at shallow depth handpumps/borewells, hence it is recommended that Jal Nigam, Jalkal Department & Nalkoop Vibhag may be asked to look into the matter, and arrangement for deep borewell shall be made. **(Point add a report page number 82)**

From
The District Horticulture Officer
Sambhal

To,
Regional officer
Regional Office, U.P. pollution control board,
Housing Development Colony, Budhi Bihar, Moradabad.

Letter No: 832/Garden/2021-22/Dated: 29.12.2021

Subject: NGT order dated 1st September 2021 regarding Adil Ansari v/s Dhampur Sugar Mills-Asmauli.

Sir,

In pursuance of your letter no. 1837/N-13/539/2019/General/Dated 21.12.2021 on the above subject, it is to be informed that M/s Dhampur Sugar Mills Ltd. located in the development block Asmauli. (Sugar and Asvarna Unit) The data related to the Horticulture Department mentioned in the joint inspection of Asmauli district Sambhal dated 17 and 18.12.2021 has been sent for necessary action as per the following details.

1. The area under horticulture in the development block Asmauli is 600 to 700 Hectare.
2. The area under Shekwani in the development block Asmauli is 500 to 600 Hectare.

The organic crops grown in a radius of 5 km of Dhampur Sugar Mills Ltd are following-

1. Number of Villages - 40
2. Area of potato - 400-450 Hectare

3. Area of vegetable - 20 Hectare.

4. Area of mango - 63 Hectare.

5. Area of Guava - 3.2 Hectare.

The operation time of sugar mill is from November to April, this does not have any adverse effect on the production of our fruit crops because in mango crop the time of blossom starts from the month of February and the mango starts to grow in the month of March and By the month of April, the size of mango is small, due to which it does not have any effect on the mango crop. Similarly, the smoke of sugar mill does not have much effect on the cultivation of potatoes and vegetables. No complaint has ever been received from the farmers of the development block Asmauli area in this regard. The report is sent for information and necessary action.

Sincerely

District Horticulture Officer

Annexure-10

Office of chief executive fishery officer, Sambhal

Letter No: 662/Writ/2021-22

Dated: 29/12/2021

To,

Regional Officer,
U.P. Pollution Control Board,
1/A/INS - 1 Awas Vikas Colony, Buddha Vihar
Delhi Road, Moradabad.

Subject: Forwarding of Information/Name/Data related to Fisheries Department in Dhampur Sugar Mill Asmauli District Sammal.

Sir,

It is to be noted that During the joint inspection of M/s. Dhampur Sugar Mill (Sugar and Distillation Unit) Asmauli district on 17.11.2021 and 18.11.2021, there has been no adverse effect on the fish growing in the ponds related to the area of by the Fisheries Department District Sambhal, nor has any complaint related to fisheries been received against the said sugar factory from the concerned area.

Yours Sincerely,

Chief Executive Officer
Fishery Department, Sambhal

Office In-charge Medical Officer P.S.K. Dhampur District Bijnor

Letter No.- PHC/KNP/2021-22/65/Amended Report

Dated: 22.12.2001

To,

Chief Medical Officer
District Bijnor

Subject: HON BLE NGT ORDER DATED 1 , SEPTEMBER , 2021 IN THE MATTER OF ADIL ANSARI V / S
M / S DHAMPUR SUGAR MILLS & Ors (O.A. NO.539 (I.A.NO.376 / 2020) reg .

Sir,

This is to inform you that the Letter No. B 19123/QM - II / LEGAL / NGT - 6 / CPCB/2020-21
Dated- 10 . 12 . 2021 of the Central Pollution Control Board- Delhi is received in this office on
15 . 12 . 202 through office of District Officer Bijnor Pathak Letter No.-1841/ERK. The O.A. No.-
539/2019 Adil Ansari vs. Dhampur Sugar Mill Ltd., registered in the Hon'ble National Green
Tribunal, New Delhi. It is to inform you that in compliance with order no. dated 01 . 09 . 2021
you are informed that

the report of the Health Department is about the crushing season of Dhampur Sugar Mill which is
from November to May and non-crushing season which is from June to October. the number of
patients seen in PHC and CHC Dhampur were mostly suffering from skin allergy, Cough, respiratory
illness, EYE IRRITATION and stomach infection have been found commonly in patients. In this
connection, there are 4 patients of itching, 3 stomach patients of normal weather cough cold, 02
and 2 patients of itching and redness of eyes were found in nearby villages.

These common and seasonal diseases are found under Dhampur block/tehsil area and have no
connection with the environment of Dhampur Sugar Mill.

Chief Medical Officer
Primary Health Center Dhampur

Annexure-12

From:

District Agriculture Officer,
Bijnor.

To,

Regional Officer,
Uttar Pradesh Pollution Control Board,
Bijnor.

Letter No. 1376/4-Agriculture/General/2021-22 /

Dated: 22.12.2021

Sir,

Kindly refer to your office letter No. 611/N-20/Gen-2021 dated 18.12.2021 vide which it has been requested to provide information/reports/data related to our department during the joint inspection on dated 01.12.2021 and 02. 12.2021 of M/s Dhampur Sugar Mills Ltd (Sugar and Distillery Unit) Dhampur Bijnor in compliance with the Order dated 01.09.2021 passed in OA No.-539/2019 Aadil Ansari vs. Dhampur Sugar Mills Ltd. held in the Hon'ble National Green Tribunal, New Delhi.

In this connection, it is to inform that the data of coverage, production and productivity of the district for the last three years related to the department and the analysis report of 29 soil samples (except micronutrient analysis report) made available to the Land Testing Laboratory, Bijnor, on the basis of the report, the soil of the inspected area is suitable for crop production and no adverse effect on crop production was found. Along with this, the crops sown at the time of inspection of the identified area on dated 01 and 02 December 2021 were found to be in normal condition. The above information is being enclosed with the letter and sent for necessary action.

Yours sincerely

Sd/-

District Agriculture Officer, Bijnor.

Endorsement No.

/as above dated

Copy to the following for information and necessary action.

1. The Deputy Director of Agriculture, Bijnor.
2. The Chief Development Officer, Bijnor
3. The District Magistrate Sir, Bijnor for favour of his kind perusal.

District Agriculture Officer, Bijnor.

Ground Testing Laboratory, Bijnor
Analysis result of Major Nutrients elements in Soil Samples

Dated: 22.12.2021

S.N.	Lab.No.	Identify farm/ code number	Date of Soil sample deposit	ph Value	Available organic carbon		Available Phosphate		Available potash		E.C.		
					Percentage	Fertility grade	Kg/ H.	Fertility grade	Kg/ H.	Fertility grade	Mi. mahoj/ c.m.	grade	
1	205	N.B/23	03-12-2021	7.300	0.29	L	9	V.L	203.84	M	0.35	Normal	
2	206	AL.B/98	03-12-2021	7.100	0.48	L	9	V.L	412.16	H	0.34	Normal	
3	207	AL.B/90	03-12-2021	7.200	0.21	M	4.50	V.L	157.92	L	0.42	Normal	
4	208	ND.K/93	03-12-2021	7.000	0.56	M	9	V.L	400.96	H	0.31	Normal	
5	209	ND.K/89	03-12-2021	7.700	0.56	L	27	M	143.36	M	0.33	Normal	
6	210	KH.N/59	03-12-2021	7.200	0.49	L	9	V.L	145.60	M	0.42	Normal	
7	211	AJ.D/106	03-12-2021	7.0	0.35	L	18	L	439.04	H	0.41	Normal	
8	212	A.D.I/24	03-12-2021	7.2	0.28	L	18	L	155.68	M	0.32	Normal	
9	213	N.D/123	03-12-2021	6.9	0.21	L	9	V.L	394.24	H	0.34	Normal	
10	214	V.P/151	03-12-2021	7.01	0.25	L	4.50	V.L	119.84	M	0.35	Normal	
11	215	KH.N/01	03-12-2021	6.9	0.24	L	22.50	M	230.72	M	0.37	Normal	

S.N.	Lab.No.	Identify farm/ code number	Date of Soil sample deposit	ph Value	Available organic carbon		Available Phosphate		Available potash		E.C.		
					Percentage	Fertility grade	Kg/ H.	Fertility grade	Kg/ H.	Fertility grade	Mi. mahoj/ c.m.	grade	
12	216	V.P/148	03-12-2021	7.0	0.28	L	13.50	L	234.08	M	0.42	Normal	
13	217	XY-9	03-12-2021	7.0	0.21	L	9	V.L	143.36	M	0.45	Normal	
14	218	XY-10	03-12-2021	7.2	0.35	L	13.50	L	143.36	M	0.49	Normal	
15	219	XY-7	03-12-2021	7.4	0.14	V.L	9	V.L	88.48	L	0.43	Normal	
16	220	XY-6	03-12-2021	7.2	0.28	L	22.50	M	129.92	M	0.33	Normal	
17	221	XY-8	03-12-2021	7.5	0.56	M	27.00	M	179.20	M	0.56	Normal	
18	222	XY-1	03-12-2021	7.5	0.28	K	13.50	V.L	115.36	M	0.53	Normal	
19	223	XY-2	03-12-2021	7.3	0.84	H	67.50	H	552.28	H	0.46	Normal	
20	224	XY-3	03-12-2021	7.6	0.35	L	27.00	M	209.44	M	0.35	Normal	
21	225	XY-4	03-12-2021	7.1	0.63	M	40.50	H	434.56	H	0.40	Normal	
22	226	XY-5	03-12-2021	7.4	0.07	V.L	13.50	L	168.00	M	0.55	Normal	
23	227	D.T.N.5	03-12-2021	7.1	0.14	V.L	49.50	H	209.44	M	0.43	Normal	
24	228	R.P.B.S.	03-12-2021	7.1	0.31	L	18.00	L	170.24	M	0.34	Normal	
25	229	S.P.S	03-12-2021	7.7	0.67	M	45.00	H	173.60	M	0.54	Normal	
26	230	D.H.P.S	03-12-2021	7.2	0.38	K	31.50	M	126.56	M	0.46	Normal	

S.N.	Lab.No.	Identify farm/ code number	Date of Soil sample deposit	ph Value	Available organic carbon		Available Phosphate		Available potash		E.C.		
					Percentage	Fertility grade	Kg/ H.	Fertility grade	Kg/ H.	Fertility grade	Mi. mahoj/ c.m.	grade	
27	231	A.V.S	03-12-2021	7.3	0.53	M	27.00	M	116.48	M	0.37	Normal	
28	232	A.L.S	03-12-2021	7.4	0.28	L	40.50	H	92.96	L	0.41	Normal	
29	233	D.P.S.1	03-12-2021	7.2	0.49	L	36.00	M	204.96	M	0.48	Normal	

Annexure-13

Data related to cover, production and productivity from Kharif year 2018-19 to year 2020-21, District Bijnor

S.No.	Name of Crop	Year	Area (in hectares)	Production (in Metric Ton)	Productivity (T/H)
1	Paddy	2018-19	54482	131629	24.16
		2019-20	57985	153950	26.55
		2020-21	54801	163362	29.81
2	Urad	2018-19	1403	1118	7.82
		2019-20	1646	1472	8.94
		2020-21	1694	1657	9.78
3	Arhar	2018-19	4	3	7.39
		2019-20	6	9	15.00
		2020-21	6	40	6.67
4	Peanuts	2018-19	807	802	9.94
		2019-20	752	2049	27.25
		2020-21	1299	15705	12.09
5	Sesame	2018-19	109	25	2.29
		2019-20	26	5	1.92
		2020-21	14	40	2.86
6	Corn	2018-19	14	30	21.35
		2019-20	88	141	16.02
		2020-21	1	30	30.00

District Agriculture Officer

Bijnor

Data related to cover, production and productivity from Rabi year 2018-19 to year 2020-21

District Bijnor

S.No.	Name of Crop	Year	Area (in hectares)	Production (in Metric Ton)	Productivity (T/H)
1	Wheat	2018-19	148627	557500	37.51
		2019-20	145884	510446	34.99
		2020-21	155416	591669	38.07
2	barley	2018-19	3	9	30.67
		2019-20	4	13	32.50
		2020-21	4	13	32.50
3	Gram	2018-19	14	18	12.51
		2019-20	42	56	13.44
		2020-21	24	29	12.08
4	Pea	2018-19	38	39	10.23
		2019-20	99	121	12.25
		2020-21	82	90	10.97
5	Lentil	2018-19	745	804	8.11
		2019-20	697	949	13.61
		2020-21	900	1235	13.72
6	Mustard / Toria	2018-19	4519	6375	14.11
		2019-20	8005	10038	12.24
		2020-21	26785	25552	9.54

District Agriculture Officer

Bijnor

Data related to cover, production and productivity of Sugercane year 2018-19 to year 2020-21, District Bijnor

S.No.	Name of Crop	Year	Area (in hectares)	Production (in Metric Ton)	Productivity (T/H)
1	Sugercane	2018-19	220368	18941070	859.52
		2019-20	221753	10179860	864.92
		2020-21	247471	21411438	865.21

Sd/-

District Agriculture Officer

Bijnor

From:

District Horticulture Officer,
Bijnor.

To,

The Uttar Pradesh Pollution Control Board,
Regional Office, Maharishi Dayanand Nagar,
Near Saint Mary School, Adampur - Chakkar Road,
Bijnor- 246701

Letter No. 1642 Dated : 24.12.2021 File No. N-20/General

Letter No.: 1135-39/General/2021-22/

Dated: 23-12-2021

□□□□: Hon'ble NGT order dated 1st September 2021 in the matter of Aadil Ansari V/s M/s Dhampur Sugar Mills & Ors (O.A. No. 539/2019 (I.A. No. 376/2020) reg.

Sir,

In continuation to your letter No. 611/&-20/General-2021/ dated 18-12-2021 on the above cited subject, Shri Tribhuvan Kumar, S.I and Shri Arvind Kumar, Assistant Horticulture Inspector office, was directed by the undersigned for joint investigation with the investigation team. Therefore, as per their Investigation Report, it has been informed that prima facie the yield and productivity of the plantations has been found to be normal. In general, negative effects have not been observed.

Yours

Sd/-
(Jitendra Kumar)
District Horticulture Officer
Bijnor

Endorsement No.

Dated as above

Copy to:- For favour of kind information and necessary action to the following.

1. The District Magistrate Sir, Bijnor.
2. Member Secretary Sir, UP Pollution Control Board, Lucknow.
3. The Chief Environment Officer (Circle - 1). UP Pollution Control Board, Lucknow.
4. Shri A.K. Vidyarthi, Additional Director and Incharge, WQM-II Central Pollution Control Board] Parivesh Bhawan, East Arjun Nagar, Delhi.

District Horticulture Officer
Bijnor

Annexure-14

Office of the Executive Engineer
Construction Division, U.P. Jal Nigam (Rural),
Near Ladapura Water Works Jhaloo Road, Bijnor (U.P.)
(Tel/Fax: 01342-252649)
E-mail: ee_ bjn_ cdupjn@yahoo.co.in

Letter No.3185/Inspection/37

Dated:- 21-12-2021

To,

Regional Officer,
Uttar Pradesh Pollution Control Board,
Adampur- Chakkar Road Bijnor.

Letter No. 1645 Dated : 24.12.2021 File No. N-20/General

Subject:-- With ref. to your letter No. 611/N-20/General-2021 dated 18.12.2021.

Sir,

The information as desired vide your office letter No. 611/N-20/General-2021 dated 18.12.2021 on the above cited subject is sent to you in the prescribed format.

Attachment: As above.

Yours sincerely,

Sd/-
(Bharat Singh)
Executive Engineer

Endorsement No. and date as above

Copy to:

1. Shri K.K.Sharma, Assistant Engineer.

Executive Engineer

Office of Executive Engineer, Construction Division, U.P. Jal Nigam
Ladapura Jalkal Complex, Jhalu Road, Bijnor
(Water Test Report)

To, Mr. Sandeep Kumar Mahesh
 Assistant Engineer
 Construction Division, U.P. Jal Nigam, Bijnor
 Lab. Register reference: Page No. 24

Tehsil:- Dhampur
 Development Block: Alhepur
 Date:- 22.11.2016

Report is being sent with reference to your letter No. 146/Water Test/13 dated 12/./17

S.No.	Village/Town/Location	Source	Color	odor	TDS (PPM)	PH	Chemical Test in PPM							note
							chloride	fluoride	total hardness	sulfate	iron	nitrate	alkalinity	
1	Village Alipur Bhikkan, Near Bus Stand Idris	Hand pump	Colorless	Odorless	340	7.5	90	0.5	260	38.4	0.3	2.66	200	Satisfactory
2	Village Jaitra Shiv Mandir	Hand pump	Colorless	Odorless	300	7.5	25	0.1	200	9.6	0.4	8.86	240	Satisfactory
3	Village Taiyab Sarai R.I.M. Jr. H. School	Hand pump	Colorless	Odorless	260	7.1	30	0.3	220	19.2	0.5	4.43	280	Satisfactory
4	Village Bakshanpur At Cemetery	Hand pump	Colorless	Odorless	280	7.8	50	0.2	260	28.8	0.6	16.83	260	Satisfactory
5	Dhampur Sugar Mill Truck Union Office	Hand pump	Colorless	Odorless	300	7.9	40	0.5	280	9.6	0.1	15.06	240	Satisfactory
6	Village Nangla Nancy Near Naubahar Singh	Hand pump	Colorless	Odorless	380	8.1	60	0.4	200	28.8	0.3	4.43	200	Satisfactory
7	Village Sipahiwala Adesh Vidya Mandir School	Hand pump	Colorless	Odorless	420	8.2	20	0.3	240	19.2	0.2	8.86	220	Satisfactory
8	Village Wajidpur Ninddu at the graveyard	Hand pump	Colorless	Odorless	440	8.4	30	0.1	220	9.6	0.3	15.06	240	Satisfactory
9	Village Sarkada Prithviraj Chauhan	Hand pump	Colorless	Odorless	280	8	50	0.2	280	28.8	0.1	11.52	260	Satisfactory

	E. of Education													303
10	Village Sarkada Lalten Wale Baba ke Thale par	Hand pump	Colorless	Odorless	340	8.2	100	0.4	260	38.4	0.4	8.86	280	Satisfactory
11	Village Gombdi Habibwala at the temple of Chamunda Devi	Hand pump	Colorless	Odorless	300	8.5	90	0.5	220	19.2	0.3	4.43	220	Satisfactory
12	At village Berkhedda Tada cremation ground	Hand pump	Colorless	Odorless	280	7.9	70	0.6	300	9.6	0.1	8.86	240	Satisfactory

Note - 1 it has been highlighted in excess of the limits mentioned in the CPHEo's standard.

2 Please refer page 2 for Standards

3. Send samples in acidic for iron analysis.

Sd/-

Jr. Engineer

Countersigned

Sd/-

Asstt. Engineer

Office of Executive Engineer Construction Division, UP Jal Nigam
Ladapura Jalkal Prangan, Jhalu Road, Bijnor
(Water Test Report)

To Sh Sandeep Kumar Mahesh,
Assistant Engineer, Construction Division,
UP Jal Nigam, Bijnor

Tehsil - Dhampur
Development Block- Alhepur
Date: 22/11/2016

Reference of Laboratory Register:.....

With reference to your letter No.146/Water Test/13 dated 12/01/17 number report is being sent.

S.No	Village/City/location	Source	Colour	Odour	T.D.S. (PPM)	P.H.	Chemical test in PPM							Remarks
							Chloride	Fluoride	Total hardness	Sulphate	Iron	Nitrate	Alkalinity	
1.	Near Village Amkheda Pramod Kumar	Hand pump	Colourless	Odourless	300	8.2	60	0.1	340	28.8	0.2	11.52	220	
2.	Near Village Amkheda Pravendra Singh	Hand pump	-	-	360	8.5	40	0.2	300	19.2	0.1	8.86	200	Satisfactory
3.	Village Aladdinpur Bhatpura Babu Ex-Pradhan	Hand pump	-	-	420	8.1	50	0.1	320	9.6	0.1	4.43	200	Satisfactory
4.	Village Buderan (Malakpur) on Jamaluddin's Jayarat	Hand pump	-	-	480	7.5	70	0.5	280	28.8	0.4	8.86	280	Satisfactory
5.	Near Village Md Alipur Lalman Udayveer Singh Dealer	Hand pump	-	-	400	7.9	30	0.4	300	19.2	0.3	11.52	300	Satisfactory
6.	Near Village Nurpur Chhibli Jaipal Singh	Hand pump	-	-	280	7.9	20	0.3	260	9.6	0.1	15.06	260	Satisfactory
7.	Near village Hakimpur Medha Suresh	Hand pump	-	-	260	8	80	0.2	300	38.4	0.2	16.83	320	Satisfactory
8.	Village Piparjit in the lounge of Master Dilawar	Hand pump	-	-	240	8.1	70	0.1	340	9.6	0.1	4.43	240	Satisfactory
9.	Village Prithvipur Vanwari Hasinuddin s/o Jamir Ahmed	Hand pump	-	-	400	8.3	50	0.4	240	28.8	0.2	8.86	220	Satisfactory
10.	Village Prithvipur Vanwari Radisa s/o Taslim	Hand pump	-	-	540	8.5	80	0.3	260	19.2	0.3	11.52	200	Satisfactory

Note - 1 it has been highlighted in excess of the limits mentioned in the CPHEO's standard.

2 Please refer page 2 for Standards

3. Send samples in acidic for iron analysis.

Sd/-
Chemist

Sd/-
Jr. Engineer

Countersigned
Sd/-
Asstt. Engineer

Office of Executive Engineer, Construction Division, U.P. Jal Nigam
Ladapura Jalkal Complex, Jhalu Road, Bijnor
(Water Test Report)

To, Mr. Sandeep Kumar Mahesh
Assistant Engineer
Construction Division, U.P. Jal Nigam, Bijnor
Lab. Register reference: Page No. 2
Report is being sent with reference to your letter No. _____ dated _____

Tehsil:- Dhampur
Development Block: Alhepur
Date:- 20/04/2017

S.No.	Village/Town/Location	Source	Color	odor	TDS (PPM)	PH	Chemical Test in PPM								
							chloride	fluoride	total hardness	sulfate	iron	nitrate	alkalinity	bacteriological test	note
1	Village Neendadu Near Akir	Hand pump	Colorless	Odorless	240	7.5	45	0.1	260	19.2	0.2	8.86	160	Nil	Satisfactory
2	Village Salawa Near Masjid	Hand pump	Colorless	Odorless	220	7.9	20	0.4	270	28.8	0.1	8.43	180	Nil	Satisfactory
3	Village Neendadu Near Andotya School	Hand pump	Colorless	Odorless	280	7.8	50	0.2	300	9.6	0.3	11.52	200	Nil	Satisfactory
4	Sam Taparoela Near Dharampal	Hand pump	Colorless	Odorless	260	7.5	70	0.3	270	19.2	0.2	8.86	190	Nil	Satisfactory
5	Manpuri Shivpuri Near Chandrapal	Hand pump	Colorless	Odorless	300	7.9	25	0.1	280	28.8	0.4	16.83	140	Nil	Satisfactory
6	Dhampur Nagar (New)	Hand pump	Colorless	Odorless	290	8	20	0.2	230	9.6	0.1	4.43	120	Nil	Satisfactory
7	Village Jaitra (Nangala Guga) Near Kake	Hand pump	Colorless	Odorless	310	8.1	45	0.3	300	19.2	0.2	2.66	160	Nil	Satisfactory
8	village Ajitpur at the ashram of tailor Mohandas	Hand pump	Colorless	Odorless	340	8.3	25	0.2	310	28.8	0.3	5.32	170	Nil	Satisfactory

Note - 1 it has been highlighted in excess of the limits mentioned in the CPHEO's standard.
2 Please refer page 2 for Standards
3. Send samples in acidic for iron analysis.

Sd/-
Chemist

Sd/-
Jr. Engineer

Countersigned
Sd/-
Asstt. Engineer

Office of Executive Engineer Construction Division, UP Jal Nigam
Ladapura Jalkal Prangan, Jhalu Road, Bijnor
(Water Test Report)

To, Sh K.K. Sharma,
 Assistant Engineer, Construction Division,
 UP Jal Nigam, Bijnor

Tehsil - Dhampur
 Development Block- Alhepur
 Date: 09-10/08/2018

Reference of Laboratory Register:.....

With reference to your letter No.2977/Water Test/92 dated 14/08/18 number report is being sent.

SNo	Village/City/location	Source	Colour	Odour	T.D.S. (PPM)	P.H.	Chemical test in PPM							Remarks
							Chloride	Fluoride	Total hardness	Sulphate	Iron	Nitrate	Alkalinity	
1.	Near Village Kopa Nangla/Sh Mahesh S/o Sh Karan Singh	Hand Pump	Colourless	Odourless	200	7.5	70	0.5	340	48	0.5	11.08	80	Satisfactory
2.	Village Nathadoi/Dr. Bhimrao Ambedkar Jr High School	Hand Pump	Colourless	Odourless	280	7.3	20	0.2	300	24	0.2	7.97	200	Satisfactory
3.	Near Village Nandgaon/Sh Mahendra Singh Ex- Pradhan	Hand Pump	Colourless	Odourless	580	7.4	50	0.4	270	28.8	0.3	11.96	90	Satisfactory
4.	Village Ramnawala/Harijan Dharamshala	Hand Pump	Colourless	Odourless	560	7.2	40	0.3	280	19.2	0.1	13.29	150	Satisfactory
5.	Village Ramnadala/Bada Shiva Mandir	Hand Pump	Colourless	Odourless	460	7	45	0.1	420	9.6	0.1	15.06	110	Satisfactory
6.	Near Village Hadakpur/Sh Ramesh S/o Hariya	Hand Pump	Colourless	Odourless	480	8	30	0.3	340	38.4	0.2	5.32	170	Satisfactory
7.	Village Mirzapur/Sh Ravindra son Shankar Lal Sharma	Hand Pump	Colourless	Odourless	380	7.6	80	0.2	350	9.6	0.4	6.2	140	Satisfactory
8.	Village Mirzapur/Harijan Dharamshala	Hand Pump	Colourless	Odourless	300	7.2	90	0.6	290	19.2	0.1	5.76	120	Satisfactory
9.	Village Tibri/on Peepal deity	Hand Pump	Colourless	Odourless	270	7.1	35	0.1	300	24	0.2	6.66	150	Satisfactory
10.	Village Chakshahjani /in Saini Basti	Hand Pump	Colourless	Odourless	400	7.4	20	0.2	380	24	0.3	4.43	180	Satisfactory
11.	Near Village Habibwala/Sh Aakil Ex-Pradhan	Hand Pump	Colourless	Odourless	270	7.5	30	0.4	320	9.6	0.4	8.86	200	Satisfactory
12.	Near village Kodipura/Sh Brahampal Saini	Hand Pump	Colourless	Odourless	290	7.3	60	0.3	300	48	0.2	10.63	110	Satisfactory
13.	Near village Suhagpur/Sh Jabar Singh Ex- Pradhan	Hand Pump	Colourless	Odourless	320	7.2	55	0.1	360	19.2	0.1	8.42	100	Satisfactory
14.	Near village Manauti/Sh Moola Singh s/o Lallu	Hand Pump	Colourless	Odourless	280	7.6	75	0.2	320	28.8	0.3	9.75	90	Satisfactory
15.	Village Bhanoti/on the deity	Hand Pump	Colourless	Odourless	440	7.5	100	0.4	340	38.4	0.5	17.72	140	Satisfactory
16.	Near village Bhikkawala/Sh Rahul s/o Narendra Village	Hand Pump	Colourless	Odourless	360	7.4	120	0.3	280	19.2	0.4	16.83	150	Satisfactory
17.	Village Bhikkawala/Chudhiya Maharaj	Hand Pump	Colourless	Odourless	300	7	30	0.5	380	9.6	0.2	14.62	170	Satisfactory

			s	ss										307
18.	Village Sherkot Nagar/Ward No. 01 Chamunda Mata ka Thala	Hand Pump	Colourless	Odourless	420	7.1	80	0.2	220	57.6	0.3	15.51	180	Satisfactory
19.	Near Village Kopa Nangla/Sh Sitaram S/o Hori	Hand Pump	Colourless	Odourless	350	7.3	70	0.6	260	57.6	0.1	7.97	110	Satisfactory
20.	Near Village Nasirdowala/Sh Vipin	Hand Pump	Colourless	Odourless	290	7.2	50	0.3	250	48	0.3	7.09	100	Satisfactory
21.	Near Village Umarpur Bangar/Sh Sanju Chauhan	Hand Pump	Colourless	Odourless	220	7.2	45	0.3	280	24	0.4	6.66	120	Satisfactory
22.	Village Karmawala/at Pind Spot	Hand Pump	Colourless	Odourless	390	7.1	30	0.2	300	19.2	0.1	8.86	140	Satisfactory
23.	Near village Gajraula/Sh Rajendra Singh	Hand Pump	Colourless	Odourless	480	7.3	90	0.2	360	38.4	0.5	5.32	160	Satisfactory
24.	Village Sarkathal Mavo/at Chamunda temple	Hand Pump	Colourless	Odourless	340	7.2	140	0.1	280	9.6	0.2	4.43	180	Satisfactory
25.	Near village Old Dhampur/Near Mr. Bhupendra Singh	Hand Pump	Colourless	Odourless	280	7.4	130	0.3	290	19.2	0.3	10.63	190	Satisfactory
26.	Village Old Dhampur/Nathan's Samadhi	Hand Pump	Colourless	Odourless	340	7.7	140	0.3	320	28.8	0.2	8.86	150	Satisfactory
27.	Near village Goyli/Sh Bunt s/o Sh Dhoom Singh	Hand Pump	Colourless	Odourless	280	7.6	70	0.3	260	9.6	0.3	11.52	100	Satisfactory
28.	Village Ramthera/Sri Ram Saraswati Vidya Mandir	Hand Pump	Colourless	Odourless	380	7.5	80	0.1	280	19.2	0.1	13.29	80	Satisfactory
29.	Village Ramthera/at Shiva Mandir	Hand Pump	Colourless	Odourless	540	7.3	20	0.2	340	24	0.2	15.95	120	Satisfactory
31.	Village Jaitra/Sh Ganga Ram/Munna Cement Wale	Hand Pump	Colourless	Odourless	400	7.2	50	0.4	250	38.4	0.1	21.26	200	Satisfactory
32.	Near village Palki Aman/Sh Ashok	Hand Pump	Colourless	Odourless	330	7.1	70	0.3	240	48	0.3	8.86	120	Satisfactory
33.	Village Kopa/Gorakhnath Temple	Hand Pump	Colourless	Odourless	330	7.3	90	0.1	200	9.6	0.4	9.3	150	Satisfactory
34.	Village Bhawanwala/at Chamunda Mandir	Hand Pump	Colourless	Odourless	250	7.5	100	0.1	300	38.4	0.5	5.32	170	Satisfactory

Note - 1 it has been highlighted in excess of the limits mentioned in the CPHEO's standard.

2 Please refer page 2 for Standards

3. Send samples in acidic for iron analysis.

Sd/-

Jr. Engineer

Countersigned

Sd/-

Asstt. Engineer

Office of Executive Engineer, Construction Division, U.P. Jal Nigam
Ladapura Jalkal Complex, Jhalu Road, Bijnor
(Water Test Report)

To, Mr. K.K. Sharma
 Assistant Engineer
 Construction Division, U.P. Jal Nigam, Bijnor
 Lab. Register reference:.....

Tehsil:- Dhampur
 Development Block: Alhepur
 Date:- 23, 24, 25/08/2018

Report is being sent with reference to your letter No. 3237/Water Test/101 dated 05/09/2018

S.No	Village/Town/Location	Source	Color	odor	TDS (PPM)	PH	Chemical Test in PPM							
							chloride	fluoride	total hardness	sulfate	iron	nitrate	alkalinity	note
01.	Village Suhagpur / Near Madrasa	Hand pump	Colorless	Odorless	190	7.5	60.00	0.2	220	19.2	0.3	9.30	150	Satisfactory
02.	Village Suhagpur / Near Vinod Kumar	Hand pump	Colorless	Odorless	280	7.2	30.00	0.1	260	9.6	0.2	5.32	140	Satisfactory
03.	Village Suhagpur/Near Shri Gopal Puria	Hand pump	Colorless	Odorless	200	7.1	20.00	0.3	300	28.8	0.4	16.83	110	Satisfactory
04.	Village Suhagpur/RSM Degree College	Hand pump	Colorless	Odorless	340	7.3	40.00	0.4	200	19.2	0.1	7.09	130	Satisfactory
05.	Village Suhagpur/Near Shri Latif	Hand pump	Colorless	Odorless	300	7.4	70.00	0.5	320	24.2	0.2	14.18	160	Satisfactory
06.	Village Suhagpur / Near Sri Tegh Bahadur	Hand pump	Colorless	Odorless	180	7.0	25.00	0.2	380	38.4	0.1	5.76	190	Satisfactory
07.	Village Suhagpur/RSM Inter College	Hand pump	Colorless	Odorless	250	7.0	60.00	0.1	280	9.6	0.3	8.86	130	Satisfactory
08.	Village Suhagpur / Near Badi Masjid	Hand pump	Colorless	Odorless	260	7.3	45.00	0.3	250	19.2	0.2	6.66	230	Satisfactory
09.	Village Suhagpur / Near Shehnai Mandap	Hand pump	Colorless	Odorless	380	7.2	50.00	0.2	260	48.0	0.4	4.43	170	Satisfactory
10.	Village Salava / Near Mr. Madan's house	Hand pump	Colorless	Odorless	420	7.4	80.00	0.1	350	57.6	0.5	2.66	130	Satisfactory
11.	In village Salwa/primary school	Hand pump	Colorless	Odorless	150	7.1	90.00	0.4	320	28.8	0.2	11.08	140	Satisfactory
12.	Village Salwa / Near Shri Gangaram	Hand pump	Colorless	Odorless	360	7.7	110.00	0.5	310	19.2	0.1	10.63	90	Satisfactory
13.	Village Salwa / Near Shri Ram	Hand	Colorless	Odorless	340	7.5	120.00	0.6	380	9.6	0.3	7.53	110	Satisfactory

	Singh	pump												
14.	Village Jagupura/Near Shri Dharampal	Hand pump	Colorless	Odorless	240	7.6	75.00	0.3	200	38.4	0.2	14.6 2	140	Satisfactory
15.	Village Jagupura / At Mor	Hand pump	Colorless	Odorless	160	7.2	50.00	0.2	190	28.8 4	0.4	17.7 2	180	Satisfactory
16.	Village Jagupura/ In School	Hand pump	Colorless	Odorless	350	7.0	20.00	0.1	260	19.2	0.5	15.9 5	200	Satisfactory
17.	Village Jagupura / near Shri Dharampal,S/o Omprakash	Hand pump	Colorless	Odorless	320	7.1	25.00	0.3	270	9.6	0.2	9.30	150	Satisfactory
18.	Village Alhaipur Nagar / Near Shree Chetram Saini	Hand pump	Colorless	Odorless	400	7.3	35.00	0.1	340	9.6	0.1	4.43	170	Satisfactory
19.	Village Alhaipur Nagar/Near Mr. Manoj Kumar	Hand pump	Colorless	Odorless	420	7.2	30.00	0.2	250	24.0	0.3	11.5 2	210	Satisfactory
20.	Village Alhaipur Nagar/Rani Phool Kumari School	Hand pump	Colorless	Odorless	380	7.4	40.00	0.3	350	24.0	0.3	8.86	130	Satisfactory
21.	Village Alhaipur Nagar / Near Shri Nutan	Hand pump	Colorless	Odorless	360	7.3	70.00	0.4	380	48.0	0.4	2.66	160	Satisfactory
54.	Village Aladdinpur / Near Shri Yamin	Hand pump	Colorless	Odorless	360	7.6	75.00	0.3	200	38.4	0.2	14.6 2	140	Satisfactory
55.	Village Jamalpur Alam / Valmiki Basti	Hand pump	Colorless	Odorless	240	7.6	75.00	0.3	200	38.4	0.2	14.6 2	140	Satisfactory
56.	Village Sabdulla Khanpur/ At Devta	Hand pump	Colorless	Odorless	240	7.6	75.00	0.3	200	38.4	0.2	14.6 2	140	Satisfactory
57.	Village Nathadoi/Primary School	Hand pump	Colorless	Odorless	240	7.6	75.00	0.3	200	38.4	0.2	14.6 2	140	Satisfactory
58.	Village Bhootpuri/ Near Shri Nanhe B.D.C.	Hand pump	Colorless	Odorless	240	7.6	75.00	0.3	200	38.4	0.2	14.6 2	140	Satisfactory
59.	Village Chakshah Jani / Near Shri Ramprasad	Hand pump	Colorless	Odorless	240	7.6	75.00	0.3	200	38.4	0.2	14.6 2	140	Satisfactory
60.	Village Chakshah Jani/ At Chamunda Temple	Hand pump	Colorless	Odorless	240	7.6	75.00	0.3	200	38.4	0.2	14.6 2	140	Satisfactory

Note - 1 it has been highlighted in excess of the limits mentioned in the CPHEO's standard.

2 Please refer page 2 for Standards

3. Send samples in acidic for iron analysis.

Sd/-

Jr. Engineer

Countersigned

Sd/-

Asstt. Engineer

Office of Executive Engineer, Construction Division, U.P. Jal Nigam
Ladapura Jalkal Complex, Jhalu Road, Bijnor
(Water Test Report)

To, Mr. K.K. Sharma
 Assistant Engineer
 Construction Division, U.P. Jal Nigam, Bijnor

Tehsil:- Dhampur

Development Block: Alhepur

Lab. Register reference:.....

Date:- 28/08/2019

Report is being sent with reference to your letter No. 166/Water Test/55 dated 01/07/19

S.No.	Village/Town/Location	Source	Color	odor	TDS (PPM)	PH	Chemical Test in PPM							
							chloride	fluoride	total hardness	sulfate	iron	nitrate	alkalinity	note
1.	Village Nindadu Khas / Shri Kripal, Putra Shri Parmula	Hand pump	Colorless	Odorless	284	7.1	80.00	0.2	220	9.6	0.2	9.30	90	Satisfactory
2.	At the tomb of village Ajitpur Dasi / Shri Rajpal	Hand pump	Colorless	Odorless	274	7.3	90.00	0.1	240	19.2	0.1	21.26	180	Satisfactory
3.	Near Village Sarkathal / Smt. Kusumlata	Hand pump	Colorless	Odorless	282	7.2	20.00	0.3	280	38.4	0.2	17.29	110	Satisfactory
4.	Village Umarpur Khadar / Shri Naresh, son Shri Amir Singh	Hand pump	Colorless	Odorless	302	7.4	70.00	0.2	300	48.0	0.1	15.06	170	Satisfactory
5.	Village Devnagar / Shri Deepak Bishnoi	Hand pump	Colorless	Odorless	300	7.1	35.00	0.1	340	24.0	0.3	14.18	120	Satisfactory
6.	On the plot of village Buapur Nathu / Mr. Rajkumar	Hand pump	Colorless	Odorless	256	7.2	60.00	0.4	280	28.0	0.2	8.86	140	Satisfactory
7.	Village Suhagpur / Shri Ghasiram, son Shri Buddha Singh	Hand pump	Colorless	Odorless	258	7.0	40.00	0.2	320	19.2	0.4	5.32	150	Satisfactory
8.	Village Chaksah Jani / Near Shri Fakira	Hand pump	Colorless	Odorless	275	7.3	45.00	0.1	260	19.2	0.5	6.66	130	Satisfactory

9.	Village Palki Gamal / Mr. Ramesh Balmiki	Hand pump	Colorless	Odorless	308	7.2	50.00	0.3	250	9.6	0.1	7.09	100	Satisfactory
10.	Village Naurangabad / Shri Rajendra, son Shri Jahar Singh	Hand pump	Colorless	Odorless	420	7.1	70.00	0.1	360	24.0	0.2	15.95	190	Satisfactory
11.	Village Mirzapur / Junior High School	Hand pump	Colorless	Odorless	342	7.4	75.00	0.4	380	38.4	0.1	4.43	130	Satisfactory
12.	Village Sarakra / Mr. Little's Shop	Hand pump	Colorless	Odorless	376	7.3	80.00	0.3	230	19.2	0.3	11.52	120	Satisfactory
13.	Village Kaliyapur / Shri Ganesh, son Shri Rajendra	Hand pump	Colorless	Odorless	267	7.5	100.00	0.5	240	48.0	0.1	17.28	100	Satisfactory
14.	Village Jagupura / Harijan Dharamshala	Hand pump	Colorless	Odorless	250	7.2	20.00	0.1	270	9.6	0.4	10.63	90	Satisfactory
15.	Village Sadotar / Shri Bittu Chauhan	Hand pump	Colorless	Odorless	242	7.1	25.00	0.2	300	38.4	0.2	15.06	80	Satisfactory
16.	Village Nurpur / Chamunda Mandir	Hand pump	Colorless	Odorless	296	7.0	40.00	0.1	320	28.8	0.1	11.08	120	Satisfactory
17.	Village Tivdi / Saini Dharamshala	Hand pump	Colorless	Odorless	292	7.0	30.00	0.3	310	28.8	0.3	8.86	110	Satisfactory

Note - 1 it has been highlighted in excess of the limits mentioned in the CPHEo's standard.

2 Send samples in acidic for iron analysis.

Sd/-

Jr. Engineer

Countersigned

Asstt. Engineer

Office of Executive Engineer, Construction Division, U.P. Jal Nigam
Ladapura Jalkal Complex, Jhalu Road, Bijnor
(Water Test Report)

To, Mr. K.K. Sharma

Assistant Engineer

Construction Division, U.P. Jal Nigam, Bijnor

Lab. Register reference:.....

Tehsil:- Dhampur

Development Block: Alhepur

Date:- 21/08/2020

Report is being sent with reference to your letter No. 1556/Water Test/42 dated 27/08/2020

S.No.	Village/Town/Location	Source	TDS (PPM)	PH	Chemical Test in PPM							
					chloride	fluoride	total hardness	sulfate	iron	nitrate	alkalinity	note
1	Village Majupura/Devata sthal	Hand pump	270	7.6	70	0.2	230	9.6	0.3	5.32	220	Satisfactory
2	Village Nasirpur Banvari/Near Tejpai	Hand pump	240	7.5	80	0.3	260	12	0.4	6.66	190	Satisfactory
3	Village Navada Kesho/Near Harish	Hand pump	420	7.4	100	0.4	240	24	0.4	8.86	90	Satisfactory
4	Village Ajit Dasi/near Naresh	Hand pump	370	7.2	30	0.1	280	48	0.5	10.63	100	Satisfactory
5	Village Haijari/Near Mayank	Hand pump	330	7.3	40	0.1	270	28.8	0.6	6.66	130	Satisfactory

Note - 1 it has been highlighted in excess of the limits mentioned in the CPHEo's standard.

2 Send samples in acidic for iron analysis.

Sd/-

Jr. Engineer

Countersigned

Sd/-

Asstt. Engineer

Office of Executive Engineer, Construction Division, U.P. Jal Nigam
Ladapura Jalkal Complex, Jhalu Road, Bijnor
(Water Test Report)

To, Mr. K.K. Sharma
 Assistant Engineer
 Construction Division, U.P. Jal Nigam, Bijnor

Tehsil:- Dhampur

Development Block: Alhepur

Lab. Register reference:.....

Date:- 12 . 02 . 2020

Report is being sent with reference to your letter No. 409/Water Test/07 dated 13 . 02 . 2020

S.No.	Village/Town/Location	Source	TDS (PPM)	PH	Chemical Test in PPM							
					chlori de	fluoride	total hardness	sulfate	iron	nitrate	alkalinity	note
01	Village Hafizabad / Near Mr. Vijender's house	Hand pump	360	7.2	80	0.1	250	19.2	0.3	9.30	120	Satisfactory
02	Village Hafizabad / Near Bhavani Mata Mandir	Hand pump	420	7.3	90	0.2	420	48	0.2	14.18	100	Satisfactory
03	Village Nurpur Chhibri / Near Mr. Amar Singh's house	Hand pump	320	7.1	60	0.4	360	9.6	0.4	10.63	130	Satisfactory

Note - 1 it has been highlighted in excess of the limits mentioned in the CPHEo's standard.
 2 Send samples in acidic for iron analysis.

Sd/-
 Jr. Engineer

Countersigned

Asstt. Engineer

Annexure-15

From,

Chief Executive Officer
Fisheries Development Agency, Bijnor.

To,

The Regional Officer, Uttar Pradesh Pollution Control Board,
Near Saint Merry School, Bijnor.

Letter No. 1324/NGT/2021-22

Dated:- 22-12-2021

Subject: Hon'ble NGT order dated 1st September 2021 in the matter of Sh. Aadil Ansari v/s M/S Dhampur sugar Mills & ors [I.A. No. 376/2020] req.

Sir,

In continuation to your office above subjected reference No. 611/PA/General-2021 dated 18.12.2021, it is to inform you that at present no problem of pollution exists in the ponds of any revenue villages from the nearby concerned villages of Dhampur Sugar Mill. The information is kindly submitted at your service.

Yours sincerely,

Sd/-

illegible

Chief Executive Officer
Fisheries Development Agency,
Bijnor.

2200 Annexure 4

Civil Appeal No(s). 5975/2021
315

ITEM NO.39

COURT NO.14

SECTION XVII

S U P R E M E C O U R T O F I N D I A RECORD OF PROCEEDINGS

Civil Appeal No(s). 5975/2021

M/S DHAMPUR BIO ORGANICS LIMITED & ORS.

Appellant(s)

VERSUS

ADIL ANSARI & ORS.

Respondent(s)

IA No. 123838/2021 - EXEMPTION FROM FILING C/C OF THE IMPUGNED JUDGMENT

IA No. 123839/2021 - EXEMPTION FROM FILING O.T.

IA No. 123836/2021 - STAY APPLICATION

Date : 06-09-2024 This matter was called on for hearing today.

CORAM : HON'BLE MR. JUSTICE PAMIDIGHANTAM SRI NARASIMHA
HON'BLE MR. JUSTICE SANDEEP MEHTA

For Appellant(s) Ms. Amita Gupta Katragadda, Adv.
Mr. Vikash Kumar Jha, Adv.
Ms. Namrata Sadhnani, Adv.
Ms. Varalika Dev, Adv.
Ms. Ena Kapur, Adv.
M/S. Cyril Amarchand Mangaldas Aor, AOR

For Respondent(s) Ms. Preeti Singh, AOR
Mr. Sunklan Porwal, Adv.
Ms. Shefali Menezes, Adv.

Mr. Saurabh Mishra, AOR
Mr. Shrimay Mishra, Adv.
Mr. Abhinav Pandey, Adv.

Mr. Pradeep Misra, AOR

Ms. Aishwarya Bhati, A.S.G.
Ms. Ruchi Kohli, Adv.
Ms. Swarupama Chaturvedi, Adv.
Ms. Chitrangda Rastravara, Adv.
Ms. Shraddha Deshmukh, Adv.
Dr. N. Visakamurthy, AOR

UPON hearing the counsel the Court made the following
O R D E R

1. A joint report by the Central Pollution Control Board (CPCB) and the State Pollution Control Board shall be filed indicating the compliances as per the directions of the National Green Tribunal and also after taking into account the subsequent Committee reports. The report shall also indicate about the compliances of the conditions specified in the environmental clearances and further steps which need to be taken by the appellant(s). The report shall be filed within a period of six weeks from today.
2. List thereafter.

(KAPIL TANDON)
COURT MASTER (SH)

(NIDHI WASON)
COURT MASTER (NSH)

**IN THE SUPREME COURT OF INDIA
CIVIL APPELLATE JURISDICTION
CIVIL APPEAL No. 5975 of 2021**

IN THE MATTER OF: -

**M/S DHAMPUR BIO ORGANICS
LIMITED & ORS.**

...PETITIONER

VERSUS

ADIL ANSARI & ORS.

...RESPONDENT(S)

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THROUGH:

**SAURABH MISHRA****ADVOCATE FOR THE RESPONDENT No. 5**

Chamber: 628, Block D, Additional Building Complex

Supreme Court of India, New Delhi – 110001

Office: D-277, First Floor, Defence Colony, New Delhi –
110024

Mob: +91-9810160176

Email: reachsaurabh@hotmail.com
office@mishra.law**Place:** New Delhi**Date:** 21.12.2024

**IN THE SUPREME COURT OF INDIA
CIVIL APPELLATE JURISDICTION
CIVIL APPEAL No. 5975 of 2021**

IN THE MATTER OF: -

M/S DHAMPUR BIO ORGANICS LIMITED & ORS.

...APPELLANT(S)

VERSUS

ADIL ANSARI & ORS.

...RESPONDENT(S)

**AFFIDAVIT IN COMPLIANCE OF THIS HON'BLE COURT'S
ORDER DATED 06.09.2024 IN THE AFORESAID MATTER BY
RESPONDENT NO. 5 i.e. CENTRAL POLLUTION CONTROL
BOARD.**

I, Ajit Kumar Vidyarthi S/o Late Vikrama Singh, aged about 53 years currently working as Scientist "F" in Central Pollution Control Board, Parivesh Bhawan, East Arjun Nagar, Delhi – 110032, the Respondent No. 5 in the above matter (hereinafter referred to as "CPCB") do hereby solemnly affirm and declare as under:

1. That I, in capacity of Scientist "F" in CPCB, have made myself acquainted with the facts and circumstances of the instant case due to the official capacity as mentioned above and based on available records, I am well versed with the facts and circumstances of the matter and as such competent & authorized to affirm this affidavit on behalf



of Respondent No. 5.

2. That this Hon'ble Court while hearing the aforesaid matter on 06.09.2024, has directed as follows:

"1. A joint report by the Central Pollution Control Board (CPCB) and the State Pollution Control Board shall be filed indicating the compliances as per the directions of the National Green Tribunal and also after taking into account the subsequent Committee reports. The report shall also indicate about the compliances of the conditions specified in the environmental clearances and further steps which need to be taken by the appellant(s). The report shall be filed within a period of six weeks from today.

2. List thereafter."

The copy of Hon'ble Supreme Court order dated 06.09.2024 is annexed herewith and marked as **Annexure-R1** (page no. ____ to ____).

3. That, the Joint Committee of CPCB & Uttar Pradesh Pollution Control Board (hereinafter referred to as UPPCB) carried out inspection of the four industrial units (referred above) during October 2024. Also, it is pertinent to mention that earlier all units were part of M/s Dhampur Sugars Ltd. Now, after demerger of companies, units in Asmoli and Meerganj belong to the company namely "M/s Dhampur Bio-organics Ltd." and units in Dhampur belong to the company namely "M/s Dhampur Sugars Ltd".

4. That during inspection, the team collected the samples from aeration tanks of effluent treatment plants (ETPs), Sewage Treatment Plant



(STP), bore wells and recipient drain and checked logbooks for ETPs, STPs, bore wells, ash & sludge generation, energy consumption. The team also verified the compliance status on the recommendation of past reports namely a) detailed report Jan 2023, b) joint inspection report dated 26-03-2021, c) Hon'ble NGT order dated 01-09-2021 and d) specific conditions in environmental clearance.

5. That during visit, all units were found non-operational. Three sugar mills were non- operational due to closing of crushing season and the fourth unit, a distillery, was non-Operational due to shortage of raw material (molasses / grain). However, it is proposed that UPPCB shall carry out random inspections of the units in operational condition. Copy of Joint Committee Report of CPCB and UPPCB is annexed herewith and marked as **Annexure- R2 (page no. 13 to 79)** .

6. The detailed site inspection reports of the four industrial units are annexed as Annexure-A to Annexure-D of the detailed final report (page no. 23 to 79). The compliance of general conditions of environmental clearance is mostly covered within the information provided in the report and the compliance status in respect of specific/salient conditions of environmental clearance is provided in a separate section in individual reports. Report of each industrial unit, as at Annexure -A to Annexure-D of the Joint Committee Report of CPCB and UPPCB is divided into six parts:

Part A: General information.

Part B: Verification of compliance status on the findings/recommendation of the detailed report Jan 2023.



Part C: Verification of compliance status on the findings/recommendation of joint inspection report dated 26-03-2021.

Part D: Verification of compliance of the directions of Hon'ble NGT judgement dated 01.09.2021.

Part E: Verification of specific/salient conditions of Environmental Clearance Part F: Conclusion & Recommendations.

7. That Unit wise conclusions and recommendations are reproduced below:

7.1 M/s Dhampur Bio Organics Ltd., Unit-Asmoli, District Sambhal (Sugar Unit)

Conclusion:

1. Unit was non-operational during joint site inspection by CPCB and UPPCB on 10.10.2024 due to non-crushing season. During survey of the surroundings of the unit and Sot river, no coloured water was visible at the time of visit.
2. The ground water sample analysis result does not indicate impact due to the industry.
3. The unit has complied with the recommendations of Joint Inspection report dated 13th January 2021. Details of the same are mentioned in Part C of the report.
4. The details of the verification of the directions of Hon'ble NGT passed vide judgement dated 01.09.2021 are mentioned in Part D of the report. Unit has complied all the points except the directions regarding interlocking of Pollution Control Devices with production processes.



5. The detailed compliance status of Environmental Clearance (EC) conditions is mentioned at Part E of the report. The unit has not complied with the following conditions:

- i. No rainwater harvesting system was observed in the plant.
- ii. Not installed CAAQMS.

Inspections by third party institutes authorised by CPCB in the past:

A third party technical institutes authorised by CPCB carried out inspection of the unit in operational condition on 20-02-2022 and 01-03-2023 and unit was found complying standards during both inspections.

Recommendations:

1. The unit shall maintain the ash disposal record with respect to disposal and distribution.
2. Unit shall implement a system for interlocking of the pollution control plants / devices and the production process, as directed by Hon'ble NGT-PB.
3. UPPCB shall carry out random inspection of the unit in operational condition.
4. Unit shall comply with following EC conditions:
 - i. Install CAAQMS stations as per EC condition.
 - ii. Make provision for rain water harvesting as per EC condition.



7.2 M/s Dhampur Bio Organics Ltd., Unit-Meerganj, District Bareilly
(Sugar Unit)

Conclusion:

1. Unit was non-operational during joint site inspection by CPCB and UPPCB on 18.10.2024 due to non-crushing season. During survey of the surroundings of the unit and Sot river, no coloured water was visible at the time of visit.
2. The ground water sample analysis result does not indicate impact due to the industry.
3. The unit has complied with the recommendations of Joint Inspection report dated 13th January 2021. Details of the same are mentioned in Part C of the report.
4. The details of the verification of the directions of Hon'ble NGT passed vide judgement dated 01.09.2021 are mentioned in Part D of the report. Unit has complied all the points except the directions regarding interlocking of Pollution Control Devices with production processes.
5. The detailed compliance status of Environmental Clearance (EC) conditions is mentioned at Part E. The unit has not complied with the following conditions:
 - i. No rainwater harvesting system was observed in the plant.
 - ii. Not installed CAAQMS.

Inspections by third party institutes authorised by CPCB in the past:

A third party technical institutes authorised by CPCB carried out annual inspection of the unit in operational condition on 17-01-



2022 and 15-02-2023 and unit was found complying standards during both inspections.

Recommendations:

1. The unit shall maintain the ash disposal record with respect to disposal and distribution.
2. Unit shall implement a system for interlocking of the pollution control plants / devices and the production process, as directed by Hon'ble NGT-PB.
3. UPPCB shall carry out random inspection of the unit in operational condition.
4. Unit shall comply with following EC conditions:
 - i. Install CAAQMS stations as per EC condition.
 - ii. Make provision for rain water harvesting as per EC condition.



7.3 M/s Dhampur Sugar Mills Limited, Village Alhaipur, Tehsil Dhampur, District Bijnor (Sugar Unit)

Conclusion

1. Unit was non-operational during joint site inspection by CPCB and UPPCB on 16.10.2024 due to non-crushing season.
2. Analysis results of samples collected from Ikra drain and bore well indicate no industrial impact.
3. The unit has complied with recommendations of Joint Inspection report dated 02-03 Feb 2021 (detailed findings in Part C), except following:

- a. Unit has not reclaimed/filled up 4000 m³ capacity lagoon near its agricultural fields completely. It was partially filled with mud and rainwater and HDPE lining still exists.
 - b. Unit has not implemented the suggestion to enhance capacity of water tank for filter backwashing. The unit explained that the existing capacity has been sufficient which can be verified in periodic inspections of the unit in operational condition by UPPCB.
4. The details of the verification of the directions of Hon'ble NGT passed vide judgement dated 01.09.2021 are mentioned in Part D of the report. Unit has complied all the points except the directions regarding interlocking of Pollution Control Devices with production processes.

Inspections by third party institutes authorised by CPCB in the past

A third party technical institutes authorised by CPCB carried out annual inspection on 12-01-2022 and 14-02-2023. Unit was found not complying standards during inspection on 12-01-2022 and UPPCB issued show-cause notice to the unit on 22-02-2022 which was later withdrawn as unit was found complying standards in subsequent inspection by UPPCB. Unit was found complying standards during inspection on 14-02-2023 by third party technical institute authorised by CPCB.



Recommendations:

1. The unit shall either cover the 4000 m³ capacity earthen lagoon, which was used for storing treated effluent in the past, with brick-lining or reclaim/fill up it completely.
2. Unit shall implement a system for interlocking of the pollution control plants / devices and the production process, as directed by Hon'ble NGT- PB.
3. UPPCB shall carry out random inspection of the unit in operational condition.

7.4 M/s Dhampur Sugar mills limited Chemical Division.,
(Distillery Division) Dhampur District Bijnor on 16.10.2024

Conclusion:

1. Unit was non-operational during joint site inspection by CPCB and UPPCB on 16.10.2024 due to shortage of raw material (molasses & grain).
2. The unit has complied with the recommendations of Joint Inspection report dated 02nd Feb 2021. Details of the same are mentioned in Part B of the report.
3. The detailed compliance status of Environmental Clearance (EC) conditions is mentioned at Part C. The unit has not complied with the following conditions:
 - a. DG is not provided with acoustic enclosure.



Inspections by third party institutes authorised by CPCB in the past:

A third party technical institutes authorised by CPCB carried out annual inspection of the unit in operational condition on 15.01.2022 and 18.03.2023 and the unit was found complying no effluent discharge condition during both inspections.

Recommendations:

1. Unit shall provide acoustic enclosure at the DG set.
2. UPPCB shall carry out random inspection of the unit in operational condition.
8. That in addition to the aforesaid submissions, it is humbly submitted that this Answering Respondent shall abide by any/all orders or directions passed by this Hon'ble Court.
9. That no new facts and no documents which were not pleaded before the courts below have been pleaded in this affidavit.



VERIFICATION

I, the deponent hereinabove, do hereby verify that the contents of this Compliance Affidavit which is based on official record and information available in the office are true and correct to the best of my knowledge and belief. Nothing material has been concealed therefrom.

Signed and verified at New Delhi on this 20 DEC 2024 Day of December, 2024.

ATTESTED

NOTARY PUBLIC
GOVT. OF INDIA
20 DEC 2024

Ajit Kumar Vidyarthi
DEPONENT
ए. के. विद्यार्थी / A. K. Vidyarthi
वैज्ञानिक 'एफ' / Scientist 'F'
केंद्रीय प्रदूषण नियंत्रण बोर्ड
Central Pollution Control Board
 पर्यावरण, वन एवं जलवायु परिवर्तन मंत्रालय, भारत सरकार
 M/o Env. Forest & Climate Change, Govt. of India
 परिवेश भवन, पूर्वी अर्जुन नगर, दिल्ली-110032
 Parivesh Bhawan, East Arjun Nagar, Delhi-110032

Ajit Kumar Vidyarthi
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 M/o Env. Forest & Climate Change, Govt. of India
 परिवेश भवन, पूर्वी अर्जुन नगर, दिल्ली-110032
 Parivesh Bhawan, East Arjun Nagar, Delhi-110032

ITEM NO.39

COURT NO.14

SECTION XVII

S U P R E M E C O U R T O F I N D I A
RECORD OF PROCEEDINGS

Civil Appeal No(s). 5975/2021

M/S DHAMPUR BIO ORGANICS LIMITED & ORS.

Appellant(s)

VERSUS

ADIL ANSARI & ORS.

Respondent(s)

IA No. 123838/2021 - EXEMPTION FROM FILING C/C OF THE IMPUGNED
JUDGMENT

IA No. 123839/2021 - EXEMPTION FROM FILING O.T.

IA No. 123836/2021 - STAY APPLICATION

Date : 06-09-2024 This matter was called on for hearing today.

CORAM : HON'BLE MR. JUSTICE PAMIDIGHANTAM SRI NARASIMHA
HON'BLE MR. JUSTICE SANDEEP MEHTA

For Appellant(s) Ms. Amita Gupta Katragadda, Adv.
Mr. Vikash Kumar Jha, Adv.
Ms. Namrata Sadhnani, Adv.
Ms. Varalika Dev, Adv.
Ms. Ena Kapur, Adv.
M/S. Cyril Amarchand Mangaldas Aor, AOR

For Respondent(s) Ms. Preeti Singh, AOR
Mr. Sunklan Porwal, Adv.
Ms. Shefali Menezes, Adv.

Mr. Saurabh Mishra, AOR
Mr. Shrimay Mishra, Adv.
Mr. Abhinav Pandey, Adv.

Mr. Pradeep Misra, AOR

Ms. Aishwarya Bhati, A.S.G.
Ms. Ruchi Kohli, Adv.
Ms. Swarupama Chaturvedi, Adv.
Ms. Chitrangda Rastravara, Adv.
Ms. Shraddha Deshmukh, Adv.
Dr. N. Visakamurthy, AOR

UPON hearing the counsel the Court made the following
O R D E R

1. A joint report by the Central Pollution Control Board (CPCB) and the State Pollution Control Board shall be filed indicating the compliances as per the directions of the National Green Tribunal and also after taking into account the subsequent Committee reports. The report shall also indicate about the compliances of the conditions specified in the environmental clearances and further steps which need to be taken by the appellant(s). The report shall be filed within a period of six weeks from today.
2. List thereafter.

(KAPIL TANDON)
COURT MASTER (SH)

(NIDHI WASON)
COURT MASTER (NSH)

**INSPECTION REPORT
OF**

- 1. M/S DHAMPUR BIO-ORGANICS LTD., ASMOLI
(SUGAR UNIT)**
- 2. M/S DHAMPUR BIO-ORGANICS LTD., MEERGANJ
(SUGAR UNIT)**
- 3. M/S DHAMPUR SUGAR MILLS LTD., DHAMPUR
(SUGAR UNIT)**
- 4. M/S DHAMPUR SUGAR MILLS LTD., DHAMPUR
(DISTILLERY UNIT)**

**IN COMPLIANCE TO
HON'BLE SUPREME COURT ORDER DATED 06.09.2024
IN THE MATTER OF
[CA No. 5975/2021]
M/S DHAMPUR BIO-ORGANICS LTD. & Ors.
VS
ADIL ANSARI & Ors.**

**-PREPARED BY-
THE JOINT COMMITTEE OF CPCB AND UPPCB
(DECEMBER 2024)**

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ABBREVIATIONS

AAQ	Ambient Air Quality
ACF	Activated Carbon Filter
APCD	Air Pollution Control Device
BOD	Biological Oxygen Demand
CAAQMS	Continuous Ambient Air Quality Monitoring Station
CCA	Consolidated Consent& Authorization
CGWA	Central Ground Water Authority
CIP	Cleaning in Process
COD	Chemical Oxygen Demand
CPCB	Central Pollution Control Board
CPU	Condensate Polishing Unit
DG	Diesel Generator
DO	Dissolved Oxygen
EC	Environment Clearance
EIA	Environment Impact Assessment
EMC	Environmental Management Cell
ENA	Extra Neutral Alcohol
ESP	Electrostatic Precipitator
ETP	Effluent Treatment Plant
KL	Kilo Litre
KLD	Kilo Litre Per Day
KVA	Kilo Volte Ampere
KWH	Kilo Watt Hour
MBBR	Moving Bed Biofilm Reactor
MCF	Micron Cartridge Filter
MEE	Multi Effect Evaporator
Mg/L	Milligram Per Litre
MGF	Multi Grade Filter
MLSS	Mixed Liquor Suspended Solids
MLVSS	Mixed Liquor Volatile Suspended Solids
MoEF&CC	Ministry of Environment, Forest & Climate Change
MPR	Multi Pressure Distillation
MT	Metric Ton
NGT-PB	National Green Tribunal- Principal Bench
NOC	No Objection Certificate
NSI	National Sugar Institute
OCEMS	Online effluent & emission monitoring systems
PM	Particulate Matter
PTZ	Pan, Tilt & Zoom
RO	Reverse Osmosis
STP	Sewage Treatment Plant
TCD	Ton Cane Crushing Per Day
TPH	Ton per Hour
TSDF	Treatment, Storage, and Disposal Facility
UF	Ultra filtration
UGR	Underground Reservoir
UPGWD	Uttar Pradesh Ground Water Department
UPPCB	Uttar Pradesh Pollution Control Board
UV	Ultraviolet
ZLD	Zero Liquid Discharge

Joint report of Central Pollution Control Board (CPCB) and Uttar Pradesh Pollution Control Board (UPPCB) in compliance to Hon'ble Supreme Court Order dated 06 September 2024 in the matter C.A. No. 5975/2021 of Dhampur Bio-organics & Ors Vs Adil Ansari & Ors.

1. Background

1.1 Hon'ble NGT order dated 09-11-2020 in OA no 539/2019

Hon'ble National Green Tribunal, Principal Bench (NGT-PB) issued an order on 09-11-2020 in Original Application (**O.A.**) No 539 of 2019 - Adil Ansari Vs M/s Dhampur Sugar Mills Ltd. and Ors, directed Central Pollution Control Board (CPCB) and U.P. State Pollution Control Board (**UPPCB**) to undertake inspection of four industrial units namely- (i) M/s Dhampur Bio-Organics Mills Ltd., Asmoli (Sugar Unit) Dist- Sambhal (U.P), (ii) M/s Dhampur Bio-Organics Mills Ltd., Meerganj, Dist Bareilly (U.P), (iii) M/s Dhampur Sugar Mills Ltd., (Sugar Unit), Dhampur, Dist- Bijnor (U.P) and (iv) M/s Dhampur Sugar Mills Ltd., (Distillery Unit), Dhampur, Dist- Bijnor (U.P). (hereafter referred as "the four units").

Hon'ble NGT order dated 09-11-2020 is annexed at **Annexure-1A**.

In compliance to the order, the joint team of CPCB and UPPCB carried out inspections of the four industrial units referred above during January-Feb 2021 and report was submitted on **26-03-2021** to Hon'ble NGT-PB. Hereinafter referred to as joint inspection report dated 26-03-2021.

1.2 Hon'ble NGT order dated 01-09-2021 in OA no 539/2019

Subsequently, Hon'ble NGT-PB passed judgement on 01-09-2021 in the above matter, directing all the four units referred above to pay environmental compensation (EC) of Rs 5 crores each and directing CPCB, UPPCB and District Administration to constitute a committee to carry out a detailed study regarding the extent of damage caused to the environment by these units. The Hon'ble NGT also directed all the units to ensure compliance of following directions:

- 1. All the Units must ensure continuous running of ETPs even during the non-crushing season for the adequate maintenance of required bio-mass so that the ETP is able to take the load/shock when it receives the pollution load/effluent at the start of the crushing season.*
- 2. All the Units in question must provide for separate Energy Meter for entire ETP setup including its accessory units with data logging facility which shall be inspected by UPPCB and CPCB from time to time.*
- 3. UPPCB must ensure Interlocking of Pollution Control Devices with production processes (one way but not vice versa) so as to ensure that whenever ETPs/PCDs are intentionally closed, the production also comes to halt.*

4. *Regular inspections should be carried out by the statutory authorities in both halves of the crushing season and also at least once in non-crushing season.*
5. *Since the Asmoli Unit falls in the critical zone with respect to ground water withdrawal, an assessment of water recharge needs to be carried out by CGWA or UPGWB before issuance of NOC.*

Hon'ble NGT judgement dated 01-09-2021 is annexed at **Annexure 1B**.

The concerned industrial units filed a Civil Appeal (C.A. No. 5975/2021) before Hon'ble Supreme Court of India on **20-09-2021** against Hon'ble NGT judgement dated 01-09-2021.

1.3 The Hon'ble Supreme Court order dated 08-10-2021 in CA no 5975/2021

The Hon'ble Supreme Court of India passed an order dated 08-10-2021 directing for conduct of the detailed study as directed in order impugned (Hon'ble NGT order dated 01-09-2021). The Hon'ble Supreme Court of India order dated 08-10-2021 is annexed at **Annexure-1C**.

In compliance to Hon'ble NGT order dated 01-09-2021 and Hon'ble Supreme Court order dated 08-10-2021, a joint team from CPCB, UPPCB and District Administration carried out a detailed study during Nov-Dec 2021 to assess the extent of damage caused to the environment by the concerned industrial units and report titled "Detailed study report on Extent of damage caused to the environment" was submitted before Hon'ble Supreme Court of India in Jan 2023, hereinafter referred as detailed report Jan 2023.

1.4 The Hon'ble Supreme Court order dated 06-09-2024 in CA no 5975/2021

The Hon'ble Supreme Court of India vide order dated **06-09-2024** further directed CPCB and SPCB to file a joint report indicating compliances of directions of the Hon'ble NGT, subsequent committee reports and conditions specified in environmental clearances. The Hon'ble Supreme Court of India order dated 06-09-2024 is annexed at **Annexure-1D**.

2. Compliance of the Hon'ble Supreme Court order dated 06-09-2024

The joint committee of CPCB & UPPCB carried out inspection of the four industrial units (referred above) during October 2024. Also, it is pertinent to mention that earlier all units were part of M/s Dhampur Sugars Ltd. Now, after demerger of companies, units in Asmoli and Meerganj belong to the company namely "M/s Dhampur Bio-organics Ltd." and units in Dhampur belong to the company namely "M/s Dhampur Sugars Ltd".

During inspection, the team collected the samples from aeration tanks of effluent treatment plants (ETPs), Sewage Treatment Plant (STP), bore wells

and recipient drain and checked logbooks for ETPs, STPs, bore wells, ash & sludge generation, energy consumption. The team also verified the compliance status on the recommendation of past reports namely a) detailed report Jan 2023, b) joint inspection report dated 26-03-2021, c) Hon'ble NGT order dated 01-09-2021 and d) specific conditions in environmental clearance.

During visit, all units were found non-operational. Three sugar mills were non-operational due to closing of crushing season and the fourth unit, a distillery, was non-Operational due to shortage of raw material (molasses / grain). However, it is proposed that UPPCB shall carry out random inspections of the units in operational condition.

The detailed site inspection reports of the four industrial units are annexed as **Annexure-A to Annexure-D**. The compliance of general conditions of environmental clearance is mostly covered within the information provided in the report and the compliance status in respect of specific/salient conditions of environmental clearance is provided in a separate section in individual reports. Report of each industrial unit, as at **Annexure -A to Annexure-D** is divided into six parts:

Part A: General information

Part B: Verification of compliance status on the findings/recommendation of the detailed report Jan 2023

Part C: Verification of compliance status on the findings/recommendation of joint inspection report dated 26-03-2021

Part D: Verification of compliance of the directions of Hon'ble NGT judgement dated 01.09.2021.

Part E: Verification of specific/salient conditions of Environmental Clearance

Part F: Conclusion & Recommendations

Unit wise conclusions and recommendations are reproduced below:

2.1 M/s Dhampur Bio Organics Ltd., Unit-Asmoli, District Sambhal (Sugar Unit)

Conclusion:

1. Unit was non-operational during joint site inspection by CPCB and UPPCB on 10.10.2024 due to non-crushing season. During survey of the surroundings of the unit and Sot river, no coloured water was visible at the time of visit.
2. The ground water sample analysis result does not indicate impact due to the industry.
3. The unit has complied with the recommendations of Joint Inspection report dated 13th January 2021. Details of the same are mentioned in Part C of the report.

4. The details of the verification of the directions of Hon'ble NGT passed vide judgement dated 01.09.2021 are mentioned in Part D of the report. Unit has complied all the points except the directions regarding interlocking of Pollution Control Devices with production processes.
5. The detailed compliance status of Environmental Clearance (EC) conditions is mentioned at Part E of the report. The unit has not complied with the following conditions:
 - i. No rainwater harvesting system was observed in the plant.
 - ii. Not installed CAAQMS.

Inspections by third party institutes authorised by CPCB in the past:

A third party technical institutes authorised by CPCB carried out inspection of the unit in operational condition on 20-02-2022 and 01-03-2023 and unit was found complying standards during both inspections.

Recommendations:

1. The unit shall maintain the ash disposal record with respect to disposal and distribution.
2. Unit shall implement a system for interlocking of the pollution control plants / devices and the production process, as directed by Hon'ble NGT-PB.
3. UPPCB shall carry out random inspection of the unit in operational condition.
4. Unit shall comply with following EC conditions:
 - i. Install CAAQMS stations as per EC condition.
 - ii. Make provision for rain water harvesting as per EC condition.

2.2 M/s Dhampur Bio Organics Ltd., Unit-Meerganj, District Bareilly (Sugar Unit)

Conclusion:

1. Unit was non-operational during joint site inspection by CPCB and UPPCB on 18.10.2024 due to non-crushing season. During survey of the surroundings of the unit and Sot river, no coloured water was visible at the time of visit.
2. The ground water sample analysis result does not indicate impact due to the industry.
3. The unit has complied with the recommendations of Joint Inspection report dated 13th January 2021. Details of the same are mentioned in Part C of the report.
4. The details of the verification of the directions of Hon'ble NGT passed vide judgement dated 01.09.2021 are mentioned in Part D of the report. Unit has complied all the points except the directions regarding interlocking of Pollution Control Devices with production processes.
5. The detailed compliance status of Environmental Clearance (EC) conditions is mentioned at Part E. The unit has not complied with the following conditions:
 - i. No rainwater harvesting system was observed in the plant.
 - ii. Not installed CAAQMS.

Inspections by third party institutes authorised by CPCB in the past:

A third party technical institutes authorised by CPCB carried out annual inspection of the unit in operational condition on 17-01-2022 and 15-02-2023 and unit was found complying standards during both inspections.

Recommendations:

1. The unit shall maintain the ash disposal record with respect to disposal and distribution.
2. Unit shall implement a system for interlocking of the pollution control plants / devices and the production process, as directed by Hon'ble NGT-PB.
3. UPPCB shall carry out random inspection of the unit in operational condition.
4. Unit shall comply with following EC conditions:
 - i. Install CAAQMS stations as per EC condition.
 - ii. Make provision for rain water harvesting as per EC condition.

2.3 M/s Dhampur Sugar Mills Limited, Village Alhaipur, Tehsil Dhampur, District Bijnor (Sugar Unit)

Conclusion

1. Unit was non-operational during joint site inspection by CPCB and UPPCB on 16.10.2024 due to non-crushing season.
2. Analysis results of samples collected from Ikra drain and bore well indicate no industrial impact.
3. The unit has complied with recommendations of Joint Inspection report dated 02-03 Feb 2021 (detailed findings in Part C), except following:
 - a. Unit has not reclaimed/filled up 4000 m³ capacity lagoon near its agricultural fields completely. It was partially filled with mud and rainwater and HDPE lining still exists.
 - b. Unit has not implemented the suggestion to enhance capacity of water tank for filter backwashing The unit explained that the existing capacity has been sufficient which can be verified in periodic inspections of the unit in operational condition by UPPCB.
4. The details of the verification of the directions of Hon'ble NGT passed vide judgement dated 01.09.2021 are mentioned in Part D of the report. Unit has complied all the points except the directions regarding interlocking of Pollution Control Devices with production processes.

Inspections by third party institutes authorised by CPCB in the past

A third party technical institutes authorised by CPCB carried out annual inspection on 12-01-2022 and 14-02-2023. Unit was found not complying standards during inspection on 12-01-2022 and UPPCB issued show-cause notice to the unit on 22-

02-2022 which was later withdrawn as unit was found complying standards in subsequent inspection by UPCB. Unit was found complying standards during inspection on 14-02-2023 by third party technical institute authorised by CPCB.

Recommendations:

1. The unit shall either cover the 4000 m³ capacity earthen lagoon, which was used for storing treated effluent in the past, with brick-lining or reclaim/fill up it completely.
2. Unit shall implement a system for interlocking of the pollution control plants / devices and the production process, as directed by Hon'ble NGT-PB.
3. UPPCB shall carry out random inspection of the unit in operational condition.

2.4 M/s Dhampur Sugar mills limited Chemical Division., (Distillery Division) Dhampur District Bijnor on 16.10.2024

Conclusion:

1. Unit was non-operational during joint site inspection by CPCB and UPPCB on 16.10.2024 due to shortage of raw material (molasses & grain).
2. The unit has complied with the recommendations of Joint Inspection report dated 02nd Feb 2021. Details of the same are mentioned in Part B of the report.
3. The detailed compliance status of Environmental Clearance (EC) conditions is mentioned at Part C. The unit has not complied with the following conditions:
 - a. DG is not provided with acoustic enclosure.

Inspections by third party institutes authorised by CPCB in the past:

A third party technical institutes authorised by CPCB carried out annual inspection of the unit in operational condition on 15.01.2022 and 18.03.2023 and the unit was found complying no effluent discharge condition during both inspections.

Recommendations:

1. Unit shall provide acoustic enclosure at the DG set.
2. UPPCB shall carry out random inspection of the unit in operational condition.

Signature of Inspection Team

S.No.	Inspecting Officials	Signature
CPCB officials (Inspected all four units)		
1.	Sh. Nazimuddin, Scientist 'F', DH- IPC-II, CPCB, Delhi	
2.	Mrs Reena Satavan, Scientist 'E', CPCB, Delhi	
UPPCB Officials (concerned Regional Office)		
M/s Dhampur Bio Organics Ltd., Unit-Asmoli, District Sambhal (Sugar Unit)		
3.	Sh. Ashutosh Chauhan, Regional Officer- Moradabad , UPPCB,	
4.	Shri J. N Tiwari, AEE, UPPCB	
M/s Dhampur Bio Organics Ltd., Unit-Meerganj, District Bareilly (Sugar Unit)		
5.	Sh. Chandresh Kumar, Regional Officer- Bareilly , UPPCB	
6.	Sh. S.S Chauhan, ASO, Regional Office- Bareilly, UPPCB	
M/s Dhampur Sugar Mills Limited, Village Alhaipur, Tehsil Dhampur, District Bijnor (Sugar & Distillery Unit)		
7.	Sh. Vijay, Regional Officer- Bijnor , UPPCB	
8.	Sh. Mahir Hussain, AEE, UPPCB	

Annexure-A**Detailed site visit report of M/s Dhampur Bio Organics Ltd., Unit-Asmoli, District Sambhal (Sugar Unit) on 10.10.2024****Part A: General Information**

1.	Name of the unit with complete postal address	M/s Dhampur Bio Organics Ltd, Unit- Asmoli, Division-Sugar (formerly M/s DSM Sugar Asmoli), Village & Post- Asmoli, Sambhal,(U.P) Pin.244304
2.	Spatial Co-ordinates Latitude and longitude	Latitude: 28.708025 Longitude: 78.542197
3.	Year of commissioning	1994-95
4.	Category	Sugar refinery with power cogeneration of 41 MW
5.	Start period of crushing season	07 th November 2023 (closed on 09.04.2024)
6.	No. of Operational days	149
7.	Operational status during visit	Non-operational (due to off-season)
8.	Consented capacity of sugar Mill (TCD)	12500 ton cane crushing per day (TCD)

Consent & EC status

9.	Consent status & its Validity with date	Consolidated Consent, under Section-25 of the Water (Prevention & Control of Pollution) Act 1974 and under Section-21 of the Air (Prevention & Control of Pollution) Act 1981, and Authorization (CCA) issued by UPPCB dated 04.09.2023 with validity upto 31.12.2024. Consolidated consent is attached at Annexure-2A.
10.	Environmental Clearance (EC)	Yes, EC issued on 22 nd June 2023 for capacity expansion from 9000 TCD to 14000 TCD. EC is attached at Annexure-2B.

Source of Fresh Water

12.	Bore well/Tube well/ Any other & its No's	3 Numbers of borewell
	Flow meter Installation at wells (Yes/No)	Yes
13.	NOC from CGWA/UPGWD & its Validity with date	Unit has UPGWD NOC for groundwater abstraction from 03 no. of bore well, having validity up to 26.06.2026. As per the conditions of NOC of UPGWD, the unit can abstract groundwater at a maximum rate of 138000 KL/annum (60000 KL/annum from bore well -1, 60000 KL/annum from borewell -2 and 18000 KL/annum from borewell -3 annually). NOC for groundwater abstraction from 03 bore wells are attached at Annexure-2C-a, 2C-b and 2C-c. As per the records it was observed that the unit has abstracted total 13609 KL of fresh water from 03 borewells in the month of March 2024 i.e. 439 KLD, which is within the permissible limit of 1800

		KL/day groundwater abstraction mentioned in the No Objection Certificate (NOC) issued by UPGWD.

Process Effluent Treatment Plant

14.	Treatment ETP Capacity	2800 KLD
15.	Treatment ETP Scheme	Oil skimmer→ Equalization Tank→ Primary Clarifier→ lamella Clarifier→ Buffer Tank→ Anaerobic Digester followed by Aeration Tank→ Clarifiers → Multi Grade Filter & Activated Carbon Filter→ lagoon→ irrigation
16.	Disposal/reuse of treated effluent	01 no. of brick-lined treated effluent storage lagoon of capacity 16000m³ On the day of the visit the lagoon was found dry and empty. During sugar crushing season, after treatment, the unit stores its treated effluent in the lagoon of capacity 16000m³ for further use in irrigation. Unit is having irrigation management plan prepared by NSI, Kanpur for Command area 215 Hectare.

Process Condensate Polishing Plant (CPU)

17.	Treated capacity of Condensate polishing system adopted by the unit	To treat the process condensate, unit has installed condensate polishing unit (CPU) of capacity 36 m ³ /hr
18.	Treated scheme of the CPU	Multi Grade Filter (MGF), Activated Carbon Filter (ACF), followed by Fouling resistance membrane Reverse Osmosis system
19.	Use of treated Condensate	Treated condensate from CPU is used for make-up of Co-Gen Cooling Tower

Sewage Treatment Plant

20.	Operational Status	Operational
21.	Treatment Capacity (KLD)	60 KLD
22.	Source of domestic sewage	Staff quarters, worker's colony, guest houses, canteens etc.
23.	Treated Scheme	Holding tank → Equalization tank → Aeration tank (MBBR technology) → Multi grade Filter and Activated Carbon Filter
24.	Flow meters at inlet and outlet of STP	Installed
25.	Treated water re-use/disposal	As per the consent the treated effluent has to be recycled to the maximum extent and should be reused within the premises for gardening etc. As observed by the team, the treated effluent from STP was being used for gardening purpose within the premises and the overflow was discharged into the drain located behind the premises.

Air Pollution Sources

26.	Details of Boilers, type of fuel used,	Boilers (all boiler are bagasse-fired)	Steam Generation Capacity (Ton Per Hour)	APCD installed	Stack No.	Stack height
		Boiler-1	170	ESP	1	72 mtrs
		Boiler-2	70	Wet Scrubber	1 Comm on stack	60 mtrs
		Boiler-3	50	ESP		
27.	Online emission (OCEMS) monitoring system installed	Installed and connected with CPCB & SPCB server for Particulate Matter (PM)				

Ash Generation Details

28.	Ash Generation	Ash generation for the period from Nov, 2023 to March 2024 was as follows:					
		Month	Nov	Dec	Jan	Feb	March
		Ash generation (Ton)	1287.78	1730.38	1499	1635	1784
29.	Ash management and Disposal	Ash is mixed with Press mud and used as manure by local farmers.					

Part B: Verification of detailed report Jan 2023

During 17th-18th Nov 2021, survey and monitoring of nearby villages around the Dhampur Bio-Organics Ltd., Asmoli unit and monitoring of Sot River was carried out to assess the impact on ambient environment. For assessment of present situation, team carried out survey of surroundings of the unit, Sot river and ground water sampling.

Survey of the surrounding

- i. The joint team visited the drain located behind the boundary wall of the unit adjacent to ETP and STP area. It was observed that the over flow from STP outlet after reuse in gardening was being discharged into the drain which finally meets Sot River. Sample from the drain was collected. The analysis result (**Annexure 2D**) of the samples are as follows:

Table :1 Analysis Results of drain outside the unit premises

Parameters	Analysis Results	General Discharge standards
pH	8.1	5.5-9.0
COD (mg/l)	BDL	250
BOD (mg/l)	BDL	30

TSS (mg/l)	16	100
TDS (mg/l)	364	-
PO4-P	0.5	-
NO₃-NO (mg/l)	0.68	-
NH3-N	2	50

- ii. Team also surveyed the stretch of Sot River from upstream of unit (Asmoli Madhan road near the boundary wall of unit, Lat.28.71078 Long. 78.54396) to the confluence of unit drain effluent channel in the river. (Lat.28.71205 Long. 78.56318). The team observations vis-a-vis observations as per visit 17-18th Nov, 2021 are tabulated below:

Table 2: Observations on Sot River

S.No	Location	Observations as per visit 17-18 Nov 2021	Observations as per visit 10 Oct 2024
1.	River Sot on Asmoli Madhan Road near Akbarpur Gohra u/s of DSM Unit Asmoli (28.7109541 Long. 78.5437542)	- River Sot on Asmoli-Madhan road near the DSM unit boundary was found dry on the culvert. - Ploughing of river bed observed behind the unit boundary for farming.	At this location stagnant rain water was observed in the river.
2.	Behind the boundary wall of the unit.	-	River was found dry with patches of rain water. Parallel to river, drain from the unit carrying overflow of STP treated effluent was observed. The samples from STP was collected from the drain and the analysis results (depicted in table-1) indicates no industrial impact
3.	River Sot Near Asmoli Shamshan Ghat d/s of DSM unit (Lat. 28.71199, Long. 78. 55002)	- The river bed at the location behind the DSM Asmoli unit, near Asmoli Shamshan Ghat was found dry with small patches of water. - Flow in river observed through a closed pipeline at this location near river boundry.	Stagnant water was observed in the river which was largely fed with rain water and the effluent of the unit's drain/pipeline. No coloured water was visible at the time of visit, however it is pertinent to mention that unit was non-operational due to non-crushing season.

		- River at this location is largely fed with the wastewater coming from the mill as well as storm water during rain. - River bed observed dark-brown in colour.	
4.	Confluence of unit drain in the river. (Lat.28.71205 Long. 78.56318).	-	At the confluence point of River sot and drain, the river was found covered with water hyacinth.

Ground water Assessment

To assess the quality of ground water, the team collected ground water sample from borewell of school located in Ram Nagar Village (located on Right bank of Sot River). Analysis results are attached at **Annexure 2D** and are tabulated below:

Table 3: Analysis results of samples collected from Borewell

Parameters	Analysis Results	BIS IS 10500:2012 (Permissible limit in absence of alternative source)
pH	7.3	6.5-8.5
Conductivity (µmho/cm)	715	-
Color (colour units)	BDL	15
TSS (mg/l)	11	-
BOD (mg/l)	BDL	-
COD (mg/l)	04	-
TDS (mg/l)	400	2000
Total hardness as CaCO₃ (mg/l)	323	600
Total alkalinity as CaCO₃(mg/l)	310	600
PO₄	0.08	-
NO₃-N	1.93	-
F-	BDL	1.5
Chloride (mg/l)	17	1000
Sulfate (mg/l)	58	400
As (mg/l)	BDL	0.05
Cd (mg/l)	BDL	0.003
Co (mg/l)	BDL	-
Cr (mg/l)	BDL	0.05
Cu (mg/l)	BDL	1.5
Fe (mg/l)	0.031	0.3

Mn (mg/l)	0.174	0.3
Ni (mg/l)	BDL	0.02
Pb (mg/l)	BDL	0.01
Sb (mg/l)	BDL	-
Se (mg/l)	BDL	0.01
V (mg/l)	BDL	-
Zn (mg/l)	0.033	15

Analysis results of the samples collected from the ground water of Village Ram Nagar indicates no industrial impact.

Part C: Verification of the recommendations of joint inspection report dated 26-03-2021

S.No.	Recommendations by Joint inspection report dated 26-03-2021	Verification by joint team as on date 10-10-2024
1.	The unit shall provide suitable capacity dosing pump for dosing of chemicals like lime and polyelectrolyte solution for optimum utilization of chemical as per feed flow condition.	Lime dosing pump was installed before equalization tank & poly dosing pumps were found installed at the primary clarifier outlet. Also, poly dosing pumps in decanter Feed line were observed.
2.	The unit shall safely dispose scrap/metal	The unit has sold 1450 kg of scrap to M/s A.S scrap traders in the month of August 2024. The copy of invoice for selling scrap is annexed at Annexure-2E
3.	The unit shall commission decanter for better sludge management	Decanter of capacity 05 m ³ /hr was found installed. (refer Photograph no. 4)
4.	The unit shall repair partition wall sludge drying bed	Unit has dismantled the sludge beds and has installed decanter of capacity 05 m ³ /hr for sludge management.
5.	The unit shall install condensate Polishing unit	Condensate polishing unit (CPU) of capacity 36m ³ /hr has been installed for treatment of cooling tower & boiler blowdown. The treatment scheme of CPU is as follows: Condensate underground reservoir (UGR) tank → transfer pump → Multigrade filter (MGF) → Activated carbon filter (ACF) →

		bag filter→micron cartridge filter→Reverse Osmosis (RO)→ RO reject goes to ETP and RO permeate (treated condensate) is used in co-gen & cooling tower								
6.	The unit shall install STP for treatment of sewage generated from residential colony as soon as possible. The unit shall restrict the drainage of domestics sewage into irrigation channel coming from residential area.	The unit has installed sewage treatment plant (STP) of capacity 60 KLD for treatment of domestic effluent generated from the staff quarters, worker’s colony, guest houses, canteens, bathrooms, kitchen and laundry etc. The STP consist of the following scheme: Holding tank → Equalization tank → Aeration tank (MBBR technology) →Multi grade Filter and Activated Carbon Filter STP treated effluent is used for gardening purpose. - On the day of the visit, Sewage Treatment Plant (STP) was found operational. Untreated and treated sewage samples were collected from the inlet and final outlet of STP. - Flow meters were found installed at the inlet & outlet of STP. - Reading of STP inlet flowmeter: Instantaneous-6.82m³/hr; Totalizer- 34608 m³ - Reading of STP outlet flowmeter: Instantaneous- 3.7m³/hr; Totalizer 32721.4 m³ - Unit has maintained logbook of STP operations. Logbooks of STP inlet and outlet were collected for the month of September 2024 and the details are as follows: <table><tr><th>Month</th><th>No of days</th><th>STP Inlet (kl)</th><th>STP Outlet (kl)</th></tr><tr><td>Sept. 2024</td><td>30</td><td>999</td><td>959</td></tr></table> Average flow: Inlet-33.3KLD & Outlet-31.9KLD	Month	No of days	STP Inlet (kl)	STP Outlet (kl)	Sept. 2024	30	999	959
Month	No of days	STP Inlet (kl)	STP Outlet (kl)							
Sept. 2024	30	999	959							

Table 4: Analysis results of samples collected from STP									
Sr. No.	Location	pH	COD (mg/l)	BOD (mg/l)	TSS (mg/l)	TDS (mg/l)	PO4-P (mg/l)	NH3-N	NO3-N (mg/l)
1.	STP Inlet	7.1	45	16	15	376	0.3	-	BDL
2.	STP Outlet	8.2	BDL	BDL	BDL	496	4.3	1	8.26
Standards mentioned in CCA issued by UPPCB on 19.09.2022		5.5 – 9.0	-	30					
STP was found complying w.r.t. the standards prescribed in the Consent issued by UPPCB									
7.	The unit shall obtain the NOC from ground water department, UP as soon as earliest			The unit has obtained NOC from Uttar Pradesh Ground Water Department (UPGWD) dated 06.07.2021 for groundwater abstraction from 03 no. of bore wells, having validity up to 26.06.2026. As per the conditions of NOC, the unit can abstract groundwater at a maximum rate of 138000 KL/annum (60000 from bore well -1, 60000 from borewell -2 and 18000 from borewell -3 annually).					

Part D: Verification of the directions of Hon'ble NGT judgement dated 01.09.2021.

S.No.	Recommendations of Hon'ble NGT Judgement dated 01-09-2021	Compliance status as on 10-10-2024
1.	All the Units must ensure continuous running of ETPs even during the non-crushing season for the adequate maintenance of required bio-mass so that the ETP is able to take the load/shock when it receives the pollution load/effluent at the start of the crushing season.	At the time of visit, the unit was non-operational due to off-season. Team observed that the ETP was under stabilization. For the maintenance of adequate bio-mass aeration tank was found operational. Sample was collected from the aeration tank and the analysis results are as follows: MLSS = 1916 mg/l MLVSS = 1323 mg/l Analysis results showed MLVSS/MLSS ratio as 0.69 which indicates that unit is in process of developing active biomass for stabilizing ETP prior to commencement of crushing season.

2.	All the Units in question must provide for separate Energy Meter for entire ETP setup including its accessory units with data logging facility which shall be inspected by UPPCB and CPCB from time to time.	Separate energy meter was found installed for the ETP. The unit has maintained log book of energy consumption. The team collected log book of energy meter for the period from Nov 2023 to March 2024 and the details are as follows: <table><tr><th>Month</th><th>Consumption(KWH)</th></tr><tr><td>Nov, 2023</td><td>66176.0</td></tr><tr><td>Dec, 2023</td><td>59564.8</td></tr><tr><td>Jan 2024</td><td>73886.4</td></tr><tr><td>Feb, 2024</td><td>64409.6</td></tr><tr><td>March, 2024</td><td>65481.6</td></tr><tr><td>April, 2024</td><td>53547.2</td></tr><tr><td>May, 2024</td><td>54556.8</td></tr><tr><td>June 2024</td><td>24297.9</td></tr><tr><td>July,2024</td><td>41588.8</td></tr><tr><td>Aug,2024</td><td>34528.0</td></tr><tr><td>Sep,2024</td><td>34636.96</td></tr></table>	Month	Consumption(KWH)	Nov, 2023	66176.0	Dec, 2023	59564.8	Jan 2024	73886.4	Feb, 2024	64409.6	March, 2024	65481.6	April, 2024	53547.2	May, 2024	54556.8	June 2024	24297.9	July,2024	41588.8	Aug,2024	34528.0	Sep,2024	34636.96
Month	Consumption(KWH)																									
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April, 2024	53547.2																									
May, 2024	54556.8																									
June 2024	24297.9																									
July,2024	41588.8																									
Aug,2024	34528.0																									
Sep,2024	34636.96																									
3.	UPPCB must ensure Interlocking of Pollution Control Devices with production processes (one way but not vice versa) so as to ensure that whenever ETPs /PCDs are intentionally closed, the production also comes to halt.	UPPCB directed the unit to comply this direction of Hon'ble NGT. The unit represented in this regard that sugar production is a continuous process and if the production process is stopped suddenly the sugarcane juice and juice concentrates in the process will clog and it will be very difficult to clean the plant and resume production.																								
4.	Regular inspections should be carried out by the statutory authorities in both halves of the crushing season and also at least once in non-crushing season.	During crushing season 2022-23 and 2023-24, sampling was carried out three times i.e. on 14-02-2023, 21-03-2023 & 09.12.2023 by UPPCB. Unit was found complying standards during all these inspections. Analysis reports are attached at Annexure 2F-a, 2F-b and 2F-c. Also, third party technical institutes authorised by CPCB carried out inspection on 20-02-2022 & 01-03-2023 and unit was found complying standards during both inspections. The reports are attached at Annexure 2F-d and Annexure 2F-e.																								
5.	Since the Asmoli Unit falls in the critical zone with respect to ground water withdrawal, an assessment of water recharge needs to be carried out by CGWA or UPGWB before issuance of NOC.	As per notification dated 06-02-2024 regarding amendment in Section 9 of Uttar Pradesh Ground Water (Management and Regulation) Act, 2019 (Uttar Pradesh Act No. 13 of 2019), districts are divided into blocks and as per categorisation of blocks based on water depletion updated during 2023, Asmoli block now falls under semi critical zone. Reference for same is attached at Annexure 2G.																								

	Unit has obtained valid ground water for groundwater abstraction from 03 no. of Borewell dated 06.07.2021 having validity upto 26.06.2026 with NOC no. NOC012653, NOC039759 and NOC034938. As per the conditions of NOC of UPGWD, the unit can abstract groundwater at a maximum rate of 138000 KL/annum (60000 from bore well -1, 60000 from borewell -2 and 18000 from borewell -3 annually).

Part E: Verification of specific/salient conditions of Environmental Clearance (EC):

The Unit has obtained Environment Clearance (EC) dated 22.06.2023 from Ministry of Environment, Forest & Climate Change (MoEF&CC) for expansion of existing sugar unit from 9000 TCD to 14000 TCD without change in existing co gen power capacity 41 MW within existing industry premises. During visit on 10.10.2024 team verified the compliance of the major EC conditions.

The status of specific/salient EC conditions is mentioned below;

1. Compliance status of specific conditions:

I. Discharge should be as per MoEF&CC Guidelines.

Status as verified by team:

- i. The unit has installed effluent treatment plant of capacity 2800KLD having treatment scheme up to tertiary treatment level. The scheme is as follows:

Equalization Tank → Primary Clarifier → lamella Clarifier → Buffer Tank → Anaerobic Digester followed by Aeration Tank → Clarifiers → MGF & ACF

However, ETP was found under stabilization at the time of visit due to off-season. Therefore, sampling was done only from aeration tank and quality & quantity of discharge can't be verified. Sample analysis of aeration tank indicated MLSS: 1916 mg/l and MLVSS: 1323 mg/l.

- ii. The unit has installed **Sewage Treatment Plant (STP)** of 60KLD to treat domestic sewage, which was found operational on the day of visit. As per the analysis results the STP was found complying the standards prescribed in the Consent. The details are already mentioned at Point 6 of above Part C.

II. PP shall install Continuous Ambient Air Quality Monitoring Station (CAAQMS)

Status as verified by team:

- i. CAAQMS has not been installed by the PP.

III. Disposal of fly ash shall be done within the premises.

Status as verified by team:

- i. As informed by the unit representative the ash is mixed with Press mud and given to local farmers to be used as manure. However, at the time of visit, as the unit was non-operational therefore, no fly ash was observed by the team within the premises.

IV. Three tier green belt shall be developed with native species all along the periphery of the project. Site survival rate of green belt developed shall be monitored on periodic basis to ensure that damaged plants are replaced with new plants in the subsequent years (Miyawaki method to be adopted for plantation)

Status as verified by team:

- i. A three-tier green belt is a plantation with three layers of trees, shrubs, and grasses, designed to help control pollution and improve the environment. It was observed that the unit has developed lawns in front of guest house followed by shrubs and trees.
- ii. Out of total plant area of 34.5 hectare, green belt has been developed on 10.52-hectare area i.e 30.4% of which 6.39 ha is green area and 4.13 ha is landscape area.
- iii. During visit team observed that green belt is majorly developed near ETP & STP area, guest house and colony. Dense plantation was observed near ETP area which was developed using Miyawaki technique. Also, trees of Shisham, Neem, Mango, Arjun, Jamun, etc. were observed along the roadside & industry periphery. Green patches were also developed in between the plant area. As per the details provided by the unit, the details of existing trees/shrubs at project site is as follows:

Sl. No.	Location	No. of Plants	Species Details
1	Near Colony & Roadside	5050	Shisham,Neem, Pakad, Pahadi neem, mango, Arjun, jamun, Shaguan etc.
2	Near ETP (Miyawaki)	6000	Kaim,Haldu, Desi Babool, Saaja, doodhi,Neem, Pipal, Guava, Ficus,Shami,mahua, Kosum, Amla, Dhak,

			Baheda, Karanz, Amaltas, Satavari, Jamun, sadabahar, Khazur, Kaans, Sheesham etc.
3	Along the Periphery and inside the Plants	5500	Semal, Moorpankh, Ashok, Mango, Neem, Banyan, Bottles Brush, Kadamb, Silver Oak, Pal Tree, Gul Mohar, Goolar, kaner, Harsingar, Plumeria Alba, Saguan, Pilkhan- etc.
Total		16550	

V. Performance test shall be conducted on all pollution control system every year and report shall be submitted to regional office of the MoEF and CC.

Status as verified by team:

Unit conducts analysis of ETP (inlet & outlet) samples and stack monitoring through third party (NABL accredited) laboratory and submits the reports along with 6 Monthly Compliance Report to MoEF&CC. As per reports, last ETP monitoring was carried out on 20-03-2024 and ambient air quality monitoring was conducted on 16-02-2024.

ETP inlet sample results indicate pH- 5.8, BOD- 412 mg/l, COD- 2872 mg/l, TSS-196 mg/l, TDS- 1360 mg/l and Oil & Grease-13.4 mg/l whereas ETP outlet sample results indicate pH- 7.6, BOD- 14 mg/l, COD- 92 mg/l, TSS-10.4 mg/l, TDS- 1660 mg/l and Oil & Grease-BDL. ETP results indicate compliance w.r.t notified discharge norms.

Ambient air quality monitoring was conducted on 16.02.2024 near main gate, boiler, gahre ki madaiyanan and Asmoli village are as follows:

Location	PM 10 ($\mu\text{g}/\text{m}^3$)	PM 2.5 ($\mu\text{g}/\text{m}^3$)	SO₂ ($\mu\text{g}/\text{m}^3$)	NO_x ($\mu\text{g}/\text{m}^3$)
Near Main gate	88.4	53.58	14.98	22.15
Near Boiler	79.4	48.75	13.22	20.58
Near gahre ki madaiyan	75.9	47.32	13.42	19.85
Near Village Asmoli	76.3	46.01	12.49	17.55
Standard	100	60	80	80

Analysis results indicate compliance w.r.t notified parameters.

Unit has carried out adequacy assessment of ETP by NSI, Kanpur on 26-27 Oct 2023. As per adequacy report, the capacity of existing ETP to work as common ETP is considered adequate @14000 TCD with maximum effluent generation of 200 L/ton of cane.

VI. Greening and paving shall be implemented in the plant area to arrest soil erosion and dust pollution due to exposed soil surface.

Status as verified by team:

In plant area team observed patches of greenery and tiled paved surface (**refer photograph no. 12**).

VII. Properly covered vehicles shall be used while transporting material and product.

Status as verified by team:

At the time of visit no transportation of material and product was taking place as the unit was non-operational.

VIII. Allergy test should also be included in health check-up of works.

Status as verified by team:

Health check-up of all the employees for identification of occupational health hazard on bi-annual basis is being conducted by the unit where blood tests, eye check-up, telemetry test, respiratory system check-up were done by panel of MBBS doctors. Sample report of an employee is attached as **Annexure 2H** for reference.

IX. Industry should comply with the CPCB charter guidelines for sugar units and treated effluent shall be used for the different purposes as per the requirements in the industry

Status as verified by team:

- i. The compliance status of salient points of Sugar Charter are as following:
 - a) The unit has tertiary level effluent treatment plant of 2800 KLD capacity.
 - b) Installed electromagnetic flow meters at ETP inlet, outlet and all three borewells.
 - c) Maintained daily records of fresh water consumption, effluent discharge, regular analysis of ETP effluent parameters, energy consumption, CPU & STP operations etc.
 - d) Installed CPU of capacity 36m³/hr.
 - e) Installed decanter of 5 m³/hr capacity for sludge handling.
 - f) Developed environmental laboratory for the analysis of DO, pH, BOD, COD, TSS & TDS and MLSS parameters of ETP inlet and outlet.
 - g) Developed Environmental Management Cell (EMC)
 - h) Prepared Irrigation Management Plan from NSI, Kanpur for 215hectare command area. Have lagoon of capacity 16000m³ capacity for storage of the treated effluent to be used for irrigation purpose.
 - i) As per adequacy assessment of ETP carried out by NSI, Kanpur on 26-27 Oct 2023, the capacity of existing ETP to work as common ETP is considered adequate @14000 TCD with maximum effluent generation of 200 L/ton of cane.

- j) Installed Online effluent & emission (OCEMS) monitoring system at ETP outlet & boiler stack respectively and provided its connectivity to CPCB and SPCB servers

2. Compliance status of major standard conditions:

I. Statutory Compliance:

- i. The unit has obtained Consolidated Consent & Authorization issued by UPPCB dated 04.09.2023 under Section-25 of the Water (Prevention & Control of Pollution) Act, 1974 and under Section-21 of the Air (Prevention & Control of Pollution) Act, 1981 and Hazardous and Other Wastes (Management and Transboundary Movement) Rules, 2016 with a validity upto 31.12.2024.
- ii. The unit has obtained UPGWD NOC for groundwater abstraction from 03 no. of borewell, having validity upto 26.06.2026. As per the conditions of NOC of UPGWD, the unit can abstract groundwater at a maximum rate of 138000 KL/annum (60000 from bore well -1, 60000 from borewell -2 and 18000 from borewell -3 annually).

II. Air Quality Monitoring & Preservation:

- i. Online Continuous Effluent Monitoring System (OCEMS) is installed in all the Boiler Stacks & it is connected to CPCB & UPPCB Server.
- ii. Unit carries out Ambient Air Quality (AAQ) monitoring at four designated locations which were residential colony, near Boiling house, Co-Gen near DM plant and ETP area. The last monitoring was carried out on 16.02.2024 by NABL accredited & EPA recognised laboratory. Analysis results are mentioned in point V of EC conditions.
- iii. Installed an Electrostatic Precipitator (ESP) on the stack of the 170 Ton Per Hour (TPH) boiler and a Wet Scrubber on the common stack of the 70 TPH and 50 Ton Per Hour (TPH) boilers.
- iv. The unit doesn't use any coal rather it exclusively uses bagasse as fuel in all the three Boilers of capacity 170 Ton Per Hour (TPH), 70 Ton Per Hour (TPH) & 50 Ton Per Hour (TPH). These boilers are equipped with two stacks, with heights of 72 meters (170 TPH) and 60 meters (common for 70 & 50 TPH).
- v. It was observed that unit has 01 DG set of capacity 750 KVA having Stack height of 16 mtrs.

III. Water quality monitoring and preservation

- i. Flow meters were found installed at the inlet and outlet of ETP and same are connected to CPCB & UPPCB Server. **(refer photograph no 5 & 6)**
- ii. Separate storm water drain was observed within the premises.
- iii. As the unit was non-operational hence, the compliance of ETP with discharge norms couldn't be verified.

- iv. Unit has obtained UPGWD NOC for groundwater abstraction from 03 no. of borewell, having validity upto 26.06.2026. As per the records it was observed that the unit has abstracted total 13609 KL of fresh water from 03 borewells in the month of March 2024 i.e. 439 KLD, which is within the permissible limit of 1800 KL/day groundwater abstraction mentioned in the No Objection Certificate (NOC) issued by UPGWD.
- v. The unit has Effluent Treatment Plant (ETP) of capacity 2800 KLD. During visit the unit was found non-operational due to season off, however the Effluent Treatment Plant (ETP) was under stabilization.

IV. Noise monitoring and preservation

- i. DG Set is provided with acoustic enclosure. (*refer photograph no. 17*)

V. Waste Management

- i. ETP Sludge is used as manure.
- ii. Hazardous waste like Used Oil is sent to TSDF. The unit has TSDF membership with Bharat oil and waste management limited. Unit has submitted the copy of form-10 for the month of May, 2024. As per the document the unit has transported 70 kg of sludge, 28.7 kg cotton rags and 40 kg empty drums to Bharat oil ltd.,
- iii. As waste minimization measures, unit has installed automated filling and Hydro-jetting for cleaning of vessels.

VI. Green Belt

- i. Details about green belt along with details of trees & shrubs are mentioned in above Para IV of specific EC conditions.

Part F: Conclusion & Recommendations

Conclusion:

1. Unit was non-operational due to non-crushing season. During survey of the surroundings of the unit and Sot river, no coloured water was visible at the time of visit.
2. The ground water sample analysis result does not indicate impact due to the industry.
3. The unit has complied with the recommendations of Joint Inspection report dated 13th January 2021. Details of the same are mentioned in Part C of the report.
4. The details of the verification of the directions of Hon'ble NGT passed vide judgement dated 01.09.2021 are mentioned in Part D of the report. Unit has complied all the points except the directions regarding interlocking of Pollution Control Devices with production processes.
5. The detailed compliance status of Environmental Clearance (EC) conditions is mentioned at Part E. The unit has not complied with the following conditions:

- iii. Not installed CAAQMS.
- iv. No rainwater harvesting system was observed in the plant.

Recommendations:

- Unit shall maintain the ash disposal record with respect to disposal and distribution.
- Unit shall implement a system for interlocking of the pollution control plants / devices and the production process, as directed by Hon'ble NGT-PB.
- Unit shall comply with following EC conditions:
 - Install CAAQMS stations as per EC condition.
 - Make provision for rain water harvesting as per EC condition.

Inspection Team

S.No.	Inspecting Officials	Signature
1.	Sh. Nazimuddin, Scientist 'F', DH- IPC-II, CPCB, Delhi	
2.	Mrs Reena Satavan, Scientist 'E', CPCB, Delhi	
3.	Sh. Ashutosh Chauhan, Regional Officer- Moradabad, UPPCB,	
4.	Shri J. N Tiwari, AEE, UPPCB	

Photographs



Pic :1 Effluent treatment scheme



Pic : 2 ETP tank



Pic :3 Lagoon for storage of ETP treated effluent



Pic:4 Decanter



Pic: 5 Flow meter at the inlet of ETP



Pic: 6 Flow meter at the outlet of ETP



Pic: 7 lime dosing pump



Pic: 8 Flow meter at the inlet of STP



Pic: 9 Sewage Treatment plant



Pic: 10 STP inlet



Pic: 11 MGF and ACF units of STP



Pic: 12 Green belt area



Pic: 13 Drain outside the units



Pic: 14 Water hyacinth at the confluence point of drain and Sot River



Pic 15: Paved area near plants



Pic 16 : Rain water accumulated in River SOT



Pic 17 : DG set

Annexure-B**Detailed site visit report of M/s Dhampur Bio Organics Ltd., Unit- Meerganj, District Bareilly (Sugar Unit) on 18.10.2024****Part A: General Information**

1.	Name of the unit with complete postal address	M/s Dhampur Bio Organics Ltd, Unit- Meerganj, Division- Sugar, Village & Post- Meerganj, Bareilly ,(U.P) Pin Code - 243504
2.	Spatial Co-ordinates Latitude and longitude	Latitude: 28.549419° Longitude: 79.213158°
3.	Year of commissioning	1995
4.	Category	Sugar with power cogeneration of 22.5 MW
5.	Co-Generation Capacity, MW	22.5 MW
6.	Start period of crushing season	07 th November 2023 (crushing season closed on 09.04.2024)
7.	No. of Operational days	136
8.	Operational status during visit	Non-operational (due to off-season)
9.	Consented capacity of sugar Mill (TCD)	9000 ton cane crushing per day (TCD)

Consent & EC status

10.	Consent status & its Validity with date	Consolidated Consent & Authorization (CCA) issued by UPPCB dated 19.06.2023 under Section-25 of the Water (Prevention & Control of Pollution) Act, 1974 and under Section-21 of the Air (Prevention & Control of Pollution) Act, 1981 with validity upto 31.12.2024. Consolidated consent is attached at Annexure-3A .
11.	Environment Clearance (EC)	Yes, EC issued on 27 th March 2023 for capacity expansion from 5000 TCD to 11000 TCD. EC is attached at Annexure-3B .

Source of Fresh Water

12.	Bore well/Tube well/ Any other & its No's	4 Numbers of borewell
	Flow meter Installation at wells (Yes/No)	Yes
13.	NOC from CGWA/UPGWD & its Validity with date	Unit has UPGWD NOC for groundwater abstraction from 04 no. of borewell, having validity upto 18.05.2026. As per the conditions of NOC of UPGWD, the unit can abstract groundwater at a maximum rate of 166100 KL/annum or 730 KLD (55800 from bore well -1, 55800 from borewell - 2, 18000 from borewell-3 and 36500 from borewell - 4 annually). NOC for groundwater abstraction from 03 bore wells are attached at Annexure-3C-a, 3C-b and 3C-c . As per the records it was observed that the unit has abstracted total 50373 kl from 04 borewells (i.e. 14250 KL

		in the month of Nov. 2023, 9232 KL in Dec, 2023, 7530 KL in Jan, 2024, 9344 KL in Feb, 2024 and 10017 KL in March, 2024) against the permissible limit of 166100 KL/annum which is as per NOC.

Process Effluent Treatment Plant

14.	Treatment ETP Capacity	The unit has installed ETP of 2200 KLD capacity.
15.	Operational Status	ETP was not in operation due to non-crushing season however, was found under stabilization at the time of visit.
16.	Treatment ETP Scheme	Equalization Tank → Primary Clarifier → Aeration Tank → Secondary Clarifiers → Filter & Activated Carbon unit → storage lagoon → irrigation
17.	Flowmeters installed	The unit has installed flow meter at the inlet, outlet of ETP
18.	Disposal/reuse of treated effluent	For storage of treated effluent, the unit is having one brick-lined treated effluent storage lagoon of capacity 5000 m ³ from where the treated effluent from the lagoon is used in irrigation. To record the quantity of treated effluent being used for irrigation purpose, flow meter was found installed and unit maintains log-book of the same. However, due to non-crushing season on the day of visit the lagoon was found dry and empty.

Sewage Treatment Plant

19.	Operational Status	Operational
20.	Treatment Capacity (KLD)	50 KLD
21.	Source of domestic sewage	Staff quarters, guest houses, offices etc.
22.	Treated Scheme	Sump → Equalization tank → MBBR-1 → MBBR-2 → Tube Settler → Chlorine contact tank → Filtration unit and Activated Carbon unit → Treated effluent tank → irrigation
23.	Flow meters at inlet and outlet of STP	Installed at inlet & outlet of STP.
24.	Condition as per the Consent issued by SPCB	The treated effluent shall be reused to the maximum extent within the premises for gardening. Quality of the treated effluent shall meet to the general standards as prescribed under Environment (Protection) Rules, 1986.
25.	Observation w.r.t reuse of treated water from STP outlet	At the time of visit the entire treated effluent from STP outlet was being used in the plantation around STP area through closed pipeline. Samples were also collected from STP inlet & outlet.

Air Pollution Sources

26.	Details of Boilers & type of fuel used	Boilers	Type of fuel	Steam generation Capacity (Ton Per Hour)	APCD installed	Stack No.	Stack height
		Boiler-1		80	Water scrubber	1	Common stack of

		Boiler-2	Bagasse	55	Water Scrubber		height 50 mtrs	

Ash Generation Details

27.	Ash Generation	Ash generation for the period from Nov, 2023 to March 2024 was as follows:					
		Month	Nov	Dec	Jan	Feb	March
		Ash generation (MT)	754.2	905.6	914.8	860.3	662.4
28.	Ash management and Disposal	Mixed with Press mud and use as manure.					

Part B: Verification of findings of detailed report Jan 2023

During 15th-16th Nov 2021, survey and monitoring of nearby villages around the Dhampur Bio-Organics Ltd., Meerganj unit and monitoring of Pilakhar River was carried out to assess the impact on ambient environment.

For assessment of present situation, team visited the industrial premises and surroundings. The findings of the team are mentioned below:

- To assess the quality of ground water, the team collected ground water sample from borewell located within the unit premises. Analysis results of the sample collected are attached at **Annexure-3D** and is tabulated below:

Table 1: Analysis results of samples collected from Hand pump

Parameters	Analysis Results	BIS standards (10500)
pH	7.7	6.5-8.5
Conductivity (µmho/cm)	589	-
Color (colour units)	BDL	15
TSS (mg/l)	BDL	-
BOD (mg/l)	BDL	-
COD (mg/l)	BDL	-
TDS (mg/l)	386	2000
Total hardness as CaCO ₃ (mg/l)	160	600
Total alkalinity as CaCO ₃ (mg/l)	255	600
Sulfate (mg/l)	59	400
As (mg/l)	BDL	0.05
Cd (mg/l)	BDL	0.003
Co (mg/l)	BDL	-
Cr (mg/l)	BDL	0.05
Cu (mg/l)	BDL	1.5
Fe (mg/l)	0.031	0.3
Mn (mg/l)	0.174	0.3

Ni (mg/l)	BDL	0.02
Pb (mg/l)	BDL	0.01
Sb (mg/l)	BDL	-
Se (mg/l)	BDL	0.01
V (mg/l)	BDL	-
Zn (mg/l)	0.033	15

Analysis results of the samples collected from the ground indicates no industrial impact.

- ii. The unit was non-operational and no discharge was observed from the industrial premises.

Part C: Verification of the recommendations of the joint inspection report dated 26-03-2021

S.No .	Recommendations in Joint inspection report dated 26-03-2021	Verification by joint team as on date 18.10.2024												
1.	ETP inlet flowmeter should be installed at the main inlet of ETP.	The unit has installed flowmeter at the inlet of ETP. (refer photograph no. 1)												
2.	Periodic removal of sludge shall be ensured	On the day of the visit, the plant was found non-operational due to season off. No stored sludge was observed in the unit premises. The team collected log book of ETP sludge for the period from Nov, 2024 to March 2024. The details are as follows; <table><tr><th>Month</th><th>Sludge generation (kg)</th></tr><tr><td>Nov, 2023</td><td>7374</td></tr><tr><td>Dec, 2023</td><td>18868</td></tr><tr><td>Jan, 2024</td><td>18475</td></tr><tr><td>Feb, 2024</td><td>17369</td></tr><tr><td>March, 2024</td><td>18073</td></tr></table> The logbook data indicates that’s the unit removes its ETP sludge periodically.	Month	Sludge generation (kg)	Nov, 2023	7374	Dec, 2023	18868	Jan, 2024	18475	Feb, 2024	17369	March, 2024	18073
Month	Sludge generation (kg)													
Nov, 2023	7374													
Dec, 2023	18868													
Jan, 2024	18475													
Feb, 2024	17369													
March, 2024	18073													
3.	Flow meter shall be installed at mill house for monitoring of generated effluent.	The unit has installed flow meter at the mill house. (refer photograph no. 2)												
4.	The oil skimmer shall be installed in the ETP within a tank having approximately retention time of 45 min.	The unit has installed an oil & grease trap in the ETP, however due to non-operational of the plant the working of oil skimmer could not be verified. (refer photograph no. 3 & 4)												

5.	The treated effluent discharges for irrigation shall comply with MoEF & CC notification dated 14.01.2016 for land disposal	The plant was non-operational due to which the sampling could not be done.								
6.	The unit shall install STP for treatment of generated sewage. Treated sewage shall be utilized for irrigation & other purposes.	•The unit has installed one sewage treatment plant (STP) of capacity 50 KLD for treatment of domestic effluent generated from the staff quarters, worker’s colony, guest house, offices etc. •The STP consist of the following; Holding tank →Oil & Grease Trap→Equalization tank →MBBR-1→MBBR-2 →Tube Settler→Chlorine Contact tank→Multi grade Filter and Activated Carbon Filter→treated effluent tank→irrigation •On the day of the visit, Sewage Treatment Plant (STP) was found operational. Samples were collected from the inlet and final outlet of STP. •Flow meters were found installed at the inlet & outlet of STP. •Unit has maintained logbook of STP operations. Logbooks of STP inlet and outlet were collected for the month of September 2024 and the details are as follows; <table><tr><th>Month</th><th>No of days</th><th>STP Inlet (kl)</th><th>STP Outlet (kl)</th></tr><tr><td>Sept. 2024</td><td>30</td><td>613</td><td>515</td></tr></table> Average flow: at inlet – 20.43 KLD; outlet: 17.16 KLD The logbook indicates that about 515 KL sewage was treated in STP in September 2024.	Month	No of days	STP Inlet (kl)	STP Outlet (kl)	Sept. 2024	30	613	515
Month	No of days	STP Inlet (kl)	STP Outlet (kl)							
Sept. 2024	30	613	515							
Table 2: Characteristics of samples collected from STP										
Sr. No.	Location	pH	colour	COD (mg/l)	BOD (mg/l)	TSS	TDS	NH2 -N	NO3-N (mg/l)	
1.	STP Inlet	7.2	BDL	55	16	11	248	0.22	2.62	
2.	STP Outlet	8.2	BDL	39	12	BDL	368	0.52	1.75	
Standards mentioned in CCA issued by UPPCB on 19.09.2022		5.5 – 9.0		-	30					
STP was found complying w.r.t. the standards prescribed in the Consent										

7.	The unit shall keep only single arrangement to pump the treated effluent from the irrigation & other purposes.	The unit has dismantled the pumping arrangement available after secondary clarifier from where the treated effluent was pumped for irrigation. Now only single arrangement to pump the treated effluent for irrigation is available at storage lagoon. (Refer photograph no. 5)

Part D: Verification of the recommendations of Hon'ble NGT Judgement dated 01.09.2021.

S.No.	Recommendations of Hon'ble NGT Judgement dated 01.09.2021	Complying status as on 18-10-2024												
1.	All the Units must ensure continuous running of ETPs even during the non-crushing season for the adequate maintenance of required bio-mass so that the ETP is able to take the load/shock when it receives the pollution load/effluent at the start of the crushing season.	At the time of visit, the unit was non-operational due to off-season. Team observed that the ETP was under stabilization and aeration was being done to maintain active bio mass to enable smooth ETP operations in the crushing season. For the maintenance of adequate bio-mass aeration tank was found operational. Sample was collected from the aeration tank and the analysis results are as follows: MLSS = 1625mg/l MLVSS =1159mg/l Analysis results showed MLVSS/MLSS ratio as 0.71 which indicates that unit is in process of developing active biomass for stabilizing ETP prior to commencement of crushing season.												
2.	All the Units in question must provide for separate Energy Meter for entire ETP setup including its accessory units with data logging facility which shall be inspected by UPPCB and CPCB from time to time.	The unit has installed separate energy meter for the ETP. The unit has maintained log book for the same. The team has collected log book of energy meter for the month of April 2024 and the details are as follows; <table><tr><th>Month</th><th>Consumption(KWH)</th></tr><tr><td>Nov, 2023</td><td>77648</td></tr><tr><td>Dec, 2023</td><td>98400</td></tr><tr><td>Jan, 2024</td><td>111496</td></tr><tr><td>Feb, 2024</td><td>111584</td></tr><tr><td>March, 2024</td><td>114160</td></tr></table> From the data it was observed that the energy consumption has been steadily increasing over the past five months. From 77,648 KWh in November 2023, it rose to 114,160 KWh	Month	Consumption(KWH)	Nov, 2023	77648	Dec, 2023	98400	Jan, 2024	111496	Feb, 2024	111584	March, 2024	114160
Month	Consumption(KWH)													
Nov, 2023	77648													
Dec, 2023	98400													
Jan, 2024	111496													
Feb, 2024	111584													
March, 2024	114160													

		in March 2024. This represents a consistent upward trend, indicating that the plant has been using more energy each month.
3.	UPPCB must ensure Interlocking of Pollution Control Devices with production processes (one way but not vice versa) so as to ensure that whenever ETPs/PCDs are intentionally closed, the production also comes to halt.	UPPCB directed the unit to comply this direction of Hon'ble NGT. The unit represented in this regard that sugar production is a continuous process and if the production process is stopped suddenly the sugarcane juice and juice concentrates in the process will clog and it will be very difficult to clean the plant and resume production.
4.	Regular inspections should be carried out by the statutory authorities in both halves of the crushing season and also at least once in non-crushing season.	During crushing season 2023-24, sampling was carried out six times i.e. on 19-01-2024, 29-01-2024, 07-02-2024, 14-02-2024, 24-02-2024, 06-03-2024 by UPPCB. Unit was found complying standards during all these inspections. Analysis reports are attached at Annexure 3E-a, 3E-b, 3E-c, 3E-d, 3E-e & 3E-f. Also, third party technical institutes authorised by CPCB carried out annual inspection on 17-01-2022 & 15-02-2023 and unit was found complying standards during both inspections. The reports are attached at Annexure 3E-g & 3E-h.

Part E: Verification of specific conditions of Environmental Clearance (EC):

The Unit has obtained Environment Clearance (EC) dated 27.03.2023 from Ministry of Environment, Forest & Climate Change (MoEF&CC) for expansion of existing sugar unit from 5000 TCD to 11000 TCD without change in existing co gen power capacity 43.5 MW within existing industry premises. During visit on 18.10.2024 team verified the compliance of the major EC conditions.

The status of the EC conditions is mentioned below;

1. Compliance status of specific conditions:

I. Notification dated 14.01.2016 of MoEF&CC regarding discharge of treated effluent shall be complied with.

Status as verified by team:

- iii. The unit has installed effluent treatment plant of capacity 2200KLD having treatment scheme up to tertiary treatment level. The scheme is as follows:

Equalization Tank → Primary Clarifier → Aeration Tank → Secondary Clarifiers → Filter & Activated Carbon unit → storage lagoon → irrigation

However, ETP was found under stabilization at the time of visit due to off-season. Therefore, sampling was done only from aeration tank and quality & quantity of discharge can't be verified. Analysis of sample collected from the aeration tank indicate MLSS: 1625mg/l and MLVSS: 1159mg/l.

- iv. The unit has installed **Sewage Treatment Plant (STP)** of 50KLD to treat domestic sewage, which was found operational on the day of visit. As per the analysis results the STP was found complying w.r.t. standards prescribed in the Consent. The details are already mentioned at Point 6 of above Part C.

II. Ash generated will be stored in dedicated areas with proper fencing.

Status as verified by team:

As informed by the unit representative the ash is mixed with Press mud in 1:2 ratio and given to local farmers free of cost to be used as manure. However, at the time of visit, as the unit was non-operational therefore, no fly ash was observed by the team within the premises

III. The project proponent will install 3 Continuous Ambient Air Quality Monitoring Station (CAAQMS) in consultation with UPPCB.

Status as verified by team:

No CAAQMS has not been installed by the PP

IV. Three tier green belt shall be developed with native species all along the periphery of the project. Site survival rate of green belt developed shall be monitored on periodic basis to ensure that damaged plants are replaced with new plants in the subsequent years (Miyawaki method to be adopted for plantation)

Status as verified by team:

- A three-tier green belt is a plantation with three layers of trees, shrubs, and grasses, designed to help control pollution and improve the environment. It was observed that the unit has developed lawns in front of guest house followed by shrubs and trees.
- Out of total plant area of 55.8466 hectare, green belt has been developed on 14.16-hectare area i.e 25.35 % of which 8.62 ha is green area and 5.54 ha is landscape area.
- During visit team observed that green belt is majorly developed near ETP & STP area, guest house and colony. Dense plantation was observed near ETP area. Also, trees of Shisham, Neem, Mango, Arjun, Jamun, etc. were observed along the roadside & industry periphery. Green patches were also developed in

between the plant area. As per the details provided by the unit, the details of existing trees/shrubs at project site is as follows

- The unit has developed green belt inside the unit premises, near ETP area, near guest house, and sugar cane farm was also observed within the premises. The details of plantation are as follows;

Sl. No.	Location	No. of Plants	Species Details	Year of Plantation
1	Near Godown Area	5000	Jamun, sahjan, Amrud, Bottle Brush, Kanji, Sisam, Shirish, Kadam, Arjun, kachnar neem.	2024
2	Near STP Area	5000	Jamun, Sahjan, Amrud, Anaar, kanji etc.	2023
3	Near Plant gate	1800	Neem, Mango, Mahogany, Jamun, Kachnar, Champa, Semal etc.	2022
Total		11800		

V. Performance test shall be conducted on all pollution control system every year and report shall be submitted to regional office of the MoEF and CC.

Status as verified by team:

Unit conducted analysis of ETP (inlet & outlet) samples and stack monitoring through third party (NABL accredited) laboratory and submitted the reports along with 6 Monthly Compliance Report to MoEF&CC. As per reports last ETP monitoring was carried out on 15.04.2024 & stack monitoring was conducted on 29.02.2024.

ETP inlet sample results indicate pH- 6.9, BOD- 188 mg/l, COD- 1692 mg/l, TSS-228 mg/l, TDS- 1286 mg/l and Oil & Grease-14.6 mg/l whereas ETP outlet sample results indicate pH- 7.3, BOD- 15 mg/l, COD- 120 mg/l, TSS-16.8 mg/l, TDS- 824 mg/l and Oil & Grease-BDL. ETP results indicate compliance w.r.t notified discharge norms.

Ambient air quality monitoring was conducted on 29.02.2024 near main gate, Village Nagaria Sadat, Village Jatan and village Sindhauli are as follows

Location	PM ₁₀ ($\mu\text{g}/\text{m}^3$)	PM _{2.5} ($\mu\text{g}/\text{m}^3$)	SO ₂ ($\mu\text{g}/\text{m}^3$)	NO _x ($\mu\text{g}/\text{m}^3$)
Near main gate	81.2	51.54	14.23	20.86
Village Nagaria Sadat	78.5	49.08	12.43	17.69
Village Jatan	75.4	46.93	12.31	18.05
Village Sindhauli	76.4	48.65	12.43	17.82
Standard	100	60	80	80

Ambient air quality monitoring results indicate compliance w.r.t notified standards.

Monitoring results of common stack attached to 80 Ton Per Hour (TPH) & 55 Ton Per Hour (TPH) boilers indicate PM: 75.8 mg/Nm³, SO₂: 5.9 mg/Nm³ and NO_x- 26 mg/Nm³.

The unit has carried out adequacy assessment of ETP by NSI during 17-18 Jan 2024. As per adequacy report, the capacities of existing ETP equipment's are adequate on licensed crush rate of 9000 TCD @ effluent flow rate 183.27/ 200 litres/ ton of cane.

VI. Greening and paving shall be implemented in the plant area to arrest soil erosion and dust pollution due to exposed soil surface.

Status as verified by team:

In plant area team observed patches of greenery and tiled paved surface.
(refer pic no. 9)

VII. Properly covered vehicles shall be used while transporting material and product.

Status as verified by team:

At the time of visit no transportation of material and product was taking place as the unit was non-operational.

VIII. Allergy test should also be included in health check-up of works.

Status as verified by team:

Health check-up of all the employees for identification of occupational health hazard on bi-annual basis is being conducted by the unit where blood tests, eye check-up, telemetry test, respiratory system check-up were done by panel of MBBS doctors. Sample report of an employee is attached as **Annexure 3F** for reference. Also, unit organised free eye-check up camp for nearby villagers.

Annual Health check-up is conducted by Unit & health reports are submitted to concern authorities. The unit organised a free eye and health check-up camp on 13-01-2024.

IX. Industry should comply with the CPCB charter guidelines for sugar units and treated effluent shall be used for the different purposes as per the requirements in the industry

Status as verified by team:

- ii. The compliance status of salient points of Sugar Charter are as following:
 - a) The unit has tertiary level effluent treatment plant of 2200KLD capacity.

- b) Installed electromagnetic flow meters at ETP inlet, outlet and all three borewells.
- c) Maintained daily records of fresh water consumption, effluent discharge, regular analysis of ETP effluent parameters, energy consumption, & STP operations etc.
- d) Developed environmental laboratory for the analysis of DO, pH, BOD, COD, TSS & TDS and MLSS parameters of ETP inlet and outlet.
- e) Developed Environmental Management Cell (EMC)
- f) Prepared Irrigation Management Plan from NSI, Kanpur for 137.80-hectare command area. Have lagoon of capacity 16000m³ capacity for storage of the treated effluent to be used for irrigation purpose.
- g) As per adequacy assessment of ETP carried out by NSI during 17-18 Jan 2024, the capacities of existing ETP equipment's are adequate on licensed crush rate of 9000 TCD @ effluent flow rate 183.27/ 200 litres/ ton of cane.
- h) Installed Online effluent & emission (OCEMS) monitoring system at ETP outlet & boiler stack respectively and provided its connectivity to CPCB and SPCB servers

2. Compliance status of major standard conditions:

II. Statutory Compliance:

- iii. The unit has obtained Consolidated Consent & Authorization issued by UPPCB dated 04.09.2023 under Section-25 of the Water (Prevention & Control of Pollution) Act, 1974 and under Section-21 of the Air (Prevention & Control of Pollution) Act, 1981 and Hazardous and Other Wastes (Management and Transboundary Movement) Rules, 2016 with a validity upto 31.12.2024.
- iv. The unit has obtained UPGWD NOC for groundwater abstraction from 04 no. of borewell, having validity upto 18.05.2026. As per the conditions of NOC of UPGWD, the unit can abstract groundwater at a maximum rate of 166100 KL/annum (55800 from bore well -1, 55800 from borewell -2, 18000 from borewell-3 and 36500 from borewell - 4 annually).

II. Air Quality Monitoring & Preservation:

- i. Online Continuous Effluent Monitoring System (OCEMS) is installed in all the Boiler Stacks & it is connected to CPCB & UPPCB Server.
- ii. Unit carries out Ambient Air Quality (AAQ) monitoring at four designated locations. The last monitoring was carried out on 29.02.2024 by NABL accredited & EPA recognised laboratory. The analysis results are mentioned at point V of EC conditions.
- iii. Installed Wet Scrubber on the common stack of the 80 Ton Per Hour (TPH) and 55 Ton Per Hour (TPH) boilers.
- iv. The unit doesn't use any coal rather it exclusively uses bagasse as fuel in all the two Boilers of capacity 80 Ton Per Hour (TPH) & 55 Ton Per Hour (TPH). These boilers are equipped with common stack, of 50 meters' height.

- v. The unit is having 02 nos. of DG sets of capacity 625 KVA each kept inside acoustic room.

III. Water quality monitoring and preservation

- i. Flow meters were found installed at the inlet and outlet of ETP and same are connected to CPCB & UPPCB Server.
- ii. Separate storm water drain was observed within the premises.
- iii. As the unit was non-operational hence, the compliance of ETP with discharge norms couldn't be verified.
- iv. Unit has obtained UPGWD NOC for groundwater abstraction from 04 no. of borewell, having validity upto 18.05.2026. As per the records it was observed that the unit has abstracted an average of 360 KLD of fresh water from 04 borewells during Nov, 2023 to March 2024 which is within the permissible limit of 420 KL/day groundwater abstraction mentioned in the No Objection Certificate (NOC) issued by UPGWD.
- v. The unit has Effluent Treatment Plant (ETP) of capacity 2200 KLD. During visit the unit was found non-operational due to season off, however the Effluent Treatment Plant (ETP) was under stabilization.

IV. Noise monitoring and preservation

- i. The unit is having 02 nos. of DG sets of capacity 625 KVA each kept inside acoustic room. **(refer photograph no.7)**

V. Waste Management

- i. ETP Sludge is used as manure.
- ii. Unit has an agreement for Disposal of Hazardous Waste to TSDF M/s Bharat Oil and Hazardous waste like Used Oil are sent to TSDF.
- iii. As waste minimization measures, unit has installed automated filling and Hydro-jetting for cleaning of vessels.

VI. Green Belt

- i. Details about green belt along with details of trees & shrubs are mentioned in above Para IV of specific EC conditions.

Part F: Conclusion and Recommendations

Conclusion:

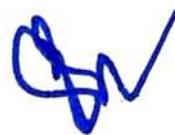
1. The unit was non-operational and no discharge was observed from the Industrial Premises.
2. The ground water sample analysis result does not indicate impact due to the industry.

3. The unit has complied with the recommendations of Joint Inspection report dated 14th January 2021. Details of the same are mentioned in Part C of the report.
4. The details of the verification of the directions of Hon'ble NGT passed vide judgement dated 01.09.2021 are mentioned in Part D of the report. Unit has complied all the points except the directions regarding interlocking of Pollution Control Devices with production processes.
5. The detailed compliance status of Environmental Clearance (EC) conditions is mentioned at Part E. The unit has not complied with the following conditions:
 - i. CAAQMS not installed.
 - ii. Rainwater harvesting system was not observed in the plant.

Recommendations:

- The unit shall maintain the ash disposal record with respect to disposal and distribution.
- Unit shall implement a system of interlocking of the pollution control plants / devices and the production process, as directed by Hon'ble NGT-PB.
- Unit shall comply with following EC conditions:
 - Install CAAQMS stations as per EC condition.
 - Make provision for rain water harvesting as per EC condition.

Inspection Team

S.No.	Inspecting Officials	Signature
1.	Sh. Nazimuddin, Scientist 'F', DH- IPC-II, CPCB, Delhi	
2.	Mrs Reena Satavan, Scientist 'E', CPCB, Delhi	
3.	Sh. Chandresh Kumar, Regional Officer, UPPCB, Regional Office- Bareilly	
4.	Sh. S.S Chauhan, ASO, Regional Office- Bareilly	

Photographs



Pic 1: Flow meter at the inlet of ETP



Pic 2: Flow meter at the mill boiling house



Pic 3 : Oil and Grease tank



Pic 4 : Oil and Grease tank



Pic 5: Dismantled the pumping arrangement



Pic 6: Sewage Treatment Plant



Pic: 7 D.G Acoustic room



Pic 8: Green belt within the premises



Pic 9 : Paved surface near plantation

Annexure-C**Detailed site visit report of M/s Dhampur Sugar Mills Limited, Village Alhaipur, Tehsil Dhampur, District Bijnor (Sugar Unit) on 16.10.2024****Part A: General Information**

1.	Name of the unit with complete postal address	M/s Dhampur Sugar Mills Limited, Village Alhaipur, Tehsil Dhampur, District Bijnor (Uttar Pradesh) Pin Code- 246761
2.	Spatial Co-ordinates Latitude and longitude	Latitude: 29.290506 Longitude: 78.514081
3.	Year of commissioning	1933
4.	Sugar with Distillery (Yes/No)	Yes
5.	Category	Sugar refinery with power cogeneration of 60 MW
6.	Co-Generation Capacity, MW	60 MW
7.	Start period of crushing season	30.10.2023 (Crushing season closed on 06.04.2024)
8.	No. of Operational days at the time of inspection	167
9.	Operational status during visit	Non-operational (due to off-season)
10.	Consented capacity of sugar Mill (TCD)	14000 ton cane crushing per day (TCD)

Consent Section

11.	Consent status & its Validity with date	Consent under section 25/26 of The Water (Prevention and control of Pollution) Act, 1974 issued on 27.03.2020, valid upto 31.12.2024. Copy of same is attached at Annexure-4A. Consent under Section-21 of the Air (Prevention & Control of Pollution) Act, 1981 issued on 31.12.2021, valid upto 31.12.2026. Copy of same is attached at Annexure-4B. Authorization under the provisions of Hazardous and Other Wastes (Management and Transboundary Movement) Rules, 2016 issued on 28.12.2020, valid upto 28.12.2025. Copy of same is attached at Annexure-4C.
12.	Environmental Clearance (EC)	Environment Impact Assessment (EIA) notification regarding prior Environmental Clearance (EC) notified in 2006 includes Sugar Industry in the schedule. The unit was originally commissioned in 1933 and it was informed by the Unit and UPPCB that no expansion in production capacity has been done after EIA notification hence EC has not been obtained from MoEF&CC

Source of Fresh Water		
13.	Bore well/Tube well/ Any other & its No's	4 Numbers of borewell
	Flow meter Installation at wells (Yes/No)	Yes
14.	NOC from CGWA /UPGWD & its Validity with date	Unit has UPGWD NOC for groundwater abstraction from 04 no.s of borewell, having validity upto 27.04.2027 (3 borewells) and 07.05.2027 (1 borewell). Copy of NOC for groundwater abstraction are attached at Annexure-4D-a, 4D-b, 4D-c. As per the conditions of NOC from UPGWD, the unit can abstract groundwater at a maximum rate of 346000 KL/annum or 947.94 KLD (Borewell 1- 126000 KL, Borewell 2- 84000 KL, Borewell 3- 73000 KL, Borewell 4- 63000 KL annually) As per the records it was observed that the unit has abstracted total 140833 kl from 04 borewells for last crushing season (Nov 2023-April 2024) (i.e. 24549 KL in the month of Nov. 2023, 25237 KL in Dec, 2023, 26610 KL in Jan, 2024, 24380 KL in Feb, 2024, 25317 KL in March, 2024 and 14740 KL in April 2024) or 791.19 KL/day against the permissible limit of 947.94 KL/day which is as per NOC

Process Effluent Treatment Plant		
15	Treatment ETP Capacity	The unit has installed ETP of 4500 KLD capacity.
16	Operational Status	ETP was not in operation due to non-crushing season however, ETP was found under stabilization at the time of visit.
17	Treatment ETP Scheme	Oil skimmer→ Screen→ Equalization Tank→ pH Correction Tank → Primary Clarifier→ Aeration Tank → Secondary Clarifier → Treated effluent Collection pit → Dual media filter → Activated Carbon Filter→ Lagoon → For irrigation Spray pond overflow → Chemical dosing → Reaction Tank → Primary Clarifier → Aeration tank → Secondary Clarifier → Treated effluent collection pit
18	Flowmeters installed	The unit has installed flow meter at the inlet and outlet of ETP
19	Disposal/reuse of treated effluent	For storage of treated effluent, the unit is having one brick-lined treated effluent storage lagoon of 10,000 m³ capacity, from where the treated water is used in irrigation. To record the quantity of treated effluent being used for irrigation purpose, flow meter was found installed and unit maintains log-book of the same. However, due to non-crushing season on the day of visit the lagoon was found dry and empty.

Process Condensate Polishing Plant (CPU)		
20	Treated capacity of Condensate polishing system adopted by the unit	Unit has installed CPU of 72 m ³ /hr capacity to treat the process condensate.
21	Treated scheme of the CPU	Process condensate → Multi Grade Filter → Activated Carbon Filter → Micron Cartridge → Micron bag filter → High pressure pump → RO membrane system
22	Use of treated Condensate	Treated condensate from CPU is used for make-up of Co-Gen Cooling Tower.

Sewage Treatment Plant

23	Operational Status	Operational
24	Treatment Capacity (KLD)	220 KLD (common for Sugar & Distillery)
25	Source of domestic sewage	Staff quarters, guest houses, offices etc.
26	Treated Scheme	Sewage collection tank → MBBR I → MBBR II → Tube Settler → Storage Tank → Multi Grade filter → Activated Carbon Filter → Outlet
27	Flow meters at inlet and outlet of STP	Installed at inlet & outlet of STP
28	Condition as per the Consent issued by SPCB	Domestic effluent shall be treated in the treatment plant so that it should be in conformity with the norms of treated effluent as stipulated in E.P. Rules 1986 as amended. TSS – 100 mg/l BOD-30 mg/l Oil & Grease – 10 mg/l COD – 250 mg/l Quantity of discharge – 50 KLD
29	Observations w.r.t reuse of treated water from STP outlet	At the time of visit the entire treated effluent from STP outlet was being used in the plantation through flexible pipeline. Samples were also collected from STP inlet & outlet.

Detail of Air Pollution Control System

30	Details of Boilers, type of fuel used,	No. of Boilers	Type of fuel	Steam generation capacity (Ton Per Hour)	APCD installed	Stack No.	Stack height
		Boiler-1	Bagasse	170	ESP	1	Common stack of height 90 meter
		Boiler-2	Bagasse	170	ESP		
31	Online emission (OCEMS) monitoring system installed	Installed and connected with CPCB and SPCB server for Particulate Matter (PM)					

Ash Generation Details

32	Ash Generation	Ash generation for the period from Oct, 2023 to April 2024 was as follows:							
		Month	Oct	Nov	Dec	Jan	Feb	March	April
		Ash generation (MT)	75	2786.2	3348.5	3405.4	3004.7	2683.1	481.1
33	Ash management and Disposal	Mixed with press mud and being sold to farmers as bio manure							

Part B: Verification of detailed report Jan 2023

During 01-02 Dec 2021, the nearby area around the Dhampur Sugar Mills Ltd and Ikra drain was visited to assess the impact on environment. For assessment of present situation, team visited the industrial premises and surroundings. The findings of the team are mentioned below:

Survey of Surrounding

During visit on 16-10-2024, team surveyed the stretch of Ikra drain from upstream of unit (near the boundary wall of unit) till bio-compost yard (approx. 3-4 kms) (Lat: 29.28781, Long:78.50618). The team observations vis-a-vis observations as per visit 01-02 Dec, 2021 are tabulated below:

Table 1: Observations on Ikra drain on 16-10-2024 vis-à-vis 01-02 Dec 2021

S.No	Location	Observations as per visit 01-02 Dec, 2021	Observations as per visit 16 Oct 2024
1.	Ikra drain u/s Dhampur Sugar mill (Lat: 29.29198, Long: 78.51010)	- The analysis results of sample showed pH-7.1, BOD-54 mg/l, COD-135 mg/l, TDS-292 mg/l, NH ₃ -N-34 mg/l, Sulphate-136 mg/l. The results indicated that water in Ikra drain is polluted as it carries sewage from Dhampur city.	The drain sample was collected from the same location and analysis results are as: pH-7.7, BOD-68 mg/l, COD-152 mg/l, TDS-380 mg/l, NH ₃ -N- 28 mg/l, Sulphate- 31 mg/l. Analysis results are attached at Annexure-4E . Ikra drain carries sewage from Dhampur City.
2.	Ikra drain near Compost yard of Dhampur Sugar mill (Lat: 29.28781, Long:78.50618)	The analysis results of sample showed pH-7, BOD-123 mg/l, COD-391 mg/l, TDS-244 mg/l, NH ₃ -N-12 mg/l, Sulphate-60 mg/l. The results	The drain sample was collected from the same location and analysis results showed pH-7.6, BOD-86 mg/l, COD-158 mg/l, TDS-370 mg/l, NH ₃ -N-31 mg/l, Sulphate- 36 mg/l. Analysis results are attached at

		indicated more pollution load at this location in comparison to upstream location.	Annexure-4E. Ikra drain carries sewage from Dhampur City. Unit was non-operational due to non-crushing season.

Groundwater assessment

- i. To assess the quality of ground water, the team collected ground water sample from borewell located within the unit premises. Analysis results of the sample are attached at **Annexure- 4E** is tabulated below:

Table 2: Analysis results of samples collected from Hand pump

Parameters	Bore-well	BIS IS 10500:2012 (Permissible limit in absence of alternative source)
pH	7.6	6.5-8.5
Conductivity (µmho/cm)	882	-
Color (Hazen)	BDL	15
COD (mg/l)	2	-
TSS (mg/l)	BDL	-
TDS (mg/l)	462	2000
Total hardness as CaCO ₃ (mg/l)	301	600
Total alkalinity as CaCO ₃ (mg/l)	316	600
Chloride (mg/l)	53	1000
Sulfate (mg/l)	85	400
Fluoride (mg/l)	0.34	1.5
NO ₃ -N (mg/l)	BDL	45
PO ₄ -P (mg/l)	0.09	-

Analysis results of the samples collected from the ground indicates no industrial impact.

Part C: Verification of the recommendations of the joint inspection report dated 23.03.2021

S.No.	Recommendations by Joint inspection report dated 26-03-2021	Verification by joint team as on dated 16.10.2024
1.	The unit shall take measures to stop discharge of spillage/ surface runoff containing waste water from industrial premises into drain (Ikra drain and drain coming from city along boundaries of sugar unit)	Unit was found non-operational due to non-crushing season. However, samples from Ikra drain were collected during visit. Details are tabulated in Table 1.

	and shall maintain water quality of the drain.	
2.	The unit shall install CPU for high pressure boiler at earliest.	It was observed that unit has installed CPU of 72 m ³ /hour capacity. CPU details are mentioned in above Part A (point no 20-22) (refer photograph no. 8)
3.	The unit shall install Sewage Treatment Plant (STP) for sewage generated from colony at the earliest.	The unit has installed sewage treatment plant (STP) of capacity 220 KLD for treatment of domestic effluent generated from the staff quarters, worker's colony, guest houses etc. Since Sugar and distillery units are located within same premises, therefore unit has installed common STP. The STP consist of the following scheme Sewage collection tank → MBBR I → MBBR II → Tube Settler → Storage Tank → Multi Grade filter → Activated Carbon Filter → Outlet STP treated effluent is used for gardening purpose. - On the day of the visit, Sewage Treatment Plant (STP) was found operational. Samples were collected from the inlet and final outlet of STP. - Flow meters were found installed at the inlet & outlet of STP. - Reading of STP inlet flowmeter: Instantaneous- 4.47m³/hr; Totalizer- 113670 m³ - Reading of STP outlet flowmeter: Instantaneous- 2.775m³/hr; Totalizer- 70394 m³ - Unit has maintained logbook of STP operations. Logbooks of STP inlet and outlet were collected for the month of September 2024 and the details are as follows;

		Mon th	No of days	STP Inlet (KL)	STP Outlet (KL)				
		Sept. 2024	30	2620	2521				
		Average flow: Inlet-87.3KLD & Outlet- 84.03KLD							
Table 3: Analysis results of samples collected from STP									
Sr. No.	Location	pH	COD (mg /l)	BOD (mg /l)	TSS	TDS	Color	NO2 -N	NO3- N (mg/ l)
1.	STP Inlet	7.4	57	6	11	400	BDL	0.01	BDL
2.	STP Outlet	8.3	18	3	BDL	376	BDL	0.37	BDL
Standards mentioned in CCA issued by UPPCB on 19.09.2022		-	250	30	100	-	-	-	-
STP was found complying w.r.t. the standards prescribed in the Consent.									
4.	The unit shall convert 4000 m ³ capacity lagoon into lined impermeable lagoon to avoid any possibility of leakages and must ensure the compliance of stored treated effluent w.r.t notified discharge standards under E(P) Rules, 1986.				It was observed that 4000 m ³ capacity lagoon near agricultural fields of the unit has not been reclaimed /filled completely by unit and it was partially filled with mud and rainwater. It was used in the past for treated effluent storage and HDPE lining still exists. During visit, grass and shrubs were observed to be grown in the lagoon. (Refer photograph no 2)				
5.	The unit shall dismantle the sump having capacity of 100 KL located in bio compost yard 10 acres.				The unit has dismantled the 100 KL sump in bio-compost yard. (Refer photograph no 15)				
6.	Unnecessary lines for ETP feed near falling structure shall be dismantled immediately.				The unit explained that there are no unnecessary pipe lines in ETP area. The unit was instructed to use different colour coding for effluent pipe lines.				
7.	Abandoned old pumping station alongwith connected line shall be dismantled.				Old pumping station along with connected line was found to be dismantled. It was observed that unit has constructed new pumping station for feeding raw effluent to ETP. (Refer photograph no 11 & 12)				
8.	Filter backwashing tank of suitable design capacity shall be installed for filter backwashing.				The suggestion to enhance capacity of water tank for filter backwashing has not been implemented.				

	Existing fresh water line in ETP area shall be dismantled.	Freshwater line in ETP was disconnected during visit. (Refer photograph no 13)
9.	Provision shall be made for DM plant cleaning in process (CIP) reject shall be treated in ETP only.	Unit informed that the DM plant CIP reject is treated in the ETP when unit is operated. Compliance need to be verified by SPCB when unit resumes operation

Part D: Verification of the recommendations of NGT Judgement dated 01.09.2021.

S.No.	Recommendations of NGT Judgement dated 01.09.2021.	Compliance status as on 16-10-2024
1.	All the Units must ensure continuous running of ETPs even during the non-crushing season for the adequate maintenance of required bio-mass so that the ETP is able to take the load/shock when it receives the pollution load/effluent at the start of the crushing season.	At the time of visit, the unit was non-operational due to off-season. Team observed that the ETP was under stabilization and aeration was being done to maintain active bio mass to enable smooth ETP operations in the crushing season. For the maintenance of adequate bio-mass aeration tank was found operational. Unit has two aeration tanks and samples were collected from both tanks. Analysis results are as follows: Aeration tank 1: MLSS = 737 mg/l MLVSS =463 mg/l Aeration tank 2: MLSS = 812 mg/l MLVSS =590 mg/l Analysis results showed MLVSS/MLSS ratio as 0.62 and 0.72 for both tanks which indicates that unit is in process of developing active biomass for stabilizing ETP prior to commencement of crushing season.

2.	All the Units in question must provide for separate Energy Meter for entire ETP setup including its accessory units with data logging facility which shall be inspected by UPPCB and CPCB from time to time.	The unit has installed separate energy meter for the ETP. The unit has maintained log book for the same. The team has collected log book of energy meter for the last crushing season from Nov 2023-March 2024 and the details are as follows: <table><tr><th>Month</th><th>Consumption(KWH)</th></tr><tr><td>Nov, 2023</td><td>22204</td></tr><tr><td>Dec, 2023</td><td>34048</td></tr><tr><td>Jan, 2024</td><td>35601</td></tr><tr><td>Feb, 2024</td><td>31213</td></tr><tr><td>March, 2024</td><td>32975</td></tr></table>	Month	Consumption(KWH)	Nov, 2023	22204	Dec, 2023	34048	Jan, 2024	35601	Feb, 2024	31213	March, 2024	32975
Month	Consumption(KWH)													
Nov, 2023	22204													
Dec, 2023	34048													
Jan, 2024	35601													
Feb, 2024	31213													
March, 2024	32975													
3.	UPPCB must ensure Interlocking of Pollution Control Devices with production processes (one way but not vice versa) so as to ensure that whenever ETPs/PCDs are intentionally closed, the production also comes to halt.	UPPCB directed the unit to comply this direction of Hon'ble NGT. The unit represented in this regard that sugar production is a continuous process and if the production process is stopped suddenly the sugarcane juice and juice concentrates in the process will clog and it will be very difficult to clean the plant and resume production.												
4.	Regular inspections should be carried out by the statutory authorities in both halves of the crushing season and also at least once in non-crushing season.	During crushing season 2022-23 & 2023-24, sampling was carried out six times i.e. on 05-04-2023, 30-05-2023, 22-11-2023, 12-12-2023, 06-04-2024, 10-10-2024 by UPPCB. Unit was found complying standards during all these inspections. Analysis reports are attached at Annexure 4F-a, 4F-b, 4F-c, 4F-d, 4F-e & 4F-f. Also, third party technical institutes authorised by CPCB carried out annual inspection on 12-01-2022 & 14-02-2023. Unit was found not complying standards during inspection on 12-01-2022 and unit was issued show-cause notice by UPPCB on 22-02-2022 which was later withdrawn as unit was found complying standards in subsequent inspection. The reports are attached at Annexure 4F-g & 4F-h.												

Conclusion

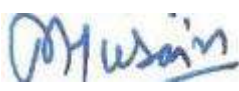
1. Unit was non-operational due to non-crushing season. Analysis results of samples collected from Ikra drain and bore well indicate no industrial impact. Unit was non-operational due to non-crushing season.
2. The unit has complied with recommendations of Joint Inspection report dated 02-03 Feb 2021 (detailed findings in above Part C) except following:

- a. Unit has not reclaimed/filled up 4000 m³ capacity lagoon near its agricultural fields completely. It was partially filled with mud and rainwater and HDPE lining still exists.
 - b. Unit has not implemented the suggestion to enhance capacity of water tank for filter backwashing. The unit explained that the existing capacity has been sufficient which can be verified in periodic inspections of the unit in operational condition by UPPCB.
3. The details of the verification of the directions of Hon'ble NGT passed vide judgement dated 01.09.2021 are mentioned in Part D of the report. Unit has complied all the points except the directions regarding interlocking of Pollution Control Devices with production processes.

Recommendations:

1. The unit shall either cover the 4000 m³ capacity earthen lagoon, which was used for storing treated effluent in the past, with brick-lining or reclaim/fill up it completely.
2. Unit shall implement a system for interlocking of the pollution control plants / devices and the production process, as directed by Hon'ble NGT-PB.

Inspection Team

S.No.	Inspecting Officials	Signature
1.	Sh. Nazimuddin, Scientist 'F', DH- IPC-II, CPCB, Delhi	
2.	Mrs Reena Satavan, Scientist 'E', CPCB, Delhi	
3.	Sh. Vijay, Regional Officer UPPCB, Regional Office- Bijnor	
4.	Sh. Mahir Hussain, AEE, Regional Office- Bijnor	

Photographs

Fig 1: 10000 m³ brick-lined lagoonFig 2: Kaccha lagoon (4000 m³)

Fig 3: Dismantled old pumping station



Fig 4: Pipeline from lagoon for irrigation



Fig 5: ETP scheme



Fig 6: STP scheme



Fig 7: City drain for seage within unit premises



Fig 8: Condensate Polishing Unit



Fig 9: Common stack for both boilers



Fig 10: Aeration



Fig 11: Pumps dismantled



Fig 12: Connecting line with old pumping station blocked

**Fig 13: Freshwater line to ETP dismantled****Fig 14: STP inlet flowmeter****Fig 15: Dismantled sump****Fig 16: Entrance gate**

Annexure-D**Detailed site visit report of M/s Dhampur Sugar mills limited Chemical Division., (Distillery Division) Dhampur District Bijnor on 16.10.2024****Part A: General Information**

1.	Name of the unit with complete postal address:	Dhampur Sugar Mills Ltd., Chemical Unit Dhampur, Bijnor (UP) 246761
2.	Spatial Co-ordinates (Latitude & longitude)	Latitude: 29.28548 Longitude: 78.51535
3.	Category	Molasses and Grain based Distillery
4.	Operational Status	Non-Operational (The unit provided a copy of vide letter dated 12.10.2024 wherein it has informed to UPPCB that the unit has closed down its manufacturing operations from 12.10.2024 due to non- availability of raw material (molasses & Grain).

Consent & EC Status (common for both molasses and grain based distillery)

5.	Consent status	The unit is having common Consolidated Consent to Operate under section 25 of the Water (Prevention and control of Pollution) Act, 1974 and under section 21 of the Air (Prevention and control of Pollution) Act, 1981 issued on 06.04.2023 for production of 455 KLD Ethanol/Rectified Spirit/ ENA by using B Heavy molasses / grain or 490 KLD Ethanol/Rectified Spirit/ ENA by using cane juice syrup, 140 KLD Ethyl Acetate and 10.5 MW cogeneration power which is valid upto 31.12.2027. Consolidated consent is attached at Annexure-5A.
6.	Hazardous waste Authorization	Authorization under the provisions of Hazardous and Other Wastes (Management and Transboundary Movement) Rules, 2016 issued on 16.05.2021, valid upto 16.05.2026. Hazardous waste authorization is attached at Annexure- 5B.
7.	Environment Clearance (EC)	Unit has provided a copy of Environmental Clearance dated 20.03.2019 issued by MoEF&CC for expansion of molasses/grain based distillery from 200 KLPD to 350 KPD. Copy of same is attached at Annexure- 5C.

Source of Fresh Water (Borewell common for both molasses and grain based distillery)

8.	No. of bore well and flow meters installation status	02 number of Borewells, both having electromagnetic flowmeters
9.	No Objection Certificate (NOC) for groundwater abstraction from CGWA/UPGWD & its Validity with date	- Unit has obtained NOC from UPGWD for groundwater abstraction from 02 nos. of Borewell, both NOCs having validity upto 05.04.2029. - As per NOC, the unit can abstract total 830375 KL/annum or 2275 KL/day of freshwater combined from both Borewells (Borewell 1: 438000 KL/annum and Borewell 2: 392375 KL/annum). Copy of NOC for groundwater abstraction is attached at Annexure- 5D-a and 5D-b) - As per the records provide by unit, the unit has abstracted fresh water @162.4 KLD during July to October 2024 (July-

		9082.7 kl, Aug-7280.6 kl, Sept. 9812.8 kl and Oct. 1977.9 kl)], which is within the permissible limit of 2275 KL/day mentioned in NOC.

Production process - Molasses based distillery

10.	Raw material: B-Heavy Molasses & C-heavy Molasses	
11.	Production	
	a. Consented value	100 KL per day (Dual mode) + 250 KL per day (molasses) = 350 KL per day
12.	Manufacturing Process	
	<i>Molasses (raw material) – Fermentation – Distillation – Alcohol (product)</i>	
	a. Consented discharge condition	Zero Liquid Discharge (ZLD)
	b. Type of Fermentation technology adopted	Batch type
	c. Type of Distillation technology adopted	Multi pressure distillation (MPR)
13.	Production process-Grain based distillery	
	Raw material	Maize , Broken rice (grain)
	Consented Production value	100 KL per day
	Manufacturing Process	
	<i>Grain – Fermentation – Distillation – Alcohol (product)</i>	
	Consented discharge value	ZLD
	Type of Fermentation technology adopted	Batch type
	Type of Distillation technology adopted	Multi pressure distillation (MPR)
14.	Effluent Management scheme	
	a. For Molasses	
	High strength effluent: Raw Spent wash → Multi-Effect Evaporator → Incineration boiler → Ash provided to third party for granulation	
	Low strength effluent: Blowdowns from Cooling towers & boilers, Multi-Effect Evaporator condensate etc. → Condensate Polishing Unit (CPU)	
	b. For Grain	
	Multi-Effect Evaporator → Decanter → Dryer → Dry distillers grain soluble (DDGS) sold to vendors	
15.	Details of Multi-Effect Evaporator (MEE) (for Molasses)	
	a. No. of MEE	02 Numbers (Stand-alone Multi-Effect Evaporator & Integrated Multi-Effect Evaporator)
	b. Capacity and stages of MEE	02, 1260 falling film (4) and forced circulation (3) + 2150 m ³ /day falling film (4) and forced circulation
	Details of Multi-Effect Evaporator (MEE) (for Grain)	
	a. No. of MEE	01
	b. Capacity and stages of MEE	1080, Two Stage

16.	Condensate Polishing Unit (common CPU for both grain and molasses distillery)			
	a. CPU , Capacity		4500 KLD	
	b. CPU Scheme Equalization-Anaerobic Treatment- Aerobic Treatment-Secondary Clarifier- MFG-ACF-UF-RO-UV			
	c. Use of treated Condensate		Cooling Tower Makeup + Fermentation	
	d. CPU reject		MEE	

17.	Incineration Boiler (molasses based)			
	a. Boiler capacity, fuel used, installed capacity, Air Pollution Control Device (APCD) installed and stack height			
	Boiler capacity	Fuel used	Air Pollution Control Device (APCD)	Stack height
	75 Ton Per Hour (TPH) (old incineration boiler)	Slop & Bagasse	Bag Filter	84 m
	55 Ton Per Hour (TPH) (new incineration boiler)	Slop & Bagasse	Electro Static Precipitator (ESP)	82 m
	b. Mode of ash disposal		Boiler Ash is provided to third party for granulation	

18.	Dryer Details (Grain based)		
	a. Dryer Capacity	70 TPD	
	b. No. of dryers	01	

19.	Lagoon Details:		
	Presently there are 02 number of lagoon of total capacity 6000 m ³ . The details are as below		
	No. of Lagoons	Capacity (m³)	Present Status
	Lagoon -1	2500	Filled with sludge and spent wash
	Lagoon -2	3500	Raw spent was observed

Sewage Treatment

Unit has installed a STP of capacity 220 KLD which is common for treatment of sewage generated from industrial complex (Sugar & Distillery units) & residential colony. The details about the STP and sampling carried out by the joint team are incorporated in the relevant section of M/s Dhampur Sugar Mills Ltd., Sugar report. Also the analysis results of ground water sample are included in the report of sugar unit.

Part B: Verification of the recommendations of joint inspection report dated 26-03-2021

S. No	Recommendations by Joint inspection report dated 26-03-2021	Verification by joint team as on date 16-10-2024
1.	The unit has total 03 nos. of bore wells against 02 nos. of permitted borewells as per CGWA NOC. The unit shall	On the day of the visit, the joint team observed that the unit has dismantled 3 rd borewell. (refer photograph no.2)

	dismantle the 3 rd non-operational borewell.	Now unit is having 02 nos. of permitted tube wells as per UPGWD NOC which is valid till 05.04.2029.
2.	The unit shall obtain hazardous waste authorization from the respective state pollution control board.	The unit has obtained authorization under the Hazardous and Other Waste (Management and Trans-Boundary Movement) Rules, 2016 vide letter dated 16-05-2021. The authorization is valid upto 16-05-2026. Copy of same is attached at Annexure 5B .
3.	The unit shall complete the construction work of STP at the earliest and shall treat the sewage generating from the residential colony as well as industrial plants in STP only.	The unit has installed STP of 220 KLD capacity and the same was found operational on the day of visit. The details of STP are mentioned in the sugar report.
4.	The unit shall ensure complete filling of both the (spent wash) lagoons of capacity 6159.60 KL and 10,173 KL with ash.	During visit both the lagoons of capacity 6159.60 KL and 10,173 KL were found filled and levelled with ash. (Refer photograph no. 6).
5.	If the concerned state pollution control board allows the unit to carry out temporary bio-composting for utilization of bio-methanated sludge/spent wash, in that case the unit shall comply with the following: 1) The unit shall ensure to consume the bio-methanated spent wash in bio-composting before monsoon season. 2) After completion of the temporary bio-composting, the unit shall completely dismantle the pump sump of MEE concentrate, which is located at bio-compost yard of 10 acres. 3) After completion of the temporary bio-composting, the unit shall completely dismantle the newly built pipeline.	• UPPCB vide letter dated 23.02.2021 granted permission for the unit to consume the stored 30,000 KL of bio-methanated spent wash through MEE followed by bio-composting between 05.03.2021 to 15.05.2021. • Accordingly, unit informed that it has consumed bio-methanated spent wash in bio-composting after routing through MEE (log book attached). • Team verified the logbook and as per the records, the unit commenced its bio-composting cycle from 05.03.2021 to 15.05.2021, during which a total of 13,500 KL (approx. 50 % vol reduction) of concentrated spent wash was consumed. • During visit, it was observed that after consumption of bio-methanated spent wash, the unit has converted its bio-digester to molasses storage tank no.2 of capacity 10395.520 kl. (refer photograph no.6) • No pipelines to carry spent wash were observed at the bio-composting yard as unit has dismantled all the pipelines.

		The unit has dismantled and levelled the pump sump tank of MEE concentrate of capacity 300 kl. (refer photograph no. 3)

Part C: Verification of specific conditions of Environmental Clearance (EC):

The Unit has obtained Environment Clearance (EC) dated 20.03.2019 from Ministry of Environment, Forest & Climate Change (MoEF &CC) for expansion of molasses/grain based distillery from 200 KLPD to 350 KPD. During visit on 16.10.2024 team verified the compliance of the major EC conditions.

Point wise status of the EC conditions as mentioned under para 9 of EC dated 20.03.2019 is as follows:

Condition no. 9	Status a on date 16.10.2024
a) Consent to Establish/Operate for the project shall be obtained from the State Pollution Control Board as required under the Air (Prevention and Control of Pollution) Act, 1981 and the Water (Prevention and Control of Pollution) Act, 1974.	The unit has obtained the requisite Consents from the Uttar Pradesh Pollution Control Board (UPPCB). The details of the same are mentioned in above part A (point 6)
b) As already committed by the project proponent. Zero Liquid Discharge shall be ensured and no waste/treated water shall be discharged outside the premises.	To maintain zero liquid discharge in molasses based distillery the unit has installed Multi effect evaporator followed by Incineration boiler. Further for treatment of condensate and other low strength effluent, the unit has installed a condensate polishing unit of capacity 4500m³. However, during the site visit on 16.10.2024, the unit was found non-operational due to non-availability of raw material and the zero liquor discharge status could not be verified.
c) Necessary authorization required under the Hazardous and Other Waste (Management and Trans-Boundary Movement) Rules, 2016, Solid Waste Management Rules, 2016 shall be obtained and the provisions contained in the Rules shall be strictly adhered to.	The unit has obtained authorization under the Hazardous and Other Waste (Management and Trans-Boundary Movement) Rules, 2016, which is valid until 16-05-2026 . The details of the same are mentioned in above part A (point 7)
d) To control source and the fugitive emissions, suitable pollution control device shall be installed to meet the	The unit has installed two slop-fired incinerator boilers with capacities of 75 Ton Per Hour (TPH) and 55 Ton Per

prescribed norms and /or the NAAQS. The gaseous emissions shall be dispersed through stack of adequate height as per CPCB/SPCB guidelines.	Hour (TPH). To control air pollution, the unit has installed Bag filters, Scrubber, and Electrostatic Precipitators (ESP) systems along with the stacks of height 84 m & 82 m.
e) Total fresh water requirement shall not exceed 2275 cum/day proposed to be met from ground water. Prior Permission shall be obtained from the concerned regulatory authority/CGWA in this regard.	Unit has UPGWD NOC for groundwater abstraction for 02 no. of Borewell, having validity upto 05.04.2029 for combined abstraction of 830375 KL/annum or 2275 KL/day from both Borewell. The details of the same are mentioned in above part A (point 11)
(f) The spent wash shall be taken to multi effect evaporators (MEE) and the concentrated spent wash shall be incinerated in the boiler along with bagasse. &	The unit has installed 02 Multi effect evaporators of capacity of 3419 KLD and 02 Incineration boilers of capacity 75 Ton Per Hour (TPH) & 55 Ton Per Hour (TPH). However due to non-availability of raw material unit was found non-operational.
g) The distillery shall be permitted to operate throughout the year as proposed.	
k) The company shall undertake waste minimization measures as below: i. Metering and control of quantities of active ingredients to minimize waste. ii. Reuse of by-products from the process as raw materials or as raw material substitutes in other processes. iii. Use of automated filling to minimize spillage iv. Use of close feed system into batch reactors v. Venting equipment through vapour recovery system vi. Use of high pressure hoses for equipment clearing to reduce wastewater generation.	Waste minimization measures undertaken by the unit could not be verified as the unit was found non-operational on the day of visit.
l) The green belt of 5-10 m width shall be developed in more than 33% of the total project area, mainly along the plant periphery, in downward wind direction, and along road sides etc. Selection of plant species shall be as per the CPCB guidelines in consultation with the State Forest Department.	Out of total plant area of 16 hectares (as per EC dated 20.03.2019), green belt has been developed on 5.4-hectare area i.e. 34.02 %. Both sugar and distillery unit were observed to be located within the same premises. During visit team observed that green belt is majorly developed near ETP & STP

Inspections by third party institutes authorised by CPCB in the past

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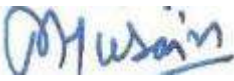
Conclusion:

1. Non-Operational due to non- availability of raw material (molasses & Grain).
2. The unit has complied with the recommendations of Joint Inspection report dated 02nd Feb 2021. Details of the same are mentioned in Part B of the report.
3. The detailed compliance status of Environmental Clearance (EC) conditions is mentioned at Part C. The unit has not complied with the following conditions:
 - a) DG is not provided with acoustic enclosure.

Recommendations

1. Unit shall provide acoustic enclosure at the DG set.

Inspection Team

S.No.	Inspecting Officials	Signature
1.	Sh. Nazimuddin, Scientist 'F', DH- IPC-II, CPCB, Delhi	
2.	Mrs Reena Satavan, Scientist 'E', CPCB, Delhi	
3.	Sh. Vijay, Regional Officer UPPCB, Regional Office- Bijnor	
4.	Sh. Mahir Hussain, AEE, Regional Office- Bijnor	

Photographs



Pic : 1 Entrance gate of the Unit

Pic:2 Dismantled 3rd borewell and concrete the area with cement

Pic: 3 Pump Sump system dismantled in bio-compost yard



Pic: 4 Silos for storage of grain



Pic: 5 Sewage Treatment Plant



Pic: 6 Levelled and filled lagoon of capacity 6159.60 m³ &10173 m³



Pic: 7 Sludge and spent wash found stored in settling tank of capacity 2500m3



Pic: 8 DG set



Pic: 9 boiler ash was found stored in bio-compost yard

IN THE SUPREME COURT OF INDIA
CIVIL APPELLATE JURISDICTION

CIVIL APPEAL NO(S).5975/2021

M/S DHAMPUR BIO ORGANICS LIMITED & ORS.

Appellant(s)

VERSUS

ADIL ANSARI & ORS.

Respondent(s)

O R D E R

1. This appeal arises out of the judgment and order passed by the National Green Tribunal¹ dated 01.09.2021 in Original Application No.539 of 2019 as per which the Tribunal passed the following Order:

"157. We are further of the opinion that following directions are necessary for ensuring compliance of environmental norms by the units:-

i.) All the Units must ensure continuous running of ETPs even during the non-crushing season for the adequate maintenance of required bio-mass so that the ETP is able to take the load/shock when it receives the pollution load/ effluent at the start of the crushing season.

ii.) All the Units in question must provide for separate Energy Meter for entire ETP setup including its accessory units with data logging facility which shall be inspected by UPPCB and CPCB from time to time.

iii.) UPPCB must ensure Interlocking of Pollution Control Devices with production processes (one way but not vice-versa) so as to ensure that whenever ETPs/PCDs are intentionally closed, the production also comes to halt.

¹"Tribunal"

iv.) Regular inspections should be carried out by the statutory authorities in both halves of the crushing season and also at least once in non-crushing season.

v.) Since the Asmoli Unit falls in the critical zone with respect to ground water withdrawal, an assessment of water recharge needs to be carried out by CGWA or UPGWB before issuance of NOC.

The Statutory Authorities are directed to ensure the above directions strictly so that industries may run without causing damage or loss to the environment as well as to the local inhabitants and farmers residing nearby the Units."

2. While issuing notice, this Court on 08.10.2021 passed an interim order to the following effect:

"Issue notice, returnable in six weeks.

In the meanwhile there will be a stay of the order impugned to restricted to the direction for payment of compensation of Rs.5,00,00,000/- (Rupees five crores only) in respect of each unit and to the costs of Rs.10,00,000/- imposed on the Respondent Nos. 1 to 3.

A committee may be constituted to make a detailed study as directed by the order impugned, but no further steps shall be taken by the Committee for a period of six weeks from date."

3. Pending disposal of the appeal on 06.09.2024, we directed for a joint report by the Central Pollution Control Board (CPCB) and the State Pollution Control Board indicating the compliances as per the directions of the National Green Tribunal.

4. In furtherance of our direction, a joint report dated 20.12.2024 is filed. The joint report speaks about the compliances rather non-compliances by the four units, the relevant portion of the report is as under:

**"7.1 M/s Dhampur Bio Organics Ltd., Unit-Asmoli,
District Sambhal(Sugar Unit)**

Conclusion:

1. Unit was non-operational during joint site inspection by CPCB and UPPCB on 10.10.2024 due to non-crushing season. During survey of the surroundings of the unit and Sot river, no coloured water was visible at the time of visit.

2. The ground water sample analysis result does not indicate impact due to the industry.

3. The unit has complied with the recommendations of Joint Inspection report dated 13th January 2021. Details of the same are mentioned in Part C of the report.

4. The details of the verification of the directions of Hon'ble NGT passed vide judgement dated 01.09.2021 are mentioned in Part D of the report. Unit has complied all the points except the directions regarding interlocking of Pollution Control Devices with production processes.

5. The detailed compliance status of Environmental Clearance (EC) conditions is mentioned at Part E of the report. The unit has not complied with the following conditions:

i.No rainwater harvesting system was observed in the plant.

ii.Not installed CAAQMS.

Inspections by third party institutes authorised by CPCB in the past:

A third party technical institutes authorised by CPCB carried out inspection of the unit in operational condition on 20-02-2022 and 01-03-2023 and unit was found complying standards during both Inspections.

Recommendations:

1. The unit shall maintain the ash disposal record with respect to disposal and distribution.

2. Unit shall implement a system for interlocking of the pollution control plants / devices and the production process, as directed by Hon'ble NGT-PB.

3. UPPCB shall carry out random inspection of the unit in operational condition.

4. Unit shall comply with following EC conditions:

i. Install CAAQMS stations as per EC condition.

ii. Make provision for rain water harvesting as per EC condition.

7.2 M/s Dhampur Bio Organics Ltd., Unit-Meergani, District Bareilly (Sugar Unit)

Conclusion:

1. Unit was non-operational during joint site inspection by CPCB and UPPCB on 18.10.2024 due to non-crushing season. During survey of the surroundings of the unit and Sot river, no coloured water was visible at the time of visit.

2. The ground water sample analysis result does not indicate impact due to the industry.

3. The unit has complied with the recommendations of Joint Inspection report dated 13th January 2021. Details of the same are mentioned in Part C of the report.

4. The details of the verification of the directions of Hon'ble NGT passed vide judgement dated 01.09.2021 are mentioned in Part D of the report. Unit has complied all the points except the directions regarding interlocking of Pollution Control Devices with production processes.

5. The detailed compliance status of Environmental Clearance (EC) conditions is mentioned at Part E. The unit has not complied with the following conditions:

i. No rainwater harvesting system was observed in the plant.

ii. Not installed CAAQMS.

Inspections by third party institutes authorised by CPCB in the past:

A third party technical institutes authorised by CPCB carried out annual inspection of the unit in operational condition on 17-01-2022 and 15-02-2023 and unit was found complying standards during both

inspections.

Recommendations:

1. The unit shall maintain the ash disposal record with respect to disposal and distribution.
2. Unit shall implement a system for interlocking of the pollution control plants/devices and the production process, as directed by Hon'ble NGT-PB.
3. UPPCB shall carry out random inspection of the unit in operational condition.
4. Unit shall comply with following EC conditions:
 - i. Install CAAQMS stations as per EC condition.
 - ii. Make provision for rain water harvesting as per EC condition.

7.3 M/s Dhampur Sugar Mills Limited, Village Alhaipur, Tehsil Dhampur, District Bijnor (Sugar Unit)

Conclusion

1. Unit was non-operational during joint site inspection by CPCB and UPPCB on 16.10.2024 due to non-crushing season.
2. Analysis results of samples collected from Ikra drain and bore well indicate no industrial impact.
3. The unit has complied with recommendations of Joint Inspection report dated 02-03 Feb 2021 (detailed findings in Part C), except following:
 - a. Unit has not reclaimed/filled up 4000 m³ capacity lagoon near its agricultural fields completely. It was partially filled with mud and rainwater and HDPE lining still exists.
 - b. Unit has not implemented the suggestion to enhance capacity of water tank for filter backwashing. The unit explained that the existing capacity has been sufficient which can be verified in periodic inspections of the unit in operational condition by UPPCB.
4. The details of the verification of the directions of Hon'ble NGT passed vide judgement dated 01.09.2021 are mentioned in Part D of the report. Unit has

complied all the points except the directions regarding interlocking of Pollution Control Devices with production processes.

Inspections by third party institutes authorised by CPCB in the past

A third party technical institutes authorised by CPCB carried out annual inspection on 12-01-2022 and 14-02-2023. Unit was found not complying standards during inspection on 12-01-2022 and UPPCB issued show-cause notice to the unit on 22-02-2022 which was later withdrawn as unit was found complying standards in subsequent inspection by UPPCB. Unit was found complying standards during inspection on 14-02-2023 by third party technical institute authorised by CPCB.

Recommendations:

1.The unit shall either cover the 4000 m3 capacity earthen lagoon, which was used for storing treated effluent in the past, with brick-lining or reclaim/fill up it completely.

2. Unit shall implement a system for interlocking of the pollution control plants / devices and the production process, as directed by Hon'ble NGT- PB.

3. UPPCB shall carry out random inspection of the unit in operational condition.

7.4 M/s Dhampur Sugar mills limited Chemical Division.,(Distillery Division) Dhampur District Bijnor on 16.10.2024

Conclusion:

1. Unit was non-operational during joint site inspection by CPCB and UPPCB on 16.10.2024 due to shortage of raw material (molasses & grain).

2. The unit has complied with the recommendations of Joint Inspection report dated 02nd Feb 2021. Details of the same are mentioned in Part B of the report.

Conclusion:3. The detailed compliance status of Environmental Clearance (EC) conditions is mentioned at Part C. The unit has not complied with the following conditions:

a. DG is not provided with acoustic enclosure.

Inspections by third party institutes authorised by CPCB in the past:

A third party technical institutes authorised by CPCB carried out annual inspection of the unit in operational condition on 15.01.2022 and 18.03.2023 and the unit was found complying no effluent discharge condition during both inspections.

Recommendations:

1. Unit shall provide acoustic enclosure at the DG set.

2. UPPCB shall carry out random inspection of the unit in operational condition.

8. That in addition to the aforesaid submissions, it is humbly submitted that this Answering Respondent shall abide by any/all orders or directions passed by this Hon'ble Court."

5. It is evident from the above that there are certain directions of the National Green Tribunal which have been complied and some directions are not yet complied with. We are of the opinion that it would be appropriate if we direct the Tribunal to monitor the compliances and ensure that its judgment dated 01.09.2021 is fully implemented. After ensuring implicit compliances of the directions, the Tribunal may revisit the directions with respect to payment of compensation and pass such orders as may be necessary.

6. Before issuing any further directions, the Tribunal shall hear all the parties to the proceedings.

7. Pending disposal of the original application, the interim order(s) passed by this Court shall continue until modified by the National Green Tribunal, at its own discretion.

8. The Civil Appeal is disposed of in terms of the above.

.....J.
[PAMIDIGHANTAM SRI NARASIMHA]

.....J.
[MANOJ MISRA]

New Delhi
January 07, 2025.

ITEM NO.19

COURT NO.12

SECTION XVII

S U P R E M E C O U R T O F I N D I A
RECORD OF PROCEEDINGS

Civil Appeal No(s). 5975/2021

M/S DHAMPUR BIO ORGANICS LIMITED & ORS.

Appellant(s)

VERSUS

ADIL ANSARI & ORS.

Respondent(s)

(IA No. 123838/2021 - EXEMPTION FROM FILING C/C OF THE IMPUGNED JUDGMENT; IA No. 123839/2021 - EXEMPTION FROM FILING O.T.; IA No. 123836/2021 - STAY APPLICATION)

Date : 07-01-2025 These matters were called on for hearing today.

CORAM :

HON'BLE MR. JUSTICE PAMIDIGHANTAM SRI NARASIMHA
HON'BLE MR. JUSTICE MANOJ MISRA

For Appellant(s) Ms. Amita Gupta Katragadda, Adv.
Mr. Vikash Kumar Jha, Adv.
Ms. Namrata Sadhnani, Adv.
Ms. Ena Kapur, Adv.
M/S. Cyril Amarchand Mangaldas Aor, AOR

For Respondent(s) Ms. Aishwarya Bhati,, A.S.G.
Ruchi Kohli, Adv.
Swarupama Chaturvedi, Adv.
Chitrangda Rastravara, Adv.
Shraddha Deshmukh, Adv.
Dr. N. Visakamurthy, AOR

Mr. Saurabh Mishra, AOR
Mr. Shrimay Mishra, Adv.
Mr. Nirbhaya S Tewari, Adv.
Mr. Rakesh Chander, Adv.

Mr. Pradeep Misra, AOR
Mr. Daleep Dhyani, Adv.
Mr. Suraj Singh, Adv.

Ms. Preeti Singh, AOR

UPON hearing the counsel the Court made the following
O R D E R

1. The Civil Appeal is disposed of in terms of the signed order.
2. Pending application(s), if any, shall stand disposed of.

(INDU MARWAH)
AR-cum-PS

(NIDHI WASON)
COURT MASTER (NSH)

(Signed order is placed on the file)

Annexure 7(Colly)

2022 SCC OnLine NGT 1656

In the National Green Tribunal⁺
(By Video Conferencing)

(BEFORE ADARSH KUMAR GOEL, CHAIRPERSON, K. RAMAKRISHNAN, J.M.,
SUDHIR AGARWAL, J.M., SATYAGOPAL KORLAPATI, EXPERT MEMBER AND A
SENTHIL VEL, EXPERT MEMBER)

Tandur Citizens Welfare Society Rangareddy District
... Applicant;

Versus

Government of Telangana, Rep by its Secretary,
Environment and Forest Department, Hyderabad
and Others ... Respondent(s).

Original Application No. 195/2016(SZ)

Decided on May 13, 2022

Advocates who appeared in this case:

Mrs. H. Yasmeen Ali, Advocate for R 1, R 6 & R 8., for the
Respondent(s);

Mr. G.M. Syed Nurullah Sheriff, Advocate for R 2.

Mr. D.S. Ekambaram, Advocate for R 3.

Mr. T. Sai Krishnan, Advocate for R 4

ORDER

The Issue

1. Grievance in this matter pertains to air pollution caused in and around Tandur Village, Ranga Reddy District of Telangana State on account of operation of five cement factories in the area, having population of 75,000 in the Town and 1,50,000 in rural area around the town, apart from 50,000 floating population, as per case of the Applicant.

2. Case set out in the application is that the Ninth respondent cement factory was established in 1977; 10th respondent cement factory was established in 2000; 11th respondent cement factory was established in 2008 and 12 th and 13 th respondent cement factories were established in 2010. The State of Telangana has granted lease of thousands of hectares of land to these companies for quarrying lime stone and laterite etc. These cement companies have uprooted and removed over five lakh trees to convert the lands to suit their industrial purpose which includes laying of approach roads and railway lines. They have established the units after getting necessary approval from the

competent authority but they are not following the conditions imposed. There is no proper scientific mechanism provided to suppress air pollution. Huge number of vehicles are being used and they are plying through narrow roads of villages and towns, causing huge air pollution. Though representations have been made to the authorities, they have failed to take any action. Air quality in that area has become worse, affecting health of the people. Though representation has been made to the Government with some recommendations to improve the situation, no action has been taken. Whenever complaints are made, some inspection is being done by Pollution Control authorities and in spite of being convinced that pollution is caused, they have not taken any stringent action against the units to arrest the air pollution caused due to the emission of dust, on account of operation of the units.

Final judgment dated 24.8.2021

3. After issuing notice to the cement factories as well as the regulatory authorities including the State PCBs of Telangana and Karnataka and the Railway Administration and considering the rival stands and the factual reports submitted by the statutory regulators on directions of this Tribunal, the Tribunal finally dealt with the matter vide judgment dated 24.08.2021. The operative part of the order of the Tribunal is as follows:—

“36. So, this application is disposed of as follows:—

- i. The State of Telangana is directed to complete the acquisition proceedings and also shifting of the chip industries as informed to the State Pollution Control Board through Telangana State Industrial Infrastructure Corporation Ltd. vide their letter dated 23.07.2021 namely, within a total of 33 months. Out of which, the acquisition proceedings have been completed so that they will have to complete the process of shifting the units by establishing the industrial park in the proposed acquired area at the earliest but any rate within a period of 27 months from today.*
- ii. The Telangana State Pollution Control Board is directed to conduct periodical inspections of the area in question to ascertain the Ambient Air Quality and if it exceeds the standard provided, then they are directed to take appropriate action by giving direction to the persons who are responsible for the same to avoid air pollution being caused in that area.*
- iii. The Telangana State Pollution Control Board is also directed to periodically inspect the cement factories in that area and also the railway sidings to ascertain as to whether there was any air pollution caused either due to the operation of the cement factories or during loading and unloading and if there is any excess pollution found, they are directed to take appropriate*

steps by giving direction to arrest the same by providing necessary pollution control mechanism, including imposing environmental compensation, if any, air pollution caused on account of such activities.

- iv. The question of the interlocking system which has been introduced in cement factories can be extended to other industries as well where this Online Continuous Emission Monitoring System (OCEMS) is installed and State of Telangana and State Pollution Control Board are directed to take steps in this regard*
- v. The Central Pollution Control Board (CPCB) is also directed to consider this aspect and implement the same in other States as well*
- vi. The District Collector, Vikarabad District as well as the Telangana State Pollution Control Board are directed to file their periodical reports regarding the progress of the shifting and other activities and also the completion of road as directed by the Principal Bench of National Green Tribunal in the order mentioned above once in 6 (Six) months.*
- vii. The steps taken by the Telangana State Pollution Control Board and the Central Pollution Control Board in respect of giving direction to the other industries where the Online Continuous Emission Monitoring System (OCEMS) for providing interlocking system as directed by them in this case and submit a report to this Tribunal regarding the steps taken within a period of 3 (Three) months.*
- viii. The District Collector, Vikarabad District is also directed to monitor the progress of the work and also take appropriate steps to curb the air pollution that is being complained off by the people in the locality by taking appropriate action against the persons who are responsible for the same so as to avoid further complaints from the people in the locality. They can also take temporary measures to suppress the dust pollution that is being experienced by the people in the locality till the permanent measures suggested above were completed or accomplished.*
- ix. The Office is directed to place the reports as and when received before this Bench for consideration and also for giving further directions (if any) required in this regard.*
- x. Considering the circumstances, the parties are directed to bear their respective costs in the application."*

Consideration of compliance status on 17.12.2021 and 9.2.2022

4. After the above judgment, the matter was taken up for consideration of the reports in pursuance of directions of this Tribunal on 17.12.2021 and 09.02.2022 on the issue of interlocking system where OCEMS are installed and compliance of directions of the Tribunal on the issue of shifting of polluting industries. After consideration, the matter was deferred.

Further consideration today and final order

5. In continuation of earlier proceedings, we have heard learned counsel for the appearing parties and perused further reports filed by the CPCB and Telangana State PCB on 09.02.2022. On consideration thereof, we proceed to pass final order closing the proceedings.

Report on suggestion of interlocking system

6. Status report filed by the CPCB states that a Committee has been duly constituted as directed by this Tribunal which first held its meeting on 05.02.2022 and it was decided to introduce system to stop production on failure of the pollution control system subject to following conditions:—

- a. *Use of interlocking should be between the production process and the emission/effluent control equipment through a PLC and SCADA systems. It is not desirable to use such interlocking with OCEMS.*
- b. *Instant shutting down of some industrial processes may pose risk of safety and health hazard to workers, due release of fugitive emissions/gases or discharges. Therefore, interlocking system may not be feasible in sectors such as pharmaceutical, petrochemical, etc.*
- c. *Industrial processes are diversified across the sectors and specific arrangements/protocols may be required for each sector.*
- d. *Interlocking systems may be implemented in only those industries, where such interlocking systems does not pose risk of safety and health hazard to workers.*
- e. *Further, within industry, there is a need to identify feasible process areas where interlocking systems can be implemented effectively and safely.*
- f. *Interlocking systems may be implemented in phased manner in noncritical processes as part of the production process.*

Committee recommended for Inputs/suggestions to be sought from State Pollution Control Board (SPCBs)/Pollution Control Committees (PCCs), to identify industries and the processes within industry for the feasibility of implementing interlocking systems, for further consideration."

7. Further report has been filed by CPCB on 06.05.2022 with regard to feasibility of interlocking of industrial process with OCEMS and

assessment of feasibility of interlocking of industrial processes with OCEMS. Relevant extracts from the report is as follows:—

“3. Industrial Inter-Locking System

Many industrial sectors adopt interlocking system, where industrial operations are regulated with different control system such as instruments, devices, networks, etc. In such system, the control devices operate at pre-set parameters/range (mostly temperature and pressure), failing which interlocking system get triggered/activated to regulate the process. Such interlocking systems are used by industries to ensure quality control in product manufacturing, minimizing wastages/losses of raw-material/final product and to ensure safety in operations.

4. Assessment of feasibility of interlocking of industrial processes with OCEMS

In order to examine the feasibility of introduction of interlocking system in various industrial sectors having OCEMS, CPCB constituted a Committee, vide order no. CPCB/IPC-VI/OCEMS/Interlocking, dated 02.02.2022 (copy given at Annexure-I), comprising of the representatives of (i) National Environmental Engineering Research Institute (NEERI), Nagpur, (ii) National Chemical Laboratory (NCL), Pune, (iii) West Bengal Pollution Control Board, (iv) Maharashtra Pollution Control Board and (v) Central Pollution Control Board.

During the meetings held on 05.02.2022 and 02.05.2022, the Committee examined the matter and recommended the following:

- i. The purpose of OCEMS is to regulate and minimize inspection of industries on routine basis by bringing self-discipline in the industries to exercise self-monitoring and compliance. Further, through continuous access of effluent and emission data, SPCBs/PCCs and CPCB also ensure constant vigil on environmental compliance by industries.*
- ii. OCEMS are linked to both CPCB and SPCB servers and SMS messages/alerts get generated in case of value of pollutant parameter exceeds prescribed environmental norms, non-acceptable variations in data and offline behaviour of OCEMS. The existing set up is adequate for self- monitoring and to initiate corrective action, including regulating the production process.*
- iii. It is not recommendable to use OCEMS based interlocking for instant shutting down of industrial processes, as the same may pose risk to safety, health hazard and uncontrolled emissions, due to incomplete chemical reactions/processing, especially in the industrial sectors such as chemical industries, copper smelters, thermal power plants etc.*

5. Steps taken by CPCB to ensure industrial compliance through OCEMS

The real-time OCEMS values of environmental pollutants of trade effluent and emissions, discharged from industrial units are transmitted online to CPCB and concerned SPCB/PCC servers on 24x7 basis. The central software processes the data and in case of value of pollutant parameter exceeds prescribed environmental norms, an automatic SMS messages/alert is generated and sent to industrial unit, SPCB and CPCB, so that corrective measures can be taken by the industry immediately and appropriate action can be taken by concerned SPCB/PCC.

CPCB also carries out inspection-cum-monitoring of industries, selected on the basis of the real time data received through OCEMS

installed in industries. Since 2016, on the basis of SMS alerts generated due to violations of environmental norms, CPCB has been carrying out inspection-cum-monitoring of 17 categories of highly polluting industries on random basis. In case of non-compliance, action against industry is taken under the provisions of Water Act, 1974, Air Act, 1981 and Environment (Protection) Act, 1986.

So far, CPCB has carried out inspection-cum-monitoring of 759 industries, out of which 370 units were found non-complying with prescribed environmental norms to whom show-cause notices or closure directions were issued under the provisions of Environment (Protection) Act, 1986. The sector-wise status of inspections carried out based on SMS alerts is given at Annexure-II.

6. Conclusion

Considering the present status of OCEMS and also keeping in view the risk to safety, health hazard and uncontrolled emissions in case of sudden shut-down of processes, it is not recommendable to force industries to install interlocking system between OCEMS and production processes, across all the sectors."

Report about progress on directions for shifting and other directions

8. The report filed by the Telangana State PCB is with reference to Acquisition proceedings and shifting of Stone Polishing Industries through TSIIC, Construction of By-pass Road for Tandur Town by R&B Dept., AAQM Monitoring in Tandur Town, Monitoring of Pollution of three Cement Industries located near Tandur Town and Providing interlocking system by the cement industries which have provided Online Continuous Emission Monitoring System (OCEMS). The suggestions and conclusions in the report are:—

VI. Suggestions and Conclusions:

The following measures are suggested to be taken up by the

concerned Authorities to further improve the Ambient Air Quality in Tandur Town:—

- i. The vehicles carrying raw materials and products shall be covered completely.*
- ii. The frequency of intervals of cleaning/sweeping of roads and water sprinkling through dedicated water tanker shall be increased in Tandur town.*
- iii. The stone cutting & polishing units shall not dispose stone chips & sludge along the roadside and shall dispose the same in the dedicated location allotted by Tandur Municipality,*
- iv. The R&B Department shall complete the by-pass road construction of Tandur Town at the earliest.*

The Board will regularly monitor the Ambient Air Quality in Tandur Town and the Stack Emissions & AAQM in the Cement industries for compliance of the Board directions."

Final order closing the proceedings

9. This Tribunal has identified the remedial measures and issued final directions vide order dated 24.08.2021 which include progress report about compliance being put up. Such reports have been put and considered today and on two occasions earlier.

10. None appears for the Applicant. Since this Tribunal cannot be a substitute for the statutory regulators to continue to monitor compliance for indefinite period, we close the proceedings, reiterating the directions already issued, with liberty to aggrieved parties to move afresh if any grievance survives on account of non compliance of directions already issued or otherwise. However, the monitoring may be continued by the statutory regulators, in accordance with law.

[†] Special Bench

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**BEFORE THE NATIONAL GREEN TRIBUNAL (SOUTHERN ZONE)
CHENNAI**

Original Application No 195 of 2016 (SZ)

IN THE MATTER OF:

Tandur Citizens Welfare Society

..... Applicant

Versus

Government of Telangana & Ors.

.....Respondent(s)

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Date: 06.05.2022

Place: Chennai




DEPONENT
H.D. VARALAXMI, M. Tech
 Regional Director
 CENTRAL POLLUTION CONTROL BOARD
 (MoEF & CC, Govt. of India)
 Regional Directorate (Chennai)
 2nd Floor, 77-A, South Avenue Road,
 Shripathur Industrial Estate, Chennai - 600 058

**Report on Feasibility of Interlocking System in Industries
having Online Continuous Emission Monitoring Systems
(OCEMS)**

Submitted before

The Hon'ble National Green Tribunal, Southern Zone, Chennai

In the matter of

Tandur Citizens Welfare Society

v/s

Government of Telangana & Ors. (OA No. 195/2016 (SZ))

(May 06, 2022)



Central Pollution Control Board
'Parivesh Bhawan', East Arjun Nagar
Delhi-11003

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Report on Feasibility of Interlocking System in Industries having Online Continuous Emission Monitoring Systems (OCEMS)

1. Background

In the matter of Tandur Citizens Welfare Society v/s Government of Telangana & Ors., OA No. 195/2016 (SZ), filed before the Hon'ble NGT, Southern Zone, Chennai, the Telangana State Pollution Control Board in its report dated 26.07.2021 mentioned the following:

“3. The OCEMS was functioning continuously without any interruption from January 2021 to till date. With regard to the production, there will not be any impact on production due to non-functional of the OCEMS. However, based on the directions of the Board, all the three cement industries (M/s. India Cements Limited, M/s. Penna Cement Industries Ltd and M/s. Cement Corporation of India Ltd.) have installed interlocking systems. The purpose of the interlocking system is that whenever the control systems fails, the feed of raw material is cut off automatically and the emissions are controlled.”

Considering the fact regarding interlocking systems in cement industries, the Hon'ble NGT vide order dated 24.08.2021, directed as follow:

“iv. The question of the interlocking system which has been introduced in cement factories can be extended to other industries as well where this Online Continuous Emission Monitoring System (OCEMS) is installed and State of Telangana and State Pollution Control Board are directed to take steps in this regard.

v. The Central Pollution Control Board (CPCB) is also directed to consider this aspect and implement the same in other States as well.”

2. Inception of Online Continuous Effluent/Emission Monitoring System (OCEMS) in industries

In order to strengthen the monitoring and compliance through self-regulatory mechanism, CPCB vide directions dated 05.02.2014 issued under Section 18(1)(b) of the Water (Prevention & Control of Pollution) Act, 1974, and 18(1)(b) of the Air (Prevention & Control of Pollution) Act, 1981 directed State Pollution Control Boards (SPCBs)/ Pollution Control Committees (PCCs) to ensure installation of Online Continuous Effluent/Emission Monitoring Systems (OCEMS) in 17 categories of highly polluting industries and common waste treatment facilities.

This step was taken to inculcate the habit of self-monitoring within the industries to ensure compliance of prescribed environmental standards. The OCEMS informs industries regarding the quality of effluent/emissions being discharged from stack/outlet on real-time basis and alerts them to take appropriate action in case of exceedance of pollutant parameters, to meet the prescribed environmental norms.

There are 4,247 industries under 17 categories of highly polluting industries, out of which 3,535 industries have installed OCEMS and provided data connectivity to CPCB and SPCB. For remaining 712 units, closure directions have been issued.

3. Industrial Inter-Locking System

Many industrial sectors adopt interlocking system, where industrial operations are regulated with different control system such as instruments, devices, networks, etc. In such system, the control devices operate at pre-set parameters/range (such as temperature, pressure, etc.), failing which interlocking system get triggered/activated to regulate the process.

Such interlocking systems are used by industries to ensure quality control in product manufacturing, minimizing wastages/losses of raw-material/final product and to ensure safety in operations.

4. Assessment of feasibility of interlocking of industrial processes with OCEMS

In order to examine the feasibility of introduction of interlocking system in various industrial sectors having OCEMS, CPCB constituted a Committee, vide order no. CPCB/IPC-VI/OCEMS/Interlocking, dated 02.02.2022 (copy given at **Annexure-I**), comprising of the representatives of (i) National Environmental Engineering Research Institute (NEERI), Nagpur, (ii) National Chemical Laboratory (NCL), Pune, (iii) West Bengal Pollution Control Board, (iv) Maharashtra Pollution Control Board and (v) Central Pollution Control Board.

During the meetings held on 05.02.2022 and 02.05.2022, the Committee examined the matter and recommended the following:

- i. The purpose of OCEMS is to regulate and minimize inspection of industries on routine basis by bringing self-discipline in the industries to exercise self-monitoring and compliance. Further, through continuous access of effluent and emission data, SPCBs/PCCs and CPCB also ensure constant vigil on environmental compliance by industries.
- ii. OCEMS are linked to both CPCB and SPCB servers and SMS messages/alerts get generated in case of value of pollutant parameter exceeds prescribed environmental norms, non-acceptable variations in data and offline behaviour of OCEMS. The existing set up is adequate for self-monitoring and to initiate corrective action, including regulating the production process.
- iii. It is not recommendable to use OCEMS based interlocking for instant shutting down of industrial processes, as the same may pose risk to

safety, health hazard and uncontrolled emissions, due to incomplete chemical reactions/processing, especially in the industrial sectors such as chemical industries, copper smelters, thermal power plants etc.

5. Steps taken by CPCB to ensure industrial compliance through OCEMS

The real-time OCEMS values of environmental pollutants of trade effluent and emissions, discharged from industrial units are transmitted online to CPCB and concerned SPCB/PCC servers on 24x7 basis. The central software processes the data and in case of value of pollutant parameter exceeds prescribed environmental norms, an automatic SMS messages/alert is generated and sent to industrial unit, SPCB and CPCB, so that corrective measures can be taken by the industry immediately and appropriate action can be taken by concerned SPCB/PCC.

CPCB also carries out inspection-cum-monitoring of industries, selected on the basis of the real time data received through OCEMS installed in industries. Since 2016, on the basis of SMS alerts generated due to violations of environmental norms, CPCB has been carrying out inspection-cum-monitoring of 17 categories of highly polluting industries on random basis. In case of non-compliance, action against industry is taken under the provisions of Water Act, 1974, Air Act, 1981 and Environment (Protection) Act, 1986.

6. Conclusion

Considering the present status of OCEMS and also keeping in view the risk to safety, health hazard and uncontrolled emissions in case of sudden shut-down of processes, it is not recommendable to force industries to install interlocking system between production processes and OCEMS.



H.D. Varalaxmi
H.D. VARALAXMI, M.Tech
 Regional Director
 CENTRAL POLLUTION CONTROL BOARD
 (MoEF & CC Govt. of India)
 Regional Directorate (Chennai)
 2nd Floor, 77-A, South Avenue Road,
 Ambattur Industrial Estate, Chennai - 600 052

Annexure-1

केन्द्रीय प्रदूषण नियंत्रण बोर्ड
CENTRAL POLLUTION CONTROL BOARD
 पर्यावरण, वन एवं जलवायु परिवर्तन मंत्रालय भारत सरकार
 MINISTRY OF ENVIRONMENT, FOREST & CLIMATE CHANGE GOVT. OF INDIA

OFFICE ORDER**CPCB/IPC-/OCEMS/Interlocking****02.02.2022**

Sub: Constitution of the Committee to examine the feasibility of interlocking system in industries having Online Continuous Effluent/Emission Monitoring System (OCEMS).

The Hon'ble NGT vide order dated 24.08.2021, in the matter of Tandur Citizens Welfare Society v/s. Govt. of Telangana & Ors., OA No. 195/2016 (SZ), directed Central Pollution Control Board (CPCB) to consider the aspect of interlocking system, which has been introduced in some of the cement industries in Telangana and implement the same in other industries where OCEMS systems are installed. The purpose of the interlocking system is that whenever the control system fails, the feed of raw material is cut-off automatically and the emissions are controlled.

02. To examine the matter, a Committee comprising of the following members is constituted:

Sl. No.	Name, Designation and Organization	Role
1	Shri B. Vinod Babu Sc. 'F' & Div. Head (IT), CPCB, Delhi	Chairman
2	Representative, CSIR- National Environmental Engineering Research Institute (NEERI), Nagpur	Member
3	Representative, CSIR-National Chemical Laboratory (NCL), Pune	Member
4	Representative, West Bengal Pollution Control Board	Member
5	Representative, Maharashtra Pollution Control Board	Member
6	Shri Nazimuddin Sc. 'F' & Div. Head (IPC-II), CPCB, Delhi	Member
7	Shri Abhijit Pathak Sc. 'D', AQMN Division, CPCB, Delhi	Member
8	Shri Ajay Aggarwal Sc. 'F' & Div. Head (IPC-VI), CPCB, Delhi	Member Convenor

03. The 'Terms of Reference' of the Committee are as follows:

- i. To examine the feasibility of introduction of interlocking system in various industrial sectors, where OCEMS are installed.
- ii. The Committee may invite/nominate/co-opt expert members, industrial associations, etc., having expertise in the field of industrial process and pollution control.
- iii. The Committee may meet as often as necessary.

'परिवेश भवन' पूर्वी अर्जुन नगर, दिल्ली-110032
 Parivesh Bhawan, East Arjun Nagar, Delhi-110032
 दूरभाष/Tel : 43102030, 22305792, वेबसाइट/Website : www.cpcb.nic.in

- iv. The tenure of the Committee shall be for a period of three months from the date of issue of this office order.
- v. The Committee will submit its recommendations by 31.03.2022, for further consideration.
- vi. TA/DA reimbursement and sitting fees will be provided in accordance with the order dated 20/4/2017 of Hon'ble NGT, Principal Bench, New Delhi in the matter of O.A. No. 24 of 2011.
- vii. The expenditure in this regard will be met from the Budget Head "NGT 25%" of CPCB.

This is issued with the approval of Competent Authority, CPCB.



(Ajay Aggarwal)

Director & Div. Head, IPC-VI

To:

- 1. All the Members of the Committee
(as per the list)

Copy to:

- 1. PS to MS
- 2. Div. Head (Law), CPCB, Delhi

for information of MS, please
for information, please



(Ajay Aggarwal)

To:

- 1 Shri B. Vinod Babu
Sc. 'F' & Div. Head (IT),
CPCB, Delhi
- 2 Director, CSIR- National Environmental Engineering Research Institute (NEERI),
Nehru Marg,
Nagpur- 440 020 : with a request to nominate a representative.
- 3 Director, CSIR-National Chemical Laboratory (NCL),
Dr. Homi Bhabha Road,
Pune - 411 008 : with a request to nominate a representative.
- 4 Member Secretary,
West Bengal Pollution Control Board
Paribesh Bhavan
Building, No.10-A, Block -LA, Sector 3,
Salt Lake City,
Kolkata - 700 091 : with a request to nominate a representative.
- 5 Member Secretary,
Maharashtra Pollution Control Board
Kalpataru Point, 3rd& 4th floors
Sion Matunga Scheme Road No. 6
Opp. Cine Planet, Sion Circle, Sion (E),
Mumbai 400 022 : with a request to nominate a representative.
- 6 Shri Nazimuddin
Sc. 'F' & Div. Head (IPC-II),
CPCB, Delhi
- 7 Shri Abhijit Pathak
Sc. 'D', AQMN Division,
CPCB, Delhi
- 8 Shri Ajay Aggarwal
Sc. 'F' & Div. Head (IPC-VI),
CPCB, Delhi

Atgund
21/01/22



केन्द्रीय प्रदूषण नियंत्रण बोर्ड
CENTRAL POLLUTION CONTROL BOARD

425

पर्यावरण, वन एवं जलवायु परिवर्तन मंत्रालय, भारत सरकार.
MINISTRY OF ENVIRONMENT, FOREST & CLIMATE CHANGE, GOVT. OF INDIA.

Speed Post/Email

F. No. PJ-14011(12)/35/2022-WQM-II-HO-CPCB-HO

Date: 14.05.2025

To,

(List enclosed)

Subject: Implementation of "Comprehensive Charter 2.0 for Water Conservation and Pollution Prevention" in Sugar industries operating in river Ganga & Yamuna main stem states"- reg.

Sir,

Central Pollution Control Board (CPCB) had formulated "Charter for Effluent Treatment by Sugar Factories situated in river Ganga basin" (Charter 1.0) to ensure adoption of cleaner technology, waste minimization practices and augmentation & up-gradation of Effluent Treatment Plants (ETPs) and to motivate sugar industries to comply with prescribed effluent discharge norms. The implementation of the Charter 1.0, resulted in (i) augmentation & up-gradation of existing effluent treatment plants upto tertiary level, (ii) increase in compliance percentage by 89%, (iii) reduction in specific fresh water consumption by 74%, (iv) reduction in specific effluent discharge by 30% and (v) reduction in organic pollution load by 2.1 TPD as compared to year 2016-17.

After successful implementation of Charter 1.0, CPCB has finalized the Charter 2.0, namely, "**Comprehensive Charter for Water Conservation and Pollution Prevention by Sugar Industries**" in consultation with all stakeholders for further improvement in Sugar Industries. Copy of Charter 2.0 is enclosed herewith for ready reference and also available on CPCB Website <https://cpcb.nic.in/ngrba/Charter-2.0-Sugar.pdf>.

It is requested to kindly circulate the Charter 2.0 to all the Sugar Industries in your state with instructions for its time bound implementation. Suggestive measures as given in Charter 2.0 may also be incorporated in CTO/CCA of Sugar Industries.

Action taken report may be forwarded to CPCB within 30 days of receipt of this letter.

Encl: As above

Yours faithfully,

(Bharat Kumar Sharma)
Member Secretary

Copy to,

1. **The Director General,**
National Mission for Clean Ganga,
(MOWR, RD & GR) 1st Floor, Major Dhyan Chand
National Stadium, India Gate,
New Delhi-110002

: for kind information, please

‘परिवेश भवन’ पूर्वी अर्जुन नगर, दिल्ली - 110032.
Parivesh Bhawan, East Arjun Nagar, Delhi - 110 032.

दूरभाष /Tel : 43102030, 22305792, वेबसाइट/Website: www.cpcb.nic.in

2. **The Additional Secretary (CP Division),
Ministry of Environment, Forest & Climate
Change (MoEF & CC), Prithvi Block,
Indira Paryavaran Bhawan, Jorbagh Road,
New Delhi – 110 003** : for kind information, please
3. **The Regional Director,
Regional Directorate, Chandigarh,
Central Pollution Control Board,
First Floor, BSNL Exchange Building,
Sector-49, Chandigarh-160 047** : for follow-up, please
4. **The Regional Director,
Regional Directorate (Lucknow),
Central Pollution Control Board,
Ground Floor, PICUP Bhawan, Vibhuti Khand,
Gomti Nagar, Lucknow-226 010(U.P.)** : for follow-up, please
5. **The Regional Director,
Regional Directorate, Kolkata,
Central Pollution Control Board,
Southend Conclave, Block 502 5th & 6th Floors,
1582, Rajdanga Main road,
Kolkata-700 107 (West Bengal)** : for follow-up, please
6. **The Director,
National Sugar Institute,
G.T. Road, near Kalyanpur railway station,
Kalyanpur, Kanpur, Uttar Pradesh-208017** : for kind information, please
7. **The Director General,
Vasantdada Sugar Institute,
Manjari Budruk, Haveli, Pune,
Maharashtra – 412307** : for kind information, please



(Bharat Kumar Sharma)

List of State Pollution Control Boards (SPCBs)

1. **The Member Secretary,**
Uttarakhand Pollution Control Board,
Gaura Devi Bhawan, 46B IT Park,
Sahastradhara, Dehradun- 248001, Uttarakhand.
2. **The Member Secretary,**
Uttar Pradesh Pollution Control Board,
Building. No. TC-12V, Vibhuti Khand,
Gomti Nagar, Lucknow-226010, Uttar Pradesh.
3. **The Member Secretary,**
Haryana State Pollution Control Board,
C-11, Sector-6, Panchkula,
Haryana-134109, Haryana.
4. **The Member Secretary,**
Bihar State Pollution Control Board,
Parivesh Bhawan, Plot No. NS-B/2,
Patliputra Industrial Area,
Patliputra, Patna- 800 010, Bihar.
5. **The Member Secretary,**
West Bengal Pollution Control Board,
Paribesh Bhavan, 10A, Block-L.A., Sector III,
Bidhannagar, Kolkata-700 106, West Bengal.

COMPREHENSIVE CHARTER 2.0 FOR WATER CONSERVATION AND POLLUTION PREVENTION BY SUGAR INDUSTRIES



CENTRAL POLLUTION CONTROL BOARD



MAY, 2025

ABBREVIATIONS AND ACRONYMS

ACF	Activated Carbon Filter
AT	Aeration Tank
IER	Ion Exchange Resin
%	Percentage
@	At the rate of
<	Less than
APCD	Air Pollution Control Device
APH	Air Pre-heater
BOD	Biological Oxygen Demand
BMT	Bare Minimum Technologies
CAQM	Commission for Air Quality Management
CGWA	Central Ground Water Authority
CO ₂	Carbon Dioxide
COD	Chemical Oxygen Demand
CPCB	Central Pollution Control Board
CPU	Condensate Polishing Unit
CSTR	Continuous Stirred Tank Reactor
CTE	Consent To Establish
CTO	Consent To Operate
DCS	Distributed Control System
DO	Dissolved Oxygen
DSM Screen	Dutch State Mines Screen
DMR	Daily Manufacturing Record
DM Water	Demineralized Water
EBP	Ethanol Blending Policy
ENA	Extra neutral alcohol
EMC	Environmental Management Cell
EPR	Extended producer responsibility
ESP	Electrostatic Precipitator
ETP	Effluent Treatment Plant
G.S.R.	General Statutory Rules
HCL	Hydrochloric Acid
Hon'ble NGT	Honourable National Green Tribunal
hr	Hour
HW	Hazardous Wastes
i.e.	That is
IIT	Indian Institute of Technology
IMFL	Indian Made Foreign Liquor
kg/cm ²	Kilogram per square meter
L/T	Litre per ton
Lit	litre
m ²	Square meter
m ³	Cubic meter
Max.	Maximum

MF	Microfiltration
mg/l	Milligram per litre
mg/nm ³	Milligram per newton cubic meter
MGF	Multi Grade Filter
MLSS	Mixed Liquor Suspended Solids
MLVSS	Mixed Liquor Volatile Suspended Solids
MoEF&CC	Ministry of Environment Forest and Climate Change
MoJS	Ministry of Jal Shakti
MT	Metric Tonne
MTD	Metric Tonne Per Day
MVR	Mechanical Vapour Recompression
MW	Megawatt
NCR	National Capital Region
NMCG	National Mission for Clean Ganga
NO ₂	Nitrogen Di-oxide
NOCs	No Objection Certificates
NSI	National Sugar Institute
°C	Degree centigrade
OCEMS	Online Continuous Effluent System
PCT	Process Cooling Tower
pH	Potential of Hydrogen
PI	Preparatory Index
PPM	Parts Per Million
PPE	Provision of personal protective equipment
PSM	Process Safety Management
RMC	Ready Mix Concrete
RME	Reduced Mill Extraction
RVF	Rotary Vacuum Filter
RBC	Return Bagasse Carrier
RO	Reverse Osmosis
SO ₂	Sulphur Di-oxide
SOPs	Standard Operating Procedures
SPCB	State Pollution Control Board
SRS	Sulphate Removal System
TCD	Ton Crush per Day
TDS	Total Dissolved Solids
TPD	Tonne Per Day
TSDF	Treatment, storage and disposal facility
TSS	Total Suspended Solids
TVR	Thermal Vapour Recompression
UGR	Under Ground Reservoir
UASB	Up-flow Anaerobic Sludge Blanket Reactor
viz.	Namely
VSI	Vasantdada Sugar Institute
WBT	Wet Bulb Temperature
WTP	Water Treatment Plant

ISMA	Indian Sugar Mills Association
UPSMA	UP Sugar Mills Association

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1. REGULATORY FRAMEWORK AND EVOLUTION OF SUGAR CHARTER

The Government of India vide Gazette Notifications dated January 15th, 2016 G.S.R. 35 (E) in exercise of the powers delegated by section 6 and 25 of the Environment (Protection) Act, 1986, notified the standards for sugar industries for quality of treated effluent. The discharge norms are tabulated below:

Table 1: Notified discharge standards under E(P)Act, 1986 for sugar industries

Industry	Parameters	Standards (<i>All concentration values are in milligramme per litre except for pH</i>)
Sugar Industry	pH	5.5 – 8.5
	Total Suspended Solids (TSS)	100 (for disposal on land) 30 (for disposal in surface waters)
	Biological Oxygen Demand, BOD (3 days at 27°C)	100 (for disposal on land) 30 (for disposal in surface waters)
	Oil & Grease,	10
	Total Dissolved Solids (TDS)	2100
	Final wastewater discharge limit	200 litre per tonne of cane crushed
	(Final treated effluent discharge restricted to 100 litre per tonne of cane crushed and Waste water from spray pond overflow or cooling tower blow down to be restricted to 100 litre per tonne of cane crushed and only single outlet point from unit is allowed.)	
	EMISSIONS	
	The particulate matter emissions from the stack shall be less than 150 milligram per normal cubic metre	

In these standards, the emphasis was only on effluent characteristics and discharge quantity. However, Sugar industry is water surplus industry where the water comes in system from Sugarcane (approx. 70%) which was not focused in notified norms.

With declaration of river Ganga as National River and constitution of National Ganga River Basin Authority (NGRBA) to ensure effective abatement of pollution and

conservation of the river Ganga, the issue of minimizing the environmental impact of sugar industries on water quality of river Ganga and its tributaries became a priority agenda before the regulatory agencies. Prior to crushing season 2017-18 most of the sugar industries in river Ganga basin were not having adequate and functional effluent treatment plants (ETPs) and were engaged in the disposal of untreated/partially treated effluent in waterbodies which was ultimately reaching river Ganga & its tributaries. The major reasons for adverse environmental impact of sugar industries on water quality of river Ganga and its tributaries were non-existence of functional & adequate ETPs, lack of process optimisation, intensive use of freshwater (250-350 L/T of cane crushed), lack of awareness and unskilled manpower for proper operation and maintenance of ETP and consequently high discharge of effluent etc. and most importantly lack of technical know-how to adopt desired infrastructure for treating the effluent so as to have control over the quantum and quality of effluent.

To address these issues, CPCB organised series of meeting with sugar industries and other stake holders during 2017-2018. In these meetings it was decided that all the sugar industries situated in the Ganga Basin shall up-grade the effluent treatment facilities at their end and will get Effluent Treatment Plant (ETP) adequacy reports and up-gradation plan prepared from reputed expert institutions. CPCB also constituted an Expert Committee comprising experts from NSI, IIT, VSI, Indian Sugar Mills Association (ISMA), UP Sugar Mills Association (UPSMA) and industry representatives.

The purpose of this initiative was to develop a self- regulatory approach amongst the industries for complying with the set standards, improvement of the quality of the discharged effluent and to minimize the specific freshwater consumption.

Accordingly, the “charter for effluent treatment by Sugar industries situated in river Ganga Basin” was formulated during 2018. The purpose of formulating the charter was to enforce appropriate technologies for effluent treatment in sugar industries in Ganga basin and to motivate them to accomplish desired level of environmental protection and achieve prescribed discharge norms so as to meet objective of clean river Ganga. The Charter took a holistic approach for pollution prevention by emphasizing on process technology up-gradation, adoption of waste minimisation practices, besides quantum improvement in effluent treatment technologies including reduction in specific fresh water consumption requirement through water recycling and metering. The Charter also

suggested Bare Minimum Technologies (BMT) as an indication of the set of desired technologies.

Meetings were organised under the chairmanship of Principal Secretary, Sugar industry and Sugarcane Development Department of Uttar Pradesh & Uttarakhand and Chairman, Bihar State Pollution Control Board with Sugar industries during 2018 to facilitate the industries and their associations for implementation of sugar Charter. Orders dated 17.07.2018, 30.07.2018 and 21.08.2018 were issued by State Sugarcane Development Departments of U.P, Uttarakhand and Bihar State Pollution Control Board, respectively for implementation of the Charter. Before the commencement of crushing season 2018-19, CPCB also issued directions under section 5 of Environment (Protection) Act, 1986 to Sugar Industries for implementation of the action points in line with the Charter recommendations.

In the first phase of the Charter implementation, the sugar industries were required to carry out adequacy assessment of ETPs, identification of the gaps in effluent management and downstream technologies. Accordingly, action plans were to be prepared to upgrade the technologies for ensuring compliance with the discharge norms. Thereafter, in the second phase, Evaluation/ Validation of above work plan was carried out by expert technical institutes in respect of implementation of the suggestions given in the adequacy assessment reports. The major highlights of the Charter are as below:

- Participatory approach to facilitate the industries for pollution control
- Third party involvement for planning, assessment, design and monitoring
- Upgradation of ETP upto tertiary treatment level
- Metering at water abstraction points, water use, waste generation and discharge points
- Adequacy of ETP and Water Audit by technical institutes
- Self-monitoring and reporting
- Maintenance of log books and record keeping
- Installation of Condensate Polishing Unit (CPU) where high pressure boiler (more than greater than or equal to 45 kg/cm² working pressure).
- Recirculation of water employed in SO₂ gas coolers massecuite cooling and elsewhere
- Use of surplus cooled condensate as make up water replacing fresh water
- Use of membrane-based technology to attain brine recovery

- Development of proper infrastructure for operation and maintenance of ETP
- Commissioning of mechanical sludge handling system of adequate capacity
- Preparation of Irrigation Management Plan
- Installation of OCEMS and its connectivity to CPCB and SPCB servers
- Development of Environmental Management Cell (EMC)

Successful implementation of Charter resulted in following:

- Reduction in specific fresh water consumption by 74% as compared to 2016-17. This resulted in saving of approx. 2500 million litres of fresh water in spite of increase in total production in 2022-23 with respect to 2016-17.
- BOD load has also reduced from 8.45TPD to 2.1TPD from 2017 to 2023.
- Sugar industries had prepared irrigation management plan for the utilization of treated effluent in irrigation.
- Augmentation & Updation of effluent treatment plants upto tertiary level.
- Metering at the various recycling points in the sugar process as well as at all water abstraction points along with ETP inlet and outlet point.
- Adequacy of effluent treatment plants by the sugar industries situated in the Ganga basin.
- Proper record keeping
- Installation of condensate polishing unit for the treatment of excess condensate for its further utilization in the sugar process
- Installation of Online Continuous Effluent Monitoring System (OCEMS)

2. CURRENT STATUS OF SUGAR INDUSTRY ON MAIN STEM OF RIVER GANGA AND YAMUNA

On the main stem of river Ganga and Yamuna around 155 nos. of sugar industries are located with crushing capacity range of 2500 to 16000 TCD as per the inventory of year 2024, which constitute about 22% of country's sugar sector. Sugar industries processes sugarcane as raw material to produce either sulphited or refined sugar., These industries are spread over the states of Uttarakhand, Haryana, Uttar Pradesh, Bihar & West Bengal. Out of 149 sugar industries inspected in the crushing season 2022-23, 115 (83 in river Ganga main stem states and 32 in river Yamuna main stem states) were found operational with an average crushing of around 646447.80 MT/day. Category wise number of operational sugar industries is shown in Table 2 below:

Table 2: Category-wise sugar data for the crushing season 2022-23

State \ category	Standalone	Sugar with co-generation	Refinery	Refinery with co-generation
Uttarakhand	05	02	01	-
Haryana	02	06	-	01
Uttar Pradesh	34	36	07	19
Bihar	01	-	-	01
West Bengal	-	-	-	-
Total	42	44	8	21

3. CHARTER 2.0

3.1 NEED FOR CHARTER 2.0

Significant achievements have been observed over a period of time (from the year 2017 to 2023) in terms of the reduction in fresh water consumption, effluent discharge, treatment and management of sugar effluent and maintenance of effluent standards as well as energy saving in sugar sector due to the effective implementation of the charter 1.0. However, during various interactions, meetings, seminars held with Sugar industries certain issues pertaining to sugar industries emerged such as groundwater exploitation due to excessive freshwater consumption, high quantum of effluent generation, under capacity of ETP, sludge management, brine reject management, non-compliance w.r.t. stack emissions norms, untrained and inadequate manpower, storage and handling of press mud, handling and disposal of boiler/bottom & fly ash, poor performance of ETP & non-compliance with effluent discharge norms, difference in treated water reuse opportunity because of factors like different plant configuration, type of molasses diversion, sugarcane variety and varying weather conditions during crushing season (November to April). Due to these issues, increase in number of legal litigation related to sugar industries was noticed. Therefore, it is high time to address these issues and hence, the charter needs to be updated in order to develop a more holistic and comprehensive version.

During recent inspections by CPCB officials under 'Environmental Surveillance of 17 categories of highly polluting industries and common facilities, based on OCEMS data', Public complaints, court/NGT matters, and annual inspections by CPCB authorized Third Party Technical Institutes, the following issues have emerged:

3.1.1 Groundwater exploitation due to excessive freshwater consumption

The sugar industry is the sector where excess water enters the system from raw material since sugarcane contains 70% water which amounts to approx. 700-750 lit/tonne of cane crushed.

It has been observed that the sugar industries are using significant amount of freshwater, about 100-200 litres per ton of crushed cane from groundwater through bore wells. Sugar industries acquire 'No Objection Certificates (NOCs)' for three to six bore wells from the CGWA/State ground water department. The quality of groundwater in areas next to sugar industries has declined due to overexploitation and intensive irrigation in sugarcane field in the command areas. It has been found through a number of

groundwater quality studies that the groundwater around sugar industries is becoming unfit for human consumption due to high levels of conductivity, hardness, alkalinity, sulphate and iron.

Therefore, usage of the large quantity of fresh water resource by sugar and its allied industries is a matter of concern. Hence, sugar industries need to explore the possibilities of optimizing the reuse and recycling of the excess condensate and treated effluent in the process. Groundwater overuse can be reduced with such utilization and initiatives.

The consumption of freshwater in sugar industries depends on various factors such as:

a) Type of sugar category i.e. standalone, sugar with co-gen etc.

Depending upon the configuration the range of freshwater consumption in sugar industries varies from 50-150L/ton of cane crushed. In the case of Standalone sugar industry, fresh water consumption is around 50-70 L/T of cane crushed. In the case of sugar sulphitation industry with co-generation, the range of fresh water consumption is approx.100-150 L/T of cane crushed. Similarly, in the case of sugar refinery industry with co-generation, the range of freshwater consumption is 100-150 L/T of cane crushed. Variation in freshwater consumption in different categories of sugar industries is mainly due to the variation in steam requirement and boiler feed water quality.

b) Type of boiler and mode of turbine operation

The choice between a high-pressure and a low-pressure boiler in a sugar industry largely depends on the size of industry, its energy needs, and its operational goals.

High-pressure boilers operate at pressures above 42 Kg/cm². The steam generated is at a higher temperature and pressure, making it highly efficient for power generation through turbines. High-pressure boilers are more suited to larger industries with higher energy requirements and a focus on maximizing electricity generation for internal use and revenue generation through power export. Modern sugar industries tend to favour high-pressure boilers due to their energy efficiency and potential to cut costs and generate additional revenue. Moreover, with increasing focus on sustainable practices, the efficient conversion of bagasse into both sugar and energy using high-pressure systems aligns well with environmental goals.

Low-pressure boilers typically operate at pressures below 42 Kg/cm². The steam generated is suitable for low power needs and is used primarily for process heating in

various applications. They are mostly used in smaller industries where the scale and scope of operations justify a simpler, more cost-effective steam generation system.

In low pressure boilers, fresh water is only required for initiation of boiler operation, which is approx. 50 L/ton of cane crush. Thereafter, process condensate is utilized as a feed for steam generation. Whereas, in case of high pressure boilers freshwater consumption varies between 70-150 L/ton of cane depending upon the turbine operation mode i.e. back pressure mode and condensing mode.

In back pressure turbine mode, the steam exhausts at a higher and fixed pressure which can then be used directly in the sugar manufacturing process or for heating. This mode allows the turbine to generate both power and useful thermal energy (in the form of steam). While the electrical efficiency of back pressure turbines is lower than that of condensing turbines, they are more efficient in terms of overall energy utilization, as they cogenerate heat and electricity. This mode is ideal during the crushing season when there is significant demand for process steam in the mill for heating, evaporation, and other processes.

In condensing turbine mode, the steam is cooled in the condenser, turns back into water and is then returned to the boiler. This mode is designed to produce maximum electricity from the available steam. This mode is highly efficient in terms of electricity generation as it generates more power production per ton of steam. Condensing turbines are generally used when there is a more power generation and less need for process steam such as during non-crushing seasons or in mills where surplus power is sold to the electricity grid.

c) Seasonal variation in terms of evaporation losses

Surplus water available in sugar industries is not a constant parameter as it varies according to atmospheric conditions such as temperature, humidity etc. As observed, in the month of November, December and January the percentage of juice brix is low, water input from cane remains high and hence the fresh water requirement remains on lower side whereas during the months of February, March and April the percentage of juice brix is higher and water input from cane reduces hence the fresh water requirement increases. Due to ambient temperature difference there are variation in evaporation losses, also.

Variation in fresh water consumption in different categories of sugar industries is tabulated in table no. 3 below:

Table 3. Different scenarios of effluent generation and freshwater consumption in different categories of sugar industries

S. N.	Category	Sub-category	Type of turbine	Category code	Type of molasses	Fresh water consumption	Final Discharge (including spray pond overflow)
1	Standalone (S)	Sugar mill Sulphitation and low pressure boiler	Back pressure turbine	S1	C heavy	70 Ltrs/MT of cane	230-260 Ltrs/MT of cane
2					B heavy	70 Ltrs/MT of cane	250-280 Ltrs/MT of cane
3					Syrup and B-heavy	70 Ltrs/MT of cane	235-260 Ltrs/MT of cane
4		Sugar mill Sulphitation and high pressure boiler	Condensing mode turbine	S2A	C heavy	120 -150 Ltrs/MT of cane	190-220 Ltr/MT of Cane
5					B heavy	120 -150 Ltrs/MT of cane	210-240 Ltrs/MT of cane
6					Syrup and B-heavy	120 -150 Ltrs/MT of cane	190-220 Ltrs/MT of cane
7			Back pressure turbine	S2B	C heavy	60-70 Ltrs/MT of cane	230-260 Ltr/MT of Cane
8					B heavy	60-70 Ltrs/MT of cane	250-280 Ltrs/MT of cane
9					Syrup and B-heavy	60-70 Ltrs/MT of cane	240-270 Ltrs/MT of cane
10		Sugar backend refinery with low pressure boiler	Back pressure turbine	R1	C heavy	70-80 Ltrs/MT of cane	220-250 Ltrs/MT of cane
11					B heavy	70-80 Ltrs/MT of cane	240-270 Ltrs/MT of cane
12					Syrup and B-heavy	70-80 Ltrs/MT of cane	220-250 Ltrs/MT of cane
13		Sugar backend refinery with high pressure boiler	Condensing mode turbine	R2A	C heavy	120 -150 Ltrs/MT of cane	180-210 Ltr/MT of Cane
14					B heavy	120 -150 Ltrs/MT of cane	190-220 Ltrs/MT of cane
15					Syrup and B-heavy	120 -150 Ltrs/MT of cane	185-215 Ltrs/MT of cane

S. N.	Category	Sub-category	Type of turbine	Category code	Type of molasses	Fresh water consumption	Final Discharge (including spray pond overflow)
16			Back pressure turbine	R2B	C heavy	70-80 Ltrs/MT of cane	220-250 Ltrs/MT of cane
17					B heavy	70-80 Ltrs/MT of cane	240-270 Ltrs/MT of cane
18					Syrup and B-heavy	70-80 Ltrs/MT of cane	220-250 Ltrs/MT of cane
19	Integrated Sugar mills with Distillery units	Sugar mill Sulphitation with low pressure boiler integrated with distillery	Back pressure turbine	I1	C heavy	60-70 Ltrs/MT of cane	170-200 Ltrs/MT of cane
20					B heavy	60-70 Ltrs/MT of cane	190-220 Ltrs/MT of cane
21					Syrup and B-heavy	60-70 Ltrs/MT of cane	175-200 Ltrs/MT of cane
22		Sugar mill Sulphitation with high pressure boiler units with co-generation and integrated with distillery	Back pressure turbine	I2A	C heavy	60-70 Ltrs/MT of cane	170-200 Ltrs/MT of cane
23					B heavy	60-70 Ltrs/MT of cane	190- 220 Ltrs/MT of cane
24					Syrup and B-heavy	60-70 Ltrs/MT of cane	175-200 Ltrs/MT of cane
25			Condensing mode turbine	I2B	C heavy	120 -150 Ltrs/MT of cane	120-150 Ltr/MT of Cane
26					B heavy	120 -150 Ltrs/MT of cane	130-160 Ltrs/MT of cane
27					Syrup and B-heavy	120 -150 Ltrs/MT of cane	125-155 Ltrs/MT of cane

3.1.2 High quantum of effluent generation

Sugar industry is a water surplus industry as sugarcane contains 70% of water. As tabulated in Table 3 above after considering losses total wastewater discharge including balance excess condensate, cold water effluent and spray pond overflow amounts to 170-280 lit/ton (in case of low pressure boiler) and 120-270 lit/ton (in case of high pressure boiler). The detailed water balance is given in Appendix 8.4. Therefore, it produces high quantum of effluent which can be treated and reused in various unit operations. Additionally, cleaning operations viz. washing of mill house floor, various division of boiling house like clarifications, evaporators, vacuum pans, centrifugation etc. generate huge volume of waste water. Periodical cleaning of heat exchangers, evaporators & regeneration of IER column with NaOH, NaCl, HCl, Sulphamic acid etc. to remove the scale from the tube surfaces and regenerate the resin in their original form which contributes organic and inorganic pollutant loading to waste water treatment plants. Leakages from pumps, pipelines, centrifugal section also contribute to waste water produced. Effluent is also produced from boiler blow down, spray pond overflow and from condenser cooling water which is discharged as waste water when it gets contaminated with cane juice or molasses.

As per the notified discharge norms for Sugar industry, final wastewater discharge limit is notified as 200 litre per tonne of cane crushed (final treated effluent discharge restricted to 100 litre per tonne of cane crushed and waste water from spray pond overflow or cooling tower blow down to be restricted to 100 litre per tonne of cane crushed).

In sugar industries quantity of effluent generation is not uniform. Variation in final effluent discharge quantity in different categories of sugar industries is tabulated in above table 3.

The following factors affects the effluent discharge quantity:

a) Difference in treated water reuse opportunity because of different plant configuration

i. Standalone with low pressure boiler:

- After initial fill no fresh water is required. The treated condensate is used for auxiliary cooling towers, boiler feed and process cold water UGR makeup. No fresh water for cooling tower makeup and boiler feed is needed.

- Even after that, the final effluent discharge could be in the range of 230-280 L/T of cane crushed.

ii. Sugar with cogeneration having high pressure boiler operating on condensing mode turbine:

- High-pressure boilers are more suitable to larger industries with higher energy requirements and a focus on maximizing electricity generation for internal use and revenue generation through power export.
- In case of high pressure boiler with operating on condensing mode turbine, sugar industries need additional fresh water as makeup water for cooling tower because of increased cogeneration capacity. Hence, the reuse capacity of treated condensate is increased. However, final effluent discharge comes in the range of 210-240 L/T of cane crushed with the utilization of treated condensate.
- In the other case where the high pressure boilers are operated with back pressure turbines, there is no cooling tower for power plant and hence the reuse opportunity decreases and in that case the effluent discharge comes in range of 240-280 Ltr/MT of cane.

iii. Presence of cooling tower or Spray Pond

Cooling towers and spray ponds are both cooling mechanisms used in industrial processes to dissipate heat from various sources. They consume water through evaporation and may emit plumes of water vapour and hence the drift loss of water from cooling tower is slightly higher as compared to spray pond. Spray ponds can have less loss of water as they do not consume water for cooling as significantly as cooling towers. Cooling towers are slightly more efficient for cooling applications however with capacity and good quality of nozzles spray ponds are also serving the purpose. Spray pond require large area approximately 25-50 times the area of cooling tower. In terms of excess condensate reuse, cooling tower has more opportunity than spray due to requirement of makeup water. However, cooling tower carry over losses which are 0.2-0.6 % of water flow, causes corrosion of blades, forms the fog around tower with increase in carry over losses make up water required is also increased.

In different categories of sugar industries with high or low pressure boiler having different mode of turbine operation, the range of cooling tower blow

down estimated as 72 L/T to 130 L/T of cane crushed and spray pond overflow generation is up to 500 L/T of cane crushed. Both cooling tower blow down and spray pond overflow contributes in total effluent generation quantity in sugar industries.

Spray Pond Cooling System

The spray pond cooling is the one of the simplest method of cooling the condenser water. In spray pond warm water is broken up into a spray by means of nozzles.

Advantages: a) Pumping cost is low b) Head required is less c) Lesser wastage of water d) Low drift losses e) Least choking f) Easy to maintain g) High Durability and long life

Disadvantages: a) Large area is required. Approximately 25-50 times the area of cooling tower b) Spray losses due to evaporation and windage losses c) There is no control over the temperature of cooled water e) Cooling efficiency is low f) Cooling effect reduces with reduced wind velocity g) When load on the plant increases it does not respond to change

Cooling Tower

The cooling tower are desired when positive control on the temperature of water is required, the space occupied by the cooling system is considerable factor and the plant is situated near the load centre.

Higher the surface area, more time of exposure, lower relative humidity, and higher difference between WBT of air and water inlet temperature and cross flow gives effective cooling and reduced the tower size.

The cooling tower are mainly divided into two groups as Natural draft or Atmospheric cooling tower and Mechanical draft tower as per the air flow through the tower.

Advantages: a) Less floor space area required b) Induced draft design with fan motor c) More efficient compare to spray ponds

Disadvantages: a) The carry over losses which are 0.2-0.6 % of water flow, causes corrosion of blades forms the fog around tower with increase in carry over losses make up water required is also increased b) The drift droplets have

the same chemical impurities as the circulating water and the deposition of these chemicals on object causes potential environmental concern c) Cooling tower where sewage effluent is used for making up is highly conducive for growth of algae d) More maintenance

Conclusion:

The choice between a cooling tower and a spray pond depends on factors such as space availability, efficiency requirements, and operational preferences. Cooling towers are generally slightly more efficient for cooling applications however with capacity and good quality of nozzles spray ponds are also serving the purpose.

iv. Integrated sugar industries with distilleries:

- With any of the previous two cases, if there is a distillery installed, there will always be an opportunity for use of treated condensate in distillery cooling towers / fermenters.
- Due to increase in reuse opportunity, as about 60 lit/tonne of treated effluent being recycled in case of integrated sugar industries the final effluent discharge quantity is less in comparison to standalone sugar industries and sugar refineries. For instance, integrated sugar industries having low pressure boiler is in the range of 170-220 L/T of cane crushed. However, in case of integrated sugar mills where high pressure boilers are operated on condensing mode turbine the final discharge quantity falls in the range of 120-160 L/T of cane crushed.

b) Type of molasses diversion:

Molasses, the residual syrup after sugar crystallization, is a valuable by-product which is used by distillery for production of ethanol, ENA, IMFL and country liquor. Two types of molasses generate as by-products from the process i.e. C – Heavy (final molasses) and B- Heavy. On the basis of basic consideration of the production of C Heavy molasses ranges between 4 - 5% on cane and B Heavy ranges from 6-7 % on cane. With the introduction of sugar syrup for ethanol production in Ethanol Blending Policy (EBP) by Government of India, there is a rising trend in sugar industries diverting up to 30% sugar syrup to distilleries.

With B-Heavy diversion the vapour load at condensing system reduces resulting in lesser heat load at cooling tower hence lesser water loss. In standalone sugar industries

operating with low pressure boiler, the variation in excess condensate generation increases to 20% on cane in case of B-Heavy molasses diversion, however, the same is about 14% on cane in case of C-Heavy diversion. Whereas, in the sugar industries operating with high pressure boiler, the excess condensate generation is in the range of 12% to 14.5% on cane depending of the type of molasses diversion.

c) Sugarcane variety and varying weather conditions during crushing season (November to April)

- Percent fibre of the early varieties (viz. CoLk 11203, CoLk 9709, Co 0238 etc.) was 12.5% to 14.91 % on cane (dry basis) from October to April and it increased by an average of 2.44 units till April in all the varieties. In late maturing varieties (CoLk 11206, CoLk 9204, Co Pant 12226 etc.) the percentage fibre was 12.8% to 15.29% on cane (dry basis) from October to April and increased by 2.47 units till April [Reference- Priyanka Singh, M.M. Singh, Jyotsendra Singh (2021). “Suitable Sugarcane Varieties For Sustainable Sugar Recovery in Conditions of Subtropical India” (published in E-proceedings of 79th annual convention of STAI: 70-76)].
- Seasonal variation in effluent discharge quantity with different reuse opportunities is tabulated in table 4 & 5 below:

Table 4. Indicative trend of Effluent generation (With Zero fresh water consumption for process) in the case where reuse opportunity is least

Months	Treated Effluent Generation (L /T of cane)	Comments
November, December & January	240-260	Period of lower juice brix, higher water input and lesser loss of water in bagasse because of low bagasse % cane.
February	200-210	Period of improved juice brix, comparatively lower water input and higher loss of water in bagasse.
March and April	160-170	Period of higher juice brix lower water input and higher loss of water in bagasse & at spray pond / cooling tower due to higher ambient temp.
Season Average	200-210	

Table 5. Indicative trend of Effluent generation (With Zero fresh water consumption for process) in the case where there is opportunity of reuse in the cooling tower of power plants

Months	Treated Effluent Generation (L/T of cane)	Comments
November, December & January	200-220	Period of lower juice brix, higher water input and lesser loss of water in bagasse because of low bagasse % cane.
February	160-170	Period of improved juice brix, comparatively lower water input and higher loss of water in bagasse.
March and April	120-130	Period of higher juice brix lower water input and higher loss of water in bagasse & at spray pond / cooling tower due to higher ambient temp.
Season Average	160-175	

3.1.3 Poor performance of ETP and non-compliance with effluent discharge norms

It has been observed that many units have provided adequate retention time of around 24 hr. in the aeration tank, however the reduction in the organic load in terms of BOD/COD are very less (60-80%) than the desirable (BOD reduction 85-95%) in secondary biological treatment despite maintaining the satisfactory MLSS level in aeration tank. The probable main reason behind this issue is the shallow depth (2.5-3.5 m) of aeration tank (initially designed for surface aeration) against the desirable depth of minimum 4.5 meter which is required to achieve Standard O₂ Transfer Efficiency up to 20 % requisite in case of diffused aeration system. Most of the sugar industries has been shifted to the diffused aeration system over surface aerator to maintain requisite DO level in aeration basin. As the depth (submergence) of aeration system decreased oxygen transfer efficiency of aeration system also decrease proportionally. Thus, such types of aeration system shall be upgraded as per requirement.

Central Pollution Control Board authorized Third Party Technical Institute i.e. VSI, Pune and NSI, Kanpur carried out inspections of the sugar industries annually to verify the compliance status of the sugar industries. During the inspection, it was observed that instead of treating the effluent in ETP some sugar industries were found bypassing

the ETP and directly discharging untreated effluent into the drain/surface water bodies which is a potential hazard to the environment.

CPCB has inspected total 77 sugar industries during 2023-24 in Uttar Pradesh to verify the compliance status, wherein 67 industries were found operational.

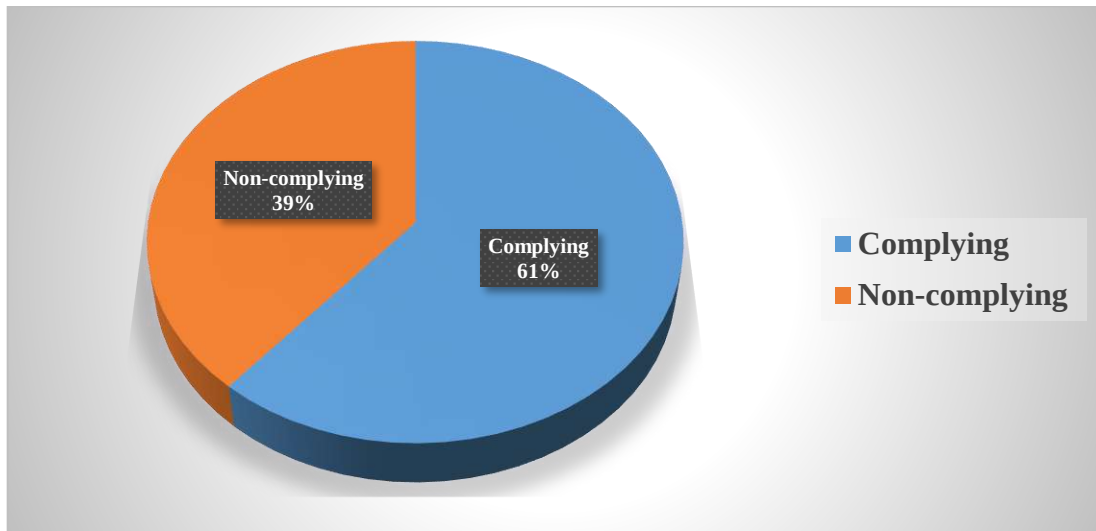


Figure 1. Compliance status of 77 sugar industries in crushing season 2023-24

Out of 67 sugar industries, 41 were found complying and 26 were found non-complying w.r.t. the pH, BOD, COD, TSS, TDS and Oil & Grease and also suspected dilution. The range of exceedance for various parameters is as follows:

Table 6. Range of exceedance of chemical parameters

S. N.	Parameter	Exceedance Range
1.	BOD	35 mg/l to 107 mg/l
2.	COD	263 mg/l to 874 mg/l
3.	TSS	31.3 mg/l to 207 mg/l
4.	TDS	2176 mg/l to 3004 mg/l
5.	O&G	39 mg/l
<i>Out of 26 non-complying units, 06 were non-complying w.r.t. the suspected dilution in the effluent.</i>		

Therefore, there is need for augmentation of ETP to ensure better and consistent compliance with notified discharge norms.

3.1.4 ETP under capacity

Successful implementation of Charter 1.0 has led to upgradation of ETPs up to tertiary treatment level to achieve the notified discharge norms. During 2018-19, sugar industries carried out adequacy of effluent treatment plants by technical institutes. It has been observed that the adequacy was done by taking effluent generation as 200 L/T of cane crushed (notified norms) rather than carrying out the adequacy on actual effluent generation quantity. As described in above paras, actual generation quantity depends on various factors and it may exceed 200 L/T of cane crushed depending upon the plant configuration. Therefore, there is need to carry out augmentation/upgradation of the ETPs of sugar industries located in Ganga basin based on actual effluent generation quantity (after internal recycling/recirculation).

3.1.5 ETP Sludge management

ETP sludge (biological) generation rate is about 20% of the COD load in effluent at ETP inlet. However, it is observed that estimated sludge generation usually not found in-line with the logbook record maintained by industries. So, there is a need of proper record keeping and disposal system to ensure environmentally safe disposal of ETP sludge. Typically, in sugar industries, sludge generation is around 0.2-0.5% of ETP feed. In case of anaerobic filter, the sludge generation is very less.

3.1.6 Brine reject Management

For de-colorization of the sugar melt, use of Ion Exchange Resins (IER) is made. Desorption of the colorants from the exhausted resins is achieved using alkaline sodium chloride solution. Periodical cleaning of heat exchangers, evaporators & regeneration of IER column with NaOH, NaCl, HCl, Sulphamic acid etc. to remove the scale from the tube surfaces and regenerate the resin in their original form results in organic and inorganic pollutant loading to waste water treatment plants. Considerable amount of effluent is generated during the back wash and re-charging of the Ion Exchange Column. The regeneration waste poses a disposal problem, due to its high salinity and BOD. In the sugar refineries having Ion Exchange process for de-colorization of the sugar melt, the brine recovery system holds great significance. The process of brine recovery system is based on single or double stage nano-filtration for recovery of the brine and to reuse it to regenerate ion-exchange resin and it is envisaged that such system can recover brine to the extent of 85%. The spent brine generates @ 1-2% of cane crushed out of this 85-90% volumetric quantity is recovered and reused and about

0.2-0.3% remains as reject brine which is to be disposed. Disposal of brine reject from Brine Recovery System is an issue.

Typically, characteristics of Brine reject are as tabulated below:

Table 7. BRS characteristics

S. No.	Parameters	Observed Values
1.	pH	8.0-9.0
2.	BOD (mg/l)	3500-4000
3.	COD (mg/l)	15000-25000
4.	TSS (mg/l)	2000-3000
5.	TDS (mg/l)	35000-40000
6.	Salt	20000-25000

3.1.7 Non-compliance w.r.t. stack emission norms

A sugar industry can potentially generate significant amount of air pollution. The emission mainly consists of fine particulate matter and smoke due to incomplete combustion of fuel along with NO_x and SO_x as potential pollutants. Besides, juice clarification, evaporation and sugar dust in drier house are other emission sources that causes air pollution. Non-compliances w.r.t. the emission norms were observed by the sugar industries during inspections carried out under the Hon'ble NGT orders. As per the notified norms, the prescribed value of particulate matter emissions from the stack shall be less than 150 mg/Nm³ (As per MoEFCC notification G.S.R. 373(E) dated 16 May 2023 PM emission std. 250 mg/Nm³ for agro based fuel used in boilers > 10 TPH). Also, the sugar industries located in districts viz. Meerut, Muzaffarnagar, Moradabad, Ghaziabad, Hapur, Sonapat, Panipat, Karnal etc. covered under National Capital Region (NCR), has to ensure emission parameters as per Commission for Air Quality Management i.e. 80 mg/nm³ in NCR and adjoining areas. Twenty-eight sugar industries are located in NCR, therefore installation and proper operation of adequate Air Pollution Control Device (APCD) is of utmost importance in order to achieve the stringent emission norms.

3.1.8 Untrained and inadequate Manpower

During inspections of sugar industries, it has been observed that the ETP operations are managed by one or two untrained persons, who are not well versed with the technical aspects of various treatment units of ETP. The working of the Effluent Treatment Plant

and Water Management System should be monitored by trained and qualified personnel (having manager level position), assisted by the skilled staff with operation & maintenance of ETP and analytical chemists to carry out the daily analysis of ETP inlet & outlet parameters including performance of each ETP units for the efficient working of the ETP unit operations.

3.1.9 Storage and handling of press mud

Press mud, also known as filter cake or press cake, is a residual by product in the sugar industry. Sugar industries generate press mud @4 % of cane crushed. Press mud contains all solid impurities from converting sugarcane juice to raw sugar under elevated temperature, including residual soil, phosphate precipitates, calcium oxalate/aconitate, sucrose and fibre. At present, there is no regulations or SOP for the proper handling and storage of the press mud. The press mud has the potential to be used as a biofuel, microbial carrier, soil conditioner, bioremediation of heavy metals, animal feed, wax production, and concrete formation.

3.1.10 Handling and disposal of boiler ash and fly ash

In sugar industries bagasse is used as fuel for boiler for steam generation. Bagasse generation is approx. 28-32% of cane crushed. Steam requirement varies with the configuration of the industry. Steam consumption in case of C-heavy molasses diversion is in the range of 32-52% on cane, in case of B-heavy molasses it is in the range of 30-50% on cane and with 25% syrup and B-heavy diversion it is in the range of 30-45%. Daily fuel requirement is estimated based on steam generation @ 2.2-2.4MT steam/MT of bagasse. Boiler ash generated @1.5% to 2%.

Regarding handling and disposal of ash, public complaints and court matters are regularly being reported as the general practice of the ash disposal adopted by the sugar industries are not scientific. Mostly, it has been observed that, hot ash is disposed in open area without prior cooling and accidental burning incidents are also being reported. Also, there is no record keeping regarding the ash generation and disposal quantity. A significant gap has been observed in estimated and actual ash generation. There is no SOP available for the safe & scientific disposal and utilization of ash generated from Sugar industries.

4. STAKEHOLDER CONSULTATION FOR FORMULATION OF CHARTER 2.0

To address the above-mentioned issues and to endorse the culture of consistent betterment, consultative meetings on “emerging issues in the sugar industry and to discuss the charter 2.0”, which were held on 01.06.2023, 29.03.2024, 11.05.2024, 03.06.24 and 13.06.24 with different stakeholders like VSI, NSI, experts from industry and technology providers for setting up of new benchmarks and technological intervention for overall improvement in environmental status and to ensure better and consistent compliance of norms by sugar industries. Experts/participants advocated for revision of the existing Charter with more focus on resource conservation in terms of reduction in specific freshwater consumption rather than focusing on ensuring compliance to effluent discharge volume as the achievability of discharge norms of 200 L/T of cane crushed is not feasible during entire crushing season. Effluent discharge quantity is affected by various factors viz. difference in treated water reuse opportunity because of different plant configuration i.e. standalone with low pressure boiler, sugar with co-generation having high pressure boiler operating on condensing mode turbine, high pressure boilers with back pressure turbines integrated sugar industries with distilleries, type of molasses diversion, sugarcane variety and varying weather conditions during crushing season (November to April). The detailed explanation is given in para 3.1.2. As evident in Table 3 effluent discharge quantity varies between 180-350 L/T of cane crushed depending upon the type of boiler and turbine mode operation after considering losses total wastewater generation including balance excess condensate, cold water effluent and spray pond overflow. Also, due to current policy of Government regarding rates for power export to sugar industries, it has been observed that most of the industries has stopped co-generation for surplus power production thus, affecting the condensate generation quantity.

Therefore, achieving the notified discharge norm of 200 L/T of cane during entire crushing season in all type of sugar industries is not feasible.

Therefore, the charter needs to be updated in order to develop a more holistic and comprehensive version.

5. CHARTER 2.0- SUGGESTIVE NORMS, GUIDELINES & ACTION POINTS

5.1 Basic estimates in sugar manufacturing process

Table 8. Typical range of particulars in sugar manufacturing process

S. No.	Particulars	Typical Range
1.	Capacity of Sugar plant (TCD)	2500 - 20000
2.	Recovery (Sugar)	9 – 13%
3.	Bagasse % cane	26 - 32%
4.	Moisture % Bagasse	47.5 - 52%
5.	Filter cake % cane	3.5 - 5%
6.	Moisture % Filter cake	70 -72%
7.	B Heavy molasses % cane	6 - 7%
8.	C Heavy molasses % cane (Final Molasses)	4 - 5%
9.	Steam Consumption % Cane (C Molasses)	32 - 52%
10.	Steam Consumption % Cane (B Molasses)	30- 50%
11.	Steam Consumption % Cane (25% Syrup + B H Molasses)	30 - 45%
12.	Water in cane in the month of Nov. To Feb.	Around 72%
13.	Water in cane in the month of March. To Mayonwards.	Around 68%
14.	Hot excess condensate generation (% on cane)	10 - 20%
15.	Imbibition % cane	28 – 50 %
16.	Mixed juice % cane	100 - 120%
17.	Spray pond overflow generation (Including excesscondensate left after miscellaneous usage)	100 – 160 lit/Ton of cane
18.	Plant Effluent	80 – 120 L/T of Cane
19.	Total waste water generation including balance	• 180 – 280 L/T of cane (In case- Low Pressure

	excess condensate, cold water effluent & spray pond overflow.	Boiler) • 300- 350 L/T of cane (In case- High Pressure Boiler)

- ETP sludge (biological, on dry basis) generation rate as 20% of the COD load in raw effluent at ETP inlet i.e. 0.2-0.3% on dry basis.
- Ash generation rate as 1.5% - 2% on bagasse consumption
- Daily fuel requirement is estimated based on steam generation @ 2.2-2.4 MT steam/MT of bagasse.
- Brine reject generates @ 0.2-0.3% of cane crushed.

5.2 Rationale for setting up of specific freshwater consumption targets

During the meeting held under the chairmanship of Hon'ble Minister of Environment, Forest and Climate Change (MoEF&CC) and Hon'ble Minister Jal Shakti (MoJS) on 9th July, 2020; CPCB and CGWB were directed to verify the consumption of groundwater by industries and accordingly the permission should be granted for abstraction. Further, during the meeting taken by Secretary, MoEF&CC and Secretary, MoJS on 30th November, 2022 it was decided to cap groundwater withdrawal based on charter norms/average specific freshwater consumption by grossly polluting industries (GPIs). Thereafter, during meeting held on 16th December, 2023 in CPCB with technical institutes, NMCG and SPCBs it was decided to develop a SOP for integrated sugar and distillery units for freshwater conservation and in sugar mills instead of effluent discharge norms, freshwater consumption norms shall be enforced for water conservation.

As already explained, in sugar industries there is water input from cane which is approx. 690-710 L/T of cane, out of this water only 150-180 L/T of cane water is consumed in the sugar manufacturing process. During the sugar manufacturing process, approx. 180-260 L/T of cane water evaporates from cooling towers, which depends upon the process (sulphitation or refinery) as well as molasses diversion route (C heavy /B heavy/ Syrup diversion), Weather condition (Ambient Temp and Humidity). The total quantum of water loss during the process falls in the range of 330-440 L/T of cane. Consequently, the balance water from cane remains in the range of 270-360 L/T of cane which primarily comes out from three routes:

- Plant Effluent

- Spray Pond /Cooling Tower overflow
- Excess condensate (Balance after possible reuse /recycle)

The detailed explanation regarding the actual requirement of freshwater in sugar industries is mentioned in para 3.1.1 and factors affecting final effluent discharge quantity is mentioned in para 3.1.2. It is evident from table 3 where freshwater consumption and final effluent discharge quantity in different categories of sugar industries is tabulated that the final effluent discharge is in the range 120-280 L/T of cane crushed and vis a vis freshwater consumption is only 60-150 L/T of cane crushed. This scenario clearly indicates that there is a need to focus on setting norms for specific freshwater consumption rather than effluent discharge as sugar industry is a water surplus industry where the water is coming in the system from raw material. Fixing the norms for freshwater will result in resource conservation by saving groundwater/surface water and benefit the ambient environment whereas, fixing the specific effluent discharge norms will be of no help to ambient environment in any manner.

5.3 Targets for specific freshwater consumption for different categories of sugar industries

CPCB considered all the above mentioned factors affecting effluent discharge and suggestions emerged during discussions held with stakeholders regarding the fresh water consumption in different categories of sugar industries, and accordingly, with the focus on conservation of freshwater new proposed targets for the specific fresh water consumption are given in Table 9 below:

Table 9. New proposed norms for fresh water consumption in different categories of sugar industries

S. No.	Category	Sub-category	Type of Turbine	Category Code	New Proposed Norms for Specific Fresh Water Consumption (L/T)	
					Short Term (before crushing season 2025-26)	Long term (before crushing season 2028-29)
1.	Standalone (S)	Sugar mill Sulphitation and low pressure boiler	Back pressure turbine	S1	50	30

S. No.	Category	Sub-category	Type of Turbine	Category Code	New Proposed Norms for Specific Fresh Water Consumption (L/T)	
					Short Term (before crushing season 2025-26)	Long term (before crushing season 2028-29)
		Sugar mill Sulphitation and high pressure boiler	Condensing mode turbine	S2A	100*	60*
			Back pressure turbine	S2B	75	50
2.	Sugar backend refinery (R)	Sugar backend refinery with low pressure boiler	Back pressure	R1	50	30
		Sugar backend refinery with high pressure boiler	Condensing mode turbine	R2A	100*	60*
			Back pressure turbine	R2B	75	50
3.	Integrated Sugar mills with Distillery units	Sugar mill Sulphitation with low pressure boiler integrated with distillery	Back pressure turbine	I1	50	30
		Sugar mill Sulphitation with high pressure boiler units with co-generation and integrated with distillery	Condensing mode turbine	I2A	100*	60*
			Back pressure turbine	I2B	75	50

***Note-**

-In case of sugar industries with cogeneration, it is presumed that power export is only upto 50% of home load.

- For every 25% increase in power export, additional 25% specific fresh water

consumption shall be permitted.

(For example, if any industry is generating 20MW of power and home load is 10MW. Then, upto 5MW power export new norm of specific fresh water consumption i.e. 100 L/T of cane crushed shall be applicable. However, since industry is exporting 10MW of power which is 100% of home load, therefore considering additional 25% specific fresh water consumption for every 25% increase in power export, the additional specific freshwater consumption of 50 L/T of cane crushed shall be allowed i.e. specific freshwater consumption permissible will be $100+50=150$ L/T of cane crushed).

Fresh water norms are applicable for industrial consumption, only, however industries need to install separate flow meters on lines carrying freshwater to industrial processes and domestic consumption, and maintain logbooks for the same.

5.3.1 SOP for assessment of specific fresh water consumption:

Objective: To establish a systematic procedure for monitoring and recording fresh water consumption in the sugar mill, ensuring efficient use of water resources and compliance with regulatory requirements.

Scope: This SOP applies to all personnel involved in water management and operations within the sugar mill premises.

Responsibilities:

Water Management Team:

- a. Track daily water usage of fresh water and keep precise records of the data.
- b. Investigate and report any abnormalities in water consumption
- c. Adhere to the conditions issued by the respective authorities regarding freshwater usage

Procedure:

1. Installation of Flow meters

- a. Borewell(s)/ Tubewell(s) to be provided as per the No Objection Certificate (NOC) issued by the concerned authority (Central Ground Water Authority/ State Ground Water Department). Type of well, depth of the well, type of the pump, H.P. of the pump, rate of withdrawal (m^3/hr) and maximum allowable running hours per day etc. to be as per the NOC issued in the matter.
- b. Sugar factories to provide digital electromagnetic type flow meter(s) (conforming to BIS/ IS standards) of adequate capacity having rate of extraction and totalizer facility at each Borewell/ Tubewell as per CGWA notification in Appendix 8.8). The link for the CGWA notification is:

<https://cgwanoc.gov.in/landingpage/UserAssistance/Final%20Specificati>

on%20of%20Digital%20Water%20Flow%20meter%20with%20Telemetry%20System.pdf.

The telemetry flow meter installed in the industry shall ensure compliance with the ISO 4064. The link for this document is: **<https://cdn.standards.iteh.ai/samples/55371/c05284af86c24671b477bbef77a85842/ISO-4064-1-2014.pdf>**. The factories shall provide separate flow meter(s) with check measurement facility at each Borewell/ Tubewell.

- c. Construction of piezometer(s) and installation of digital water level recorders with telemetry shall be mandatory for sugar factories as per the guidelines issued in the matter.
- d. Permanent display board(s) should be installed at Piezometer/Tubewell(s) site for providing the location, piezometer/ tubewell number, depth and zone tapped of piezometer/ tubewell for standard referencing and identification.

2. Daily Monitoring:

- a. Responsible personnel will record the starting water meter reading for the day.
- b. Calculate and record total water consumption periodically (e.g., every 8 hours).

3. Recording Data:

- a. Proper recording keeping of water abstraction to be made in the logbooks on day to day basis by the sugar industries (Format for logbook for daily water consumption is provided in Appendix section 8.6).
- b. All the flow meters to be connected with on-line Real Time Monitoring System (RTMS) to transmit the data (rate of extraction and totalizer reading) to concerned Ground Water Authority, Central Pollution Control Board (CPCB)/ State Pollution Control Board (SPCB).

4. Investigating Discrepancies:

- a. Compare current consumption with historical data and production levels.
- b. Investigate any significant deviations from expected water usage.
- c. Identify and address potential leaks, overuse, or inefficiencies promptly.
- d. Under the normal circumstances, no underground water pipelines shall be used for the purpose.
- e. The samples of ground water for different parameters of each Borewell/ Tubewell shall be analyzed twice in a year during pre-monsoon (May/June) and post-monsoon (October/November) periods from any NABL accredited

laboratory authorized by Central/ State Government and a record of the same shall be kept.

5. Reporting:

- a. Compile daily water consumption data into a weekly/monthly report.
- b. Highlight trends, anomalies, or areas for improvement.
- c. Submit reports to the designated manager or water management team.
- d. The sugar units shall submit every month a consolidated statement about quantity of sugarcane crushed, quantity of fresh water withdrawal, specific fresh water consumption (litre per tonne of cane) etc. to concerned Ground Water Authority, Central Pollution Control Board (CPCB)/ State Pollution Control Board (SPCB) through the prescribed proforma on web portal.

6. Maintenance and Calibration:

- a. Regularly inspect and maintain water consumption meters to ensure accuracy.
- b. Calibrate meters as per manufacturer's recommendations or regulatory requirements.
- c. All the flow meters to be calibrated and sealed by **Department of Legal Metrology** (Weights and Measures) before start of every sugar crushing season.

7. Water Conservation Measures and tanning:

- a. Implement water-saving initiatives and best practices (e.g., reuse of condensate, optimizing process water usage and maintain separate record for the same).
- b. Train personnel on efficient water management practices

8. Compliance:

- a. Ensure compliance with local environmental regulations and permits regarding water usage
- b. Maintain records as required by regulatory authorities.

9. Emergency Procedures:

- a. In case of a water leak or spill, notify the water management team immediately take necessary steps to contain the leak and minimize water loss

10. Documentation:

- a. Keep all records of water meter readings, consumption reports, and maintenance logs organized and accessible for audits or reviews

5.4 Discharge norms

Sugar industries generate high quantum of effluent, even after considering losses total wastewater generation including balance excess condensate, cold water effluent and spray pond overflow amounts to 230-260 lit/ton (in case of low pressure boiler) and 300-350 lit/ton (in case of high pressure boiler). Effluent is having high BOD 700-1200 mg/l, COD 1500-2500 mg/l, which after treatment in ETP is being discharged either in surface water bodies or on land for irrigation purpose. It is pertinent to mention here that need for stringent norms has also been highlighted. During the meeting taken by Secretary, MoEF&CC and Secretary, MoJS on 30th November, 2022 it was directed that standards for industrial effluents to be made more stringent similar to what is being proposed for STPs. Also, during the meeting held on 16th December, 2023 in CPCB with technical institutes, NMCG and SPCBs it was emphasized to undertake studies for consistent compliance of industries on the basis of stringent discharge norms so that their operations do not affect mass bathing during special occasions like Magh Mela and Kumbh Mela.

Considering the fact that, since 2015 as per charter for Pulp & Paper industries the existing norms for BOD <20 mg/l, COD – 150 mg/l and TDS- 1600 mg/l, respectively. Also, in reference to the norms prescribed by Hon'ble NGT in the order dated April 30, 2019, concerning OA no. 1069/2018, stringent norms are applied for compliance verification of effluent discharged from STPs. These standards specify BOD less than 10 mg/l, TSS less than 20 mg/l and COD less than 50 mg/l for compliance when discharging into ponds and lakes. Similarly, vide notification dated 10.09.2021 stringent BOD norms of 20 mg/l was prescribed for tannery industries.

Annual inspections data reflects that most of the sugar industries are already achieving the BOD concentration <30 mg/l. The performance assessment of sugar industries w.r.t BOD concentration is tabulated in table 10 below:

Table 10. Performance assessment w.r.t. BOD

Type of Sugar Industry	BOD Range (mg/l)	Performance	No. of Units
Standalone	<20	Best	7
	20 to 30	Average	22
	>30	Below average	2
Sugar with cogeneration	<20	Best	5
	20 to 30	Average	31

	>30	Below average	1
Sugar refinery	<20	Best	2
	20 to 30	Average	6
	>30	Below average	-
Refiner with cogeneration	<20	Best	7
	20 to 30	Average	12
	>30	Below average	-

Considering the above facts, since most of the mills in all categories are already discharging treated effluent with BOD < 20 mg/l. Hence, it is suggested that efforts should be made to achieve more stringent discharge norms as compared to notified norms. It is even more substantial considering that the treated effluent from sugar industries is intensively being used for agricultural purpose by method of flood irrigation or discharged into surface water bodies where availability of water for dilution is limited. Since in other sectors stringent norms are being applied therefore to ensure better and consistent compliance stringent norm for BOD <30 mg/l is desirable. It is pertinent to highlight that designing of the ETP could only be made for single outlet parameter only therefore norms of 100 mg/l at ETP outlet does not hold any significance. However, new target for treated effluent discharge quality is given as under:

Table 11. New target for treated effluent discharge quality.

Industry	Parameters	Standards (<i>All concentration values are in milligramme per litre except for pH</i>)
Sugar Industry	pH	5.5 – 8.5
	Total Suspended Solids (TSS)	30
	Biological Oxygen Demand, BOD (3 days at 27°C)	30
	Oil & Grease,	10
	Total Dissolved Solids (TDS)	2100

5.5 Upgradation / Augmentation of effluent management systems

It has been observed that mostly sugar industries have installed conventional ETP system consisting of pH correction tank, primary clarifier, secondary biological

treatment followed by tertiary filtration system (MGF & ACF) for treatment of effluent generated in mill house and spray pond overflow. Treated effluent is being either used for irrigation purposes or discharged outside.

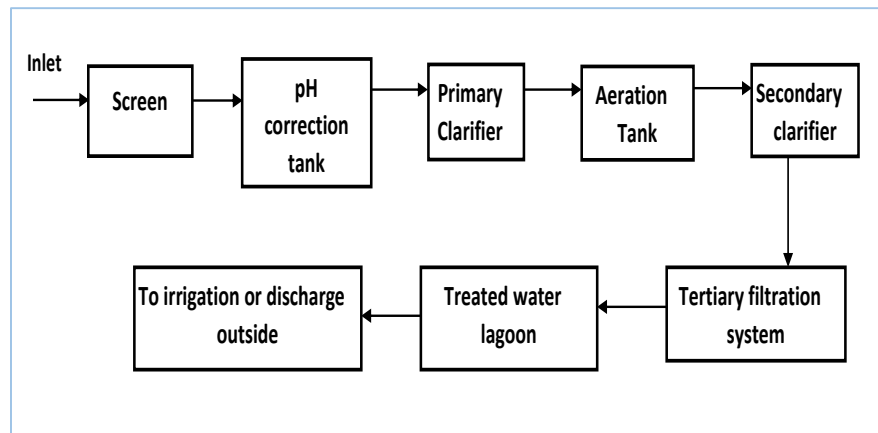


Figure 2. Existing typical Effluent treatment plants scheme

As explained above in Para 3.1.3 & 3.1.4, existing ETPs installed in some of the sugar industries are not complying with notified norms and their design adequacy was carried out considering effluent discharge quantity as 200L/T of cane crushed. However, with above mentioned details in Para 3.1.1 & 3.1.2 achievability of effluent discharge norm of 200L/T during entire crushing season with different plant configurations seems difficult. Therefore, it is necessary for carrying out fresh adequacy and performance assessment of ETPs based on actual final effluent generation quantity after internal circulation. However, no need to carry out fresh adequacy, if ETP adequacy report for the crushing season 2022-23 or 2023-24 is available. Fresh adequacy is required only in the case where the production capacity is enhanced or the treatment technology in ETP is changed.

Existing capacity of ETPs installed in sugar industries would not be sufficient to treat the actual effluent generation quantity, hence to treat the high quantum of effluent generation sugar industries need to go for capacity expansion to ensure the treatment of effluent up to the prescribed discharge norms. Capacity expansion will also lead to augmentation and upgradation of ETPs for ensuring consistent and better compliance.

In this charter, norms for specific freshwater consumption are being prescribed. Therefore, in order to achieve the specific fresh water consumption norms, the sugar industries have to improve their water use efficiency. Hence, sugar industries shall optimize reuse and recycle of treated effluent and excess condensate in the process,

cooling tower makeup, boiler feed, integrated distilleries etc. after treating it up to the desired extent by installing Condensate Polishing Unit (CPU). Desirable quality for recycling treated condensate after CPU and for reuse of ETP treated water for various purposes are tabulated in Table 12 and 13, respectively.

Table 12. Standard parameters for recycling treated condensate after CPU

S.N.	Parameter	CPU Outlet parameters
1	pH	7.0 – 8.5
2	Temperature ($^{\circ}\text{C}$)	25 - 30
3	COD (mg/l)	<100
4	BOD (mg/l)	<30
5	TDS (mg/l)	<150

Table 13. Standard parameters for recycling of ETP treated water for various purposes

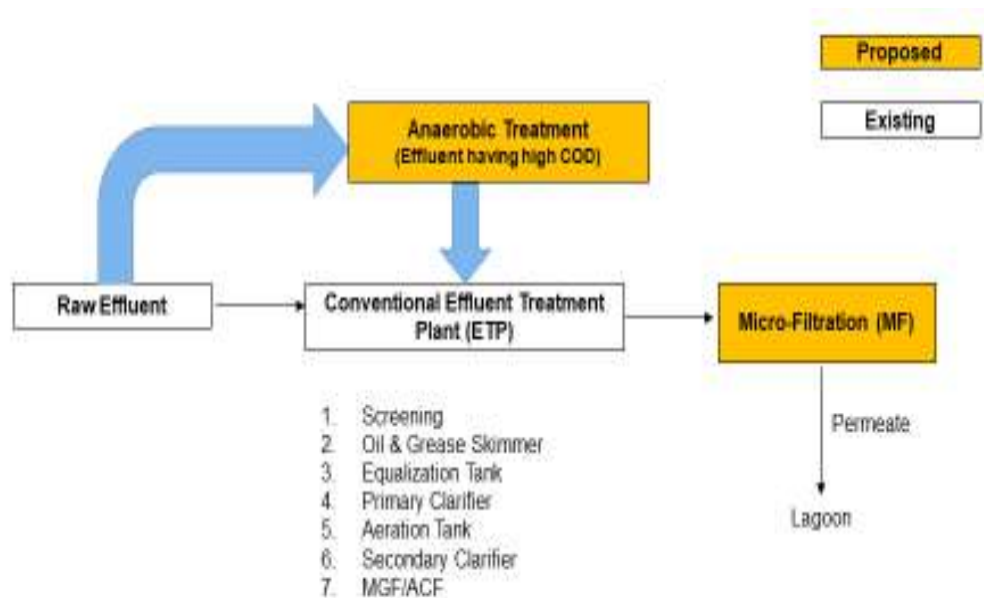
S.N.	Parameters	Sugar factory (in process)	Co-generation tower make-up	Cooling	WTP feed
1	pH	6.5-7.5	6.5-7.5		6.5-7.5
2	COD	<250	<250		< 100
3	BOD	<30	<20		<5
4	SS	<30	<20		<5
5	TDS	<500	<150		<100

Sugar industry may adopt any treatment technology in CPU to meet the CPU outlet norms as stipulated in the Charter 2.0. To achieve the desirable quality for recycling treated condensate and ETP treated water for various purposes the following augmentations and upgradation are suggested in ETPs which will further improve water reuse efficiency resulting in reduction of specific freshwater consumption and compliance with notified discharge norms:

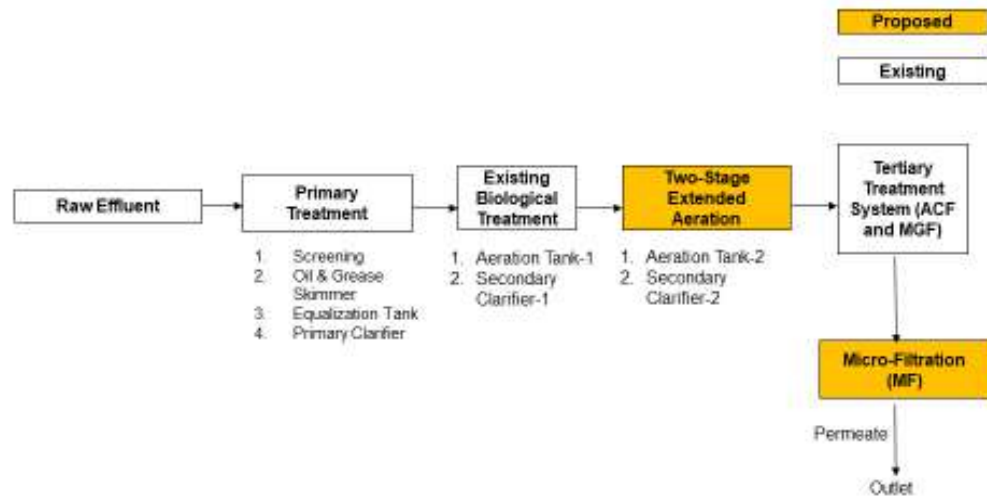
- Installation of mechanical oil & grease skimmer with adequate retention time according to the technology.
- Upgradation/augmentation of existing ETPs by installing two stage Secondary biological treatment (anaerobic-aerobic or two stage extended aeration system in series) and tertiary treatment upto microfiltration (i.e. bag filters/cartridge filters/ceramic filters, etc.).
- Installation of Condensate Polishing Units (CPU) where high pressure boiler (greater than or equal to 42 kg/cm² working pressure) commissioned. Biological treatment is not mandatory at CPU and based on the COD of condensate, treatment with RO membranes can also be done to get the desired quality of the excess condensate for reuse in power plant's cooling towers. On

the basis of effluent strength, biological treatment as well as treatment with RO membranes in CPU can be done to get the desired quality of the excess condensate for reuse in power plant's cooling towers. However, industries operating on low-pressure boilers (i.e., boilers with a working pressure of $<42 \text{ kg/cm}^2$) are exempted from the requirement to install CPUs.

- iv. Fresh adequacy of ETP based on actual quantity of effluent generated after internal recirculation.
- v. Installation of separate brine recovery system (BRS) towards recovery and reuse of brine solution and to minimize the reject brine quantity. Ensure proper disposal of Brine reject i.e. spraying on bagasse/ burning in incineration boiler /gradual discharge to ETP for treatment etc.



Case 1: Anaerobic followed by aerobic



Case 2: Extended aeration

Figure 3: Proposed Effluent treatment plants scheme

- vi. In the first proposed effluent treatment scheme, it is to be considered that COD of Spray Pond/cooling tower overflow and surplus condensate water going to ETP remains in the range of 600-1000 ppm and hence at this capacity there is no need of anaerobic filter, and this water is approx. 70 % of total influent going to ETP. The balance 30 % influent routed through plant drain, COD of this stream remains in the range of 1500-2500 and chances of shock load also remains there. Therefore, the installed capacity of anaerobic filter /digester should be 25-30 % of the total influent only and not for the total influent generated by the unit.

5.5.1 SOP for ETP operations during pre and post crushing season

Since the sugar industries are the seasonal in nature, therefore there is requirement to establish standard operating procedures for the safe and efficient ETP operations as well as stopping of the Effluent Treatment Plant (ETP) to ensure compliance with environmental regulations and operational efficiency. In order to streamline ETP operations during pre and post crushing season a SOP has been developed and same is provided in Appendix section 8.5.

5.6 Treated effluent utilization and irrigation management plan

Sugar industries have different configuration and the range of specific effluent discharge, as tabulated in table 3 varies from 120 to 280 L/T of cane crushed.

After complying with the notified discharge norms, as the treated effluent have inherited properties of the parameters that are required for growth of sugarcane in lower concentration (Nitrate- 36.7 mg/l, Phosphate- 14mg/l, Sulphate- 107 mg/l, Copper-3.12 mg/l, Lead-1.46 mg/l. Cadmium- 2.37 mg/l, Zinc-14.11 mg/l, Manganese-5.03 mg/l) [Reference- Usha Damodharan, M. Vikram Reddy (2012) “*Impact of Sugar Industrial Treated Effluent on the Growth Factor in Sugarcane-Cuddalore, India*”, *Journal of Sustainable Bioenergy System (Volume-02, pg-43-48)*] and no hazardous chemical is used in the treatment process therefore it is suitable for utilization in irrigation. This will also result in water conservation by reduction in abstraction of fresh water by farmers for irrigation purposes.

To ensure that treated effluent is used in irrigation upto the maximum extent, following measures are recommended:

- i. An impermeable/ impervious lagoon shall require to be constructed for storage of treated effluent during no demand period of irrigation, the treated effluent to be stored in a seepage proof lined lagoon having 15 days holding capacity only. However, sugar industries have to maintain the quality of stored treated effluent as tabulated below:

Table 14. Standards for land disposal

Parameters	Standards (All concentration values are in milligramme per litre except for pH)
pH	5.5 – 8.5
Total Suspended Solids (TSS)	100
Biological Oxygen Demand, BOD (3 days at 27°C)	100
Oil & Grease	10
Total Dissolved Solids (TDS)	2100

- ii. Since norms for treated effluent stored in lagoon wr.t. BOD – 100 mg/l & TSS – 100 mg/l therefore the discharge of stored treated effluent from lagoon is permitted only if the industry treats the stored effluent again through ETP in

order to meet the surface discharge norms w.r.t. BOD less than 30 mg/l; TSS less than 30 mg/l.

- iii. Install flow meters with totalizer and maintain logbooks for the same for following locations:
 - ETP outlet
 - Feed to lagoon
 - line carrying stored effluent from lagoon to surface water discharge
 - line carrying stored effluent from lagoon to land discharge
 - line carrying stored effluent from lagoon back to ETP
- iv. The monitoring of treated effluent quality and periodic cleaning of lagoon may be ensured by the sugar industries to avoid algae/algal bloom formation during storage.
- v. Installation of flow meter at lagoon to record the quantity of treated effluent being utilized for irrigation purpose i.e. in-house and agricultural fields.
- vi. To utilize the treated effluent in agriculture, the unit shall have the irrigation management plan depending on the irrigation requirement of the crop and soil duly vetted by agricultural universities.

5.7 Management & disposal of solid waste

Suggestive measures for effective handling, disposal, and monitoring solid waste (i.e. boiler ash and ETP sludge) generated by sugar industries:

- a. SPCBs to facilitate sugar industries to adopt manifesto system for managing solid waste (i.e. boiler ash and ETP sludge) either through industry association or joint forum with industry association & SPCB.
- b. All sugar industries have to ensure collective responsibility and participation in waste management efforts. Details of action plan for effective handling, disposal, and monitoring of solid waste (boiler ash and ETP sludge) are presented in subsequent sections below:

5.7.1 ETP sludge management

- i. Mechanical sludge handling system shall be installed viz. filter press/ screw press/ decanter/ rotary belt filter etc.
- ii. Proper record keeping of sludge generation quantity and disposal.
- iii. Establishment of a manifest system for environmentally safe collection, storage, handling, transfer and disposal of ETP sludge shall be ensured.

5.7.2 Ash handling and management

- i. The sugar industries ensure the installation of air pollution control device viz. electrostatic precipitator/bag filters alone or in combination with other APCD to minimize the air pollutants of boiler.
- ii. Boiler ash should be managed scientifically as per CPCB guidelines titled “Guidelines for disposal/utilisation of Fly Ash for reclamation of Low Lying Area and in stowing of Abandoned mines/Quarries”, March 2019.
- iii. Boiler ash if disposed through landfilling (i.e. stowing of mines or reclamation of low lying area), the site should be:
 - (a) properly demarcated and fenced to restrict human and animal intrusion
 - (b) properly capped with top soil (with minimum 30 cm cover to promote vegetation growth) after exhaustion of the capacity of filling site. Soil capping can be done once the land filling with boiler ash is completed.
 - (c) properly lined and made impermeable to avoid any possibility of contamination of surface water & ground water
- iv. Approval from SPCB should be obtained for site selection, safe operation and for development of vegetation cover after exhaustion of the capacity of filling site.
- v. **Ash disposal & utilization:**

The waste generated from the combustion process is the bagasse ash in form of furnace ash and fly ash. The quantity of furnace ash is about 25% (by weight) of the total bagasse ash produced and is rich in silica (70-80%), whereas the left over is fly ash which is rich in carbon (40-50%). In general, bagasse ash is mostly disposed of as a filler in landfill sites. Regarding transport of boiler ash in covered vehicle, implementation issue was highlighted as mostly farmers carry the ash in their trolleys. Therefore, Vehicles carrying dry boiler ash to be covered properly before leaving the industry premises. On the other hand, fly ash may be effectively utilized in farming by mixing with the filter cake, if the carbon content is found to be of inorganic type.

Fly ash and furnace ash can be utilized as mentioned below:

Fly ash utilization

- a. **Soil Amendment:** The ash can be used as a soil amendment due to its high content of potassium, calcium, and other nutrients that are beneficial for plant

growth. It improves soil structure and fertility, especially in acidic soils. Farmers may approach to reputed Govt. Institute/Agricultural Universities-Krishi Vigyan Kendras for soil testing before applying the fly ash in to the fields.

- b. **Fertilizer:** It can be processed into a fertilizer by mixing it with press mud for use in cane farms.

Furnace ash utilization

Since, furnace ash contains high silica, therefore, the furnace ash may be a good alternative of cement replacing material in concrete production.

- a. **Construction Material and low land fill:** Boiler ash can be used as a construction material, particularly in road construction and embankments. It improves stability and reduces the risk of settlement. It can be used for filling lowlands also.
 - b. **Brick Making:** It can be used in brick-making processes, where it acts as a binding agent and filler material.
 - c. **Environmental Remediation:** It can be used in environmental remediation projects, such as land reclamation and stabilization.
- vi. Scattered/ haphazard disposal of boiler ash should be completely stopped.
 - vii. Proper record keeping should be ensured regarding generation, storage and disposal of boiler ash.
 - viii. The sugar industries shall establish a manifest system for environmentally safe collection, storage, handling, transfer and disposal of boiler ash. The manifesto shall be submitted to SPCBs for record purpose.

Table 15. Solid waste generation and its treatment/disposal

S.N.	Waste	Quantity, TPD	Treatment	Disposal	Remark
1	Sugar ETP and CPU sludge	Around 0.2-0.3 % on effluent (dry basis) quantity going to ETP or 20% of the input COD load.	Drying/Dewatering	As per manifest system	Organic
2	Ash	1.5 - 2 % on bagasse consumption	Ash quenching and mechanical handling	As per manifest system	Organic

a. Manifest System Facilitation:

- SPCBs should facilitate the sugar industries for establishment of a manifest system for environmentally safe collection, storage, handling, transfer and disposal of boiler ash and ETP sludge. Manifest shall be prepared by the generator of the solid waste. The generator has primary responsibility for the ultimate disposal of the waste and must give the manifest, along with the waste itself, to a licensed solid waste transporter. A copy of the manifest must be delivered by the transporter to the authorized recyclers/ waste to energy plants/co-processing plants, having registration on EPR portal. Each time the waste changes hands, a copy of the manifest must be signed. Copies of the manifest to be kept by each party involved, and additional copies to be sent to appropriate environmental agencies/SPCBs.
- i. Individual industries must maintain a logbook that records waste quantities, types, and disposal methods. This logbook will serve as a crucial reference for waste management audits and assessments.
- (a) SPCBs to supervise waste management practices of sugar industries. This includes overseeing waste handling, transportation, disposal and verification through logbook & manifest system slip.
- (b) SPCBs to verify the accuracy and completeness of the records, which ensures transparency and accountability in boiler ash and ETP sludge management practices.
- (c) Solid waste material to be provided only to authorized recyclers/ waste to energy plants/co-processing plants, having registration on EPR portal developed by CPCB, valid EPR certificate issued by CPCB/SPCB and valid Consent to Establish (CTE) & Consent to Operate (CTO) issued by SPCBs.
- The State Pollution Control Boards (SPCBs) should facilitate the establishment of forums.
 - i. The forum should be specifically dedicated for management of solid wastes (Boiler Ash and ETP sludge) generated by industrial units.
 - ii. Sugar industries should ensure their responsibility and participation in waste management efforts.
 - iii. Member industries of forum to maintain a logbook that records waste quantities, types, and disposal methods. This logbook will serve as a crucial

reference for waste management audits and assessments.

- iv. The SPCBs should supervise waste management practices within member industries of forum. This includes overseeing waste handling, transportation, disposal and verification through logbook & manifest system slip.
 - v. Member units to bear the cost associated with waste management, including transportation, treatment, and final disposal.
 - vi. The forum will play a crucial role in ensuring compliance with regulations governing the transportation of hazardous industrial waste.
- The forum should facilitate the proper use of the six-copy manifest system.
 - This includes ensuring generators and transporters understand the color-coded copies and their designated actions:
 - White Copy: Forwarded to the State Pollution Control Board (SPCB) by the generator.
 - Light Yellow Copy: Signed and returned to the generator by the transporter.
 - Pink Copy: Retained by the disposal facility operator.
 - Orange Copy: Returned to the transporter by the facility after accepting waste.
 - Green Copy: Forwarded to the SPCB by the facility after disposal.
 - Blue Copy: Returned to the generator by the facility after disposal.

5.8 Setting up of Environmental Management Cell (EMC), environmental laboratory and trained & adequate manpower for ETP operations

- a. Every sugar industry will set up an EMC to effectively monitor the environmental compliance. The EMC may constitute of following:
 - i. Executive Director/Vice President/Managing Director/General Manager
 - ii. ETP in-charge/ Environmental Engineer/ Environmental Manager/EHS Manager/Environmental Officer
 - iii. Process Head (CC/CE)
 - iv. Environmental/Chief Chemist
 - v. ETP Supervisors/Operators & Helper
- b. Duties of Environmental Management Cell
 - i. The EMC shall review the status of water consumption, measures taken and identify the areas for water conservation, resource recovery and pollution reduction every week.

- ii. Detailed minutes of the decisions taken will be recorded and circulated to all members of Environmental Cell and follow up of the decisions will be monitored by the Unit Head & ETP in-Charge.
 - iii. Review to be made in case of non-compliance by any statutory department.
 - iv. Internal Audit to be done by the EMC on quarterly basis.
 - v. External Environmental audit on annual basis.
- c. Sugar industries will set up an internal lab of ETP with minimum analysis facilities for basic tests and should have below mentioned instruments:
- i. pH Meter/pH pen
 - ii. Water distillation unit
 - iii. TSS meter
 - iv. TDS meter
 - v. DO meter
 - v. BOD testing kits with incubator
 - vi. COD testing kits with digester
 - vii. Oven
 - viii. Digital weighing balance with 0.1mg accuracy & 10gms accuracy
 - ix. Necessary Glassware
 - x. Chemical reagents
 - xi Digital thermometer/thermometer

A particular time schedule should be followed for measuring various pollution parameters. The frequency of such measurements is listed in Table 16.

Table 16. Frequency of Wastewater Analysis

Parameters	Frequency of Testing
pH	Once in a shift of 8 Hours
TSS	Once in a Shift of 8 hours
TDS	Once in a Shift of 8 Hours
Dissolved Oxygen	Once in a shift of 8 hours
Color visual	Once in a shift of 8 Hours

MLVSS/MLSS	Once in a shift of 8 Hours
COD	Once in a day
BOD	Once in a week

d. Engagement of scientific officials and technical staff for smooth operations of ETP

Details of such staff with their cadre and qualifications are given in Table 17.

Table 17 . Scientific and Technical Staff for ETP and Laboratory

Minimum strength in ETP		
Post	Education / Experience	No of employees
Environmental Manager/Officer/Head	Masters in Env. Sci/ Masters in Chemistry/Graduate (Engineering)/ANSI (Sugar Tech)	01
Shift Supervisor cum Lab Technician	Graduate/Intermediate (Science)	03 (1 per shift)
Fitters cum operators	Intermediate/ITI pass	03 (1 per shift)
Helpers	Adult workers	03 (01 per shift)
Necessary strength of relievers to be maintained for working on 7 days a week (Continuous process)		

e. Training of the Staff

It is essential to provide necessary training to each employee with minimum 5 man days per employee in year by professional trainers from reputed organizations.

5.9 Press mud handling & management

- The press mud has the potential to be used as a biofuel, microbial carrier, soil conditioner, bioremediation of heavy metals, wax production, and concrete formation.
- Designated storage area.
- Record keeping of press mud generation and disposal.

5.10 Compliance of stack emission norms

- The sugar industries located in National Capital Region (NCR), has to ensure emission parameters as per CAQM order which is 80 mg/Nm³.
- Air pollution control device as notified under E(P)Rules,1986 shall be installed to achieve the prescribed emission norms under E(P)Rules, 1986/CAQM/SPCB, whichever is stringent.
- Installation and proper operation of adequate Air Pollution Control Device (APCD) is mandatory.

5.11 Installation of Sewage Treatment Plant (STP)

- It is mandatory to install the sewage treatment plant to treat the sewage generated from the residential colony of sugar industries and ensure compliance with the notified discharge norms.
- Flow meters to be installed at the inlet and outlet of the STP and logbook should be maintained.

5.12 Process Safety Management (PSM)

It has been perceived that industries have the least focus on Process Safety Management. During interaction with industry representatives, it has been observed that most of the incidents happening in the industry are majorly due to bad maintenance of machineries/equipments, poor technical competency, blind cost-cutting, not following procedures or ignoring safe practices, poor emergency response, failing to learn from incidents, lack of availability of safety manual and SOP for safe operation of machines/equipments and lack of awareness among workers regarding safety. Therefore, to minimize the accidents sugar industries should consider following points to achieve the goals of process safety management:

- Sugar industries shall make arrangements of firefighting system
- Sugar industries shall conduct program for process safety management with the employees on regular basis
- Occupational health surveillance program for all employees should exercise on regular basis
- **In cane loading area:**
 - Sugar industries shall engage skilled, experienced and trained cane operator
 - No person shall be allowed to stand or work below the cane unloader
 - Sufficient lighting in the area
 - Maintenance of crane safety limit switches, break & mechanical stopper
 - Ensuring safe access and egress for vehicles carrying sugar cane to avoid risk of major injury due to inadvertent movement of vehicle/ bullock carts.
- **Feeder, Leveller & Chopper:**
 - All machines should be covered with guards
 - No person shall be allowed to stand or work on feeder conveyor
 - Installation of emergency switches at strategic locations should be mandatory

- **Juice Extraction- Mill**

- Good housekeeping practice shall be followed to avoid slips and trips while working in the area
- Installation of guard in all running nip points of devices and mill roles
- Tapes shall be provided for eye wash /body wash in nearby area
- Suitable ear protection shall be provided while working in mill area

- **Return bagasse carrier (RBC)**

- Barricading shall be provided for the opening of RBC carrier to avoid the fall of worker
- All machines shall be covered with guards
- Work permits shall be issued for all repair/adjustment on RBC to ensure safe isolation through lock out/tag out.

- **Boiler**

- At the time of starting of factory, hydraulic pressure testing shall be done at boiler to prevent any type of accident during operation
- All drives shall be fitted with suitable guards
- Dust and ash handling system should be installed
- After getting report of steam leakages, correction should be made immediately.
- Proper monitoring of Safety Valve should be maintained.
- Personal protective equipment shall be provided

- **Bagasse storage and handling**

In order to reduce the fugitive emission in bagasse storage and handling area following measures may be taken: -

- Proper housekeeping
- Covered conveyors and transfer points
- Local exhaust ventilation
- Provision of personal protective equipment (PPE)
- Training and supervision
- Provision of proper fire hydrant system with water monitors
- Provision of secured fencing to all rotary parts and conveyor nip points with suitable and safe access for working near conveyor
- Maintenance of pull cord interlock system on both sides of conveyor.

- **Clarification /Evaporation**

- All heating vessels proper tested to take into operation. Main holes and other opening provided with secured fitting. Avoid working near or below such joints.
- All process and cleaning chemicals handled safely with protective equipment while handling chemicals.
- Provided mechanical handling system of sulphur and lime to minimize exposure.
- Steam pressure and temperature of juice heaters and evaporator bodies maintained properly.
- Provided safety valve in steam lines and auto vacuum releasing valve in last body of Evaporator.
- Employees provided with necessary protective measures i.e. safety shoes, hand gloves, respiratory mask, safety helmets, and safety belts etc.
- Provided proper railing on all open tanks to avoid falling in the tanks.
- The leakages of SO₂ gas through the burner and pipe lines attend immediately to avoid any mis-happening.
- Work permit systems i.e. entry into the vessels (bodies, tanks) strictly followed.

- **Rotary vacuum filter& press mud conveyor**

- All the rotating parts of the rotary vacuum filter guarded properly.
- Avoid working near rotary parts. Use incidental tool to clean the roller.

- **Pan Section**

- At the time of starting of the sugar factory, hydraulic pressure testing done all the Pans.
- Auto vacuum releasing valve installed in all Pans.
- Work permit system i.e. entry into the vessels strictly followed.

- **Centrifugal Machines**

- Provided and maintained door /lid interlock of centrifugal machines.
- Provided guards to all drives.

- **Sugar storage and packing**

- Use mechanized cleaning of floor.
- All drives fitted with suitable guards.
- We have maintained ventilation and dust collection system.

- Elimination of other sources of ignition such as hot work, smoking and naked flames strictly followed.
- We follow safe practices to avoid risks associated with sugar bag handling and stacking.
- Temporary electrical supply given through ELCB/RCCB protected panels as per requirement.
- All hoppers top is covered with GI Sheets.

6. ACTION PLAN

S. N.	Action Points					
1.	Implementation of new proposed norms for specific fresh water consumption as tabulated in above Table 9.					
S. N.	Category	Sub- category	Type of Turbine	Category Code	New Proposed Norms for Specific Fresh Water Consumption (L/T)	
					Short Term (before crushing season 2026-27)	Long term (before crushing season 2029-30)
1.	Standalone (S)	Sugar mill Sulphitation and low pressure boiler	Back pressure turbine	S1	50	30
		Sugar mill Sulphitation and high pressure boiler	Condensing mode turbine	S2A	100*	60*
			Back pressure turbine	S2B	75	50
2.	Sugar backend refinery (R)	Sugar backend with low pressure boiler	Back pressure	R1	50	30
		Sugar backend refinery with high pressure boiler	Condensing mode turbine	R2A	100*	60*
			Back pressure turbine	R2B	75	50
3.	Integrated Sugar mills with Distillery units	Sugar mill Sulphitation with low pressure boiler integrated with distillery	Back pressure turbine	I1	50	30
		Sugar mill Sulphitation with high pressure boiler units with co-generation and integrated with distillery	Condensing mode turbine	I2A	100*	60*
			Back pressure turbine	I2B	75	50

*In case of Sugar Industry with cogeneration, it is presumed that power export is only up to 50 % of home load for every 25% increase in power export, additional 25% specific fresh water consumption shall be permitted. Example mentioned in the NOTE of Table 9.

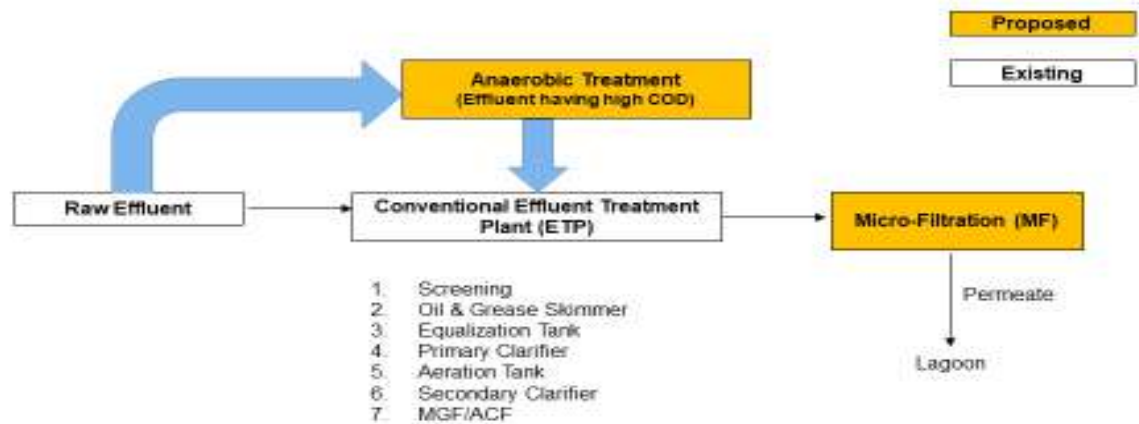
2.	Implementation of stringent discharge norms (Timeline: before crushing season 2029-30) i. In other sectors stringent norms are being applied therefore to ensure better and consistent compliance in sugar industries, stringent norm for BOD as 20 mg/l is desirable by 2028-29. Till then for compliance verification the notified norms are applicable. ii. Norms for treated effluent discharge quality is given as under: Table: Notified surface water discharge standards under E(P)Act, 1986 for sugar industries (for discharge in surface water bodies/drains) <table><tr><th>Industry</th><th>Parameters</th><th>Standards (<i>All concentration values are in milligramme per litre except for pH</i>)</th></tr><tr><td rowspan="5">Sugar Industry</td><td>pH</td><td>5.5 – 8.5</td></tr><tr><td>Total Suspended Solids (TSS)</td><td>30</td></tr><tr><td>Biological Oxygen Demand, BOD (3 days at 27°C)</td><td>30</td></tr><tr><td>Oil & Grease,</td><td>10</td></tr><tr><td>Total Dissolved Solids (TDS)</td><td>2100</td></tr></table>	Industry	Parameters	Standards (<i>All concentration values are in milligramme per litre except for pH</i>)	Sugar Industry	pH	5.5 – 8.5	Total Suspended Solids (TSS)	30	Biological Oxygen Demand, BOD (3 days at 27°C)	30	Oil & Grease,	10	Total Dissolved Solids (TDS)	2100
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	Oil & Grease,	10													
	Total Dissolved Solids (TDS)	2100													
3.	Upgradation/Augmentation of effluent management systems (Timeline: before crushing season 2026-27) i. Installation of mechanical oil & grease skimmer with adequate retention time according to the technology. It is required only on plant influent stream and the surplus of injection can directly go to SRS/Primary treatment. ii. Upgradation/augmentation of existing ETPs by installing two stage Secondary biological treatment [anaerobic (anaerobic filter/digester) followed by aerobic or two stage extended aeration system] and tertiary treatment up to microfiltration (i.e. bag filters/cartridge filters/ceramic filters, etc.). In the option (i) The capacity of anaerobic filter/digester can be planned only for high COD influent stream only i.e. plant influent with COD>2000-2500 i.e. for 25-30% of total influent. iii. For effective settling in secondary clarifier, instead of pumping arrangement, ensure flow of effluent by gravity from Aeration Tank (AT) to secondary clarifier. iv. Installation of Condensate Polishing Units (CPU) in case of high pressure boiler. Industries operating low-pressure boilers (i.e., boilers with a working pressure of <42 kg/cm²) are exempted from the requirement to install CPUs. Treatment technology for CPU can be selected based on the COD of process condensate and where it may be														

reused. RO treatment can also be adopted if the COD of process condensate is low and the treated condensate is to be used for power plant cooling tower make-up.

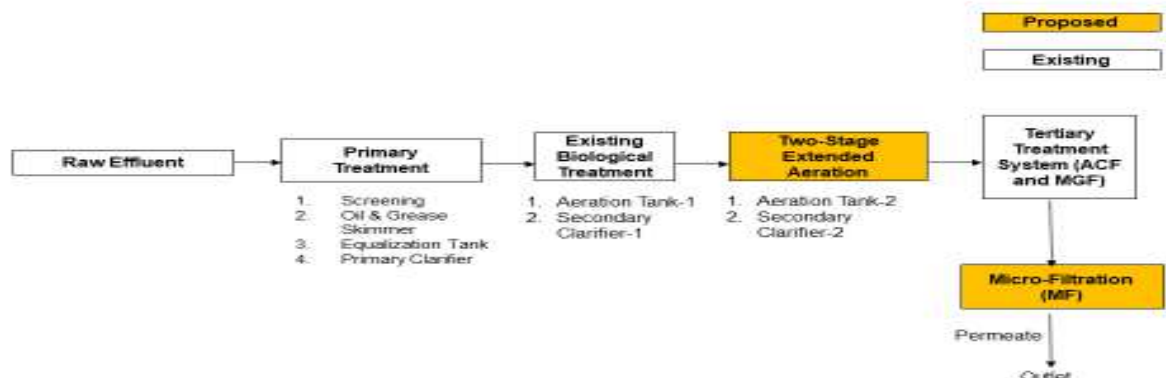
- v. Fresh adequacy of ETP based on actual quantity of effluent generated after internal recirculation. Fresh adequacy is required only in the case where the production capacity is enhanced or the treatment technology in ETP is changed.
- vi. Installation of separate brine recovery system (BRS) towards recovery and reuse of brine solution and to minimize the reject brine quantity. Ensure proper disposal of Brine reject i.e. spraying on bagasse/ burning in incineration boiler /gradual discharge to ETP for treatment etc.

Proposed treatment scheme

Case 1: Anaerobic followed by aerobic



Case 2: Two-stage Extended aeration



4. Sludge Management (**Timeline:** before crushing season 2026-27)

	i. Mechanical sludge handling system shall be installed viz. filter press/ screw press/ decanter/ rotary belt filter etc. ii. Proper record keeping of sludge generation and disposal quantity and method (agriculture field/in-house gardening) iii. Establishment of a manifest system for environmentally safe collection, storage, handling, transfer and disposal of ETP sludge shall be ensured.												
5.	Treated effluent utilization and irrigation management plan (Timeline: before crushing season 2026-27) i. An impermeable/ impervious lagoon shall require to be constructed for storage of treated effluent during no demand period of irrigation, the treated effluent to be stored in a seepage proof lined lagoon having 15 days holding capacity only. Less than 15 days' storage capacity is also acceptable, if the unit is complying with the Irrigation Management Plan. ii. The monitoring of treated effluent quality in lagoon may be ensured by the sugar industries to avoid algae/algal bloom formation during storage. iii. Installation of flow meter at line carrying treated effluent for irrigation purpose i.e. in-house and agricultural fields and maintain logbooks/records for the same. iv. To utilize the treated effluent in agriculture, the unit shall have the irrigation management plan depending on the different soil texture duly vetted by agricultural universities. v. For sugarcane-growing farmers under their command area emphasis to adopt drip irrigation instead of flood irrigation method by setting annual target of covering 10% land for groundwater conservation before crushing season 2025-26. Irrigation of all the command area by using drip irrigation method before crushing season 2028-29. Table: New standards for land disposal <table border="1"> <thead> <tr> <th>Parameters</th><th>Standards <i>(All concentration values are in milligramme per litre except for pH)</i></th></tr> </thead> <tbody> <tr> <td>pH</td><td>5.5 – 8.5</td></tr> <tr> <td>Total Suspended Solids (TSS)</td><td>100</td></tr> <tr> <td>Biological Oxygen Demand, BOD (3 days at 27°C)</td><td>100</td></tr> <tr> <td>Oil & Grease,</td><td>10</td></tr> <tr> <td>Total Dissolved Solids (TDS)</td><td>2100</td></tr> </tbody> </table>	Parameters	Standards <i>(All concentration values are in milligramme per litre except for pH)</i>	pH	5.5 – 8.5	Total Suspended Solids (TSS)	100	Biological Oxygen Demand, BOD (3 days at 27°C)	100	Oil & Grease,	10	Total Dissolved Solids (TDS)	2100
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6.	Ash handling and management (Timeline: before crushing season 2026-27) i. Air pollution control device as notified under E(P)Rules,1986 shall be installed to achieve the prescribed emission norms under E(P)Rules, 1986/CAQM/SPCB, whichever is stringent. ii. For disposal of boiler ash into agricultural fields, sugar industries shall make agreement/record of disposed ash quantity. iii. The sugar industries shall ensure the controlled application of ash on agricultural land after mixing with press mud. iv. Provide designated and fenced area with caution display at hot boiler ash storage site to avoid accidents. v. Boiler ash shall be used for land filling at low lying areas after attaining ambient temperature. vi. The sugar industries shall establish a manifest system for environmentally safe collection, storage, handling, transfer and disposal of boiler ash. The manifest documents shall be submitted to SPCBs for record purpose. vii. Boiler ash should be transport in covered vehicle.
7.	Setting up of environmental management cell (EMC), environmental laboratory and trained & adequate manpower for ETP operations (Timeline: before crushing season 2026-27) i. Setting up of an Environmental Management Cell (EMC) to effectively monitor the environmental compliance. ii. Setting up of an internal lab of ETP with minimum analysis facilities for basic tests. iii. Appointment of scientific officials and technical staff for smooth operations of ETP and regular training to ETP staff.
8.	Installation of sewage treatment plant for treatment of sewage generated from the residential colonies of sugar industries. (Timeline: before crushing season 2026-27)

7. FACILITATION TO INDUSTRIES BY SPCBS FOR IMPLEMENTATION OF SUGGESTIVE MEASURES:

SPCBs/ PCCs shall ensure proper implementation of the Charter by the individual sugar industry. They shall be responsible for monitoring and surveillance activities to ensure environmental compliance. In case of any violation of the environmental norms, concerned SPCBs will take appropriate actions, including issuance of closure directions, under the Water/ Air Acts/ E (P) Act.

- i. Industries to prepare time bound action plan for implementation of the suggestive measures as mentioned above, including upgradation/augmentation of existing ETPs installed in sugar industries having permission to discharge.
- ii. Solid wastes and boiler ash to be provided only to authorized agencies.
- iii. Adoption and implementation of manifest system for environmentally safe collection, storage, handling, transfer and disposal of solid waste (boiler ash and ETP sludge).
- iv. All individual industry to ensure collective responsibility and participation in waste management efforts.
- v. Ensure proper record keeping regarding generation, storage and disposal of solid waste (boiler ash and ETP sludge).

8. APPENDIX

8.1 BARE MINIMUM TECHNOLOGY (BMT)

BMT is indicative of the systems, equipment, processes and practices that are generally considered essential to achievement of the objectives of this Charter. Technology actually required, or implemented, by individual sugar industries to achieve the same documented level of environmental protection, may differ on account of their unique set of circumstances like scale of operations, equipment and system configuration, product portfolio, raw material etc.

Bare Minimum Technologies (BMT)			
S. N.	Functional Area	Facility Required	
		BMT/Optional	Type of facility
1	Cane preparation and juice extraction		
1.1	Cane unloading	BMT	Cane carrier of suitable width & length with variable speed drive
		BMT	Hydraulic grabs with cross and longitudinal travel trolleys/ sling bar for cane unloading
			Truck /trolley tippler
1.2	Cane Preparation		System to ensure Preparatory Index (PI) of 85+ by installation of :
		Optional	Cane kicker
		BMT	cane leveller/cane chopper, cane cutter and swing hammer fibrizer/cane shredder
		BMT	Rake elevator below fibrizer/ shredder with variable drive
		BMT	Interlocking system in cane preparatory devices with cane carrier
		BMT	Closed loop water circulation for cooling of bearings of preparatory devices
1.3	Cane Milling	BMT	To attain a Reduced Mill Extraction (RME) of 96+ , a milling tandem comprised of 4 three rollers mills with toothed UFR and Donnelly chute with rake carriers between the mills or any other combination using 2/3 rollers mills with UFR/TRF/GRPF/TRPF
		BMT	Each mill driven by a variable speed DC drive with speed reduction through enclosed reduction gear box/ planetary gear

		BMT	Interlocking of all Rake elevator & rake carriers with mills
		BMT	Hydraulic loading and hot water Compound Imbibition using hot water of 85°C @ 250-300% on fibre or as required. Flow measurement & control system to be installed
		BMT	Closed loop water circulation for cooling of mill bearings & mill drives
1.4	Spillage Monitoring & Control	BMT	Spill pits/tanks, and drainage system for containment/recovery, dry cleaning of floors with bagasse.
2.0	Steam Generation		
		BMT for < 42 kg/cm ² pressure boiler	Bi-drum boiler with tube bank, front, roof, rear and sides water walls. Super heater, economiser, air pre-heater with ID, FD SA fans etc. Air pollution control device as notified under E(P)Rules,1986 shall be installed to achieve the prescribed emission norms under E(P)Rules, 1986/CAQM/SPCB, whichever is stringent.
		BMT for > 42 kg/cm ² pressure boiler	Bi-drum boiler with tube bank, front, roof, rear and sides water walls. Primary & secondary Super heaters, atemperotor, economiser, air pre- heater, de-aerator, ID, FD, SA fans etc. Electrostatic Precipitator (ESP) for arresting ash and particulate matters (PM)
2.1	Instrumentation & control	BMT	Instrumentation , automation & control through DCS
2.2	Waste water re-cycling	BMT	Closed loop re-circulation of waste water generated from RO/DM reject and boiler blow down after treatment in ETP
2.3	Ash disposal	BMT	Supply to cement plant//brick manufacturing unit (coal based ash) filling of low lying land/ bio-composting/land application
3.0	Power Generation		
3.1	With/ without Incidental co-generation	BMT for boiler pressure up to 42 kg/cm ²	Back pressure/ Bleed cum back pressure steam turbine coupled with an alternator to generate electricity at 11 KV
3.2	With incidental co-generation	BMT for boiler pressure	Back pressure/ Bleed cum back pressure/ Extraction cum condensing steam turbine coupled with an alternator to generate electricity at 11 KV

3.3	With incidental and off season co-generation	above 42 kg/cm ²	Extraction cum condensing (EC) steam turbine coupled with an alternator
			Water cooled condenser, cooling towers of suitable capacity for EC turbine
			Closed loop cooling water circulation at power generation with cooling tower of suitable capacity
			Suitable switch yard for power export to grid
4.0	Handling of Discharges		
4.1	Waste water Discharges		
4.1.1	Effluent Treatment Plant (ETP) design	MBT	As per achieving prescribed norm
4.1.2	Treated wastewater disposal		As per norms of CPCB/SPCB/charter recommendations
4.1.3	Condensate Polishing Unit	BMT for surplus condensate for factories having boiler > 42 kg/cm ² steam pressure	Reverse Osmosis (RO) followed by MGF and ACF or any other proven technology. Treated condensate may be used for various purposes e.g. power plant cooling tower make-up.
4.2	Atmospheric Discharges		
	Stacks		Air pollution control device as notified under E(P)Rules,1986 shall be installed to achieve the prescribed emission norms under E(P)Rules, 1986/CAQM/SPCB, whichever is stringent.
5.0	General Pollution Abatement Measures		
5.1	Resource Management		Optimum use of all material resources through input-output analysis and establishment of moving targets for specific consumption of inputs. Cost audits to be moderated by environmental considerations.
5.2	Good house keeping		Containment and management of material spillages to prevent contamination of soil, ambient air and ground water, besides increasing pollution loads and vitiating workplace environment.

5.3	Chemical cleaning of heat exchangers		Trial & use of hydroject cleaning in place conventional chemical + mechanical cleaning to the extent possible. Construction of “ Hazardous Tank” to collect washings of chemical cleaning & for adding gradually in main ETP
5.4	Monitoring & control		Factory –wide fresh water distribution networks be colour coded (as per BIS) to identify process, utility and domestic supplies.
6.0	Environmental Management Systems		
6.1	Environmental Control Laboratory		Establishment of testing facilities, manned by trained and dedicated staff, for routine monitoring of effluent generation and performance measurement of pollution control systems, equipment and devices. The staff will also be responsible for maintaining proper records and initiating non-compliance warnings.
6.2	Environmental Audits/ Third party inspection		Half Yearly Comprehensive Audit/ third party inspection
			Performance audit/inspection by third party during season
7.0	Compliance Monitoring		
7.1	Off-line routine monitoring		Routine analysis of pH, TSS, COD, TDS, DO, Colour, MLSS etc. and weekly analysis of BOD,for waste water (effluent) and treated effluent from ETP
			Routine analysis of PM, SO ₂ , NO _x , CO ₂ , O ₂ for stacks
			pH, TSS, COD, TDS, MLSS, colour daily. Air quality measurements as prescribed by SPCB
7.2	Flow measurement		Magnetic flow meter with remote mounted transmitter and totalizer feature with connectivity to a remote PC through an RTU
7.3	Online Continuous Monitoring for wastewater		Online monitoring for flow, pH, TSS, BOD, TDS of treated water as required by SPCB
7.4	Online Continuous Monitoring for air emission		Particulate Matter (PM) emission from stacks as required by SPCB
8.0	Manufacturing of Plantation White Sugar		

8.1	Juice weighment	BMT	Mass flowmeter of suitable capacity with arrangement for check weighment. System to have auto juice flow control system to have stabilized flow to process.
8.2	Juice heating	BMT	Heating the raw juice and sulphited juice to 68-70 °C and 103-104°C in tubular/DCH/PTHE/Condensate heaters of suitable heating surfaces in multiple stages. Similarly heating the clear juice in Tubular/PTHE/DCH to desired temperature. Condensates to be utilized for various purposes in mill and boiling house.
8.3	Clarification	BMT	Clarifying the heated raw juice by addition of milk of lime @ 1.2-1.8%, v/v and SO ₂ gas in a juice Sulphiter preferably having auto pH control system.
8.4	Milk of lime preparation	BMT	Slacking quick lime with condensate and screening it through hydro cyclone/vibro screen/Koran classifier.
8.5	SO ₂ generation	BMT	Generation of sulphur di-oxide in film type sulphur furnace having combustion control and molten sulphur feed control system with efficient cooling of gas to 70-72°C. Re-circulation of cooling water through fanless cooling towers to minimize fresh water usage.
8.6	Settling	BMT	Use of efficient Rapi Dorr 444 type or equivalent clarifier with retention time not exceeding 2 ½ hours.
8.7	Filtration	BMT	Filtration of underflow/muddy juice from clarifier to recover juice in RVF. Hot condensate of about 70°C to be used for cake wash. Alternatively use of Decanters. Quantity of wash water to be monitored by installing flow meters.
8.8	Evaporation	BMT	Concentration of juice so as to convert it in to syrup using Multiple Effect Evaporators, Quadruple or Quintuple with extensive vapour bleeding system to have heat recovery arrangement through installation of condensate cigar & condensate Heaters. Exhaust steam condensate to be used as boiler feed water, whereas condensate from other bodies to be used for meeting requirements of mill & boiling house. For boilers up to 42 kg/cm ² g pressure, II nd body condensate to be used partially as boiler feed water make up, whereas, for higher boiler pressure, it is to be used after treatment though CPU.
8.9	Syrup Sulphitation	BMT for	Bleaching the syrup obtained from Evaporators to a pH 5.2-5.4 using SO ₂ gas.
9.0	Crystallisation	BMT	a. Further concentration of sulphited syrup in vacuum pans (single effect evaporators) to carryout crystallization of sugar. Low head batch pans/ low head batch pans with

			mechanical circulator/continuous vacuum pans to be used. Level of boiling mass in pan and fluctuation in vacuum to be avoided to inhibit entrainment. Tell tail bottles to be provided to periodically check any entrainment. Use of hot water during pan boiling to be measured by installing flow meter & efforts to be made to keep it as low as possible. Condensates to be utilized in a closed loop for meeting mill & boiling house requirements. b. Cooling & conditioning of massecuite boiled in vacuum pans in air/water cooled batch/ continuous crystallizers. A – massecuite to be hot cured, B- massecuite cooled to about 52-54°C & C massecuite to be cooled to 40-42°C & then reheated to 52-54°C. Proper cooling arrangement to be provided for re-circulating cooling waters.
9.1	Centrifugation	BMT	Separation of sugar crystals from mother liquor by centrifuging in fully automatic recycling type batch centrifugal in case of A- Massecuite and in continuous machines in case of other massecuite. Quantity of wash water to be monitored & controlled by installing flow meters.
9.2	Cooling & Condensing		Installation of single/multi entry stainless steel jet condensers. The difference between injection water inlet and tail pipe temperature to be 8-15 °C. For spray ponds, minimum drop of 13°C or within 7°C of wet bulb temperature, whichever is less, to be achieved. For cooling towers, minimum drop of 20°C or within 5°C of wet bulb temperature, whichever is less, to be achieved.
9.2	Sugar Dryer	BMT	Drying of sugar on grass hoppers or fluidized bed dryers to the extent that level of moisture should not be more than 0.06 % w/w.
10.0	Additional steps for production of Refined Sugar		
10.1	Raw sugar melting	BMT	Raw sugar melting in sweet water generated from IER and hot condensate.
10.2	Filtration	BMT	Filtration of raw sugar melts through vibro screen / stationary screen of about 0.75 mm opening.
10.3	Remelt liquor heating	BMT for phosphatation process.	Remelt filtered liquor heating in DCH or PTHE up to 85°C of suitable heating surfaces.

10.4	Clarification	BMT	Clarifying the heated remelt liquor by addition of colour precipitant of about 100-150 ppm & about 400-500 ppm P_2O_5 on solid and milk of lime of 2-2 ½ °Be. Retention time in reaction tank to be about 8 minutes and in floatation clarifier to be about 30-40 minutes.
10.5	Filtration	BMT	One or two stage filtration of underflow using MBF/ candle / leaf filters of suitable filtering area & filtration rate of about 0.45-0.50 m ³ /m ² /hr.
10.6	Decolourization	BMT for ion exchange resin	Decolourization of clarified liquor in two stage IER columns used in series or in parallel using Acrylic & Styrenic type resins. Two stage brine recovery system to be provided for facilitating 80% recovery.
10.7	Melt Concentration	BMT	Evaporation in Double / Triple Effect Evaporator to convert it in to concentrated liquor of about 74-75°Bx. Condensates to be utilized for various purposes of melting etc.

8.2 BEST PRACTICES FOR SUGAR INDUSTRY

A. Best practices and strategies for reduction of fuel consumption and achieving maximum steam efficiency

- In order to decrease the fuel consumption, it is necessary to improve boiler and steam efficiency. To attain the maximum steam efficiency by limited usage of fuel, installation of a high-pressure boiler the following key points shall be considered:
- DE-aerator charging system utilizing exhaust steam.
- High-pressure heater to preheat boiler feed water to a temperature of at least 165°C.
- Passage of excess air required for fuel combustion through an Air Preheater (APH) to preheat air, aiding in proper fuel combustion.
- Proper maintenance of boiler furnace panels and piping insulation to prevent radiation losses.
- Designing the boiler with all necessary control devices and loops and ensuring it operates in auto mode through a DCS system.
- Maintaining bagasse moisture below 50% for effective fuel combustion.
- Optimization of boiler blows down to reduce fresh water consumption through regular parameter analysis of feed water.
- Reduction of steam losses by installing steam traps to maximize condensate

recycling

B. Best practices to reduce steam consumption in sugar process

Reducing steam consumption in sugar manufacturing is crucial for enhancing energy efficiency, cutting costs, and minimizing environmental impacts. The sugar industry traditionally relies heavily on steam for various processes such as juice heating, evaporation, crystallization, and curing. Here are some best practices to reduce steam consumption in sugar manufacturing:

C. Optimize Juice Extraction

- Maximize extraction of juice from sugarcane.
- Use energy-efficient milling or diffusion systems to extract juice.

D. Enhance Heat Exchange Systems

- Implement efficient heat exchangers to recover and reuse heat from hot process streams, such as condensate from evaporators and vapors from pans.
- Utilize multi-effect evaporation systems that use the vapor from one effect as the heating medium for the next, significantly cutting down the steam requirement.

E. Adopt Vapour Recompression

- Mechanical or thermal vapor recompression (MVR or TVR) can be used to compress and reuse low-pressure steam, increasing its temperature and pressure for reuse in the process, thereby reducing fresh steam demand.

F. Improve Process Control and Automation

- Use advanced control systems for precise control over steam flow, temperature, and pressure, ensuring optimal steam usage.
- Automate steam traps and condensate return systems to prevent steam loss and improve condensate recovery.

G. Regular Maintenance

- Regularly maintain steam pipes, valves, and fittings to prevent leaks and losses of steam.
- Ensure that insulation on steam pipes and vessels is intact and effective to reduce heat loss.

H. Condensate Recovery

- Efficiently collect and return condensate to the boiler for reuse. This not only saves water but also the energy needed to heat fresh water.
- High-quality condensate can reduce the boiler's fuel consumption and chemical treatment requirements.

I. Batch Pan Crystallization Improvements

- Optimize seeding and massecuite cooling techniques to minimize the steam used in the crystallization phase.
- Explore continuous pan systems that can use vapor bleeding techniques for more efficient steam usage.

J. Best practices for reduction in fresh water consumption

Providing micro-irrigation (drip irrigation) system for sugarcane crop will be reduce significant groundwater extraction at field.

Efficient water management holds paramount importance in sugar manufacturing for mitigating environmental impact and operational costs.

- **Recycling and Reuse:** Implementing systems to recycle and reuse process water whenever feasible, such as utilizing condensate for various purposes.
- **Optimized Process Design:** Designing processes to minimize water usage, such as employing closed-loop systems and optimizing cleaning procedures to mitigate water wastage. Use of hydro jet cleaning and dry cleaning.
- **Advanced Technologies:** Investing in advanced technologies like membrane filtration and reverse osmosis with polishing unit to treat and reuse excess condensate generated from the sugar process, thus reducing the consumption of fresh water for boilers.
- **Water-Efficient Equipment:** Installing water-efficient equipment and machinery throughout the manufacturing process and water-saving pumps equipped with mechanical seals rather than gland sealing.
- **Regular Maintenance:** Conducting regular maintenance of equipment to prevent leaks and ensure efficient water use.
- **Employee Training:** Educating employees about the significance of water conservation and implementing training programs to promote water-saving practices.
- **Optimization of Boiler Blowdown:** Maintaining boiler water quality as per

requirements to reduce the frequency of blowdown, thereby minimizing fresh water intake at RO/DM and reducing effluent generation.

- **Rooftop rainwater harvesting:** Harvesting of rainwater during rainy season and storage for utilization during commencement of crushing season
- **Adaption of dual plumbing system:** Installation of dual plumbing system to reduce freshwater consumption by reusing treated wastewater for flushing in toilets

Laboratory: Made provision of polished permeate line at lab for laboratory purpose, this might be 20 mg/l to 25 mg/l TDS water and good replacement of fresh for laboratory purpose.

K. Best practices to reduce effluent generation

Effluent generation reduction strategies can be effectively implemented through various measures:

- **Centralized Grease Lubrication System:** Installing a centralized grease lubrication system instead of oil lubrication can prevent oil contamination and spillage, especially with bearing cooling water in the mill and process house.
- **Minimization of Juice or Water Leakages:** To reduce effluent generation, efforts should be focused on minimizing leakages of juice or water at the mill house. This can be achieved by implementing preventive measures to address gland leakages. Collecting any leakages in a pit and subjecting them to physical and chemical treatment to prevent microbial contamination, facilitating recycling. Installing proper arrangements to prevent spitting from both sides of mill rollers.
- **Dry Cleaning and Collection of Leaks:** Keeping the mill house bottom foundation area dry and opting for dry cleaning instead of water washing can help reduce effluent generation. Additionally, collecting all gland leakages and tank spillages in a pit and promptly returning them to the process house for treatment is essential.
- **Cleaning Schedule and Communication:** Establishing a cleaning schedule for mill house and process house equipment and effectively communicating it to the Environment department ensures proper maintenance and minimizes effluent generation.
- **DSM Screen / Static Screen Installation:** Providing DSM screens/rotary screens or static screens for the removal of bagasse and foreign material from effluent generated by the sugar plant not only improves effluent quality but also reduces temperature.

L. For indoor air pollution management

Usually bagasse is used as fuel for boiler in the sugar industries and this process causes emission of pollutants such as SO₂, CO & NO₂. In addition to this milling, sulphitation process evaporation and sugar dust in packaging house, bagasse and ash handling are other emission sources that causes air pollution. Following steps shall be taken by the sugar industries:

- Factories should have installed APCD to minimize the air pollutants of boiler.
- Adoption of leak proof system to prevent leakages of SO₂.
- Dust collector mechanical device should be installed in sugar drier house to arrest the sugar dust particles.
- Personal protective equipment should be provided to the workmen at their working place.
- Mechanical handling of ash and bagasse

Handling of chemicals and housekeeping**Hazardous chemicals**

- i. In case of chemical/mechanical cleaning of the heat exchangers is practiced, 'Hazardous Tank' of adequate capacity (so as to facilitate addition @ 5% max. v/v of total effluent) or surge tank at ETP may be provided to collect washings and their addition to ETP gradually so as to avoid shock loads and to reduce the pollution load as well.
- ii. The sugar factories shall also require to maintain the disposal records of Hazardous Substances (oil & grease or any hazardous substances etc.) and annual return in Form-4.
- iii. It is recommended that covered area should be provided to store the hazardous wastes at hazardous wastes collection site.
- iv. Dry cleaning of factory floors etc. using bagasse should be practiced instead of wet cleaning using water.
- v. Separate collection of hazardous chemicals generated during lab analysis of physico-chemical parameters of sugar effluent and its proper disposal through TSDF shall be recommended.
- vi. Centralized lubrication system with grease may be installed for cooling of mill bearings to reduce the effluent and oil contamination in water.
- vii. Minimum use of cleaning chemicals and use of hydro jet machines for evaporator cleaning

- viii. Buffer tanks in process house to restrict the shock load in case of any accidental spillage/overflow
- ix. Proper engineering control to avoid leakages and spillages in the plants

a. Good housekeeping

- i. Good housekeeping must be ensured by preventing spillages, leakages and overflows etc. which otherwise increases the load of pollutants in the waste waters coming out of different sections of the factory.
- ii. Proper maintenance of process parameters is necessary to avoid over sulphitation of syrup and also preventing entrainment so as to minimize contamination of the process cooling tower/spray pond water, in particular. External catchalls may also be provided in the last body of the Evaporator and also in the pans.
- iii. Likewise, unnecessary blowing of safety valve and loss of exhaust steam/vapors through noxious gas removal system to be minimized. The radiation, condensation and losses due to leakages are also required to be minimized.
- iv. Treated effluent use in preparation of chemicals for dosing at ETP is recommended, there should not be any provision of separate freshwater line for the said purpose.
- v. Display of ETP layout with capacity and dimensions of each unit at ETP
- vi. Greenbelt development in factory premises and around the ETP
- vii. Factory should develop and implement comprehensive safety polity in unit
- viii. Installation of factory layout at main gate

8.3 DOCUMENTATION UNDER CHARTER 2.0

Proper records in prescribed formats shall be made routine practice and periodically reviewed by the industry, which can be provided to the SPCBs/CPCB as and when required. The sugar industry shall maintain logbooks/records for the following:

1.	Environmental Clearance and compliances uploaded on PARIVESH portal
2.	Air Consent
3.	Water Consent
4.	Hazardous Waste Authorization
5.	Agreement with third party for disposal of Hazardous Wastes
6.	Copy of Form-4 and Form-10 (Manifesto, Annual return etc.)
7.	Valid CGWA NOC/Application copy
8.	Daily Manufacturing Report
9.	Process details- Material Balance
10.	Form RT-8C (current + previous crushing season)
11.	Bore well/Tube well log book
12.	Hot & Cold Water recycling system logbook

13.	Detailed Water Balance diagram
14.	ETP flow diagram along with dimensions of ETP units
15.	ETP Adequacy Report
16.	ETP effluent generation and discharge log book/record
17.	ETP Logbook for parameter analysis
18.	ETP Sludge generation/disposal logbook
19.	Details of Condensate Polishing Unit (CPU) system adopted by the industry (If applicable)
20.	Boiler & fly ash generation/disposal logbook
21.	Boiler & fly ash disposal point (If boiler ash is sent to cement industry then submit agreement with cement industry)
22.	Press mud generation and disposal log book/record
23.	Disposal record of hazardous wastes
24.	Chemical dosing/consumption record (for pH maintenance etc.)
25.	Energy Meter logbook for ETP
26.	Laboratory analysis of ETP carried out by the unit
27.	Laboratory analysis of ETP carried out by third party/external agency
28.	Spray Pond overflow treatment process details
29.	Spray Pond overflow logbook
30.	Irrigation Management Plan and farmers agreement
31.	Record for treated effluent used in irrigation/other purpose
32.	Record for treated effluent used in attached distillery
33.	Dimensions/drawings of: i. Lagoons ii. Hazardous tanks iii. Other Pits (if, any) iv. UGRs (hot & cold)
34.	Piezometer details – locations name with co-ordinates
35.	STP flow diagram and logbook (if installed/applicable)
36.	List of flow meters, their locations in sugar mill and logbooks - Fresh water abstraction and use - ETP inlet & outlet and spray pond overflow - Treated effluent for own purpose and farmer's irrigation
37.	Details of OCEMS
38.	Details of Air Pollution Control System and third party stack monitoring results

8.4 CASE STUDY:**A. 5000 TCD STANDALONE SUGAR MILL WITH LOW PRESSURE BOILER**

Summary of the water balance for case 1				
S. N.	Particular	C Heavy	B Heavy	Syrup & B Heavy
		M ³ /Day		
1	Total excess condensate available after use in process	900.00	795.00	764.00
2	Boiler blow down going to ETP	7.00	7.00	7.00
3	Effluent generation from cold water	517.00	517.00	517.00
4	Effluent generation including boiler blow down (i.e. 2 + 3)	524.00 (104.8 Lit/ton of cane)	524.00 (104.8 Lit/ton of cane)	524.00 (104.8 Lit/ton of cane)
5	Cold water loss during circulation	23.00	23.00	23.00
6	Total water requirement after considering water losses in effluent and cooling water (524 + 23.00 = 547.00)	547.00	547.00	547.00
7	Makeup water used from excess condensate after cooling treatment	547.00	547.00	547.00
8	Balance excess condensate after use as makeup (1- 6) C Heavy: 900.00 – 547.00 = 353.00 B Heavy: 1000.00 – 547.00 = 453.00 Syrup & B Heavy: 964.00- 547.00 = 417. 00	353.00 (70.6 Lit/ton of cane)	453.00 (90.60 Lit/ton of cane)	417.00 (83.40 Lit/ton of cane)
9	Spray pond overflow generation from process	500.00 (100 Lit/ton of cane)	400.00 (80 Lit/ton of cane)	300.00 (60 Lit/ton of cane)
10	Total waste water generation including: cold water effluent + balance excess condensate + spray pond overflow (4 + 8 + 9)	1377.00 (275.40 Lit/Ton of cane)	1372.00 (275.40 Lit/Ton of cane)	1241.00 (248.20 Lit/Ton of cane)
11	**Fresh water requirement for process after use of excess condensate	00	00	00
12	Fresh water requirement for lab and domestic use	50.00	50.00	50.00

** This is applicable towards the normal operations of the unit but fresh water for initial startup and also during long plant shutdowns/reduced crushing situation at the end of season, the additional fresh water will be required which will be around 50 Lit/ton of cane for the season as a whole but this is occasional.

B. 5000 TCD SUGAR MILL WITH HIGH PRESSURE BOILER WITH CONDENSING MODE TURBINE

Summary of the water balance for case 2				
S. N.	Particular	C Heavy	B Heavy	Syrup & B Heavy
		M ³ /Day		
1	Total excess condensate available after use in process	564.00	663.00	611.00
2	Water requirement for cooling tower makeup from excess condensate	72.00	144.00	260.00
3	Loss of cold-water during cooling makeup through excess condensate after cooling	20.00	20.00	20.00
4	Balance excess condensate after makeup for cooling tower and losses (i.e. 1 – 2 - 3)	472.00 (94.4 Lit/ton of cane)	499.00 (99.8 Lit/ton of cane)	331.00 (66.2 Lit/ton of cane)
5	Boiler blow down going to ETP	5.00	5.00	5.00
6	RO reject going to ETP	73	67	61
7	Cooling tower blow down going to ETP	72	144	260
8	Effluent generation from cold water	517.00	517.00	517.00
9	Effluent generation including RO reject and cooling tower blow down (i.e. 5 + 6 + 7+ 8)	667.00 (133.4 Lit/Ton)	733.00 (146.6 Lit/Ton)	843.00 (168.60 Lit/Ton)
10	Spray pond overflow generation from process	500.00 (100 Lit/Ton)	400.00 (80 Lit/Ton)	300.00 (60 Lit/Ton)
11	Total waste water generation including balance excess condensate, cold water effluent and spray pond overflow (i.e. 4 + 9 +10)	1639.00 (327.80 Lit/ Ton of cane)	1632.00 (326.40 Lit/Ton of cane)	1474.00 (294.80 Lit/ Ton of cane)
12	Fresh water requirement for boiler makeup through RO	180.00 (36 lit/ton of cane)	168.00 (34.00 Li/ton of cane)	153.00

				(31.00 Lit/ton of cane)
**13	Fresh water requirement for lab and domestic use	50.00	50.00	50.00
*Note: In these calculations, it is considered that minimum required steam will go to turbine generator (TG) condenser but if unit is having co-generation with the increase of power export, the steam to condenser will increase resulting higher water recirculation in TG cooling towers. Hence higher loss of water and higher opportunity for reuse of excess condensate resulting lesser waste water generation ** This is applicable towards the normal operations of the unit but fresh water for initial startup and also during long plant shutdowns/reduced crushing situation at the end of season, the additional fresh water will be required which will be around 50 Lit/ton of cane for the season as a whole but this is occasional.				

C. 5000 TCD SUGAR MILL WITH HIGH PRESSURE BOILER WITH BACKPRESSURE MODE TURBINE

Summary of water balance for case 3				
S. N.	Particular	C Heavy	B Heavy	Syrup & B Heavy
		M ³ /Day		
1	Total excess condensate available after use in process	562.00	663.00	611.00
2	Fresh water requirement for cooling tower makeup	72.00	72.00	72.00
3	Loss of cold-water during cooling	20.00	20.00	20.00
4	Balance condensate after reuse in makeup water	470.00 (94.4 Lit/Ton of cane)	571.00 (114.2 Lit/ton of cane)	519.00 (104.00 Lit/ton of cane)
5	Boiler blowdown going to ETP	5.00	5.00	5.00
6	RO reject going to ETP	62.00	59.00	53.00
7	Cooling tower blow down going to ETP	72.00	72.00	72.00
8	Effluent generation from cold water	517.00	517.00	517.00
9	Total effluent generation including boiler blow down, RO reject and cogeneration cooling tower blow down (i.e. 5 + 6 + 7 + 8)	656.00 (131.20 Lit/Ton)	653.00 (130.60 Lit/Ton)	647.00 (129.40 Lit/Ton)

10	Spray pond overflow generation from process	500.00 (100 Lit/Ton)	400.00 (80 Lit/Ton)	300.00 (60 Lit/Ton)
11	Total waste water generation including balance excess condensate, effluent and spray pond overflow (4 + 9 + 10)	1626.00 (325.20 Lit/Tone of cane)	1624.00 (324.80 Lit/Tone of cane)	1466.00 (293.20 Lit/Tone of cane)
12	Fresh water requirement for boiler makeup through RO	154.16 (30.83 Lit/Tone of cane)	146.33 (29.26 Lit/Tone of cane)	130.33 (26.06 Lit/Tone of cane)
** 13	Fresh water requirement for lab and domestic use	50.00	50.00	50.00
** This is applicable towards the normal operations of the unit but fresh water for initial startup and also during long plant shutdowns/reduced crushing situation at the end of season, the additional fresh water will be required which will be around 50 Lit/ton of cane for the season as a whole but this is occasional.				

D. 5000 TCD BACKEND SUGAR REFINERY, HIGH PRESSURE BOILER WITH CONDENSING MODE TURBINE

Summary of water balance for case 4				
S. N.	Particular	C Heavy	B Heavy	Syrup & B Heavy
		M ³ /Day		
1	Total excess condensate available after use in process	618.00	715.00	664.00
2	Loss of cold-water during cooling	22.00	22.00	22.00
3	Condensate water requirement for cooling tower makeup	130.00	230.00	331.20 Say 332.00
4	Balance excess condensate after makeup for cooling tower and loss	466.00 (93.2 Lit/ton of cane)	463.00 (92.60 Lit/ton of cane)	310.00 (62.00 Lit/ton of cane)
5	Boiler blow down going to ETP	7.00	7.00	7.00
6	RO reject going to ETP	74.00	70.00	65.00
7	Cooling tower blow down going to ETP	130.00	230.00	332.00

8	Effluent generation	567.00	567.00	567.00
9	Total effluent generation including boiler blow down, RO reject, cooling tower blow down (5+6+7+8)	778.00 (155.60 Lit/Ton)	874.00 (174.80 Lit/Ton)	971.00 (194.20 Lit/Ton)
10	Spray pond overflow generation from process	500 (100.00 Lit/Ton)	400 (80.00 Lit/Ton)	300 (60.00 Lit/Ton)
11	Total waste water generation including balance excess condensate, cold water effluent and spray pond overflow (i.e. 4 + 9 + 10)	1744.00 (348.80 Lit/ton of cane)	1737.00 (347.40 Lit/ton of cane)	1581.00 (316.20 Lit/ton of cane)
12	Fresh water requirement for boiler makeup through RO	184.00 (36.80 Lit/ton of cane)	175.00 (35.00 Lit/ton of cane)	162.00 (32.40 Lit/ton of cane)
**13	Fresh water requirement for lab and domestic use	50.00	50.00	50.00
*Note: In these calculations, it is considered that minimum required steam will go to turbine generator (TG) condenser but if unit is having co-generation with the increase of power export, the steam to condenser will increase resulting higher water recirculation in TG cooling towers. Hence higher loss of water and higher opportunity for reuse of excess condensate resulting lesser waste water generation ** This is applicable towards the normal operations of the unit but fresh water for initial startup and also during long plant shutdowns/reduced crushing situation at the end of season, the additional fresh water will be required which will be around 50 Lit/ton of cane for the season as a whole but this is occasional.				

E. 5000 TCD BACKEND SUGAR REFINERY, HIGH PRESSURE BOILER WITH BACKPRESSURE MODE TURBINE

Summary of water balance for case 5				
S. N.	Particular	C Heavy	B Heavy	Syrup & B Heavy
		M ³ /Day		
1	Total excess condensate available after use in process	628.00	715.00	664.00
2	Loss of cold-water during cooling	22.00	22.00	22.00
3	Condensate water requirement for cooling tower makeup	72.00	72.00	72.00

4	Balance excess condensate after use for makeup [1-(2+3)]	534.00 (106.80 Lit/ton of cane)	621.00 (124.20 Lit/ton cane)	570.00 (114.00 Lit/ton of cane)
5	Boiler blow down going to ETP	6.00	6.00	6.00
6	RO reject going to ETP	72.40 Say 73	69.00	64.00
7	Cooling tower blow down going to ETP	72.00	72.00	72.00
8	Effluent generation	567.00	567.00	567.00
9	Total effluent generation including boiler blow down, RO reject, cooling tower blow down (i.e. 5 + 6 + 7 + 8)	718.00 (143.6 Lit/Ton)	714.00 (142.80 Lit/Ton)	709.00 (141.80 Lit/Ton)
10	Spray pond overflow generation from process	500.00 (100 Lit/Ton)	400.00 (80 Lit/Ton)	300.00 (60 Lit/Ton)
11	Total waste water generation including balance excess condensate, cold water effluent and spray pond overflow (i.e. 4 + 9 + 10)	1752.00 (350.40 Lit/ton of cane)	1735.00 (347.00 Lit/ton of cane)	1579.00 (315.80 Lit/ton of cane)
12	Fresh water requirement for boiler makeup through RO	181.00 (36.20 Lit/ton of cane)	172.50 (34.50 Lit/ton of cane)	160.00 (32.00 Lit/ton of cane)
**13	Fresh water requirement for lab and domestic use	50.00	50.00	50.00
** This is applicable towards the normal operations of the unit but fresh water for initial startup and also during long plant shutdowns/reduced crushing situation at the end of season, the additional fresh water will be required which will be around 50 Lit/ton of cane for the season as a whole but this is occasional.				

8.5 Standard Operating Procedure (SOP) for operation and stopping of Effluent Treatment Plant (ETP) during pre and post crushing season

Objective:

To establish procedures for the safe and efficient commissioning and stopping of the Effluent Treatment Plant (ETP), ensuring compliance with environmental regulations and operational efficiency.

Scope:

This SOP applies to all personnel involved in the operation, commissioning, and shutdown procedures of the ETP within the sugar mill premises.

Responsibilities:

1. ETP Operators:

- a. Execute commissioning and shutdown procedures as per this SOP.
- b. Monitor process parameters and ensure plant efficiency.
- c. Report any abnormalities or deviations promptly.

2. Maintenance Team:

- a. Conduct routine maintenance and checks as per the maintenance schedule.
- b. Ensure all equipment and systems are in working order.

3. Safety Officer:

- a. Ensure all safety protocols are followed during commissioning, operation, and shutdown.
- b. Conduct safety briefings and inspections as required.

4. Commissioning Procedure:

1. Preparation:

- a. Inform the regional pollution control board about the commissioning of ETP
- b. Check the connection and of the online monitoring system ensure the connection with the server of CPCB and SPCB
- c. Notify all relevant personnel about the upcoming commissioning or starting of the operation of ETP.
- d. Ensure availability of necessary chemicals, equipment, tools and PPE.

2. Initial Inspection:

- a. Verify and complete the maintenance of all the equipment's and tanks, including effluent inlet and outlet flowmeters, oil and grease removal mechanism, feed pumps, sludge pumps, screens, oil and grease removal units, equalization tank, neutralization tank, agitator, primary clarifier scrapper arm and gearbox, anaerobic reactor, aerobic reactor and its media, Aerobic tank including air diffusor, air blower, valves, secondary clarifier scrapper arm and gearbox, multi-grade sand filter, and activated carbon filter, are installed aligned properly and operational.
- b. Complete the calibration of all the flow meters installed at ETP
- c. Check electrical panel board connections and ensure proper grounding. Ensure there is no leakages of electricity and avoid electrocution of the equipment's

3. Start-up Sequence:

- a. Start with the screening and oil and grease removal system:
 - Ensure screens are operational and clean.
 - Start oil and grease removal unit according to manufacturer's instructions.
- b. Proceed to the equalization tank:
 - Open inlet valves to allow influent flow into the equalization tank.
 - Monitor influent characteristics and adjust flow rates as necessary.
- c. Neutralization tank operation:
 - Start mixing and pH adjustment as per the treatment requirements.
 - Monitor pH levels and adjust chemical dosing if required.
- d. Primary clarifier operation:
 - Open inlet valves to allow flow into the primary clarifier.
 - Start sludge scraping mechanism and adjust sludge wasting rates.
- e. Anaerobic treatment:
 - Open inlet valves to direct flow into the anaerobic reactor.
 - Start anaerobic digestion process.
 - Monitor reduction in COD and BOD, biogas production (In case of UASB or CSTR) and adjust as necessary flow and chemical doses.
- f. Aerobic treatment:
 - Transfer effluent from anaerobic reactor to aerobic reactor.
 - Start aeration system by opening the valves of air distribution lines and star air blowers

- Gradually increase aeration rate to achieve desired dissolved oxygen levels.
 - Monitor and adjust pH levels, nutrient dosing, and MLSS (Mixed Liquor Suspended Solids) concentrations.
- g. Secondary clarifier:
- Open inlet valves to allow treated effluent from the aerobic reactor into the secondary clarifier.
 - Start sludge settling and removal mechanisms.
 - Monitor and adjust the rotations of sludge scrapping mechanism for proper sludge removal
- h. Filtration systems:
- Start multigrid sand filter and activated carbon filter units.
 - Monitor filtration efficiency and backwash cycles as required.

4. Process Stabilization:

- a. Monitor effluent quality and process parameters (e.g., pH, COD, BOD, TSS, TDS, MLSS etc.)
- b. Conduct settling tests in clarifiers and adjust sludge removal rates if necessary.
- c. Optimize operational parameters for stable performance.

5. Performance Testing:

- a. Perform initial effluent quality testing to ensure compliance with regulatory standards.
- b. Record and analyse data to identify any operational adjustments needed.
- c. Conduct regular third party monitoring and analysis of the treated and untreated effluent

6. Documentation/data records:

- a. Records of daily incoming effluent and treated discharge/recycle
- b. Daily logbook of laboratory analysis
- c. Daily chemicals and power consumption
- d. Data of sludge generation and ultimate disposal
- e. Maintain the record of online monitoring system
- f. Maintain the record of the third party monitoring and analysis reports of treated and untreated effluent
- g. Maintain the calibration record for OCEMS, flowmeters, lab equipment's etc.

7. Stopping Procedure:**i. Preparation:**

- a. Inform the relevant regulatory authority about the shutdown of the ETP
- b. Notify all relevant personnel in the sugar mill about the impending shutdown.
- c. Ensure there is no effluent coming out of the mill or directly discharge outside the premises without treatment.

ii. Shutdown Sequence:

- a. Treat the complete available effluent in the inlet/equalization tank and cease influent flow to the ETP by closing inlet valves.
- b. Gradually reduce aeration in the aerobic reactor.
- c. Stop anaerobic reactor operations as per manufacturer's instructions.
- d. Ensure proper drainage and cleaning of all treatment units.

iii. Safety Measures:

- a. Secure all electrical connections and equipment.
- a. Conduct final safety checks to ensure no hazards exist post-shutdown.

iv. Documentation:

- a. Record shutdown activities, including final operational readings and any maintenance performed.
- b. Update maintenance logs and equipment status.

8. Emergency Procedures:

- a. In case of any malfunction or emergency during commissioning or operation, follow the emergency response plan specified in the ETP SOP.
- b. Notify management and take necessary actions to mitigate risks to personnel and the environment.

9. Review and Revision:

- a. This SOP shall be reviewed annually or as needed to incorporate improvements or changes in procedures based on operational feedback or regulatory updates.

8.6 Format for logbook for daily water consumption

- a. As per SGWB/CGWA guidelines, it is mandatory to install digital water flow meters at the outlet of borewell/tubewell and to maintain the logbook for daily water consumption. In the logbook, initial and final readings should be mentioned on daily basis following format:

Date and Time	Industrial Borewell/Tubewell -1				Cane Crushed - MT		Specific Water Consumption – L/T of cane crushed		Remarks
	Initial Reading	Final Reading	Water abstraction (For the Day in KL)	Water abstraction (KL) (To date)	For the day - MT	To date – MT	For the day	To date	
Day/Month/Year AM/PM	A	B	C=B-A	D=C+ Pre Day abstraction	X	Y	C*1000 /X	=D*1000/Y	

- b. In case of more than one borewell/tubewell, more columns can be incorporated with one total water abstraction column.
- c. During the visit, inspecting authority will take the meter readings of all the borewells physically and match it with the log book to ensure that the data recorded in the logbook is matching with the reading of the flow meters.
- d. As per SGWB/CGWA guidelines, the flowmeters should have telemetry arrangement for online data transfer to SGWB/CGWA portal which is yet to be operational.
- e. For normal operating days (excluding initial fills or stoppages) the specific water consumption should be within the allowed limit.
- f. In the case of initial fills, stoppages and before the starting of crushing season the sugar industry shall maintain the record of freshwater consumption separately to avoid the deviation in monthly average quantum of freshwater consumption.
- g. In the case of stoppages, the sugar units shall maintain the fresh water consumption records. However, it is noteworthy that the industry breakdown period should be > 6 hours. The same shall be checked from the Daily Manufacturing Record (DMR) to verify the freshwater consumption quantum for that particular period of time.
- h. If some day any industry operates at <70% of its crushing capacity, then the record of freshwater consumption for such occasions shall be maintained separately by the industry.

8.7 Digital Water Flow Meter with Telemetry for Groundwater extraction monitoring as per CGWA notification

Technical specifications

1. Specification of Tamper proof Electronic water meter with telemetry

Metering Technology	Ultrasonic or Electromagnetic
Communication type	LAN (for internet connectivity) or LoRa WAN and/or Cellular (GPRS / 3G / 4G)
Tamper proof:	
a) Power source	The meter shall be battery operated or UPS powered supply with provision of power OFF detection. The telemetry system units shall be battery operated or through external power supply. The metering data should be stored in the meter even if the telemetry system is off due to power failure.
b) Sealing	The meter and telemetry system shall have proper mechanical and electronic sealing (through software) arrangement. Any attempt to open the meter or system enclosure should physically damage the tag.
Compliance	The meter shall preferably be manufactured as per ISO 4064: 2014 Standards and shall have IP 68 ingress protection.
Accuracy	The meter shall be of accuracy better than $\pm 2\%$ for the operating flow range (from 10 % to 100 % of maximum flow rate).
Test certificate	The meter manufacturer shall submit the latest test/calibration certificate of the meter, from Fluid Control Research Institute (FCRI) / National Physical Laboratory (NPL) or any third party laboratory accredited by National Accreditation Board for Testing and Calibration Laboratories (NABL), for every meter.
Parameters to monitor	The meter (since installation of the requisite water meter) shall transmit the following parameters to a secure cloud

- Timestamp
- Cumulative forward flow volume
- Cumulative reverse flow volume
- Cumulative Net volume
- Cumulative pump working hours
- Meter serial number
- Device last calibration date
- Borewell id (Provided by CGWA)

Cloud	The Communication / telemetry data should be directly captured in a secure cloud. The cloud service provider should be empaneled with The Ministry of Electronics and Information Technology (MeitY).
Transmission frequency	The data shall be transmitted minimum 2 times in a day
Battery life	In case of battery operated meters the battery shall run at least for a period of 3 years with 2 transmissions per day. The battery shall be replaceable without any data loss.
Data acquisition	The meter shall be supplied with complete AMR / AMI system with Data Management software. The Data Management Software must be capable of running on a standard PC. The Data Management Software should be cloud based and should have web portal access so that user can view customer data through browser. In addition to above, Data Management Software will be installed on Server placed in Central Data Base/Control Room, and the software may have option for individual customer to view their meter consumption data through Web portal. Consumer, engineer and manager screens shall be available separately. Data Collection Unit shall be capable of taking data from

meter, pump etc. and should be posted in Data Management Software.

Real-time data to CGWA

The un-tampered data from the secure cloud shall be sent to Central Ground Water Authority (CGWA) real-time data management platform once it is ready. Proper cyber security measures shall be taken in the secure cloud.

2. Installation of meter

Location

The meter shall be installed at the bore-well pump discharge line before any branching and preferably as shown in Figure. 1

Bypassing

There shall be no bypassing of pipe prior to the installed flow meter.

Full flow

The installation of the meter shall ensure the pipe shall have full of water at all times. Sufficient upstream and downstream straight length shall be provided for the meter (Refer to Figure 1.)

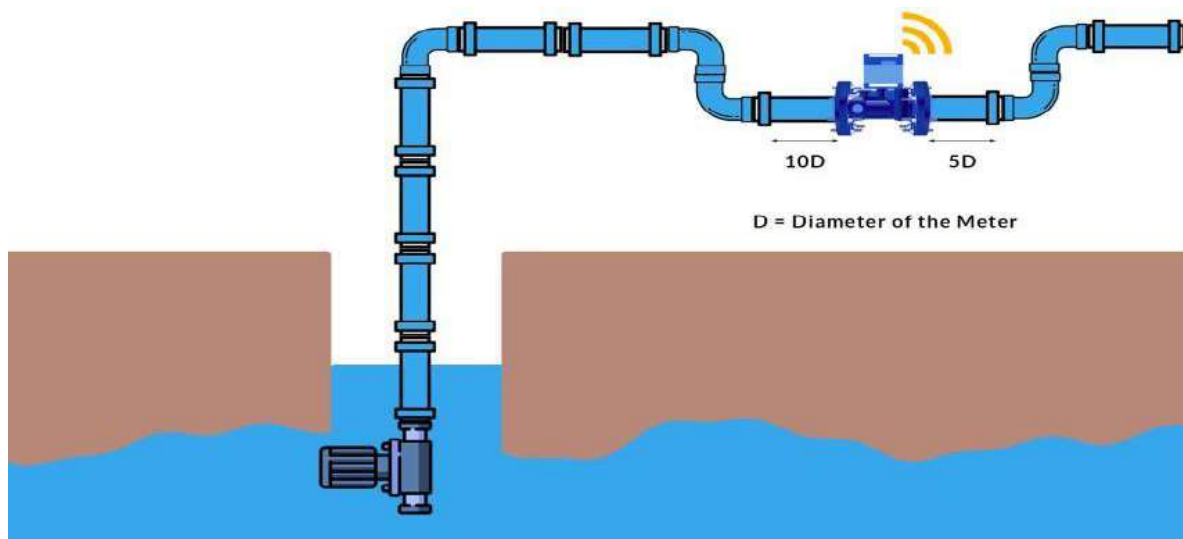


Figure. 1: Installation position of tamper proof flow meter with telemetry at groundwater abstraction structures.

3. Detailed Technical Specifications of Amr / Ami Water Flow Meters

3.1 Specification of flow meter

Flow meters shall meet the following metrological specification:

1. Turndown ratio of 10 or above
2. Accuracy $\pm 2\%$
3. Technology: electromagnetic or ultrasonic

3.1.1 Size:

1. DN40 - Flow range: 0.5 lps to 5 lps
2. DN100 - Flow range: 3 to 30 lps
3. DN150 - Flow range: 13 to 130 lps

- Meter performance shall not get affected by external magnetic field, as specified in ISO4064.
- Meters must be able to retain their accuracy, when installed in either horizontal and/or vertical planes.

3.1.2 Material of Construction:

The manufacturer shall provide specific details of materials used for various parts of the meter which must meet the specifications for the material of construction of the individual parts of the meters as per applicable standards (referred above).

- The water meter and accessories shall be manufactured from materials of adequate strength and durability.
- The body of the meter shall be of Brass/Bronze/MS/CI/SS/Engineering Plastic and compact enough to avoid tampering of meter. The manufacturer shall specifically mention in the offer, the material used in manufacturing.
- The materials, which come in contact with the potable water, shall not create a toxic hazard, shall not support microbial growth, and shall not give rise to unpleasant taste, odor or discoloration in the water supply.
- The painting material used should be free from toxic constituents and safe for human uses and should not affect human health (Health Certificate should be attached/provided).
- Each meter should be supplied in separate individual box with its accessories, test/ calibration Certificate (for accuracy parameter) and Guarantee Card for free repair/replacement during the warranty period.

3.1.3 Markings on the Body of the Meter:

- Make/Brand, Size / Nominal Dia.
- Sl. No. / Year of Manufacture, Metrological specifications etc.

3.1.4 Meter indicator

The digital indicator shall be designed in such a way that if the protective glass is broken for a reason or another, the indicator cannot be removed from its place. The protective cover of the indicator shall be made of sturdy glass/PP/PC.

- It shall be of straight reading type.
- No. of digits and verification scale interval shall be as sufficient enough to meet the required accuracy.
- Totalizer shall be made of suitable material required to maintain IP 68 protection class.

3.1.4 Telemetry System

- The AMR/AMI system should have the facility to detect and communicate any abnormalities, i.e. high consumption, tampering etc. along with necessary alarms.
- The system will communicate in real time for battery and tamper alarms, in order to provide relevant monitoring and management data for operational purposes.
- The battery shall be replaceable without any data loss.
- The meters should report an alarm to the server as and when tampered.
- All Water Meter readings should be time stamped.
- The meter should have the capability to detect and record reverse flow separately.
- The meter should be capable of to detect Leak, Zero (No) Flow, High Flow.
- The AMR/AMI should operate even in electrically noisy environments with electromagnetic interference. The AMR/AMI should function even in the presence of high voltage power lines.
- Battery usage has to be indicated at the server. Provision should be provided to replace batteries if required.
- The communication shall be encrypted to avoid tampering.
- The meter should be configurable either using the DTU or from the server.
- Loss of communication should be indicated in the server within 48 hours.
- The meter should be able to log the daily flow data with a timestamp which is supposed to be sent to the cloud via telemetry for at least 2 years.
- In case the telemetry is non-functional because of power cut or weak cellular signals, the meter should be able to store the data and transmit to the cloud as soon as the telemetry system is live.

- This data shall also be used for retrieval in case of any dispute between meter data and online data. **517**

3.3 Data Management Software

- The web based Data Management Software must be capable of running on a standard PC compatible with minimum Pentium Processor; in addition, the software must run under Windows XP Professional, Windows Vista, Windows 7 and / or latest version of Windows Operating System and HP Unix, Linux, Solaris, etc.
- The Data Management Software should be cloud base and should have web portal access so that user can view customer data through browser. In addition to above, Data Management Software will be installed on Server placed in Central Data Base / Control Room, and the software may have option for individual customer to view their meter consumption data through Web portal.
 - The Data Management Software shall provide database backup/restore functions and must have real-time data access. The software should be web-enabled and alerts to be provided through email/SMS to the user.
 - The Data Management Software shall post the reading from the communication infrastructure on to appropriate accounts within the Database.
 - The Data Management Software should be able to display all kind of data on screen at any time.
 - The Data Management Software should have capability to add additional customer information and create customizable data fields.

3.4 Lab Testing / calibration:

Testing or Calibration of meters shall be performed at ISO 17025: 2017 accredited laboratory. The accuracy of meter shall be within $\pm 2\%$ in the operating range. The meter shall have valid model approval certificate.

The meter shall have model approval from India or abroad. Every meter should be calibrated/ tested for accuracy in the operating flow range (10% to 100%). At least 4-point calibration at 10%, 40%, 70% and 100% of maximum/rated flow shall be performed.

- *Former Director, National Sugar Institute, Kanpur
 *Expert, Cogeneration Association of India
 *Advisor, Deccan Sugar Technologists Association of India
 *Member, International Society of Supercane & Sugar Technologists
 *Life Member, Association of Food Technologists of India
 *Life Member, The Sugar Technologists Association of India
 *Advisor, Ceylon Sugar Industries (P) Ltd., Sri Lanka

Res: 7/125, Jagdish Bhawan, 12 Bungalow Campus, Swarup Nagar, Kanpur – 208 002, India
 Phone: +91-9415125104 E-mail: nmagrawal@rediffmail.com

01.2.2025

To,
 M/s Dhampur Sugar Mills Ltd.
 6th Floor, Max House, Okhla Industrial Estate Phase-3
 New Delhi, New Delhi 110020,

Dear Sir

My opinion in the referred matter is as under:

REFERENCE:

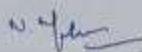
Technical Feasibility of Inter-locking of Effluent Treatment and Air Emission Control System in a Sugar Unit & Distillery

It has been desired to consider and assess technical Feasibility of Inter-locking of Effluent Treatment and Air Emission Control System in a Sugar Unit & Distillery vis a vis the directions of the Hon'ble NGT and conditions being imposed by the SPCB.

Back Ground

National Green Tribunal (NGT) vide order dated 01.09.2021 passed in Original Application no. 539 of 2019 in Adil Ansari vs. Dhampur Sugar Mills Limited & Ors. passed a detailed judgment. The Hon'ble NGT vide the same order gave several directions to comply with, one of the directions was as under-

UPPCB must ensure Interlocking of Pollution Control Devices with production processes (one way but not vice versa) so as to ensure that whenever ETPs/PCDs are intentionally closed, the production also comes to halt.



The Hon'ble Supreme Court has directed NGT to Monitor the compliances done by the Company to the directions issued by the NGT vide order dated 01.09.2021. The relevant part of the order dated 07.01.2025 is reproduced hereunder.

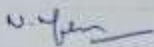
It is evident from the above that there are certain directions of the National Green Tribunal which have been complied and some directions are not yet complied with. We are of the opinion that it would be appropriate if we direct the Tribunal to monitor the compliances and ensure that its judgment dated 01.09.2021 is fully implemented. After ensuring implicit compliances of the directions, the Tribunal may revisit the directions with respect to payment of compensation and pass such orders as may be necessary.

The Company had already submitted an explanation vide letter dated 29.09.2021 before UPPCB in response to the direction vide letter dated 24.09.2021 of interlocking of Pollution Control Devices with Production processes that sugar production is a continuous process and if the production process is stopped suddenly the sugarcane juice and juice concentrates in the process will clog and it will be very difficult to clean the plant and resume production. Copies of the UPPCB letter and our letter are attached.

OPINION:

It is not the only question of sugar production process being continuous one but also the nature of raw material used for production of sugar i.e. sugarcane. The sugarcane is a perishable crop and deterioration sets in as soon as the sugarcane is harvested from the field. Similarly, sugarcane juice, syrups and various other process intermediates in the sugar unit also deteriorate upon retention. Thus, the sugar units should not be and cannot be equated or kept at par with other industries viz. cement, textile, electrical and electronics and so on. Continuity in operations is a must for sugar units keeping in view the perishable nature of the raw material and process house liquors.

If because of any temporary issue with pollution control devices, the production process is made to stop, it will result in decomposition of process house liquors as reflected from deterioration of bag-able sugar to the extent of almost no commercial use. The loss of sugar due to decomposition, apart from other factors is very much dependent upon the retention time, particularly, due to sucrose i.e. bag-able sugar immediately starts getting inverted the moment Manufacturing Process is stopped. Under these situation stagnated material thus would require removal through deep cleaning of the entire plant before it is to be operated again. This would not only cause huge losses to the sugar unit due to loss of sugar, misc. other losses due to suspension of crushing operations and expenses on



cleaning but the sugarcane available to mill and cane centres shall also undergo post-harvest deterioration.

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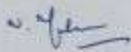
The sugar units cope up with their captive steam and power requirements generating the same through in house boilers and turbo-generating sets. Since bagasse obtained as a result of crushing of the sugarcane is used as fuel in boilers, as soon as the sugarcane crushing is stopped, the generation of bagasse also stops because of which the boiler and consequently turbo-generators are likely to stop making the entire system coming to an stand-still. The restart of the boilers and other equipment takes substantial time and necessitates arrangement of fuel from outside.

The very important aspect related to sugarcane farmers should also be kept in mind while considering the possibilities of interlocking sugar factory operations with the working of pollution control devices. If so considered, sugarcane farmers shall also suffer as the sugarcane harvested by them for supply to sugar unit shall meet the same fate of deterioration viz. loss of weight and sugar, causing them financial losses in terms of sugarcane price per metric ton of sugarcane compared to normal sugarcane. The whole chain from sugarcane supplies to sugar- power production is likely to suffer adversely causing imbalances. Imposition of such regulation which may cause disruptions in the sugarcane supplies, thus, may also cause agitation by the farmers creating law and order issues as well.

Therefore, keeping in view the perishable nature of raw material and many other relevant factors e.g. power generation to meet captive requirements and also to export, necessitating it to be a continuous operation, interlocking of sugar production process in sugar units with pollution control devices seems does not seem feasible.

Moreover, since data related to emissions is regularly transmitted to CPCB/SPCB Servers through OCEMS, in case of any deliberate or accidental stopping of pollution control devices, the position shall be explicitly clear to the CPCB/SPCB enabling them taking any appropriate action as deem fit.

Similarly, Distilleries which by and large produce ethanol using sugarcane juice, thick juice, syrup and other feed stocks, which are all perishable in nature, having unit operations of fermentation, distillation and de-hydration etc., work in a continuous manner as per process requirement. They also establish steam and power generation units so as to meet the captive power requirements. Hence, for the reasons mentioned in case of sugar units, interlocking of pollution control devices with production process does not



seem feasible even for Distilleries in case of temporary break down in the pollution control devices.

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It may also be mentioned that even as per the latest issued "Sugar Charter 2.0" there is no provision of Inter-locking of Effluent Treatment Plant and /or Air Emission control System and the Charter 2.0 is silent on this issue meaning thereby no such regulation is required to be imposed.

However, if any such regulation is proposed to be implemented, I personally think that wide circulation of the same and subsequent discussions should be carried out with all the stakeholders.

Thanking you,

Yours faithfully


(Narendra Mohan)

2407
Annexure 10

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2408

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2409

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2410

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Annexure 11

**D.G.
ACOUSTIC ROOM**





DSM/UPPCB/24-25/293
Dated - 25/3/25
To,

The Regional Officer
Uttar Pradesh Pollution Control Board
Bijnor (Uttar Pradesh) 246761

Subject: Request for Compliance Verification Post Central Pollution Control Board
Team Inspection

Dear Sir,

In reference to the the Joint Inspection report filed before the Hon'ble Supreme Court on 21.12.2024 we have complied the following .

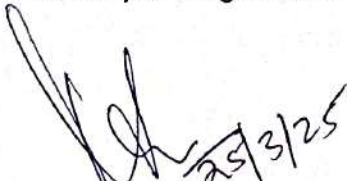
1. We have completely filled the 4000 m3 old lagoon area which was partially filled during the inspection.
2. Existing backwash tank is sufficient for smooth operation which is validated by NSI, Kanpur.
3. The DG has been covered with Acoustic Enclosure which is completely soundproof.

You are requested to kindly verify the above compliances done by the us by way of conducting an Inspection of our Sugar & Distillery Unit as per your convenience as both the Units are operational now a days. Also, we are fully complied Unit as per our CTO.

Thanking You,

Yours faithfully,

For Dhampur Sugar Mills Ltd.


(Authorized Signatory)

प्राप्त
25/3/25
25-3-25

क्षेत्रीय कार्यालय
उत्तर प्रदेश प्रदूषण नियन्त्रण बोर्ड
लखनऊ

CERTIFIED TRUE COPY OF A RESOLUTION PASSED IN THE MANAGEMENT COMMITTEE MEETING OF THE BOARD OF DIRECTORS OF DHAMPUR SUGAR MILLS LIMITED HELD ON TUESDAY, THE 7TH DAY OF NOVEMBER, 2023 AT ITS CORPORATE OFFICE AT 6TH FLOOR MAX HOUSE, OKHLA INDUSTRIAL ESTATE, PHASE III, NEW DELHI - 110020

"RESOLVED THAT in supersession of earlier resolutions passed in this regard, Mr. Gaurav Goel, Managing Director, Mr. Subhash Pandey, Wholetime Director, Mr. Susheel Kumar Mehrotra, Chief Financial Officer, Mr. Vineet Kumar Gupta, Vice President, or Mr. Somesh Rattan, General Manager (Legal) be and are hereby severally authorized to represent the Company before the Department of Company Affairs, Company Law Board, Courts of Law, Tribunal, Forum, Quasi-Judicial Bodies, Arbitrator(s) and / or other Adjudicating Authorities and Statutory Authorities and to appoint Advocate(s), Attorney (ies) at Law, Consultant(s) to represent the Company in connection with matters related thereto including legal cases pending before any of the aforesaid authorities, Board(s), Court(s) and write, sign, execute, Vakalatnama (s), application(s), form(s) and such other paper(s), document(s) and deed(s) for the purpose aforesaid.

RESOLVED FURTHER Mr. Gaurav Goel, Managing Director, Mr. Subhash Pandey, Wholetime Director, Mr. Susheel Kumar Mehrotra, Chief Financial Officer, Mr. Vineet Kumar Gupta, Vice President, or Mr. Somesh Rattan, General Manager (Legal) be and are hereby severally authorized to sign, execute all types of paper(s), agreement(s), document(s), undertaking(s), deed(s), other document(s) as may be required in the conduct of routine matters of business of the Company."

For Dhampur Sugar Mills Limited


Aparna Goel
Company Secretary
M. No. - 22787



Date: 28-07-2025
Place: New Delhi