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

**Execution Appeal 19/2021**

**IN**

**Original Application No. 324/2016**

**In the matter of: -**

Shailesh Singh ...Applicant

Versus

State of U.P. & Ors. ...Respondent(s)

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Ajit Kumar Vidyarthi

(Dr. Ajit Kumar Vidyarthi)
Scientist-F
Central Pollution Control Board
Parivesh Bhawan, East Arjun Nagar, Delhi- 110032

Place: Delhi
Date: 09.05.2022

**Joint Committee Report in compliance to Hon'ble NGT (PB) order dated 18.03.2021, 12.08.2021 & 09.12.2021 in O.A. No. 324 of 2016 & E.A. No. 19 of 2021; Shailesh Singh vs State of U.P. & Ors.**

This report is in compliance to Hon'ble NGT order dated 09.12.2021 in Execution Appeal No. 19/2021, OA No. 324/2016 titled Shailesh Singh Vs State of Uttar Pradesh & Ors.

Hon'ble NGT considered the compliance report dated 06.01.2021 filed by the Central Pollution Control Board (CPCB) based on joint committee inspection of 14 industries on 27th & 28th October, 2020 carried out by officials of CPCB, Uttar Pradesh Pollution Control Board (UPPCB) and Uttarakhand Pollution Control Board (UKPCB) and vide order dated 18.03.2021 **(ANNEXURE-I)** further directed the following:

*"13. There is no objection to the report of the Oversight Committee in respect of the units in the State of UP or to the report of the joint Committee filed by the CPCB. We do not see any reason not to accept the same. Accordingly, the said reports are accepted. Action may accordingly be taken by the concerned units and the statutory regulators.*

*14. The industries in the question in the State of UP as well as Uttarakhand may comply with the deficiencies noticed in the reports which may be overseen by a joint Committee of CPCB and the concerned State PCBs. The State PCBs may take necessary further action based on the observations of the joint Committee, which may include coercive measures like recovery of compensation and initiating prosecution, following due process of law. An action taken report may be periodically provided by the State PCBs to the Chairman, CPCB for any further directions for the remedial action.*

*16. Learned counsel for the UP State PCB submits that polluted water is being discharged from the Uttarakhand by the industries which is flowing to the State of UP. This may be looked into by the CPCB and based on observations of the CPCB, appropriate remedial action be taken to prevent such pollution by the State of Uttarakhand and its authorities. Regular vigilance may be maintained by the concerned SPCBs and other statutory regulators and impact on water quality of river Kosi, Dhela, Bahela, Ramganga and finally on Ganga may be overseen by CPCB and NMCG also."*

Hon'ble NGT vide its subsequent order dated 12.08.2021 **(ANNEXURE-II)** in the matter of Shailesh Singh Versus State of U.P. & Ors. in EA No. 19/2021 in OA No. 324/2016, directed the following:

*"..... to enable the Tribunal to proceed further, the CPCB and State PCB may furnish a status report in the matter with regard to the compliance status of order of this Tribunal dated 18.03.2021*."

In compliance to Hon'ble NGT orders mentioned above, CPCB issued letter dated 02.09.2021 to Uttar Pradesh and Uttarakhand SPCBs (State Pollution Control Boards)

wherein CPCB requested the SPCBs to take necessary action as per the Hon'ble NGT order and forward the action taken report to CPCB by 30.09.2021.

CPCB vide letter dated 02.09.2021 also forwarded the reports of water quality monitoring of rivers Dhela, Kosi and Bahela and adjoining drains, carried out during Magh Mela 2020 and 2021 jointly by CPCB, Uttarakhand & Uttar Pradesh SPCBs and also water quality monitoring reports of rivers Dhela, Kosi and Bahela from their origin to confluence to SPCBs of Uttar Pradesh & Uttarakhand. CPCB also requested SPCBs to take appropriate remedial action to prevent pollution of these rivers/ drains and also for restoration of their water quality.
Vide the said letter, CPCB also requested SPCBs to constitute mechanism for regular vigilance for control of pollution and water quality monitoring of these rivers and to provide the action taken report/compliance report to CPCB by 30.09.2021.

A meeting dated 09.11.2021 was convened with officials from CPCB, UKPCB & UPPCB to discuss the compliance status of Hon'ble NGT orders dt 18.03.2021 and 12.08.2021 in the present matter. During the meeting, compliance status of concerned units w.r.t recommendations of joint committee & the oversight committee as referred by Hon'ble NGT in its order dt 18.03.2021 was sought from both SPCBs. Minutes of the meeting is annexed herewith at **Annexure-III.**

Accordingly, UKPCB & UPPCB provided status reports w.r.t. recommendations of joint committee & the oversight committee vide email dt 24.11.2021 **(Annexure-IV)** & 29.11.2021 (**Annexure-V**) respectively.

Status report dated 07.12.2021 including the reports provided by SPCBs of Uttar Pradesh & Uttarakhand in compliance to Hon'ble NGT order dt 18.03.2021 & 12.08.2021 was filed by CPCB before the Hon'ble Tribunal wherein compliance status of units w.r.t. recommendations of joint committee & the oversight committee as well as water quality data of the rivers in question was included. The report also mentioned that CPCB along with UKPCB) & UPPCB, carried out fortnightly monitoring of rivers Dhela, Kosi and Bahela and adjoining drains during Magh Mela 2020 and 2021. Water quality monitoring of these rivers from their origin to confluence were also carried out jointly by CPCB, UKPCB & UPPCB in the past.

UPPCB also filed a separate status report before the Hon'ble Tribunal providing the compliance status of 6 units w.r.t. recommendations of joint committee & the oversight committee

The Hon'ble Tribunal considered the above reports and vide order dated 09.12.2021 **(Annexure-VI)** directed the following:

"*8. Apart from report of CPCB, UPPCB has filed its separate report dated 03.12.2021 giving the compliance status in conflict with the report of the CPCB with regard*

*to the pollution and extraction of groundwater by the industries. The said report does not mention the details with regard to extraction of ground water and compliance of consent conditions meant for preventing pollution of rivers in the vicinity.*

*9. In view of above, we consider it appropriate to require a joint report by a joint Committee of CPCB, UPPCB and Uttarakhand State PCB within two months by email at judicial-ngt@gov.in preferably in the form of searchable PDF/ OCR Support PDF and not in the form of Image PDF which may also be uploaded on the website of CPCB simultaneously for further response of the concerned parties. The joint Committee may also furnish details of ground water extraction, compliance of conditions for preventing pollution of rivers in the vicinity, extent of discharge of pollutants and compensation assessed and recovered in the past and also recommend further remedial action, if necessary."*

Pursuant to the above, a meeting was convened on 25.01.2022 with officials from CPCB, UPPCB & UKPCB to discuss the compliance status of the said order. After detailed deliberations, it was observed that a joint report highlighting the compliance status of the Hon'ble NGT order 18.03.2021 in O.A. no. 324/2016 which shall include compliance of the units w.r.t. recommendations of joint committee as well as oversight committee may be furnished in compliance to the NGT order dated 09.12.2021. Accordingly, it was decided to undertake ground verification of compliance status of concerned units w.r.t. recommendations of joint committee as well as oversight committee.

It was also decided that both SPCBs shall provide the status reports including compliance status of concerned units in tabular format along with the photographic evidences to CPCB by 07.02.2022 which may be verified by the joint committee.
During the meeting, it was also decided that the water quality monitoring of rivers in the vicinity may be carried out jointly by CPCB, UKPCB and UPPCB on 02.02.2022. Minutes of the meeting dated were circulated to concerned SPCBs vide CPCB office memorandum dated 01.02.2022 and the same is annexed at **Annexure-VII.**

Accordingly, both SPCBs provided the compliance status of concerned units in tabular format and the latest water quality data of rivers. The reports received from UPPCB & UKPCB are annexed at **Annexure-VIII** & **Annexure-IX** respectively.

Water quality monitoring of rivers Dhela, Bahela, Kosi and Ramganga in the vicinity was carried out jointly by officials from CPCB, UKPCB & UPPCB on 02-03.02.2022. Details of the monitoring have been included in this report.

The joint team also undertook field visits for verifying the compliance status of concerned units w.r.t. recommendations of joint committee and oversight committee on 08-09.03. 2022.Surprise inspection of these industries was also carried out by third party agencies viz. Vasantdada Sugar Institute (VSI) Pune, Indian Institute of Technology Roorkee, Indian Institute of Technology Delhi, Central Pulp & Paper Research Institute (CPPRI) Saharanpur etc. during Dec-2021-March 2022 and these reports are included as parts of joint report.

Details of Environmental Compensation (EC) deposited by the concerned industries have also been included in this report.

Joint Report in compliance to Hon'ble NGT orders dated 18.03.2021, 12.08.2021 & 09.12.2021 in the matter of Shailesh Singh vs State of U.P. & Ors., including compliance verification of industries on 08-09.03.2022 and river water quality monitoring carried out on 02-03.02 2022 by joint team of officials from CPCB, UPPCB and UKPCB is annexed to this report as **Annexure-X**.

Item Nos. 01 & 02 Court No. 1

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

Original Application No. 324/2016
(M.A. No. 113/2017, M.A. No. 816/2017, M.A. No. 408/2019,
I.A No. 107/2020, I.A. No. 251/2020, I.A. No. 325/2020,
I.A. No. 24/2021, I.A. No. 33/2021 & I.A. No. 83/2021
WITH
Execution Application No. 13/2020

(With reports dated 06.01.2021 and 15.03.2021)

Shailesh Singh Applicant

Versus

State of UP & Ors. Respondent(s)

**WITH**

Original Application No. 361/2017
(I.A. No. 89/2019, I.A. No. 431/2019& I.A. No. 432/2019)

Dr. Tanzeen Fatima Applicant

Versus

Ministry of Environment and Forests &
Climate Change & Ors. Respondent(s)

Date of hearing: 18.03.2021

**CORAM: HON'BLE MR. JUSTICE ADARSH KUMAR GOEL, CHAIRPERSON**
**HON'BLE MR. JUSTICE SHEO KUMAR SINGH, JUDICIAL MEMBER**
**HON'BLE DR. NAGIN NANDA, EXPERT MEMBER**

Applicant: Ms. Preeti Singh, Advocate in OA 324/2016

Respondent: Mr. Rahul Verma, AAG, State of Uttarakhand
Dr. Sandeep Singh, Advocate for the State of UP
Mr. Raj Kumar, Advocate for CPCB
Mr. Pradeep Misra, Advocate for UPPCB
Mr. Mukesh Verma, Advocate for UEPPCB
Mr. A.K. Prasad, Advocate for CGWA
Mr. Pinaki Misra, Senior Advocate with Mr. Sanjeev Ralli, Ms. Vanita Bhargava & Ms. Shweta Kabra, Advocates for Radico Khaitan
Mr. Sanjay Upadhyay, Advocate for India Glycol Ltd.

**ORDER**

1. The issue for consideration is remedial action against pollution of Kosi river in Rampur District by the polluting industrial activities. River

Bhella in Muradabad is a tributary of Kosi river in Rampur which is a tributary of Ramganga, which in turn is a tributary of river Ganga.

**Procedural History**

2. The matter has been pending before the Tribunal since 2016 and several orders have been passed but reference may be made to last few orders relevant for discussion in today's order. **First order** we may refer is order dated 20.5.2019 whereby the matter was reviewed by the Tribunal. The Tribunal noted the acknowledged pollution of river *Bhella* in Muradabad, particularly at the point where it meets Rampur drain. It was noted that one of the major polluters i.e. M/s Radico Khaitan Limited (Distillery Unit), Rampur, was directed to be closed by the Central Pollution Control Board (CPCB) but it continued to operate even during the currency of closure order. No action was reported against other known polluting industries. The Tribunal directed a joint Committee of Member Secretary, CPCB and Member Secretaries of Uttar Pradesh PCB (UPPCB) and Uttarakhand PCB (UKPCB) to undertake further inspections of the polluting industries which was to be overseen by Justice Arun Tandon, former Judge of Allahabad High Court, who was at that time heading the monitoring Committee to oversee remedial action against pollution of Ganga. The Tribunal also required the CPCB and the UPPCB to explain as to how in spite of closure order, the unit of M/s Radico Khaitan Limited continued to function and what action was taken against such illegal operation as well as persons who allowed such illegal operations, by colluding with the said unit or otherwise.

3. The **second order** we refer is dated 23.07.2019 in the light of report of the CPCB dated 05.07.2019 and joint committee report dated 05.06.2016, in pursuance of the first order. The Tribunal observed:

*"2. Accordingly, report dated 05.07.2019 has been filed by the CPCB which was the nodal agency of the joint Committee.*

*1. The report is to the effect that closure direction was issued by the CPCB on 24.12.2018 against M/s Radico Khaitan Limited (Distillery Unit), Rampur under Section 5 of the Environment (Protection) Act, 1986 but the said unit continued to operate illegally in collusion with the concerned authorities. On 05.06.2019, the joint Committee carried out an inspection which was overseen by Justice Arun Tandon, former Judge of Allahabad High Court. An inspection was also carried out in respect of the said unit and other industries in the catchment area of river Bhella and river Kosi from 10.06.2019-12.06.2019. Based on the said report, the CPCB, vide letter dated 03.07.2019, required M/s Radico Khaitan Limited to submit time bound action plan to restrict the capacity of lagoon by filling/levelling/dismantling the excess capacity of the lagoons. CPCB re-calculated the environmental compensation and assessed the same at Rs. 7,29,00,000/- out of which amount Rs. 1,45,80,000/- was deposited and the remaining amount of Rs. 5,83,20,000/- is yet to be deposited.*

*2. Explaining the reason how in spite of the closure order, the unit continue to function, it is submitted that the Principal Secretary, Excise Department, U.P. requested CPCB to review the order. The Unit made prayer for revoking the closure direction on 20.02.2019 and 01.03.2019. Recommendation for revocation of closure was made. The Member Secretary, UPPCB vide letter dated 01.04.2019 asked CPCB to review the closure direction. Principal Secretary, Excise Department also repeated such request on 02.04.2019. Conditional revocation was allowed on 17.05.2019 but the unit continued to operate thereafter.* ***The Unit representative informed during inspection from June 10-12, 2019 that the 'highest Officers of the State' had orally instructed the Officers and Managers of M/s Radico Khaitan Limited to continue the production even after the closure order passed by the CPCB. A letter has been written by the CPCB to the Chief Secretary, Uttar Pradesh on 24.06.2019 to identify and provide names of Officers who allowed illegal operation of the unit in spite of the closure direction. No reply has been received.***

*3. The report also annexes an inspection report, which is in two parts, signed by Justice Arun Tandon. Compilation – I records the proceedings during the inspection and Compilation – II records the suggestions and observations. It will be appropriate to reproduce the said suggestions and observations:-*

***"M/s Radico Khaitan Limited***

*I. Manufacturing of alcohol by the unit even after the closure order of the CPCB, i.e., between 17.02.2019 to 11.05.2019 is totally unjustified and virtually amounts to negation of rule of law.*

*II. Officers of the State of Uttar Pradesh who had orally instructed the officers and managers of Radico Khaitan Ltd. to continue the production even after the closure order of the CPCB, and those who failed to ensure the closure must be identified by the Chief Secretary of the State of Uttar Pradesh and suitable action shall be taken.*

***III. Open lagoons must be replaced by covered storage Steel tanks for receiving the spent wash of molasses with provision for controlled discharge of gases therefrom. This is necessary, as large open surface area of existing lagoons leads to more amount of air being polluted after coming into contact with spent wash. All suitable amendments may be carried by CPCB in guidelines.***

***IV. The primitive method of marking with red at a particular height in the lagoons be eliminated and if necessary, then, only required capacity lagoon duly calibrated, be permitted. Excess capacity must be filled or dismantled scientifically.***

***V. Withdrawal of underground water must be restricted to the minimum required quantity with a condition of payment of water charges on the principle 'more the consumption higher the rate'. This will act as a deterrent for withdrawal of underground water beyond what is necessarily required by the unit.***

***VI. Strict monitoring on readable parameters be done in respect of recharging the underground water through rain water harvesting by the unit etc.***

***VII. Calibration of water flow meters be ensured by government agencies with verification at least once in a year.***

***VIII. The unit must utilize the land which will become available after removal of the lagoons, or otherwise for thick forestry in the ensuing rainy season.***

***IX. The industry must be asked to control its production so as to ensure that in no case spent wash collected in the lagoons exceeds its fixed capacity on monthly basis.***

***X.*** ***The land area necessarily required for bio-composting in respect of disposal of spent wash must be calculated and the industry must keep that land area fully covered with provision of leachate collection drains. No composting be permitted on uncovered land.***

***XI.*** ***The unit must maintain specific verifiable records, which can be examined at any given point of time in respect of total quantity of bio-compost generated and sold to the known purchasers. The distillery must maintain similar records in respect of solid waste and disposal thereof to known vendors.***

***XII.*** ***CPCB has calculated the Environmental compensation amount (as per the methodology of EC) in compliance of the NGT order dated 20.05.2019 which is Rs.7.29 Crores including the EC imposed earlier.***

***XIII.*** ***In addition, the entire price money received in respect of alcohol/products generated by the industry during the period of the CPCB closure order, i.e., between 17.02.2019 to 11.05.2019 be recovered as Environmental Compensation (EC).***

***XIV.*** ***Separate electricity meter exclusively for ETP shall be installed and its bill must be kept on site for verification.***

***INDIA GLYCOLS LTD.***

*I.* ***Reasons for availability of 90000 m3 of spent wash with solid contents of less than 1 % only in the lagoons of the industry must be ascertained and suitable action should be taken for violating the norms of the CPCB.***

*II.* ***Distillery unit of the company should be permitted to function at half of the licensed/consented capacity till it disposes off the huge volume of spent wash available in the lagoon as on 11.06.2019. SPCB should ensure that this spent wash with low solid concentration is not discharged in the drains by the unit during the forthcoming rainy season and strict vigilance should be kept by SPCB. A quarterly report must be submitted by SPCB citing progress in compliance made.***

*III.* ***The industry must be asked to come up with a concrete proposal for disposal of ash***

***generated in the industry as well as for the ash lying in the open. The industry must provide a time bound action plan for disposal of already generated ash within 15 days.***

IV. ***In absence of 'No Objection Certificate' from Central Underground Water Authority no extraction of underground water be permitted.***

V. ***The industry has drawn nearly 55 lakhs litres of underground water every day with no obligation of recharge/rain water harvesting etc. This must be stopped immediately and the industry must be asked to take additional measures for re-charge of the underground water/rain water harvesting with due regard to the amount of underground water drawn by it in last 5 years.***

VI. ***The industry must be asked to pay compensation for illegal withdrawal of underground water for last so many years in garb of pendency of their renewal applications for 'no objection' before CGWA.***

VII. ***The amount payable by the Company for withdrawal of underground water must be fixed on the principle 'more the withdrawal, higher the rates'. The charge which has not been paid for years must be recovered with interest at the rate of 18% per annum.***

VIII. ***The land which will become available because of the dismantling of the lagoons and even otherwise the surrounding area of lagoons must be utilized for dense forestry in the coming monsoon season.***

IX. ***CPCB has calculated the Environmental compensation amount (as per the methodology of EC) 1n compliance of the NGT order dated 20.05.2019 which is Rs.13,54,50,000/-, to be paid by the unit.***

X. ***CPCB must direct the unit to dismantle all excess storage capacity of lagoons in terms of the direction of CPCB dated 07.12.2015 forthwith. CPCB/SPCB shall submit a quarterly report on compliance of its own order.***

***All Industries***

I. ***Applications for 'no objection certificate' should be considered and decided within***

***a month by CGWA and if the applications are not found satisfactory then the same must be rejected with a further direction to stop water extraction.***

II. ***The charges payable by the company for withdrawal of underground water must be fixed on the principle 'more the withdrawal, higher the rates'. The water charges which has not been paid for years must be recovered together with the interest at the rate of 18% per annum.***

III. ***The norms for recharge of underground water and rain water harvesting etc. must be fixed. Flow meters must be calibrated by Government-agencies and verified at least once in a year.***

IV. ***The industries encroaching upon the drains must be asked to clear the encroachments and drains must be left free to flow in their natural course.***

V. ***Actual requirement of underground water by the industry must be verified through independent Government agencies.***

VI. ***All industries must be asked to maintain verifiable records of ETP waste and other solid waste generated as well as its disposal to the known buyers.***

VII. ***No additional pump with loose connection be permitted as stand by at ETP of any of the industry.***

VIII. ***CPCB/SPCB shall take necessary actions against the non-complying industries namely:***

a) ***M/s Multiwal Duplex Pvt. Ltd. Kundeshwari Road, Kashipur***
b) ***M/s Damya PJ Foods Pvt. Ltd., &***
c) ***M/s Varun Steel.***

***Others***

I. ***De-silting of drains must be completed at the earliest with a direction to transport the removed silt to a safe identified place.***

II. ***Joint inspection of all 86 GPI industries be undertaken a fresh in light of issues considered in the report.***

III. ***All Inspection/analysis reports have been placed before me during the meetings at Delhi which I have examined.***

IV. ***Wherever timelines have been fixed for works to be undertaken by industries-, performance bank guarantee must be insisted upon as a condition of revocation.***

V. ***Many of suggestions and observations made under para A, B and C are generic and applicable/ per-se for all industries. These may require revision of Guidelines and Charter being followed by Central and State PCBs which regulating and monitoring the operations of these industries. Necessary and suitable review and revision of these Guidelines and Charters may be carried out by Central and State PCBs in fixed time frame of four months."***

4. ***Compilation – I records inter-alia as follows:-***

***"After the meeting with the officials of the CPCB, UPPCB, UEPPCB and CGWA and examination of various orders at Delhi on 26th and 28th of June, 2019, the following discrepancies have been found. The same are listed industry wise:***

***Radico Khaitan Ltd. (Distillery Unit), Rampur, UP***

a) ***The industry had continued with the production despite the closure order of CPCB between 07.02.2019 to 11.05.2019.***

b) ***The industry had neither filled nor dismantled the excess capacity in the lagoons despite the directions of CPCB dated 24.02.2015, 23.04.2015 and 07.12.2015. The CPCB's order dated 18.02.2019 mentions non-compliance of the conditions as per the order of CPCB dated 07.12.2015 as one of the grounds for revoking the order keeping the closure order in abeyance. Yet the order of CPCB/UPPCB permitting the partial operation of distillery dated 17.05.2019 makes no mention of said violation.***

c) ***No objection certificate granted by CGWA has expired on 02.10.2018.***

***Not even a single penny is being paid towards withdrawal of underground water since 30.11.2016.***

***India Glycols Ltd.***

a) ***Under the order dated 24.06.2004 permitting capacity expansion of the industry to increase its capacity from 205 KLD to 425 KLD it was specifically provided that the production of alcohol from molasses shall be restricted to working for 330 days in a year. This condition has been violated by the India Glycols Ltd. for years together as the industry had been working for 365 days in a year.***

b) ***In the no objection certificate granted by CGWA dated 26.02.2009 for the ethanol unit, it is specifically mentioned that the same is valid till the area remains under the safe category five years whichever is earlier. The category of Kashipur area was changed from safe to semi critical in 2013, and the term of the five year expired on 25.01.2014. Therefore, the NOC of CGWA at the first instance expired in 2013 and in any case on 25.02.2014. There is no valid NOC in favour of ethanol unit since thereafter for more than five years. The industry has been extracting underground water to the tune of 55 (fifty five) lac litres per day without NOC from CGWA for its Ethanol unit.***

c) ***In respect of the chemical unit, NOC was granted by CGWA dated 14.01.2016, the expansion programme by permitting additional withdrawal of 459m3 of water per day in addition to the existing NOC for 2596 m3 per day. This permission was valid for two years only, which expired on 14.01.2018. For the chemical unit also, there is no NOC from CGWA subsequent to 15.01.2018. The NOC was granted on 14.01.2016 without clarifying that the unit has no valid permission for ground water extraction for the original withdrawal***

***itself. There has been extraction of underground water for chemical unit without any NOC from CGWA since 15.01.2018. No water charges are being levied upon the unit since 30.06.2017 on the ground that Water Cess Act, 1977 has been repealed by Act. No. 18 of 2017.***

*d)* ***Since M/s IGL had resorted to incineration instead of Bio-composting the CPCB directed on 24.02.2015, 23.04.2015 and 07.12.2015, that it can have a storage capacity of 7 days in the lagoon only at all stages. The excess storage capacity has either to be filled or dismantled. State Pollution Control Board vide order dated 13.03.215 had instructed the M/s IGL to either fill or dismantle the excess storage capacity on or before September 2016. In fact, neither the filling of the lagoon nor the dismantling have been done by IGL till date.***

*e)* ***As per CPCB direction dated 22.12.2016 IGL was asked to close its 98 KLD Plant, yet no direction was issued for dismantling or filling of lagoon while permitting the continuous operation of 240 KLD Plant. As per CPCB direction dated 24.02.2015, 23.04.2018 and dated 07.12.2015 IGL could use the lagoons only till 31st March 2016. Contrary to the said direction, IGL continued to operate its plant and stored spent wash in lagoon till 28.01.2017 when it was sealed by SPCB. No explanation has been provided by industry as to how it continued to use the lagoons between April, 2016 to January 2017.***

*f)* ***Consent to operate was granted by SPCB on 06.07.2017 with specific condition to dispose of the generated spent wash through Multi Effect Evaporator (MEE) and to use concentrate in the boiler. The industry while acting on said consent to operate deliberately did not comply with the said condition and spent wash with low solid content continued to be stored in lagoon outside the factory premises.***

g) ***A joint inspection of industry was carried out on 19th April 2018 under orders of NGT dated 13.07.2017 passed in O.A. No. 200/2014 by joint team comprising of experts of 3rd party technical institutes PCRI, Haridwar (on behalf of CPCB) and SPCB. The report submitted does not mention of either compliance with the condition of the consent to operate dated 06.07.2017 or of availability of the spent wash in lagoon. Joint inspection done by the State Pollution Control Board and the Central Pollution Control Board (through third party) in terms of the order of the National Green Tribunal dated 13.07.2017 passed in O.A. No. 200 of 2014 does not reflect upon any of the infirmity and illegality noted in this report. It appears that the joint inspection report has been prepared without actual spot inspection and verification of the records. On 20th April 2018, a fresh consent to operate was again granted by SPCB to IGL Ltd. without mentioning non-compliance of the earlier consent, non-availability of NOC from the CGWA or availability of spent wash in the lagoon.***

h) ***CPCB on 07.02.2019 issued show cause notice under section 5 of E(PO) Act, 1986 based on joint inspection dated 19.01.2019 with regard to availability of the spent wash diluted with rain water to the tune of 70,000 m3 in the lagoon and finally under order dated 14.03.2019 issued direction for dismantling of lagoon on or before June 2021, without taking any action for breach of direction issued earlier.***

i) ***It is for the first time in the order dated 14.03.2019, CPCB refers to another lagoon used for storing concentrated spent wash before incineration, as informed by the industry inside the industry premises. SPCB informed in the meeting that the capacity of this lagoon is about 1,00,000 m3 which is filled by accumulated sludge. This storage capacity is also in violation of CPCB's circulars dated 24.02.2015, 23.04.2015 and 07.12.2015.***

j) ***On 28.06.2019, CGWA has informed in the meeting that Kashipur is now semi critical area it shall not be granted any NOC. Renewal is also a new grant. Even otherwise in case of IGL because of the change of the status of the area no renewal application would be maintainable and the industry has to apply afresh under the conditions applicable to semi critical area.***

k) ***despite all this SPCB granted permission to operate in the month 2018 both for the alcohol industry and the chemical unit in the said factual scenario.***

l) ***The company has been permitted to resort to incineration since January 2017 in place of Bio-composting. The total ash generated due to incineration by the super heater is around 62 metric ton per day while that generated by the slop is 66 metric ton per day. In all the total ash generated by the unit is 128 metric ton per day. There is no proposal on record by M/s IGL in respect of disposal of such huge quantity of ash generated on per day basis. Similarly, it is found that neither the SPCB nor CPCB have till date provided any direction/guidelines in matter of disposal of the ash generated by the unit. The present scenario at IGL, if reflected in other words, would be that a STP has been installed to treat the sewage but there is no plan for disposal of the sludge generated therein.***

m) ***While returning from Kashipur on 12.06.2019 near the border of the district Rampur, industries were found emitting large volume of gas from large chimney. Heaps of fly ash were found collected near the roadside. The industries identified are (i) Pashupati Acrylyn and Nani Papers situate on left bank of Dhandi Drain Kashipur Road, Moradabad. CPCB/UPPCB shall conduct detailed inspection of the units and take immediate actions."***

5. *Learned counsel for the CPCB, Uttar Pradesh State PCB and Uttarakhand State PCB have suggested that the inspection report may be accepted and further action be taken. Learned counsel appearing for M/s Radico Khaitan Limited states that the said unit will comply with*

*the observations in the report. There could be no basis for questioning the report furnished by the joint Committee of senior Government functionaries which has been overseen by the former Judge of the High Court.*

6. *Learned counsel appearing for M/s India Glycols Limited, however, tried to justify the illegal drawal of ground water without sanction even though the area is semi critical, on the ground that application for sanction was 'pending'. We do not find any merit in this submission. Delay in deciding renewal application could not be treated as a licence to draw the ground water. The unit could take remedy against such inaction. While regulatory authorities are required to act promptly but any inaction is not a ground for a citizen to take the law in his hands instead of approaching the concerned higher authority or the Court.*

7. ***We, thus, do not find any ground not to accept the report of the joint Committee, including the amount of compensation to be recovered. The same may be acted upon forthwith. The Chief Secretary, Uttar Pradesh may give response to the observations and suggestions of Justice Tandon indicating why the higher amount of compensation and interest be not recovered in view of illegal operation of the said unit in collusion with the authorities of the state. The decision on the issue of recommendations of Justice Tandon on the subject of interest and higher compensation will be taken later. The Chief Secretary, Uttar Pradesh may also give his response to the letter of the CPCB and identify the persons who interfered with the process of law to benefit the said polluting unit and action taken against such persons by e-mail at judicial-ngt@gov.in. The joint Committee may furnish further action taken report within three months by e-mail at judicial-ngt@gov.in."***

4. The **third and the last order** to be referred is order dated 15.01.2020 in the light of reports of the CPCB, State PCB and the Ganga Pollution Monitoring Committee (GPMC) headed by Justice Arun Tandon (referred to in para 1 above). The Tribunal directed action in terms of the recommendations of report of the CPCB and also in terms of the recommendations of the GPMC on the subject of illegal extraction of groundwater. Directions were issued to the States of Uttarakhand and UP to take action against individual industries ensuring action against illegal

extraction of groundwater. Further direction was to ensure recovery of compensation. The Chief Secretary, UP was directed to file response to the observations about illegal operation of the units claimed to be with the permission of the higher authorities. It will be appropriate to reproduce the discussion and contents of the reports considered by the Tribunal followed by operative part of the order which are as follows:

> *"3. …. three reports have been placed for consideration. First report has been filed by the Monitoring Committee constituted by this Tribunal making certain recommendations. Second report is by CPCB based on information furnished by State PCB with regard to status of compliance of earlier recommendations. Third report is dated 06.12.2019 by same Monitoring Committee. Details are as follows:*
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> i. ***Report dated 23.10.2019 by the Monitoring Committee, Ganga Phase-II headed by Justice Arun Tandon.***
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> *The report recommends that ground water extraction must be taken before consent to establish and consent to operate granted by the State PCB. The CGWA must frame SOP on the subject of regulating and protecting ground water. Permission of disposal of waste by incineration must be accompanied by safeguards to ensure that one waste is not converted to other kind of waste. Joint inspection must be done at regular intervals in respect of GPIs. Extraction of ground water must be minimised with complete recovery and reuse measures for recycling and replenishment of ground water must be mandatory.*
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> ii. ***Further action taken report dated 27.11.2019 has been filed by the CPCB based on information furnished by the State PCB as well as discussion with the joint Committee.***
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> *The status of the directions and action taken are mentioned as follows:*

| **Para No./ Sr. No.** | **Description of orders** | **Action taken/Compliance Status** |
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| **M/s Radico Khaitan Ltd.** | | |
| Para5/Sr. No. II | *Officers of the State of Uttar Pradesh who had orally instructed the officers and managers of Radico Khaitan Ltd., to continue the production even after the closure order of the CPCB, and those who failed to ensure the closure must be* | As per the discussion held in the meeting dated 14.11.2019 at CPCB, the unit was pursuing the matter with CPCB regarding revocation of the closure direction dated 24.12.2018 issued to the Unit, in the meantime an abeyance letter dated 02.01.2019 issued by CPCB to the Unit for carrying out |

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| | *identified by the Chief Secretary of the State of Utter Pradesh and suitable action shall be taken.* | joint inspection, which was misunderstood by the unit and considered as permission to continue operation since the joint inspection by CPCB & UPPCB was to be carried out vide Hon'ble NGT order dated 21.12.2018 in OA No. 324/2016, in matter of Shailesh Singh Vs State of UP & Ors.<br>Hon. NGT may examine the explanation. |
| Para 5/ Sr.No.III | *Open lagoons must be replaced by covered storage Steel tanks for III receiving the spent wash of molasses with provision for controlled discharge of gases there from. This is necessary, as large open surface area of existing lagoons leads to more amount of air being polluted after coming into contact with spent wash. All suitable amendments may be carried by CPCB in guidelines.* | • CPCB issued letter to Member Secretary, UPPCB for implementation of the Hon'ble NGT order dated 23.07.2019 in O.A. No. 361/2017 vide letter no. B-190198/NGRBA(RG)/CPCB/Distillery/1/20 18-19/6286 dated 11.09,2019. Copy placed at **Annexure-1**<br><br>• UPPCB issued letter No. H43550/C-7/Jal-40/2019 to the unit dated 11.11.2019 to submit the Progress Report regarding replacement of open lagoons with steel tank within 15 days to UPPCB. Copy placed at **Annexure-2.**<br><br>• A consultation meeting of the Experts from distillery sector comprising of representatives from technical institutions namely, VSI, Pune, NSI, Kanpur as well as All India Distillers Association (AIDA) and Indian Sugar Mills Association (ISMA) was convened by CPCB on 14.11.2019 to discuss feasibility of replacement of open lagoons with closed steel tanks.<br><br>• It has been observed that, closed steel tank for storage of concentrated spent Wash has several technical constraints such as generation of anaerobic gases, accident hazard, corrosion and sludge cleaning.<br>• During the joint committee meeting dated 14.11.2019; Justice (Retd.) Arun Tandon was also apprised about the non-feasibility of replacement of lagoons with closed steel tanks |

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| | | for storage of concentrated spent wash. |
| IV | The primitive method of marking with red at a particular height in the lagoons be eliminated and if necessary, then only required capacity lagoon duly calibrated, be permitted. Excess capacity must be filled or dismantled scientifically. | • CPCB issued letter to the unit dated 03.07.2019 to submit time bound action plan to restrict capacity of lagoon by filling/levelling/dismantling excess storage capacity of lagoons. Copy placed at **Annexure-3.**<br><br>• CPCB issued direction u/s 5 of E (P) Act, 1986 to the unit dated 06.08.2019 to restrict capacity of lagoon. Copy placed at **Annexure-4.**<br><br>• UPPCB issued letter No. H-43240/C-7/Jal-40/2019 to the unit dated 02.11.2019 to dismantle the excess capacity of lagoons, to develop thick forestry on the boundary of lagoons as well as on the land which will be available after dismantling of lagoons, to install separate energy meter for ETP, to keep and maintain record of generated and selling of prepared bio-compost, to dispose solid waste as per the rules, to not have any loose connections of piping with installed ETP and to submit the details of disposal of generated ETP sludge and other solid waste as per the rules. Copy placed at **Annexure-5.**<br><br>• Joint team of CPCB, UPPCB headed by Justice (Retd.) Arun Tandon carried out inspection of the unit dated 17.11.2019 and observed the following:<br><br>• Lagoon-1 (20000 $m^3$) at Ajeetpur site has been dismantled and being levelled.<br><br>• Lagoon-2 (earlier capacity 58000 $m^3$) at Ajeetpur site has been truncated 1.0 m from top to maintain volume of 21000 $m^3$ keeping 2.0 m as free board. |

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| | | • Capacity of lagoon at Hitachi site has been reduced by providing a partition bund and excess capacity has been dismantled.<br><br>• System of marking on vertical scale, like water level in the rivers, should be implemented and the UPPCB to ensure the installation compliance. |
| V | Withdrawal of underground water must be restricted to the minimum required quantity with a condition of payment of water charges on the principle 'more the consumption higher the rate'. This will act as a deterrent for withdrawal of underground water beyond what is necessarily required by the unit. | • CPCB issued letter No. B-190198/NGRBA/CPCB/2018-19(Part file)/4442 to Member Secretary, CGWA dated 24.07.2019 to take actions according to NGT order dated 23.07.2019. Copy placed at **Annexure-6.**<br><br>• UPPCB has issued letter No. H-43241/c-7/Jal-40/2019 to the unit dated 02.11.2019 to submit clarification regarding illegal withdrawal of ground water in spite of the fact that CGWA NOC was expired on 03.10.2018. Copy placed at **Annexure-7.**<br><br>• As per the discussion carried out in the meeting dated 14.11.2019 representative of CGWA informed that, the withdrawal of ground water by M/s Radico Khaitan Ltd. in the period October-2016 to May-2019 was within the CGWA NOC limit.<br><br>• It was informed by CGWA representatives, during the meeting of the joint committee dated 14.11.2019 that, CGWA has prepared and submitted a draft guideline to Hon'ble NGT on water abstraction charges, which is under consideration.<br><br>• Unit has submitted reply of the UPPCB letter No. H-43241/c-7/Jal-40/2019 vide letter dated |

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| | | 21.11.2019, which is placed at **Annexure-8.**<br><br>• CGWA should calculate charges for extraction of ground water subsequent to expiry of the NOC as in the case of other industries. |
| VI | Strict monitoring on readable parameters be done in respect of recharging the underground water through rain water harvesting by the unit etc. | • CGWA informed in the Joint committee meeting dated 14.11.2019 that ground water recharge points are checked as per mandate. As per the thumb rule, 50 % recharge for each submergence is achieved in every recharge location.<br><br>• CGWA has carried out verification of ponds and recharge shafts on 04.11.2019 of recharging sites maintained by M/S Radico Khaitan Ltd including status of recharging and condition of pond base.<br><br>• The Unit's representative has presented, during the visit of joint committee on 17.11.2019 that CGWA officials have visited the ponds created for 200% recharge of fresh water withdrawal and found to be in order (Report awaited). |
| VII | Calibration of water flow meters be ensured by government agencies with verification at least once in a year. | CGWA informed during the Joint committee meeting dated 14.11.2019 that, flow meters are monitored and calibrated by individual units through NABL recognized laboratory on an annual basis. |
| VIII | The unit must utilize the land which will become available after removal of the lagoons, or otherwise for thick forestry in the ensuing rainy season. | • CPCB had issued direction dated 06.08.2019 u/s 5 of E (P) Act, 1986 to the unit for development of thick plantation (Refer **Annexure-4).**<br><br>• Unit has informed that the land available after removal of lagoons shall be utilised suitably either for bio composting or the green belt development during next rainy season. |

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| | | • UPPCB issued letter No. H-43240/C-7/Jal-40/2019 to the unit dated 02.11.2019 to dismantle the excess capacity of lagoons, to develop thick forestry on the boundary of lagoons as well as on the land which will be available after dismantling of lagoons, to install separate energy meter for ETP, to keep and maintain record of generated and selling of prepared bio-compost, to dispose solid waste as per the rules, to not have any loose connections of piping with installed ETP and to submit the details of disposal of generated ETP sludge and other solid waste as per the rules. (Refer **Annexure-5).**<br>• Unit has submitted reply of the CPCB direction which was issued dated 06.08.2019, vide letter No. RKL/SR VP(P)/1044 dated 21.10.2019, which is placed at **Annexure-9.**<br>• Unit has submitted latest reply of the CPCB direction which was issued dated06.08.2019, vide letter No.RKL/Sr.APP/1181 dated 20.11.2019, which is placed at **Annexure-10.** |
| IX | The industry must be asked to control its production so as to ensure that in no case spent wash collected in the lagoons exceeds its fixed capacity on monthly basis. | As per the discussion during meeting held on dated 14.11.2019, UP Excise Department informed that at present production of the unit is strictly adhered to the capacity as per consent to operate issued by UPPCB. |
| X | The land area necessarily required for bio-composting in respect of disposal of spent wash must be calculated and the industry must keep that land area fully covered with provision of leachate collection drains. No composting be permitted on uncovered land. | • The Unit is presently having 14 acres of covered composting area, hence the unit shall increase its covered bio-compost yard area in order to operate at consented capacity (200 KLD) of molasses-based distillery plant during monsoon season or restrict its production as per the existing covered area. |

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| | | • No composting has been carried out during rainy season, on uncovered land.<br><br>• UPPCB has issued notice dated 26.11.2019 to the unit for covering total 28.2 Acres of bio-compost yard before next monsoon, in order to continue with the consented 200 KLD production of the molasses-based distillery unit during rainy season or otherwise production has to be restricted based on covered area of bio-compost yard |
| XI | The unit Must maintain specific verifiable records, which can be examined at any given point of time in respect of total quantity of bio-compost generated and sold to the known purchasers. The distillery must maintain similar records in respect of solid waste and disposal thereof to known vendors. | • CPCB issued direction dated 06.08.2019 u/s 5 of E(P)Act, 1986 to the unit, to maintain specific verifiable records, which can be examined at any given point of time in respect of total quantity of bio-compost generated and sold to the known purchasers. The distillery shall maintain similar records in respect of solid waste and disposal thereof to known vendors.<br><br>• The Unit is submitting the details to CPCB, of the bio-compost produced and sold on monthly basis. Solid waste data is submitted to UPPCB on yearly basis.<br><br>• UPPCB issued letter No. H-43240/C-7/Jal-40/2019 to the unit dated 02.11.2019 to dismantle the excess capacity of lagoons, to develop thick forestry on the boundary of lagoons as well as on the land which will be available after dismantling of lagoons, to install separate energy meter for ETP, to keep and maintain record of generated and selling of prepared bio-compost, to dispose solid waste as per the rules, to not have any loose connections of piping with installed ETP and to submit the details of |

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| | | disposal of generated ETP sludge and other solid waste as per the rules. (Refer **Annexure-5).**<br><br>• Unit has submitted reply of the CPCB direction which was issued dated 06.08.2019, vide letter No. RM. /SR VP(P)/1044 dated 21.10.2019 (Refer **Annexure-9).** |
| XII | CPCB has calculated the Environmental compensation amount (as per the methodology of EC) in compliance of the NGT order dated 20.05.2019 which is Rs.7.29 crores including the EC imposed earlier. | • CPCB issued direction dated 06.08.2019 u/s 5 of E(P)Act, 1986, levying additional EC of Rs. 5,83,20,000/- and the Unit deposited the EC amount vide DD dated 02.09.2019.<br><br>• In compliance to the direction, the Unit has deposited the entire EC amount of Rs 7.29 crores vide letter dated 02.09.2019 & through Demand Draft No. 361792. |
| XIV | Separate electricity meter exclusively for ETP shall be installed and its bill must be kept on site for verification. | • UPPCB issued letter No. H-43240/C-7/Jal-40/2019 to the unit dated 02.11.2019 to dismantle the excess capacity of lagoons, to develop thick forestry on the boundary of lagoons as well as on the land which will be available after dismantling of lagoons, to install separate energy meter for ETP, to keep and maintain record of generated and selling of prepared bio-compost, to dispose solid waste as per the rules, to not have any loose connections of piping with installed ETP and to submit the details of disposal of generated ETP sludge and other solid waste as per the rules. (Refer **Annexure-5).**<br><br>• Unit has installed separate electricity meter exclusively for treatment and management of Bio-methanated Spent Wash plant, TSS plant, RO Plant-I, RO Plant-II, RO Plant-III, Evaporation Plant, Bio-Compost, CPU (Condensate Polishing Unit) etc. |
| **M/s Indian Gloycols Ltd** | | |

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| **Para 5 Sr.I** | Reasons for availability of 90000 m3 of spent wash with solid contents of less than 1% only in the lagoons of the industry must be ascertained and suitable action should be taken for violating the norms of the CPCB. | • Lagoon site visit was undertaken on 15.11.2019 by the joint team of UEPPCB and CPCB officials under supervision of Justice (Retd.) Arun Tandon for physical verification of utilization of stored spent wash.<br><br>• As per the visit of the Joint team on 15.11.2019, it was informed by the representative of the unit that;<br><br>i. Bio-methanated spent wash with solid content of 3-5 % from 98 KLD effluent stream was stored in the lagoon for further composting. Production of 98 KLD stream was closed by UEPPCB and the connected lagoon was disconnected and sealed by UEPPCB on 28.01.2017. The stored bio-methanated spent wash mixed with rain water over the years (Even before Jan-2017) resulted in accumulation of diluted bio-methanated spent wash of about 1 % solids with volume of about 90,000 m3.<br><br>ii. The unit has utilized 18000 KL of stored spent wash in Bio-composting as on 31.10.2019. Next batch of bio-composting is under process.<br><br>iii. Lagoon containing bio-methanated spent wash is being used for filling with incinerator fly ash, which absorbs spent wash and a levelled surface has been created by filling a part of the lagoon.<br><br>• The Unit could not provide documentary evidence regarding the quantity and quality of stored spent wash in the lagoon at the time of sealing.<br><br>• CPCB had already issued a direction dated 14.03.2019 to the unit u/s 5 of E(P) Act, 1986, to utilize the stored spent wash and dismantle the lagoon. |

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| | | • CPCB issued letter to Member Secretary, UEPPCB for implementation of the Hon'ble NGT order dated 23.07.2019 in O. A. No. 361/2017 vide letter no. B-190198/NGRBA(RG)/CPCB/Distillery/1/20 18-19/6878 dated 24.09.2019. Copy placed at Annexure-11.<br><br>• The explanation about stored spent wash submitted by the industry vide letter dated 21.11.2019 is not supported by relevant supporting document about the quantities of stored spent wash at different times in the past. Unit's submitted reply dated 21.11.2019 is placed at Annexure-12.<br><br>• The industry to adhere time line 30.06.2021, fixed for utilization of stored spent wash as per CPCB direction dated 14.03.2019. UEPPCB should carry out on quarterly basis upto June 2021, regarding quantity of spent wash utilized and balance in the lagoon. |
| **II.** | Distillery unit of the company should be permitted to function at half of the licensed/consented capacity till it disposes off the huge volume of spent wash available in the lagoon as on 11.06.2019. SPCB should ensure that this spent wash with low solid concentration is not discharged in the drains by the unit during the forthcoming rainy season and strict vigilance should be kept by SPCB. A quarterly report must be submitted by SPCB citing progress in compliance made. | • UEPPCB has issued letter No. UEPPCB/HO/Gen-183-247(II)/2019/6469-1313 to the unit dated 18.11.2019 to comply with directions of Hon'ble NGT order dated 23.07.2019 in a time bound manner. Copy is placed at Annexure-13.<br><br>• The unit has replied vide letter dated 21.11.2019 wherein it has been submitted that the stream from 98 KLD plant which now not functional, which was associated with the lagoons (outside of the premises). In the absence of the in-flow to the lagoons, restriction of production of other unit i.e, 240 KLD plant may not be justified and relevant.<br><br>• During inspection of joint committee which was carried out on 15.11.2019 it was observed |

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| | | that the unit have two lagoons of capacity 3,50,000 m3 and 1,00,000 m3, However the lagoon having 1,00,000 m3 capacity was unnoticed till date. But during inspection the same lagoon was found with sludge.<br>• The statement may be provided by the unit for the quantity of spent wash to be used and actually used. UEPPCB shall issue notice to the unit for the same.<br>• The joint committee has visited the plant on 15.11.2019 and verified the sealing of the pipeline connected to the lagoons.<br>• The unit's reply dated 21.11.2019 shall be examined by the UEPPCB for taking necessary action w.r.t. production capacity, utilization of spent wash to be monitored on quarterly basis and shall also obtain action plan to dismantle/level the 2"d lagoon at Dabhora site from the unit. |
| **III** | The industry must be asked to come up with a concrete proposal for disposal of ash generated in the industry as well as for the ash lying in the open. The industry must provide a time bound action plan for disposal of already generated ash within 15 days. | • The unit has submitted an action plan for utilization of SLOP (Incinerator) Ash vide letter dated 25.06.2019.<br>• As per the action plan, the unit will utilize the SLOP Ash as a substitute for Potash. Fly ash shall be disposed off to cement industries. In this regard the following actions have been taken by the unit.<br>• Unit is evaluating the process of granulating the SLOP ash for utilization in agriculture as Potash fertilizer.<br>• Unit has contacted CSIR-CSMCRI, Bhavnagar, Gujrat for recovery of Potash and utilization of the remaining ash in land filling or brick.<br>The unit has also contacted CPPRI, Saharanpur, Uttar Pradesh for the same.<br>• At present the unit is using fly ash in filling the lagoon (3.5 lac |

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| | | rn$^3$) containing diluted spent wash. As reported by the industry, ash generation from SLOP (incinerator boiler) and from 80 T/hr Boiler shall be 128 MT/day and 200 MT/day, respectively. Entire ash quantity (328 MT/day) can't be used as fertilizer and further landfilling can only be permitted provided it is done safely subject to approval from the competent authority/state.<br><br>• Industry to submit concrete proposal for long term utilisation/handling of fly ash within 15 days to UEPPCB. |
| **IV** | In absence of 'No objection Certificate from Central Underground Water Authority, no extraction of underground water be permitted. | • CPCB issued letter No. B-190198/NGRBA/CPCB/2018-19(Pa rt file)/4442 to Member Secretary, CGWA dated 24.07.2019 to take actions according to NGT order dated 23.07.2019 (Refer Annexure-6).<br>• CGWA has issued Notice to the unit dated 08.11.2019 to direct to Why not Environmental Compensation (EC) should be levied for illegal abstraction of ground water for the period after the expiry of valid NOC. Copy placed at Annexure-14.<br>• CGWA has issued Show Cause Notice to the unit vide letter no. 4-(100)/CGWB/UR/Tech-19-530 dated 18.11.2019 for illegal borewell sealing in addition to fixing EC for unauthorized extraction of ground water and launching prosecution for violations in accordance with the provision of law. Copy is placed at Annexure-15.<br>• CGWA has also issued order for stopping of ground water withdrawal vide letter No. 4(100)/CGWB/UR/Tech-19-537 u/s 5 of the E(P) Act, 1986 |
| **V** | The Industry has drawn nearly 55 lakhs litres of underground water everyday with no obligation of recharge/rain water harvesting etc. This must be stopped immediately and the industry must be asked to take additional measures for re-charge of the underground water/rain water harvesting with due regard to the amount of underground water drawn by it in last 5 years. | |
| **VI** | The industry must be asked to pay compensation for illegal withdrawal of underground water for last so many years in garb of pendency of their renewal applications for 'no objection' before CGWA | |
| **VII** | The amount payable by the Company for withdrawal of underground water must be fixed on the principle 'more the withdrawal, higher the rates.' The charge which has not been | |

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| | paid for years must be recovered with interest at the rate of 18% per annum. | dated 18.11.2019. Copy is placed at Annexure-16.<br>• It was informed by CGWA representatives during joint committee meeting held on 14.11.2019, that CGWA has prepared and submitted draft guidelines on water abstraction charges, which is due for approval from the competent authority.<br>• In view of the notice of CGWA, all consequent actions in the matter of illegal withdrawal of groundwater shall be taken by concerned State Pollution Control Board, as per conditions in consent to operate.<br>• Extraction of ground water without NOC from CGWA, is not only illegal but, is a violation of Hon'ble NGT order dated 13.07.2017.<br>UEPPCB to take appropriate action against the industry.<br>• Central Ground Water Board Uttarkhand has worked out charges Rs 95,30,13,600/- for illegal extraction of ground water. The matter is awaited for approval of the Chairman CGWA, decision is likely to be taken within 15 days. |
| **VIII** | The land which will become available because of the dismantling of the lagoons and even otherwise the surrounding area of lagoons must be utilized for dense forestry in the coming monsoon season. | • The joint team of UEPPCB and CPCB officials headed by Justice (Retd.) Arun Tandon during physical verification on 15.11.2019, observed that plantation has been started over the filled lagoon located inside the premises.<br>• During inspection of joint committee, carried out on 15.11.2019 it was observed that the unit have two lagoons of capacity 3,50,000 m3 and 1,00,000 m3 at Dabhora site. In earlier documents submitted by the industry, lagoon having capacity 1.0 lac cubic meter was not reported and it was un-noticed in the previous reports. |

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| | | Thick sludge (0.25 m depth) at bottom was observed.<br>• UEPPCB to seek explanation from the industry for non-disclosure of 1,00,000 rn-3 capacity spent wash storage lagoon and the time bound action plan for dismantling and levelling of the lagoon. |
| **IX** | CPCB has calculated the Environmental compensation amount (as per the methodology of EC) in compliance of the NGT order dated 20.05.2019 which is Rs.13,54,50,0001-, to be paid by the unit. | CPCB issued letter to Member Secretary, UEPPCB for implementation of the Hon'ble NGT order dated 23.07.2019 in O.A. No. 361/2017 including levying of EC vide letter no. B-190198/NGRBA(RG)/CPCB/Distillery/1/2018-19/6878 dated 24.09.2019 (Refer Annexure-11).<br>• UEPPCB vide letter dated 18.11.2019 directed the unit to comply to the Hon'ble NGT order dated 23.07.2019 in OA No. 361/2017 in a time bound manner.<br>• The industry submitted reply dated 21.11.2019. However, did not deposit any amount towards Environment Compensation (**refer Annexure-12)**. |
| **X** | CPCB must direct the unit to dismantle all excess storage capacity of lagoons in terms of the direction of CPCB dated 07.12.2015 forthwith. CPCB/SPCB shall submit a quarterly report on compliance of its own order. | CPCB has issued direction u/s 5 of E (P) Act, 1986 to the unit dated 16.09.2019, to<br>1. Dismantle/level/fill all excess storage capacity of the lagoon<br>2. Dismantle/level/fill all excess storage capacity of active lagoon located in its premises used for storage of concern. Spent Wash from 240 KLD stream production and shall have only storage capacity equivalent to seven days production.<br>3. To comply with the conditions mentioned in the issued direction dated 14.03.2019.<br>Copy of CPCB direction dated 16.09.2019 is placed at Annexure-17.<br>• UEPPCB carried out inspection on 06.11.2019 |

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| | | and submitted the report to CPCB and observed during visit that,<br>1. The filling up of the lagoon located inside the unit's premises and plantation activity was found under progress.<br>2. The unit was using the stored spent wash of the lagoon located at Dabhora site in bio-composting and the lagoon was being filled up by using ash and soil.<br>3. The steel tank for storage of concentrated spent wash was under construction and 80-90 % work was found completed. The work will be completed by 15.11.2019.<br>4. As per CPCB direction dated 14.03.2019, the unit is using the stored spent wash in bio-composting. During inspection, the unit representative informed that they have started the 2nd cycle of bio-composting after completion of rainy season that is October-2019. The unit has consumed approx. 6000 m3 spent wash. Till now total 18000 m3 spent wash has been consumed. Apart from this, unit representative informed that, from lst cycle of bio-composting, 1800 ton of capacity lagoon in a time bound manner. Bio-compost is generated. Out of this 31650 Quantal bio-compost has been sold. During inspection filling of lagoon with ash and soil was found under progress. The unit is purchasing press mud from Rathi Traders. The quality of bio-compost is being checked by Eco Pro Engineer Pvt. Ltd. The unit is also under process of constructing steel tank for storage of spent wash, whose storage capacity will be for 07 days. Presently, the unit is operating the plant on 150 KLD in place of 240 KLD.<br>• The joint team of UEPPCB and CPCB officials headed |

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| | | by Justice (Retd.) Arun Tandon during physical verification on 15.11.2019, and observed that;<br>a) The unit was having 3 lagoons, one lagoon is attached with 240 KLD production and has been closed/levelled. The other two are located at Dabhora site outside the premises and attached with 98 KLD stream which is now non-functional.<br>b) The unit has yet to dismantled/fill-up the both lagoons at Dabhora site, which was observed with presence of spent wash sludge and rain water.<br>• As per the directions of CPCB, all excess capacity of spent wash storage lagoons has to be dismantled / filled & levelled.<br>• UEPPCB to direct the industry to dismantle / fill & level 1,00,000 m3 capacity lagoon in a time bound manner. |
| **All Industries** | | |
| **I** | Applications for `No objection Certificate' should be considered and decided within a month by CGWA and if the applications are not found satisfactory then the same must be rejected with a further direction to stop water extraction. | CPCB has issued a letter to CGWA dated 02.09.2019 to comply with the directions of NGT order dated 23.07.2019 pertaining to all Industries. Copy is placed at **Annexure-18.** CGWA has issued Show Cause Notice dated 18.11.2019 to the following industries located at Uttarakhand as listed in the Hon'ble NGT order dated 20.05.2019:<br><br>(1) M/s Banwari Paper Mills Ltd., Kashipur,<br>(2) M/s Cheema Paper Ltd., Kashipur,<br>(3) M/s Multiwal Pulp and Board Mills Pvt. Ltd., Kashipur,<br>(4) M/s Multiwal Duplex Pvt. Ltd., Kashipur and<br>(5) M/s Kashi Vishwanath Textiles Mills (P)Ltd., Kashipur<br>(6) M/s India Glycols Ltd., Kashipur **(Refer Annexure-15)**<br>Copy of SCNs issued to Industry No. 1 to 5 are placed at **Annexure-19.** |

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| | | Reply submitted by Industries to CGWA are not satisfactory.<br>In view of the paragraph-8 of the Hon'ble NGT order dated 23.07.2019 compensation charges for illegal withdrawal of underground water must be calculated and to be levied on the industries. |
| **II** | The charges payable by the company for withdrawal of underground water must be fixed on the principle 'more the withdrawal, higher the rates'. The water charges which has not been paid for years must be recovered together with the interest at the rate of 18% per annum. | • CPCB has issued a letter to CGWA dated 02.09.2019 to comply with the directions of NGT order dated 23.07.2019 pertaining to all Industries (Refer **Annexure-18).**<br>• It was informed by CGWA representatives, during the meeting of the joint committee dated 14.11.2019 that, CGWA has prepared and submitted a draft guideline to Hon'ble NGT on water abstraction charges, which is under consideration. |
| **III** | The norms for recharge of underground water and rain water, harvesting etc. must be fixed. Flow meters must be calibrated by Government-agencies and verified at least once in a year. | • CPCB has issued a letter to CGWA dated 02.09.2019 to comply with the directions of NGT order dated 23.07.2019 pertaining to all Industries (Refer **Annexure-18).**<br>• As informed by CGWA representative in the joint committee meeting dated 14.11.2019, groundwater recharging of 50% is assumed for every submerged recharge shaft.<br>• CGWA also informed that flow meters are monitored and calibrated by individual units through NABL recognized laboratory on annual basis. |
| **V** | Actual requirement of underground water by the industry must be verified through independent Government agencies. | • CPCB has issued a letter to CGWA dated 02.09.2019 to comply with the directions of NGT order dated 23.07.2019 pertaining to all Industries (**Refer Annexure -18)** |
| **VI** | All industries must be asked to maintain verified records of ETP sludge and other solid wastes generated as well as its disposal to the known buyers/receivers ultimate. | • As per UPPCB email dated 30.10.2019 there are mainly 9 industries which are generating hazardous/solid wastes in Rampur. The hazardous waste generated from the industries are being disposed through TSDF namely M/s Ramky Environ |

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| | | Engineers Ltd., Khumbi, Kanpur Dehat (TSDF)<br>• UPPCB has issued show cause notice under hazardous & other waste management rules, 2016 to M/s Varun Steel, Ajitpur Industrial area, Rampur. |
| **VII** | Portable pumps with flexible pipes, pumps with loose/open end Tee pipe on delivery lines shall not be permitted as stand-by at ETP of any industry. | • UPPCB issued letter No. H-43240/C-7/Jal-40/2019 to M/s. Radico Khaitan Ltd., Rampur, UP dated 02.11.2019 to dismantle the excess capacity of lagoons, to develop thick forestry on the boundary of lagoons as well as on the land which will be available after dismantling of lagoons, to install separate energy meter for ETP, to keep and maintain record of generated and selling of prepared bio-compost, to dispose solid waste as per the rules, to not have any loose connections of piping with installed ETP and to submit the details of disposal of generated ETP sludge and other solid waste as per the rules. (Refer **Annexure-6).**<br>• SPCB shall issue letter to all industries to dismantle portable stand-by pumps with flexible pipes, pumps with loose / open end Tee pipe on delivery lines. |
| VIII | CPCB/SPCB shall take necessary actions against the non-complying industries namely:<br>(1) M/s Multiwal Duplex Pvt Ltd. Kundeshwari Road, Kashipur, Uttarakhand<br>*(2)* M/s Damya PJ Foods Pvt. Ltd., Rampur, U.P. &<br>*(3)* M/s Varun Steel, Rampur, U.P | **M/s Multiwal Duplex Pvt Ltd. Kundeshwari Road, Kashipur, Uttarakhand**<br>1. UEPPCB issued letter to the unit on 13.06.2019 to submit the Clarification within 24 hours regarding the closing of 03 by-passes, which were observed during the drone survey of joint committee dated 12.06.2019 in compliance of NGT order dated 20.05.2019. Copy of the letter is Placed at Annexure-23<br>2. UEPPCB is in process of issuing show cause notice to the unit and imposing environment compensation. However, the By-passes which |

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| | | were found earlier was stopped.<br><br>**2. M/s Damya PJ Foods Pvt. Ltd., Rampur, UP**<br>As per UPPCB letter dated 22.11.2019, it was informed that:<br>1. UPPCB issued show cause notice under Water Act, 1974 on 19.07.2019 to the unit for the non-compliances observed during the joint inspection dated 12.06.2019. (copy of the SCN is placed at Annexure-21<br>2. UPPCB has also levied Environment compensation of Rs. 2.5 lacs on the unit in the above mentioned SCN.<br>3. The unit has deposited Rs. 2.5 lacs as Environment Compensation to UPPCB.<br>4. UPPCB has issued SCN dated 02.11.2019 to the unit for not having NOC of CGWA. Copy of the same is placed at Annexure-22.<br>5. UPPCB has carried out inspections on 22.10.2019 and 12.11.2019. The sample of treated effluent from ETP outlet was collected on 22.10.2019 and as per UPPCB analysis report, the unit is in compliance of provisions of Water Act, 1974 and Air Act, 1981. No untreated effluent was found discharged outside of the premises during inspection dated 12.11.2019<br>6. The unit has installed separate energy meter and flow meters at inlet and outlet of the ETP.<br><br>**3. M/S Varun Steel, Rampur, U.P.**<br>As per UPPCB letter dated 22.11.2019, it was informed that-<br>1. UPPCB issued Show Cause Notice under Water Act, 1974 on 19.07.2019 for the non-compliances observed during the joint inspection dated 12.06.19. Copy of the same is placed at **Annexure-23.**<br>2. UPPCB has also levied Environment Compensation of Rs. |

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| | | 2.5 I on the unit in the above mentioned SCN.<br>3. The unit has deposited Rs. 2.5 lacs as Environment Compensation to UPPCB.<br>4. UPPCB issued Show Cause Notice under Air Act, 1981 on 29.07.2019 for the non-compliances observed during the joint inspection dated 12.06.19. Copy of the same is placed at **Annexure-24.**<br>5. UPPCB issued Show Cause Notice under Hazardous Waste Management Rules, 2016 on 09.11.2019 to unit for not having Hazardous waste authorization. Copy of the same is placed at **Annexure-25.**<br>6. UPPCB has issued SCN dated 02.11.2019 for not having NOC of CGWA. Copy of the same is placed at **Annexure-26.**<br>7. UPPCB has carried out inspections on 22.10.2019 and 12.11.2019. The sample of treated effluent from ETP outlet was collected by UPPCB on 22.10.2019 and as per UPPCB analysis report, the unit is in compliance of provisions of Water Act, 1974 and Air Act, 1981. No untreated effluent was found discharged outside of the premises during inspection dated 12.11.2019.<br>• CGWB Northern Region should recommend similar action (as mentioned in Para-I of All Industries) for illegal withdrawal of ground water by M/s Varun steel, Rampur, UP and M/s Dhamya PJ foods Pvt. Ltd., Rampur, UP as well as for all other such industries which are extracting underground water without valid CGWA NOC. |

***(iii) Report dated 06.12.2019 by the Ganga Monitoring Committee, Phase I-B in respect of inspection carried out at Kashipur.***

*There is also response of the CPCB filed 27.11.2019 to the final report of the Monitoring Committee mentioned above to the*

*effect that inspection of GPIs are done annually and action is taken by the State PCB. We are of the view that even though the inspection by the CPCB may continue to be done annually, the State PCB must conduct inspections quarterly. The report mentions as follows:*

*"From the details which are being recorded hereinafter out of 8 industries situate in Kashipur except for one namely M/s Vishwakarma Paper and Board Ltd. no other industry has any valid subsisting 'no objection certificate' from the CGWA. These industries in Kashipur are drawing nearly 22000 cubic metres approx. of underground water every day. The details of the industries situate in Kashipur area which have been inspected are disclosed in the form of a chart as follows:*

| **S. No.** | **Name of the Industry & address** | **Status of NOC** | **Quantum Of gw/m3day** | **Letters Issued** | **Response received from firms** |
|---|---|---|---|---|---|
| 1 | M/sIGL (Ethanol Plant) Bazpur Road, Kashipur, US Nagar, Application No. | Renewal Pendingw ith CGWA,Ne wDelhi | 5096 | 01/08/19 for compliance of NOC | Compliance of NOC on 19/08/19 |
| 2 | M/s IGL (Chemical Plant) Bazpur Road, Kashipur, US Nagar, Application No | Renewal Pending with CGWA NewDelhi | 3056 | 01/08/19 for compliance of NOC | Compliance of NOC on 19/08/19 |
| 3 | 2M/s Vishwakarma Papers & BoardsPvt.Ltd Application No.214/882/U R/IND/2017-669 dated 17/04/19 | NOCgran ted On17/04/ 2018 | 4638.32 | - | Compliance received on 02/07/2019 |
| 4 | M/s Banwari Paper Mills Ltd Application No.21-4/1072/UR/IN D/2018 | Applied for NOC which is under scrutiny | 900 | 01/10/18, 04/06/19, 13/06/19 01/07/19 | 24/06/2019 No response to queries dated 01/07/2019 |
| 5 | M/s CheemaPapersL imited, Application No.21-4/528/UR/IND /2017 dated 24/05/2017 | Applied for Fresh NOC which is under scrutiny | 3440 | Email sent on 13/06/19 as directed by NGT committee on 12/06/10 | 25/06/2019 22/07/2019 |
| 6 | M/s Kashi Vishwanath TextilesMillsPvt. Ltd. Application No. | Applied for Fresh NOC which is under scrutiny | 406 | 10/01/18 24/05/19 13/06/19 03/07/19 | 22/07/2019& 06/08/2019 |
| 7 | M/s Multiwal Pulp & | Applied for NOC | 3633.42 | 13/06/19 23/09/19 | Hard copy not yet received. |

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| | Board Mills Pvt. Ltd., Application No. | | | | |
| 8 | M/s Multiwal Duplex Pvt. Ltd., Application No. | Applied for NOC | 448.91 | 09/06/19, 13/06/19 23/09/19& Notice on 08/11/2019 | Hard copy not yet received. 22/07/2019 on document received |

*It is worthwhile to point out that industries at Item Nos.4,5,6,7 and 8 have only made applications for grant of 'no objection certificate' and are awaiting disposal of their applications. They have been issued 'consent to operate' by the Pollution department and are also extracting underground water. Similarly, M/s I.G.L. Distillery Unit and Chemical Plant are continuing to draw underground water on the pretext that their applications for renewal of no objection certificate is still pending disposal before CGWA.*

*I may highlight that in para 8 of the order dated 23.07.2019 the Hon'ble Tribunal has already declared such extraction of underground water by the industrial units as illegal. For ready reference para 8 of the order dated 23.07.2019 is quoted hereinbelow:*

> *"Learned counsel appearing for M/s India Glycols Limited, however, tried to justify the illegal drawal of ground water without sanction even though the area is semi critical, on the ground that application for sanction was 'pending'. We do not find any merit in this submission. Delay in deciding renewal application could not be treated as a licence to draw the ground water. The unit could take remedy against such inaction. While regulatory authorities are required to act promptly but any inaction is not a ground for a citizen to take the law in his hands instead of approaching the concerned higher authority of the Court."*

*So far as the industries situate in Uttar Pradesh are concerned, 3 industries were inspected namely:*

*i) M/s Radico Khaitan Ltd.*
*ii) M/s Rana Sugar Ltd.*
*iii) M/s Swati Menthol & Allied Chemicals Ltd.*

*RADICO Khaitan unit had a 'no objection certificate' in its favour for drawal of 2600 cubic metres per day of underground water which expired on 2nd October 2018. They have continued to extract underground water even thereafter on the plea that their application for renewal dated 15.09.2018 is still pending with the CGWA.*

*M/s Rana Sugar Ltd. was granted 'no objection certificate' on 14.10.2016. An inspection was made by the CGWA on 30.04.2018 when the sugar plant of the*

*unit was found to be non-operational and the distillery had not been set up. An order for cancellation of the 'no objection certificate' was issued by the CGWA on 10 December 2018.*

*However, on 17.04.2019 permission was granted to run the distillery by the various departments of State of Uttar Pradesh. Similarly, permission to operate has also been granted by U.P. Pollution Control Board.*

*The unit is drawing underground water both in respect of the sugar unit as well as its distillery unit despite the order of cancellation of 'no objection certificate' by CGWA dated 10.12.2018 on the pretext that their application for reconsideration of the cancellation of 'no objection certificate' was pending before the CGWA.*

*M/s Swati Menthol & Allied Chemicals Ltd. was admittedly extracting underground water to the tune of 15 cubic metres per day for its unit despite having neither applied for nor having been granted any permission or 'no objection certificate' by the CGWA.*

*It is surprising to note that large number of industries are said to be operating both in Kashipur and Rampur area which have been declared to be critical/semi-critical zone by the CGWA without any valid subsisting 'no objection certificate' from the CGWA. It is also surprising that the underground water authority and pollution department both in the State of Uttarakhand and State of Uttar Pradesh are aware of the situation and yet for years together there has been complete inaction on their part to enforce rule of law in the matter of extraction of underground water.*

*The situation is seriously alarming and needs immediate intervention by the Hon'ble National Green Tribunal so as to ensure that underground water is not extracted without a valid subsisting 'no objection certificate' from CGWA.*

*I was informed by the officers that the situation as in Rampur and Kashipur prevails throughout the State of Uttar Pradesh and State of Uttarakhand and more than thousands of industries are extracting underground water without any valid subsisting 'no objection certificate' from the CGWA as on date."*

***4. We have considered the above reports. Apart from taking actions in terms of recommendations in the report of the CPCB, further action needs to be taken in respect of recommendations in the report of Ganga Pollution Monitoring Committee to the effect that underground water is being extracted illegally at large scale in 'critical' and 'semi-critical' zones. There is complete inaction on the part of States of Uttarakhand and Uttar Pradesh in this regard.***

***5. Let the States of Uttarakhand and Uttar Pradesh take remedial action in respect of individual industries as well as general measures to ensure that there is no extraction of ground water without prior permission of the CGWA. Before any such permission is granted, CGWA may ensure actual compliance of conditions of replenishment of the ground water having regard to the water table in the area so that there is no further deterioration of 'critical', 'semi-critical' and 'over exploited' areas in terms of ground water availability. Any permission should be given based on study of availability of ground water and periodical report that replenishment had resulted in improvement in ground situation.***

***6. The CPCB and the State PCB may ensure recovery of the compensation already assessed by taking appropriate coercive measures including closure of the erring industry till deposit is made, apart from prosecution for violation of law, after following due procedure.***

***7. The Chief Secretary, UP may file response to para 9 of the order of this Tribunal dated 23.07.2019 by e-mail at judicial-ngt@gov.in.***

***8. The CPCB and the State PCB may file further compliance status report as on 30.04.2020, after carrying out detailed inspections and also indicating compliance status with regard to the issues considered in the three reports dated 23.10.2019 and report dated 06.12.2019 (by Ganga Committee) and 27.11.2019 (by the CPCB) considered in para 3 above, before the next date by email at judicial-ngt@gov.in."***

**Consideration today in the light of further reports**

5. Accordingly, further reports have been filed by the CPCB dated 06.01.2021 and Oversight Committee[1] dated 15.03.2021. Though CPCB as well as the Oversight Committee have filed earlier reports also but we consider it appropriate to refer to only the latest updated reports.

6. **Delay in filing the said report is said to be on account of delay in carrying out inspections due to lockdown. That is why the matter is being taken up today after more than a year**. We have noted the order

[1] Constituted in terms of order dated 16.03.2020 in OA 670/2018, Atul Singh Chauhan v. Ministry of Environment, Forests and Climate Change & Ors. by this Tribunal for compliance of environmental norms in the State of UP headed by Justice SVS Rathore, former Judge of the Allahabad High Court at Lucknow.

of the Hon'ble Supreme Court dated 05.03.2021 in Civil Appeal No. 734/2021, Shailesh Singh v. The State of Uttar Pradesh & Ors. requiring the Tribunal to decide the matter today itself in view of delay in decision so far. **To put the record straight, it is noted that inspection by the joint Committee could be conducted only on 27-28 October, 2020 and reports became available only on 6.1.2021 and 15.3.2021 without which the matter could not have been decided. On first date after availability of the requisite reports, the matter has been taken up for decision today in the light of the material on record. Further follow up action is being left to be taken by the statutory regulators, following due process.**

7. The CPCB report dated 6.1.2021 refers to inspection of M/s. Radico Khaitan Ltd., Rampur and 13 other industries carried out by a team of officials of CPCB and UPPCB and Uttarakhand PCB **on 27th and 28th October, 2020.** Observations with regard to the said 14 industries are as follows:-

> ***"1. Radico Khaitan Limited, Bareilly Road, Rampur, Uttar Pradesh -244901***
>
> *a. The unit shall obtain NOCs from CGWA for withdrawal of groundwater at earliest for all the groundwater abstraction sources, as the CGWA NOCs have already been expired on 02.10.2018.*
> *b. The Unit shall ensure storage of concentrated spent wash with total solids 30% in both the lagoons (at Hitachi and Ajeetpur site) for use in biocomposting.*
> *c. The unit shall provide proper lined surface in bio compost yard at Hitachi site so that possibility of leaching shall be eliminated.*
> *d. The unit shall take measures to stop contamination of piezometer well at downstream of Hitachi site.*
> *e. The unit shall carry out detail study to identify contamination source of Fe, Mn and Pb of piezometric wells, hand pumps and bore wells and carry out remedial measures.*
>
> ***2. M/s Damya (PJ) Foods, Pvt. Ltd Village- Chikna Shahbad Road, Rampur244901 (UP)***

a. *Unit shall install flow meters on the borewell in the industry premises and maintain logbook for each flow meter and obtain CGWA NOC for ground water abstraction.*
b. *Unit shall install flow meter and maintain record for treated effluent reused in horticulture.*
c. *Unit shall operate ETP properly to meet the discharge standard.*
d. *Unit shall obtain adequacy report of ETP system from a reputed expert government institutes.*

***3. M/s Usha Steel Process D-22, 23 & 29, Ajeetpur Industrial Estate Ajeetpur, Rampur, (UP)***

a. *Unit shall install flowmeters on the borewell and other points of effluent generations, reuse and discharge in the industry premises with logbook for each flowmeter and obtain CGWA-NOC for ground water abstraction.*
b. *Unit shall install flowmeter and maintain record for treated effluent reused in process and amount of water discharged.*
c. *Unit shall obtain adequacy report of ETP system from a reputed expert government institutes.*
d. *Unit shall operate the ETP properly and ensure that treated effluent shall meet the discharge norms.*

***4. M/s Swati Menthol & Allied Chemicals Ltd. 4.5kms. Bareilly Road Rampur 244901 (U.P.).***

a. *The unit shall obtain NOC from CGWA for withdrawal of ground water.*
b. *The unit shall install flowmeter at outlet of ETP*
c. *The unit shall carry out feasibility study to explore possibility of reuse of treated effluent from ETP within industrial processes.*

***5. M/s Rana Sugars Ltd. Khasra No.318-320, Manpur, Belwara, DisttMoradabad, Uttar Pradesh-244925.***

a. *The unit shall obtain NOC from CGWA for extraction of ground water.*
b. *The unit shall provide a separate area for storage of ETP sludge and shall maintain record of the ETP sludge generation and disposal.*
c. *The unit shall maintain record for fly ash generation and its disposal.*
d. *The unit shall improve bio-mass concentration in the aeration tank of ETP.*
e. *The unit shall prepare ETP dosing chemicals solutions; using ETP treated effluent, to save fresh water.*

***6. M/s Rana Sugars Ltd. (Distillery Unit) Khasra No.318-320, Manpur, Belwara, Distt- Moradabad, Uttar Pradesh-244925.***

a. *The unit shall obtain renewal of NOC from CGWA for extraction of ground water.*
b. *The unit shall maintain records of Boiler ash and its disposal/ utilization.*
c. *The unit shall install 2 nos piezo-wells near bio-compost yards; as per requirement of SOP for distilleries using molasses.*

***7. M/s India Glycol Ltd (Distillery Plant), Kashipur, Uttarakhand.***

a. *The unit shall dismantle/completely fill/level both discarded aeration lagoons as well as discarded clarifiers and rectangular tanks located inside the unit premises near incineration boiler in scientific manner so that there shall not be any water logging.*
b. *In compliance to CPCB direction dated 14.03.2019, the unit shall utilize/consume the diluted spent wash stored in lagoon (of 3,50,000 m3 cap for 98 KLD stream, located at Dabhora site) in bio-composting before June 30, 2021 as per standard operating process and the lagoons may be filled with ash.*
c. *The unit shall comply with CPCB directions dated 14.03.2019.*
d. *As per the analysis result of sample collected from the drain near incineration boiler (being used in ash quenching and coal dust suppression), indicates higher color, BOD, COD and TDS i.e., contaminated water. Hence, the unit shall use the waste water as MEE feed.*
e. *The unit shall obtain valid agreement with cement units to dispose of fly ash/bottom ash, as the existing agreement has been expired in April-2020.*
f. *The unit shall install flow meters at outlet of STP at residential colony and inlet and outlet of STP at distillery plant and shall keep/maintain record of treated sewage being utilized for horticulture.*
g. *Analysis result of sample collected from inlet of STP for distillery plant shows high color, pH, BOD, COD, TDS and TSS, hence mixing of domestic wastewater with seepage of waste water from distillery could not be ruled out. The unit shall ensure that no effluent get mixed with domestic wastewater, shall reach to STP for treatment.*

***8. M/s India Glycols Limited (Chemical Unit) A-1, Industrial Area, Bazpur Road, Kashipur, District-U.S. Nagar, Uttarakhand.***

a. *The unit shall provide flow meter at inlet point of ETP, inlet and outlet of STP to monitor the wastewater flow.*
b. *Unit shall provide dewatering system in sludge filter bed in ETP system and filtrate should be taken back to collection tank for further treatment.*
c. *The unit shall ensure that, untreated/partially treated effluent/sewage shall not be discharged into storm water drain.*

d. *Collection tank of STP shall be repaired and unit shall ensure, no untreated sewage discharge into storm water drain.*
e. *The Unit shall improve operation and maintenance of STPs.*

***9. M/s Kashi Vishwanath Textile Mill Ltd. (SPNG Group) 5th Km Stone, Ramnagar Road, Kashipur-244713, Uttarakhand.***

a. *Non - compliance of ZLD.*
b. *The unit is discharging effluent through STP after dilution with fresh water in violation of ZLD.*
c. *It is clearly indicated from the analysis of STP inlet and secondary clarifier outlet that RO reject is discharged into STP and diluted water is mixed into the STP system. It is recommended that appropriate action as deemed fit shall be initiated against the unit by UKPCB.*
d. *The unit shall obtain renewal of NOC from CGWA for groundwater abstraction.*

***10. M/s Vishvakarma Paper & Boards Ltd., 4.5 km, Ramnagar Road, Kashipur, Dist. U.S. Nagar, Uttarakhand.***

*Unit is self closed since 01.06.2020*

***11. M/s Banwari Paper Mill Ltd. 4th km stone, Rampur Road, Kashipur, U.S. Nagar, Uttarakhand.***

a. *The Unit shall obtain NOC for withdrawal of groundwater from CGWA.*
b. *The Unit shall operate ETP properly and shall comply with the treated effluent quality parameters w.r.t. consented norms.*
c. *The Unit shall restrict maximum production to 1650.0MT/month as per capacity permitted in Consolidated Consent to operate and authorization (CCA).*

***12. M/s Cheema Papers Ltd 9 km stone Bazpur Road, Kashipur Dist. U.S. Nagar, Uttarakhand.***

a. *The unit shall obtain valid NOC from CGWA for ground water withdrawal.*
b. *The unit shall dismantle the outlet of partial treated effluent from collection tank after secondary clarifier ofETP before tertiary treatment.*
c. *The unit shall dismantle the multiple outlets from collection tank of final treated effluent.*
d. *The unit shall stop un-scientific and unsafe dumping (storage) of ETP sludge. A covered shed with platform shall be constructed to store ETP sludge.*
e. *The unit shall install V-notch at ETP inlet properly.*
f. *The unit shall install flow meter on all water abstraction points.*
g. *The unit shall increase capacity of sedi-cell (for pulp removal/recovery).*

h. *The unit shall maintain proper ETP logbooks of energy meter and inflow.*
i. *The unit shall maintain environmental laboratory equipment properly.*

***13. M/s Multiwal Duplex Pvt. Ltd. Kundeshwari Road, Kashipur Dist.: U. S. Nagar, Uttarakhand.***

i. *The unit was found temporarily closed. As informed by the unit's representative, the unit is non-operational since 26. 10.2020.*
ii. *The unit shall obtain NOC for withdrawal of groundwater from CGWA.*
iii. *The unit shall install flow meter with totalizer on bore well used for domestic purpose.*
iv. *The unit shall restrict its production as per the consented capacity i.e. 900 MT/month.*
v. *UKPCB should verify the compliance with effluent discharge standards on resumption of manufacturing operations.*

***14. M/s Multiwal Pulp and Board Mills (P) Ltd. Bazpur Road, Kashipur Dist. U. S. Nagar, Uttarakhand.***

i. *The unit was found temporarily closed. As informed by the unit's representative, the unit was non-operational since 28.09.2020.*
ii. *The unit shall obtain NOC for withdrawal of groundwater from CGWA.*
iii. *UKPCB should verify the compliance with effluent discharge standards on resumption of manufacturing operations."*

8. The report of the Oversight Committee mentions the studies of water pollution in the area and NMCG report titled "Pollution Assessment: River Ganga" to the effect that **there are 764 grossly polluting industries (GPI) in the mainstream of Ganga and its tributaries i.e. Kali (E) and Ramganaga. Out of the 687 industrial units are situated in Uttar Pradesh**. Information about water consumption and waste water generation by the industries in the said area is shown by the following tables:

*"4. xxx……xxx……xxx…….*

| **State** | **Number of Industry** | **Water Consumption (MLD)** | **Wastewater generation (MLD)** |
|---|---|---|---|

| | | | |
|---|---|---|---|
| Uttar Pradesh | 687 | 693 | 269 |
| Uttarakhand | 42 | 224 | 127 |
| Bihar | 13 | 91 | 17 |
| West Bengal | 22 | 116 | 87 |
| Jharkhand | 0 | 0 | 0 |
| Total | 764 | 1123 | 501 |

xxx……xxx……xxx…….

| **Type of industry** | **Total Unit** | **Water Consumption (MLD)** | **Wastewater Generation (MLD)** |
|---|---|---|---|
| Chemical | 27 | 210.9 | 97.8 |
| Distillery | 33 | 78.8 | 37 |
| Food, Dairy & Beverage | 22 | 11.2 | 6.5 |
| Pulp & Paper | 67 | 306.3 | 201.4 |
| Sugar | 67 | 304.8 | 96.0 |
| Textile, Bleaching & Dyeing | 63 | 14.1 | 11.4 |
| Tannery | 444 | 28.7 | 22.1 |
| Others | 41 | 168.3 | 28.6 |
| Total | 764 | 1123 | 501 |

”

9. Finally, the report gives the compliance status in tabular form with regard to the industries in UP, as follows:-

“

| ***Issues*** | ***Compliance Status*** | ***Remarks*** |
|---|---|---|
| ***M/s Radico Khaitan Ltd.*** | | |
| *Did the unit get NOC for ground water drawl?* | *Complied* | *Yes* |
| *Manufacturing of alcohol by the unit even after the closure order of the CPCB, i.e., between 17.02.2019 to 11.05.2019 is totally unjustified and virtually amounts to negation of rule of law. Chief Secretary may file his report.* | *Partial compliance* | *The CPCB in its compliance report mentioned that an abeyance letter was issued by the CPCB on 02.01.2019 which was misunderstood by the unit and considered it as permission to continue operation. Chief Secretary UP had filed his response in the compliance report dated 28.08.2020.* |
| *Open lagoons must be replaced by covered storage Steel tanks for receiving the spent wash of molasses with provision for controlled discharge of gases therefrom. This is necessary, as large open surface area of existing lagoons leads to more amount of air being polluted* | *Complied* | *The CPCB found this suggestion technically infeasible and informed the Committee accordingly.* |

| | | |
|---|---|---|
| *after coming into contact with spent wash. All suitable amendments may be carried by CPCB in guidelines.* | | |
| *Officers of the State of Uttar Pradesh who had orally instructed the officers and managers of Radico Khaitan Ltd. to continue the production even after the closure order of the CPCB, and those who failed to ensure the closure must be identified by the Chief Secretary of the State of Uttar Pradesh and suitable action shall be taken.* | *Partially complied* | *Additional Chief Secretary, Excise Shri Sanjay Bhoos Reddy mentioned that they have already instituted an enquiry based on the report of Commissioner. The file has been put up for orders and had been send through Chief Secretary to Hon'ble NGT dated 28.08.2020.* |
| *The primitive method of marking with red at a particular height in the lagoons be eliminated and if necessary, then, only required capacity lagoon duly calibrated, be permitted. Excess capacity must be filled or dismantled scientifically.* | *complied* | *The CPCB mentioned that excess capacity in Lagoon-I had been dismantled and Lagoon-II and Hitachi site has been truncated.*<br><br>*The committee is of the view that regular monitoring of the situation of the lagoons should be done.* |
| *Withdrawal of underground water must be restricted to the minimum required quantity with a condition of payment of water charges on the principle 'more the consumption higher the rate'. This will act as a deterrent for withdrawal of underground water beyond what is necessarily required by the unit.* | *Partially complied* | *The Unit needs to implement Water Audit report. It also needs to contact Municipal Authorities for getting retreated water. It may install a tertiary water treatment plant for utilising municipal treated water for its consumption.*<br><br>*It is pertinent to mention here that Section 16 of Act no 13 of 2019 has introduced the concept of charging fee on ground water extraction/ drawl.* |
| *The requirement of groundwater should be calculated.* | *Non-complied* | *The actual requirement has not been calculated yet by any Government authority. Company itself has mentioned 50 its consumption in its report. CPCB may be asked to do so and let this Committee know about it within one month. However, under the new State Act (Act no. 13of 2019) there is a provision for fixing the limit of ground water extraction.* |
| *Strict monitoring on readable parameters be done in respect of recharging the underground water through rainwater harvesting by the unit etc.* | *Complied* | *So far compliance not done. CGWA was doing it based on thumb rule of 50% recharge for each submergence. This is a notional figure and needs to be replaced by actual monthly piezometric readings of groundwater level. SGWA should install these meters and the readings be taken departmentally. The meters may be* |

| | | |
|---|---|---|
| | | *connected online with central computer at SGWA Headquarters.* |
| *Calibration of water flow meters be ensured by government agencies with verification at least once in a year.* | *Complied* | *CGWA found the calibration of the water flow meters within the order.* |
| *The unit must utilize the land which will become available after removal of the lagoons, or otherwise for thick forestry in the ensuing rainy season.* | *Partially Complied* | *CPCB mentioned that such direction had been given in writing by UPPCB to the unit. Member Secretary, UPPCB Shri Ashish Tiwari mentioned that he would get the unit inspected within a week to find out whether the land left by dismantling lagoon-I and truncation of the site in lagoon II and Hitachi site is being used for forest purpose or not.* |
| *The industry must be asked to control its production so as to ensure that in no case spent wash collected in the lagoons exceeds its fixed capacity on monthly basis.* | *Complied* | *The UP Excise Department has mentioned that the unit is strictly adhering to its limit.* |
| *The land area necessarily required for bio-composting in respect of disposal of spent wash must be calculated and the industry must keep that land area fully covered with provision of leachate collection drains. No composting be permitted on uncovered land.* | *Partially complied* | *The unit had to maintain adequate covered bio compost area as per its consented capacity of 200 KLPD. CPCB in its Joint Inspection dt 27.10 .2020 informed that it has 25 acres of covered bio composting area out of total 60 acres of total bio composting area as against requirement of 24 acre commensurate with its consented capacity. Hence the area is adequate.* |
| *The unit must maintain specific verifiable records, which can be examined at any given point of time in respect of total quantity of biocompost generated and sold to the known purchasers. The distillery must maintain similar records in respect of solid waste and disposal thereof to known vendors.* | *Complied* | *UPPCB mentioned that the unit is already submitting all details to CPCB of bio-compost produced and sold on monthly basis. The solid waste data is submitted to UPPCB on yearly basis.* |
| *CPCB has calculated the Environmental compensation amount (as per the methodology of EC) in compliance of the NGT order dated 20.05.2019 which is Rs.7.29 Crores including the EC imposed earlier.* | *Complied* | *UPPCB mentioned that the unit had deposited the entire amount of Rs. 7.29 crores.* |
| *The unit had been illegally continuing its production from 17.02.2019 to* | *Non-complied* | *CPCB has neither assessed the price of alcohol produced during the said* |

| | | |
|---|---|---|
| *11.05.2019 and, therefore, the price of alcohol produced during the period should be recovered from it.* | | *period nor has it issued any notice. CPCB may take steps for compliance.* |
| *CPCB in its compliance report has asked CGWA to calculate water charges after expiry of NOC.* | *Non-complied* | *Neither those charges have been calculated nor notice given nor any money realized for these water charges.* |
| *In addition, the entire price money received in respect of alcohol/products generated by the industry during the period of the CPCB closure order, i.e., between 17.02.2019 to 11.05.2019 be recovered as Environmental Compensation (EC).* | *Non-complied* | *There is no mention of calculation of price of alcohol produced between 17.02.2019 to 11.05.2019 from it in CPCB compliance. ACS Excise UP has assured that they would calculate the entire amount and inform NGT so that it could be recovered from the Unit.* |
| *Separate electricity meter exclusively for ETP shall be installed and its bill must be kept on-site for verification.* | *Complied* | *CPCB mentioned that it has been installed.* |
| ***M/s Damya PJ Food Private Limited, Rampur*** | | |
| *Applications for 'no objection certificate' should be considered and decided within a month by CGWA and if the applications are not found satisfactory then the same must be rejected with a further direction to stop water extraction.* | *Non-complied* | *It did not have NOC of CGWA. CPCB in its compliance mentioned that UPPCB had given a Show Cause Notice to M/s Damya PJ Food Private Limited, Rampur under the Water (Prevention and Control of Pollution) Act, 1974.* |
| *All industries must be asked to maintain verifiable records of ETP waste and other solid waste generated as well as its disposal to the known buyers.* | *Complied* | *The unit has installed ETP and using a separate energy meter for ETP. During inspection, no untreated effluent was found to be discharged.* |
| *CPCB/SPCB shall take necessary actions against the non-complying industries in Uttar Pradesh* | *Complied* | *Environmental Compensation of Rs 2.5 lac was imposed on the unit. They have paid full environmental compensation.* |
| ***M/s Varun Steel:*** | | |
| *Applications for 'no objection certificate' should be considered and decided within a month by CGWA and if the applications are not found satisfactory then the same must be rejected with a further direction to stop water extraction.* | *Non-complied* | *It did not have NOC from CGWA for extraction of groundwater. CPCB in its compliance mentioned that this unit was given a notice for noncompliance under the Water (Prevention and Control of Pollution) Act, 1974*<br><br>*However, now under the Act no 13 of 2019 matters of issuing NOC shall be dealt with by the District Ground Water Management Council.* |
| *All industries must be asked to maintain verifiable records of ETP waste and other solid waste generated* | *Complied* | *During the inspection, no untreated effluent was found being discharged and the unit was found compliant with the provisions of the Water* |

| | | |
|---|---|---|
| *as well as its disposal to the known buyers.* | | *(Prevention and Control of Pollution) Act, 1974.* |
| *CPCB/SPCB shall take necessary actions against the non-complying industries in Uttar Pradesh.* | *Complied* | *Environmental Compensation of Rs 2.5 lacs was levied on the unit which it has deposited.* |
| *Authorization for Hazardous waste management* | *Complied* | *Authorization for hazardous waste management has been taken by them* |
| ***Other directions:*** | | |
| *The industries encroaching upon the drains must be asked to clear the encroachments and drains must be left free to flow in their natural course.* | | *No compliance report furnished meaning thereby it is yet to be complied.* |
| *Actual requirement of underground water by the industry must be verified through independent Government agencies.* | | *No compliance report furnished meaning thereby it is yet to be complied.* |
| *All industries must be asked to maintain verifiable records of ETPwaste and other solid waste generated as well as its disposal to the known buyers.* | | *No compliance report furnished meaning thereby it is yet to be complied.* |
| *No additional pump with loose connection be permitted as stand by at ETP of any of the industry.* | | *No compliance report furnished meaning thereby it is yet to be complied.* |
| *De-silting of drains must be completed at the earliest with a direction to transport the removed silt to a safe identified place.* | | *No compliance report furnished meaning thereby it is yet to be complied.* |
| *Joint inspection of all 86 GPI industries be undertaken afresh in light of issues considered in the report.* | | *UPPCB along with CPCB will conduct this inspection.* |
| *Wherever timelines have been fixed for works to be undertaken by industries, performance bank guarantee must be insisted upon as a condition of revocation.* | | *No compliance report furnished meaning thereby it is yet to be complied.* |
| *Many of suggestions and observations made under para A, B and C are generic and applicable/ per-se for all industries. These may require revision of Guidelines and Charter being followed by Central and State PCBs which regulating and monitoring the operations of these industries. Necessary and suitable review and revision* | | *No compliance report furnished meaning thereby it is yet to be complied.* |

| | | |
|---|---|---|
| *of these Guidelines and Charters may be carried out by Central and State PCBs in fixed time frame of four months."* | | |
| *"The CPCB and the State PCB may file further compliance status report as on 30.04.2020, after carrying out detailed inspections and also indicating compliance status with regard to the issues considered in the three reports dated 23.10.2019 and report dated 06.12.2019 (by Ganga Committee) and 27.11.2019 (by the CPCB) considered in para 3 above, before the next date by email at judicial-ngt@gov.in.* | | *UPPCB has asked the CPCB in its letter dated 11.02.2020 to submit information on the cause and effect study on the groundwater.* |
| *The charges payable by the company for withdrawal of underground water must be fixed on the principle 'more the withdrawal, higher the rates'. The water charges which has not been paid for years must be recovered together with the interest at the rate of 18% per annum.* | | *The Radico Khaitan industry had been paying up to Rs 2500000/- Year from past 25 years as water cess under erstwhile Water Prevention and Control of Pollution) Cess Act, 1977 till May 2017 when the said Cess Act was replaced vide the Taxation Laws (Amendment) Act, 2017.*<br><br>*No compliance report furnished by other industries meaning thereby it is yet to be complied.* |

**"**

10. The Committee has made following recommendations:-

***"12. Recommendations:***

*The Oversight Committee reserved its recommendations only to units located in the State of UP because some of the units in this case are located in the State of Uttarakhand which would be dealt by the Uttarakhand Oversight Committee.*

***12 (A) Recommendations pertaining to the unit:***

***(1) The Industry was found non-complying with the following issues even after so many reminders:***

*(i) At the time of inspection the floating levelling system was not operational at Ajeetpur site. Although the concentrated spent wash was within the limit marked by UPPCB.*

*(ii) The total area of two bio-composting yards was 60 acres out of which 25 acres was covered and remaining 35 acres of area was uncovered or open.*

*The requirement of covered bio-compost area to operate at consented capacity of 200 KLPD is 24 acres.*

(iii) *Water logging was observed near the lagoon at Hitachi site. Samples of the same were collected by Joint team.*

(iv) *At bio-compost yard of Ajeetpur site, it was observed that at leachate collection pit, transfer pump was not provided by the unit.*

(v) ***COD was reported from the ground water is a point of concern and probable source of it should be identified.***

(vi) ***Site:***

- ***Hand-pump of Hitachi Bio-compost Yard: The concentration of Copper and Iron was found beyond the permissible limits.***
- ***Piezo-metric well u/s of Hitachi Yard: The concentration of COD, Iron, Manganese and led was found beyond permissible limits.***
- ***Piezo-metric well d/s of Hitachi Yard: The concentration of COD, TDS, TS, Iron, Manganese, Lead and Colour was found beyond the permissible limits.***
- ***Piezo-metric well u/s of Ajeetpur Yard: The concentration of COD, Iron and Manganese was found beyond the permissible limits.***
- ***Piezo-metric well d/s of Ajeetpur Yard: The concentration of COD, Iron, Manganese and Lead was found beyond the permissible limits.***
- ***Groundwater from the borewell in unit premises: The concentration of Iron and Manganese was found beyond the permissible limits.***

  ***As per the report the probable reasons for the contamination are leaching of the iron and galvanised pipes which seems very superficial and a detailed study should be done in this regard. Presence of high concentration of pollutants in the groundwater samples calls for a detailed analysis of soil profile to check the level and source of contamination in the area.***

***(2) The analysis of samples drawn from the STP indicates that the industrial waste is rich in Iron, Copper and Manganese. Thus a detailed study is recommended to check the probable relation if any exists between the industrial waste and groundwater contamination.***

***The industry is directed to comply with the following recommendations of the joint inspection:***

1. ***The unit shall obtain NOCs for the drawl of groundwater at earliest.***
2. ***The unit shall ensure storage of concentrated spent wash with total solids 30% in both the lagoons at Hitachi and Ajeetpur site) for use in bio-composting.***
3. ***The unit shall provide proper lined surface in bio-compost yard at Hitachi site so that possibility of leaching shall be eliminated.***
4. ***The unit shall take measures to stop contamination of piezometer well at downstream of Hitachi site.***
5. ***The unit shall carry out detailed study to identify contamination source of Iron, Manganese and Lead of piezometric wells, hand pumps and bore wells and carry out remedial measures.***

***12 (B) Recommendations in case of other units:***

*The Oversight Committee noted that all other units viz Rana Sugars, Swati Methanol, Varun Steels and Damya PJ Foods Pvt Ltd were abstracting groundwater without SGWA permission. The Oversight Committee recommends that a detailed groundwater study be done by SGWA as the case may be and any permission to abstract groundwater be incumbent on the result of the study. These units be directed to minimise their water consumption based on water audit studies. Also they may be asked to explore the possibility of using treated water/ water harvesting /recycling techniques. Water tariffs for ground water as per rules/guidelines be communicated and charges levied immediately. Pending EC on these units be realised by UPPCB immediately.*

***12 (C). General recommendations:***

1. ***All Units abstracting ground water should be directed to get water audit conducted to assess the actual water requirement of the plant as well as for assessment of the requirement which could be met from other sources like surface water, reuse of treated water or water harvesting.***
2. ***All such industries should discuss this issue with municipal bodies and find out the ways to use treated water for industrial purposes. A holistic plan which could lead to minimal wastage of water should be prepared and made operational.***
3. ***The industries should be directed to install tertiary water treatment facilities to make the water suitable for drinking and consumption.***
4. ***Regarding Quality Control of Ground water, shallow borewells be dug around all such units and water samples be periodically analysed by CGWA/SGWA for any traces of contamination. The records be documented and put on the portal.***

5. ***The ETPs of GPIs be connected mandatorily with OCEMS and connected to 24X7 Control Room at State Headquarters for continuous monitoring.***
6. ***There should be some mechanism for providing some incentives to those industries which are using innovations/best practices while following all the environmental rules to prevent any kind of air, water and soil pollution during the production. Regarding this certification system, consumer awareness campaigns should also be launched.***
7. ***Also, the Industries should harvest the rainwater and use it, rather than extracting groundwater. Thus they will reduce their dependency of groundwater resources. All the industrial units and industrial parks should be directed to construct their rain water reserves and run on the condition of zero ground water extraction unit.***
8. ***All the small and large scale industries should be directed to develop a green belt in nearby areas equal to three times of their own land area and also to adopt wetlands of the nearby areas and create new ponds and to maintain the same as a component of their Corporate Social Responsibility (CSR).***

11. Affidavit has been filed on 05.10.2020 by Radico Khaitan Limited to the effect that it has given representation to the CGWA and also got a report from a consultancy agency to the effect that the said unit was recharging the ground water. On that basis, it has again applied for renewal of NOC. Another Affidavit has also been filed on 27.01.2021 by said unit to the effect that NOC has been granted to it by UP Ground Water Management Council for the three borewells of the said unit.

12. **There is no separate report from the Uttrakhand PCB.**

13. We have considered the above reports and heard learned counsel for the appearing parties. **There is no objection to the report of the Oversight Committee in respect of the units in the State of UP or to the report of the joint Committee filed by the CPCB. We do not see any reason not to accept the same. Accordingly, the said reports are**

**accepted. Action may accordingly be taken by the concerned units and the statutory regulators.**

14. The industries in the question in the State of UP as well as Uttrakhand may comply with the deficiencies noticed in the reports which may be overseen by a joint Committee of CPCB and the concerned State PCBs. The State PCBs may take necessary further action based on the observations of the joint Committee, which may include coercive measures like recovery of compensation and initiating prosecution, following due process of law. **An action taken report may be periodically provided by the State PCBs to the Chairman, CPCB for any further directions for the remedial action**. The State PCBs may recover compensation already assessed by taking suitable coercive measures, including closure. The State PCBs may impose appropriate conditions as part of consent conditions. Since the rivers in questions are finally meeting river Ganga, orders of this Tribunal in OA 200/2014, *M.C. Mehta v. Union of India & Ors.*, wherein vide order dated 18.12.2019, the Tribunal directed the NMCG and concerned States, including Uttarakhand and UP to prevent discharge of industrial effluents in river Ganga and its tributaries by ensuring proper functioning of ETPs/CETPs, are attracted which need compliance. The Ganga matter was last considered on 08.2.2021 in the light of progress report and directions were issued for further remedial action to ensure prevention of pollution of river Ganga and its tributaries and to file a further progress report with the NMCG. **Accordingly, the States of UP and Uttrakhand may include the present issue also in its progress report to the NMCG as the issue has bearing on pollution of Ganga.**

15. With regard to the affidavit filed by Radico Khaitan that it has a report from a private consulting agency, it is made clear that report of such agency cannot be treated as conclusive and needs to be evaluated by the statutory regulators based on ground verification.

16. Learned counsel for the UP State PCB submits that polluted water is being discharged from the Uttarakhand by the industries which is flowing to the State of UP. This may be looked into by the CPCB and based on observations of the CPCB, appropriate remedial action be taken to prevent such pollution by the State of Uttarakhand and its authorities. **Regular vigilance may be maintained by the concerned SPCBs and other statutory regulators and impact on water quality of river Kosi, Dhela, Bhela, Ramganga and finally on Ganga may be overseen by CPCB and NMCG also.**

The applications are disposed of.

A copy of this order be forwarded to CPCB, NMCG, Chief Secretaries and State PCBs of Uttarakhand and UP by e-mail for compliance.

A copy of this order be also forwarded to Justice SVS Rathore, former Judge of Allahabad High Court now at Lucknow by e-mail.

In view of above order, all pending interim/execution/ miscellaneous applications will stand disposed of.

Adarsh Kumar Goel, CP

S.K. Singh, JM

Dr. Nagin Nanda, EM

March 18, 2021
Original Application No. 324/2016
With other connected matters.
DV

Item No. 01 (Court No.1)

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

(By Video Conferencing)

Execution Application No. 19/2021
IN
Original Application No. 324/2016

Shailesh Singh Applicant

Versus

State of U.P. & Ors. Respondent(s)

Date of hearing: 12.08.2021

**CORAM: HON'BLE MR. JUSTICE ADARSH KUMAR GOEL, CHAIRPERSON**
**HON'BLE MR. JUSTICE SUDHIR AGARWAL, JUDICIAL MEMBER**
**HON'BLE MR. JUSTICE BRIJESH SETHI, JUDICIAL MEMBER**
**HON'BLE DR. NAGIN NANDA, EXPERT MEMBER**

Applicant: Ms. Preeti Singh, Advocate in E.A. No. 19/2021

**ORDER**

1. This application seeks execution of order dated 18.03.2021. The issue considered in said order related to remedial action against pollution of Kosi river in Rampur District by the polluting industrial activities. River Bhella in Muradabad is a tributary of Kosi river in Rampur which is a tributary of Ramganga, which in turn is a tributary of river Ganga.

2. Before passing the order dated 18.03.2021, the matter was considered for about five years by three orders - dated 20.05.2019, 23.07.2019 and 15.01.2020. The Tribunal found that pollution of river Bhella in Moradabad where it meets Rampur drain was acknowledged. One of the polluting industries was M/s Radico Khaitan Limited, impleaded as respondent No. 2 herein.

3. The Tribunal vide above orders considered the expert Committee reports on the subject of status of compliance of the polluting industrial units mentioned therein. The Tribunal also considered the report of Justice Arun Tandon, former Judge of the Allahabad High Court, who was at the relevant time heading the Ganga Pollution Monitoring Committee and of the CPCB dated 06.01.2021 based on inspection of 14 industries in the area. Concluding part of the order is reproduced below:-

> *"1to12…xxx……xxx……xxx*
>
> *13. We have considered the above reports and heard learned counsel for the appearing parties.* ***There is no objection to the report of the Oversight Committee in respect of the units in the State of UP or to the report of the joint Committee filed by the CPCB. We do not see any reason not to accept the same. Accordingly, the said reports are accepted. Action may accordingly be taken by the concerned units and the statutory regulators.***
>
> *14. The industries in the question in the State of UP as well as Uttrakhand may comply with the deficiencies noticed in the reports which may be overseen by a joint Committee of CPCB and the concerned State PCBs. The State PCBs may take necessary further action based on the observations of the joint Committee, which may include coercive measures like recovery of compensation and initiating prosecution, following due process of law.* ***An action taken report may be periodically provided by the State PCBs to the Chairman, CPCB for any further directions for the remedial action****. The State PCBs may recover compensation already assessed by taking suitable coercive measures, including closure. The State PCBs may impose appropriate conditions as part of consent conditions. Since the rivers in questions are finally meeting river Ganga, orders of this Tribunal in OA 200/2014, M.C. Mehta v. Union of India & Ors., wherein vide order dated 18.12.2019, the Tribunal directed the NMCG and concerned States, including Uttarakhand and UP to prevent discharge of industrial effluents in river Ganga and its tributaries by ensuring proper functioning of ETPs/CETPs, are attracted which need compliance. The Ganga matter was last considered on 08.2.2021 in the light of progress report and directions were issued for further remedial action to ensure prevention of pollution of river Ganga and its tributaries and to file a further progress report with the NMCG.* ***Accordingly, the States of UP and Uttrakhand may include the present issue also in its progress report to the NMCG as the issue has bearing on pollution of Ganga.***
>
> *15. With regard to the affidavit filed by Radico Khaitan that it has a report from a private consulting agency, it is made clear that report of such agency cannot be treated as conclusive and needs to be evaluated by the statutory regulators based on ground verification.*

*16. Learned counsel for the UP State PCB submits that polluted water is being discharged from the Uttarakhand by the industries which is flowing to the State of UP. This may be looked into by the CPCB and based on observations of the CPCB, appropriate remedial action be taken to prevent such pollution by the State of Uttarakhand and its authorities.* ***Regular vigilance may be maintained by the concerned SPCBs and other statutory regulators and impact on water quality of river Kosi, Dhela, Bhela, Ramganga and finally on Ganga may be overseen by CPCB and NMCG also."***

4. According to the execution application, the State PCB, CGWA and other statutory authorities have failed to take necessary steps for enforcement of the order of this Tribunal for which they are liable to be proceeded against by way of adverse action under sections 25 and 26 of the NGT Act. Ground water extraction is taking place illegally.

5. The applicant has impleaded State PCB, Rampur Distillery (Radico Khaitan), UPPCB, CPCB, CGWA and District Magistrate, Ghaziabad.

6. It is stated that the official-respondents have not proceeded against M/s Radico Khaitan who has liability to pay compensation of Rs. 42.28 Crores, whose name is specifically mentioned as water polluting industries in Action Plan for Restoration of polluted stretch of River Ramganga from Moradabad to Kannauj.

7. The averments in the execution application may call for an appropriate response based on verification of facts on the ground.

8. Accordingly, to enable the Tribunal to proceed further, the CPCB and State PCB may furnish a status report in the matter with regard to the compliance status of order of this Tribunal dated 18.03.2021. The report may be furnished 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.

List for further consideration on 09.12.2021.

A copy of this order be forwarded to the CPCB and State PCB by e-mail for compliance.

Adarsh Kumar Goel, CP

Sudhir Agarwal, JM

Brijesh Sethi, JM

Dr. Nagin Nanda, EM

August 12, 2021
E.A. No. 19/2021 in O.A. No. 324/2016
A

F. No. B-19123/WQM -II/Legal/NGT-13/CPCB/2020-21 Date: 23.11.2021

**Office Memorandum**

**Sub.: Minutes of the meeting held on 09.11.2021 to review action taken/ compliance status of Hon'ble NGT order dt 18.03.2021 in O.A. No. 324/2016 in the matter of Shailesh Singh Vs State of UP & Ors. with O.A. No. 361/2017 in the matter of Dr. Tanzeen Fatima Vs. Ministry of Environment and Forests & Climate Change & Ors**

A meeting of officials from CPCB, UPPCB & UKPCB in O.A. No. 324/2016 in the matter of Shailesh Singh Vs State of UP & Ors. with O.A. No. 361/2017 in the matter of Dr. Tanzeen Fatima Vs. Ministry of Environment and Forests & Climate Change & was convened on 09.11.2021 through video conference at 12:00 PM. Minutes of meeting is enclosed for kind information and necessary action.

23/11/21

(Dr. A.K. Vidyarthi)

Addl. Director and In-charge WQM-II

Encl. As Above

To

1. Member Secretary, UPPCB: ms@uppcb.com
2. CEO-7, UPPCB: ceo7@uppcb.in
3. RO, Moradabad, UPPCB: romoradabad@uppcb.com
4. RO, Kashipur, UKPCB: rokueppcb2018@gmail.com

O/C

**Minutes of the meeting held on 09.11.2021 to review action taken/ compliance status Hon'ble NGT order dt 18.03.2021 in O.A. No. 324/2016 in the matter of Shailesh Singh Vs State of UP & Ors. with O.A. No. 361/2017 in the matter of Dr. Tanzeen Fatima Vs. Ministry of Environment and Forests & Climate Change & Ors**

A meeting was held on 09.11.2021 with officials from Central Pollution Control Board (CPCB), Uttar Pradeh Pollution Control Board (UPPCB) & Uttarakhand Pollution Control Board (UKPCB) to review action taken/ compliance status of Hon'ble NGT order dated 18.03.2021 in O.A. No. 324/2016 in the matter of Shailesh Singh Vs State of UP & Ors. with O.A. No. 361/2017 in the matter of Dr. Tanzeen Fatima Vs. Ministry of Environment and Forests & Climate Change & Ors. The list of participants is enclosed at **Annexure 1.**

At the outset, Divisional Head, WQM-II, CPCB welcomed all the participants. He apprised the officials from UPPCB & UKPCB that the meeting is held to review the action taken/ compliance status of Hon'ble NGT order dt 18.03.2021 in OA No. 361/2017 with OA No. 324/2016. Detailed deliberations were held on the action taken in compliance to recommendations of committees.

**Record Note of Discussion:**

Dr A.K. Vidyarthi, DH WQM-II, apprised the officials from UPPCB & UKPCB about the recommendations of joint committee & the oversight committee w.r.t concerned units as referred by Hon'ble NGT in its order dt 18.03.2021 in OA No. 361/2017 with OA No. 324/2016 and sought the updated compliance status of the same from the concerned SPCBs. He informed that CPCB sent letters on 02.09.2021 & 29.10.2021 wherein concerned SPCBs were asked to do the following:

i. To take necessary action as per the Hon'ble NGT order dt 18.03.2021 and forward the Action taken Report to CPCB by 30.09.2021

ii. To take appropriate remedial action to prevent pollution of the Rivers Dhela, Kosi and Bahela and adjoining drains and also for restoration of their water quality

iii. To constitute a mechanism for regular vigilance for control of pollution and water quality monitoring of Rivers Dhela, Kosi and Bahela.

CPCB vide letter dt 02.09.2021 has also forwarded reports on water quality of Rivers Dhela, Bahela & Kosi based on monitoring which also include report of water quality monitoring carried out during Magh Mela 2020 & Kumbh Mela 2021 for reference and necessary action for restoration of polluted stretches of these rivers.

However, no information was received either from UPPCB or UKPCB. The SPCBs provided the following information during the meeting:

1. Information provided by UPPCB:
   i. Concerned units have now obtained NOC from CGWA/SGWA for ground water abstraction.
   ii. UPPCB has compiled the compliance status of recommendations of oversight committee as well as joint committee as refereed by Hon'ble NGT in order dt 18.03.2021.
2. Information provided by UKPCB:
   i. UKPCB has issued directions to concerned units in compliance to Hon'ble NGT order dt 18.03.2021.
   ii. UKPCB has also taken performance Bank Guarantee from these units. Only verification part of these unit are pending. Once the verification is done, compliance status of the same will be submitted to CPCB
3. Representatives from CPCB also presented the issue of water quality of Rivers Kosi, Dhela, Bahela and Ramganga by means of a power point presentation. Based on monitoring data, it was observed that following stretches/locations of these rivers showed high BOD compared to the other stretches/locations of these rivers which indicates deterioration in water quality:

   i. River Dhela at d/s Faridnagar a/c of Dhandi drain (BOD-max 168 mg/l) to Bhojpur Bridge (BOD-max 156 mg/l) and its adjoining drain Dhandi (BOD-max 386 mg/l).
   ii. River Ramganga at Katghar a/c of Dehla, Moradabad (BOD-max 18 mg/l) to a/c of river Kosi at Shahbad (BOD-max 11 mg/l)
   iii. River Kosi river a/c of Bahela river (BOD-max 20 mg/l) to a/c Rampur drain (BOD-max 28 mg/l), and adjoining Rampur drain (BOD-max 139 mg/l).

**Conclusion:** After detailed deliberations, it was observed that compliance status in respect of some of the recommendations of the joint committee and oversight committee was not available with the Uttar Pradesh & Uttarakhand SPCBs. Therefore, following was decided:

i. Uttar Pradesh & Uttarakhand SPCBs shall ensure the compliance of the recommendations of joint committee as well as oversight committee and provide the compliance status of the same in tabular format along with photographic evidences & the action taken report to CPCB latest by 15.11.2021.

ii. Concerned SPCBs shall also provide their opinion on the action taken/ compliance status of units; whether units are complied or not and shall also ensure action in case of non-compliance.

iii. Concerned SPCBs shall provide the report of action taken in order to prevent pollution of the Rivers Kosi, Dhela Bahela & Ramganga as well as drains adjoining these rivers and also for restoration of their water quality, to CPCB latest by 15.11.2021. The report may also include the latest water quality monitoring data of these rivers.

The meeting ended with vote of thanks to the chair.

**List of Participants** **Annexure-1**

| S.No. | Name of Officer | Organization | Designation | Email-Id |
|---|---|---|---|---|
| 1. | Sh. AK Vidyarthi | CPCB- Delhi | Divisional Head-WQM II | akvidyarthi@gmail.com |
| 2. | Mrs Reena Satavan | CPCB- Delhi | Scientist-D | Reena.hsw@gmail.com |
| 3. | Sh. NK Chauhan | UPPCB | Chief Environmental Officer | ceo7@uppcb.in |
| 4. | Sh. Vikas Mishra | Regional Office-Moradabad, | Regional Officer | romoradabad@uppcb.in |
| 5. | Sh. Naresh Goswami | Regional Office-Kashipur, | Regional Officer | rokueppcb2018@gmail.com |
| 6. | Sh. Vinod Kumar | Regional Office-Moradabad, | Assistant Environmental Engineer | |
| 7. | Sh. Girish Arya | UPPCB | | aryagirish08@gmail.com |
| 8. | Sh. Rajendra Singh Kathait | UKPCB | | rskathait2009@gmail.com |
| 9. | Ms Garima Dublish | CPCB- Delhi | RA-III | Garimadublish@gmail.com |
| 10. | Ms Anshul Kumari | CPCB- Delhi | RA-III | anshul0314@gmail.com |
| 11. | Ms Megha Chauhan | CPCB- Delhi | JRF | Chauhan.megha350@gmail.com |

**HEAD OFFICE**
**Uttarakhand Pollution Control Board**
**"Gaura Devi Paryavaran Bhawan"**
**46-B, IT Park, Sahastradhara Road, Dehradun (Uttarakhand)**
**Web : www.ueppcb.uk.gov.in. E-mail : msukpcb@yahoo.com**

**Ref.: UKPCB/HO/Gen-183-247(Vol.-III)/2021/** 4896-946 **Date:** 24.11.2021

**SPEED POST**
**E-MAIL (ngrba.cpcb@gmail.com)**

**To,**

**Dr. A.K. Vidyarthi**
**Additional Director & DH-WQM-II**
**Central Pollution Control Board**
**Parivesh Bhawan, East Arjun Nagar,**
**Shahdara, Delhi - 110032**

**Sub.: Implementation of the Hon'ble NGT order dated 18.03.2021 in O.A. No. 324/2016 in the matter of Shailesh Singh Vs State of UP & Ors with O.A. No. 361/2017 in the matter of Dr. Fatima Vs Ministry of Environment, Forests & Climate Change & Ors. - reg.**

**Sir,**

Please refer to your letter ref. no. B-19123/WQM-II/Legal/CPCB/2020-21/5862 dated 02.09.2021 on above subject matter. In this regard, please find attached herewith compliance status of industries as well as water quality status of rivers, along with annexures for kind perusal and further necessary action.

**Encl.: As above.**

**Sincerely,**

**S.P. Subudhi, IFS**
**Member Secretary**

**Compliance report in context of directions passed by Hon'ble NGT in the matter of OA 361/2017 dated 18.03.2021.**

The Hon'ble National Green Tribunal (NGT) in the matter of O.A. No. 361 of 2017 dated 18.03.2021, inter alia issued following directions:

> *14. The industries in the question in the State of UP as well as Uttarakhand may comply with the deficiencies noticed in the reports which may be overseen by a joint committee of CPCB and the concerned State PCBs. The State PCBs may take necessary further action based on the observations of the joint Committee, which may include coercive measures like recovery of compensation and initiating prosecution, following due process of law. An action taken report may be periodically provided by the State PCBs to the Chairman, CPCB for any further directions for the remedial action. The State PCBs may recover compensation already assessed by taking suitable coercive measures, including closure……*

In compliance of the orders of the Hon'ble NGT issued on 18.03.2021 and letters of CPCB issued time to time, compliance status is as follows:

**A. Compliance status of Industry specific observations of Joint Inspection reports are as follows: -**

| S.No. | Observations in the Joint Inspection reports as narrated under the orders of the Hon'ble NGT dated 18.03.2021 | Compliance Status Report |
|---|---|---|
| **1.** | **M/s Multiwal Pulp and Board Mills Pvt. Ltd., Kashipur.** | State Board has issued direction dated 15.04.2021 under section 33-A of the Water Act for compliance of the said observations. |
| (a) | The unit was found temporarily closed. As informed by the unit's representative, the unit was non-operational since 28.09.2020. | |

| | | |
|---|---|---|
| (b) | The unit shall obtain NOC for withdrawal of groundwater from CGWA. | As per Report of Regional officer, the **unit is not in operation since 28.02.2021.** |
| (c) | UKPCB should verify the compliance with effluent discharge standards on resumption of manufacturing operations." | |
| **2.** | **M/s Multiwal Duplex Pvt. Ltd., Kashipur.** | State Board has issued direction dated 15.04.2021 under section 33-A of the Water Act for compliance of the said observations. |
| (a) | The unit was found temporarily closed. As informed by the unit's representative, the unit is non-operational since 26.10.2020. | Unit was found operational during inspection. |
| (b) | The unit shall obtain NOC for withdrawal of groundwater from CGWA. | Unit has obtained NOC from CGWA for groundwater abstraction. Copy of the same is enclosed as **Annexure I.** |
| (c) | The unit shall install flow meter with totalizer on bore well used for domestic purpose. | As per report from Regional Officer, Flow meter has been installed with totalizer on borewell. |
| (d) | The unit shall restrict its production as per the consented capacity i.e. 900MT/month. | Unit has been directed to restrict its production within the consented capacity. Further unit has applied for CCA for the production capacity of 2100 MT/month along with adequacy report of ETP. |
| (e) | UKPCB should verify the compliance with effluent discharge standards on resumption of manufacturing operations. | Treated effluent sample of ETP outlet was analyzed. The parameters are found within the prescribed standards. Report of the same is enclosed as **Annexure II.** |

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| **3.** | **M/s Kashi Vishwanath Textile Mill Ltd. (SPNG Group), Kashipur.** | State Board has issued direction to Show Cause dated 15.04.2021 under section 33-A of the Water Act for compliance of said observations. |
| (a) | Non-compliance of ZLD | Process effluent is being treated through ETP followed by RO & domestic effluent is through STP. RO permeate is being reused in process. RO reject & STP outlet is further treated with MEE system & dryer. Finally obtained solid is disposed through TSDF. ZLD conditions are being complied. |
| (b) | The unit is discharging effluent through STP after dilution with freshwater in violation of ZLD. | Such type of dilution & system was not observed during the visit. |
| (c) | It is clearly indicated from the analysis of STP inlet and secondary clarifier outlet that RO reject is discharged into STP and diluted water is mixed into the STP system. It is recommended that appropriate action as deemed fit shall be initiated against the unit by UKPCB. | Sample from STP inlet & outlet was taken & submitted to lab for analysis. Results are within prescribed limit (**Annexure-III**). RO reject was not found discharging into STP. It was being disposed through MEE system. |
| (d) | The unit shall obtain renewal of NOC from CGWA for ground water abstraction. | Unit has obtained NOC from CGWA. Copy of the same is enclosed as **Annexure IV**. |
| **4.** | **M/s Cheema Papers Ltd., Kashipur.** | State Board has issued direction dated 15.04.2021 under section 33-A of the Water Act for compliance of the said observations. |

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| (a) | The unit shall obtain valid NOC from CGWA for ground water withdrawal. | Unit has obtained valid NOC from CGWA for ground water withdrawal. Copy of the same is enclosed as **Annexure V.** |
| (b) | The unit shall dismantle the outlet of partial treated effluent from collection tank after secondary clarifier of ETP before tertiary treatment. | Unit has dismantled the outlet of partial treated effluent from collection tank after secondary clarifier of ETP before tertiary treatment. |
| (c) | The unit shall dismantle the multiple outlets from collection tank of final treated effluent. | The unit has dismantled the multiple outlets from collection tank of final treated effluent |
| (d) | The unit shall stop un-scientific and unsafe dumping (storage) of ETP sludge. A covered shed with platform shall be constructed to store ETP sludge. | Covered shed with platform is being constructed to store ETP sludge. |
| (e) | The unit shall install V-notch at ETP inlet properly. | The unit has installed V-notch. |
| (f) | The unit shall install flow meter on all water abstraction points. | The unit has installed flow meters on all water abstraction points. |
| (g) | The unit shall increase capacity of sedi-cell (for pulp removal/recovery). | The performance of existing Sedi-cell has been improved by up grading Fiber Recovery System i.e.,<br>i) Replacing existing pulper with new Hi-con pulper<br>ii) Updating Centi Cleaner System in pulp mill.<br>Installation work of new pulp mill was found in progress during visit. |
| (h) | The unit shall maintain proper ETP logbooks of energy meter and inflow. | Unit has maintained ETP logbooks of energy meter and inflow. |
| (i) | The unit shall maintain environmental laboratory equipment properly. | The unit has maintained environmental laboratory equipment properly. |

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| **5.** | **M/s Banwari paper Mills Ltd., Kashipur.** | State Board has issued direction dated 15.04.2021 under section 33-A of the Water Act for compliance of the said observations. |
| (a) | The Unit shall obtain NOC for withdrawal of ground water from CGWA. | As per Report of Regional officer, the **unit is not in operation since 25.04.2021.** |
| (b) | The Unit shall operate ETP properly and shall comply with the treated effluent quality parameters w.r.t. consented norms. | |
| (c) | The Unit shall restrict maximum production to 1650.0MT/month as per capacity permitted in Consolidated Consent to operate and authorization (CCA). | |
| **6.** | **M/s Indian Glycols Ltd. (Chemical Unit), Kashipur.** | State Board has issued direction dated 15.04.2021 under section 33-A of the Water Act for compliance of the said observations. |
| (a) | The unit shall provide flow meter at inlet point of ETP, inlet and outlet of STP to monitor the wastewater flow. | Flow meters have been installed at inlet points of ETP & STP. |
| (b) | Unit shall provide dewatering system in sludge filter bed in ETP system and filtrate should be taken back to collection tank for further treatment. | Sludge Drying beds and system for collection of filtrates has been established. |
| (c) | The unit shall ensure that, untreated/partially treated effluent/sewage shall not be discharged into storm water drain. | Collection pits with pumping system has been provided to collect & transport the process effluent & sewage for treatment in ETP & STP. |
| (d) | Collection tank of STP shall be repaired and unit shall ensure, no | Collection tank of STP has been repaired. |

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| | untreated sewage discharge into storm water drain. | |
| (e) | The Unit shall improve operation and maintenance of STPs. | Records related to regular operation of STP are maintained. Unit has made annual contract with Plant/ Technology supplier for the operation and maintenance of STPs. Copy of the same is enclosed as **Annexure VI.** |
| **7.** | **M/s Indian Glycols Ltd. (Distillery Unit), Kashipur.** | State Board has issued direction dated 15.04.2021 under section 33-A of the Water Act for compliance of the said observations. |
| (a) | The unit shall dismantle/completely fill/level both discarded aeration lagoons as well as discarded clarifiers and rectangular tanks located inside the unit premises near incineration boiler in scientific manner so that there shall not be any water logging. | Unit has dismantled aeration lagoon, clarifier and rectangular tanks located inside the unit premises near incineration boiler & completely filled up with soil. |
| (b) | Incompliance to CPCB direction dated 14.03.2019, the unit shall utilize/consume the diluted spent wash stored in lagoon (of 3,50,000m3 cap for 98 KLD stream, located at Dabhora site) in bio-composting before June 30, 2021 as per standard operating process and the lagoons may be filled with ash. | Lagoon located at Dabhora site has completely filled up with ash. There is no spent wash found at the site during inspection. Photograph along with report of Regional Office, stating that no spent wash was available at site at the end of June 2021 is enclosed as **Annexure VII.** |
| (c) | The unit shall comply with CPCB directions dated 14.03.2019. | Unit is being operated with ZLD as per the CPCB directions dated 14.03.2019. |
| (d) | As per the analysis result of sample collected from the drain near incineration boiler (being | At the time of inspection, no liquid discharge was found in |

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| | used in ash quenching and coal dust suppression), indicates higher color, BOD, COD and TDS i.e., contaminated water. Hence, the unit shall use the waste water as MEE feed. | the drain near incinerator boiler. |
| (e) | The unit shall obtain valid agreement with cement units to dispose of fly ash/bottom ash, as the existing agreement has been expired in April-2020. | Unit has made valid agreement with contractor M/s Sunil Kumar Coal Ash Contractor, Bazpur Road, US Nagar for disposal of Fly Ash/ Bottom Ash & M/s Raghav Associate, Roha, Raigad, Maharashtra for disposal of Slop ash. Documents for the same are enclosed as **Annexure VIII**. |
| (f) | The unit shall install flow meters at outlet of STP at residential colony and inlet and outlet of STP at distillery plant and shall keep/maintain record of treated sewage being utilized for horticulture. | Unit has installed flow meters at outlet of STP at residential colony, inlet & outlet of STP at distillery plant. |
| (g) | Analysis result of sample collected from inlet of STP for distillery plant shows high color, pH, BOD, COD, TDS and TSS, hence mixing of domestic wastewater with seepage of waste water from distillery could not be ruled out. The unit shall ensure that no effluent get mixed with domestic wastewater, shall reach to STP for treatment. | At the time of inspection, inlet & outlet sample of STP for distillery plant was collected. Analysis report of the same is enclosed as **Annexure IX.** |

Moreover, during the Magh Mela, 2021, three Units namely-i) M/s Kailashidevi Paper Products Ltd., Kashipur; ii) M/s Vishwanath Paper and Board Pvt. Ltd., Jaspur and iii) M/s Fibremarx Paper Pvt. Ltd., Kashipur were found non-

complying w.r.t. to operation and maintenance of ETPs. Closure directions under section 33(A) of the Water (Prevention and Control of Pollution) Act, 1974 were issued to all above three units dated 16.01.2021. After due compliances and submission of an environmental compensation and performance guarantee, said closure order were revoked.

**B. Water Quality Monitoring of Rivers Dhella, Bahela and Kosi:**

Regular water quality monitoring is being undertaken by the UKPCB in upstream and downstream of industrial establishment. Rivers water quality data from August 2020 to October, 2021 are annexed as **Annexure X.**

**********

(Annex-01)

भारत सरकार
जल शक्ति मंत्रालय
जल संसाधन, नदी विकास
और गंगा संरक्षण विभाग
केन्द्रीय भूमि जल प्राधिकरण
Government of India
Ministry of Jal Shakti
Department of Water Resources,
River Development & Ganga Rejuvenation
Central Ground Water Authority

## (भूजल निकासी हेतु अनापत्ति प्रमाण पत्र)
## NO OBJECTION CERTIFICATE (NOC) FOR GROUND WATER ABSTRACTION

| | | | |
|---|---|---|---|
| Project Name: | Multiwal Duplex Private Limited | | |
| Project Address: | Village Gangapur Gosain, Kundeshwari Road, Kashipur | | |
| Town: | Kashipur (mb) | Block: | Kashipur |
| District: | Udam Singh Nagar | State: | Uttarakhand |
| Pin Code: | | | |
| Communication Address: | Village Gangapur Gosain, Kundeshwari Road, Kashipur, Kashipur, Udam Singh Nagar, Uttarakhand - 244713 | | |
| Address of CGWB Regional Office : | Central Ground Water Board Uttarakhand Region, 419-a, Kanwali Road, Baluwala , Near Urja Bhawan, Dehradun, Dehradun, Uttarakhand - 248001 | | |

| | | | |
|---|---|---|---|
| 1. **NOC No.:** | CGWA/NOC/IND/ORIG/2021/12875 | | |
| 2. Application No.: | 21-4/246/UT/IND/2017 | 3. Category: (GWRE 2017) | Semi Critical |
| 4. Project Status: | Existing Project | 5. NOC Type: | New |
| 6. **Valid from:** | 19/07/2021 | 7. **Valid up to:** | 18/07/2024 |

8. Ground Water Abstraction Permitted:

| Fresh Water | | Saline Water | | Dewatering | | Total | |
|---|---|---|---|---|---|---|---|
| m³/day | m³/year | m³/day | m³/year | m³/day | m³/year | m³/day | m³/year |
| 448.91 | 135140.40 | | | | | | |

9. Details of ground water abstraction /Dewatering structures

| | Total Existing No.:1 | | | | | | Total Proposed No.:0 | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | DW | DCB | BW | TW | MP | MPu | DW | DCB | BW | TW | MP | MPu |
| Abstraction Structure* | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

*DW- Dug Well; DCB-Dug-cum-Bore Well; BW-Bore Well; TW-Tube Well; MP-Mine Pit;MPu-Mine Pumps

10. Ground Water Abstraction/Restoration Charges paid (Rs.): 405421.00

11. Number of Piezometers(Observation wells) to be constructed/ monitored & Monitoring mechanism.

| No. of Piezometers | Monitoring Mechanism | | |
|---|---|---|---|
| | Manual | DWLR** | DWLR With Telemetry |
| 1 | 0 | 1 | 0 |

**DWLR - Digital Water Level Recorder

**(Compliance Conditions given overleaf)**

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Regional Office

**Uttarakhand Pollution Control Board**

Avas Vikas Colony

Haldwani

## Analysis Report on Industrial Effluent

| | |
|---|---|
| Report No | TE/KSP/49/2021-22 |
| Name of Industry | M/s Multiwal Duplex Pvt. Ltd. Kundeswari,Kashipur District-U.S Nagar (Uttrakhand) |
| Sample Collected by | Sh. Sunil Kumar Arya AEE<br>Sh. Akash Burman MA |
| Date of Collection of Sample | 11.11.2021 |
| Date of completion of analysis | 20.11.2021 |
| Sampling point | ETP Outlet |

| Parameters | Value | Test Method | General Standards for sewage and Industrial effluent discharge in to stream |
|---|---|---|---|
| Colour | Colourless | Visual | Colourless as far as practicable |
| Odour | Odourless | Sensory | Odourless as far as practicable |
| pH | 7.57 | Electrometric | 6.5 - 8.5 |
| Total Suspended Solids (mg/L) | 64 | Filtration | 100 Max. |
| Total Dissolved Solids (mg/L) | 1025 | Electrometric | |
| Total Solids (mg/L) | 1089 | By calculation | |
| BOD(mg/L) | 28 | BOD 3days | 30 Max. |
| COD (mg/L) | 180 | Dichromate reflux method | 250 Max. |

Scientific Assistant

Asstt. Scientific Officer

Regional Officer

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Regional Office

**Uttarakhand Pollution Control Board**

**Avas Vikas Colony**

**Haldwani**

## Analysis Report on Industrial Effluent

| | |
|---|---|
| Report No | TE/KSP/46&47/2021-22 |
| Name of Industry | M/s Kashi Vishwanath Textile Mill Ltd. |
| | Plot no. 82,83,64,122,124,48/1 &48/2 |
| | 5th Km Stone Ramnagar road Kashipur |
| | District-U.S Nagar (Uttrakhand) |
| Sample Collected by | Sh.Naresh Goswami RO |
| | Sh. Sunil Kumar Arya AEE |
| Date of Collection of Sample | 11.11.2021 |
| Date of completion of analysis | 20.11.2021 |
| Sampling point | 1.STP Inlet |
| | 2.STP Outlet |

| Parameters | Values | | Test Method | General Standards for sewage and Industrial effluent discharge in to stream |
|---|---|---|---|---|
| | 1 | 2 | | |
| Colour | Turbid | Colourless | Visual | Colourless as far as practicable |
| Odour | Unpleaser | Odourless | Sensory | Odourless as far as practicable |
| pH | 6.31 | 7.38 | Electrometric | 6.5 - 8.5 |
| Total Suspended Solids (mg/L) | 222 | 72 | Filtration | 100 Max. |
| Total Dissolved Solids (mg/L) | 1075 | 739 | Electrometric | |
| Total Solids (mg/L) | 1297 | 811 | By calculation | |
| BOD(mg/L) | 160 | 28 | BOD 3days | 30 Max. |
| COD (mg/L) | 440 | 120 | Dichromate reflux method | 250 Max. |

Scientific Assistant

Asstt. Scientific Officer

Regional Officer

भारत सरकार
जल शक्ति मंत्रालय
जल संसाधन, नदी विकास
और गंगा संरक्षण विभाग
केन्द्रीय भूमि जल प्राधिकरण
Government of India
Ministry of Jal Shakti
Department of Water Resources,
River Development & Ganga Rejuvenation
Central Ground Water Authority

## (भूजल निकासी हेतु अनापत्ति प्रमाण पत्र)
## NO OBJECTION CERTIFICATE (NOC) FOR GROUND WATER ABSTRACTION

| | | | |
|---|---|---|---|
| Project Name: | Kashi Vishwanath Textile Mill Pvt Ltd | | |
| Project Address: | 5th Km Stone, Ramnagar Road,kharmasi, Kashipur | | |
| Village: | Kharmasi | Block: | Kashipur |
| District: | Udam Singh Nagar | State: | Uttarakhand |
| Pin Code: | | | |
| Communication Address: | 5th Km Stone, Ramnagar Road, Kharmasi, Kashipur, Kashipur, Udam Singh Nagar, Uttarakhand - 244713 | | |
| Address of CGWB Regional Office : | Central Ground Water Board Uttarakhand Region, 419-a, Kanwali Road, Baluwala , Near Urja Bhawan, Dehradun, Dehradun, Uttarakhand - 248001 | | |

| | | | |
|---|---|---|---|
| 1. NOC No.: | CGWA/NOC/IND/ORIG/2021/13282 | | |
| 2. Application No.: | 21-4/673/UT/IND/2017 | 3. Category: (GWRE 2020) | Semi Critical |
| 4. Project Status: | Existing Project | 5. NOC Type: | New |
| 6. Valid from: | 26/03/2021 | 7. Valid up to: | 25/03/2024 |

8. Ground Water Abstraction Permitted:

| Fresh Water | | Saline Water | | Dewatering | | Total | |
|---|---|---|---|---|---|---|---|
| m³/day | m³/year | m³/day | m³/year | m³/day | m³/year | m³/day | m³/year |
| 406.00 | 129920.00 | | | | | | |

9. Details of ground water abstraction /Dewatering structures

| | Total Existing No.:1 | | | | | | Total Proposed No.:0 | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | DW | DCB | BW | TW | MP | MPu | DW | DCB | BW | TW | MP | MPu |
| Abstraction Structure* | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

*DW- Dug Well; DCB-Dug-cum-Bore Well; BW-Bore Well; TW-Tube Well; MP-Mine Pit,MPu-Mine Pumps

10. Ground Water Abstraction/Restoration Charges paid (Rs.): 1169280.00

| 11. Number of Piezometers(Observation wells) to be constructed/ monitored & Monitoring mechanism. | No. of Piezometers | Monitoring Mechanism | | |
|---|---|---|---|---|
| | | Manual | DWLR** | DWLR With Telemetry |
| | 1 | 0 | 1 | 0 |

**DWLR - Digital Water Level Recorder

**(Compliance Conditions given overleaf)**

This is an auto generated document & need not to be signed.

भारत सरकार
जल शक्ति मंत्रालय
जल संसाधन, नदी विकास
और गंगा संरक्षण विभाग
केन्द्रीय भूमि जल प्राधिकरण
Government of India
Ministry of Jal Shakti
Department of Water Resources,
River Development & Ganga Rejuvenation
Central Ground Water Authority

(भूजल निकासी हेतु अनापत्ति प्रमाण पत्र)

# NO OBJECTION CERTIFICATE (NOC) FOR GROUND WATER ABSTRACTION

| | | | |
|---|---|---|---|
| Project Name: | Cheema Papers Ltd. | | |
| Project Address: | 9th K.m.stone, Bazpur Road, Kashipur | | |
| Town: | Kashipur (mb) | Block: | Kashipur |
| District: | Udam Singh Nagar | State: | Uttarakhand |
| Pin Code: | | | |
| Communication Address: | Cheema Papers Ltd., 9th K.m. Stone, Bazpur Road, Kashipur, Kashipur, Udam Singh Nagar, Uttarakhand - 244713 | | |
| Address of CGWB Regional Office : | Central Ground Water Board Uttarakhand Region, 419-a, Kanwali Road, Baluwala , Near Urja Bhawan, Dehradun, Dehradun, Uttarakhand - 248001 | | |

| | | | | | |
|---|---|---|---|---|---|
| 1. | **NOC No.:** | CGWA/NOC/IND/ORIG/2021/13164 | | | |
| 2. | Application No.: | 21-4/528/UT/IND/2017 | 3. | Category: (GWRE 2020) | Semi Critical |
| 4. | Project Status: | Existing Project | 5. | NOC Type: | New |
| 6. | **Valid from:** | 21/08/2021 | 7. | **Valid up to:** | 20/08/2024 |

8. Ground Water Abstraction Permitted:

| Fresh Water | | Saline Water | | Dewatering | | Total | |
|---|---|---|---|---|---|---|---|
| m³/day | m³/year | m³/day | m³/year | m³/day | m³/year | m³/day | m³/year |
| 3440.00 | 1100800.00 | | | | | | |

9. Details of ground water abstraction /Dewatering structures

| | Total Existing No.:2 | | | | | | Total Proposed No.:0 | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | DW | DCB | BW | TW | MP | MPu | DW | DCB | BW | TW | MP | MPu |
| Abstraction Structure* | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

*DW- Dug Well; DCB-Dug-cum-Bore Well; BW-Bore Well; TW-Tube Well; MP-Mine Pit;MPu-Mine Pumps

| | | |
|---|---|---|
| 10. | Ground Water Abstraction/Restoration Charges paid (Rs.): | 5504000.00 |

| | | | | | |
|---|---|---|---|---|---|
| 11. | Number of Piezometers(Observation wells) to be constructed/ monitored & Monitoring mechanism. | No. of Piezometers | Monitoring Mechanism | | |
| | | | Manual | DWLR** | DWLR With Telemetry |
| | **DWLR - Digital Water Level Recorder | 2 | 0 | 1 | 1 |

**(Compliance Conditions given overleaf)**

This is an auto generated document & need not to be signed.

Annex- 03

orks & Registered Office : A-1, Industrial Area, Bazpur Road, Kashipur - 244713, Distt. Udham Singh Nagar (Uttarakhand)
Phone : +91 5947 269000 / 269500, Fax : +91 5947 275315, 269535
Website : www.indiaglycols.com

**Reference: IGL/STP /2021-22 /** **Date:01 April 2021**

**M/s GWET AQUA MANAGEMENT PVT.LTD.**
**SAHIBABAD**

Subject: Extension of O & M Contract of STP and Kitchen waste Biogas plant

Dear Sir,

Please refer to our earlier contact order no.7000000062 dt.12.09.2019 regarding operation & maintenance of 04 nos STP and 01 no kitchen waste biogas plant which was valid upto 31.03.2020 and was renewed upto 31.03.2021vide letter No. IGL/STP /2020-21 /Dated:01 April 2020

We are pleased to renew the contract for the period 01.04.2021-31.03.2022 on same terms and conditions.

Please countersign a duplicate copy of this work order as a token of your acceptance and send back to us for records.

Thanking you,

Yours faithfully

For **INDIA GLYCOLS LTD**

**AUTHORIZED SIGNATORY**

**CORPORATE OFFICE** : 3A, Shakespeare Sarani, Kolkata - 700071, Phone : +91 33 22823585, 22823586
**HEAD OFFICE :** Plot No. 2-B, Sector -126, NOIDA-201304, Distt. Gautam Budh Nagar, Uttar Pradesh, Tel. : +91 120 6860000, 3090100, 3090200
Fax : +91 120 3090111, 3090211 E-mail : iglho@indiaglycols.com
CIN : L24111UR1983PLC009097

Works & Registered Office : A-1, Industrial Area, Bazpur Road, Kashipur - 244713, Distt. Udham Singh Nagar (Uttarakhand)
Phone : +91 5947 269000 / 269500, Fax : +91 5947 275315, 269535
Website : www.indiaglycols.com

## AGREEMENT

This Agreement dated 27.03.2021, (which will be effective from 01.04.2021) is entered into between M/s GWET AQUA MANAGEMENT PVT.LTD.SAHIBABAD having its office at Off.No.1 & 2,1st Floor,Mahalaxmi Plaza Sec.-5,Rajendra Nagar, Sahibabad Distt. Ghaziabad, U.P. 201005 (hereinafter called the "Contractor" which expression shall unless repugnant to the context or meaning thereof be deemed to mean and include its successors and assigns).

AND

M/s India Glycols Limited, a Limited Company incorporated under the provisions of Companies Act 1956, having its Registered Office A-1, Industrial Area Bazpur Road, Kashipur, District Udham Singh Nagar, Uttarakhand and Head Office at Plot No. 2 B, Sector-126, Noida (hereinafter called the "Company" which expression shall unless repugnant to the context or meaning thereof be deemed to mean and include its successors and assigns).

Contractor and Company shall individually be referred to as "Party" and collectively as the "Parties" as the context may require.

A. Whereas, the Company is inter alia engaged in the work/business of manufacturing of Chemical Products and the Company is desirous of awarding contract for O & M Contract of STP and Kitchen waste Biogas plant to some reliable person.

B. Whereas, the Contractor is engaged in the business/work of Supply and O & M Contract of STP has represented the Company that it has adequate experience in this field and has expressed its willingness to execute the aforesaid work/business on contract basis as an independent contractor.

C. And Whereas, upon representation the Company has agreed to award the contract for O & M Contract of STP and Kitchen waste Biogas plant as per the terms and conditions agreed hereunder.

Now therefore this deed witnessed as follows:-

1. SCOPE OF WORK

I. The contractor shall carry out his work and shall execute and complete the works in every respect in accordance with the job order, issued time to time and in accordance with the direction of and to the satisfaction of the IGL's Engineer-in-charge.
II. That the contractor will deploy suitable numbers of personnel to carry out the aforesaid jobs.

For GWET AQUA MANAGEMENT PVT LTD

Authorised Signatory

Works & Registered Office : A-1, Industrial Area, Bazpur Road, Kashipur - 244713, Distt. Udham Singh Nagar (Uttarakhand)
Phone : +91 5947 269000 / 269500, Fax : +91 5947 275315, 269535
Website : www.indiaglycols.com

2. Rates

I. As per company approved schedule of rates.

II. That the rates agreed as mentioned above shall be inclusive of all costs of manpower, Statutory & other dues etc. and shall remain firm and free from any variations arising from the cost of manpower & other dues, if any, ( exclusive of GST which will be reimbursed to the Contractor as per prevailing rates from time to time), or for any other reason whatsoever during the entire period of agreement.

III. That the rates settled under this agreement shall be deemed to compensate for all minor details which are not specifically mentioned, but are fairly and obviously intended and are essential for the smooth execution of the work and the Contractor is not entitled to make any extra claims on any account.

3. Mode of payments

That the Contractor shall submit the bill along with the relevant documents for the month to the Company after completion of each calendar month and the bill would be processed for payment with in 20 days after submission the bill.

4. Loss & Damages

If the Company suffers any loss or damages due to negligence of the Contractor's employees, the Company shall have the right to recover such damages/losses from the Contractor's bills.

5. Period of contract

The period of contract shall be one year from the date of commencement i.e. 01.04.2021.

6. Deployment of Personnel

I. That the Contractor shall provide and deploy requisite number of Competent, Trained & Medically fit personnel for efficient Services and effective supervision of the loading and unloading activities so contracted under this agreement. In case the Contractor fails to provide requisite number of personnel, the Company shall have right to impose penalty as deemed fit.

II. That Orders given by the Company to the Contractor's Supervisor shall be considered to have the same force as if these had been given to the Contractor himself. The Contractor is bound to remove any of his employees from the site if the said employee is not acceptable to the Company's authorized representative. The Contractor shall alone be responsible for the acts, defaults and negligence of any personnel engaged by the Contractor.

For GEET AQUA MANAGEMENT PVT LTD

Authorised Signatory

III. That in the event of the Company's authorized representative being of the opinion that the Contractor is not deploying competent and sufficient number of staff & workmen as necessary for the proper execution of the prescribed assignment, the Contractor shall on receiving intimation to this effect, shall take immediate action for deploying adequate and competent personnel specified by the Company's representative. In the event of failure on the part of the contractor to comply with such instructions, the Company will be entitled to terminate this agreement without prejudice to any other lawful action taken against the Contractor.

IV. That the contractor will alone be entitled to dictate his staff & workers about the manner of execution of job without any interference / intervention of the Company. The Company will have no concern/ connection with the workers engaged by the Contractor nor will supervise or dictate them about the manner of execution of the work. The Company will have privity of contract with the Contractor only.

V. That the Company shall not be entitled to or competent to exercise its power/ control/ supervision regarding the discharge, dismissal or retrenchment or re-employment of the workers engaged /employed by the Contractor.

VI. That the Contractor and his workers will be allowed to work at the premises of the Company but the Contractor and his workers will hold no right, title or lien upon the premises of the Company. The Contractor and his workers will vacate and move out of the premises as and when required by the Company or when this agreement is terminated. This agreement shall not be construed as lease or tenancy arrangement between the parties.

VII. That the Contractor will not deploy any person for more than 12 hrs. In a day, failing which the Company shall impose penalty as deemed fit without prejudice to any legal proceedings that the Govt. authorities may initiate against the Contractor.

VIII That the Contractor has to ensure that all the employees deployed at site are availing their weekly offs on the scheduled date as prescribed under the Factories Act, non-compliance of which will entitle the Company to terminate the agreement and /or impose penalty as deemed fit.

IX. That the contractor has also to ensure that the personnel deployed at site are being rotated on regular basis in shifts as well as on duty posts. It is made clear that the personnel deployed by the Contractor for completion of assignment / loading & unloading operations shall not be construed as employees or representatives of the Company under any circumstance. The entire responsibility of paying salaries, allowances and perks in accordance with individual contract of employment and the labour laws shall be of Contractor exclusively.

For GREET AQUA MANAGEMENT PVT LTD

Authorised Signatory

7. Identification Badges/Passes

I. That the Contractor shall provide to each of his employees with identification card at his cost. The employees shall display the badges on their own so that the identity cards are clearly visible for checking by the gateman as they enter in the premises of the Company. The identity cards shall be serially numbered. The Contractor's initials shall be printed above with an identification number and the photograph on the cards.

II. That the Contractor should immediately notify the Company if any of the identity cards is lost and a new one issued in its place, or when identity cards are carried away by discharged personnel. No employee of the Contractor without an identity card will be permitted to enter in the premises of work, except in such cases where special permission of the Company's authorised representative is obtained.

8. Assignment and Sub-contracting

That the Contractor shall not assign or sub-contract the whole or any portion of the work or allow any person to become interested therein in any manner whatsoever without the prior written approval of the Company.

9. Contract Price

This is a contract based on agreed unit rates. The contractors will be issued various job orders for various plants based on the unit rates/negotiated rates.

10. Measurement

I. The contractor shall ensure the timely measurement of the work done to the satisfaction of IGL. The statement of joint measurement duly signed by the contractor / their authorized representative and the engineer in charge of the IGL shall be submitted to IGL along with the each running bill and final bill for payment.

II. The final measurement of the various works shall be taken after virtual completion of job. The virtual completion of the work shall be considered after IGL has certified in writing that the job have been completed and handed over by the Contractor.

For GUPTA MANAGEMENT PVT LTD

11. Material Reconciliation

The material issued from company's store yard / stores shall be fully accounted for as required. The contractor will be held responsible to keep the material issued by the Company in their custody safely at their construction site. The permissible allowances against wastage will be allowed as per IS codes and standards. In any case, if the contractor fails to return the balance material to stores or reconcile the same, the cost of balance material will be debited to the contractor as per the prevailing rates.

12. Contractor's Obligations

I. The Contractor shall arrange to submit daily labour report to Security Deptt, Personnel Deptt. and concerned deptt. of IGL. The Contractor shall also submit the statement of the labour payment on monthly basis to the Personnel Deptt. of IGL.

II. The contractor shall not use any information, design or drawing provided by IGL, otherwise then for the purpose for which they are provided and shall keep secret and confidential all such drawings, designs and information and shall not disclose the same other than to the directors, employees etc. of the contractor engaged directly or indirectly in the design manufacturing or construction of the particular project for the purpose of which the said information design and drawing were provided.

III. The contractor shall take necessary steps to ensure that the said director, employee etc. to whom such information design and drawing shall be disclosed as hereinbefore provided shall not disclose or any part thereof to any unauthorized person.

IV. The contractor shall co-ordinate with and extends all co-operations to all other contractors working in the same area at the same time and shall not hinder the work of other such contractor.

13. Statutory Compliance

That the Contractor shall comply with all the Acts and provisions made thereunder viz. Factories Act, Shops & Establishment Act, Minimum Wages Act, Payment of Wages Act , Payment of Bonus Act, Payment of Gratuity Act, Workmen Compensation Act, Private Security Agencies Regulation Act, PF Act, ESI Act, Leave & Holidays, GST, Income Tax etc. and all other Acts, Rules, Bye-laws, Regulations, statutory requirements of local or other Authorities having jurisdiction over the Company and shall be responsible for the payment of all fees and other charges and giving and receiving of all necessary notices and keep the Company informed of the said compliance under such Acts, Rules, Bye-laws, Regulations, Statutory requirements, payments made, notices issued and received.

For CIVET AQUA MANAGEMENT PVT LTD

14. Statutory and other obligations regarding workmen.

I. That the Contractor shall comply with all Central, Local and State Regulations and enactments pertaining to his employees but the company shall have the right to enquire into and decide all complaints on such matters.

II. That the Contractor shall remain liable for the payments of all wages or other statutory payments to his employees under the concerned labour laws including the Minimum Wages Act, Payment of Wages Act, Employees Liability Act, Workmen's Compensation Act, ESI Act, P.F. Act, Bonus Act,, Payment of Gratuity Act etc or under any other enactment and the rules made applicable from time to time.

III That the Contractor shall also comply with the provisions of the Contract Labour (Regulation and Abolition) Act and the Rules and Orders issued thereunder from time to time. In case the Company becomes liable to pay any wages or dues to the contractor's employees or to any Government Agency under any of provisions of the said Acts or Rules or other regulations due to acts of omission or commission on the part of the Contractor, the Company may, at its discretion, make such payments and recover the same from the Contractor's bills.

IV. That the Contractor shall be solely liable for all the pecuniary and other consequences arising on account of any violation or default by him in respect of the provisions of the above mentioned Acts and Regulations and any other statutory obligations which may be in force regarding the conditions of employment of workmen from time to time. In addition, any such failure or violation or default will constitute a breach of the contract conditions and is liable for action.

15. Safety & House Keeping:

I. The contractor shall follow all safety rules and regulations for carrying out the jobs at site. He shall provide adequate safety devices / items to ensure that safety of personnel working at site is ensured at the highest level. He will also ensure that the workers are wearing safety helmet and safety belt tied with fixed structure whenever working on height. The contractor shall have all safety devices, equipment etc. to ensure 'Zero Accident' at work site.

II. The contractor shall take all precautions to keep the areas around his works free from flooding, during rainy seasons, by reason of his piled up materials, the contractor shall take steps to prevent any flooding of the areas of works and to keep the areas dry in consultation with any by prior approval of IGL's site incharge. The cost of repairing, damages caused by flooding, if any to the work under execution or to any adjacent property in and around the site shall be entirely borne by the contractor, when such damages are due to his non compliance of the above condition.

For GINET AQUA MANAGEMENT PVT LTD

Rajeeva

iii. That the Contractor shall take all necessary precaution for safe working of the employees engaged.

**16. Nuisance.**

That the Contractor shall not, at any time, do cause or permit anyone to do or cause any nuisance in the Company or do anything which shall cause unnecessary disturbances or inconvenience to the employees and properties of the Company and to the Public at large.

**17. Indemnify & Insurance.**

That the Contractor shall indemnify and keep indemnified the Company against all losses and claims for injuries or damages to any persons or any property whatsoever which may arise out of the execution of the work against all claims, demands, proceedings, damages, costs, charges and expenses whatsoever in respect of or in relation thereto.

**18. Compliance of Instructions**

Whenever the Contractor fails to comply with the instructions of the Company, it shall be lawful for the Company to have the work done through other contractors or departmentally or otherwise and the cost incurred thereon shall be deducted from any moneys due to or becoming due to the Contractor.

**19. Termination of contract**

i. The contract can be terminated by either party by giving one month's notice or billing amount in lieu thereof.
ii. In the event of cancellation of contract for any reason whatsoever, the contractor shall handover possession of all the construction material to IGL.
iii. IGL will have the right to get the remaining work done from any other contractor and the cost of the same shall be fully recoverable from the contractor or it will be adjusted against the outstanding dues of the contractor.

**20. Force Majeure**

If at any time, the execution of this Agreement is affected by war (declared or not ), hostilities, invasion, acts of foreign enemies, civil war, rebellion, revolution, insurrection, riots, pandemic virus or any epidemic and civil commotion (other than solely restricted to the contractor's employees) , acts of State, any Applicable Law, ordinance or order of the Central or State Government, or any direction of a statutory regulatory authority that restricts performance of the obligations hereunder, acts of God, such as earthquake, massive floods and other acts of nature which the contractor could not have reasonably foreseen or reasonably made provision for or insured against, then the Contractor shall within seven

For GINET AQUA MANAGEMENT PVT

days of such occurrence apply to the Company together with adequate evidence for obtaining relief from the consequences loss/ damages. The company shall not be held responsible or be called upon to make good any losses/ costs incurred by the Contractor consequent to the happening of any of the event mentioned hereinabove.

21. Grievances

That the Company's Policy prohibits its Vendors/Contractors from accepting bribes, obligatory gifts & hospitality etc. (the favours) from its employees directly or indirectly. However, during the currency of this arrangement/agreement, if any Vendor/Party/Contractors comes across any event wherein any official of India Glycols Limited seeks any favor whether financial and/ or non-financial from the Vendor/Party/Contractors, such incident should be immediately reported to Mr. Sudhir Agarwal, Executive Director at mail ID grievances.isp@indiaglycols.com. Or through post to the Executive Director, M/s India Glycols Limited, A-1, Industrial Area, Bazpur Road, Kashipur, District U S Nagar, Uttrakhand.

Similarly, if any vendor /contractor/ party is found offering any favour, bribe, gift, hospitality etc. to any official of the Company, same shall be treated as breach of this contract and accordingly action will be taken against the contractor/ vendor/ party.

22. Arbitration & Jurisdiction

In case of any dispute or difference between the Company and the Contractor for any matter within the scope of Agreement, then either party shall give written notice of such dispute or difference to the other party and such dispute or difference shall be referred to a sole arbitrator mutually selected by the parties. The award of the arbitrator shall be final and binding on both the parties. The procedure laid down in Indian Arbitration and Conciliation Act, 1996 and the rules made thereunder from time to time shall apply in the matter of the reference. The Place of arbitration shall be in Kashipur, Uttarakhand. The courts at Kashipur, District Udham Singh Nagar, Uttarakhand shall have exclusive jurisdiction to entertain a claim or for enforcement of the award.

For GIMET AGRO MANAGEMENT PVT. LTD.

Authorised Signatory

IN WITNESS WHEREOF, each of the Parties has caused this Agreement to be executed by its authorized representative in its name and on its behalf.

For INDIA GLYCOLS LIMITED

(AUTHORISED SIGNATORY)

WITNESS

1. ..... 2. .....

Agreed and accepted the aforesaid conditions

For GWET AQUA MANAGEMENT PVT.LTD.

For GWET AQUA MANAGEMENT PVT LTD

(AUTHORISED SIGNATORY)

Authorised Signatory

WITNESS

1. ..... 2. .....

REGIONAL OFFICE
Uttarakhand Pollution Control Board
Complex, Ramnagar Road, Kashipur,
Uttarakhand
उत्तराखण्ड प्रदूषण नियंत्रण बोर्ड
चामुण्डा कापलेक्स, रामनगर रोड, काशीपुर
(उत्तराखण्ड)
web: www.ueppcb.uk.gov.in

Ref: UEPPCB/ROK/ 12C-30 | 21 | 218 15/26/6/21

वा में,

सदस्य सचिव महोदय
उत्तराखण्ड प्रदूषण नियंत्रण बोर्ड
देहरादून।

**विषय–Compliance of Hon"ble NGT order dated 15-01-2020 in OA 361/2017 regarding quarterly verification of spent wash.**

महोदय,

कृपया उपरोक्त विषयक बोर्ड मुख्यालय के पत्रांक UEPPCB/HO/Gen-183-247/2020/10402-1708 date 28-01-2020 का संदर्भ ग्रहण करना चाहेंगें। उक्त के अनुपालन मे स्थल का निरीक्षण दि0 16.06.2021 को इस कार्यालय द्वारा किया गया। निरीक्षण के समय पाया गया कि लैगूनो का भरण कार्य पूर्ण कर लिया गया है तथा भू–समतली करण का कार्य गतिमान है। प्रस्तुत आंकडो के अनुसार दि.03.06.2021 को भण्डारित स्पैण्ट वाश का पूर्णतः प्रयोग कर लिया गया है। गणना शीट के अनुसार 2896.42 KL स्पैण्ट वाश अवशेष है, जो कि स्थल पर नही है। उक्त स्पैण्ट वॉश पूर्व मे की गयी भण्डारित स्पैण्ट वॉश की गणना त्रुटि तथा इवापेरेशन लॉस, रेन वाटर की गणना त्रुटि हो सकती है। इसके अतिरिक्त यह वर्तमान में भण्डारित मिट्टी, ऐश आदि में नमी भी हो सकता है, जो कि सामान्य है।

अतः उक्त की सूचनायें सअभिलेख सहित सादर प्रेषित है।

संलग्नक–यथोपरि।

भवदीय

26/6/21

(नरेश गोस्वामी)
क्षेत्रीय अधिकारी(प्र0)

UKPCB

## Short Report on Quarterly verification of spent wash in Lagoons (Dabhora site):

This is in reference to our office letter: UEPPCB/ROK/Writ-30/20/750 dated 28/11/2020.

A short survey of the Industrial wastewater-fed lagoons in theDabhora site was conducted on June 16th2021. During the survey, the following observation was made and rectified:

1. during our observation, it was found that the area previously required to fill the lagoon was completed with no remaining portion left to fill.
2. The complete utilization of Spent wash is achieved.
3. Flowmeter is not required since there is no wastewater/ chemical residue left in the lagoon.
4. The leveling of the undulated portion of the lagoon is under process and will be completed soon to provide the lagoon a uniform and identifiable shape.
5. Plantation work is under process.

The above-mentioned points were verified during the survey.

18/06/2021

Mr. Sudhish Bijalwan

(Junior Research Fellow)

JRF.

18.6.21.

## Spent Wash Generation / Utilization April-10 June 2021

| Report for the period of | Quantity of Spent-wash at the end of previous quarter (as on 01-04-2021 in KL) | Spent wash generated from 01.04.2021 to 10.06.2021 (in KL) | Alcohol production from 01.04.2021 to 10.06.2021 (in KL) | Spent wash utilized in SLOP boiler from 01.04.2021 to 10.06.2021 (in KL) | Balance Utilized spent wash (in Kl) | Un-utilized spent wash sent to lagoon (in KL) | Rain water (in KL) | Total quantity of spent wash in Dabhora Lagoon upto 10.06.2021 (2+7+8) | Total quantity of spent wash to be used up to 10.06.2021 | Total quantity of spent wash actually used upto 10.06.2021 | Deficit (11-10) | Evaporation loss (in Kl) | Total spent wash available as on 11.06.2021 (9-11-13) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 |
| April-10 June 2021 | 16044.42 | 65049.368 | 8491.203 | 65049.368 | 0 | 0 | 0 | 16044.42 | 16044.42 | 13148 | -2896.42 | 2896.42 | NIL |

कॉलम नं0– 02 मे लिखित Spent Wash की मात्रा पिछले Period (Jan,Feb,Mar-2021) की है, जो कॉलम नं0–14 मे उल्लेखित थी।

कॉलम नं0–3 मे लिखित 65049.368KL Spent Wash(Date 01-04-2021 To 10-06-2021) (संलग्नक–1)

कॉलम नं0–4 मे लिखित 8491ण्203 Alcohol Production (Date 01-04-2021 To 10-06-2021) (संलग्नक–2)

कॉलम नं0– 11 मे लिखित Spent Wash की मात्रा (संलग्नक–3)

कॉलम नं0– 08 मे लिखित Rain Water (Apr-10 June 2021) एवं कॉलम नं0– 13 मे लिखित Evaporation Loss की मात्रा (संलग्नक–4)

23/6/21

OC

93

INDIA GLYCOLS LIMITED

Works & Registered Office : A-1, Industrial Area, Bazpur Road, Kashipur - 244713, Distt. Udham Singh Nagar (Uttarakhand)
Phone : +91 5947 269000 / 269500, Fax : +91 5947 275315, 269535
Website : www.indiaglycols.com

IGL/ACCTS/ASH/2020-22

Dated: 01/04/2020

M/S Sunil Kumar
(Coal Ash Contractor),
Bazpur road
KASHIPUR – 244713(U.K.)

Kind Attn. : **Mr. Sunil Kumar (Mobile No. 9837074562)**

Dear Sir,

Re: Disposal of Fly Ash/ Bed Material, slop ash

This has reference to your offer and subsequent discussions regarding the subjected matter. We are pleased to award you the contract for disposal of fly ash, bed material fly Ash from our factory in construction activities, Cement Units, in agriculture activity, or as a soil conditioner on the following terms and conditions.

## VALIDITY

This contract will be valid for a period of two year starting **from 01.04.2020 to 31.03.2022** and the same may be extended for further period as per mutual agreement on the same terms and conditions.

## SCOPE OF WORK

a) To lift/ disposal of entire quantity of Fly Ash, bed material/ slop waste ash on continuous basis round the clock means 24 hours in a day as per instructions issued by our officials & that ash will be disposed accordingly without any pollution hazard. All the loaded vehicles should be properly covered with the hard cloth/ plastic sheet.

b) You shall keep deployment of sufficient no's of tractor with trolley, dumper and trucks round the clock on 24 x 7 bases in running conditions which includes all the things required such as drivers, Unloading laborers, supervisors, repair and maintenance, diesel etc. Unloading and transportation of above from our factory premises at your own cost.

c) Lifting/ disposal of the above outside the factory premises on regular uninterrupted basis and disposed the same it at a distance of at least 3KMs away or Cement Units. All responsibility whatsoever, for such disposal/ dumping will be yours.

d) Fly ash shall be used either In construction activities, Cement Units, in agriculture activity, or as a soil conditioner and its compliance will be your sole responsibility.

e) Lifting/ disposal of above ashes may be interchanged by any of contractor on month to month / fortnightly / daily basis by us without any objection from your end.

CORPORATE OFFICE : 3A, Shakespeare Sarani, Kolkata - 700071, Phone : +91 33 22823585, 22823586
HEAD OFFICE : Plot No. 2-B, Sector -126, NOIDA-201304, Distt. Gautam Budh Nagar, Uttar Pradesh, Tel. : +91 120 6860000, 3090100, 3090200
Fax : +91 120 3090111, 3090211 E-mail : iglho@indiaglycols.com
CIN : L24111UR1983PLC009097

f) Ash should be fully filled up to the neck/ brimful capacity of the trolley/dumper in proper conditions without any spillage in the IGL premises. If the ash found less filled as cited above, then in this case our security will send back the vehicle to refill the ash as required.

g) Ash should be lifted only in big size of trolley/ dumper. Our security/ authorized persons have the right to check their random weighment, if less ash found in any vehicles, then IGL will take penal action as deemed fit without any challenge by you. All the vehicles should be covered properly by tarpaulins after ash filled to avoid any spillage en-route.

You shall keep sufficient vehicles for supply to Cement Units and with your land filled space at outside locations, all times to avoid ash lifting related any mishap/ problem during festivals/ rainy/ storms and bad weather conditions. Please keep & advise to your team accordingly.

**BILLING**

For deployment the above, IGL shall pay disposal charges at the rate of Rs. 30/- per MT for inside IGL campus, Rs. 60/- per MT for Dabhora /outside IGL campus at your own arrangements of the vehicles. In case any problem in weighment due to any reason IGL will pay Rs. 300/- per vehicle for inside IGL campus and Rs. 600/- for Dabhora and outside IGL campus for soil enrichment at your own. For Ash Supply to Cement units amount will be charged from you depending on the distance Rs. 200/- PMT (+) (-) 20%. Disposal charges are to be calculated on the basis of no of round/ trip reported by the security Deptt on daily basis. All statutory applicable taxes/ duties, at present or in future shall be your responsibility to comply and deposit. In case you failed to pay the statutory dues same shall be debited to your account for recovery for recovery and deposition by IGL.

a) The prices are EX- Factory IGL, Kashipur that is IGL Gate-6.

**PAYMENT**

Payment will be made through cheque within one month from the date of receipt of verified bill from our boiler department.

**SECURITY DEPSOSITS**

You shall deposit Rs.25,000/- by way as interest free security with us, which will be refunded after satisfactory completion of contract period.

**OBLIGATION**

a) You will be liable for observation / implementation / compliance's of the statutory nature or requirement under Labour, Factory, Civil, pollutions, consumer forums, medicals or any mishaps, which occurs at the time of lifting/ disposal of any above type of ash and Criminal laws etc, whatsoever is applicable to you and your workers as a contractor. All the responsibility of any kind/ manner for disposal of ash will be yours.

b) In case the company has to pay any amount on your behalf for any reasons towards penalties, dues on your part arising out of this contract, the same shall be recovered from you.

**GRIEVANCES**

a) The Company's policy prohibits its employees from accepting bribes, obligatory gifts & hospitality etc. (the favours) from any Vendors/Contractors of the Company directly or indirectly. However, during the currency of this arrangement/agreement, if any Vendor/Party/Contractors comes across any event wherein any official of India Glycols Limited seeks any favor whether financial and/ or non-financial from Vendor/Party/Contractors, such incident should be immediately reported to the following official of the Company:-

Mr. Sudhir Agarwal, (Executive Director)
E-mail ID: grievances.ksp@indiaglycols.com
India Glycols Limited,
A-1, Industrial Area,
Bazpur Road,
Kashipur, Distt. Udham Singh Nagar,
Uttarakhand-244713

b) Similarly if any vendor/contractor/ party is found offering any favour, bribe, gift, hospitality etc. to any official of the Company, same shall be treated as breach of this contract and accordingly action will be taken against the contractor/ vendor/ party.

**COMPLIANCE/OBLIGATIONS: MANAGEMENT SYSTEMS.**

That the vendor/ contractor/ party shall comply with all Compliances/ requirements/ obligations under SA 8000 -2014, IMS and other related audits in operation and future additions/amendments. Company shall have the right to enquire into and decide all complaints on such matters.

**PENALTY**

a) If any time, the above ashes/ material are not removed to our entire satisfaction, we reserve the right to get the same removed through any other agency by paying additional cost over and above the disposal charges payable to you, then in this case 100% cost of additional disposal charges shall be debited to your account. In case of breach of any of the terms and conditions of this contract we shall realize from you the losses that we suffered due to your failure in carrying out this contract.

**TERMINATION**

Works & Registered Office : A-1, Industrial Area, Bazpur Road, Kashipur - 244713, Distt. Udham Singh Nagar (Uttarakhand)
Phone : +91 5947 269000 / 269500, Fax : +91 5947 275315, 269535
Website : www.indiaglycols.com

Either party can terminate this contract at any time by giving 60 days notice in advance.

**GENERAL**

You shall submit documentary proof of any statutory registration/ compliances required by you; as and when required by us.

This contract is being issued to you in duplicate; please sign one copy of the same as acknowledgement for our records.

Thanking You,

Yours Faithfully,

For **India Glycols Limited**

**Authorised Signatory**

UN Conditionally Accepted

Sunil Kumar

for **SUNIL KUMAR**

# INDIA NON JUDICIAL

## Government of Uttarakhand

### e-Stamp

सत्यमेव जयते

| | | |
|---|---|---|
| Certificate No. | : | IN-UK25890953269004T |
| Certificate Issued Date | : | 04-Jun-2021 10:58 AM |
| Account Reference | : | NONACC (SV)/ uk1238004/ KASHIPUR/ UK-UN |
| Unique Doc. Reference | : | SUBIN-UKUK12380045555394878000T |
| Purchased by | : | INDIA GLYCOLS LIMITED |
| Description of Document | : | Article Miscellaneous |
| Property Description | : | N A |
| Consideration Price (Rs.) | : | 0 (Zero) |
| First Party | : | INDIA GLYCOLS LIMITED |
| Second Party | : | NA |
| Stamp Duty Paid By | : | INDIA GLYCOLS LIMITED |
| Stamp Duty Amount(Rs.) | : | 100 (One Hundred only) |

Please write or type below this line

INDIA GLYCOLS LIMITED * KASHIPUR *

RAGHAV ASSOCIATES

Statutory Alert:

1. The authenticity of this Stamp certificate should be verified at 'www.shcilestamp.com' or using e-Stamp Mobile App of Stock Holding. Any discrepancy in the details on this Certificate and as available on the website / Mobile App renders it invalid.
2. The onus of checking the legitimacy is on the users of the certificate
3. In case of any discrepancy please inform the Competent Authority

# AGREEMENT

BETWEEN

INDIA GLYCOLS LIMITED (IGL)

AND

RAGHAV ASSOCIATES (RA)
ROHA, RAIGAD MAHARASHTRA, INDIA

For

SUPPLY OF SLOP ASH

From

INDIA GLYCOLS LIMITED (IGL)
A-1, INDUSTRIAL AREA, BAZPUR ROAD,
KASHIPUR DISTT. UDHAM SINGH NAGAR,
UTTARAKHAND - 244713

Dated: Wednesday, 04 JUNE, 2021

INDIA GLYCOLS LIMITED * KASHIPUR *

RAGHAV ASSOCIATES

This Agreement for supply of slop ash is entered on 04th day of June, 2021 ("**Commencement Date – 1st April 2021**") between

1. **M/s. INDIA GLYCOLS LIMITED,** having its registered office at A-1, industrial area, Bazpur road, Kashipur Distt. Udham Singh Nagar, Uttarakhand - 244713 ((hereinafter referred to as the "**Seller**" or "IGL" which expression shall unless excluded by or repugnant to the context shall be deemed to include its successors in business and assignees ) as the "**FIRST PARTY** ;

AND

2. **M/s Raghav Associates,** a proprietor ship company registered under Companies Act, 1956 and having its registered office at Shop no 5, Dabir Park Roha Murud Road Tal Roha Distt Raigad - 402109, Maharashtra (hereinafter referred to as the 'Buyer" or as "**RA**" which expression shall unless excluded or repugnant to the context shall be deemed to include its successors in business and assignees) as the " **SECOND PARTY**"

IGL and RA shall be collectively referred to as the "Parties, and individually as the "Party".

## RECITALS

I.) WHEREAS "IGL" has slop fire boilers /power plant for steam generation at its works at Kashipur. The generation of steam by slop fire boilers leads to the generation of residue, commonly known slop ash.

II.) IGL is engaged inter alia in the business of sale of slop ash, being generated through its power plant and process boilers in the Kashipur complex.

III.) IGL also developed facility for storage, loading and distribution of slop ash (hereinafter referred as the "**Facility**")

IV.) AND WHEREAS "RA" is engaged into business of manufacturing and or marketing of various grades of fertilizers and micronutrients and providing farm advisory services, and "RA" has approached IGL, and being desirous and interested in lifting/utilizing the slop ash of "IGL" for long term & to use the said slop ash in the manufacturing of fertilizers at its fertilizers manufacturing unit located in Roha (Raighad) or any other grinding units and has accordingly approached the "IGL" for permitting same, which has been accepted by "IGL", to allow "RA" to collect and transport the slop ash from Kashipur.

V.) AND WHEREAS both parties have also agreed to enter into an agreement on mutually agreed terms and conditions in token thereof.

**NOW THEREFORE IN CONSIDERATION OF THE MUTUAL COVENANTS, UNDERTAKINGS AND PROMISES SET FORTH HEREIN, THE PARTIES AGREE TO AS FOLLOWS:**

INDIA GLYCOLS LIMITED * KASHIPUR *

RAGHAV ASSOCIATES

## ARTICLE 1
## *DEFINITIONS AND INTERPRETATIONS*

**1.1.** The following terms when used in capitalized manner in this Agreement shall have meaning as specified below:

1.1.1. **"Agreement"** shall mean this agreement for supply of slop ash and all agreements between the Parties supplemental to or in amendment or confirmation of this Agreement.

1.1.2. **"Business Day"** means a working day at IGL - Kashipur other than a Sunday and a holiday declared by IGL including any holiday declared subsequently after publication of it list of holidays applicable to IGL – Kashipur.

1.1.3. **"Annual Contracted Quantity (ACQ)"** means yearly minimum slop ash quantity, which shall be made available at the Delivery Point (as defined below) by IGL and to be lifted and transported by RA, during the term of this Agreement.

1.1.4. **"Commencement date"** shall mean date following the Effective Date when RA starts lifting and transportation of slop ash from the Delivery Point.

1.1.5. **"Effective Date"** shall mean the date of signing of the Agreement by both the Parties.

1.1.6. **"Delivery Point"** shall mean the nozzles / outlets below the slop ash silos situated at plant premises. (To load slop ash into ~~bulkers /~~ closed body trucks placed by RA or ~~bulkers /~~ closed body trucks placed by authorized transporters of RA).

## ARTICLE 2
## SCOPE AND PURPOSE

**2.1.** IGL offers to supply the Annual Contracted Quantity (as defined at Article 4 below) of slop ash, to be generated from its facility to RA /associates of RA for its captive consumption or any other allied business.

**2.2** RA shall arrange for onward transportation of slop ash from Delivery Point to its own plant/ its subsidiary plant at its own cost and subject to the compliance of applicable law.

## ARTICLE 3
## TERM

**3.1.** The Agreement shall come into effective on the Effective Date i.e. 04th June '2021, and will remain valid for a period of 01 (One) years, unless terminated in accordance with Article 8 mentioned herein below. At the end of the Term, this Agreement can be renewed on fresh terms and conditions including Price consideration as may be mutually agreed upon by both RA and IGL.

INDIA GLYCOLS LIMITED * KASHIPUR *

RADHAY ASSOCIATES

## ARTICLE 4
## ANNUAL CONTRACTED QUANTITY

4.1. Subject to the other terms and conditions of this Agreement and availability of adequate quantity of slop ash, RA has desired to take away contracted quantity of entire slop ash generated (Potash Grade) i.e 60 MT Per day.

4.1.1. IGL agrees to allocate slop ash to RA on priority based on indicative lifting plan submitted by RA on fortnightly basis.

4.1.2. Out of the Annual Contractual Quantity as per Article 4.1 above, RA shall lift slop ash regularly.

4.1.3. The Parties shall have the option to enhance/ reduce the Annual Contracted Quantity, subject to availability and mutual written consent of the Parties.

## ARTICLE 5
## COMMERCIAL TERMS

5.1. **Price:** In consideration of RA agreeing to take away annual contracted quantity of slop ash per annum as agreed hereinabove, IGL hereby agrees to supply the agreed annual contracted quantity of slop ash to RA at price of Rs.50 per ton. In case of, if any, all statutory taxes, duties, levies etc., shall be payable by RA at actual.

5.2 **Commodity/Product & Specifications:** The "slop ash" required by the RA is slop ash as would be generated from power and process boilers from "IGL". IGL will be dedicating their boilers i.e. slop fire boilers for delivering entire slop ash quantity generated to RA.

5.3 **Quality:** The indicative quality of slop ash to be minimum 20% potash. IGL has state of the art QC lab to analyze potash content. However, in case of differences in potash results given by IGL lab and RA lab, joint analysis to be conducted at RA lab or at IGL lab.

5.4 **Lifting Commitment:** RA will ensure the regular lifting of Slop ash from the ash silos, so that no point of time IGL's boilers and plant operations are affected. Total slop ash generated (potash grade) at IGL is approx. 60 MT/day. In this RA has to arrange lifting of entire qty. of potash grade ash generated at IGL. IGL shall charge cost of slop ash for entire qty. generated (potash grade only) in case RA is not able to lift the committed qty. and IGL has to dispose off the same then IGL shall not return advance money deposited (mention in S.No 13).

5.5 The clause 5.4 shall not be applicable during specific period of route closure due to Kawar yatra/ Kumbh snan etc. and also during annual maintenance shut/unforeseen breakdown at RA's plant. RA shall inform IGL about such planned shut downs and route related stoppages with duration of stoppage well in advance i.e. minimum four working days before so that IGL may organize alternative arrangement for slop ash lifting. It also covers in the same manner for any preventive / sudden plant shutdown taking place at IGL and affecting slop ash generation quantity.

INDIA GLYCOLS LIMITED * KASHIPUR *

RAGHAV ASSOCIATES

## ARTICLE 6
## OBLIGATION OF THE PARTIES

6.1. **Loading:** Loading of the slop ash shall be arranged by IGL from the silo into the bulkers, close body trucks/trailers as provided by the Transporters authorized by the RA.

The parties hereby agree that the slop ash shall be loaded by supplier at the delivery point where RA shall place its bulkers / closed body trucks to collect slop ash at its own cost, supplier shall bear all cost for loading on the bulkers/close body trucks.

6.2 **Transportation:** The authorized transporter/Truck drivers/ helpers etc. of RA will have to adhere to all the safety norms as laid down by IGL from time to time. RA shall ensure safety of all its personal deputed for loading and taking away the slop ash from Kashipur in accordance with this Agreement.

6.3 The parties hereby understand and agree that IGL responsibility for any duty, obligation or liability of, either created under this Agreement shall be limited to the loading of the slop ash to the bulkers / closed body trucks placed by RA at the delivery point and RA shall be solely responsible for any duty, obligation, responsibility or liability of such slop ash once the bulker / closed body trucks etc. are loaded at the Delivery Point

6.4 The unit of measurement of each consignment of the slop ash shall be KG / metric tonnes. The quantity of slop ash will be measured at IGL's weighbridge available within the facility shall be final and binding on RA.

6.5 RA shall be responsible to obtain, renew and keep in force all consent, permissions, licenses and approvals as applicable under the Applicable law to handle, off take, transport, and store and or use the slop ash throughout the Term including any extension thereof.

6.6 All measures would be taken by RA as per notifications issued by the State Pollution Control Board and/or the Ministry of Environment & Forests, Government of India, to avoid pollution while transportation of slop ash within the premises of the facility and during the transit time.

6.7 The responsibility of the materials and equipment brought by RA will remain with RA and any claim of whatsoever nature due to any loss or otherwise will not be entertained under this Agreement.

## ARTICLE 7
## CONFIDENTIALITY

7.1. Each of the Parties undertakes that it will not, during and for a period of 01 (One) years after the termination of this Agreement, make any announcement or disclosure in respect of the subject matter of this Agreement or the terms and conditions thereof or of any document executed or delivered pursuant hereto, unless the other Party shall have given their respective prior written consent to such announcement or disclosure and the contents thereof.

INDIA GLYCOLS LIMITED * KASHIPUR *

RAO, VIJAY ASSOCIATES

## ARTICLE 8
## TERMINATION

**8.1. Termination:** Either party can terminate the contract by giving 2 months' notice. However notwithstanding anything hereinabove contained, in the event of IGL or RA being adjudicated insolvent, or being a company resolved or ordered to be wound up, then in such event, the order shall automatically stand terminated and in event of breach, default or violation of any of the terms hereof by IGL or RA for any reason whatsoever, both parties shall be at liberty to terminate this order forthwith and without prejudice to all other rights and claims of other party under this order or otherwise in law against the contract / order and either party shall not be entitled to any claim for loss, compensation or damages arising out of any such early termination.

## MISCELLANEOUS

**9 Contract Coordination**

IGL and RA shall appoint its authorized representative to co-ordinate all the issues related to this Agreement.

**10 Arbitration**

In the event of any Dispute or differences arising out of relation to under or in respect of this contract the parties, hereto, the same shall be referred at written request of either party to a sole arbitrator to be appointed jointly by the Chief Executive Officer of India Glycols Ltd., Kashipur, Uttarakhand and competent authority of RA, Roha Dist. (raigad) in accordance with Arbitration and Conciliation Act, 1996 and the Rules, if any, made there under and any statutory modification or reenactment thereof.

Any arbitration award made in such arbitration proceeding shall be final and binding on both the parties.

**11 Governing Law and Jurisdiction**

This contract shall be in all respects be deemed and constructed in conformity with Indian Laws and will be subjected to jurisdiction of Uttarakhand Courts only.

**12 Notices**

All notices, requests, demands and other communications which are required or may be given pursuant to the terms of this Agreement shall be addressed as follows:

**If to RA**

To,
Alok Malani
Raghav Associates
shop no 5,dabir park,
tal-roha,
dist-raigad-402109

**If to IGL**

To,
Executive Director
IGL, A-1, Industrial Area,
Bazpur Road, Kashipur
Distt. Udham Singh Nagar,
Uttarakhand - 244713

INDIA GLYCOLS LIMITED * KASHIPUR *

RAGHAV ASSOCIATES

Notice if delivered by hand shall be deemed to have been received on the date of delivery and if sent be registered post, shall be deemed to have been received upon the production of the postal receipt of payment for the registered post.

**12.1 Entire Agreement**

This Agreement constitutes the entire agreement and understanding between the parties and supersedes all prior agreements, contract and or understanding of the Parties, whether oral and written, with respect to such subject matter, if any.

**13 Advance Money Deposit**

RA shall submit advance money deposit of Rs. 50000.00 (Fifty Thousand Only) in favor of IGL which will be effective during the tenure of agreement period. Advance money can be en-cashed by IGL on breach of specified conditions as stipulated agreement and such specified conditions should be agreed by RA & IGL.

At any point of time, RA will maintain minimum Rs. 25000.00 (Twenty Five Thousand Only) clear balance with IGL towards regular slop ash lifting for ensuring uninterrupted deliveries from IGL. This will apart from funds remitted by RA for slop ash lifting.

**14 Force Majeure**

The agreement is subject to force majeure conditions i.e. If, at time during subsistence of the agreement, the parties here to the agreement, because of Force Majeure, which shall mean natural disasters, earth quakes, floods, fire, explosion, accidents, epidemics, quarantine restrictions or any other act of public enmity including but not restricted to any business compulsion or shutdown /breakdown of plant operation, block of passage, revolution, riots, civil commotion, ware, hostility, sabotage, quarantine restrictions, Act of God and act of Government and/or restrictions directly affecting the lifting of slop ash, epidemics, strikes, embargoes, save those specifically stated herein, it will not amount to non-fulfillment of the obligations under this agreement and the parties shall have no right to claim damages from each other and then the date of fulfillment of obligations shall be postponed during the time when such circumstances are operative. The party claiming Force Majeure shall notify the other party within seven working days after claiming party has notice thereof. The other party indemnify that NO CLAIM will be made in case of non/short supply or non/short lifting due to any unforeseen & non-intentional causes/circumstances.

**5 Amendment**

That this agreement can be amended or altered at any time with mutual consent of both the parties in writing by executing supplementary agreement.

That the parties hereby declare that they have requisite authority to enter into the present Memorandum of Understanding on behalf of their company.

INDIA GLYCOLS LIMITED * KASHIPUR *

RAGHAV ASSOCIATES

**Execution Page:**

**IN WITNESS WHEREOF** the Parties hereto have set and subscribed their hand on the day and the year first herein above mentioned:

**For INDIA GLYCOLS LIMITED (IGL)**

Signed and delivered by the

Signature: _____

Name: Dr Ashutosh Gautam

Designation: HoD (Environment)

**For RAGHAV ASSOCIATES (RA)**

Signed and delivered by the

Signature: _____

Name: Pallav Malani

Designation: Proprietor

(Anx- 7)

Regional Office

# Uttarakhand Pollution Control Board

Avas Vikas Colony

Haldwani

## Analysis Report on Industrial Effluent

| | |
|---|---|
| Report No | TE/KSP/44&45/2021-22 |
| Name of Industry | M/s India Glycols Limited .<br>A-1 Industrial area,Bazpur road Kashipur<br>District-U.S Nagar (Uttrakhand) |
| Sample Collected by | Sh.Sunil Kumar Arya<br>Asst. Environment Engineer |
| Date of Collection of Sample | 14.10.2021 |
| Date of completion of analysis | 25.10.2021 |
| Sampling point | 1.STP Inlet<br>2.STP Outlet |

| Parameters | Values | | Test Method | Standards for sewage and Industrial effluent discharge in to stream |
|---|---|---|---|---|
| | 1 | 2 | | |
| Colour | Turbid | Colourless | Visual | Colourless as far as practicable |
| Odour | Unpleasent | Odourless | Sensory | Odourless as far as practicable |
| pH | 6.15 | 7.63 | Electrometric | 6.5 - 8.5 |
| Total Suspended Solids (mg/L) | 136 | 68 | Filtration | 100 Max. |
| Total Dissolved Solids (mg/L) | 1041 | 729 | Electrometric | |
| Total Solids (mg/L) | 1177 | 797 | By calculation | |
| BOD(mg/L) | 110 | 26 | BOD 3days | 30 Max. |
| COD (mg/L) | 380 | 120 | Dichromate reflux method | 250 Max. |

Scientific Assistant

Asstt. Scientific Officer

Regional Officer

River Water Quality Data from August-2020 to October-2021

Annexure-02

| Name of River | River Dhella | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sampling sites & Location | Dhella upstream (Dhella bridge beljudi) | | | | | | Dhella downstream (Near Bhojpur bridge) | | | | | |
| Month | pH | Conductivity( µs/cm) | DO (mg/L) | BOD (mg/L) | COD (mg/L) | TDS (mg/L) | pH | Conductivity( µs/cm) | DO (mg/L) | BOD (mg/L) | COD (mg/L) | TDS (mg/L) |
| Aug-20 | 7.4 | 256 | 6.8 | 5.8 | 22 | 128 | 7.4 | 410 | 3.2 | 16 | 60 | 282 |
| Sep-20 | 8.1 | 170 | 6.6 | 4 | 15 | 126 | 7.3 | 420 | 3.1 | 15.2 | 47 | 280 |
| Oct-20 | 7.5 | 420 | 5 | 7.7 | 26 | 285 | 7.3 | 490 | 1.2 | 16 | 52 | 328 |
| Nov-20 | 7 | 490 | 4.5 | 7.8 | 30 | 328 | 7.2 | 500 | 1.1 | 16 | 80 | 382 |
| Dec-20 | 7.2 | 485 | 3.9 | 6.9 | 29 | 338 | 7.1 | 550 | 1.2 | 15 | 32 | 402 |
| Jan-21 | 7.9 | 410 | 4.8 | 4 | 10 | 255 | 7.3 | 900 | 0.8 | 56 | 180 | 675 |
| Feb-21 | 7.9 | 460 | 8.1 | 5 | 24 | 298 | 7.9 | 920 | 0.2 | 42 | 124 | 602 |
| Mar-21 | DRY | | | | | | 7.8 | 940 | 0.1 | 44 | 132 | 620 |
| Apr-21 | DRY | | | | | | 7.4 | 963 | 0.5 | 39 | 121 | 642 |
| May-21 | 7.2 | 745 | 1.3 | 29 | 101 | 561 | 7.8 | 930 | 0.8 | 34 | 116 | 631 |
| Jun-21 | 7.5 | 756 | 2 | 22 | 98 | 506 | 7.9 | 900 | 1 | 32 | 112 | 615 |
| Jul-21 | 7.4 | 350 | 2.3 | 9.5 | 32 | 228 | 6.9 | 810 | 1 | 28 | 200 | 554 |
| Aug-21 | 7.3 | 397 | 2.9 | 8.7 | 27.5 | 265 | 7.2 | 720 | 2.3 | 22.5 | 182 | 482 |
| Sep-21 | 7.1 | 402 | 3 | 8.4 | 28 | 269 | 7.1 | 716 | 2.5 | 26.4 | 184 | 479 |
| Oct-21 | 7.2 | 350 | 3.4 | 11 | 36.4 | 246 | 6.9 | 820 | 2.1 | 24 | 200 | 560 |
| AVERAGE | 7.43 | 437.76 | 4.2 | 9.98 | 36.83 | 294.84 | 7.36 | 732.6 | 1.4 | 28.4 | 121.46 | 502.33 |

## River Water Quality Data from August-2020 to October-2021

Annexure-02

| Name of River | River Bahella | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sampling sites & location | Bahella Upstream (Bahella upstream bridge) | | | | | | Bahella downstream (Bahella river rajpura tanda) | | | | | |
| Month | pH | Conductivity( µs/cm) | DO (mg/L) | BOD (mg/L) | COD (mg/L) | TDS (mg/L) | pH | Conductivity( µs/cm) | DO (mg/L) | BOD (mg/L) | COD (mg/L) | TDS (mg/L) |
| Aug-20 | 7.9 | 326 | 6.9 | 5 | 15 | 166 | 7.4 | 550 | 6.7 | 5.4 | 18 | 270 |
| Sep-20 | 7.3 | 180 | 5.8 | 4 | 10 | 160 | 7.9 | 410 | 3.6 | 9 | 40 | 265 |
| Oct-20 | 7.1 | 260 | 4.6 | 7.2 | 22 | 166 | 6.5 | 400 | 1.8 | 16 | 56 | 270 |
| Nov-20 | 7.1 | 280 | 4.3 | 8 | 25 | 170 | 6.8 | 450 | 1.5 | 17 | 110 | 295 |
| Dec-20 | 7.2 | 265 | 4.1 | 7.9 | 27 | 198 | 6.8 | 500 | 1.6 | 16 | 96 | 365 |
| Jan-21 | 7.9 | 540 | 3 | 6.9 | 30 | 348 | 7 | 730 | 1 | 30 | 150 | 486 |
| Feb-21 | 8 | 240 | 7.5 | 3 | 10 | 172 | 6 | 780 | 1.2 | 26 | 96 | 505 |
| Mar-21 | 7.9 | 280 | 7 | 3.2 | 16 | 186 | 6.8 | 881 | 1 | 28 | 128 | 590 |
| Apr-21 | DRY | | | | | | 6.9 | 761 | 1.1 | 31 | 139 | 543 |
| May-21 | 7.2 | 620 | 1.3 | 20 | 106 | 401 | 6.8 | 711 | 1.2 | 29 | 132 | 523 |
| Jun-21 | 7.4 | 628 | 1.8 | 18 | 94 | 420 | 6.9 | 710 | 1.5 | 28 | 130 | 475 |
| Jul-21 | 7.3 | 280 | 2.3 | 12 | 40 | 195 | 6.6 | 760 | 1.5 | 28 | 240 | 518 |
| Aug-21 | 7.3 | 304 | 2.9 | 11.1 | 39.5 | 203 | 6.9 | 782 | 1.4 | 25 | 190 | 523 |
| Sep-21 | 7.6 | 298 | 3 | 12.4 | 37.2 | 199 | 6.8 | 768 | 1.8 | 26 | 182 | 514 |
| Oct-21 | 7.4 | 310 | 3.2 | 12.5 | 39 | 205 | 6.5 | 780 | 1.4 | 26 | 230 | 528 |
| AVERAGE | **7.47** | **343.64** | **4.12** | **9.37** | **36.47** | **227.78** | **6.84** | **664.86** | **1.88** | **22.69** | **129.13** | **444.66** |

River Water Quality Data from August-2020 to October-2021

Annexure-02

| Name of River | River Kosi | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sampling sites & Location | Kosi upstream (Bajpur bridge sultanpur-patti) | | | | | | Kosi downstream (Dariyal road Kashipur) | | | | | |
| Month | pH | Conductivity(µs/cm) | DO (mg/L) | BOD (mg/L) | COD (mg/L) | TDS (mg/L) | pH | Conductivity (µs/cm) | DO (mg/L) | BOD (mg/L) | COD (mg/L) | TDS (mg/L) |
| Aug-20 | 7.6 | -- | 6.7 | 4.8 | 13 | -- | 7.9 | 390 | 6.7 | 4.8 | 16 | 274 |
| Sep-20 | 7.3 | 290 | 6.1 | 4.5 | 9.5 | 270 | 7.9 | 393 | 6.3 | 4.9 | 17.3 | 270 |
| Oct-20 | 7.1 | 370 | 5.8 | 6.2 | 18 | 237 | 7.9 | 410 | 4.2 | 4 | 20 | 274 |
| Nov-20 | 7 | 350 | 5.5 | 7 | 20 | 210 | 7.8 | 420 | 4.1 | 4.5 | 21 | 314 |
| Dec-20 | 7.1 | 310 | 5.2 | 7.1 | 20 | 250 | 7.3 | 410 | 4.3 | 4.6 | 20 | 304 |
| Jan-21 | 8 | 750 | 4 | 6.2 | 20 | 495 | 7.9 | 750 | 4.6 | 4 | 24 | 503 |
| Feb-21 | 7.8 | 720 | 7.6 | 5.4 | 16 | 468 | 7.9 | 700 | 9.8 | 3 | 16 | 472 |
| Mar-21 | 7.6 | 700 | 7.5 | 5 | 20 | 456 | 7.8 | 640 | 8.8 | 3.2 | 12 | 428 |
| Apr-21 | 7.5 | 673 | 8.1 | 4.1 | 17 | 416 | 7.5 | 632 | 8.5 | 3.5 | 15 | 388 |
| May-21 | 7.1 | 613 | 9.1 | 3.2 | 11 | 321 | 7.2 | 612 | 8.7 | 3.2 | 12 | 323 |
| Jun-21 | 7.6 | 620 | 9 | 3.4 | 14 | 415 | 7.4 | 618 | 9 | 3 | 10 | 414 |
| Jul-21 | 7.5 | 510 | 4.2 | 8 | 40 | 345 | 7.3 | 710 | 4.5 | 6 | 20 | 480 |
| Aug-21 | 7.3 | 478 | 6.6 | 7.9 | 19.2 | 320 | 7.4 | 697 | 6.6 | 4.9 | 14.3 | 466 |
| Sep-21 | 7.4 | 482 | 6.8 | 7.5 | 18.7 | 322 | 7.5 | 688 | 6.8 | 4.6 | 13.8 | 460 |
| Oct-21 | 7.5 | 540 | 5.1 | 7 | 32 | 366 | 7.3 | 600 | 5.2 | 5.5 | 20 | 396 |
| AVERAGE | 7.42 | 529 | 6.48 | 5.82 | 19.22 | 349.35 | 7.6 | 578 | 6.54 | 4.24 | 16.76 | 384.4 |

Annexure-V

उत्तर प्रदेश प्रदूषण नियंत्रण बोर्ड
UTTAR PRADESH POLLUTION CONTROL BOARD

संदर्भ संख्याः H68703 / सी-7 / अक-40 / 21 दिनॉकः 29.11.21

सेवा में,

श्री ए0के0 विद्यार्थी
एडिशनल डायरेक्टर –डीएच डब्लूक्यूएम–II
केन्द्रीय प्रदूषण नियंत्रण बोर्ड,
परिवेश भवन, पूर्वी अर्जुन नगर,
दिल्ली–110032।

**विषयः–माननीय राष्ट्रीय हरित अधिकरण, नई दिल्ली में दायर ओ0ए0 सं0–324/2016 शैलेष सिंह बनाम स्टेट आफ यू0पी0 एण्ड अदर्स एवं ओ0ए0 सं0–361/2017 डा0 तन्जीम फातिमा बनाम मिनिस्ट्री आफ इन्वायरमेन्ट एण्ड फारेस्ट्स एण्ड क्लाइमेट चेन्ज एण्ड अदर्स में पारित आदेशों के कम में अनुपालन आख्या प्रेषित किये जाने के संबंध में।**

महोदय,

कृपया उपरोक्त विषयक माननीय राष्ट्रीय हरित अधिकरण, नई दिल्ली में दायर ओ0ए0 सं0–324/2016 शैलेष सिंह बनाम स्टेट आफ यू0पी0 एण्ड अदर्स एवं ओ0ए0 सं0–361/2017 डा0 तन्जीम फातिमा बनाम मिनिस्ट्री आफ इन्वायरमेन्ट एण्ड फारेस्ट्स एण्ड क्लाइमेट चेन्ज एण्ड अदर्स में पारित आदेशों के कम में केन्द्रीय प्रदूषण नियंत्रण बोर्ड, नई दिल्ली के साथ आहूत बैठक दिनांक 09.11.2021 में लिये गये निर्णयों के कम में संयुक्त समिति द्वारा उद्योगों के किये गये निरीक्षण दिनांक 28–29.10.2020 में की गयी संस्तुतियों एवं माननीय ओवरसाइट कमेटी द्वारा की गयी संस्तुतियों के संबंध में अद्यतन अनुपालन आख्या पत्र के साथ संलग्न कर प्रेषित की जा रही है।

संलग्नकः–उपरोक्तानुसार।

भवदीय,

(अजय कुमार शर्मा)
सदस्य सचिव

प्रतिलिपिः–

1. माननीय ओवरसाइट कमेटी, एन0जी0टी0, लखनऊ, पर्यावरण निदेशालय, विनीतखण्ड–1, गोमतीनगर, लखनऊ।
2. सदस्य सचिव, केन्द्रीय प्रदूषण नियंत्रण बोर्ड, परिवेश भवन, पूर्वी अर्जुन नगर, दिल्ली–110032।

सदस्य सचिव

टी.सी 12 वीं, विभूति खण्ड,
गोमती नगर, लखनऊ–226010
दूरभाषः 0522– 2720831,2720828,2720691,2720681
2720681e-mail: info@uppcb.com
वेब साईटः: www.uppcb.com

TC. 12 v. Vibhuti Khand,
Gomti Nagar, Lucknow-226010
Phone: 0522- 2720831,2720828, 2720691,
Web Site: www.uppcb.com

क्षेत्रीय कार्यालय
उ0प्र0 प्रदूषण नियंत्रण बोर्ड
1-ए/आई.एन.एस.-1, आवास विकास कालोनी, बौद्ध विहार,
दिल्ली रोड, मुरादाबाद

पत्र संख्या ...170/एन-13/361/324/जनरल

दिनांक 25.11.2021

सेवा में,

मुख्य पर्यावरण अधिकारी, वृत्त-7,
उ0प्र0 प्रदूषण नियंत्रण बोर्ड,
लखनऊ।

**विषय : Minutes of meeting held on 09.11.2021 to review action taken/compliance status of Hon'ble NGT order dt 18.03.2021 in O.A. No. 324/2016 in the matter of Shailesh Singh Vs State of UP & Ors. With O.A. No. 361/2017 in the matter of Dr. Tanzeen Fatima Vs Ministry of Environment and Forests & Climate Change & Ors.**

महोदय,

उपरोक्त विषय के संबंध में डिवीजनल हेड (WQM-II), केन्द्रीय प्रदूषण नियंत्रण बोर्ड, नई दिल्ली द्वारा दिनांक 09.11.2021 को वीडियो कॉन्फ्रेन्सिंग के माध्यम से बैठक आयोजित की गयी, जिसका कार्यवृत्त उनके पत्र सं0 B-19123/WQM-II/Legal/NGT-13/CPCB/2020-21 दिनांक 23.11.2021 के माध्यम से इस कार्यालय में ई-मेल के माध्यम से प्राप्त हुआ है, का संदर्भ ग्रहण करने का कष्ट करें। मा0 एन0जी0टी0 के आदेशों के अनुपालन में पूर्व में ओवर साइट कमेटी एवं संयुक्त समिति द्वारा दिये गये निर्देशों के क्रम में सम्बन्धित उद्योगों की अद्यतन अनुपालन आख्या संलग्न कर अवलोकनार्थ एवं अग्रिम आवश्यक कार्यवाही हेतु प्रस्तुत है।

भवदीय

संलग्नक : यथोपरि।

(विकास मिश्र)
क्षेत्रीय अधिकारी

Scanned with Ca

**Regional Office**
**U.P. Pollution Control Board**
**Moradabad**

**Compliance Report of the industries in compliance of the order passed in O.A. No. 361/2017 Tanjeen Fatima Vs MoEF & CC and ors.**

| S.No. | Name of the unit | Recommendations of Joint Committee as per Inspection report based on Inspection dt. 28-29 Oct, 2020 | Compliance Status | Recommendations of Over Sight Committee | Compliance Status |
|---|---|---|---|---|---|
| 1. | **Radico Khaitan Limited,** Bareilly Road, Rampur, Uttar Pradesh - 244901 | 1. The unit shall obtain NOCs from CGWA for withdrawal of groundwater at earliest for all the groundwater abstraction sources, as the CGWA NOCs have already been expired on 02.10.2018.<br>2. The Unit shall ensure storage of concentrated spent wash with total solids 30% in both the lagoons (at Hitachi and Ajeetpur site) for use in bio composting. | 1. The unit has obtained approvals from UPGWD. Annexed as **Annexure 1.**<br>2. Complying. The samples of spent wash were collected from the lagoons at the time of inspection dated 10-11-2021. | 1. At the time of inspection, the floating levelling system was not operational at Ajeetpur site. Although the concentrated spent wash was within the limit marked by UPPCB.<br>2. The total area of two bio-composting yards was 60 acres out of which 25 acres was covered and remaining 35 acres of area was uncovered or open. 49 The requirement of covered bio-compost area to operate at consented capacity of 200 KLPD is 24 acres. | 1. During present inspection dated 10-11-2021 the floating levelling system was operational.<br>2. The required covered area to operate at consented capacity is in compliance of CPCB guidelines. |

| S.No. | Name of the unit | Recommendations of Joint Committee as per Inspection report based on Inspection dt. 28-29 Oct, 2020 | Compliance Status | Recommendations of Over Sight Committee | Compliance Status |
|---|---|---|---|---|---|
| | | | The solid concentration found more than 30%. Annexed as **Annexure 2.** | 3. Water logging was observed near the lagoon at Hitachi site. Samples of the same were collected by Joint team. | 3. During inspection dated 10-11-2021, the water logging was not found. |
| | | 3. The unit shall provide proper lined surface in bio compost yard at Hitachi site so that possibility of leaching shall be eliminated. | 3. The Unit has constructed properly lined surface of compost yard, photograph annexed as **Annexure 3.** | 4. At bio-compost yard of Ajeetpur site, it was observed that at leachate collection pit, transfer pump was not provided by the unit. | 4. During inspection dated 10-11-2021, transfer pump was provided by the unit. |
| | | 4. The unit shall take measures to stop contamination of piezometer well at downstream of Hitachi site. | 4. The surface all around the piezometer wells have been repaired by providing | 5. COD was reported from the ground water is a point of concern and probable source of it should be identified. | 5. As per the evaluation report on impacts of ground water vetted by IIT, Roorkee, it has been observed that the ground water is of excellent water quality, there is no sign of ground water pollution, no heavy metals or fecal coliforms are observed and the ground water can be used |

| S.No. | Name of the unit | Recommendations of Joint Committee as per Inspection report based on Inspection dt. 28-29 Oct, 2020 | Compliance Status | Recommendations of Over Sight Committee | Compliance Status |
|---|---|---|---|---|---|
| | | | PCC surface up to 1.0 $m^2$ in addition to the provision of lined surface. Apart from that the unit has replaced the pipes of piezometers with PVC, photograph annexed as **Annexure-4.** | 6. Site:<br>i. Hand-pump of Hitachi Bio-compost Yard: The concentration of Copper and Iron was found beyond the permissible limits.<br>ii. Piezo-metric well u/s of Hitachi Yard: The concentration of COD, Iron, Manganese and lead was found beyond permissible limits.<br>iii. Piezo-metric well d/s of Hitachi Yard: The concentration of COD, TDS, TS, Iron, Manganese, Lead and Colour was found beyond the permissible limits. | directly for drinking.<br>i. Industry has replaced all the pipe lines of GI with HDPE pipe lines.<br>1. ii to v- The surface all around the piezometer wells have been repaired by providing PCC surface. Apart from that the unit has replaced the pipes of piezometers with PVC. As per the evaluation report on impacts of ground water vetted by IIT, Roorkee, it has been observed that the ground water is of excellent water quality, |
| | | 5. The unit shall carry out detail study to identify contamination source of Fe, Mn and Pb of piezometric wells, hand pumps and bore wells and carry out remedial measures. | 5. The unit has carried out detailed study through PHDCCI. As per the report the probable reasons for the | | |

| S.No. | Name of the unit | Recommendations of Joint Committee as per Inspection report based on Inspection dt. 28-29 Oct, 2020 | Compliance Status | Recommendations of Over Sight Committee | Compliance Status |
|---|---|---|---|---|---|
| 116 | | | contamination are leaching of the iron and galvanized pipes. Unit has replaced all the pipe lines of GI with HDPE pipe lines, study report annexed as **Annexure-5A.** The industry has submitted an appraisal report on Impacts of Ground Water Abstraction and Groundwater recharge on Ground Water | iv. Piezo-metric well u/s of Ajeetpur Yard: The concentration of COD, Iron and Manganese was found beyond the permissible limits.<br>v. Piezo-metric well d/s of Ajeetpur Yard: The concentration of COD, Iron, Manganese and Lead was found beyond the permissible limits.<br>vi. Groundwater from the borewell in unit premises: The concentration of Iron and Manganese was found beyond the permissible limits. As per the report the probable reasons for the contamination are | there is no sign of ground water pollution, no heavy metals or fecal coliforms are observed and the ground water can be used directly for drinking.<br>vi. Industry has replaced all the pipe lines of GI with HDPE pipe lines. |

4

| S.No. | Name of the unit | Recommendations of Joint Committee as per Inspection report based on Inspection dt. 28-29 Oct, 2020 | Compliance Status | Recommendations of Over Sight Committee | Compliance Status |
|---|---|---|---|---|---|
| | | | Scenerio vetted by Department of Civil Engineering, IIT, Roorkee which was prepared byMr. Upendra Srivastava, Accredited Ground Water Proffessional, Lucknow. **Report is annexed as Annexure -5B** | leaching of the iron and galvanised pipes which seems very superficial and a detailed study should be done in this regard. Presence of high concentration of pollutants in the groundwater samples calls for a detailed analysis of soil profile to check the level and source of contamination in the area.<br>7. The analysis of samples drawn from the STP indicates that the industrial waste is rich in Iron, Copper and Manganese. Thus a detailed study is recommended to check the probable relation if any exists between the industrial waste | |

| S.No. | Name of the unit | Recommendations of Joint Committee as per Inspection report based on Inspection dt. 28-29 Oct, 2020 | Compliance Status | Recommendations of Over Sight Committee | Compliance Status |
|---|---|---|---|---|---|
| | | | | and groundwater contamination. The industry is directed to comply with the following recommendations of the joint inspection: | |
| | | | | i. The unit shall obtain NOCs for the drawl of groundwater at earliest. | i. Industry has obtain NOC for the drawl of groundwater. |
| | | | | ii. The unit shall ensure storage of concentrated spent wash with total solids 30% in both the lagoons at Hitachi and Ajeetpur site) for use in bio-composting. | ii. Complying. |
| | | | | iii. The unit shall provide proper lined surface in bio compost yard at Hitachi site so that possibility of leaching | iii. The Unit has constructed properly lined surface of compost yard. |

| S.No. | Name of the unit | Recommendations of Joint Committee as per Inspection report based on Inspection dt. 28-29 Oct, 2020 | Compliance Status | Recommendations of Over Sight Committee | Compliance Status |
|---|---|---|---|---|---|
| | | | | shall be eliminated. | |
| | | | | iv. The unit shall take measures to stop contamination of piezometer well at downstream of Hitachi site. | iv. The surface all around the piezometer wells has been repaired by providing PCC surface up to 1.0 $m^2$ in addition to the provision of lined surface. . Apart from that the unit has replaced the pipes of piezometers with PVC. |
| | | | | v. The unit shall carry out detailed study to identify contamination source of Iron, Manganese and Lead of piezometric wells, hand pumps and bore wells and carry out remedial measures. | vi. Complying. The unit has carried out detailed study through PHDCCI. As per the report the probable reasons for the contamination are leaching of the iron and |

| S.No. | Name of the unit | Recommendations of Joint Committee as per Inspection report based on Inspection dt. 28-29 Oct, 2020 | Compliance Status | Recommendations of Over Sight Committee | Compliance Status |
|---|---|---|---|---|---|
| | | | | | galvanized pipes. Unit has replaced all the pipe lines of GI with HDPE pipe lines, study report. |
| 2. | **M/s Damya (PJ) Foods, Pvt. Ltd.** Village-ChiknaShahbad Road, Rampur-244901 (UP) | 1. Unit shall install flowmeters on the borewell in the industry premises and maintain logbook for each flowmeter and obtain CGWA NOC for ground water abstraction.<br><br>2. Unit shall install | 1. The unit has installed flow meter on the bore well and maintaining the log book. The unit has applied the NOC before UPGWD and is under consideration, annexed as **Annexure-6.**<br><br>2. Complying. | A detailed groundwater study be done by SGWA as the case may be and any permission to abstract groundwater be incumbent on the result of the study. Unit be directed to minimise their water consumption based on water audit studies. Also they may be asked to explore the possibility of using treated water/ water harvesting /recycling techniques. Water tariffs for ground water as per rules/guidelines be communicated and charges levied immediately. Pending EC on the unit be realised by UPPCB immediately. | Concerned to SGWA. No EC is pending on the unit. |

| S.No. | Name of the unit | Recommendations of Joint Committee as per Inspection report based on Inspection dt. 28-29 Oct, 2020 | Compliance Status | Recommendations of Over Sight Committee | Compliance Status |
|---|---|---|---|---|---|
| | | flowmeter and maintain record for treated effluent reused in horticulture. | Photograph annexed as **Annexure -7**. | | |
| | | 3. Unit shall operate ETP properly to meet the discharge standard. | 3. Complying. The sample was collected from the outlet of ETP at the time of inspection dated 10-11-2021. All the parameters of the effluent found within the prescribed standards. Analysis report of ETP annexed as **Annexure-8.** | | |
| | | 4. Unit shall obtain adequacy report of ETP system from a reputed expert government institutes. | 4. The industry has obtained adequacy report from the Department of Civil Engineering, Aligarh Muslim University, | | |

| S.No. | Name of the unit | Recommendations of Joint Committee as per Inspection report based on Inspection dt. 28-29 Oct, 2020 | Compliance Status | Recommendations of Over Sight Committee | Compliance Status |
|---|---|---|---|---|---|
| | | | Aligarh, annexed as **Annexure-9.** | | |
| 3. | **M/s Usha Steel Process** D-22, 23 & 29 Ajeetpur Industrial Estate Ajeetpur, Rampur Uttar Pradesh | 1. Unit shall install flowmeters on the borewell and other points of effluent generations, reuse and discharge in the industry premises with logbook for each flowmeter and obtain CGWA-NOC for ground water abstraction. | 1. The unit has installed flow meter (photograph annexed as **Annexure-10**) on the bore well and maintaining the log book. The unit is lying in SSI and the daily consumption of water is less than 10 KLD, hence it is exmpeted for NOC of UPGWD. However the industry has applied for NOC before UPGWD and under process (application is annexed as | A detailed groundwater study be done by SGWA as the case may be and any permission to abstract groundwater be incumbent on the result of the study. Unit be directed to minimise their water consumption based on water audit studies. Also they may be asked to explore the possibility of using treated water/ water harvesting /recycling techniques. Water tariffs for ground water as per rules/guidelines be communicated and charges levied immediately. Pending EC on the unit be realised by UPPCB immediately. | Concerned to SGWA. No EC is pending on the unit. |

| S.No. | Name of the unit | Recommendations of Joint Committee as per Inspection report based on Inspection dt. 28-29 Oct, 2020 | Compliance Status | Recommendations of Over Sight Committee | Compliance Status |
|---|---|---|---|---|---|
| | | | **Annexure-11).** | | |
| | | 2. Unit shall install flowmeter and maintain record for treated effluent reused in process and amount of water discharged. | 2. Complying. Copy of log book is annexed as **Annexure-12.** | | |
| | | 3. Unit shall obtain adequacy report of ETP system from a reputed expert government institutes. | 3. The industry has obtained adequacy report from the Department of Civil Engineering, Aligarh Muslim University, Aligarh. annexed as **Annexure-13.** | | |
| | | 4. Unit shall operate the ETP properly and ensure that treated effluent shall meet the discharge norms. | 4. Complying. The sample was collected from the outlet of ETP at the time of inspection dated 10-11-2021. All the parameters of the | | |

| S.No. | Name of the unit | Recommendations of Joint Committee as per Inspection report based on Inspection dt. 28-29 Oct, 2020 | Compliance Status | Recommendations of Over Sight Committee | Compliance Status |
|---|---|---|---|---|---|
| | | | effluent found within the prescribed standards, Analysis report is annexed as **Annexure-14.** | | |
| 4. | **M/s Swati Menthol & Allied Chemicals Ltd.** 4.5kms. Bareilly Road Rampur 244901 (U.P.) | 1. The unit shall obtain NOC from CGWA for withdrawal of ground water.<br>2. The unit shall install flowmeter at outlet of ETP.<br>3. The unit shall carry out feasibility study to explore possibility of reuse of treated effluent from ETP within | 1. The unit has obtained the NOC from UPGWD, annexed as **Annexure-15.**<br>2. Complying. Photograph is annexed as **Annexure-16.**<br>3. The unit is reusing the maximum treated effluent. The industry has | A detailed groundwater study be done by SGWA as the case may be and any permission to abstract groundwater be incumbent on the result of the study. Unit be directed to minimise their water consumption based on water audit studies. Also they may be asked to explore the possibility of using treated water/ water harvesting /recycling techniques. Water tariffs for ground water as per rules/guidelines be communicated and charges levied immediately. Pending EC on the unit be realised by UPPCB immediately. | Concerned to SGWA. No EC is pending on the unit. |



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| S.No. | Name of the unit | Recommendations of Joint Committee as per Inspection report based on Inspection dt. 28-29 Oct, 2020 | Compliance Status | Recommendations of Over Sight Committee | Compliance Status |
|---|---|---|---|---|---|
| | | industrial premises. | obtained adequacy report from the Department of Civil Engineering, Aligarh Muslim University, Aligarh, annexed as **Annexure-17.** | | |
| 5. | **M/s Rana Sugars Ltd.** Khasra No.318-320, Manpur, Belwara, Distt-Moradabad, Uttar Pradesh- | 1. The unit shall obtain NOC from CGWA for extraction of ground water.<br>2. The unit shall provide a separate area for storage of ETP sludge and shall maintain record of the | 1. The unit has obtained the NOC from UPGWD, annexed as **Annexure-18.**<br>2. Complying. | A detailed groundwater study be done by SGWA as the case may be and any permission to abstract groundwater be incumbent on the result of the study. Unit be directed to minimise their water consumption based on water audit studies. Also they may be asked to explore the possibility of using treated water/ water harvesting /recycling techniques. Water tariffs for | Concerned to SGWA. No EC is pending on the unit. |

| S.No. | Name of the unit | Recommendations of Joint Committee as per Inspection report based on Inspection dt. 28-29 Oct, 2020 | Compliance Status | Recommendations of Over Sight Committee | Compliance Status |
|---|---|---|---|---|---|
| | 244925 | ETP sludge generation and disposal.<br>3. The unit shall maintain record for fly ash generation and its disposal.<br>4. The unit shall improve bio-mass concentration in the aeration tank of ETP.<br>5. The unit shall prepare ETP dosing chemicals solutions; using ETP treated effluent, to save fresh water. | 3. Complying.<br>4. Complying. Analysis report is annexed as **Annexure-19.**<br>5. Complying. | ground water as per rules/guidelines be communicated and charges levied immediately. Pending EC on the unit be realised by UPPCB immediately. | |
| 6. | **M/s Rana Sugars Ltd. (Distillery Unit)** | 1. The unit shall obtain renewal of NOC from CGWA for extraction of ground water. | 1. The unit has obtained the NOC from UPGWD, annexed as **Anx.-20.** | | |

| S.No. | Name of the unit | Recommendations of Joint Committee as per Inspection report based on Inspection dt. 28-29 Oct, 2020 | Compliance Status | Recommendations of Over Sight Committee | Compliance Status |
|---|---|---|---|---|---|
| | Khasra No.318-320, Manpur, Belwara, Distt-Moradabad, Uttar Pradesh-244925 | 2. The unit shall maintain records of Boiler ash and its disposal / utilization.<br>3. The unit shall install 2 nos piezo-wells near bio-compost yards; as per requirement of SOP for distilleries using molasses. | 2. Complying.<br>3. Complying. | | |

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**River quality monitoring report:**

The latest water quality of rivers are attached **as Annexure-21**.

**Compliance status of the units** :

All the units are complying with the directions given by joint committee and the oversight committee in the above matter.

15

# GROUND WATER DEPARTMENT

(Namami Gange & Rural Water Supply Department)
Ministry of Jal Shakti
Government of Uttar Pradesh

## Form 8 (E)

[See rules 15(2)]

## (RENEWAL OF AUTHORIZATION/ NO-OBJECTION CERTIFICATE FOR SINKING OF NEW WELL FOR INDUSTRIAL/ COMMERCIAL/ INFRASTRUCTURAL OR BULK USER OF GROUND WATER)

**VALID UP TO :**

**Registration No.: 202108000274**

| | | | |
|---|---|---|---|
| Name of the Owner | KRISHAN PAL SINGH | | |
| Address of the Applicant | Radico Khaitan Limited, Brailley Road, Panwaria, Rampur, U.P.-244901 | Application Form Serial No. | RMPR0821RIN0038 |
| Date of Submission | 09/08/2021 | Specimen Signature | |
| Company Name | RADICO KHAITAN LIMITED GRAIN AND MALT SPIRIT PLANT | Company Address | Bareilly Road, Rampur, U.P. - 244901 |

**Location Particulars**

| | | | |
|---|---|---|---|
| District | Rampur | Block | CHAMRAUAA (URBAN) |
| Plot No./Khasra No. | PLOT NO A 1 INDUSTRIAL AREA RAMPUR | Municipality/Corporation | Yes |
| Ward No./Holding No. | | | N/A |

**Particular of the Existing Well and Pumping Device**

| | | | |
|---|---|---|---|
| Date of Construction/Sinking of the Well | 01/01/1995 | | |
| Type of Well | Tube Well/Boring | Depth of the Well (In meter) | 110.00 |
| Purpose of well | Industrial | Assembly Size(For Tube Well) | |
| Strainer Position (For Tube Well) | | | |
| Type of Pump Used | Submersible | H.P. of the Pump | 41.00 |
| Operational Device | Electric Motor | Rate of Withdrawal (m3/hr.) | 100.00 |
| Date of Energization (In Case of Electric Pump) | | 01/01/1995 | |
| Maximum Allowable Rate of Withdrawal (m3/hr.): | 100.00 | Maximum Allowable Running Hours Per Day: | 12.00 |
| Maximum Allowable Annual Extraction of Ground Water: | | | 438000 |
| Reason for renewal of N.O.C. एन.ओ.सी. के नवीनीकरण का कारण | AS PER GOVERNMENT RULES | | |
| Against Case | | | |

This No-Objection certificate authorizes the owner applicant (user) to sink a well in the location specified at SI. (3) for extraction of ground water at a rate not exceeding that as shown at SI. (3j), for running hours 1 day as shown at SI. (3k), and for maximum allowable annual extraction of ground water as shown at SI. (3k) and is valid subject to the observance of the conditions stated overleaf.

**Conditions**

- (1) In case of any change of ownership of the proposed well, fresh authorization has to be obtained.
- (2) No change of location, design, rate of withdrawal and pumping device in respect of the proposed well as indicated at SL (2) and (3) of this certificate shall be made without prior permission of the Competent Authority. Any deviation in this regard shall lead to cancellation of this authorization.
- (3) For the purpose of measuring and recording the quantity of ground water extracted, every said user shall affix digital water flow meters(conforming to BIS/ IS standards) having telemetry system in the abstraction structure, which record rate and quantum of extraction, at

outlet of pumping devices and it shall be presumed that the quantity recorded by the meter has been extracted by the said user, until the contrary is proved. The rate of extraction of ground water from the well as shown in item 3(k) shall not exceed to the recorded rate from water meters

- (4) The concerned Authority reserves the right to stop extraction of ground water from the well due to quality hazards or any other reasons, if the situation so demands.
- (5) In case of any change of ownership of the existing well, fresh registration has to be obtained.
- (6) No change of location, design, rate of withdrawal and pumping device in respect of the existing well as indicated at Sl. (2) and (3) of this certificate shall be made without prior permission of the Competent Authority. Any deviation in this regard shall lead to cancellation of this registration.
- (7) n case, any of the particulars I information furnished by the applicant in his application for issuance of this registration is found to be incorrect during verification at any subsequent stage, this registration is liable for cancellation.
- (8) The Certificate of Authorization/ NOC shall be valid for a period of three years from the date of issue. The applicant shall have to apply for renewal through a fresh application, at least ninety days prior to expiry of its validity.
- (9) Construction of piezometers and installation of digital water level recorders with telemetry shall be mandatory for user. Depth and zone tapped of piezometer should be commensurate with that of the pumping well. The data, obtained from digital water level recorders shall be made available to this office on monthly basis.
- (10) Guidelines for Installation of Piezometers and their Monitoring
- Piezometer is a borewell /tube well used only for measuring the water level by lowering the tape/ sounder or automatic water level measuring equipment. It is also used to take water sample for water quality testing whenever needed. General guidelines for installation of piezometers are as follows for compliance of NOC:
- • The piezometer is to be installed/constructed at the minimum of 50 m distance from the pumping well through which ground water is being withdrawn. The diameter of the piezometer should be about 4" to 6".
- • The depth of the piezometer should be same as is case of the pumping well from which ground water is being abstracted. If, more than one piezometer are installed the second piezometer should monitor the shallow ground water regime. It will facilitate shallow as well as deeper ground water aquifer monitoring.
- • No. of piezometers to be constructed & Type of water level monitoring mechanism shall be as per below table:

| S.No | Quantum of Ground water withdrawal (cum/day) | No.of piezometers required | Monitiring Mechanism | |
|---|---|---|---|---|
| | | | Manual | DWLR with Telemetry |
| 1 | < 10 | 0 | 0 | 0 |
| 2 | 11 - 50 | 1 | 1 | 0 |
| 3 | 50- 500 | 1 | 0 | 1 |
| 4 | > 500 | 2 | 0 | 2 |

- • The measuring frequency should be monthly and accuracy of measurement should be up to cm. the reported measurement should be given in meter up to two decimals.
- • For measurement of water level sounder or automatic water level recorder (AWLR)/ Digital Automatic water level recorder (DWLR) with telemetry system should be used for accuracy.
- • The measurement of water level in piezometer should be taken, only after the pumping from the surrounding tube wells has been stopped for about four to six hours.
- • All the details regarding coordinates, reduced level (with respect to mean level), depth, zone taped and assembly lowered should be provided for bringing the piezometer into the Hydrograph Monitoring System for Ground Water Department, Uttar Pradesh, and for its validation.
- • The ground water quality has to be monitored twice in a year during pre-monsoon (May/June) and post-monsoon (October/November) periods. Quality may be got analyzed from NABL approved lab. Besides, one sample (1 lt. capacity bottle) to the concerned Director, Ground Water Department, Uttar Pradesh, for chemical analysis.
- • A Permanent display board should be installed at piezometer/Tube wells site for providing the location, piezometer/ tube well number, depth and zone tapped of piezometer/tube well for standard referencing and identification.
- • Any other site-specific requirement regarding safety and access for measurement may be taken care off.
- (11) Any other condition(s) that may be imposed by the concerned Authority.
- (12) In case, any of the particulars I information furnished by the applicant in his application for issuance of this permit is found to be incorrect during verification at any subsequent stage, this permit is liable for cancellation.
- **SPECIFIC CONDITIONS:**
- (A) **For Industrial User:** No Objection Certificate for ground water extraction by industries shall be granted subject to the following specific conditions:
- i) No Objection Certificate shall be granted only in such cases where local government water supply agencies are not able to supply the desired quantity of water.
- ii) All industries shall be required to adopt latest water efficient technologies so as to reduce dependence on ground water resources.
- iii) All industries abstracting ground water in excess of 100 m3/d shall be required to undertake annual water audit through Confederation of Indian Industries (CII)/ Federation Indian Chamber of Commerce and Industry (FICCI)/ National Productivity Council (NPC) certified auditors and submit audit reports within three months of completion of the same to CGWA. All such industries shall be required to reduce their ground water use by at least 20% over the next three years through appropriate means.
- iv) Construction of observation well(s) (piezometer)(s) within the premises and installation of appropriate water level monitoring mechanism as mentioned in General Condition no.10 shall be mandatory for industries drawing/ proposing to draw more than 10 m3/day of ground water and. Monitoring of water level shall be done by the project proponent. The piezometer (observation well) shall be constructed at a minimum distance of 15 m from the bore well/production well. Depth and aquifer zone tapped in the piezometer shall be the same as that of the pumping well/ wells. Monthly water level data shall be submitted online to the Ground Water Department, UP.
- v) The proponent shall be required to adopt roof top rain water harvesting/ recharge in the project premises. Industries which are likely to pollute ground water (chemical, pharmaceutical, dyes, pigments, paints, textiles, tannery, pesticides/ insecticides, fertilizers, slaughter house, explosives etc.) shall store the harvested rain water in surface storage tanks for use in the industry.
- vi) Injection of treated/ untreated waste water into aquifer system is strictly prohibited.
- vii) Industries which are likely to cause ground water pollution e.g. Tanning, Slaughter Houses, Dye, Chemical/ Petrochemical, Coal washeries, other hazardous units etc. (as per CPCB list) need to undertake necessary well head protection measures to ensure prevention of ground water pollution.
- (B) **Infrastructural User:** The No Objection Certificate for ground water abstraction will be granted subject to the following specific conditions:
- i) In case of infrastructure projects that require dewatering, proponent shall be required to carry out regular monitoring of dewatering discharge rate (using a digital water flow meter) and submit the data online to Ground Water Department, UP as applicable. Monitoring records and results should be retained by the proponent for two years, for inspection or reporting as required by District Ground Water Management Council.
- ii) Installation of Sewage Treatment Plants (STP) shall be mandatory for new projects, where ground water requirement is more than 20 m3 /day. The water from STP shall be utilized for toilet flushing, car washing, gardening etc.

**This certificate is electronically generated and does not require digital signature**

# GROUND WATER DEPARTMENT

(Namami Gange & Rural Water Supply Department)
Ministry of Jal Shakti
Government of Uttar Pradesh

## Form 8 (E)

[See rules 15(2)]

## (RENEWAL OF AUTHORIZATION/ NO-OBJECTION CERTIFICATE FOR SINKING OF NEW WELL FOR INDUSTRIAL/ COMMERCIAL/ INFRASTRUCTURAL OR BULK USER OF GROUND WATER)

## VALID UP TO :

**Registration No.: 202108000304**

| | | | |
|---|---|---|---|
| Name of the Owner | KRISHAN PAL SINGH | | |
| Address of the Applicant | Radico Khaitan Limited, Brailley Road, Panwaria, Rampur, U.P.-244901 | Application Form Serial No. | RMPR0821RIN0037 |
| Date of Submission | 10/08/2021 | Specimen Signature | |
| Company Name | RADICO KHAITAN LIMITED MOLASSES SPIRIT PLANT | Company Address | Bareilly Road, Rampur, U.P. - 244901 |

**Location Particulars**

| | | | |
|---|---|---|---|
| District | Rampur | Block | CHAMRAUAA (URBAN) |
| Plot No./Khasra No. | PLOT NO A 1 INDUSTRIAL AREA RAMPUR | Municipality/Corporation | Yes |
| Ward No./Holding No. | | | 3 |

**Particular of the Existing Well and Pumping Device**

| | | | |
|---|---|---|---|
| Date of Construction/Sinking of the Well | 01/01/1994 | | |
| Type of Well | Tube Well/Boring | Depth of the Well (In meter) | 110.00 |
| Purpose of well | Industrial | Assembly Size(For Tube Well) | |
| Strainer Position (For Tube Well) | | | |
| Type of Pump Used | Submersible | H.P. of the Pump | 41.00 |
| Operational Device | Electric Motor | Rate of Withdrawal (m3/hr.) | 100.00 |
| Date of Energization (In Case of Electric Pump) | | 01/01/1994 | |
| Maximum Allowable Rate of Withdrawal (m3/hr.): | 100.00 | Maximum Allowable Running Hours Per Day: | 12.00 |
| Maximum Allowable Annual Extraction of Ground Water: | | | 438000 |
| Reason for renewal of N.O.C. एन.ओ.सी. के नवीनीकरण का कारण | as per Government agency rules | | |
| Against Case | | | |

This No-Objection certificate authorizes the owner applicant (user) to sink a well in the location specified at SI. (3) for extraction of ground water at a rate not exceeding that as shown at SI. (3j), for running hours 1 day as shown at SI. (3k), and for maximum allowable annual extraction of ground water as shown at SI. (3k) and is valid subject to the observance of the conditions stated overleaf.

**Conditions**

- (1) In case of any change of ownership of the proposed well, fresh authorization has to be obtained.
- (2) No change of location, design, rate of withdrawal and pumping device in respect of the proposed well as indicated at SL (2) and (3) of this certificate shall be made without prior permission of the Competent Authority. Any deviation in this regard shall lead to cancellation of this authorization.
- (3) For the purpose of measuring and recording the quantity of ground water extracted, every said user shall affix digital water flow meters(conforming to BIS/ IS standards) having telemetry system in the abstraction structure, which record rate and quantum of extraction, at outlet of pumping devices and it shall be presumed that the quantity recorded by the meter has been extracted by the said user, until the contrary is proved. The rate of extraction of ground water from the well as shown in item 3(k) shall not exceed to the recorded rate from water meters

- (4) The concerned Authority reserves the right to stop extraction of ground water from the well due to quality hazards or any other reasons, if the situation so demands.
- (5) In case of any change of ownership of the existing well, fresh registration has to be obtained.
- (6) No change of location, design, rate of withdrawal and pumping device in respect of the existing well as indicated at Sl. (2) and (3) of this certificate shall be made without prior permission of the Competent Authority. Any deviation in this regard shall lead to cancellation of this registration
- (7) n case, any of the particulars I information furnished by the applicant in his application for issuance of this registration is found to be incorrect during verification at any subsequent stage, this registration is liable for cancellation.
- (8) The Certificate of Authorization/ NOC shall be valid for a period of three years from the date of issue. The applicant shall have to apply for renewal through a fresh application, at least ninety days prior to expiry of its validity.
- (9) Construction of piezometers and installation of digital water level recorders with telemetry shall be mandatory for user. Depth and zone tapped of piezometer should be commensurate with that of the pumping well. The data, obtained from digital water level recorders shall be made available to this office on monthly basis.
- (10) Guidelines for Installation of Piezometers and their Monitoring
- Piezometer is a borewell /tube well used only for measuring the water level by lowering the tape/ sounder or automatic water level measuring equipment. It is also used to take water sample for water quality testing whenever needed. General guidelines for installation of piezometers are as follows for compliance of NOC:
- • The piezometer is to be installed/constructed at the minimum of 50 m distance from the pumping well through which ground water is being withdrawn. The diameter of the piezometer should be about 4" to 6".
- • The depth of the piezometer should be same as is case of the pumping well from which ground water is being abstracted. If, more than one piezometer are installed the second piezometer should monitor the shallow ground water regime. It will facilitate shallow as well as deeper ground water aquifer monitoring.
- • No. of piezometers to be constructed & Type of water level monitoring mechanism shall be as per below table:

| S.No | Quantum of Ground water withdrawal (cum/day) | No.of piezometers required | Monitiring Mechanism | |
|---|---|---|---|---|
| | | | Manual | DWLR with Telemetry |
| 1 | < 10 | 0 | 0 | 0 |
| 2 | 11 - 50 | 1 | 1 | 0 |
| 3 | 50- 500 | 1 | 0 | 1 |
| 4 | > 500 | 2 | 0 | 2 |

- • The measuring frequency should be monthly and accuracy of measurement should be up to cm. the reported measurement should be given in meter up to two decimals.
- • For measurement of water level sounder or automatic water level recorder (AWLR)/ Digital Automatic water level recorder (DWLR) with telemetry system should be used for accuracy.
- • The measurement of water level in piezometer should be taken, only after the pumping from the surrounding tube wells has been stopped for about four to six hours.
- • All the details regarding coordinates, reduced level (with respect to mean level), depth, zone taped and assembly lowered should be provided for bringing the piezometer into the Hydrograph Monitoring System for Ground Water Department, Uttar Pradesh, and for its validation.
- • The ground water quality has to be monitored twice in a year during pre-monsoon (May/June) and post-monsoon (October/November) periods. Quality may be got analyzed from NABL approved lab. Besides, one sample (1 lt. capacity bottle) to the concerned Director, Ground Water Department, Uttar Pradesh, for chemical analysis.
- • A Permanent display board should be installed at piezometer/Tube wells site for providing the location, piezometer/ tube well number, depth and zone tapped of piezometer/tube well for standard referencing and identification.
- • Any other site-specific requirement regarding safety and access for measurement may be taken care off.
- (11) Any other condition(s) that may be imposed by the concerned Authority.
- (12) In case, any of the particulars I information furnished by the applicant in his application for issuance of this permit is found to be incorrect during verification at any subsequent stage, this permit is liable for cancellation.
- **SPECIFIC CONDITIONS:**
- (A) **For Industrial User:** No Objection Certificate for ground water extraction by industries shall be granted subject to the following specific conditions:
- i) No Objection Certificate shall be granted only in such cases where local government water supply agencies are not able to supply the desired quantity of water.
- ii) All industries shall be required to adopt latest water efficient technologies so as to reduce dependence on ground water resources.
- iii) All industries abstracting ground water in excess of 100 m3/d shall be required to undertake annual water audit through Confederation of Indian Industries (CII)/ Federation Indian Chamber of Commerce and Industry (FICCI)/ National Productivity Council (NPC) certified auditors and submit audit reports within three months of completion of the same to CGWA. All such industries shall be required to reduce their ground water use by at least 20% over the next three years through appropriate means.
- iv) Construction of observation well(s) (piezometer)(s) within the premises and installation of appropriate water level monitoring mechanism as mentioned in General Condition no.10 shall be mandatory for industries drawing/ proposing to draw more than 10 m3/day of ground water and. Monitoring of water level shall be done by the project proponent. The piezometer (observation well) shall be constructed at a minimum distance of 15 m from the bore well/production well. Depth and aquifer zone tapped in the piezometer shall be the same as that of the pumping well/ wells. Monthly water level data shall be submitted online to the Ground Water Department, UP.
- v) The proponent shall be required to adopt roof top rain water harvesting/ recharge in the project premises. Industries which are likely to pollute ground water (chemical, pharmaceutical, dyes, pigments, paints, textiles, tannery, pesticides/ insecticides, fertilizers, slaughter house, explosives etc.) shall store the harvested rain water in surface storage tanks for use in the industry.
- vi) Injection of treated/ untreated waste water into aquifer system is strictly prohibited.
- vii) Industries which are likely to cause ground water pollution e.g. Tanning, Slaughter Houses, Dye, Chemical/ Petrochemical, Coal washeries, other hazardous units etc. (as per CPCB list) need to undertake necessary well head protection measures to ensure prevention of ground water pollution.
- (B) **Infrastructural User:** The No Objection Certificate for ground water abstraction will be granted subject to the following specific conditions:
- i) In case of infrastructure projects that require dewatering, proponent shall be required to carry out regular monitoring of dewatering discharge rate (using a digital water flow meter) and submit the data online to Ground Water Department, UP as applicable. Monitoring records and results should be retained by the proponent for two years, for inspection or reporting as required by District Ground Water Management Council.
- ii) Installation of Sewage Treatment Plants (STP) shall be mandatory for new projects, where ground water requirement is more than 20 m3 /day. The water from STP shall be utilized for toilet flushing, car washing, gardening etc.

# GROUND WATER DEPARTMENT

(Namami Gange & Rural Water Supply Department)
Ministry of Jal Shakti
Government of Uttar Pradesh

## Form 8 (E)

[See rules 15(2)]

## (RENEWAL OF AUTHORIZATION/ NO-OBJECTION CERTIFICATE FOR SINKING OF NEW WELL FOR INDUSTRIAL/ COMMERCIAL/ INFRASTRUCTURAL OR BULK USER OF GROUND WATER)

## VALID UP TO :

**Registration No.: 202108000378**

| | | | |
|---|---|---|---|
| **Name of the Owner** | KRISHAN PAL SINGH | | |
| **Address of the Applicant** | Radico Khaitan Limited, Brailley Road, Panwaria, Rampur, U.P.-244901 | **Application Form Serial No.** | RMPR0821RIN0039 |
| **Date of Submission** | 12/08/2021 | **Specimen Signature** | |
| **Company Name** | RADICO KHAITAN LIMITED BOTTLING PLANT | **Company Address** | Bareilly Road, Rampur, U.P. - 244901 |

### Location Particulars

| | | | |
|---|---|---|---|
| **District** | Rampur | **Block** | CHAMRAUAA (URBAN) |
| **Plot No./Khasra No.** | PLOT NO A 1 INDUSTRIAL AREA RAMPUR | **Municipality/Corporation** | Yes |
| **Ward No./Holding No.** | | | 3 |

### Particular of the Existing Well and Pumping Device

| | | | |
|---|---|---|---|
| **Date of Construction/Sinking of the Well** | 01/01/2005 | | |
| **Type of Well** | Tube Well/Boring | **Depth of the Well (In meter)** | 90.00 |
| **Purpose of well** | Industrial | **Assembly Size(For Tube Well)** | |
| **Strainer Position (For Tube Well)** | | | |
| **Type of Pump Used** | Submersible | **H.P. of the Pump** | 41.00 |
| **Operational Device** | Electric Motor | **Rate of Withdrawal (m3/hr.)** | 100.00 |
| **Date of Energization (In Case of Electric Pump)** | | 01/01/2005 | |
| **Maximum Allowable Rate of Withdrawal (m3/hr.):** | 100.00 | **Maximum Allowable Running Hours Per Day:** | 12.00 |
| **Maximum Allowable Annual Extraction of Ground Water:** | | | 438000 |
| **Reason for renewal of N.O.C. एन.ओ.सी. के नवीनीकरण का कारण** | AS PER GOVERNMENT AGENCY RULES | | |
| **Against Case** | | | |

This No-Objection certificate authorizes the owner applicant (user) to sink a well in the location specified at SI. (3) for extraction of ground water at a rate not exceeding that as shown at SI. (3j), for running hours I day as shown at SI. (3k), and for maximum allowable annual extraction of ground water as shown at SI. (3k) and is valid subject to the observance of the conditions stated overleaf.

**Conditions**

- (1) In case of any change of ownership of the proposed well, fresh authorization has to be obtained.
- (2) No change of location, design, rate of withdrawal and pumping device in respect of the proposed well as indicated at SL (2) and (3) of this certificate shall be made without prior permission of the Competent Authority. Any deviation in this regard shall lead to cancellation of this authorization.
- (3) For the purpose of measuring and recording the quantity of ground water extracted, every said user shall affix digital water flow meters(conforming to BIS/ IS standards) having telemetry system in the abstraction structure, which record rate and quantum of extraction, at outlet of pumping devices and it shall be presumed that the quantity recorded by the meter has been extracted by the said user, until the contrary is proved. The rate of extraction of ground water from the well as shown in item 3(k) shall not exceed to the recorded rate from water meters

- (4) The concerned Authority reserves the right to stop extraction of ground water from the well due to quality hazards or any other reasons, if the situation so demands.
- (5) In case of any change of ownership of the existing well, fresh registration has to be obtained.
- (6) No change of location, design, rate of withdrawal and pumping device in respect of the existing well as indicated at Sl. (2) and (3) of this certificate shall be made without prior permission of the Competent Authority. Any deviation in this regard shall lead to cancellation of this registration.
- (7) n case, any of the particulars I information furnished by the applicant in his application for issuance of this registration is found to be incorrect during verification at any subsequent stage, this registration is liable for cancellation.
- (8) The Certificate of Authorization/ NOC shall be valid for a period of three years from the date of issue. The applicant shall have to apply for renewal through a fresh application, at least ninety days prior to expiry of its validity.
- (9) Construction of piezometers and installation of digital water level recorders with telemetry shall be mandatory for user. Depth and zone tapped of piezometer should be commensurate with that of the pumping well. The data, obtained from digital water level recorders shall be made available to this office on monthly basis.
- (10) Guidelines for Installation of Piezometers and their Monitoring
- Piezometer is a borewell /tube well used only for measuring the water level by lowering the tape/ sounder or automatic water level measuring equipment. It is also used to take water sample for water quality testing whenever needed. General guidelines for installation of piezometers are as follows for compliance of NOC:
- • The piezometer is to be installed/constructed at the minimum of 50 m distance from the pumping well through which ground water is being withdrawn. The diameter of the piezometer should be about 4" to 6".
- • The depth of the piezometer should be same as is case of the pumping well from which ground water is being abstracted. If, more than one piezometer are installed the second piezometer should monitor the shallow ground water regime. It will facilitate shallow as well as deeper ground water aquifer monitoring.
- • No. of piezometers to be constructed & Type of water level monitoring mechanism shall be as per below table:

| S.No | Quantum of Ground water withdrawal (cum/day) | No.of piezometers required | Monitiring Mechanism | |
|---|---|---|---|---|
| | | | Manual | DWLR with Telemetry |
| 1 | < 10 | 0 | 0 | 0 |
| 2 | 11 - 50 | 1 | 1 | 0 |
| 3 | 50- 500 | 1 | 0 | 1 |
| 4 | > 500 | 2 | 0 | 2 |

- • The measuring frequency should be monthly and accuracy of measurement should be up to cm. the reported measurement should be given in meter up to two decimals.
- • For measurement of water level sounder or automatic water level recorder (AWLR)/ Digital Automatic water level recorder (DWLR) with telemetry system should be used for accuracy.
- • The measurement of water level in piezometer should be taken, only after the pumping from the surrounding tube wells has been stopped for about four to six hours.
- • All the details regarding coordinates, reduced level (with respect to mean level), depth, zone taped and assembly lowered should be provided for bringing the piezometer into the Hydrograph Monitoring System for Ground Water Department, Uttar Pradesh, and for its validation.
- • The ground water quality has to be monitored twice in a year during pre-monsoon (May/June) and post-monsoon (October/November) periods. Quality may be got analyzed from NABL approved lab. Besides, one sample (1 lt. capacity bottle) to the concerned Director, Ground Water Department, Uttar Pradesh, for chemical analysis.
- • A Permanent display board should be installed at piezometer/Tube wells site for providing the location, piezometer/ tube well number, depth and zone tapped of piezometer/tube well for standard referencing and identification.
- • Any other site-specific requirement regarding safety and access for measurement may be taken care off.
- (11) Any other condition(s) that may be imposed by the concerned Authority.
- (12) In case, any of the particulars I information furnished by the applicant in his application for issuance of this permit is found to be incorrect during verification at any subsequent stage, this permit is liable for cancellation.
- **SPECIFIC CONDITIONS:**
- (A) **For Industrial User:** No Objection Certificate for ground water extraction by industries shall be granted subject to the following specific conditions:
- i) No Objection Certificate shall be granted only in such cases where local government water supply agencies are not able to supply the desired quantity of water.
- ii) All industries shall be required to adopt latest water efficient technologies so as to reduce dependence on ground water resources.
- iii) All industries abstracting ground water in excess of 100 m3/d shall be required to undertake annual water audit through Confederation of Indian Industries (CII)/ Federation Indian Chamber of Commerce and Industry (FICCI)/ National Productivity Council (NPC) certified auditors and submit audit reports within three months of completion of the same to CGWA. All such industries shall be required to reduce their ground water use by at least 20% over the next three years through appropriate means.
- iv) Construction of observation well(s) (piezometer)(s) within the premises and installation of appropriate water level monitoring mechanism as mentioned in General Condition no.10 shall be mandatory for industries drawing/ proposing to draw more than 10 m3/day of ground water and. Monitoring of water level shall be done by the project proponent. The piezometer (observation well) shall be constructed at a minimum distance of 15 m from the bore well/production well. Depth and aquifer zone tapped in the piezometer shall be the same as that of the pumping well/ wells. Monthly water level data shall be submitted online to the Ground Water Department, UP.
- v) The proponent shall be required to adopt roof top rain water harvesting/ recharge in the project premises. Industries which are likely to pollute ground water (chemical, pharmaceutical, dyes, pigments, paints, textiles, tannery, pesticides/ insecticides, fertilizers, slaughter house, explosives etc.) shall store the harvested rain water in surface storage tanks for use in the industry.
- vi) Injection of treated/ untreated waste water into aquifer system is strictly prohibited.
- vii) Industries which are likely to cause ground water pollution e.g. Tanning, Slaughter Houses, Dye, Chemical/ Petrochemical, Coal washeries, other hazardous units etc. (as per CPCB list) need to undertake necessary well head protection measures to ensure prevention of ground water pollution.
- (B) **Infrastructural User:** The No Objection Certificate for ground water abstraction will be granted subject to the following specific conditions:
- i) In case of infrastructure projects that require dewatering, proponent shall be required to carry out regular monitoring of dewatering discharge rate (using a digital water flow meter) and submit the data online to Ground Water Department, UP as applicable. Monitoring records and results should be retained by the proponent for two years, for inspection or reporting as required by District Ground Water Management Council.
- ii) Installation of Sewage Treatment Plants (STP) shall be mandatory for new projects, where ground water requirement is more than 20 m3 /day. The water from STP shall be utilized for toilet flushing, car washing, gardening etc.

**This certificate is electronically generated and does not require digital signature**

Annexure-2

# REGIONAL LABORATORY OFFICE MORADABAD
# UTTAR PRADESH POLLUTION CONTROL BOARD

**1-A/I.N.S.-1, Avas Vikas Colony, Buddha Vihar, Delhi Road,Moradabad**

## TEST REPORT: WASTE WATER LABORATORY

**Ref No: 14027545/Moradabad/2021** **Date:22/11/2021**

1- **Name of Industry:** RADICO KHAITAN LIMITED

2- **Address of Industry:** Radico Khaitan Limited, Bareilly Road, Rampur, U.P.,RAMPUR,244901

3- **District:** Rampur

4- **Description about sampling point:** Lagoon Yard Hitachi

5- **Type of Sample (Grab/Composite/Integrated):** Grab

6- **Sample Collected By:** Vinod Kumar AEE & Jitendra Nath Tiwari JE

7- **Colour and Odour:** Blackish Sweetness

8- **Quantity and Packing:** 2 liter (PLASTIC JERICAN)

9- **Date of Sample Collection:** 10/11/2021

10- **Analyis Indented by:** RO Moradabad

11- **Date of sample receipt in Lab:** 11/11/2021

| Parameter/Method Name | Unit | Results | Standard | Detection Range |
|---|---|---|---|---|
| Total Solids , 2540 B Total Solids dried at 103-105 0C | mg/l | 32.50% | | 10- 50000 mg/l |

Reference- (1)General Standards for discharge of envieronment Pollutants are as pert-A Effluent(Schedule-VI).The eniveronment (Protection) Rules,1986 source: www.cpcb.nic.in/GeneralStandards.pdf. Besides these standards,refer EPA standards for specific purpose

***Remark:*** *NA*

**Analysed by**

[Alok Sharma (JRF)]

**Authorized by**

ANIL KUMAR VISHWAKARMA

Anil Vishwkarma SA

VIKAS MISHRA Digitally signed by VIKAS MISHRA Date: 2021.11.23 10:59:57 +05'30'

**Regional Officer**

Note: 1 The results in the Test Report relate only to the items tested: 2. The report shall not be reproduced-except in full, without the written permission of laboratory. 3. The test report pertains to the sample as received in Lab.

# REGIONAL LABORATORY OFFICE MORADABAD
# UTTAR PRADESH POLLUTION CONTROL BOARD

**1-A/I.N.S.-1, Avas Vikas Colony, Buddha Vihar, Delhi Road,Moradabad**

## TEST REPORT: WASTE WATER LABORATORY

**Ref No: 14027569/Moradabad/2021** **Date:22/11/2021**

1- **Name of Industry:** RADICO KHAITAN LIMITED

2- **Address of Industry:** Radico Khaitan Limited, Bareilly Road, Rampur, U.P.,RAMPUR,244901

3- **District:** Rampur

4- **Description about sampling point:** Lagoon Yard Ajeetpur

5- **Type of Sample (Grab/Composite/Integrated):** Grab

6- **Sample Collected By:** Vinod Kumar AEE & Jitendra Nath Tiwari JE

7- **Colour and Odour:** Blackish Sweetness

8- **Quantity and Packing:** 2 liter (PLASTIC JERICAN)

9- **Date of Sample Collection:** 10/11/2021

10- **Analyis Indented by:** RO Moradabad

11- **Date of sample receipt in Lab:** 11/11/2021

| Parameter/Method Name | Unit | Results | Standard | Detection Range |
|---|---|---|---|---|
| Total Solids , 2540 B Total Solids dried at 103-105 0C | mg/l | 32.13% | | 10- 50000 mg/l |

Reference- (1)General Standards for discharge of envieronment Pollutants are as pert-A Effluent(Schedule-VI).The eniveronment (Protection) Rules,1986 source: www.cpcb.nic.in/GeneralStandards.pdf. Besides these standards,refer EPA standards for specific purpose

***Remark:*** *NA*

**Analysed by**

[Alok Sharma (JRF)]

**Authorized by**

ANIL KUMAR VISHWAKARMA Digitally signed by ANIL KUMAR VISHWAKARMA Date: 2021.11.22 13:33:47 +05'30'

Anil Vishwkarma SA

VIKAS MISHRA Digitally signed by VIKAS MISHRA Date: 2021.11.23 11:00:22 +05'30'

**Regional Officer**

Note: 1 The results in the Test Report relate only to the items tested: 2. The report shall not be reproduced-except in full, without the written permission of laboratory. 3. The test report pertains to the sample as received in Lab.

# WATER AUDIT REPORT

# AS PER THE GUIDELINES OF CGWA

# MINISTRY OF JAL SHAKTI

**AT**
**M/S RAMPUR DISTILLERY**
**(A UNIT OF RADICO KHAITAN LIMITED)**
**BAREILLY ROAD, RAMPUR, DISTT MORADABAD UTTAR PRADESH 244901**

**BY**

**PHD Chamber of Commerce and Industry**
**PHD House, 4/2 Siri Institutional Area**
**August Kranti Marg, New Delhi-110016**
**Email: piyush@phdcci.in**
**Website: www.phdcci.in**

**March 2021**

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# ACKNOWLEDGMENT

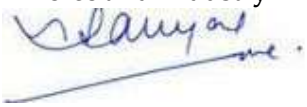
PHDCCI places on record its sincere thanks to the Management of Radico Khaitan Ltd, Rampur for entrusting the task of conducting Water Audit assignment at, Rampur Plant in line with CGWA Notification dated 24/09/2020.

We are grateful to Mr. K. P. Singh – Director Operations, for giving us the valuable opportunity to conduct water audit in Radico Khaitan Ltd. We also extend our sincere thanks to Mr. Devendra Singh – Sr. V. P. (Process), Mr. Vikas Saxena- Sr. G. M. (Instrumentation), Mr. G. B. Singh-Sr. G.M.(Bottling), Mr. Satish Tomar-D.G.M.(Process), Mr. Amrit Raj Tomar-Sr. Manager (Environment), Mr. Neeraj Dhama-Sr. Manager (Process) for their continuous support and guidance during the execution of the assignment.

PHDCCI Audit Team is indebted to the EHS department team of Radico Khaitan Ltd, Rampur for showing keen interest in the water audit and the wholehearted support and cooperation during the conduct of the field study, without which the study would not have steered to its successful completion.

It is well worthy to mention that the efforts being taken, and the enthusiasm shown by all the personnel towards water and energy conservation are really admirable.

**PHD Chamber of Commerce and Industry**



**Mr. Saurabh Sanyal**

**Secretary General, PHDCCI**

## CERTIFICATE

We certify the following

- The report is based on the data collected at site during Audit and information provided by Radico Khaitan Ltd, Rampur.
- The data collection has been carried out diligently and truthfully.
- All data measuring devices used by the team are in good working condition, have been calibrated and have valid calibration certificate from the authorized approved agencies and tampering of such devices has not occurred.
- All reasonable professional skill, care and diligence have been taken in preparing the water audit report and the contents thereof are a true representation of the facts and figures.

## ABBREVIATIONS

| | |
|---|---|
| A | Ampere |
| AC | Alternating Current |
| Avg. | Average |
| CGWA | Central Ground Water Authority |
| CGWB | Central Ground Water Board |
| CWC | Central Water Commission |
| KL | Kilo Litre |
| KV | Kilo Volt |
| kVA | Kilo Volt Ampere |
| KVAr | Kilo Volt Ampere Reactive |
| kW | Kilo Watts |
| kWh | Kilo Watt Hour |
| Lit | Litres |
| LPCD | Litre Per Capita per Day |
| M or m | Meter |
| Max. | Maximum |
| mbgl | meters below ground level |
| Min. | Minimum |
| MT | Metric Ton |
| No. | Number |
| PF | Power Factor |
| RO | Reverse Osmosis |
| LPS | Low Pressure Switch |
| HPS | High Pressure Switch |
| ETP | Effluent Treatment Plant |
| V | Voltage |
| WDS | Water distribution station. |
| WTP | Water Treatment Plant |
| CETP | Common Effluent Treatment Plant |
| CWP | Cooling Water Pump |

# CHAPTER 1

# Introduction

## 1. INTRODUCTION

Human activities consume and pollute lot of water. At a global scale, most of the water use occurs in agricultural production, but there are also substantial water volumes consumed and polluted in the industrial and domestic sectors (WWAP, 2009).

Global changes like population growth, climate variability, ever-expanding industrialization and urbanization — often combined with pollution — severely affect water availability and lead to chronic water shortages in a growing number of regions. India has been successful in the past to meet such water requirements for different usages with a phenomenal development of water resources. However, preserving the quality and availability of fresh water resources has now become a pressing environment challenge.

Water is an essential precondition for life, and according to the UN it is a human right to have access to clean water. However, in India millions of people are living without direct access to safe water and based on the rapid population growth coupled with the fact that the water reserve is finite, it will be a very valuable and scarce resource within only a few years. In this light, there is an urgent need for decision makers to act in order to improve the conditions for effective use and supply of water to the Indian people now and in the future.

Under the Indian Constitution and in our federal democratic set up drinking water comes within the domain of the State Governments (Provincial Governments). In fact, the 73rd Constitutional Amendment has gone a step forward. It mandates that responsibility for drinking water and sanitation services should be with Local Governments. Various States in India are at different stages of giving effect to this Constitutional mandate.

The Ministry of Urban Development has formulated Service Level Benchmarks (SLBs) in 2008 and circulated the same to the States for adoption. The SLBs include water conservation and management practices such as continuous water supply, 100% metering of water supply, sustainable tariffs and reduction in leakages to a level of 15% to 20%.

The National Water Policy – 2012 focuses on the need for publishing water accounts and water audit reports indicating leakages and pilferages. The policy recommends systems to evolve benchmarks for water uses for different purposes, i.e., water footprints, and water auditing to ensure efficient use of water.

National Water Mission (NWM) has been established by the Government of India with the objective of "conservation of water, minimizing wastage and ensuring its more equitable distribution both across and within States through integrated water resources development and management".
The Government of India has also launched a Centrally Sponsored Scheme for Repair, Renovation and Restoration (RRR) of water bodies, which has multiple objectives like comprehensive improvement and restoration of water bodies thereby increasing tank storage capacity, improved water use efficiency and increased availability of drinking water.

With its continuously declining per capita water availability (from about 5,177 $m^3$ in 1951 to 1,654 $m^3$ in 2007), India stands water stressed and is close to being categorized 'water scarce'. Water demand in India is expected to grow annually by 2.8 per cent to reach 1,500 bcm (by 2030) while the current supply is only about half (viz., 744 bcm). The Government of India, in its Intended Nationally Determined Contribution (INDC) submitted to UN Framework Convention on Climate Change (UNFCCC) in October, 2015, has committed to improve the water use efficiency by 20%, through regulatory mechanisms with differential entitlements and pricing. It further emphasizes the need to focus on integrated water resource management through water conservation, wastewater minimization, etc.

The notification dated 24/09/2020 from CGWA, all industries abstracting ground water in excess of 100KL/day shall be required to undertake annual water audit through CII/FICCI/NPC/PHDCCI certified auditors and submit water audit reports within three months of completion of the same to CGWA.

Water audit is an effective management tool for minimizing losses, optimizing various uses and thus enabling considerable conservation of water. Thus, RADICO KHAITAN LTD, RAMPUR has entrusted PHDCCI for conducting water audit in their plant premises.

This report discusses the existing water scenario at RADICO KHAITAN LTD, RAMPUR and its potential water savings and how the basic water audit approach has been applied to water conservation in line with the guidelines of CGWA

## *1.1 RATIONALE FOR WATER AUDIT*

Water audit determines the amount of water lost from the water network/distribution system due to seepage, evaporation/leakage and other reasons such as theft, unauthorized or illegal withdrawals from the systems. Water audit improves the knowledge and documentation of the distribution system, and better understanding of what is happening to the water after it leaves the source point. Comprehensive water audit gives a detailed profile of the distribution system and water users, thereby facilitating easier and effective management of the resources with improved reliability. It helps in correct diagnosis of the problems faced in order to suggest optimum solutions. This leads to reduced water losses; improved financial performance; improved reliability of supply system; enhanced knowledge of the distribution; efficient use of existing supplies; better safeguard to public health and property; improved public relations; reduced legal liability and reduced disruption etc. thereby improving level of service to customers. It is thus an effective tool for realistic understanding and assessment of the present performance level and efficiency of the service and the adaptability of the system for future expansion & rectification of faults during modernization.

### *1.1.1 Steps of Water Audit*

Water Audit includes water supply and usage study, process study, system audit, discharge analysis and preparation of water audit report.

### *1.1.2 Water Supply and Usage Study*

Water audit comprises preparation of layout of water sources, distribution network, and service/delivery points to water users and return flow of waste or excess water. The layout should contain locations and capacities of flow measurement devices installed at key points, sizes of different channels, and fittings in the water supply system, locations and particulars of flow control devices and history sheets of all measuring and control devices including pipes and fittings etc.

PHDCCI has carried out the water supply and usage study at RADICO KHAITAN LTD, RAMPUR to understand the present water utilization pattern and projecting future requirement. PHDCCI also carried out a review of sustainable sources of water through rainwater harvesting and possible wastewater recycling at RADICO KHAITAN LTD, RAMPUR.

### *1.1.3 Process Study*

Flow measurement devices were installed at all strategic points to calculate the water consumption at RADICO KHAITAN LTD, RAMPUR in various activities such as supply to the processing units, Process, Domestic, & STP.

Water quality of the distribution system needs to be monitored regularly at strategic points to find out the level and nature of contaminants present in the supplied water. RADICO KHAITAN LTD, RAMPUR has conducted the water quality test reports for raw water, waste water and treated waste water from CETP & STP outlet. Audit team reviewed all test reports and found acceptable as the results are in compliance to various standards as required by SPCB.

PHDCCI has carried out flow, pressure and power measurement of all bore well, cooling towers, CETP & STP Outlet to calculate the total water supplied to the different areas of the plant to understand the quantity of water received from ground and feed to the plant area. Accordingly, discharge from various processing units and estimation of losses was also assessed.

### *1.1.4 System Audit*

The current water usages and systems for water use under various sections such as food & beverage preparation and domestic water supply need to be studied to check their operational efficiency and level of maintenance. The scope for any modification or up-gradation will depend on the status of existing systems. Measurement methodology from the intake point of the system through various sub-systems to the ultimate user points needs to be verified periodically for its suitability, efficiency and accuracy. Bulk metering should be done at the source, process area, water discharge etc. This will help in identifying the reaches of undue water wastage. The domestic wastewater return flows need to be studied for conformity to environment standards and the opportunity for recycling of waste water.

PHDCCI has carried out physical inspection of water distribution network/system of pump house, supply to various areas of the Plant, Drinking, Domestic & Gardening, to get their per day water consumption & to arrive at per capita water consumption in RADICO KHAITAN LTD, RAMPUR .

### *1.1.5 Discharge Analysis*

The wastewater generated from the plant premises to CETP & residential colony to STP, return flows of treated water from the CETP, need to be studied for conformity to environment standards and the opportunity for recycling of waste water. The RADICO KHAITAN LTD, RAMPUR has installed one STP of 150 KLD for residential waste water & ETP with CPU unit respectively to treat the wastewater generated from domestic as well as industrial process. Unit is complying the ZLD norms by means of recycling of waste and treated water with effective Bio-composting facilities.

### *1.1.6 Water Audit Report*

A water audit can be accomplished on the basis of water allotted for a service and water actually utilized for that service. After assessing the loss of water and the efficiency of the system, steps needed for utilization of recoverable water loss and reuse may be listed.

An effective water audit report may be purposeful in detection of water losses and improve efficiency of the system. Water audit of the system should be undertaken at regular intervals, at least on an annual basis.

PHDCCI water audit explains the losses of water in system and various management approaches for RADICO KHAITAN LTD, RAMPUR.

## *1.2 BRIEF DESCRIPTION ABOUT THE PLANT*

Radico Khaitan Ltd., Rampur, UP has multiple product portfolios, ranging from Rampur Select Single Malt Whisky, Jaisalmer Craft GIN, 8PM whisky, Magic Moments Vodka, Contessa Rum, Old Admiral Brandy & much more while company is having good brand base in Country Liquor segment. Under his able leadership, Radico Khaitan is one of the largest and the most efficiently-run distilleries in India. It is spread over 100 acres of lush green campus with a high level of security systems. The distillery produces high-grade Extra Neutral Alcohol ("ENA") from molasses, grains and Scottish design malt spirit from barley malt. The unit is self-sufficient in meeting the fuel and power requirements by the way of backward integration. M/s Radico Khaitan Ltd, Rampur is an existing company located at Bareilly Road, Rampur in Distt Moradabad in Uttar Pradesh State.

### *1.2.1 Process Description*

At Radico Khaitan Ltd, Rampur produces high-grade Extra Neutral Alcohol ("ENA") from molasses, grains and Scottish design malt spirit from Barley malt. The manufacturing plant having three separate unit based extraction raw material, i.e., Molasses, Grains, Barley Malt.

The Manufacturing Process are as follows:

1) **Molasses:** Molasses from sugar cane is purchased as raw material from sugar industry. In this process **molasses** is diluted with water and enzymes are added for the conversion of molasses into fermentable **sugar**. In Fermentation process the mash is fermented using yeast, whereby the sugar is converted into ethanol and carbon dioxide.

2) **Grain: Grain alcohol** is a purified form of ethyl **alcohol** (ethanol) **made** from the distillation of fermented **grain**. The ethanol is **produced** via fermentation of sugars in the **grain** by yeast prior to repeated distillation or rectification.

3) **Barley Malt:** Generally **malt** is made with **barley.** This is the same process as beer (at least at first), **malt** is mixed with water, the starches are broken into sugar, the sugars are fed to yeast, and the yeast produces **alcohol.**

4) **Country Liquor:** It is the primary and most popular alcoholic beverage in India's villages and it is fermented and distilled from molasses which is a byproduct of sugarcane.

5) **IMFL:** The ENA manufactured is mixed with de-mineralized water to form the base liquor which contains about 42% alcohol by volume. To **manufacture** whisky, special malts, flavors and colorings agents are blended in the base liquor. A good whisky is obtained based on the length of maturing the blended mix is kept for ageing. Rum, Whisky, Vodka & Gin are the products from IMFL.

# CHAPTER 2

## Scope of Work

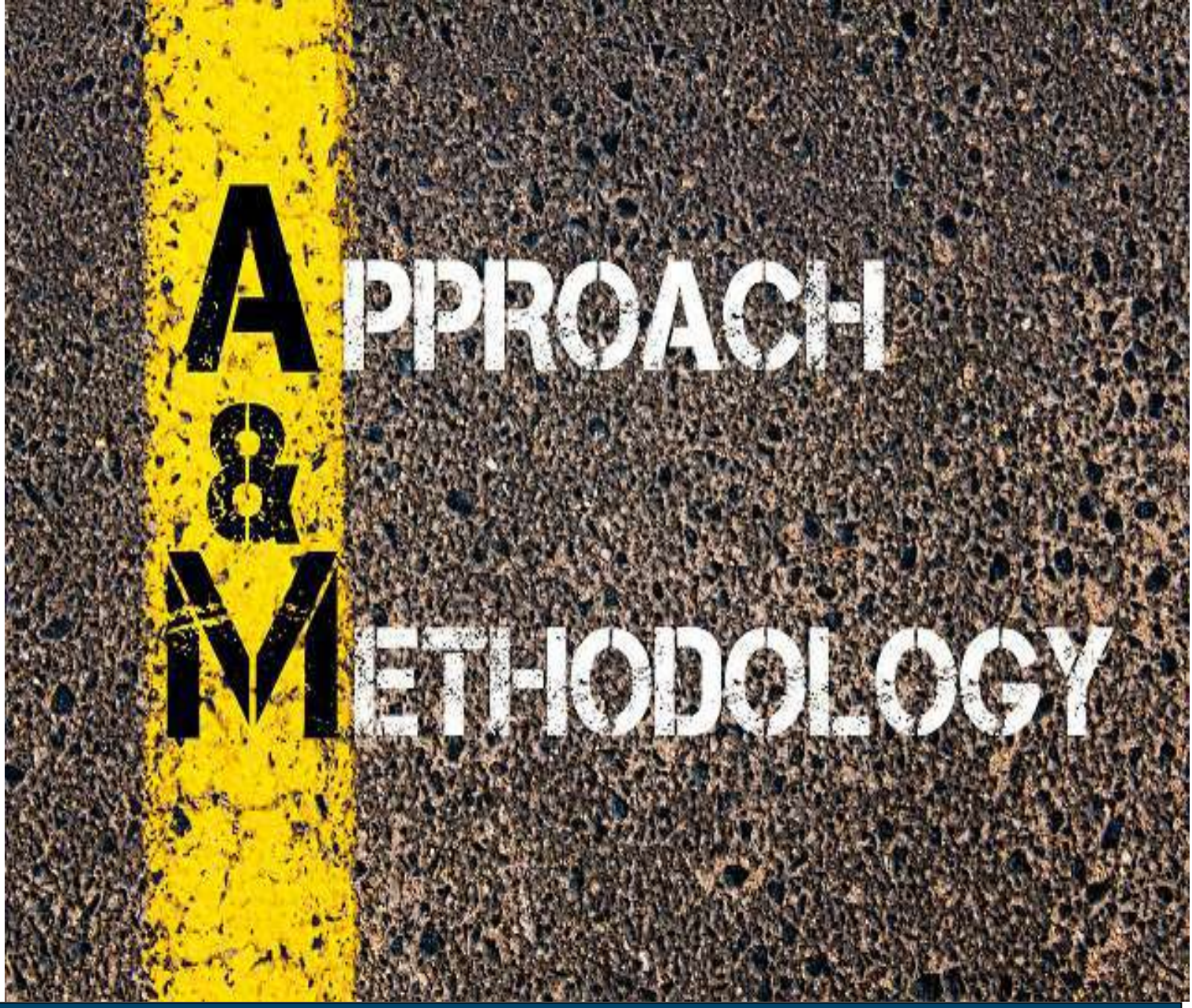
## 2. SCOPE OF WORK

The main objective of the study was to identify the water uses & water saving opportunities and to demonstrate water conservation at Radico Khaitan Ltd, Rampur. Scope of work of the study includes the following:

***2.1 Water system analysis, water quality analysis***
***2.2 Quantification of baseline water map***
***2.3 Monitoring and measurements using pressure, flow meters and other devices***
***2.4 Quantification of inefficiencies and leaks***
***2.5 Quantification of water quality loads and discharges***
***2.6 Quantification of variability in flows and quality parameters***
***2.7 Strategies for water treatment and reuse or direct use***
***2.8 Water balance of the whole System***
***2.9 Mapping of Water quality requirement at various user areas***

The detailed water audit report contains the following:

- Water consumption and wastewater generation pattern
- Specific water use and conservation
- Complete water balance of the facility
- Water saving opportunities
- Method of implementing the proposals
- Full description and figures
- Investment required
- Assessment of existing water sources and actual water consumption of the Plant.
- Identify the loss of water if any during transit and water distribution network and provide suggestion to eliminate these water losses.
- Identify the opportunities to reduce the water consumption by various activities and to establish specific water consumption in the premises.
- To study the performance of existing water circulating pumps/motors and recommends energy and water fixtures. This report aims at portraying the water audit details and the outcome along with recommendations for Radico Khaitan Ltd, Rampur.
- Assessment of adequacy and efficacy of existing treatment system and recommend feasible technological option for treatment of water and waste water.
- Identify the loss of water if any during transit and to provide suggestions to eliminate the losses.
- To analyse areas of water conservation, waste water generation and recycle.
- Preparation of detailed water balance schematic diagram.
- Evolve techno-economic feasible solutions for recommended measure for implementation along with annual financial savings/payback periods.
- Assessment of ground water quality within premises and the near by areas.




# CHAPTER 3

## Methodology of the Study

## 3. METHODOLOGY OF THE STUDY

PHDCCI has been entrusted to conduct Water Audit of Radico Khaitan Ltd, Rampur. In determining the water audit scope, PHDCCI has considered the extent and boundaries of the Installations.

The following step by step methodology and approach were adopted while carrying out the Water Audit at Radico Khaitan Ltd, Rampur. PHDCCI team visited Radico Khaitan Ltd, Rampur in the month of March-2021 for the field measurement and conducting the audit. The broad methodology adopted for the Water Audit at Radico Khaitan Ltd, Rampur is furnished below.

- Preliminary discussions with plant personnel and observations in all water consuming areas.
- Data collection through discussions, past records, specifications.
- Field studies in each of the areas involving:
    - ✓ Performance trials.
    - ✓ Measurement of flow parameters, pressure, power wherever possible using portable instruments such as ultrasonic flowmeter, pressure gauge and power analyser.
- Identification of water conservation options on short, medium & long terms.
- Identification of Investment grade projects in the plant for detailed analysis towards implementation
- Preparation, discussion and submission of report to the management.

The study focused on improving water use efficiency and identifying water saving opportunities. The analysis included simple payback calculations where investments are required to be made to implement recommendations, to establish their economic viability.

The audit study made use of various portable instruments for carrying out various measurements and analyses. PHDCCI has a wide array of latest, sophisticated, portable, diagnostic and measuring instruments to support our energy audit investigations and analyses. The specialized instruments that were used during the water audit include:

- Ultrasonic water flow meter
- Thermo couples & Indicators
- Pressure Gauge
- Load Manager

During the audit, there was continuous interaction between the audit team and facility personnel, to ensure that the suggestions made are realistic, practical and implementable to allow for possible concurrent implementation.

The broad methodology adopted for the Water Audit at Radico Khaitan Ltd, Rampur is furnished below.

### *3.1 Pre Audit Information*

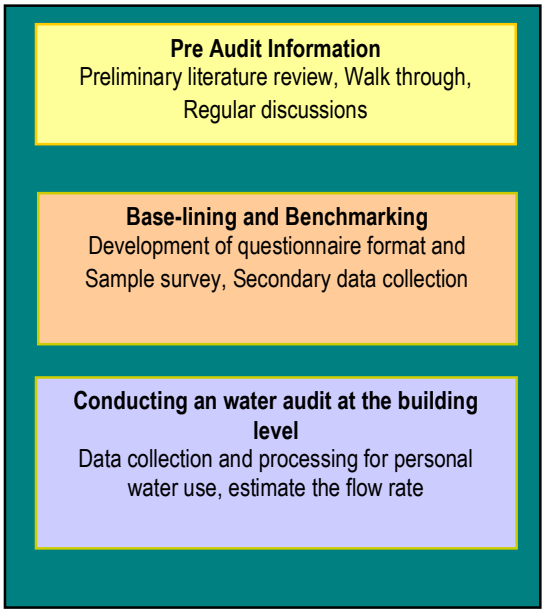
- Preliminary literature -review of concepts and methodologies related to water audit for utility, facilities and households.

- Walk through the entire Plant, water receiving pump stations, building to understand the nature of water uses and the systems installed in the building.
- Discussion with the administrative officers, pump operators, EHS staff, housekeeping and kitchen employees on the various water uses during the day and the source of water.

### *3.2 Base-lining and benchmarking*

The water audit for Radico Khaitan Ltd, Rampur included both primary and secondary data collection for various identified water uses. Primary data collection included the following components:

- Development of questionnaire format for individual water use, process area, gardening etc.
- Sample Survey of Radico Khaitan Ltd, Rampur office staff to estimate individual water consumption on sanitary and drinking purposes based on questionnaire format.
- Flow rate calculation from the taps flow rates and number of all water using fixtures/ equipment was also undertaken.
- Secondary data collection included compilation of number of staff along with their duration of stay.
- Collecting records of water pumped to the overhead and underground tanks and average running hours of all pumps etc. to estimate actual supply.




### *3.3 Conducting a water audit at the Plant Level*

- The data collection including raw water, process water, waste & reject water, etc. was done on the basis of actual consumption.
- As part of the survey, treated waste water from STP & CETP was also carried out.
- The data for all the above uses was calculated for varying time period for Radico Khaitan Ltd, Rampur to calculate per capita use.

CHAPTER 4

# Assessment of Water Usage

/*

## 4. ASSESMENT OF PRESENT WATER USAGE

### *4.1 Plant Water Consumption Trends (last 3 years)*

The source of water to the plant is through Ground Water supplied from three (3) Bore Wells which are being operating continuously to meet the demand of the plant. Each source and bore well is fitted with individual meter.

Groundwater after extraction is supplied to various areas such as WTP for treatment, Softener plant for process, utility, and domestic consumption such as hand wash, toilets and canteen. The water consumption patterns for last year at all the consumption areas are shown below:

**Table 1 Water Consumption Trend FY 20-21**

| Year | Month | Bore well No.1 | Bore well No.2 | Bore well No.3 | Total |
|---|---|---|---|---|---|
| 2020-21 | Apr-20 | 16780 | 13218 | 0 | 29998 |
| | May-20 | 22375 | 26792 | 12792 | 61959 |
| | Jun-20 | 25497 | 23586 | 24659 | 73742 |
| | Jul-20 | 18384 | 24947 | 31040 | 74371 |
| | Aug-20 | 22779 | 22119 | 29994 | 74892 |
| | Sep-20 | 29526 | 11808 | 29793 | 71127 |
| | Oct-20 | 19727 | 21826 | 27996 | 69549 |
| | Nov-20 | 20261 | 25071 | 25169 | 70501 |
| | Dec-20 | 25340 | 23108 | 28288 | 76736 |
| | Jan-21 | 29685 | 4151 | 38022 | 71858 |
| | Feb-21 | 14659 | 26737 | 23052 | 64448 |
| | Mar-21 | 28404 | 15897 | 27955 | 72256 |
| **Total** | | **273417** | **239260** | **298760** | **811437** |

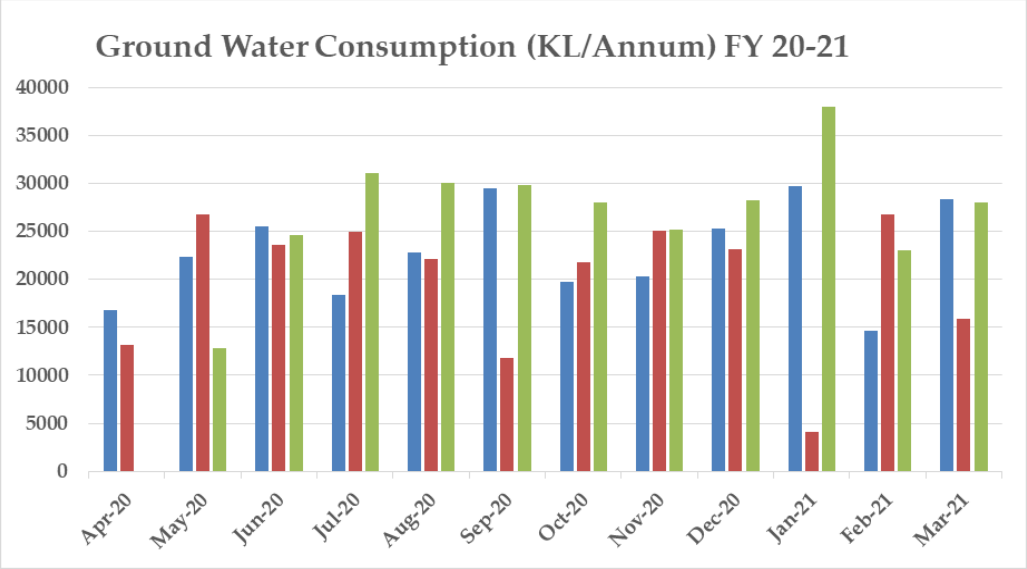


Table 2 Water Consumption Trend FY 19-20

| Year | Month | Bore well No.1 | Bore well No.2 | Bore well No.3 | Total |
|---|---|---|---|---|---|
| 2019-20 | Apr-19 | 30882 | 6544 | 30471 | 67897 |
| | May-19 | 29835 | 8071 | 29142 | 67048 |
| | Jun-19 | 24164 | 1174 | 28614 | 53952 |
| | Jul-19 | 26727 | 1339 | 29075 | 57141 |
| | Aug-19 | 30029 | 5830 | 30880 | 66739 |
| | Sep-19 | 29583 | 14010 | 30898 | 74491 |
| | Oct-19 | 29954 | 9150 | 29105 | 68209 |
| | Nov-19 | 15276 | 15736 | 28715 | 59727 |
| | Dec-19 | 17237 | 21662 | 29303 | 68202 |
| | Jan-20 | 43085 | 8047 | 15734 | 66866 |
| | Feb-20 | 10158 | 30132 | 23735 | 64025 |
| | Mar-20 | 16552 | 20258 | 28254 | 65064 |
| **Total** | | **303482** | **141953** | **333926** | **779361** |

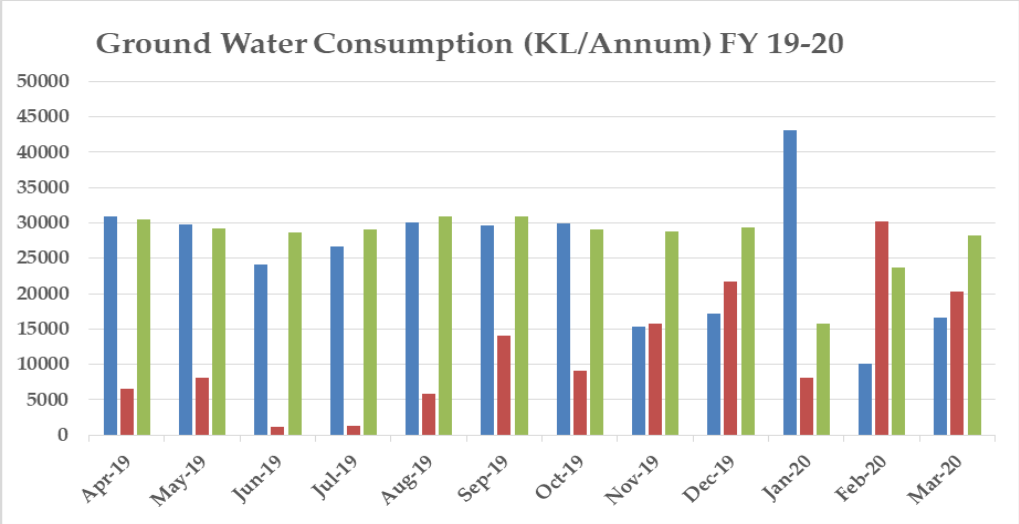
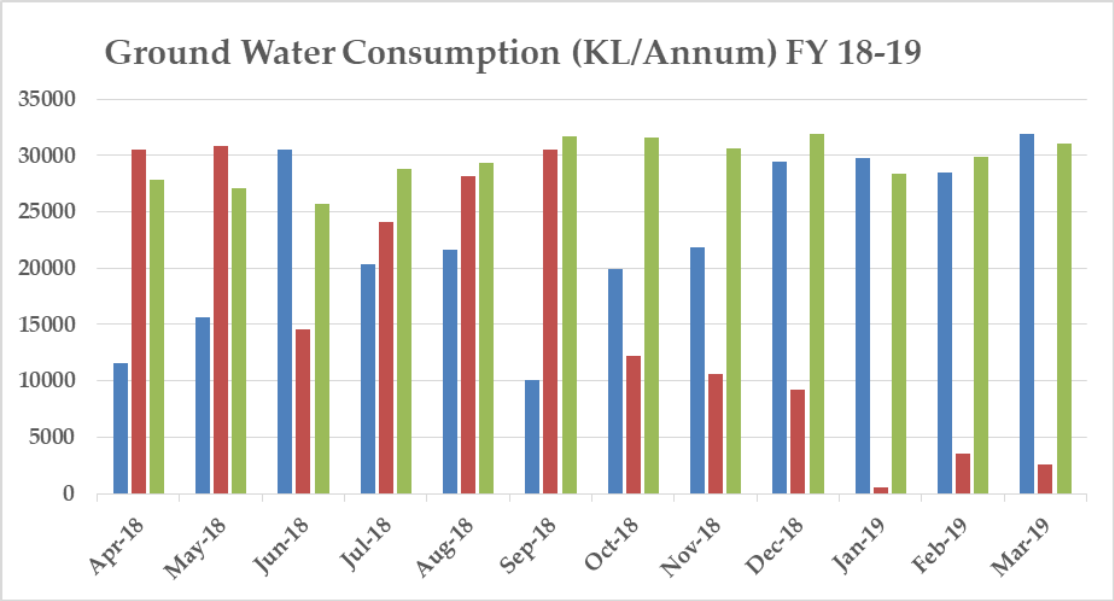



Table 3 Water Consumption Trend FY 18-19

| Year | Month | Bore well No.1 | Bore well No.2 | Bore well No.3 | Total |
|---|---|---|---|---|---|
| 2018-19 | Apr-18 | 11562 | 30515 | 27795 | 69872 |
| | May-18 | 15686 | 30842 | 27072 | 73600 |
| | Jun-18 | 30572 | 14530 | 25686 | 70788 |
| | Jul-18 | 20340 | 24125 | 28808 | 73273 |
| | Aug-18 | 21684 | 28125 | 29320 | 79129 |
| | Sep-18 | 10081 | 30520 | 31697 | 72298 |
| | Oct-18 | 19943 | 12196 | 31550 | 63689 |
| | Nov-18 | 21812 | 10582 | 30671 | 63065 |
| | Dec-18 | 29429 | 9232 | 31904 | 70565 |
| | Jan-19 | 29777 | 582 | 28362 | 58721 |
| | Feb-19 | 28528 | 3538 | 29845 | 61911 |
| | Mar-19 | 11562 | 30515 | 27795 | 69872 |
| **Total** | | **271352** | **197389** | **353751** | **822492** |




### *4.2 Water Sources, which should include rain water, ground water & other sources*

The main source of drinking and other water usage at Radico Khaitan Ltd, Rampur is water received from ground water through 3 bore wells located in plant area. The details of pumps and their location are mentioned below:

**Table 4 Rated Details and Location of Bore well Pumps**

| Sr. No. | Type of Structure/ Year of Construction | Bore well Depth (meter) | Location | Mode of lift | HP of Pump |
|---|---|---|---|---|---|
| 1 | Bore Well/1994(BW1) | 110 | GSP DM plant | Submersible Pump | 41 |
| 2 | Bore Well/1995 (BW2) | 110 | GSP Weigh Bridge | Submersible Pump | 41 |
| 3 | Bore Well/2005 (BW3) | 90 | MRP ( Near CPU) | Submersible Pump | 41 |

### *4.3 Water Supply & Distribution Details*

A water distribution network diagram provides a schematic (simplified) representation of facility's water distribution system from the source or point of entry (to the facility) to points of water consumption.

**Bore well to Supply:** Radico Khaitan Ltd, Rampur has 3 bore wells each located at different locations inside the plant. Water is being passed through filters, softener and DM plant for respective sections in plant. Treated water received from CPU and bore wells is used for preparing soft water and to be used in cleaning, washing and other utilities. The Radico Khaitan Ltd, Rampur has installed one STP of 150 KLD for residential waste water & ETP with CPU unit respectively to treat the wastewater generated from domestic as well as industrial process. Treated water from STP is partially used for gardening & remaining is discharged outside. Treated water from ETP is used for gardening and for supplying to softener to generate soft water which is again utilized in cooling tower, boiler etc.

**Process and Utility:** Major water consumption in process is for cleaning, washing & process. Water is also required in Soft water & DM water preparation to be used in the product. Water is recycled in the process but the make-up is required to compensate water absorbed by the products, treated waste

water is being discharged for gardening inside the plant. In utility section, all the water is used for cooling tower (Evaporation and Blow down loss) & boiler make up.

For all the waste water, plant has installed STP & CETP all the waste water generated from domestic & utility is transferred to it for treatment. After treatment the water is being used for either in utilities or gardening purpose. & none of the water is discharge outside the plant.

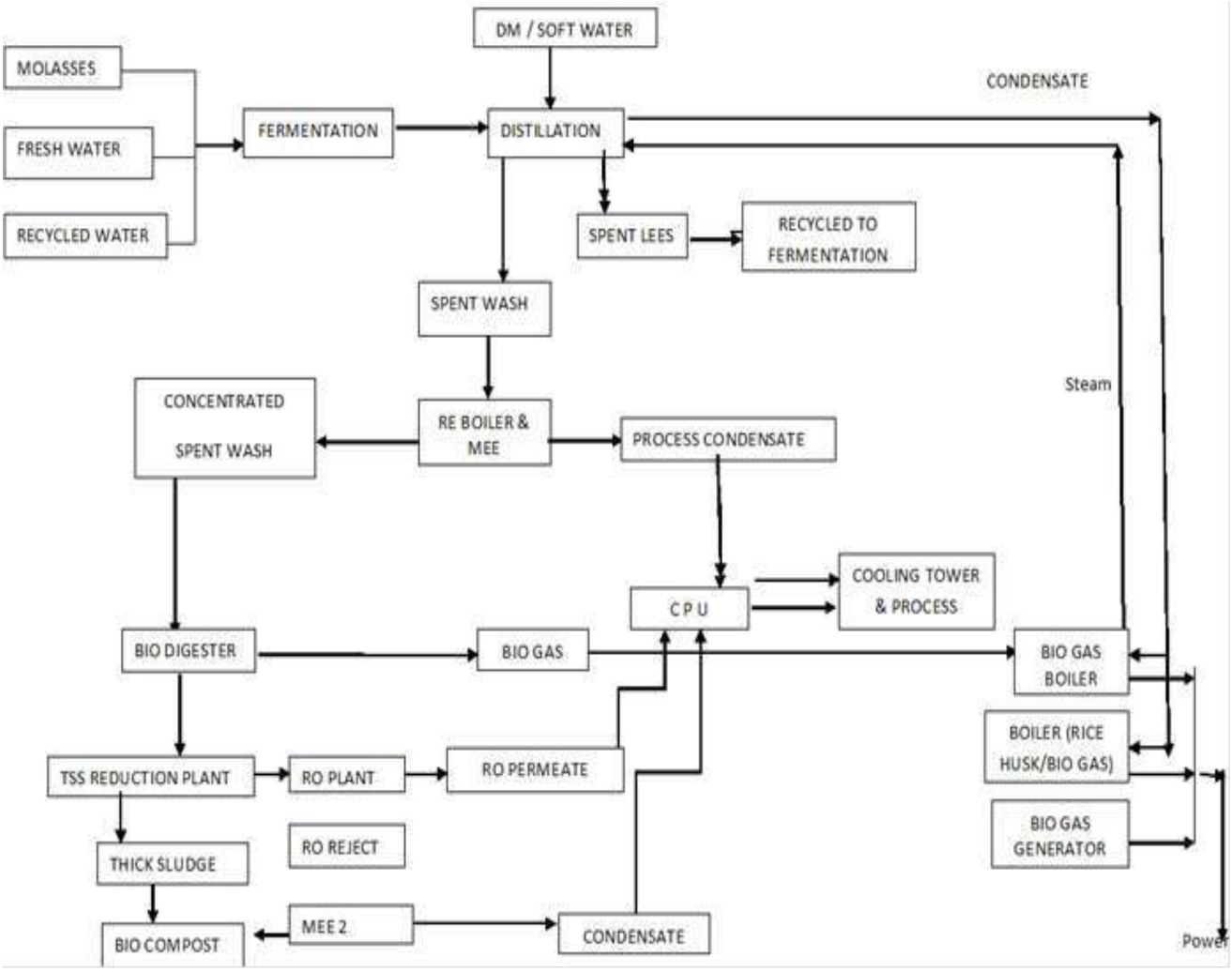



**Figure 1 Water Distribution Network of Radico Khaitan Ltd, Rampur**

### *4.4 Water Balance*

The assessment team has reviewed the water supply and consumption as well as the losses in the water distribution network at plant. The water balance diagram of the system is given in below table and figure.

**Table 5 Water Balance of Radico Khaitan Ltd, Rampur**

| Water Balance | | KL/ANNUM | KLD |
|---|---|---|---|
| **Sr. No.** | **Source** | | |
| 1 | Bore well | **811437** | 2223 |
| 2 | Recycled Water | 1099208 | 3012 |
| 3 | **Total Source** | **1910645** | **5235** |
| | | | |
| **A** | **Consumption** | | |
| | **For Molasses** | | |
| 4 | Soft water used for plant & Cooling towers | 122979 | 337 |
| 5 | Spent Lees/Sealing water of Molasses/GSP Plant to molasses fermentation | 230862 | 632 |
| 6 | Dm water | 110018 | 301 |
| 7 | CPU treated water | 550075 | 1507 |
| 8 | Process | 56313 | 154 |
| | **Consumption (I)** | **1070247** | **2932** |
| **B** | **For Grain** | | |
| 9 | Spent Lees/Sealing water of GSP to grain liquefaction / fermentation | 78643 | 215 |
| 10 | $CO_2$ Scrubber water (fermentation house) | 4296 | 12 |
| 11 | DM water | 37662 | 103 |
| 12 | Soft water | 82735 | 227 |
| 13 | Process | 38658 | 106 |
| 14 | **Consumption (II)** | **241993** | **663** |
| **C** | **Utilities** | | |
| 15 | Boiler | 136855 | 375 |
| 16 | All Cooling Tower | 205733 | 564 |
| 17 | Raw water used for DM & Soft water charging | 52365 | 143 |
| 18 | Domestic | 14400 | 39 |
| 19 | Gardening, Horticulture etc | 29598 | 81 |
| 20 | Bottling | 159453 | 437 |
| 21 | **Consumption (III)** | 598404 | 1639 |
| **D** | **Total Consumption** | **1910645** | 5235 |

**Total Water Consumption = 1070247+241993+598404= 1910645 KL**

**Bore well Source = 811437 KL**
**Recycling CPU Treated Water = 1099208 KL**
**Total Water Source= 1910645 KL**

**Water Balance= 2223 KLD**

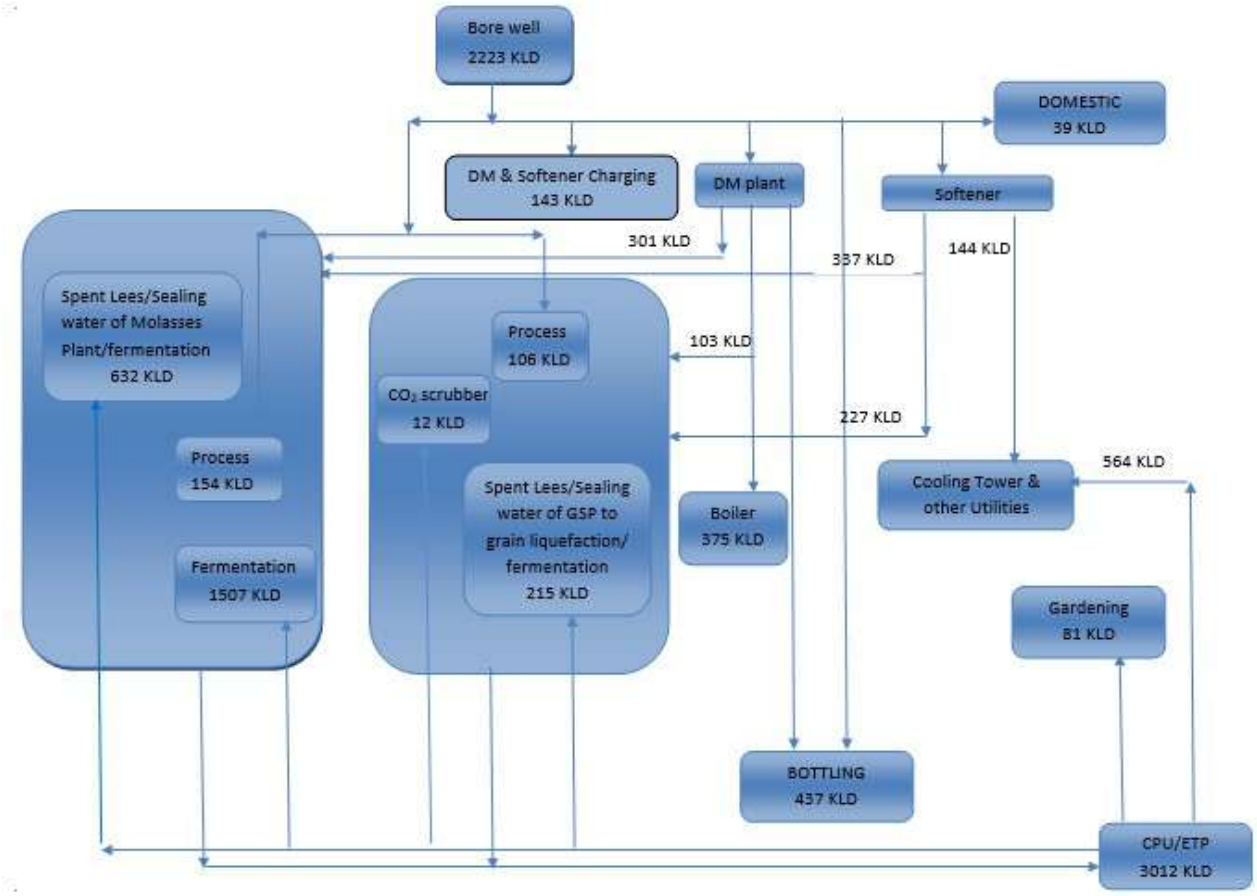



**Figure 2 Water Balance Diagram**

- It is evident from the above water balance diagram is that major water consuming area is account **42% fresh water consumption & 58% as recycled soft water**. **Process accounts for 21%, Utility accounts for 11%, 15% accounts for DM water, 50% accounts for soft water, 2% for gardening** and almost **1% for domestic accounts.** About **1099208 KL/year** wastewater is generated in the plant and is transferred to Condensing Polishing Unit(CPU) & ETP from which a part of treated water is being mixed with water from bore wells and passed through DM water treatment & softener so that recycled soft water can be used as make up water for Cooling tower, Boiler, cleaning and washing. Remaining part of treated waste water from ETP is used for horticulture in green belt.

- The audit team has collected the detail of Ground Water abstracted by the plant in year 2020-21. As per data provided by the plant, the total ground water abstraction in FY 2020-21 is **811,437** KL/year which is less than the **CGWA NOC** of 949,000 KL/year, issued to plant on **17/10/2016 vide NOC letter CGWA\NOC\IND\ORIG\2016\2308**.

### *4.5 Water Metering & Monitoring System*

Monitoring is the most important prerequisite for efficient water management. Thus, in the water supply network, it is necessary to have a robust system of monitoring. During the audit, the available flow meters were identified, and their working conditions were checked.

### *4.5.1 Measurement at different locations through Ultrasonic Flow meter*

PHDCCI team measures the flow for all the flow meters installed in the plant with the help of ultrasonic flow meter to check any variation in flow meter reading. All flow meters were giving accurate results. Data captured with Ultrasonic Flow meter and Meter installed at the plant is shown in below table.

**Table 6 Measurement at Different Location through Ultrasonic Flow Meter**

| Sr. No. | Location | Flow Measurement by PHDCCI Flow Meter (KL/hr) |
|---|---|---|
| 1 | Bore well # 1 | 125 |
| 2 | Bore well # 2 | 70 |
| 3 | Bore well # 3 | 110 |

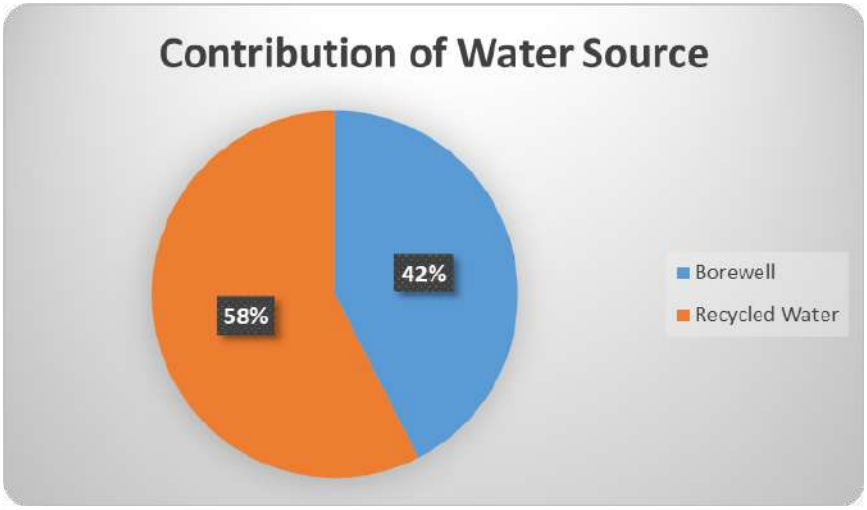



**Figure 3 Contribution of Water Sources**

### *4.5.2 Area Wise Water Consumption in Plant*

The break up for water consumption in different area is provided in below tables and bar charts:

**Table 7 Area Wise Water Consumption in the Plant**

| AREA WISE WATER CONSUMPTION | | | |
|---|---|---|---|
| 1 | Process water | 1120 | 21% |
| 2 | DM water | 780 | 15% |
| 3 | Soft water | 2634 | 50% |
| 4 | Utilities | 580 | 11% |
| 5 | Domestic | 39 | 1% |
| 6 | Gardening | 81 | 2% |

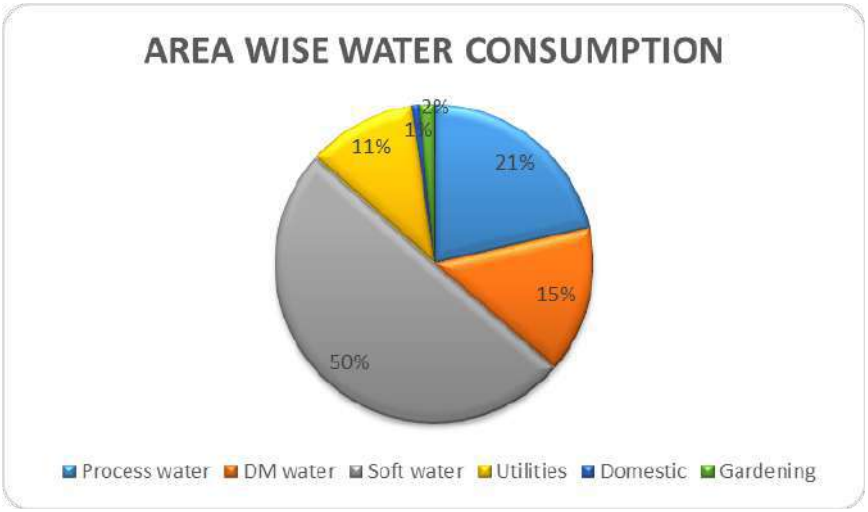



**Figure 4 Area wise consumption in the Plant**

As evident from the area wise water consumption table and graph, the major water consumption area in the plant is process and utilities.

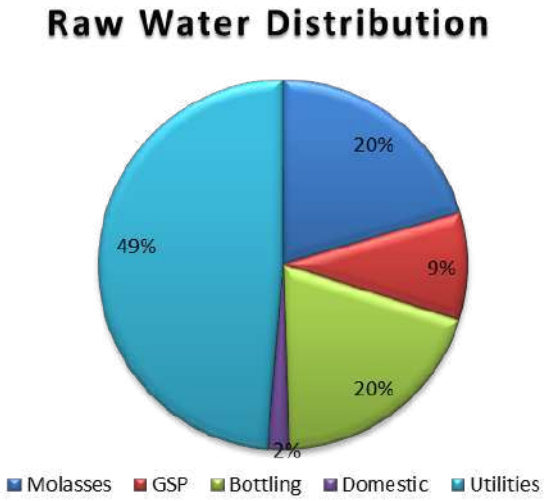



**Figure 5 Raw Water Distribution**

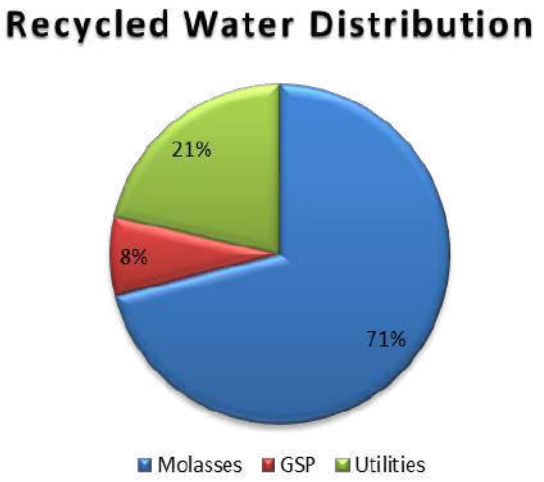



**Figure 6 Recycled Water Distribution**

### *4.5.3 Total Raw Water Withdrawal for Last Three Years*

Total Raw Water Withdrawal for last three years (2018, 2019 and 2020) is shown in below table

**Table 8 Total Raw Water Withdrawal for (2018, 2019 and 2020)**

| Year | Month | Total Water Withdrawal from Bore well Source (KL) |
|---|---|---|
| 2018-19 | Jun-18 | 69872 |
| | Jul-18 | 73600 |
| | Aug-18 | 70788 |
| | Sep-18 | 73273 |
| | Oct-18 | 79129 |
| | Nov-18 | 72298 |
| | Dec-18 | 63689 |
| | Jan-19 | 63065 |
| | Feb-19 | 70565 |
| | Mar-19 | 58721 |
| **Total** | | **822492** |
| 2019-20 | Apr-19 | 67897 |
| | May-19 | 67048 |
| | Jun-19 | 53952 |
| | Jul-19 | 57141 |
| | Aug-19 | 66739 |
| | Sep-19 | 74491 |
| | Oct-19 | 68209 |
| | Nov-19 | 59727 |
| | Dec-19 | 68202 |
| | Jan-20 | 66866 |
| | Feb-20 | 64025 |
| | Mar-20 | 65064 |
| **Total** | | **779361** |
| 2020-21 | Apr-20 | 29998 |
| | May-20 | 61959 |
| | Jun-20 | 73742 |
| | Jul-20 | 74371 |
| | Aug-20 | 74892 |
| | Sep-20 | 71127 |
| | Oct-20 | 69549 |
| | Nov-20 | 70501 |
| | Dec-20 | 76736 |
| | Jan-21 | 71858 |
| | Feb-21 | 64448 |
| **Total** | | **811437** |

From above table, it is clear that normal water requirement of ground water extraction is around 8,00,000 KL /annum when the plant is running on full/peak load.

**Table 9 Break-Up of Sources Withdrawal Pattern**

| Source | Total Raw water Withdrawal in KL (FY 2019-20) | Total |
|---|---|---|
| Bore well No. 1 | 273,417 | 34% |
| Bore well No. 2 | 239,260 | 29% |
| Bore well No. 3 | 298,760 | 37% |
| **Total** | **811,437** | **100%** |

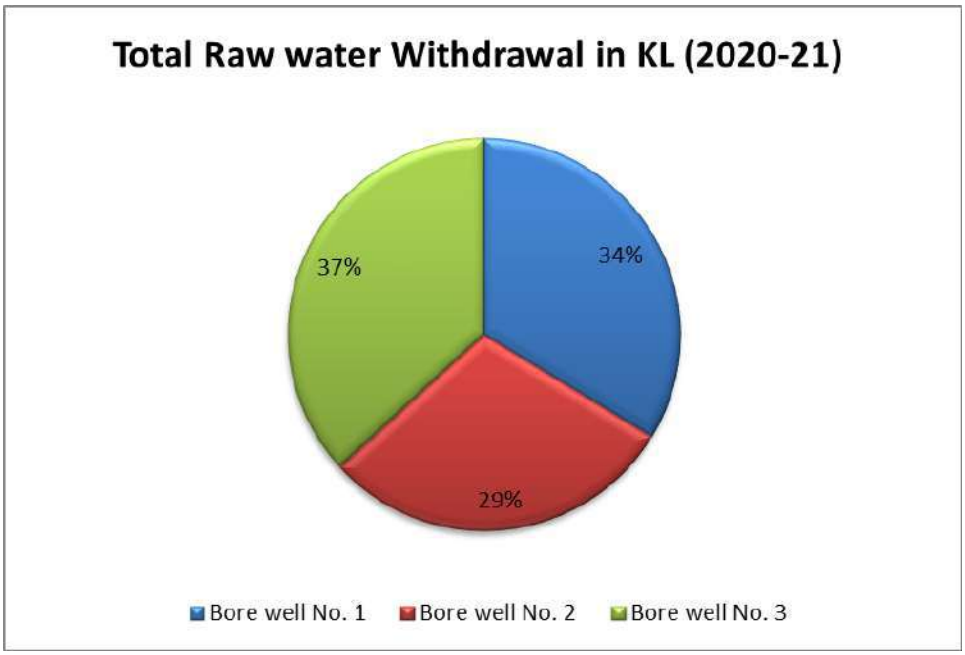


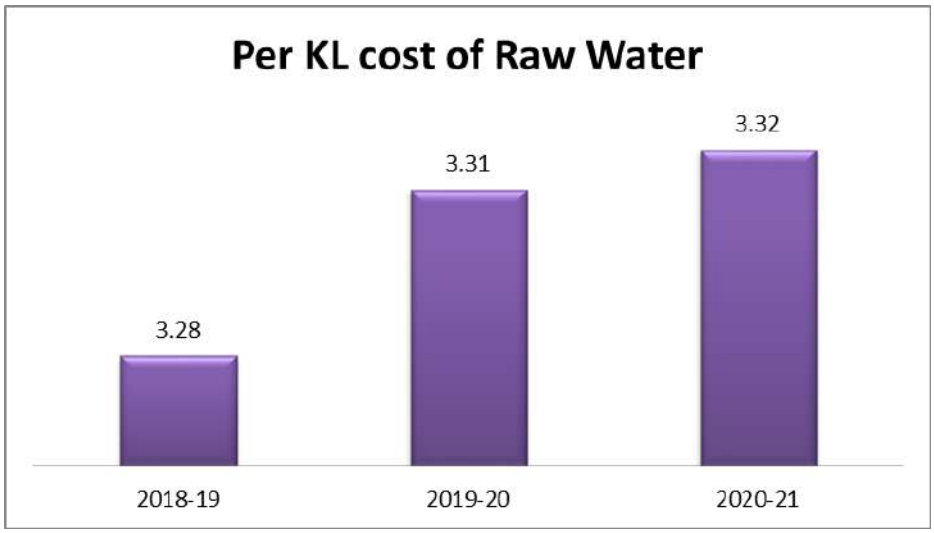

**Figure 7 Total Raw water withdrawal**

### *4.6 WATER COSTING*

The Audit team calculated the Per KL cost of Raw Water. The Rs. /KL cost of Raw water is Rs. 3.3 for year 2021. The expenses towards energy consumption at bore well, Manpower cost, and maintenance costs are considered for calculating raw water cost. The detail of Raw Water Rs. /KL cost is provided in below table.

**Table 10 Rs. / KL cost of Raw Water withdrawal**

| Year | Total Water Withdrawal (KL) | Man Power Cost (Rs.) | Maintenance Cost (Rs.) | Energy Cost (Rs.) | INR/KL |
|---|---|---|---|---|---|
| **2018-19** | **822492** | **20,000** | **255,000** | **2,424,278** | **3.28** |
| **2019-20** | **779361** | **20,000** | **268,500** | **2,294,886** | **3.31** |
| **2020-21** | **811437** | **20,000** | **285,000** | **2,391,113** | **3.32** |




### *4.7 BOREWELL PUMP PERFORMANCE EVALUATION*

Total three (3) bore well are installed at Radico Khaitan Ltd, Rampur. During audit, we measured Terminal Voltage, Load Current, Power Consumption and P.F. for all the pumps. We have also checked throttling, Flow, measured Suction and Discharge Pressure. All the measured data is tabulated below.

**Table 11 Performance Evaluation of Bore Well Pumps**

| Particulars | Unit | Bore well # 1 | Bore well # 2 | Bore well #3 |
|---|---|---|---|---|
| Running Status | | Running | Standby | Running |
| Rated Flow | $m^3/hr$ | 150 | 150 | 190 |
| Rated Head | M | 45 | 45 | 50 |
| Rated Power | KW | 30 | 30 | 45 |
| Measured Flow | $m^3/hr$ | 125 | 70 | 110 |
| Velocity | m/s | 1.733 | 0.348 | 1.52 |
| Discharge Pressure (A) | $Kg/cm^2$ | 2.9 | 2.7 | 3.2 |
| Depth of Water from Ground (B) | Meter | 7 | 7 | 7 |
| Total Head (=B+(AX10)) | Meter | 36 | 34 | 32 |
| Head Utilization | % | 80% | 76% | 83% |
| Flow Utilization | % | **83%** | **47%** | **21%** |
| Input power | kW | **23.21** | **27.88** | **20.49** |
| Hydraulic Power | KW | **12.26** | **6.49** | **9.59** |
| Motor Efficiency | % | 90 | 90 | 90 |
| Rated Efficiency | | **61.3%** | **61.3%** | **57.5%** |
| Pump Efficiency | % | 58.7% | 25.8% | 52.0% |
| Overall (Pump Set) Efficiency | % | 52.8% | 23.3% | 46.8% |

***OBSERVATION***

- The evaluated pump efficiency of bore wells and other transferring pump are **52.8%, 23.3% & 46.8%,** respectively. The results are found satisfactory.

### *4.8 CALIBRATION CERTIFICATES*

`All of the meters have been regularly calibrated by Radico Khaitan Limited, Rampur & the calibration details have been shown below.

**Table 12 Flow Meter Calibration Details**

| Meter Sr. No. | Certificate Number | Location of Meter | Date of Calibration | Due date of Calibration |
|---|---|---|---|---|
| 1 | 4004181 | Borewell 3 | 29-06-2020 | 28-05-2021 |
| 2 | 4004182 | Borewell 1 | 29-06-2020 | 28-05-2021 |
| 3 | 4004183 | Borewell 2 | 29-06-2020 | 28-05-2021 |

## RECOMMENDATIONS

In most of the location, flow meters are installed and the plant is maintaining the data for bore wells & other process such as Soft water, DM water, Cooling tower section, Boiler make-up etc. but not drinking and gardening. The locations where flow meter should be installed are mentioned below:

a) Line going to STP treated water
b) Line going to Residential Colony

CHAPTER 5

# Water Treatment Practices

## 5. WATER & WASTE WATER TREATMENT PRACTICES (OR) WATER TREATMENT & RECYCLING PRACTICES (OR) JUST 'WATER TREATMENT PRACTICES

The water treatment & Waste Water Treatment Practices in Radico Khaitan Ltd, Rampur includes borewell water, and 1 x 150 KLD STP for domestic sewage generation in the plant & ETP which collects waste water and provide treated water to be used in gardening and in utility as soft water.

### *5.1 Raw / Fresh Water Treatment*

Radico Khaitan Ltd, Rampur receives fresh water from bore well which is already drinking quality however it is pass through filters, Softener plant & DM plant before supply to process & residential/domestic use. Fresh water is supplied to process. DM plant operates to provide DM water to be used in product & softener plant to provide soft water for utilities. The DM Plant & softener plant act as WTP of the plant. Process diagram of DM Plant and Softener plant at Radico Khaitan Ltd, Rampur is shown below.

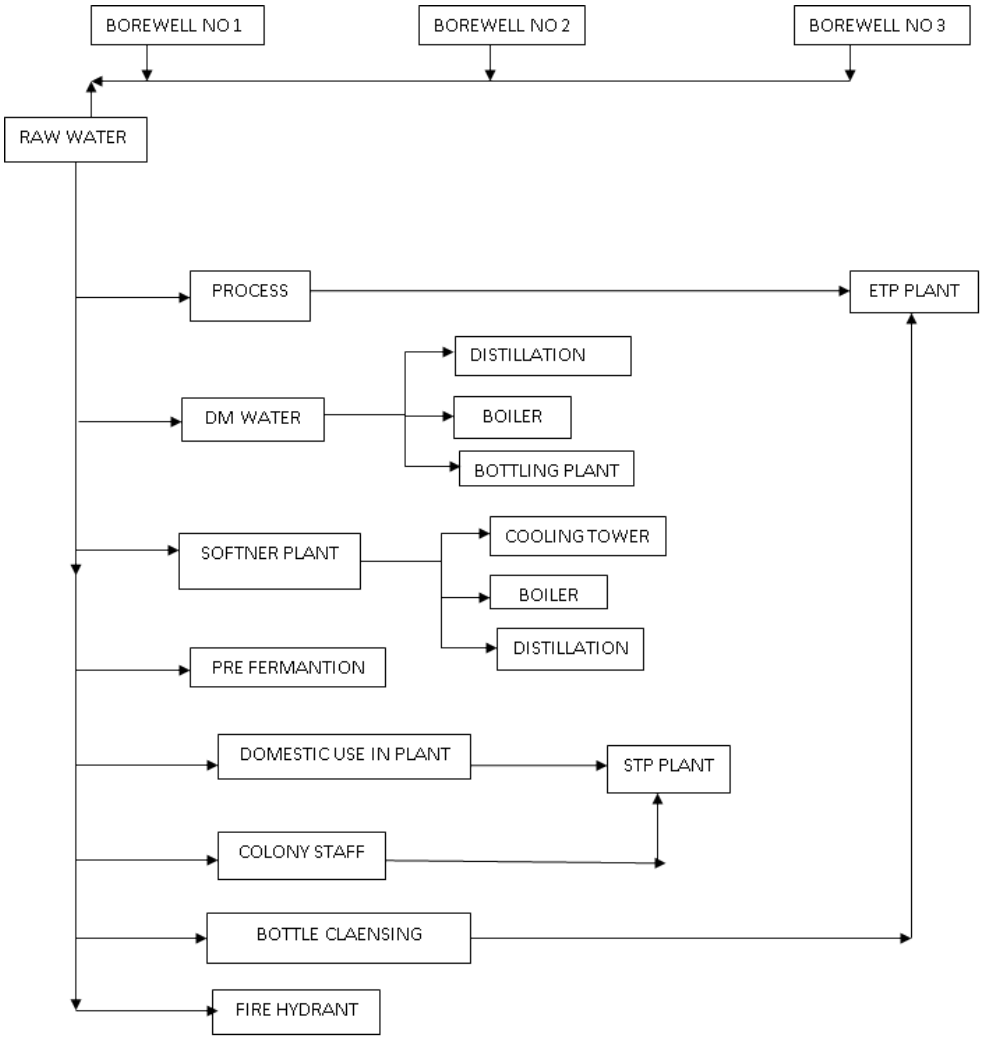



**Figure 8 WTP Layout of Rampur Distillery, Rampur**

## *5.2 WASTE WATER TREATMENT & DISPOSAL*

Distillery have adopted the process of reduce and recycle process to manage effluent. All the waste water generated in the plant (except from residential colony) is being transferred to CPU. There is waste water collection tank (can be called as pre-ETP treatment) in which water is stored & pass through TSS reduction system, MEE, Bio-digesters before pumping into **ETP**. In ETP, there is set of ROs, collection tanks and aeration tanks in which Effluent water is treated and treated water is used for horticulture.

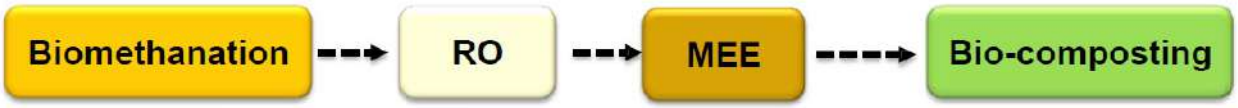
Waste stream is comprises of

**A) Process Waste Streams**

- Spent wash from Analyzer Column
- Fermenter Sludge
- Spent lees from Rectifier Column /PRC column/MSDH column
- Condensate from Spent wash Volume Reduction Unit
- Boiler Ash
- Boiler blow Down

B) **Non – Process Waste Streams**

- Cooling Tower Blow down
- Back wash water
- Water Treatment Plant Maintenance Water.



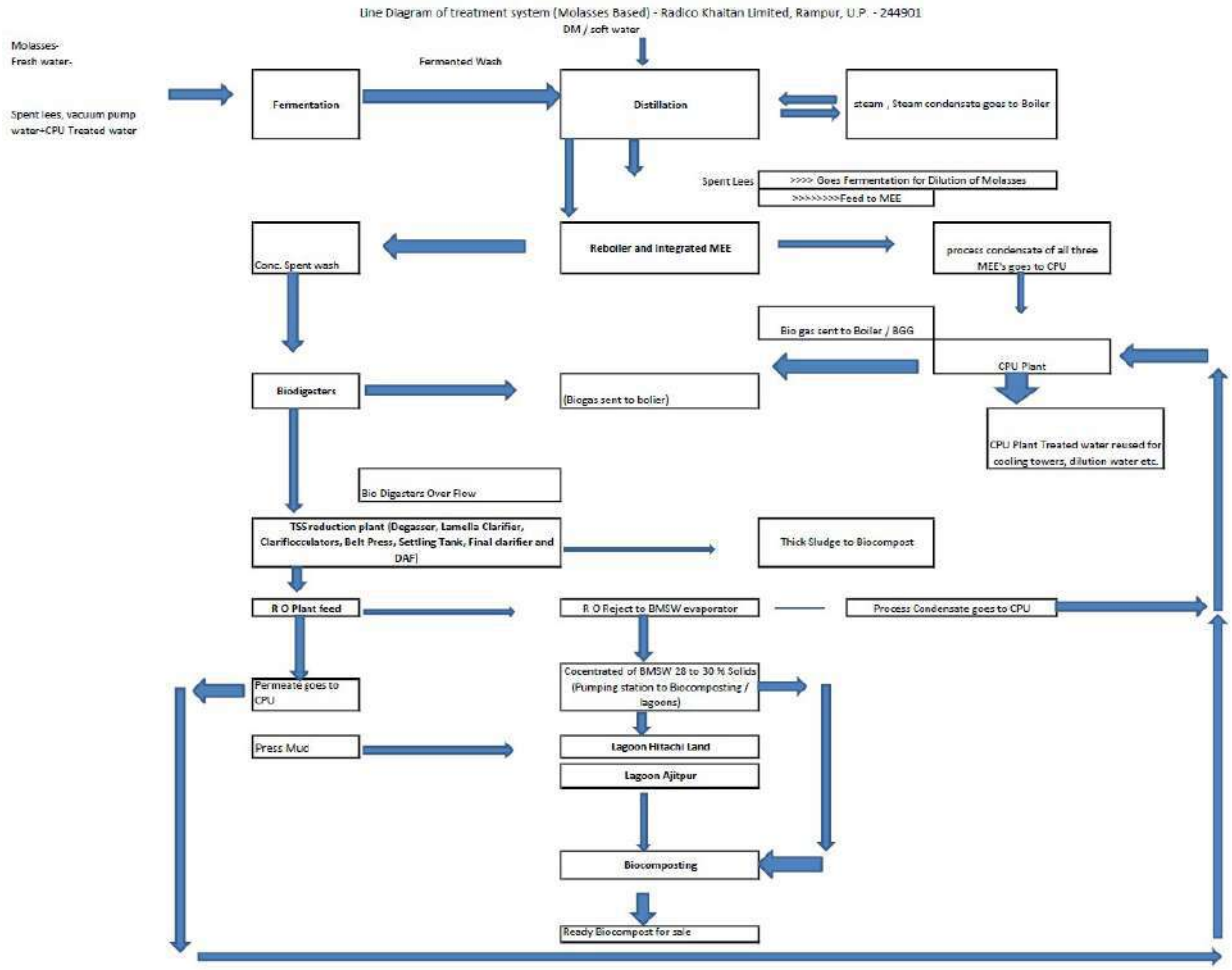

### *5.2.1 ETP*

Reduction of volume to 25%, the concentration of solids is less than 30% in the effluent being used in Bio-composting. It is because of a different process which involves feeding of concentrated SpentWash of 24 % solids in digesters wherein the Solid Concentration is reduced again by ~60% leaving only 8~9% at the outlet of Digesters from 24~25% after MEE, which is again concentrated through RO Plant and BMSW MEE to 26~27% but due to settling of suspended solids and de-composition of organic matters in the storage lagoon at an average it remain 14~15% solids only for Bio-composting.

a. Molasses based distillation plant's Weak Spent Wash as a feed to Evaporator.
b. Molasses based distillation plant's Strong (Concentrate) Spent Wash as output of Evaporator.
c. Grain based distillation plant's Weak SpentWash as a feed to Evaporator.
d. Grain based distillation plant's Strong (Concentrate) SpentWash as output of Evaporator.

Volume reduction is achieved through re-boilers, integrated multi-effect evaporators (MEE) before Bio -Digesters.

In 2005, Radico has installed our First RO Plant of 1000 $m^3$ / day. In 2007, another RO plant of 1250 $m^3$ / day was installed. Radico has modified both the RO plants in 2013 to take load of higher TDS, after installation of MEE on distillation plants. In the year 2002, we started Bio-Composting and at present we have about 52 Acres of Bio-composting. At present, it has 14 Acres of covered Bio- Composting for composting in rainy season.




## Bio-digester for Biogas Recovery

Radico, Rampur has installed Sophisticated TSS removal system (To bring down Digester outlet TSS 20,000 PPM to 2000 PPM at RO Inlet) comprising of Lamella Clarifiers, Series of Clariflocculators, filter press. Clarifier and Dissolved air floatation for further volume reduction through R.O. plants.

1) Reduced Effluent Generation through Multi Effect Evaporators and High Pressure RO Plants of 1000 $m^3$/day and 1250 $m^3$/day followed by permeate polishing unit.
2) Improved efficiency of RO Plant by increasing RO pressure from 60 Bar to 75 Bar and improved TSS reduction system through following additional equipments in now added one more stage of 90 Bar to improve recovery.
3) Installed 2nd stage RO as RO III plant for ultra-filtration of First stage Permeate in order to recycle it in fermentation and cooling tower. 4) Degasser to de-gasify the effluent for better settling of suspended solids.
4) Settlers (3 nos.) for better sludge separation.
5) Lamella Clarifier for better sludge separation.
6) Filter Press- for thickening of separated sludge.
7) Dissolved Air Floatation (DAF) Mechanism with the help of Special Polyelectrolyte for settling of fine sludge particles.
8) Lamella Degasser Filter Press

H.P.R.O. - 2 PLANT OF RADICO

Radico is one of the pioneers to accept and introduce the new Technologies. For the First Time in India we have installed the DAF System on Distillery Effluent. TSS Reduction thru DAF is from 3200 PPM to 2000 PPM i.e. about 38%.

It has achieved 70% reduction in overall effluent volume and targeted to have 80% reduction after stabilization of currently installed systems.
In order to reduce effluent volume to less than 1: 2 ratio, Radico has install evaporator for its effluent from RO reject. Radico is installing five falling film and one force flow evaporator along with one stand by (FF) for all the five evaporators. It will be having auto CIP / change over through DCS control system. Concentration of effluent shall be increased up to 28-30% from % of RO reject.

Plant has installed Permeate polishing unit in RO plant for recycling of Permeate in Process. Recycling of lees, process condensate and Permeate in fermentation for Molasses dilution. Radico has been able to cut their fresh water consumption by about 60% through recycling of steam Condensate to Boilers, Using MEE condensate for dilution of Molasses and recycling R O. permeate to cooling towers and for gardening.

Stream recycles to

1. Rectification, Pre-rectifier column Lees Recycle Fermentation Recycled

2. Vacuum Pump water Recycle Fermentation 95% recovery

3. Steam Condensate Recycle Boiler 98% recovery

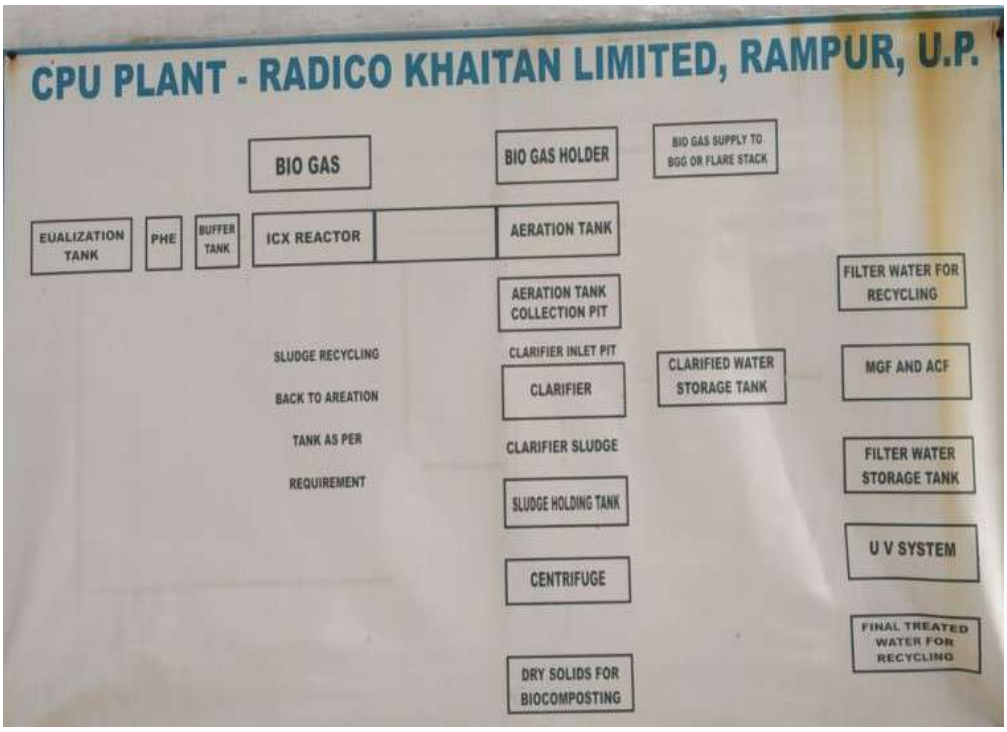
4. Process Condensate re-cycle Fermentation 95% recovery

5. CO2 Scrubber Water re-cycle Fermentation 98% recovery

6. RO Permeate recycle Cooling tower, Fermenters and Gardening 100% recovery

Water Consumption / BL of Alcohol Before adopting recycling Systems 12 Liter / BL

Water Consumption / BL of Alcohol after adopting recycling system 8 Liter / BL




After volume reduction through MEE & R.O. remaining effluent is sent for Bio-Composting using sugar mill press mud and manufacturing highly valuable and micro-nutrient rich organic manure Bio-compost. The Bio-compost manufactured in the Distillery is being packed in sealed bags and no Bio-Compost sale is done through tractor trolleys now.

Radico has adopted very innovative and effective way of Bio-composting in Rainy season by covering Bio-composting yards. These poly sheds are very useful in the rainy season and protect the press mud from rain water in order to continue the process of Sp. Wash consumption in the press mud in the rainy season as well. By adopting covered Bio-composting, Radico is able to achieve ZSD in the rainy season and thereby facilitate operation of distillery throughout the year including rainy season.

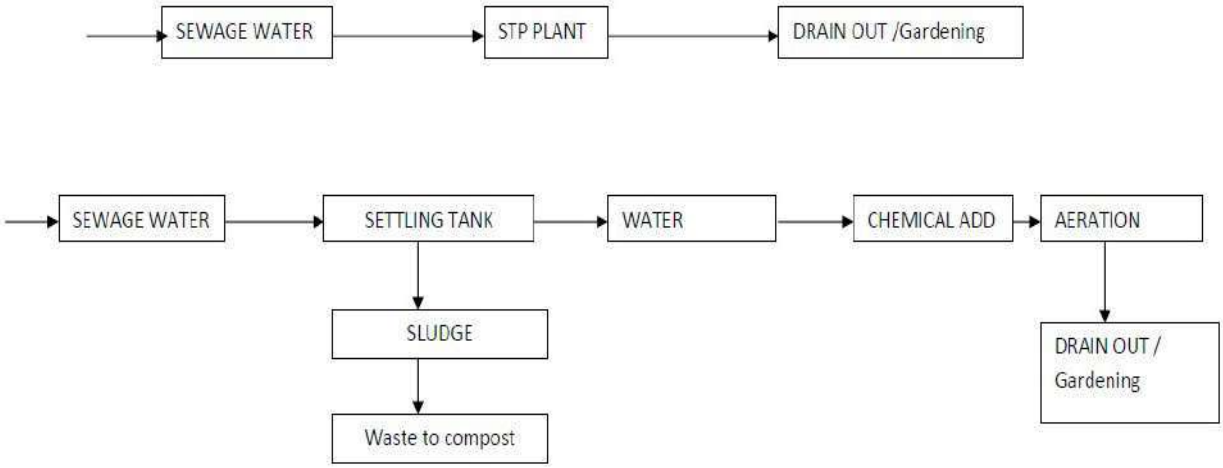
Radico Khaitan Ltd has achieved remarkable landmarks in the field of effluent management, achieving Zero Spent Wash Discharge through various means and reduction in fresh water consumption per litre of alcohol production.

**Table 13 Details of Bio-Compsting**

| | | | |
|---|---|---|---|
| 1 | Total Area for Bio Composting (acres) | acres | 58 |
| 2 | **Break up of total area** | acres | |
| | Active area of Bio-composting | acres | 48 |
| | Covered active area | acres | 25 |
| | Uncovered active area | acres | 33 |
| | **Storage Area** | acres | |
| | Area for press mud storage(excluding active area) | acres | 5 |
| | Area for press mud storage having facility to cover press mud storage with tarpaulin plastic (covered/uncovered) | acres | 5 |
| | Area for ready Bio-compost storage (excluding active area) | acres | 5 |
| | Area for ready Bio-compost storage having facility to cover press mud storage with tarpaulin plastic(covered/uncovered) | acres | 5 |

### *5.2.2 SEWAGE TREATMENT PLANT*

All residential waste water is sent to 150 KLD STP installed in the plant for treatment of sewage water and treated water is utilized in gardening of cricket ground and nearby areas for vegetation and plantation. A typical layout is shown below.




### 5.2.4 ENVIRONMENTAL COMPLIANCE (RELATED TO WATER)

1. Radico Khaitan Ltd, Rampur does comply with the NOC for ground water withdrawal of **2600 KL/day (and not exceeding 949,000 KL/year)** of ground water; through proposed three bore wells only. The audit team has collected the detail of Ground Water abstracted by the plant in year 2020. As per data provided by the plant, the total ground water abstraction in FY 2020-21 is **811,437 KL/year which is less than the CGWA NOC of 949,000 KL/year, issued to plant on 17/10/2016**.

2. As per CGWA guidelines, all the bore wells to be fitted with water meter by the firm and monitoring of ground water abstraction to be undertaken accordingly on regular basis, at least once a month and Radico Khaitan Ltd, Rampur has installed flow meters on all the bore well and are maintaining the data on monthly basis. All the raw water extraction data is submitted to CGWA on yearly basis.

3. As per the water quality reports, all the parameters are well within the prescribed limits. However, it was brought into notice that in Joint Inspection Report of CPCB after inspection on 27th October 2020, reports of hand pump, piezometer wells and bore wells that the Fe, Mn & Pb contents are marginally above the limits. On further investigation, it was observed that the presence of Fe, Mn & Pb is possible due to the pipe material. Generally galvanized iron or Mild Steel pipes can show increase in such components. Specially piezometer wells, where inside water is stagnant, may show a bit higher values.

4. The audit team has checked and verified all the water quality test reports such as Raw Water and Treated Water from Effluent Treatment Plant. All of the reports comply with the environmental factors related to water uses and discharge. (Attached separately in annexure).

Radico Khaitan Ltd has taken various innovative initiatives for Upliftment of ground water level of Chamraua Block and developed various ponds in various villages of Rampur in order to recharge optimum rainwater through pond of respective villages. Although the ground water level is majorly depends on rain water fall quantum in respective area, but development of pond is also very important to recharge the rain water through ponds. In development of ponds for making them suitable for rain water recharging following activities are being carried out:

**1. Pond's leveling activity:**

With surface leveling activity, the bottom of the pond is being leveled for equal water filling all across the pond area. It helps in uniform distribution of water pressure arisen from total catchment area. Radico is doing this activity in ponds, wherever it is needed.

**2. Drilling of Water Recharging Shaft inside the Ponds:**

It is being carried out for providing the easy path to pond water to get recharged in underground water regime. This activity is required during new construction of Rain Water Recharging system.

**3. Pond's Desilting activity:**

Whenever rain carryover water of the pond get settles, the available silt also gets settled at the bottom of the pond and on filter material of water recharging shaft. This silt layer slowdown the

water recharging process. To reactivate the water recharging process, removal of silt during pre-monsoon period is required. Radico is doing Desilting activity during pre-monsoon period.

**4. Pre monsoon maintenance activity:**

With this activity the filter material like gravels & plastic screen are being cleaned /replaced. Brick structure of water recharging shaft is being repaired wherever needed.

Till the end of monsoon period 2020, Radico has developed 129 nos of rainwater recharging shafts in 38 nos of villages (list is being attached as Annexure - D) where proper development of pond has been done along with the above-mentioned activities.

**Table 14 Total Runoff Available for Recharge**

| Type of area | No. of recharging pits | Total Recharge Volume ( $m_3$) |
|---|---|---|
| **Inside the plant** | 27 | 173093 |
| ****In nearby villages** | 129 | 2623194 |
| **TOTAL** | 156 | **2796287** |

The total water recharged through rain water harvesting is shown in below table:

**Table 15 Ground Water Recharged Through RWH Pits (Jan-2020 to Dec-2020)**

| Type of area | Avg. Rainfall in mtr | Total Recharge Capacity ( $m_3$) | Total Recharge Volume ( $m_3$) |
|---|---|---|---|
| **Inside the plant** | 1117.1 | 173093 | 243222.8809 |
| **In nearby villages** | 1117.1 | 2623194 | 3686000.022 |
| **TOTAL** | | 2796287 | **3929223** |

As evident, 27 artificial rain water harvesting structure within the Radico Khaitan Ltd, Rampur & 129 artificial rain water harvesting structure within the Radico Khaitan Ltd, Rampur in nearby villages of project area are sufficient for the adequate quantity of artificial recharge. Radico Khaitan Ltd, Rampur has recharged more water than the compliance of 200% of withdrawal limit, i.e., 18, 84,000 kL.

Guest House Building (Above)
Plant Shed (Below)
Roof water collection and
Water Recharging system

Biocompost Yards (Above)
Roof water collection and
Water Recharging system
Actual snap of bore (Below)

Water Recharging Shaft Constructed By: Radico Khaitan Ltd,

Village : Kakraua, Block Chamrawa, Distt. Rampur, U.P. Total Water Recharging Shafts in Village = 3

Water Recharging Shaft Constructed By: Radico Khaitan Ltd,

Village : Ladaura, Block Chamrawa, Distt. Rampur, U.P. Total Water Recharging Shafts in Village = 3

As per CGWA notice dated 01/02/2019, In case the ground water abstraction is more than 10 KL/day, monthly water level monitoring data shall be maintained and submitted annually to the Regional

Office of CGWB. Therefore, the Radico Khaitan Ltd, Rampur, has installed six Piezometers inside the plant near the bore wells, record the monthly water level in and around the plant. Radico Khaitan Ltd, Rampur is maintaining all the data of all the piezometer and is submitting the data to CGWB on yearly basis. For monitoring the impact of water recharging system, Radico has also installed 6 Nos Piezometers, which are direct online indicators for ground water level measurement. With the impact of rainwater recharging through recharging shafts, the ground water level is indicating a stable and improving trend in recent years. From 2017 onwards, the average ground water level of Chamraua has improved by approx. 1.5 mtr. Average ground water level through all the piezometers is being attached as Annexure – E.

CHAPTER 6

# Data Analysis and Results

## 6. DATA ANALYSIS & RESULTS

### *6.1 SEASON WISE WITHDRAWAL AND CONSUMPTION DETAILS*

Season wise water extraction, consumption and discharge for Radico Khaitan Ltd, Rampur has been analyzed. The below table shows the analyzed data.

**Table 16 Season Wise Extraction and Consumption Details**

| Description (For the year 2019-20) | Summers (KLD) (Mar-June) | Monsoons (KLD) (Jul–Oct) | Winters (KLD) (Nov- Feb) |
|---|---|---|---|
| Groundwater source, Borewell-1 | 757 | 735 | 731 |
| Groundwater source, Borewell-2 | 646 | 656 | 643 |
| Groundwater source, Borewell-3 | 603 | 966 | 931 |
| **Total Fresh Water Inlet** | **2006** | **2357** | **2305** |
| Recycled water from ETP/STP | 3232 | 2661 | 3145 |
| Rain Water Harvested | NA | NA | NA |
| **Total Water Available for Utilization** | 5237 | 5018 | 5450 |
| | | | |
| **Total Consumption** | 5237 | 5018 | 5450 |
| Utility | 933 | 1251 | 1239 |
| Domestic | 39 | 39 | 39 |
| Process | 4265 | 3727 | 4172 |

**Observations:**

- From the above table, it is seen that the major water extraction and consumption is in the almost same in whole year.

### *6.2 TOTAL RAW WATER WITHDRAWAL, CONSUMPTION AND DISCHARGE DETAILS (LAST THREE YEARS)*

Audit team analysed the monthly data for Source, consumption and discharge for FY 2019-20. Details provided in below table:

**Table 17 Total Source, Consumption and Discharge Data**

| Year | Month | Source (KL) | Consumption (KL) | Discharge (KL) |
|---|---|---|---|---|
| 2018-19 | April | 69872 | 69872 | 0 |
| | May | 73600 | 73600 | 0 |
| | June | 70788 | 70788 | 0 |
| | July | 73273 | 73273 | 0 |
| | August | 79129 | 79129 | 0 |
| | September | 72298 | 72298 | 0 |
| | October | 63689 | 63689 | 0 |
| | November | 63065 | 63065 | 0 |
| | December | 70565 | 70565 | 0 |
| | January | 58721 | 58721 | 0 |

| | | | | |
|---|---|---|---|---|
| | February | 61911 | 61911 | 0 |
| | March | 65581 | 65581 | 0 |
| | **Total** | **822492** | **822492** | **0** |
| **2019-20** | April | 67897 | 67897 | 0 |
| | May | 67048 | 67048 | 0 |
| | June | 53952 | 53952 | 0 |
| | July | 57141 | 57141 | 0 |
| | August | 66739 | 66739 | 0 |
| | September | 74491 | 74491 | 0 |
| | October | 68209 | 68209 | 0 |
| | November | 59727 | 59727 | 0 |
| | December | 68202 | 68202 | 0 |
| | January | 66866 | 66866 | 0 |
| | February | 64025 | 64025 | 0 |
| | March | 65064 | 65064 | 0 |
| | **Total** | **779361** | **779361** | **0** |
| **2020-21** | April | 29998 | 29998 | 0 |
| | May | 61959 | 61959 | 0 |
| | June | 73742 | 73742 | 0 |
| | July | 74371 | 74371 | 0 |
| | August | 74892 | 74892 | 0 |
| | September | 71127 | 71127 | 0 |
| | October | 69549 | 69549 | 0 |
| | November | 70501 | 70501 | 0 |
| | December | 76736 | 76736 | 0 |
| | January | 71858 | 71858 | 0 |
| | February | 64448 | 64448 | 0 |
| | March | 72256 | 72256 | 0 |
| | **Total** | **811437** | **811437** | **0** |

CHAPTER 7

# Water Conservation Opportunities

## 7. WATER CONSERVATION OPPURTUNITIES

Best management practices (BMPs) are a set of hands-on recommendations that help to identify opportunities and implement programs to save water in the plant. BMPs are developed for the various water-use categories in the office buildings and for monitoring and operational procedures. They are grouped according to indoor water use, outdoor water use, and monitoring and operational procedures. We can tailor water-saving program by using part or all the BMPs depending on budget and environmental requirements. Tips and information are provided on water-saving amounts and cost recovery to help in prioritizing measures and make the most knock for buck.
Based on the information collected and observations, the following can be recommended to reduce water use and increase its efficiency.

### 7.1 INSTALLING AUTOMATIC NOZZLES OR SPRINKLER FOR GARDENING

**Present Scenario**

Currently, Gardening is done with the help flexible hose that can use 40 litres of water per minute.

**Recommendation**

Here, we recommend installing either nozzles install sprinkler in the hose or with timer based system. The treated water saved can be utilized in domestic uses such as flushing in toilets and for cleaning of auditorium etc., which in turn reduces fresh water in domestic and residential.

**Water Savings Potential**

The total resultant benefit in terms of water savings workout by installing automatic timer based sprinkler for gardening is **6051 KL** per annum with an estimated investment of **Rs. 0.5 Lac** with the simple payback period of **29 months.** Water saving potential after installing timer based sprinkler is shown below:

**Table 18 Saving Potential for Gardening**

| Sr. No. | Particulars | Unit | Values |
|---|---|---|---|
| 1 | Water Used in Gardening | KL/year | 30255 |
| 2 | Water saving Potential | % | 20 |
| 3 | Total Water Saving Potential | KL/year | 6051 |
| 4 | Average Cost of Water | Rs./KL | 3.4 |
| 5 | Monetary Saving Potential (3.4x 6051 = 20753) | **Rs.** | 20573 |
| 6 | Cost of Investment | Rs | 50000 |
| 7 | Payback Period | months | 29 |

### 7.2 INSTALLING FLOW REGULATORS IN FAUCETS OF WASH BASIN

**Present Scenario**

Total 44 wash basins were found with flow of existing tap/faucets is 4 Litres per Minute (LPM).

**Recommended**

It is recommended to throttle 50% of the present condition in wash basin faucets to reduce the flow from 4LPM to 2LPM. Faucets flows can easily be reduced without affecting the comfort of the water user.

**Water Savings Potential**

The total resultant benefit in terms of water savings workout by installing flow regulator **is 6658 KL** per annum with an estimated investment of **Rs. 32000** with the simple payback period of **17 months.**

**Table 19 Saving Potential for wash basin**

| Sr. No | Particulars | Unit | Value |
|---|---|---|---|
| 1 | Total no. of wash basin | - | 40 |
| 2 | Total no. of employee | - | 1500 |
| 3 | Water used in wash basin for one Wash | Litre | 0.076 |
| 4 | Total Daily Water Consumption in Wash Basin | KL/day | 36.48 |
| 5 | Total Annual Water Consumption (considering 365 days) (36.48x 365 = 13315.2) | KL/year | 13315.2 |
| 6 | Total Annual Water Consumption by Reducing flow to 50% (13315/2 = 6657.6) | KL/year | 6658 |
| 7 | Annual Water Saving by Reducing Flow to 50% | KL/year | 6658 |
| 8 | Average Cost of Water | Rs. /KL | 3.4 |
| 9 | Total Annual Monetary Saving | Rs. | 22636 |
| 10 | Investment | Rs | 32000 |
| 11 | Payback Period | months | 17 |

### 7.3 Replacements of Inefficient Pumps with New Energy Efficient Pumps

As the efficiency of bore well #1 is very low. We recommend replacing this in-efficient pump with energy efficient pump. The resultant benefit in terms of energy savings workout for replacing it with energy efficient pump is Rs. 4.5 Lac per annum with an estimated investment of Rs. 3.2 Lac with the simple payback period of 9 months.

**Table 20 Saving Potential for Inefficient Pumps with New Energy Efficient Pumps**

| Sr. No | Particulars | Unit | Bore well # 1 |
|---|---|---|---|
| 1 | Running Status | | Running |
| 2 | Rated Flow | $m^3/hr$ | 150 |
| 3 | Rated Head | M | 45 |
| 4 | Rated Power | KW | 30 |
| 5 | Measured Flow | $m^3/hr$ | 70 |
| 6 | Discharge Pressure (A) | $Kg/cm^2$ | 2.7 |
| 7 | Depth of Water from Ground (B) | Meter | 7 |
| 8 | Total Head (=B+(AX10)) | Meter | 34 |
| 9 | Input power | kW | **27.88** |

| | | | |
|---|---|---|---|
| 10 | Hydraulic Power | KW | **6.49** |
| 11 | Motor Efficiency | % | 90 |
| 12 | Overall (Pump Set) Efficiency | % | 23.3% |
| 13 | Overall Energy Efficient Pump Efficiency | % | 55.0% |
| 14 | Energy consumed for same hydraulic power@50% | kW | 5.9 |
| 15 | Overall Energy Savings | kWh | 47167 |
| 16 | Cost of Electricity | Rs./unit | 9.5 |
| 17 | Annual Monetary Savings | Rs | 448089 |
| 19 | Investment | Rs | 320000 |
| 20 | Simple Payback | month | 9 |

## 7.4 RECOVERY OF BACKWASH WATER OF SOFTENER AND DM PLANT

Recovery of DM, regeneration waste water, implementation of rinse recycling in the DM plant, Recovery of backwash effluent from pretreatment filtration plant & Recovery of back wash water of Pressure Sand Filters (PSF) and Sand Filters (SF) will reduce the fresh water consumption by 1-2% in water treatment plant.

**Table 21 Saving Potential of Backwash of SOFTENER AND DM**

| Sr. No. | Particulars | Unit | Values |
|---|---|---|---|
| 1 | Backwash generation | KLD | 143 |
| 2 | No of working days in a year | days | 365 |
| 3 | Annual Backwash water recovery @50% | KL | 26183 |
| 4 | Total Make up Water Saving Potential | KL/year | 26183 |
| 5 | Average Cost of Water | Rs./KL | 3.4 |
| 6 | Monetary Saving Potential After Implementing New Condensate Recovery System (3.4*26183= 89021) | Rs. | 89,021 |
| 7 | Investment | Rs | 300000 |
| 8 | Payback Period | months | 40 |

## 7.5 REPLACEMENT OF OPEN TYPE COOLING TOWER WITH CLOSED CIRCUIT COOLING TOWER (CCCT)

The audit team observed that the cooling water required for utilities such as Boiler, Compressor, DGs etc., are being provided with the help of Open type cooling tower of respective size. However, open type cooling tower has lower COC (recommended by OEMs) in comparison to Closed Circuit Cooling Tower (CCCT).

Closed circuit cooling towers or fluid coolers operate just like the open type, but dissipate the process fluid heat load into the ambient air via a heat exchange coil. Closed circuit cooling towers are used in the following applications: water source heat pumps, industrial processes, air compressors, weld machine cooling, mold water cooling, power plant auxiliary cooling, furnace cooling, transformer cooling, closed condenser loops, critical systems, and systems requiring plume elimination.

**The key benefits of CCCT are:**

1. **LOWEST OPERATING COST:**
   - Clean process fluids sustain the performance of high efficiency components
   - Save on energy consumption by operating in "Free Cooling Mode" during the winter
2. **LOWEST MAINTENANCE COSTS:**
   - Reduces or eliminates cleaning the heat exchanger
   - Extends the life of the equipment
3. **OPERATIONAL FLEXIBILITY:**
   - Free cooling without an intermediate heat exchanger
   - Dry operation during winter months
   - Variable speed pumping to conserve energy without the potential of scaling the unit
4. **LOWEST WATER COSTS:**
   - Lower volume of recirculating water reduce water treatment cost
   - Dry operation and adiabatic modes reduce or eliminate water consumption
5. **MINIMAL INSTALLATION COSTS:**
   - Compact single piece of equipment conserves space replaces three components (cooling tower, heat exchanger, and pump arrangement)

**Table 23 Water Saving Potential by installing CCCT**

| Sr. No. | Particulars | Unit | Values |
|---|---|---|---|
| 1 | Approximate water saving per day | KLD | 71 |
| 2 | Total No. of Running Days | Days | 365 |
| 3 | Annual Water Saving in Cooling Tower | KL | 25828 |
| 4 | Approximate Energy Saving | kWh | 175200 |
| 5 | Unit Cost of Electricity | Rs./Unit | 9.5 |
| 6 | Cost of Soft water | Rs./KL | 11 |
| 7 | Annual Monetary Saving in reducing water losses in Cooling Tower | Rs | 271,194 |
| 8 | Annual Monetary Saving in Energy reduction | Rs. | 1664400 |
| 9 | Total Annual Monetary Saving | Rs. | 1,935,594 |
| 10 | Investment | Rs. | 18375000 |
| 11 | Payback Period | months | 114 |

## 7.6 GENERAL TIPS FOR WATER CONSERVATION

### A) TOILET TANK BANK

With economical, maintenance free 'Green Toilet Bank' it is very easy to save water on toilet flushing, it helps to save 3 litres water on every flushing, with no sacrifice on performance. Toilet Bank filled with water is hanged inside the toilet flushing tank or reservoir. It will displace an amount of water equivalent to 3 Litres in the tank, which means every flush we will save water, thus saving you money. Less the water you use, the less you need to recycle.

## B) SAVING WATER THROUGH MONITORING AND OPERATIONAL PROCEDURES

### a) Identifying and Fixing Leaks

The hidden water leaks can cause loss of considerable water and energy without anyone being aware of it. A small leak can amount to large volumes of water loss. Leaks become larger with time, and they can lead to other equipment failure. Fix that leaky pipe, toilet, faucet, or roof top tank to save considerable amount of money and water. The establishment of a leak detection and repair program would be a most cost-effective way to save money and water in the Plant premises. Following are some best practices to identify and fixing leaks:

The Management must be committed for providing the staff and resources needed to maintain plumbing fixtures and equipment on a regular basis and assuring prompt identification and repair of leaks.

- Repair staff is given the tools needed and is trained to make leak repair a priority activity.
- Staffs are taught to report leaks and other water-using equipment malfunctions promptly.
- Staffs are rewarded for success.
- Rooftop tank overflow or leakage water should flow to rainwater gutter system not to sewage system to allow detection of rooftop water loss.
- Records of the type, location, number, and repair of leaks are kept in a central location.

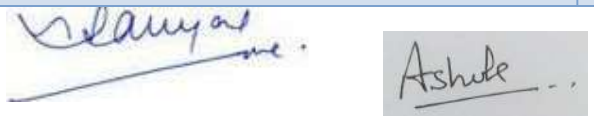
### b) Water Metering and Sub-metering

The metering and sub-metering of the Plant's water use is essential to understand the water consumption pattern inside the Plant. The accurate measurements enable management to understand maximum and minimum consumption area in the Plant and improve water efficiency in the Plant. Monitoring the water use allows management to know where and when water is being used and where the best opportunities for water savings exist.

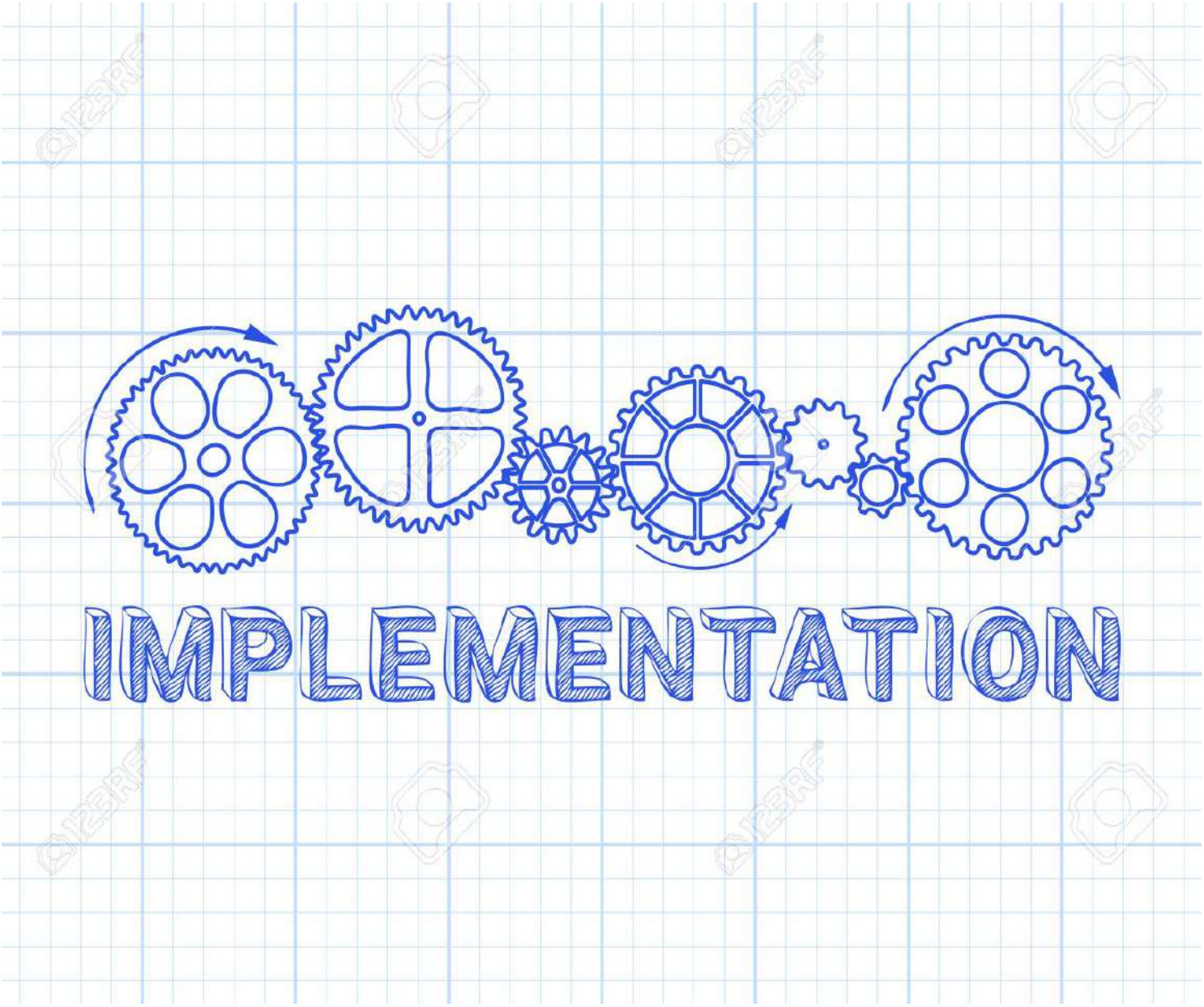
## EXECUTIVE SUMMARY

Given the above scenario of prevailing resource challenge, accelerating over time Progressive management of Radico Khaitan Ltd, Rampur is very keen to do water audit of their premises. To get benefit of water saving projects, management of Radico Khaitan Ltd, Rampur awarded the task of water audit of its premises to PHDCCI.

This report is an attempt of PHDCCI to provide an overview of the water distribution system and water usage at Radico Khaitan Ltd, Rampur. The report also highlights the major water sources, consumption area, wastewater treatment facilities and available water saving opportunities in the plant. A set of recommendations which will assist in improving water efficiency has also been highlighted in this report. This report has emerged after a detailed water audit conducted by PHDCCI in the month of March - 2021.

<table>
<tr><td colspan="2">Project Title:</td><td colspan="2">PHDCCI Report Number:</td></tr>
<tr><td colspan="2">Water Audit at Radico Khaitan Ltd, Rampur (UTTAR PRADESH)</td><td colspan="2">2020/WA/PHDCCI/61</td></tr>
<tr><td colspan="4">Client:</td></tr>
<tr><td colspan="4">Radico Khaitan Ltd, Rampur</td></tr>
<tr><td colspan="4">Contact Person:</td></tr>
<tr><td colspan="4">Mr. Vikas Saxena - Head EHS</td></tr>
<tr><td colspan="2">Date of Audit:</td><td colspan="2">Source of Water:</td></tr>
<tr><td colspan="2">15/03/2021 – 18/03/2021</td><td colspan="2">Ground Water</td></tr>
<tr><td colspan="2">Date of this Report:</td><td colspan="2">Date of Approval:</td></tr>
<tr><td colspan="2">24/06/2021</td><td colspan="2"></td></tr>
<tr><td>Work Carried out by:<br>(Team Composition)</td><td>Ashok Kumar<br>Vivek Zaveri<br>Vipul Garg</td><td>Team Leader<br>Team Member<br>Team Member</td><td>No Distribution without permission from the client or responsible organization or unit</td></tr>
<tr><td rowspan="2">Final Report Approved:</td><td colspan="3">  </td></tr>
<tr><td colspan="2">Mr. Saurabh Sanyal<br>Secretary General, PHDCCI<br>Ashok Kumar, Lead Auditor – Water Audit</td><td>Date: 24-06-2021</td></tr>
</table>

| Sr. No. | Section/Area | Key Observations | Recommendations | Annual Water Savings (KL/year) | Annual Monetary Savings (Rs.) | Investment (Rs.) | Payback Period (Months) | Estimated Time Frame for Implementation (Months) |
|---|---|---|---|---|---|---|---|---|
| I | **Total Bore well Water Intake** | | | **811437** | | | | |
| II | **Bore well Water Saving Achievable** | | | **64,720** | | | | |
| **Option 1: Immediate/Short term benefits** | | | | | | | | |
| 1 | Domestic | Total 44 wash basins were found with flow of existing tap/faucets is 4 Litres Per Minute (LPM). | It is recommended to throttle 50% of the present condition in wash basin faucets to reduce the flow from 4LPM to 2LPM. Faucets flows can easily be reduced without affecting the comfort of the water user. | 6658 | 22636 | 32000 | 17 | 6 |
| 2 | Gardening | Gardening is done with the help flexible hose of 1" dia that can use 40 LPM of water. | It is recommend installing either nozzles install sprinkler in the hose or with timer based system | 6051 | 20573 | 40000 | 23 | 12 |
| ***Option 2: Long-term benefits*** | | | | | | | | |
| 3 | Cooling Tower | Plant has installed open type cooling tower for utility requirement which requires normal cooling water temperature for cooling. It has high COC and drift losses | It is recommended to install the Closed circuit cooling tower which reduces losses and result into huge water savings. | 25,828 | 1935594 | 18375000 | 114 | Under review |
| 4 | Process | Currently backwash and regeneration water is being directly sent to CETP | Recovery of back wash water of Pressure Sand Filters (PSF) and Sand Filters (SF) will reduce the fresh water consumption by 1-2% in water treatment plant. | 26183 | 89021 | 300000 | 40 | Under review |
| **TOTAL** | | | | **64,720** | **2,067,824** | **18,747,000** | **109** | **-** |




# CHAPTER 8

# Implementation Plan

## 8. IMPLEMENTATION PLAN

The Audit team has conducted detail audit of Water Sources, Consumption Area and Discharge side of Radico Khaitan Limited, Rampur and noticed that the plant officials has maintained water sources and water treatment plant properly. There are few recommendations provided by the audit team. The recommendation/implementation plans are provided below:

### 8.1 Installing automatic nozzles or sprinkler for gardening

The total resultant benefit in terms of water savings workout by installing automatic timer based sprinkler for gardening is **6051 KL** per annum with an estimated investment of **Rs. 0.5 Lac** with the simple payback period of **29 months.**

### 8.2 Replacements of Inefficient Pump with New Energy Efficient Pump

As the efficiency of bore well #1 is very low. We recommend replacing this in-efficient pump with energy efficient pump. The resultant benefit in terms of energy savings workout for replacing it with energy efficient pump is **Rs. 4.5 Lac per annum** with an estimated investment of **Rs. 3.2 Lac** with the simple payback period of 9 months.

### 8.3 Installing The flow regulators in Faucets of wash basin

The total resultant benefit in terms of water savings workout by installing flow regulator **is 6658 KL** per annum with an estimated investment of **Rs. 32000** with the simple payback period of **17 months.**

### 8.4 Recovery of backwash water of Softener and DM plant

Recovery of DM, regeneration waste water, implementation of rinse recycling in the DM plant, Recovery of backwash effluent from pretreatment filtration plant & Recovery of back wash water of Pressure Sand Filters (PSF) and Sand Filters (SF) will reduce the fresh water consumption by 1-2% in water treatment plant. The total resultant benefit in terms of water savings workout by recovery of backwash water is **26183 KL** per annum with an estimated investment of **Rs. 3.0 lac** & simple payback of **40 months.**

### 8.5 Replacement of open type cooling tower with Closed Circuit Cooling Tower (CCCT)

Open type cooling tower has lower COC (recommended by OEMs) in comparison to Closed Circuit Cooling Tower (CCCT). The total resultants benefit in terms of water savings workout by installing CCCT is **25828 KL** per annum with an estimated an investment of approx. Rs. 1.8 Cr & simple payback of **95 months.**

**Table 22 Summary of Implementation Plan**

| Sr. No. | Section/ Area | Key Observations | Recommendations | Annual Water Savings (KL/year) | Annual Monetary Savings (Rs.) | Investment (Rs.) | Payback Period (Months) | Estimated Time Frame for Implementation (Months) |
|---|---|---|---|---|---|---|---|---|
| I | **Total Bore well Water Intake** | | | | | **811437** | | |
| II | **Bore well Water Saving Achievable** | | | | | **64,720** | | |
| **Option 1: Immediate benefits** | | | | | | | | |
| 1 | Domestic | Total 44 wash basins were found with flow of existing tap/faucets is 4 Litres Per Minute (LPM). | It is recommended to throttle 50% of the present condition in wash basin faucets to reduce the flow from 4LPM to 2LPM. Faucets flows can easily be reduced without affecting the comfort of the water user. | 6658 | 22636 | 32000 | 17 | 6 |
| 2 | Gardening | Gardening is done with the help flexible hose of 1″ dia that can use 40 LPM of water. | It is recommend installing either nozzles install sprinkler in the hose or with timer based system | 6051 | 20573 | 40000 | 23 | 12 |
| ***Option 2: Long-term benefits*** | | | | | | | | |
| 3 | Cooling Tower | Plant has installed open type cooling tower for utility requirement which requires normal cooling water temperature for cooling. It has high COC and drift losses | It is recommended to install the Closed circuit cooling tower which reduces losses and result into huge water savings. | 25,828 | 1935594 | 18375000 | 114 | Under review |

| Sr. No. | Section/ Area | Key Observations | Recommendations | Annual Water Savings (KL/year) | Annual Monetary Savings (Rs.) | Investment (Rs.) | Payback Period (Months) | Estimated Time Frame for Implementation (Months) |
|---|---|---|---|---|---|---|---|---|
| 4 | Process | Currently backwash and regeneration water is being directly sent to CETP | Recovery of back wash water of Pressure Sand Filters (PSF) and Sand Filters (SF) will reduce the fresh water consumption by 1-2% in water treatment plant. | 26183 | 89021 | 300000 | 40 | Under review |
| **TOTAL** | | | | **64,720** | **2,067,824** | **18,747,000** | **109** | **-** |

## 9. CONCLUSION

Radico Khaitan Limited, Rampur district, Uttar Pradesh- is a distillery located east of Rampur town, covering an area of 44.392 Ha and occupies western parts of Chamraua block of Rampur district. The distillery produces high-grade Extra Neutral Alcohol ("ENA") from molasses, grains and Scottish design malt spirit from barley malt.

1. The plant has consent to withdraw **2600 KL/day** of water from bore wells available in the plant. At present, approximately **2200 KL/day** of water is being used for the plant operations from the bore wells.

2. As per data provided by the plant, the total ground water abstraction in FY 2020-21 is **811,437 KL/year which is less than the CGWA NOC of 949,000 KL/year, issued to plant on 17/10/2016 vide NOC letter CGWA\NOC\IND\ORIG\2016\2308**.

3. All the water quality test reports such as Raw Water and Treated Water from Effluent Treatment Plant. All of the reports comply with the environmental factors related to water uses and discharge.

4. Thorough study was carried out to find the root cause for presence of Fe, Mg & Pb etc in piezometer well / borewell samples. The basic reason for the presence of such components is use of Galvanized Iron and Mild Steel pipes.

5. Radico Khaitan Limited, Rampur adopted ponds in 41 villages of Chamraua block of district Rampur and this will lead to **ground water recharge to the tune 295% of required quantity of water against 200% requirement of NOC.**

6. Plant has already **reduced its water consumption by 11000 KLD w.r.t 2019 water consumption**.

7. Ground water regime which was showing deteriorating tendency since 2008, has improved after the recharge measures adopted by Radico Khaitan Ltd within the premises.The piezometers constructed Radico Khaitan Limited, Rampur at Ajitpur and Hitachi land (both within the premises) also show a rising trend of 0.548 m/year (54.8 cm/year) and 0.365 m/year (36.5 cm/year) in the ground water level respectively since 2017.

8. Radico Khaitan Limited, Rampur has installed **TSS reduction system & 2nd stage RO with ultrafiltration** to increase the recycling the water & thus decreasing the water consumption.

9. Radico Khaitan Limited, Rampur has installed **Condensate Polishing Unit (CPU)** to recycle the water and utilize in it fermentation & cooling towers.

10. Water balance across the plant has been successfully achieved. Total water consumption is 5235 KLD out of which bore well water consumption inside the plant is 2223 KLD only.

11. Source Water savings of 64,720 KL/year (8 %) is achievable in the short term. Water savings of 12,709 KL/year (1.6%) is achievable in the short term benefit, and 52011 KL/year (6.4 %) is achievable in the long term benefit. Proposals have been given for review and implementation.

12. Strategies identified (provided in Chapter 8) for reduction, reuse and recycle shows around **8%** saving can be achieved in ground water consumption.

## 10. ANNEXURES MEASURED DATA

**FLOW, POWER AND PRESSURE MEASUREMENT OF PUMPS**

| Particulars | Unit | Bore well # 1 | Bore well # 2 | Bore well #3 |
|---|---|---|---|---|
| Running Status | | Running | Standby | Running |
| Rated Flow | $m^3/hr$ | 100 | 100 | 100 |
| Rated Head | M | 45 | 45 | 50 |
| Rated Power | KW | 30 | 30 | 30 |
| Measured Flow | $m^3/hr$ | 100 | 70 | 100 |
| Velocity | m/s | 1.733 | 0.348 | 1.52 |
| Discharge Pressure (A) | $Kg/cm^2$ | 2.9 | 2.7 | 3.2 |
| Depth of Water from Ground (B) | Meter | 7 | 7 | 7 |
| Total Head (=B+(AX10)) | Meter | 36 | 34 | 32 |
| Head Utilization | % | 80% | 76% | 83% |
| Flow Utilization | % | **83%** | **47%** | **21%** |
| Input power | kW | **23.21** | **27.88** | **20.49** |
| Hydraulic Power | KW | **12.26** | **6.49** | **9.59** |
| Motor Efficiency | % | 90 | 90 | 90 |
| Rated Efficiency | | **61.3%** | **61.3%** | **57.5%** |
| Pump Efficiency | % | 58.7% | 25.8% | 52.0% |
| Overall (Pump Set) Efficiency | % | 52.8% | 23.3% | 46.8% |

## 11. ANNEXURES (DATA PROVIDED BY PLANT)

### ANNEXURE-A (CGWA NOC)

MEMBER SECRETARY

भारत सरकार
केन्द्रीय भूमि जल प्राधिकरण
जल संसाधन, नदी विकास
और गंगा संरक्षण मंत्रालय

Government of India
Central Ground Water Authority
Ministry of Water Resources,
River Development & Ganga Rejuvenation

**File No:- 21-4/1054/UP/IND/2016** - 2280

**NOC No:- CGWA/NOC/IND/ORIG/2016/2308**

**Dated :-** 17 OCT 2016

To,
M/s Radico Khaitan Limited,
Bareilly Road, Rampur,
Uttar Pradesh – 244901

**Sub:- NOC for ground water withdrawal to M/s Radico Khaitan Ltd in respect of their Distillery unit located at Bareilly Road, Rampur, Block Chamraon, District Rampur, Uttar Pradesh – reg.**

Refer to your application on the above cited subject. Based on recommendations of Regional Director, Central Ground Water Board, Northern Region, Lucknow vide their recommendations dated 02/08/2016 and further deliberations on the subject, the NOC of Central Ground Water Authority is hereby accorded to **M/s Radico Khaitan Ltd in respect of their Distillery unit located at Bareilly Road, Rampur, Block Chamraon, District Rampur, Uttar Pradesh.** The NOC is, however subject to the following conditions:-

1. The firm may abstract **2600 cu.m/day** (and not exceeding **9,49,000 cu.m/year**) of ground water, through existing three (3) tubewells only. No additional ground water abstraction structures to be constructed for this purpose without prior approval of the CGWA.
2. All the wells to be fitted with water meter by the firm at its own cost and monitoring of ground water abstraction to be undertaken accordingly on regular basis, atleast once in a month. The ground water quality to be monitored twice in a year during pre- monsoon and post- monsoon periods.
3. **M/s Radico Khaitan Ltd.,** shall, in consultation with the Regional Director, Central Ground Water Board Northern Region, Lucknow implement ground water recharge measures atleast to the tune of **18,84,000 cu.m/year** as proposed, for augmenting the ground water resources of the area within six months from the date of issue of this letter. In addition, the firm shall adopt 2 to 3 nos. villages for Water Security Plan in District Rampur, Uttar Pradesh. The necessary guideline for the Water Security Plan is available on website of Ministry of Water Resources, RD & GR (www.mowr.gov.in). Both, the Demand Side Management /Supply Side Management with maintenance of structures in the said villages to be ensured and a comprehensive plan to be submitted to Regional Director, CGWB. Firm shall also undertake periodic maintenance of

West Block - 2, Wing - 3, Sector - 1, R.K. Puram, New Delhi - 110066
Tel : 011-26175362, 26175373, 26175379 • Fax : 011-26175369
Website : www.cgwa-noc.gov.in

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सरक्षत सुरक्षित जल सुरक्षित सुरक्षित कल
CONSERVE WATER - SAVE LIFE

recharge structures at its own cost. Firm to take up area specific plantation to enhance the recharge measures.

4. The photographs of the recharge structures after completion of the same are to be furnished immediately to the Regional Director, Central Ground Water Board, Northern Region, Lucknow for verification and under intimation to this office. Firm to take up area specific plantation to enhance recharge measures.

5. The firm at its own cost shall install 6-7 piezometers fitted with automatic water level recorders having telemetry systems at suitable locations and execute ground water regime monitoring programme in and around the project area on regular basis in consultation with the Central Ground Water Board, Northern Region, Lucknow.

6. The ground water monitoring data in respect of S. No. 2 & 5 to be submitted to Central Ground Water Board, Northern Region, Lucknow on regular basis at least once in a year.

7. The firm shall ensure proper recycling and reuse of waste water after adequate treatment.

8. Action taken report in respect of S. No. 1 to 7 may be submitted to CGWA within one year period.

9. The permission is liable to be cancelled in case of non-compliance of any of the conditions as mentioned in S. No. 1 to 8.

10. This NOC is subject to prevailing Central/State Government rules/laws or Courts orders related to construction of tubewell/ground water withdrawal/construction of recharge or conservation structure/discharge of effluents or any such matter as applicable.

11. This NOC does not absolve the applicant / proponent of this obligation / requirement to obtain other statutory and administrative clearances from other statutory and administrative authorities.

12. The NOC does not imply that other statutory / administrative clearances shall be granted to the project by the concerned authorities. Such authorities would consider the project on merits and be taking decisions independently of the NOC.

13. This NOC is valid from 03/10/2016 till 02/10/2018.

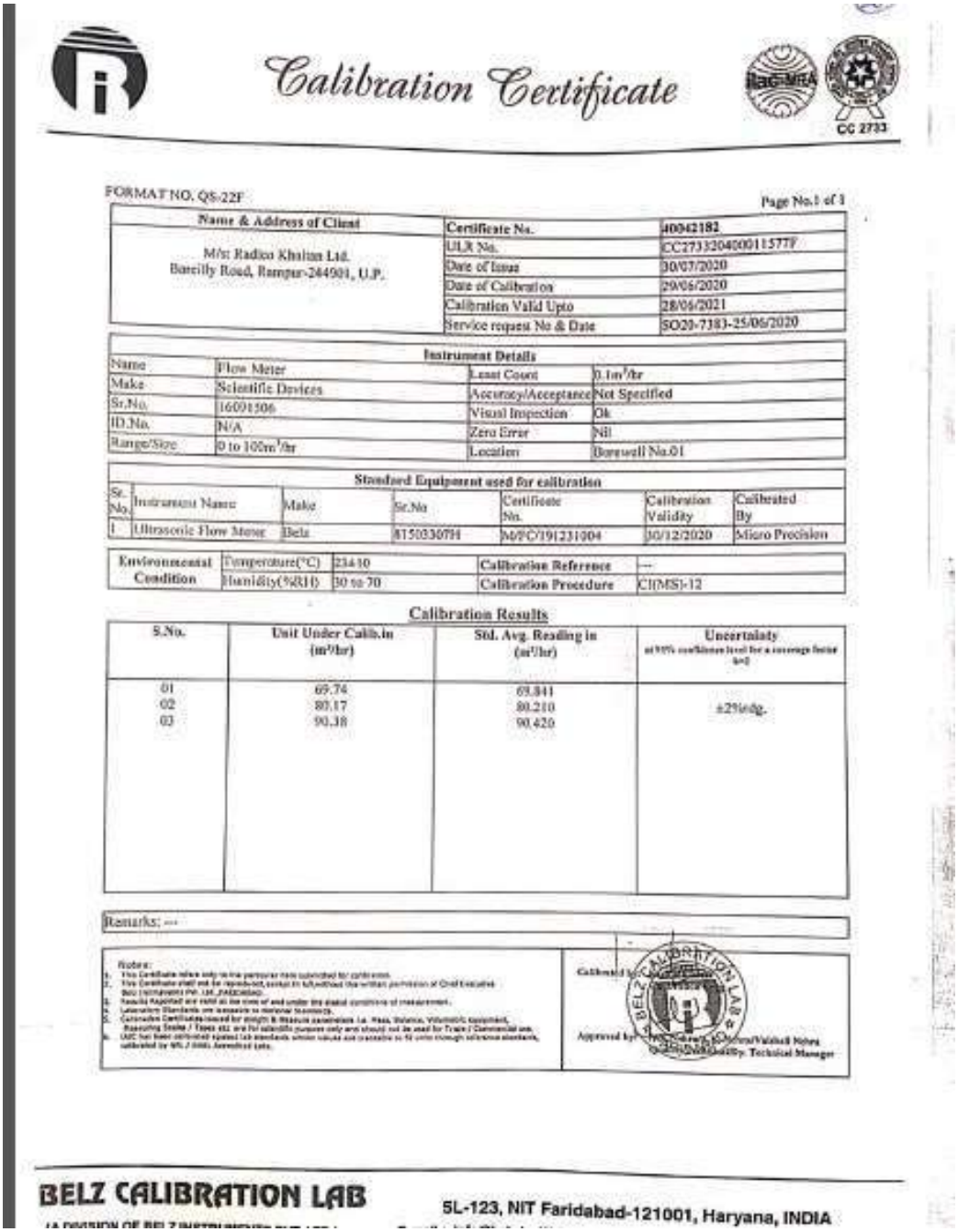
**Member Secretary**

**Copy to:**

1. The Member Secretary, Uttar Pradesh Pollution Control Board, PICUP Bhawan, Third Floor, B-Block, Vibhuti Khand, Gomti Nagar, Lucknow, Uttar Pradesh **with a request to ensure that the conditions mentioned in the NOC are complied by the firm.**
2. The District Magistrate, District Rampur, Uttar Pradesh.
3. The Regional Director, Central Ground Water Board, Northern Region, Lucknow. This has reference to your recommendation dated 02/08/2016.
4. TS to the Chairman, Central Ground Water Board, Bhujal Bhawan, Faridabad.
5. Guard File 2016-17.

**Member Secretary**

## ANNEXURE-B (CALIBRATION CERTIFICATES)



# Calibration Certificate

CC 2733

FORMAT NO. QS-22F

Page No.1 of 1

| Name & Address of Client | | |
|---|---|---|
| M/s Radico Khaitan Ltd.<br>Bareilly Road, Rampur-244901, U.P. | Certificate No. | 40042182 |
| | ULR No. | CC273320400011577F |
| | Date of Issue | 30/07/2020 |
| | Date of Calibration | 29/06/2020 |
| | Calibration Valid Upto | 28/06/2021 |
| | Service request No & Date | SO20-7383-25/06/2020 |

**Instrument Details**

| | | | |
|---|---|---|---|
| Name | Flow Meter | Least Count | 0.1m³/hr |
| Make | Scientific Devices | Accuracy/Acceptance | Not Specified |
| Sr.No. | 16091506 | Visual Inspection | Ok |
| ID.No. | N/A | Zero Error | Nil |
| Range/Size | 0 to 100m³/hr | Location | Borewell No.01 |

**Standard Equipment used for calibration**

| Sr. No. | Instrument Name | Make | Sr.No | Certificate No. | Calibration Validity | Calibrated By |
|---|---|---|---|---|---|---|
| 1 | Ultrasonic Flow Meter | Beta | 8750330TH | M/PC/191231004 | 30/12/2020 | Micro Precision |

| | | | | |
|---|---|---|---|---|
| Environmental Condition | Temperature(°C) | 23±10 | Calibration Reference | --- |
| | Humidity(%RH) | 30 to 70 | Calibration Procedure | CI(MS)-12 |

**Calibration Results**

| S.No. | Unit Under Calib.in (m³/hr) | Std. Avg. Reading in (m³/hr) | Uncertainty at 95% confidence level for a coverage factor k=2 |
|---|---|---|---|
| 01 | 69.74 | 69.841 | ±2%rdg. |
| 02 | 80.17 | 80.210 | |
| 03 | 90.38 | 90.420 | |

Remarks: ---

Notes:

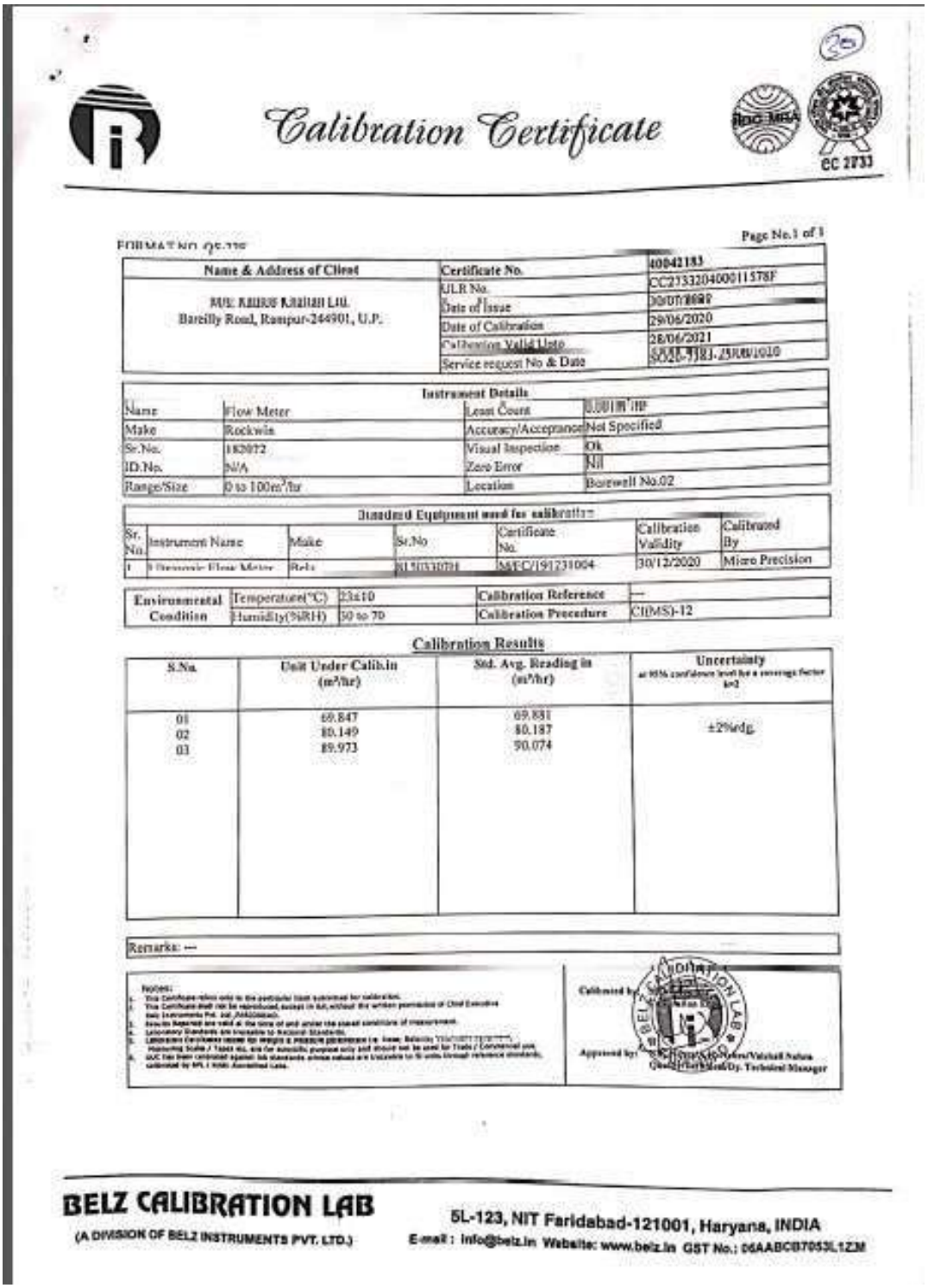
1. This Certificate relates only to the particular item submitted for calibration.
2. This Certificate shall not be reproduced, except in full,without the written permission of Chief Executive, Belz Instruments Pvt. Ltd.,FARIDABAD.
3. Results Reported are valid at the time of and under the stated conditions of measurement.
4. Laboratory Standards are traceable to national standards.
5. Corrective Certificates issued for weight & Measure examination i.e. Mass, Balance, Volumetric equipment, Measuring Testing / Type) etc.& For scientific purpose only and should not be used for Trade / Commercial use.
6. UUC has been calibrated against Lab standards, whose values are traceable to SI units through reference standards, calibrated by NPL / NMIJ, Accredited Labs.

Calibrated by:

Approved by: (Technical Manager)

BELZ CALIBRATION LAB

5L-123, NIT Faridabad-121001, Haryana, INDIA



# Calibration Certificate

CC 2733

FORMAT NO QC/119 Page No.1 of 1

| Name & Address of Client | Certificate No. | 40042183 |
|---|---|---|
| M/S. RADICO KHAITAN LTD. Bareilly Road, Rampur-244901, U.P. | ULR No. | CC273320400011578F |
| | Date of Issue | 30/07/2020 |
| | Date of Calibration | 29/06/2020 |
| | Calibration Valid Upto | 28/06/2021 |
| | Service request No & Date | SO20-3783, 25/06/2020 |

**Instrument Details**

| | | | |
|---|---|---|---|
| Name | Flow Meter | Least Count | 0.001 m³/hr |
| Make | Rockwin | Accuracy/Acceptance | Not Specified |
| Sr.No. | 182072 | Visual Inspection | Ok |
| ID.No. | N/A | Zero Error | Nil |
| Range/Size | 0 to 100m³/hr | Location | Borewell No.02 |

**Standard Equipment used for calibration**

| Sr. No. | Instrument Name | Make | Sr.No | Certificate No. | Calibration Validity | Calibrated By |
|---|---|---|---|---|---|---|
| 1 | Ultrasonic Flow Meter | Belz | 813033078 | MEC/191231004 | 30/12/2020 | Micro Precision |

| | | | | |
|---|---|---|---|---|
| Environmental Condition | Temperature(°C) | 23±10 | Calibration Reference | --- |
| | Humidity(%RH) | 30 to 70 | Calibration Procedure | CI(MS)-12 |

**Calibration Results**

| S.No. | Unit Under Calib.in (m³/hr) | Std. Avg. Reading in (m³/hr) | Uncertainty at 95% confidence level for a coverage factor k=2 |
|---|---|---|---|
| 01 | 69.847 | 69.881 | ±2%rdg. |
| 02 | 80.149 | 80.187 | |
| 03 | 89.973 | 90.074 | |

Remarks: ---

Notes:
1. This Certificate relates only to the particular item submitted for calibration.
2. This Certificate shall not be reproduced, except in full, without the written permission of Chief Executive Belz Instruments Pvt. Ltd. (BANGALORE).
3. Results reported are valid at the time of and under the stated conditions of measurement.
4. Laboratory Standards are traceable to National Standards.
5. Laboratory Certificate cannot be sought a measure performance i.e. Meter, Balance, Volumetric glassware, Measuring Stable / Tapes etc. are for scientific purpose only and should not be used for Trade / Commercial use.
6. UUC has been calibrated against the standards whose values are traceable to SI units through reference standards, calibrated by NPL / NABL Accredited Labs.

Calibrated by:

Approved by: Krishna Alle Sahni/Vaishali Sahni
Quality Manager/Dy. Technical Manager

**BELZ CALIBRATION LAB**
(A DIVISION OF BELZ INSTRUMENTS PVT. LTD.)

5L-123, NIT Faridabad-121001, Haryana, INDIA
E-mail : info@belz.in Website: www.belz.in GST No.: 06AABCB7053L1ZM

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# Calibration Certificate

CC 2733

FORMAT NO. QS-22F

Page No.1 of 1

| Name & Address of Client | Certificate No. | 40042181 |
|---|---|---|
| M/s. Radico Khaitan Ltd.<br>Bareilly Road, Rampur-244901, U.P. | ULR No. | CC273320400011576F |
| | Date of Issue | 30/07/2020 |
| | Date of Calibration | 29/06/2020 |
| | Calibration Valid Upto | 28/06/2021 |
| | Service request No & Date | SO20-7383-25/06/2020 |

| Instrument Details | | | |
|---|---|---|---|
| Name | Flow Meter | Least Count | 0.1m³/hr |
| Make | Scientific Devices | Accuracy/Acceptance | Not Specified |
| Sr.No. | 16099507 | Visual Inspection | Ok |
| ID.No. | N/A | Zero Error | Nil |
| Range/Size | 0 to 100m³/hr | Location | Borewell No.03 |

**Standard Equipment used for calibration**

| Sr. No | Instrument Name | Make | Sr.No | Certificate No. | Calibration Validity | Calibrated By |
|---|---|---|---|---|---|---|
| 1 | Ultrasonic Flow Meter | Belz | 81503130711 | M/FC/191231604 | 30/12/2020 | Micro Precision |

| Environmental Condition | | | | |
|---|---|---|---|---|
| | Temperature(°C) | 23±10 | Calibration Reference | --- |
| | Humidity(%RH) | 30 to 70 | Calibration Procedure | CC(MS)-12 |

**Calibration Results**

| S.No. | Unit Under Calib.in (m³/hr) | Std. Avg. Reading in (m³/hr) | Uncertainty at 95% confidence level for a coverage factor k=2 |
|---|---|---|---|
| 01 | 70.1 | 70.348 | ±2%rdg. |
| 02 | 79.8 | 80.036 | |
| 03 | 90.2 | 90.409 | |

Remarks: ---

Notes:

1. This Certificate refers only to the particular item submitted for calibration.
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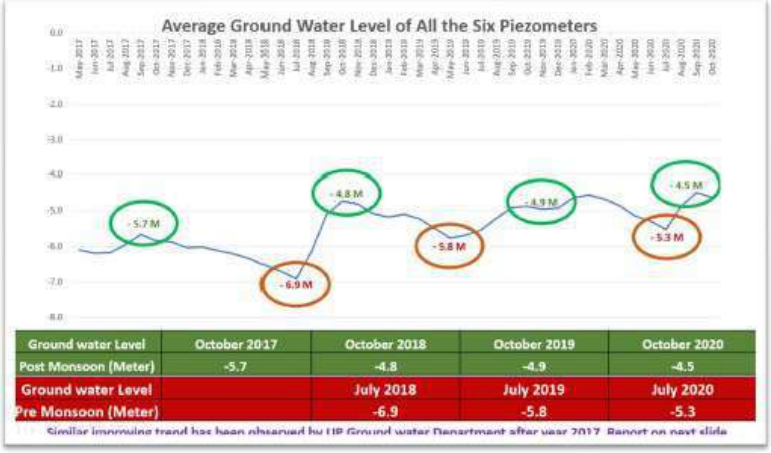
## ANNEXURE-C (LISTR OF DEVDELOP PONDS & RECHARGING POINTS)

List of developed ponds in villages

| Water Recharging Pit Arrangements in Village Ponds | | | |
|---|---|---|---|
| S. No. | Name of Village | No. of Shaft | Year of Construction |
| 1 | Agapur | 4 | 2017-2018-2019 |
| 2 | Ballu Ki Madhaiya | 3 | 2017-2018-2019 |
| 3 | Beesri | 4 | 2017-2018-2019 |
| 4 | Bhamraua | 2 | 2017-2018-2019 |
| 5 | Bhandpura | 3 | 2017-2018-2019 |
| 6 | Chamraua | 3 | 2017-2018-2019 |
| 7 | Chittiramnagar | 9 | 2017-2018-2019 |
| 8 | Dabka | 2 | 2017-2018-2019 |
| 9 | Daniapur | 2 | 2017-2018-2019 |
| 10 | Dinpur | 4 | 2017-2018-2019 |
| 11 | Hajinagar | 3 | 2017-2018-2019 |
| 12 | Hariyal | 3 | 2017-2018-2019 |
| 13 | Jasmauli | 3 | 2017-2018-2019 |
| 14 | Kakraua | 3 | 2017-2018-2019 |
| 15 | Kalrakh | 5 | 2017-2018-2019 |
| 16 | Khajuria | 2 | 2017-2018-2019 |
| 17 | Ladora | 4 | 2017-2018-2019 |
| 18 | Madhauli | 3 | 2017-2018-2019 |
| 19 | Mahmoodpur | 4 | 2017-2018-2019 |
| 20 | Meghanagla | 5 | 2017-2018-2019 |
| 21 | Milak Chikna | 5 | 2017-2018-2019 |
| 22 | Nasratnagar | 2 | 2017-2018-2019 |
| 23 | Naugama | 6 | 2017-2018-2019 |
| 24 | Raipur | 3 | 2017-2018-2019 |
| 25 | Raja rampur | 2 | 2017-2018-2019 |
| 26 | Ramu Ki Madhaiya | 2 | 2017-2018-2019 |
| 27 | Shankarpur | 2 | 2017-2018-2019 |
| 28 | Sikrol | 3 | 2017-2018-2019 |
| 29 | Baasnagli | 1 | 2019-2020 |
| 30 | Bijaiya | 5 | 2019-2020 |
| 31 | Dundai | 3 | 2019-2020 |
| 32 | Indra | 2 | 2019-2020 |
| 33 | Koyla | 1 | 2019-2020 |
| 34 | Koyli | 5 | 2019-2020 |
| 35 | Madhaiya Udairaj | 3 | 2019-2020 |
| 36 | Milak Nibbi Singh | 3 | 2019-2020 |
| 37 | Mominpur Ahmedabad | 5 | 2019-2020 |
| 38 | Tumaria | 5 | 2019-2020 |
| | Total No of Shafts | 129 | |

## ANNEXURE-E (GROUND WATER LEVEL)




| Ground water Level | October 2017 | October 2018 | October 2019 | October 2020 |
|---|---|---|---|---|
| Post Monsoon (Meter) | -5.7 | -4.8 | -4.9 | -4.5 |
| Ground water Level | | July 2018 | July 2019 | July 2020 |
| Pre Monsoon (Meter) | | -6.9 | -5.8 | -5.3 |

Similar improving trend has been observed by UP Ground water Department after year 2017. Report on next slide

# EVALUATION REPORT

# ON

# IMPACTS OF GROUNDWATER ABSTRACTION AND GROUNDWATER RECHARGE ON GROUNDWATER SCENARIO FOR RADICO KHAITAN LIMITED, DISTRICT RAMPUR, UTTAR PRADESH

Submitted To-

**RadicoKhaitan Ltd, Rampur**

**DEPARTMENT OF CIVIL ENGINEERING**
**INDIAN INSTITUTE OF TECHNOLOGY**
**ROORKEE-247 667**


**November 2021**

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## 1.0 INTRODUCTION:

RadicoKhaitan Limited distillery is located east of Rampur town. It produces high-grade Extra Neutral Alcohol ("ENA") from molasses, grains, and Scottish design malt spirit from barley malt.

Based on the order of the National Green Tribunal (NGT) and Central Groundwater Authority, RadicoKhaitan carried out impact assessment studies on groundwater abstraction andconservation and recharge measures adopted by the industry.

RadicoKhaitan contacted IIT Roorkee to evaluate the report on "Impacts of Ground Water Abstraction and Ground Water Recharge on Ground Water Scenario for RadicoKhaitan Limited, District Rampur, Uttar Pradesh."

## 2.0 METHODOLOGY ADOPTED IN EVALUATION

The methodology adopted in evaluation is based on the desk work and field visit. A field visit was conducted on 30$^{th}$ Oct. 2021 to the distillery unit to check the groundwater recharge structures; piezometers and groundwater samples were collected from borewells to cross-check the groundwater quality. In addition, STP performance was also checked, and a field visit was also conducted to verify nearby pond recharge structures.

## 3.0 GROUNDWATER LEVEL

a) Groundwater levels inside the premises of the RadicoKhaitan Ltd. and outside the premises are constantly recorded two times in a day with an automatic pressure-based water level recorder. Earlier, six piezometers were installed – two inside the premises at Ajeetpur and Hitachi and four outside the premises at Deeper, Hariyal, Milak Chicken, and Madhaiya- and measurements were taken. In the year 2020, six more piezometers were installed on the premises to assess the fairly accurate spatial variation of the groundwater level. All the piezometers are fitted with Digital Water Level Recorder (DWLR) with a telemetry system. Online data of the groundwater level at all the piezometers are available. Groundwater data of the earlier six piezometers are available from 2017 and of the new piezometers from 2020.

b) The pre-monsoon water level map prepared from the data collected from the State Ground Water Department, Government of Uttar Pradesh, Lucknow, indicate that water level in the study area (Chamraua block) varies from 3.98 to 7.72 mbgl in pre-monsoon and while 3.45 to 6.82 mbgl in the monsoon period during period 2019-2020. The deepwater level is observed near Bhont, Chamraua, Deenpur, and MadhaiyaUdairaj. It is pertinent to note that the groundwater table has improved in the monsoon period, which indicatesfavorable soil conditions for recharge.

c) Record of water level from 2017 to 2021 at all the six piezometers at Ajeetpur, Hitachi, Deeper, Hariyal, Milak Chicken, and Madhaiya show a rising water level trend a rate of about 0.20 m/year.

d) Historical groundwater table data, collected by State Ground Water Department from 2008 to 2020 at ten stations, indicates a falling trend at eight stations and a rising trend at two stations. However, data analysis from 2017 to 2020 shows a rising trend at all the stations, which can be attributed to the groundwater recharge system implemented in the year 2017.

e) It is suggested that infiltration tests shall be carried out at some location to quantify groundwater recharge due to rain.

f) Before the year 2017 in the Chamraua block, the percentage stage of groundwater withdrawalwas of the order of 133%, but after implementing the recharge systems, it is now less than 100%; thus, the area will not be categorized as "Over Exploited."

g) The groundwater table at Piezometer No. 1 inside the premises and Milak Chicken was measured using a Groundwater measuring instrument during the site visit. At Piezometer No. 1, the Groundwater level was at 5.8 m below the ground level, and at Milak Chicken, the level was at 2.75 m below the ground level. Such values were cross-checked with the recorded groundwater level by DWLR, which was available online, and found that both levels are almost the same.

h) Historical recorded groundwater level of some Piezometers was examined and found that groundwater levels have improved from 2017 to 2021.

i) It is suggested that reference ground level be marked on the ground near the installed Piezometers, and groundwater level shall be reported with that reference level. Some photographs of the Piezometers are shown in Figs. 1-5.

Fig.1 Piezometer No. 1 located inside the campus

Fig.2 In ater level.

Fig.3 Measurement of groundwater table during the visit in Piezometer No.1

Fig. 4 Piezometer located at MilakChickna

Fig.5 Measurement of groundwater table during the visit in Piezometer located at Milak Chicken

## 4. GROUNDWATER RECHARGE

a) For recharging the groundwater, 156 rainwater harvesting systems (RWHS) are installed at various locations inside and outside Radico Khaitan Ltd. Out of 156 RWHS, 27 systems are in the premises, and 129 systems are located outside and nearby the premises.

b) Mostly the outside RWHS is located in the existing rain-fed ponds for maximizing the recharge of the groundwater.

c) The constructed RWHS has successfully improved the groundwater level in the premises and outside from their construction, i.e., 2017. At all the six earlier piezometers, the water level is rising at a rate of about 0.20 m/year.

d) The RadicoKhaitan Limited Having permission to withdraw groundwater for various uses and claims to recharge the groundwater to a tune of 5200 KLD through 156 installed RWHS. However, an actual measurement of the recharge has not been carried out. It is suggested that the recharging capacity of some of the RWHS shall be obtained through experimentation during monsoon and non-monsoon periods to assess the volume of recharged water.

e) The recharging capacity of the RWHS can be obtained following the steps mentioned below:

2. As time passes, the water level in the chamber will go down, a known volume of water shall be added to the chamber to ensure the water level close to the specified level.
3. After 12 or 24 hours, depending on the recharge rate, the volume of water added in the chamber is to be calculated, say it is ~~V~~.
4. Recharge rate = ~~V~~/duration of filling water (12 hr or 24 hr)

f) Over time, the coarse sand-gravel filter provided in the chamber covering the recharge pipe gets chocked with fine material coming with rainwater. This results in a decrease in the porosity of the filter and a reduction in the recharge rate. It is suggested that re-laying the filter after washing it or a new filter shall be carried out after a certain time to ensure a high recharging rate. Photographs of some of the RHWS and their locations are shown in Figs. 6-8.

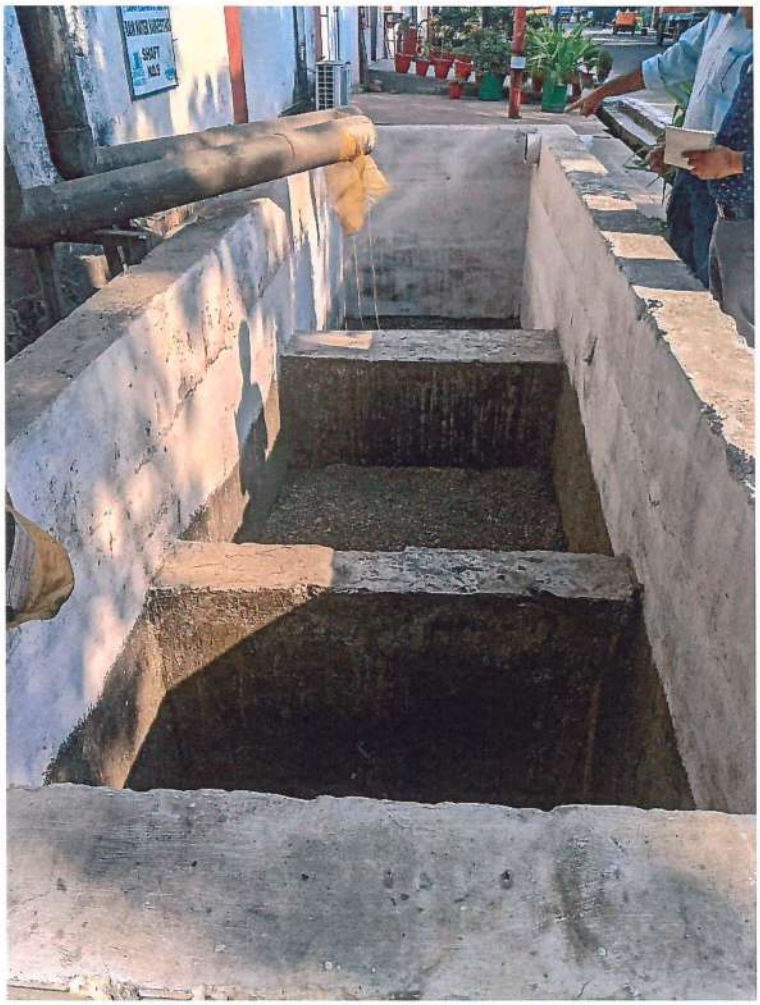

Fig.6 Rainwater harvesting shaft No. 8 located on the campus

Fig.7 Four Rainwater harvesting systems are installed in the pond at Village Agapur

Fig. 8 Rainwater harvesting systems at 28°44'27.39"N & 79° 1'21.82"E

## 5.0 GROUNDWATER QUALITY

IIT Roorkee performed water quality sampling from Tubewell 1 and 2 inside the distillery premises (Figure 9). The main objective is to check the groundwater contamination due to industrial activities. For common Physico-chemical water quality parameters and heavy metals, water samples were collected from each source in clean PVC bottles of 0.5 L capacity; the samples were collected in 100 ml sterilized glass bottles for bacteriological parameters.

For heavy metals, the samples are preserved by adding $HNO_3$ to reduce the pH to 2.0. While for other parameters, it is cooled at 4°C in the icebox and transported to IIT Roorkee. All analyses were carried out as per methodologies in Standard Methods for the examination of water and wastewater APHA (2005). E Coli and Fecal coliforms were estimated by using mTEC agar medium and standard Multiple Tube Fermentation Technique.

The results are summarized in Table 1, and the values are compared with the acceptable and permissible limits of IS **IS-10500: 2012.**

**Figure 9: Groundwater Sampling from Borewell 1 & 2**

Table 1: Water Quality of Borewells 1 & 2

| S. No. | Parameters | Units | Borewell No. 2 | Borewell No. 3 | BIS Standard IS 10500: 2012 | |
|---|---|---|---|---|---|---|
| | | | | | Requirement (Acceptable limit) | Permissible limit in the absence of alternate source |
| 1 | pH | - | 7.5 | 7.6 | 6.5 - 8.5 | No relaxation |
| 2 | Electrical Conductivity (EC) | µS/cm | 514 | 840 | - | - |
| 3 | Total Dissolved Solid (TDS) | mg/L | 212 | 347 | 500 | 2000 |
| 4 | Total Hardness | NTU | 228 | 284 | 200 | 600 |
| 5 | Total Alkalinity | mg/L | 212 | 180 | 200 | 600 |
| 6 | Sulphates (as $SO_4$), | mg/L | 54 | 66 | 200 | 400 |

| | | | | | | |
|---|---|---|---|---|---|---|
| | mg/L, Max | | | | | |
| 7 | Chloride (as Cl), mg/L, Max | mg/L | 88 | 92 | 250 | 1000 |
| 8 | Fluoride (as F), mg/L, Max | mg/L | 0.31 | 0.62 | 1 | 1.5 |
| 9 | Iron (as Fe), mg/L, Max | mg/L | 0.05 | 0.04 | 0.3 | No relaxation |
| 10 | Manganese (as Mn), mg/L, Max | mg/L | 0.002 | 0.002 | 0.1 | 0.3 |
| 11 | Total Coliforms | MPN/ 100 mL | NIL | NIL | - | - |
| 12 | Fecal Coliforms | MPN/ 100 mL | NIL | NIL | - | - |
| 13 | Total aresenic (as As), mg/L, Max | mg/L | BD | BD | - | - |
| 14 | Cadmium (as Cd), mg/L, Max | mg/L | BD | BD | 0.003 | No relaxation |
| 15 | Total chromium (as Cr), mg/L, Max | mg/L | 0.001 | 0.002 | 0.05 | No relaxation |
| 16 | Total copper (as Cu), mg/L, Max | mg/L | 0.002 | 0.002 | 0.05 | 1.5 |
| 17 | Zinc (as Zn), mg/L, Max | mg/L | 0.152 | 0.153 | 5 | 15 |
| 18 | Nickel (as Ni), mg/L, Max | mg/L | 0.004 | 0.004 | 0.02 | No relaxation |
| 19 | Aluminium (as Al), mg/L, Max | mg/L | 0.002 | 0.002 | 0.03 | 0.2 |
| 20 | Lead (as Pb), mg/L, Max | mg/L | 0.003 | 0.004 | 0.01 | No relaxation |
| 21 | Molybdenum (as Mo), mg/L, Max | mg/L | 0.002 | 0.003 | 0.07 | No relaxation |

It has been observed that the groundwater is of excellent water quality, there is no sign of groundwater pollution, no heavy metals or fecal coliforms are observed, and the groundwater can be used directly for drinking.

## 6.0 PERFORMANCE EVALUATION OF STP

A 150 KLD STP is installed in the distillery premises to treat sewage generated by workers (Figure 10). Treated effluent was collected, preserved in an icebox at 4 °C before the analysis, and transported to the laboratory at IIT Roorkeewithin 24 h of samples collection. Samples collected from the STP site were analyzedfor physicochemical analysisasper Standard Methods (APHA, 2012), and the data is summarized in Table 2.

Figure 10: 150 KLD STP at RadicoKhaitan

Table 2: Effluent Quality of STP

| S. No. | Parameter | Units | STP Outlet | Effluent Standards (NGT 2019) |
|---|---|---|---|---|
| 1 | Temp. | °C | 26 | 26 |
| 2 | pH | - | 7.7 | 5.5 – 9 |
| 3 | Color | - | Colourless | Colourless |
| 4 | Odor | - | Aseptic | Aseptic |
| 5 | Turbidity | NTU | 5.3 | - |
| 6 | Alkalinity | mg/L | 320 | - |
| 7 | COD | mg/L | 32 | 50 |
| 8 | BOD | mg/L | 18 | 10 |
| 9 | TSS | mg/L | 16 | 10 |
| 10 | Total Coliforms | MPN/ 100 mL | 4.2x10^3 | - |
| 11 | Fecal Coliforms | MPN/ 100 mL | 930 | Desirable-100 Permissible-230 |

It has been observed that STP is working well and producing the desired effluent quality for discharge.

## 7.0 CONCLUDING REMARKS& SUGGESTIONS

a) Historical groundwater table data from the year 2008 to 2017 shows a falling trend at almost all stations. However, a rising trend at all the stations from 2017 is observed, which can be attributed to the groundwater recharge system implemented in 2017.
b) The constructed RWHS has successfully improved the groundwater level in and outside of the premises from the year of their construction.
c) It is suggested that infiltration tests shall be carried out at some location to quantify groundwater recharge due to rain.
d) It is suggested that reference ground level be marked on the ground near the installed Piezometers, and groundwater level shall be reported with that reference level.
e) Details of groundwater recharge from sources other than the rainfall shall be provided.
g) It is suggested that the recharging capacity of some of the RWHS shall be obtained through experimentation during monsoon and non-monsoon periods to assess the volume of recharged water.
h) The recharging capacity of the RWHS can be obtained following the steps mentioned below:
    - Fill the water up to a specified level in the chamber, and time is to be noted.
    - As time passes, the water level in the chamber will go down, a known volume of water shall be added to the chamber to ensure the water level close to the specified level.
    - After 12 or 24 hours, depending on the recharge rate, the volume of water added in the chamber is calculated, say it is ~~V.~~
    - Recharge rate = ~~V~~/duration of filling water (12 hr or 24 hr)
i) Over time, the coarse sand-gravel filter provided in the chamber covering the recharge pipe gets chocked with fine material coming with rainwater. This results in a decrease in the porosity of the filter and a reduction in the recharge rate. It is suggested that re-laying the filter after washing it or a new filter shall be carried out after a certain time to ensure a high recharging rate.
j) It has been observed that the groundwater is of excellent water quality, there is no sign of groundwater pollution, no heavy metals or fecal coliforms are observed, and the groundwater can be used directly for drinking.
k) It has been observed that STP is working well and producing the desired effluent quality for discharge. It is recommended to conduct an adequacy report of the STP for the improvement of water quality.

# सिविल इंजीनियरिंग विभाग

भारतीय प्रौद्योगिकी संस्थान, रुड़की - 247 667 (उत्तराखण्ड) भारत

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Devendra Singh (Sr. Vice President Process)
Radico Khaitan ltd.
Bareilly Road , Rampur - 244901
District- Rampur U.P.

**Subject: Appraisal Report on Impacts of Groundwater Abstraction and Groundwater Recharge on Groundwater Scenario.**

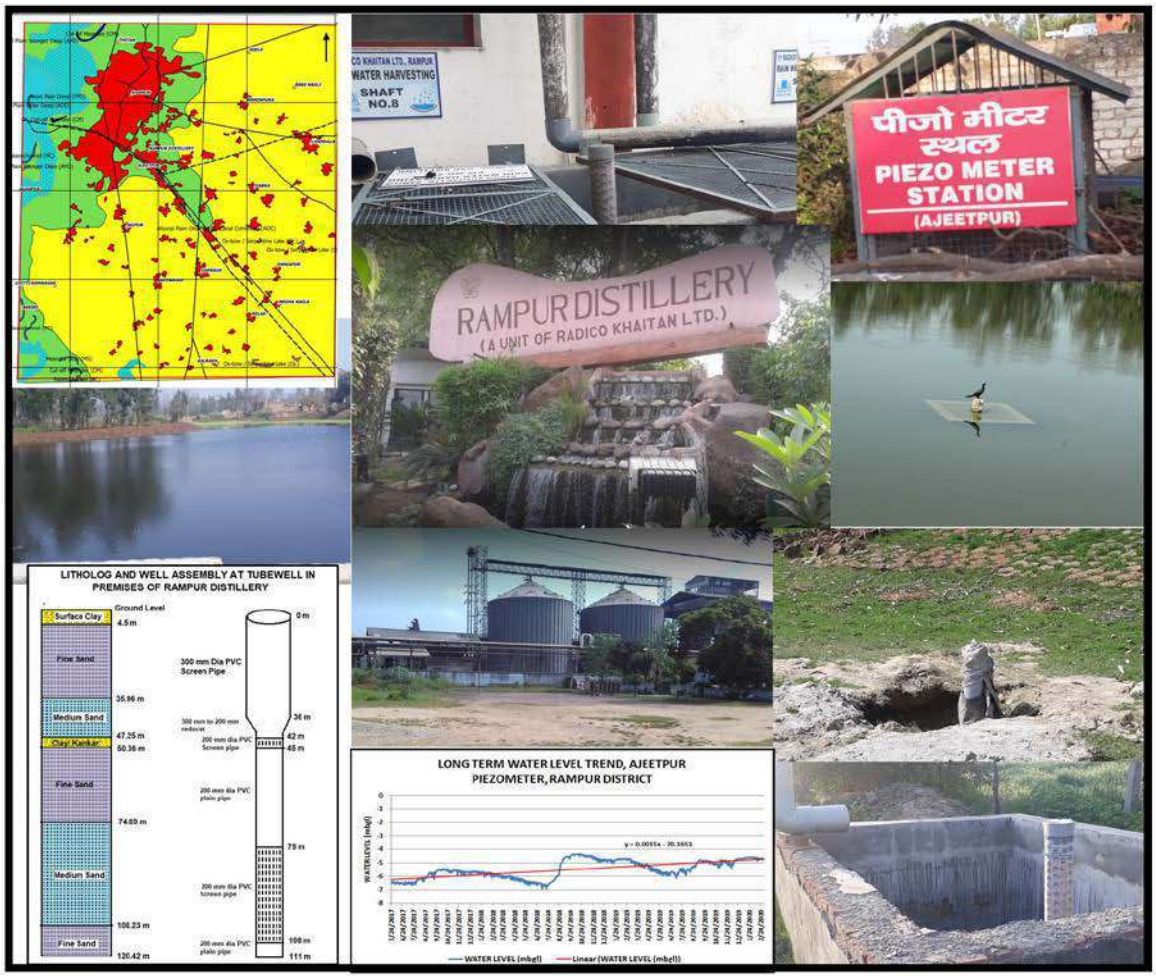
Dear Mr. Singh,

Please find attached herewith the appraisal report on the Impacts of Groundwater Abstraction and Groundwater Recharge on Groundwater Scenario for Radico Khaitan.

With Regards

Kazmi

# A REPORT ON
# IMPACTS OF GROUND WATER ABSTRACTION AND GROUND WATER RECHARGE ON GROUND WATER SCENARIO FOR RADICO KHAITAN LIMITED, DISTRICT RAMPUR, UTTAR PRADESH
# REVISED VERSION 1.0





**Prepared by-**
**UPENDRA SRIVASTAVA**
**ACCREDITED GROUND WATER PROFESSIONAL**
**LUCKNOW**

**SEP, 2021**

## CERTIFICATE

The "A REPORT ON IMPACTS OF GROUND WATER ABSTRACTION AND GROUND WATER RECHARGE ON GROUND WATER SCENARIO FOR RADICO KHAITAN LIMITED, DISTRICT RAMPUR, UTTAR PRADESH REVISED VERSION 1.0" has been prepared by undersigned as per the norms of State Ground Water Department.

The undersigned is retired Hydrogeologist from Central Ground Water Board and has been Accredited as Ground Water Professional by Central Ground Water Authority (http://www.cgwa-noc.gov.in/LandingPage/UserAssistance/Results_Accreditation_with_Contact_Details%2017-03-2021.pdf#ZOOM=100). Undersigned is qualified for preparation of Impact Assessment Reports and Ground Water Modeling studies.

The report has been prepared based on primary hydrogeological data collected during field surveys and the secondary data collected from various Central and State govt. departments. The analysis of spatial and temporal variations in ground water regime are based on long term ground water level data collected regularly by State Ground Water Department, Govt. of Uttar Pradesh, Lucknow, through the permanent monitoring stations. The detailed information about vertical and horizontal disposition of aquifers and its characteristics has been obtained from various reports of Central Ground Water Board. The entire data and its analysis has been compiled in the report to bring out the impacts of ground water abstraction by the industry and also by the water conservation measures adopted by the industry, on the ground water regime in the buffer area around the plant. Impacts of ground water abstraction on the socio-economic conditions of inhabitants in the surrounding areas have also been studied based on landuse and livelihood of the people in the buffer zone.

(UPENDRA SRIVASTAVA)
Retired Hydrogeologist,
Central Ground Water Board
Ministry of Jal Shakti, Govt of India
**Accredited Ground Water Professional by CGWA**
ADD: C-17, KENDRIYA VIHAR, SECTOR 6,
JANKIPURAM EXTENSION, LUCKNOW-226031

# Accreditation Board of CGWA

## Certificate of Accreditation

*Mr. Upendra Shrivastava*

*Has been accredited as Ground Water Professional to prepare reports in the Functional Areas of*

- *Impact Assessment of Existing / Proposed GW Extraction*
- *GW Modelling*

*Valid from : 15.02.2021*

*Valid thru : 14.02.2026*

*Certificate No. : CGWA/RGI/003*

*Dated : 07.07.2021*

क्षेत्रीय निदेशक
Regional Director
आरजीएनजीडब्ल्यूटीआरआई
RGNGWT&RI

सदस्य
Member
आरजीएनजीडब्ल्यूटीआरआई
RGNGWT&RI

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# IMPACTS OF GROUND WATER ABSTRACTION AND GROUND WATER RECHARGE ON GROUND WATER SCENARIO FOR RADICO KHAITAN LIMITED, DISTRICT RAMPUR, UTTAR PRADESH
# REVISED VERSION 1.0

## 1. INTRODUCTION

Radico Khaitan Limited, Rampur district, Uttar Pradesh- has set up a distillery located east of Rampur town, covering an area of 44.392 ha and occupies western parts of Chamraua block of Rampur district. The distillery produces high-grade Extra Neutral Alcohol ("ENA") from molasses, grains and Scottish design malt spirit from barley malt.

- The industry has obtained No Objection Certificate (NOC) for ground water abstraction of 2600 KLD (kilo litre per day) from Central Ground Water Authority (CGWA) wef from 03.10.2016 and validity for two years that was upto 02.10.2018.
- In pursuance of directives given by CGWA vide NOC no. CGWA/NOC/IND/ORIG/2016/2308 dated 17.10.2016, Radico Khaitan Ltd has adopted suitable rain water harvesting measures within and outside the premises of industry. In addition industry has been continuously striving for technological upgradation and innovations for reducing ground water withdrawal by the industry.
- The NOC issued was valid upto 02.10.2018 and before expiry of NOC the application was filed by Radico Khaitan Ltd vide online application no. 21-4/1054/REN/UP/IND/2016 dated 15.09.2018. Subsequently, Central Ground Water Board, Directorate office at Lucknow conducted an inspection to verify the compliance report submitted by industry.
- The application for renewal was forwarded by Central Ground Water Board, Northern Region, Lucknow to CGWA, New Delhi vide their letter no. 21-4/1054/REN/UP/IND/2016-1991 dated 14.05.2019.
- This was followed by reminders vide letter nos. (a) RKL/601, dated 09.07.2019; (b) RKL/SRVP(P), dated 17.07.2019; (c) RKL/SRVP(P)/1158, dated 15.11.2019 and (d)

RKL/SRVP(P)/1477, dated 24.01.2020 from Radico Khaitan Ltd requesting CGWA for renewal of NOC.

- With reference to letter no RKL/SRVP(P)/1477, dated 24.01.2020 from Radico Khaitan Ltd and in pursuance of Hon'ble National Green Tribunal (NGT) orders, CGWA has directed the industry vide letter no. 21-4/1054/UP/IND/2016-125 dated 11.02.2020, to carryout impact assessment studies on ground water abstraction and conservation and recharge measures adopted by industry. The Report on "IMPACTS OF GROUND WATER ABSTRACTION AND GROUND WATER RECHARGE ON GROUND WATER SCENARIO FOR RADICO KHAITAN LIMITED, DISTRICT RAMPUR, UTTAR PRADESH" was prepared and submitted during Mar, 2020.
- A supplementary report was again prepared during July, 2020, with updated number and impacts of additional ground water recharge structures in the Chamraua block, by RKL.
- Since Oct, 2020 the Govt of Uttar Pradesh has issued notification for taking responsibility of issuing NOC for ground water abstraction in the state.
- Subsequently, RKL applied for NOC through online portal of State Ground Water Department, Govt of Uttar Pradesh. The NOC for ground water abstraction of 3600 KLD through three tubewells within the premises has been granted with a condition to submit the updated report on "IMPACTS OF GROUND WATER ABSTRACTION AND GROUND WATER RECHARGE ON GROUND WATER SCENARIO FOR RADICO KHAITAN LIMITED, DISTRICT RAMPUR, UTTAR PRADESH".

Present study has been taken up to re- assess the impacts of rain water harvesting and recharge measures within and outside the premises of Radico Khaitan Ltd on the hydrogeological conditions of the area based on additional dynamic hydrogeological data for year 2020.

## 2. PROJECT DESCRIPTION

Rampur Distillery is one of the most efficiently-run distilleries in India. It is spread over 100 acres of lush green campus with a high level of security systems. The distillery produces high-grade Extra Neutral Alcohol ("ENA") from molasses, grains and malt spirit from barley malt. The unit is self-sufficient in meeting the fuel and power requirements by the way of backward

integration. It utilizes the effluents to generate biogas, which is utilized for generating the steam and power for its captive requirement.

## 3. BACKGROUND

The industry has obtained NOC for ground water withdrawal of 2600 kld (kilo litre per day), vide NOC no. CGWA/NOC/IND/ORIG/2016/2308 dated 17.10.2016. The ground water is being extracted through 3 (three) tubewells constructed within the premises. All the tubewells are fitted with digital flow meter and the quantity of ground water withdrawn is being regularly sent to Regional Director, Central Ground Water Board, Northern Region, Lucknow.

Since the industry is located in Chamraua block of Rampur district which has been categorized as "Over Exploited" as per Dynamic Ground Water Estimation 2017 and categorization of assessment units, the Industry can withdraw ground water to the tune of 50% of annual ground water recharge being done by the industry through suitable measures within or outside the industry. Radico Khaitan Ltd have complied all the conditions of NOC and constructed suitable rainwater harvesting and ground water recharge structures. Twenty two recharge trenches with recharge wells have been constructed within the Radico Khaitan plant and also in both the lagoons at Ajitpur and Hitachi Land. In addition to this ponds have been adopted in 38 villages of Chamraua block. A total of 129 recharge shafts have been constructed in these ponds for enhancing the rate of ground water recharge. Thus it has been ensured that required recharge of 27,96,287 m3/annum and even more than that is being achieved.

## 4. OBJECTIVES AND SCOPE

The industry has adopted several rain water harvesting and ground water recharge measures in compliance with directives issued by CGWA vide NOC no CGWA/NOC/IND/ORIG/2016/2308 dated 17.10.2016. The study has been taken up within and outside the premises of Radico Khaitan Ltd with following objectives:

a. Study the hydrogeological, geological, climate, landuse, topography, drainage and geomorphological conditions of the study area
b. To assess the impacts of measures adopted by Radico Khaitan Limited for rain water harvesting within the premises

c. To assess the impact of water conservation and artificial recharge to ground water measures adopted outside the premises as on August, 2021.

An approach adopted included revision of report prepared on Impact Assessment of ground water withdrawal and ground water recharge by RKL. The ground water levels since Jun, 2020 were collected from select monitoring stations of State Ground Water Department, Govt of Uttar Pradesh and water table analysis was done as per updated data. Time series analysis of water level data collected was done to infer the historical changes in ground water regime of the area. Entire data- collected or generated was compiled and integrated to prepare this version of revised impact assessment report.

# 5. REGIONAL SETTING

## 5.1. LOCATION

The study area occupies an area of **230 sq. km** and is located in the western part of Chamraua block of Rampur district, Uttar Pradesh state. It lies between north latitudes 28.674800° and 28.835600° and east longitudes 78.976700° and 79.121300° and falls in parts of Survey of India toposheets 53 L/13, 53 L/14, 53 P/1 & 53 P/2. The study area is mainly a part of Chamraua block and is bounded on north by Saidnagar block, in eastern side it is bounded by Milak block of Rampur. Shahabad block of Rampur bounds the area from southern side and Moradabad district is located few kilometers west of study area. (Fig-1 & 2).

**FIG 1 Location Map of Study area**

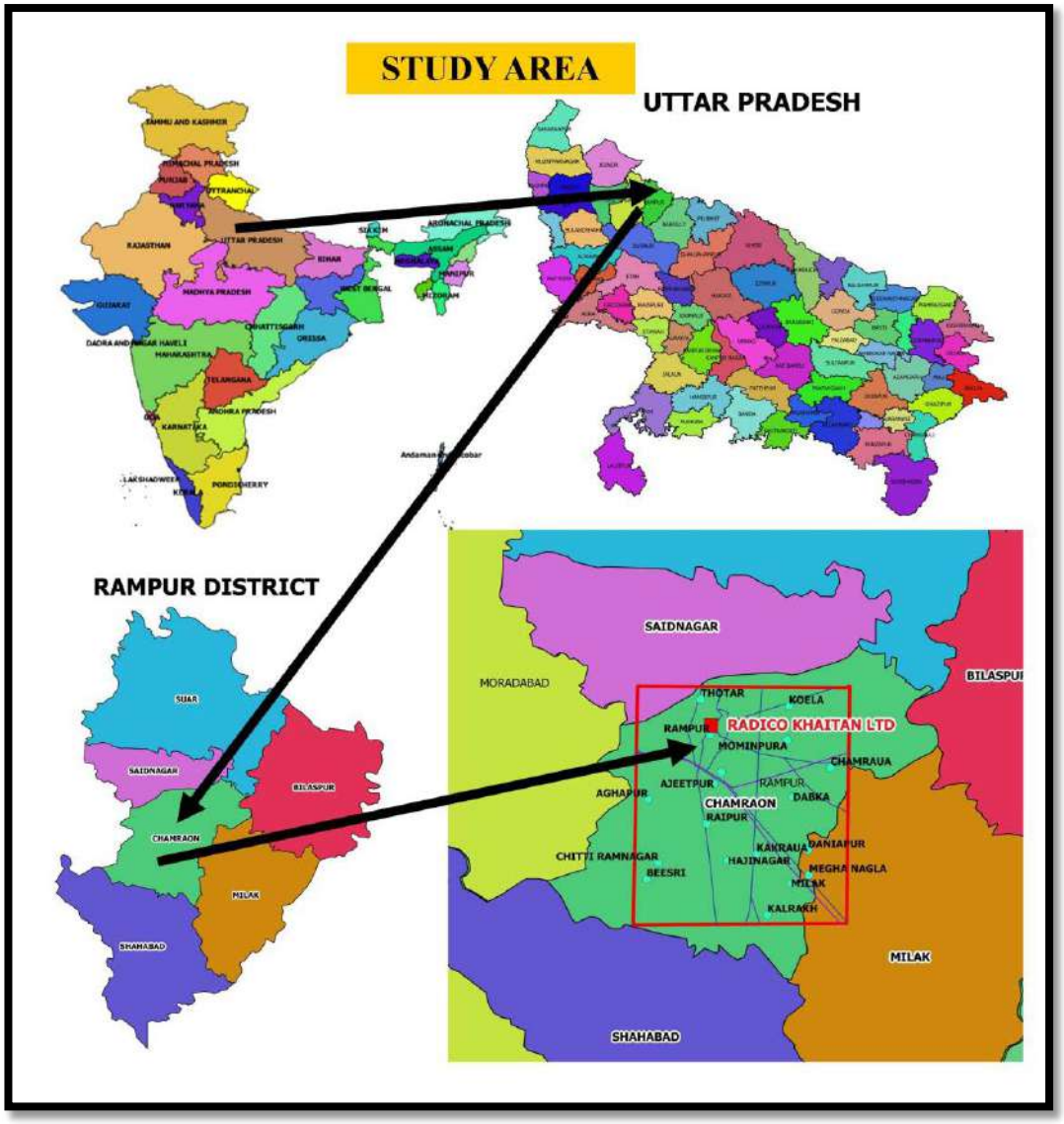
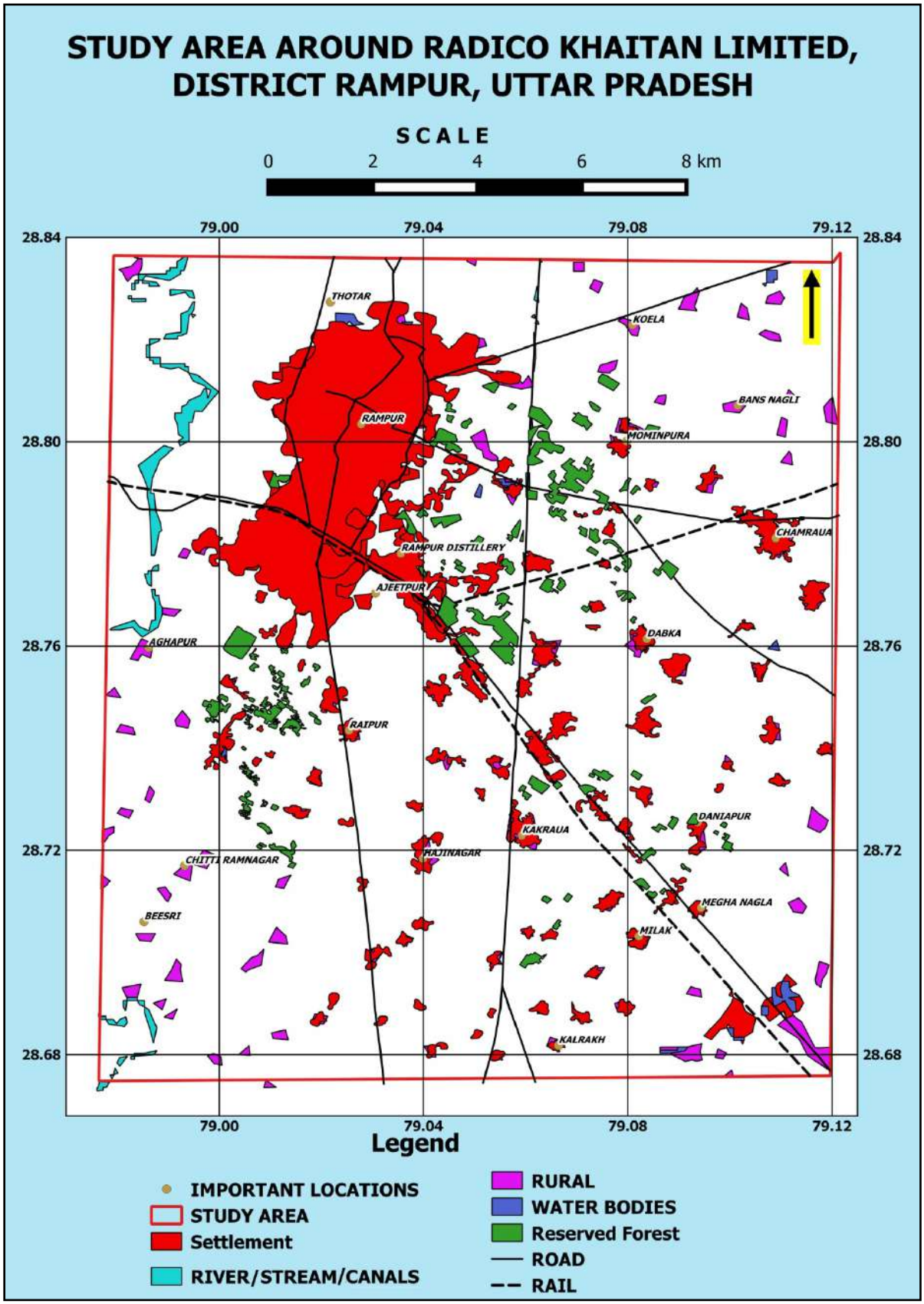


**FIG 2 Index Map of Study area, district Rampur**



## 5.2. LANDUSE

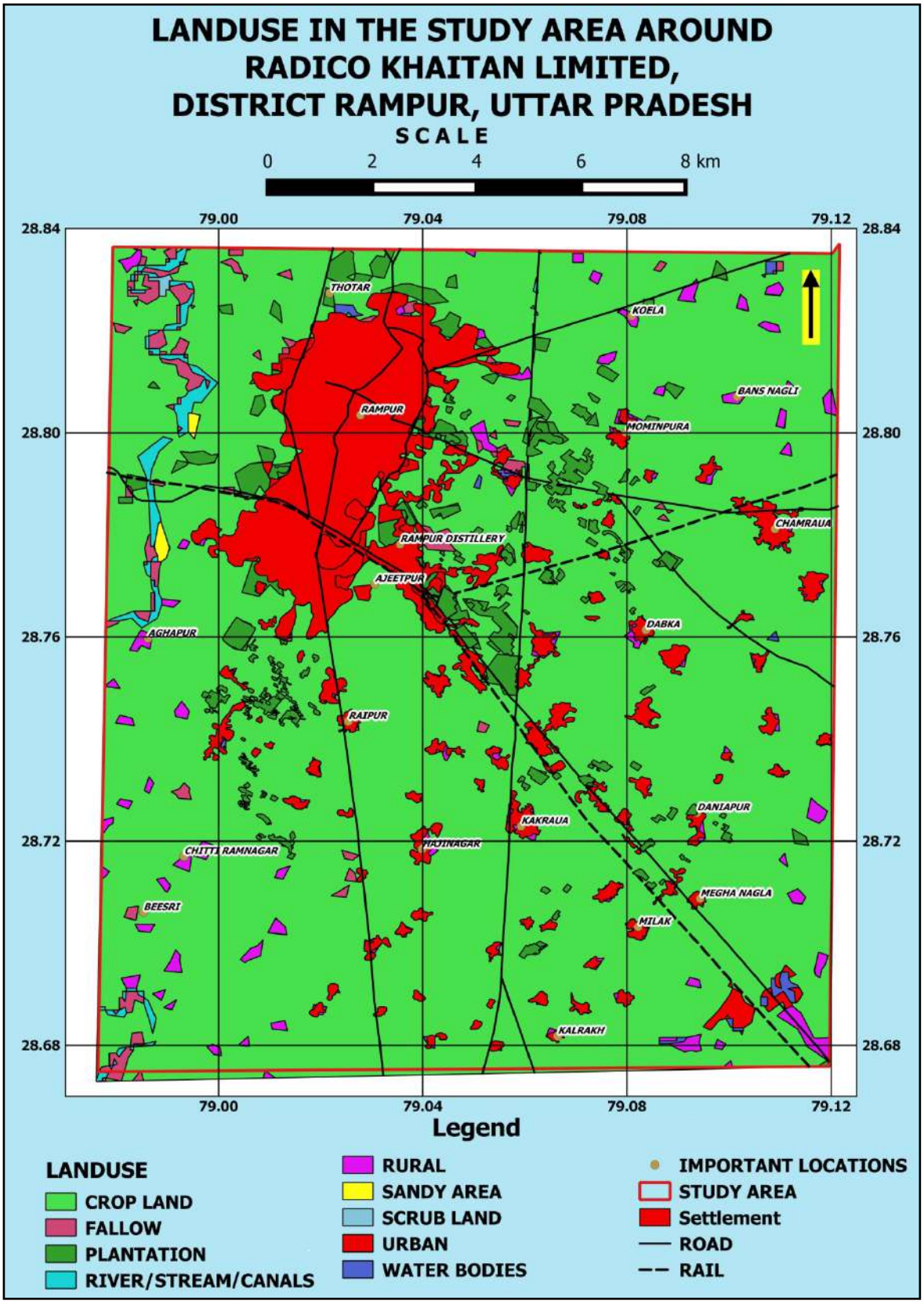
Study area falls under rural area (especially the eastern side of the industry) and hence a major part of the land in the study area is utilized for cropping. As per the statistical data available for the year 2016-17, following land utilization pattern has been observed in the study area (Table-1). Land use distribution in the study area is shown in Fig-3. A perusal of the Table-1 and Fig 3 shows that maximum area falls under cropped land i.e. about 85.7 % of total surveyed area. Fallow land and forest plantation, occupy about 4% together, out of the total area. Urban area including the rural settlement area covers about 10.0% of total area. The Radico Khaitan industry is located in the urban settlement area of Rampur town.

Intensive cropping pattern is practiced in the area, including water intensive crops like paddy, sugar cane, mentha and wheat. As per statistical data of Rampur district for 2018, the net sown area in Chamraua block is 17474 ha, whereas gross sown area is 35129 ha. Therefore the cropping intensity in the block is 201%. The net irrigated area in the block is 10873 ha and gross irrigated area is 29336 ha. Thus irrigation intensity is 168%, and the main source being ground water, there is heavy withdrawal of water through tubewells.

**Table 1 LANDUSE PATTERN IN STUDY AREA**

| Landuse | Area (km2) | %age |
|---|---|---|
| CROP LAND | 197.79 | 85.70 |
| FALLOW | 3.03 | 1.31 |
| PLANTATION | 6.04 | 2.62 |
| RIVER/STREAM CANALS | 1.76 | 0.76 |
| RURAL | 7.80 | 3.38 |
| SANDY AREA | 0.23 | 0.10 |
| SCRUB LAND | 0.09 | 0.04 |
| URBAN | 13.55 | 5.87 |
| WATER BODIES | 0.50 | 0.22 |
| Grand Total | **230.79** | |

**FIG 3 Location Map of Study area**

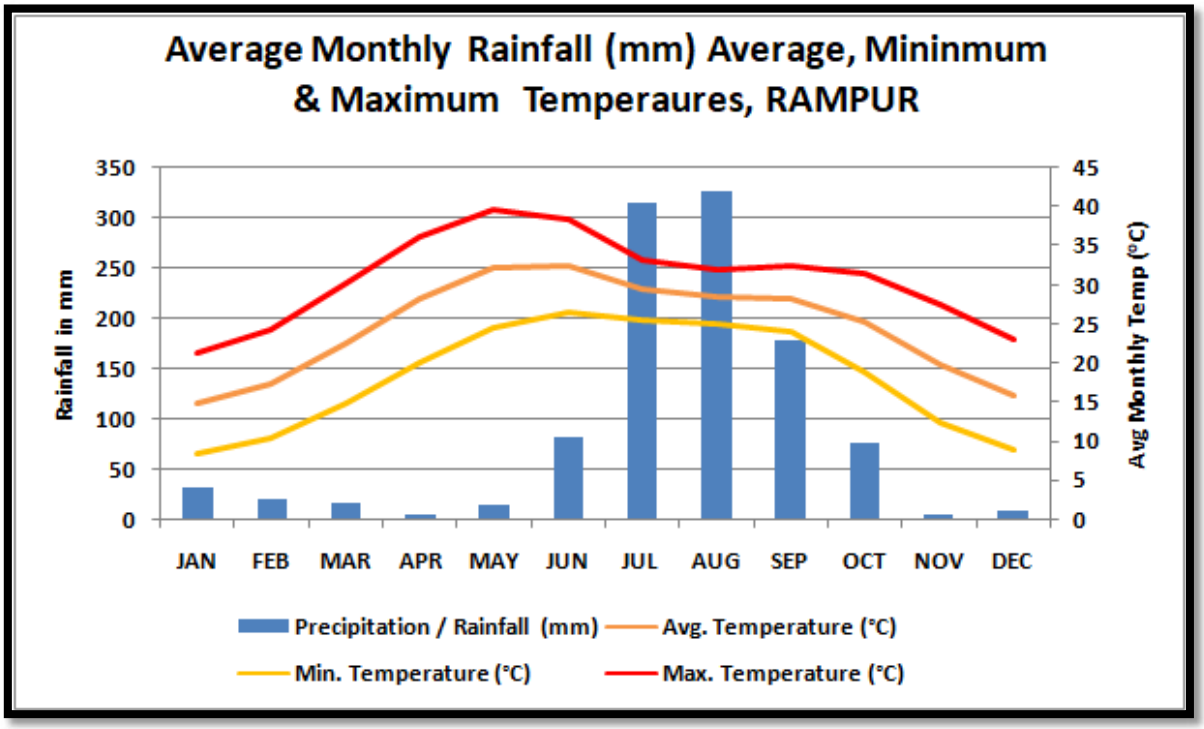


## 5.3. CLIMATE

The Rampur lies 194 m above sea level (mamsl) and the climate here is mild, and generally warm and temperate. When compared with winter, the summers have much more rainfall. This climate is considered to be Cwa (Monsoon-influenced humid subtropical climate) according to the Köppen-Geiger climate classification. The average annual temperature in Rampur is 24.6 °C. The rainfall here is around 1071 mm per year as shown in Table 2 (Source : https://en.climate-data.org/asia/india/uttar-pradesh/rampur-54809/).

Precipitation is the lowest in November, with an average of 3 mm. In August, the precipitation reaches its peak, with an average of 326 mm. The long term average annual monsoon rainfall is 902 mm. The average monthly rainfall and temperatures are shown in Fig 4.

**FIG 4 Monthly Rainfall In Rampur District**




With an average of 32.6 °C, June is the warmest month. In January, the average temperature is 14.8 °C. It is the lowest average temperature of the whole year.

The air is very humid during the southwest monsoon season to a lesser extent in the post monsoon season. The mean monthly morning relative humidity is 69% and the mean monthly evening relative humidity 51%. Wind are generally light, the mean wind velocity is 5 kph. The potential evapotranspiration is 1402.8 mm.

| Table 2 Rampur Climate Table // Average Historical Weather Data | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | an | Feb | Mar | Apr | May | un | ul | Aug | Sep | Oct | Nov | Dec |
| Avg. Temperature ( C) | 14.8 | 17.3 | 22.5 | 28.2 | 32.2 | 32.5 | 29.4 | 28.5 | 28.3 | 25.2 | 19.9 | 15.9 |
| Min. Temperature ( C) | 8.3 | 10.2 | 14.9 | 20.1 | 24.7 | 26.6 | 25.6 | 25 | 24.2 | 18.9 | 12.2 | 8.9 |
| Max. Temperature ( C) | 21.3 | 24.4 | 30.2 | 36.3 | 39.7 | 38.4 | 33.3 | 32.1 | 32.5 | 31.6 | 27.6 | 23 |
| Precipitation / Rainfall (mm) | 30 | 19 | 16 | 4 | 14 | 82 | 316 | 326 | 178 | 76 | 3 | 7 |

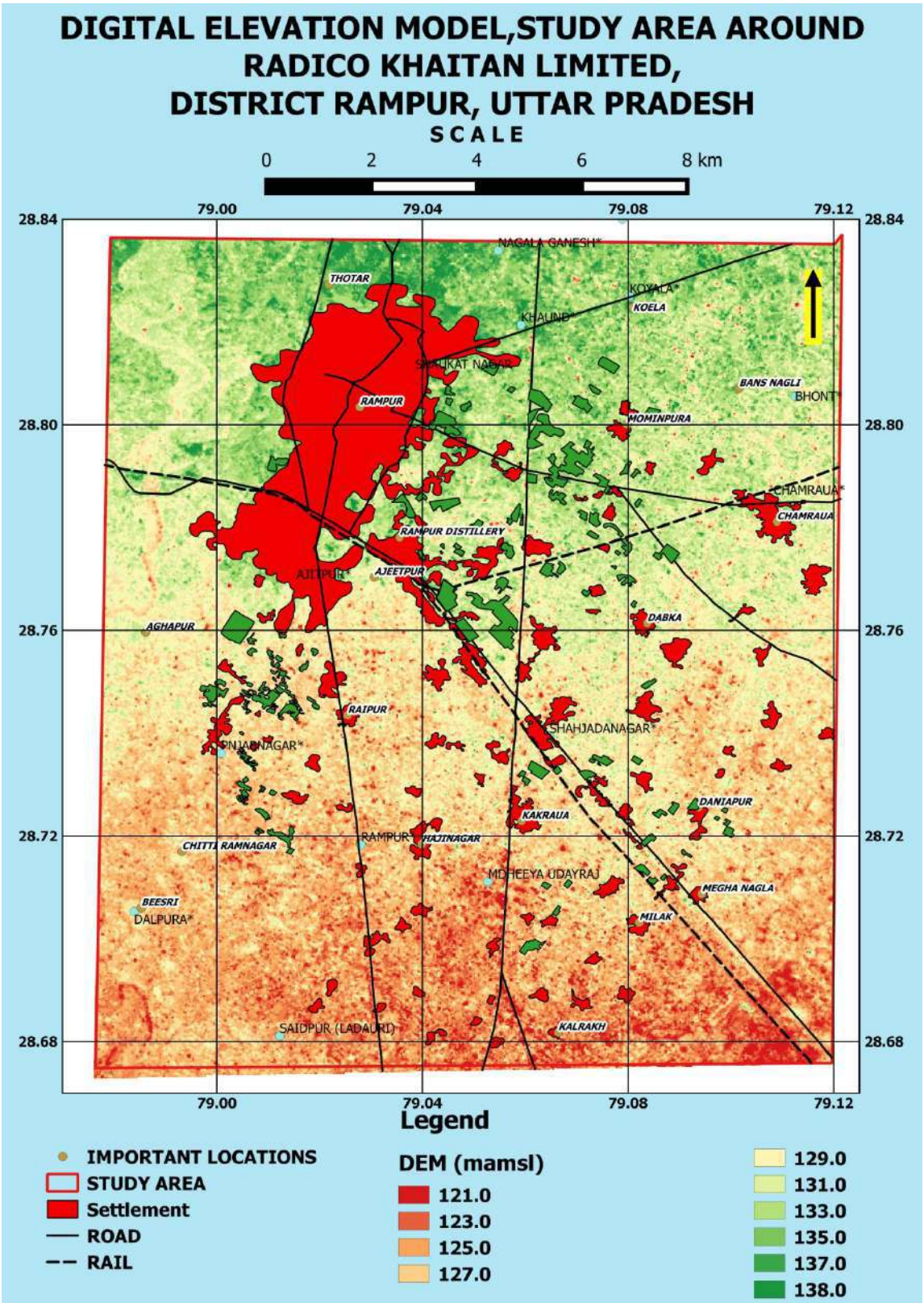
## 5.4. TOPOGRAPHY AND DRAINAGE

Rampur district is a part of Central Ganga Alluvial plain and represented by high slopes in the north which gradually flattens out towards south. The highest altitude in the Rampur district is located at village Manunagar which is 224 metres above mean sea level (mamsl) and lowest being at village Gangapur (172 mamsl) in the Ram Ganga Flood plain. The average slope of the land surface varies from 0.75 to 1.00 m/km, towards south direction.

The study area overlies older alluvial plain occupying upland with general north to south slope. It is marked by palaeochannels, meander channels, river valleys and shallow depressions. As seen in Fig 5 the ground elevation in the study area varies from 193 mamsl in the northern parts around Thotri to 180 mamsl in the southeast. The gradient in the study area is about 1 m/km from north to south.

The study area occupies part of Ram Ganga sub basin and is drained by Kosi river which flows in the western side of study area from north to south. Another river Baur nadi flows north to south, in eastern side of Milak. Drainage density is very low in the area (Source: Report on Reappraisal Hydrogeological Survey, district Rampur, UP).

**FIG 5 Topography In The Study Area, Rampur District**



## 5.5. GEOMORPHOLOGY

Rampur district is a part of Central Ganga Alluvial Plain and represented by moderate relief in the northern parts, which gradually flatten towards south. The following geomorphic units have been identified in the study area (Fig 7).

a) Tarai Tract: This tract is southerly extension of the Tarai tract of Udham Singh Nagar district. It occupies the northern most part of the district. This tract is marked by shallow water level conditions and flowing wells at places. However, tarai tract is not observed in the study area as it lies further north.

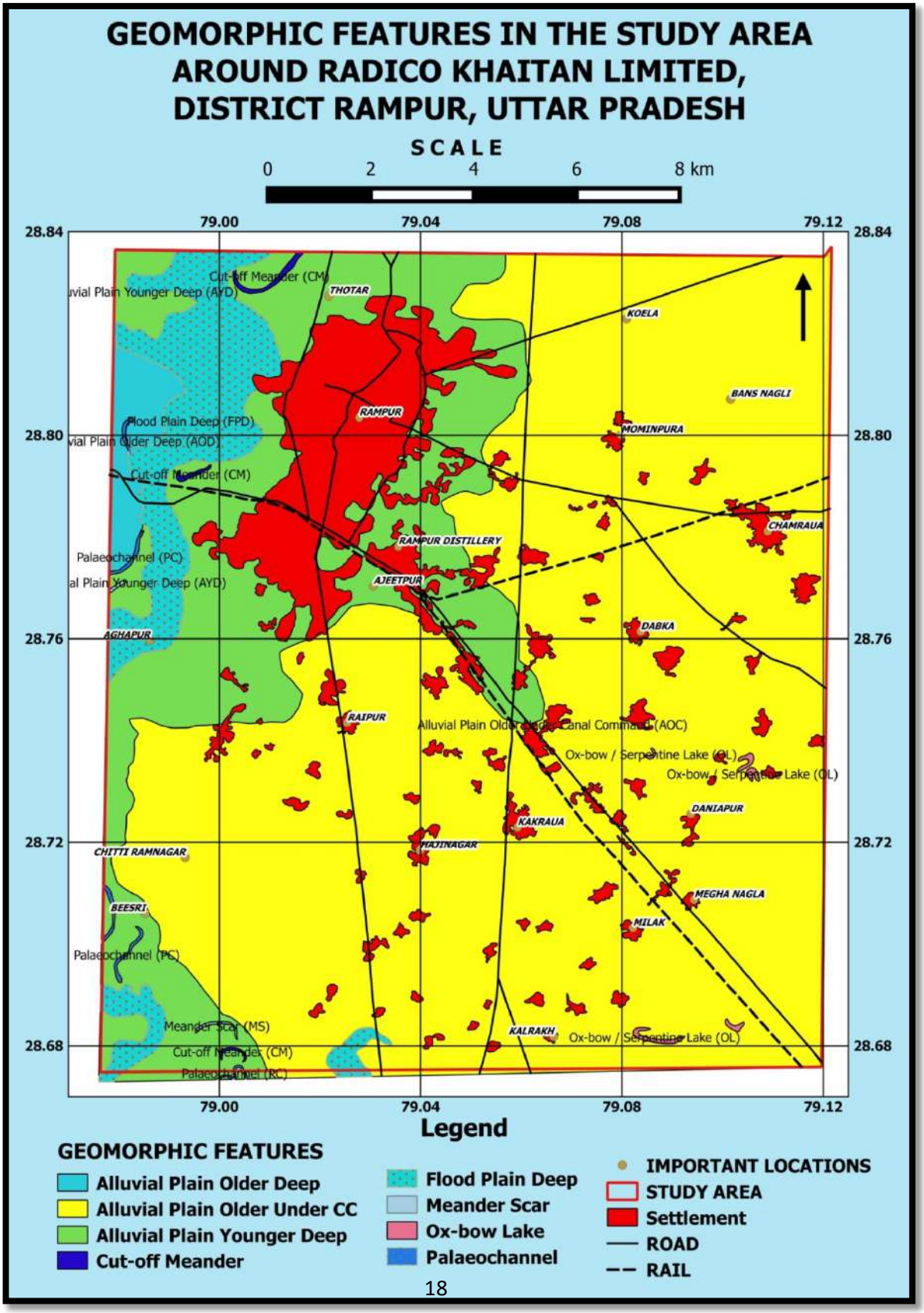
b) Meander Flood Plain: It is a flat low lying, poorly drained area of little or no relief confined to the river channels of Ram Ganga, Kosi, Pilkhau. Point bars and Sand bars are typical geomorphic features in this unit. These features are seen in the west of study area along Kosi river.

c) Younger Alluvial Plain: Northwestern and western parts of the area overly younger alluvial plain. These plain areas are characterised by a flat to gently sloping and slightly undulating topography and are limited to the areas along Kosi river with maximum lateral extension of about 10 Kms. The fluvial landform such as palaeo-channels, meander scars, oxbow-lakes are common features.

d) Older Alluvial Plain: Maximum part of the study area occupies a relatively higher elevation than the younger alluvial plain and forms the inter stream area. This plain covers about 70% of the study area. This is further classified depending on canal command area. Major part falls under older alluvial plain under canal command area. This is marked by several palaeo-channels, which act as prospective ground water repositories and being widely used for agricultural purposes.

e) Ravinous Tract: This tract is formed by erosional activity of runoff water and characterised by the network of gullies along river Kosi.

**FIG 6 Geomorphic Features in the Study Area, Rampur District**



## 5.6. GEOLOGY- REGIONAL AND LOCAL

Study area which is a part of Rampur district occupies a part of Central Ganga plain and is underlain by alluvial deposits of quaternary age. The deposits attain significant thickness ranging between 400 and 500m in the northern part of the indo Gangetic Alluvial Plain. This alluvium is a pile of unconsolidated sediments made up of sequence of clay, silt, kankar and different grades of sand, and occurrence of gravel at depth is also occasionally seen. Kankar, nodules, indicative of sedimentation gaps, occur as thin beds and lenses. The sediments are dominantly arenaceous. At places in the deeper depths lithified sand is very hard and compact.

Geologically in Ganga basin, the basement is assumed to be continuation of Satpura folded belt, overlain by Vindhyans and Neogene sequence. The tentative succession, which has been worked out with the help of ONGC drilling specially those at Puranpur (Pilibhit district) and Ujhani (Badaun district) is detailed in the table. Two boreholes drilled by Central Ground Water Board (CGWB) in north eastern part of the adjacent Moradabad district, at Budhnagar and Dilari down to 450m suggest that the sediments are dominantly arenaceous, and there is a change in lithofacies between depths 390 and 400m, which may well correspond to the post Siwalik break.

**Table 3 GENERALISED STRATIGRAPHIC SUCCESSION**

| TIME UNIT | ROCK TYPE | TIME ROCK UNIT | BASIN | THICKNESS |
|---|---|---|---|---|
| Recent to 0.01 my | Clay, sand sequence sand, clay pebbles | Alluvium | Ram Ganga depression | 116 to 300 m |
| Holocene (less than 1m.y.) | Sand, Clay, Pebble, gravel and kankar | Piedmont Fan deposits | Ram ganga | 300 to 500 m |
| ----------Disconformity---------- | | | | |
| Pleistocene (1m.y.) | Conglomerate sandstone | Upper Siwalik | Ram Ganga | - |
| Pleistocene to L. Miocene | Argillaceous sediments | Middle to lower Siwalik | - | - |
| ----------Disconformity---------- | | | | |
| Precambrian | Sand stone shale quartzite | Vindhyan -Delhi- | - | Missing not known |
| m y – Million years | | | | |

# 6. GENERAL HYDROGEOLOGY

## 6.1. Potential Aquifer Groups

Study area lies over alluvial deposits of the quaternary period brought by river systems of Ganga and Ram Ganga. These comprise sand, silt and clays in various proportions. There are Four major aquifer groups present in the area down to 440 mbgl.

The **First Aquifer Group**, comprising fine to medium sand, is utlised mostly for irrigational purpose follows the top soil and extends down to depth of 60 to 90 mbgl. A single aquifer system has been deciphered in the area down to 180 to 200 mbgl. The system at places is separated or divided into a number of aquifers by the intercalated clay layers. The system behaves as an unconfined to confined aquifer depending upon the disposition of clay layers. This zone extends from 90 m to 160 m at Milak and down to 200 m at Pipla, Rampur district.

As revealed by lithology of Water supply tubewell at Rampur fort, there are alternative layers of clay and sand. Clay layers are observed 33 to 41 mbgl (8 m thick); 58 -64 mbgl (6 m thick); 67 – 70 mbgl (3 m thick); 103 to 107 mbgl (4 m thick) (source: Central ground Water Board Report). These are not very extensive and locally define different aquifer zones.

| S. No. | Aquifer group | Level (mbgl) | Maximum Discharge (lpm) |
|---|---|---|---|
| 1 | 1st aquifer group | 8.5 to 180.0 | 1000 – 3000 lpm |
| 2 | 2nd aquifer group | 180.0 – 300.0 | 2500 lpm |
| 3 | 3rd aquifer group | 300.0 - 400.0 | 2000 – 2500 lpm |
| 4 | 4th aquifer group | Deeper than 400.0 | Not known |

General depth of tubewells ranges from 50 to 130 mbgl. The cumulative screened length varies from 20 to 30 m down to the depth of tubewell. The specific capacity of tubewells ranging from 50 to 100 mbgl varies from 295 to 1263 lit/min/m and average yield in this first aquifer varies from 840-5220 lpm (liter per minute) for draw downs ranging from 1.5 to 8.0 m. (Source Central Ground Water Board Report).

The area is characterized numerous shallow tubewells constructed for irrigation purposes. These tubewells have been constructed down to 35 to 40 m bgl. The yield of these tubewells varies from 30 to 50 m3/hr, for a minimal drawdown of 1 or 2 meters. The first aquifer is followed by a clay layer of varying thickness from 10-24 m.

The **Second Aquifer Group** is intermixing zone in which clay and sand layers are intercalated. This zone extends from 200 m to 300 mbgl at Pipla EW in Milak block of Rampur district (Basic Data Report (Exploratory Well), National Aquifer Mapping Programme, Pipla Shiv Nagar (EW – I & II, Milak Block), Rampur District, Central Ground Water Board, Lucknow) .

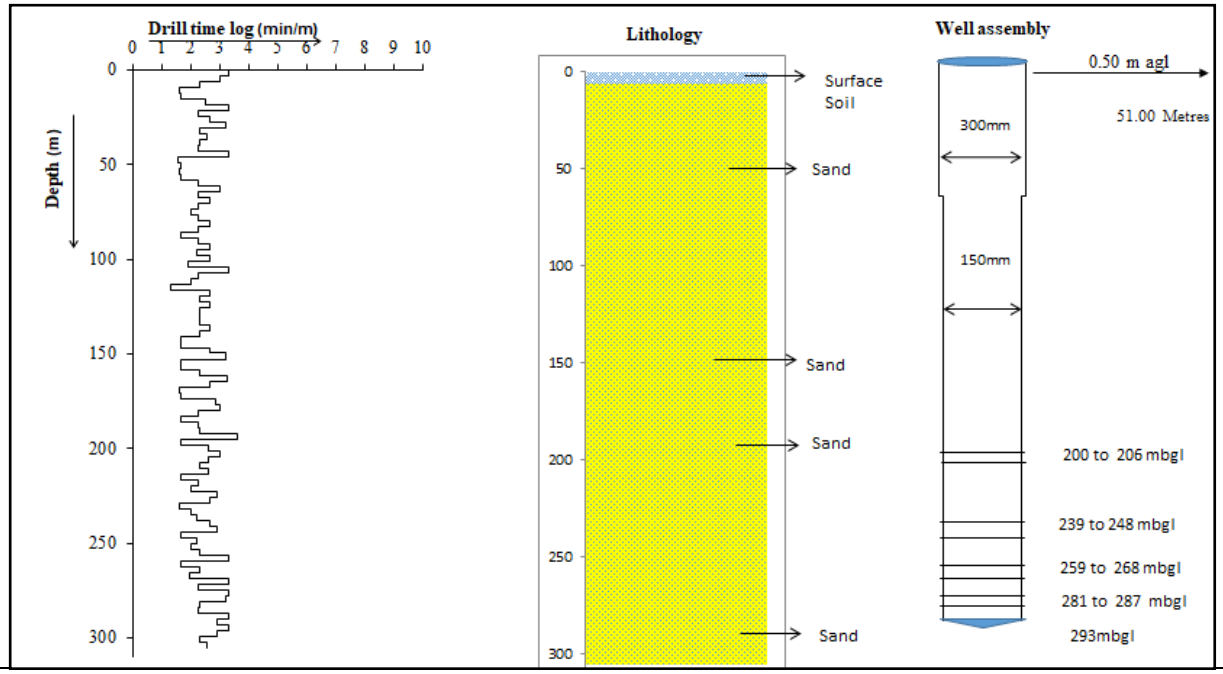
The **Third Aquifer Group** occurs down to a depth range of 388 to 400 mbgl and the change in the sediment facies occur at this depth range. The third aquifer which is quite thick at Milak extends from 294 m to total explored depth of 440 m. The **Fourth Aquifer Group** extends beyond 400 mbgl, and is not explored in this area.

Ground water in shallow zones occurs under unconfined conditions whereas in the deeper zone it occurs under semi-confined to confined conditions.

### *6.1.1. Exploratory drilling carried out by Central Ground Water Board in Pipla Shiv Nagar, Block Milak, District Rampur*

Under the NAQUIM project, Central Ground Water Board has constructed one exploratory well (EW) at Pipla Shiv Nagar (28.619166$^{o}$N, 79.132222$^{o}$E) along with one observation well to demarcate various groups of aquifers down to 300 m depth and to estimate the aquifer parameters. The site is located about 9 km southeast of study area in Milak block of Rampur district. Geologically, the aea is occupied by Central – Gangetic alluvial plain of Quaternary age. The ground water occurs in alluvial formations comprising fine to coarse grained sand which forms the potential aquifers. The total drilled depth of the EW was 303 mbgl and assembly was lowered down to 293 mbgl. The lithological log of the exploratory borehole (Annexure-I) and compromise log shown in Fig 7, reveals lenses of sand of various grades and colour, occasional gravels, clay & silt with kankar. Static water level non pumping water level was recorded as 4.71 mbgl. (**Source:** Basic Data Report (Exploratory Well), National Aquifer Mapping Programme, Pipla Shiv Nagar, EW-I, Milak Block, Rampur District, Uttar Pradesh State, Central Ground Water Board, Lucknow).

**FIG 7 Compromise Log of Exploratory well (Source: CGWB Report)**



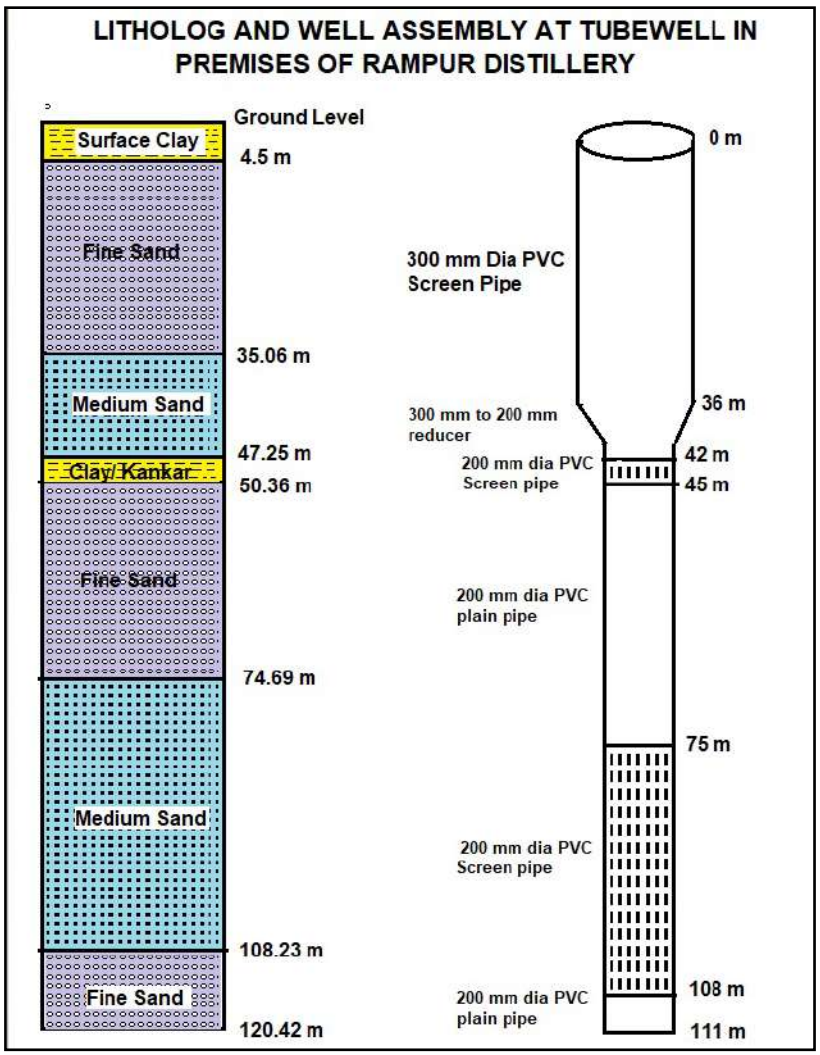

In order to determine aquifer parameters and well characteristics, pumping tests were conducted at the site by using submersible pump. Aquifer Performance Test (APT) was conducted at controlled discharge to estimate hydraulic properties of aquifer system such as Transmissivity and Storativity.

Aquifer Performance Test of 1500 minutes duration at a uniform discharge of 2240 m3/day (1555 lpm) was carried out. Transmissivity values evaluated were 1140 m2/day and Storativity was estimated as $6.95 \times 10^{-3}$.

### *6.1.2. Lithology as per tubewell constructed within the premises*

Fig–8 shows litholog and well assembly of tubewell constructed within the premises of industry. The well was drilled down to 120 mbgl. It is observed that surface soil and clay layer is found down to 4.5 mbgl. This is followed by fine sand zone down to 35 mbgl and medium sand from 35 to 47.25 mbgl. This was followed by 3 m thick clay zone, followed again by fine and medium sand down to 120 mbgl.

**FIG 8 Litholog and Well Assembly of Tubewell constructed within the premises of Rampur Distillery, Rampur district**




### *6.1.3.* Natural Gamma Ray logging

Natural Gamma Ray logging was conducted on 05.03.2020 at four sites – (a) Tubewell Within premises of Radico Khaitan (65 mbgl); (b) Tubewell at Ajeetpur lagoon site (22 mbgl); (c) Tubewell at Hitachi land premises (22 mbgl); and (d) Piezometer at Deenpur (18 mbgl). the natural gamma logs for all the four sites are shown in Fig 9. On the basis of Natural Gamma Ray Log the lithology of the subsurface formations was interpreted and lithologies for all the sites are given below.

**(a) Site: Radico Khaitan Ltd Premises**

As per Natural Gamma Ray Log at the Radico Khaitan Premises site sand formation is observed from 5 to 25 mbgl depth. Below this layer clay zone is identified up to depth of 30 m. The depth range from 30 to 58 mbgl indicates the presence of fine sand/ silt sand layer. From 58 to 65 mbgl log indicates presence of clay layer.

| Depth range (mbgl) | | Thickness (m) | Lithology |
|---|---|---|---|
| From | To | | |
| 0 | 5 | 4.0 | Top soil/ clay |
| 5 | 25 | 4.2 | Sandy formation |
| 25 | 30 | 3.8 | Clay |
| 30 | 58 | 2.4 | Fine Sand or silty sand |
| 58 | 65 | 1.6 | Clay |

**(b) Site: Ajitpur lagoon, Radico Khaitan Ltd**

Natural Gamma Ray Log for the Ajitpur site, shows presence of sand formation from 4 to 8.2 mbgl. Below this layer clay zone is identified up to depth of 12 m. Fine sand/ silty sand is present from 12 to 14.4 mbgl. Clay layer is identified from 14.4 to 16 mbgl. The last layer from 16 to 22 m indicates presence of fine sand.

| Depth range (mbgl) | | Thickness (m) | Lithology |
|---|---|---|---|
| From | To | | |
| 0 | 4 | 4.0 | Top soil/ clay |
| 4 | 8.2 | 4.2 | Sandy formation |
| 8.2 | 12 | 3.8 | Clay |
| 12 | 14.4 | 2.4 | Fine Sand or silty sand |
| 14.4 | 16 | 1.6 | Clay |
| 16 | 22 | 6.0 | Fine sand |

**(c) Site: Hitachi Land, Radico Khaitan Ltd**

Natural Gamma Ray logging conducted at the site Hitachi Land up to depth of 22 m bgl indicates presence of sandy formation from 4 to 14 mbgl followed by clay or silty sand down to 18 mbgl. The log indicates presence of sand layer from 18 to 22 mbgl.

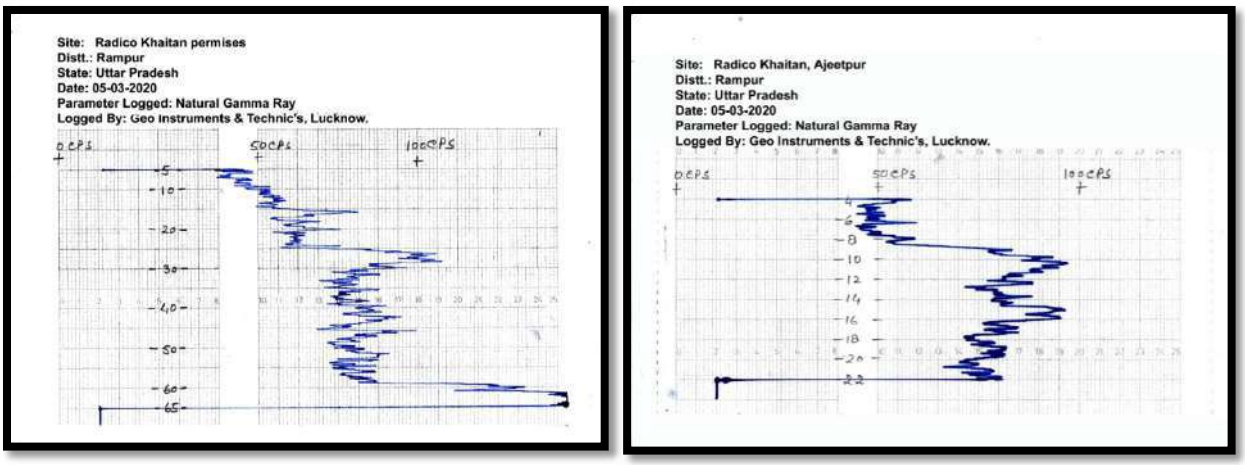
| Depth range (mbgl) | | Thickness (m) | Lithology |
|---|---|---|---|
| From | To | | |
| 0 | 4 | 4 | Top soil/ clay |
| 4 | 14 | 10 | Sandy formation |
| 14 | 18 | 4 | Clay or silty sand |
| 18 | 22 | 4 | Sand |

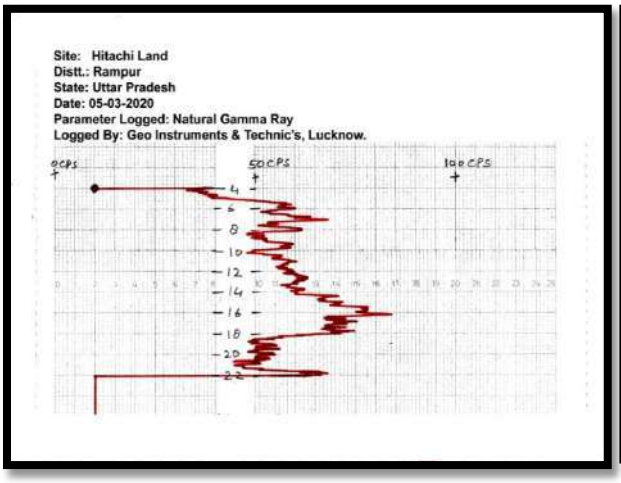
**(d) Site: Deenpur PZ, Rampur**

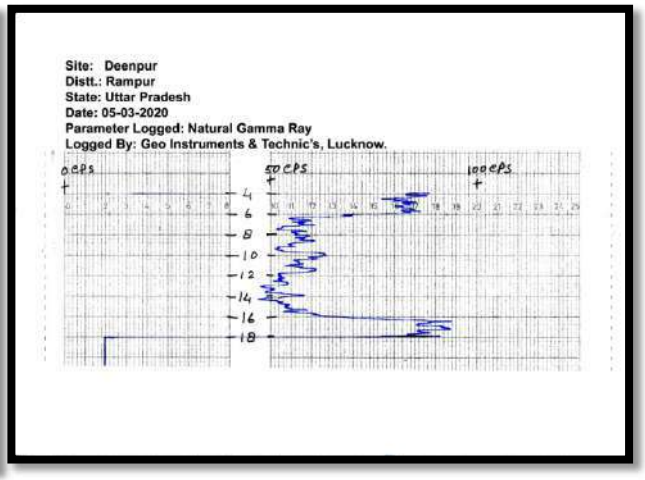
Natural Gamma Ray log shows presence of clay from 4 to 6 mbgl followed by sand down to to 16 mbgl, further followed by clay down to 18 mbgl.

| Depth range (mbgl) | | Thickness (m) | Lithology |
|---|---|---|---|
| From | To | | |
| 0 | 2 | 2 | Top soil |
| 2 | 4 | 2 | Fine sand |
| 4 | 6 | 2 | Clay |
| 6 | 16 | 10 | Sand |
| 16 | 18 | 2 | Clay |

**FIG 9 Natural Gamma Log plots for all the four sites**






### *6.1.4.* Aquifer Disposition

The subsurface configurations of aquifers have been delineated based on available lithological logs of Exploratory wells (EW) constructed by Central Ground Water Board. Three EW's were constructed in Moradabad at- Dilari, Azadnagar and Bilari. Five EW's constructed in Rampur district as shown in Fig 10, at Raipur, Sikraura, Bilaspur, Rajpur and Pipla. These EW's are located all around the Rampur Distillery site. A fence diagram (Fig 13) shows disposition of first and second group of aquifers in the area. The first aquifer group is found from 10 to 180 mbgl. The second group of aquifers extends from 200 to 300 mbgl and beyond.

**a. Section along Raipur- Rajpur-Pipla.**

The hydrogeological cross-section along Raipur-Rajpur-Pipla consists of three exploratory wells as shown in Fig 12. Based on the observations, the lithology reveals the presence of a thick granular zone within the confining clay layers. The hydrogeological details of the exploratory well at Pipla, which has also been used for the preparation of the hydrogeological cross-sections for knowing the aquifer geometry in the study area is given in Annexure- I. The granular zone is separated by clay layers, having thickness of 5 to 15 m.

**FIG 10 Map Showing locations of Exploratory wells and Study area**

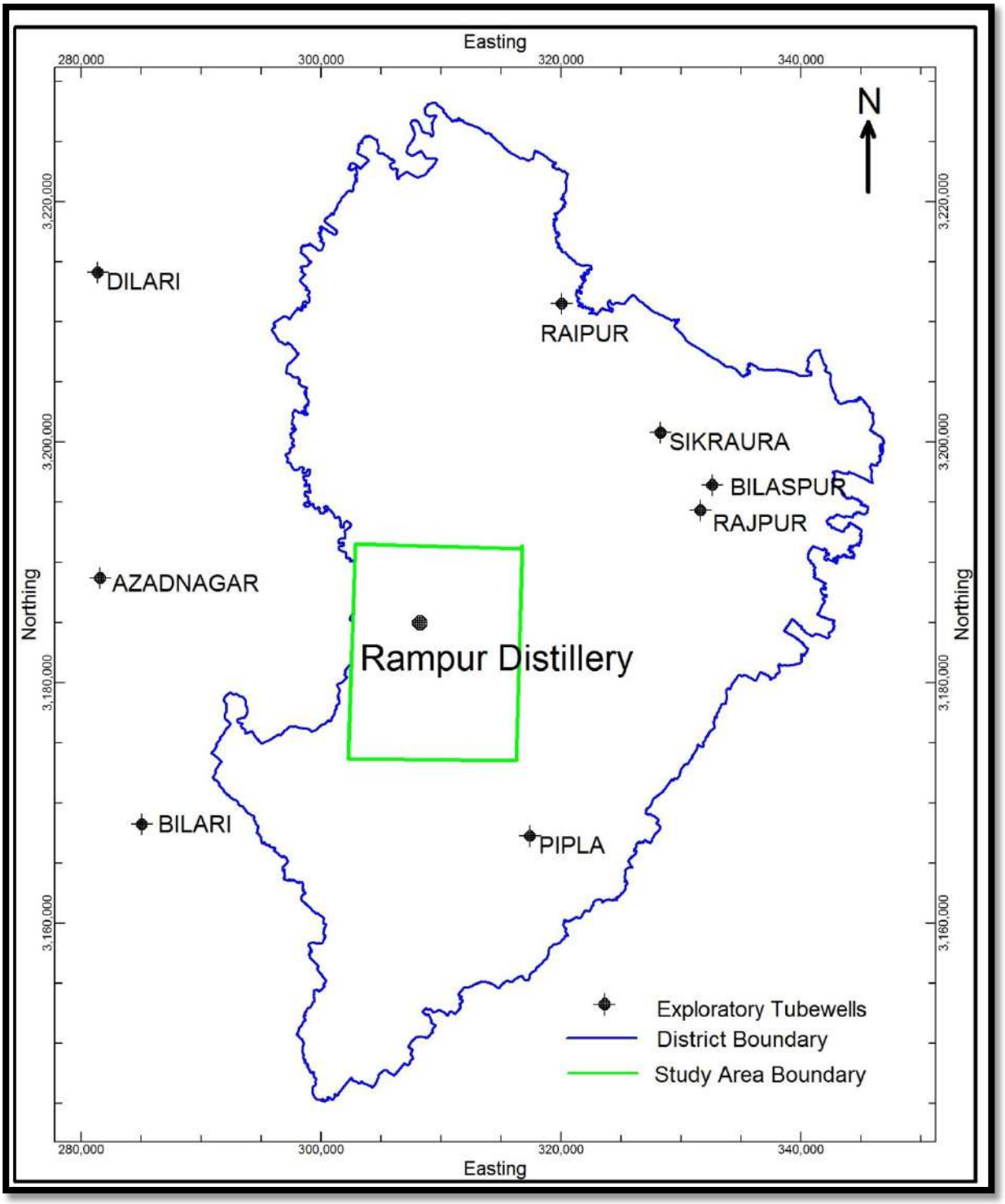


**FIG 11 A General 3D View of Aquifer Disposition in the Study area**

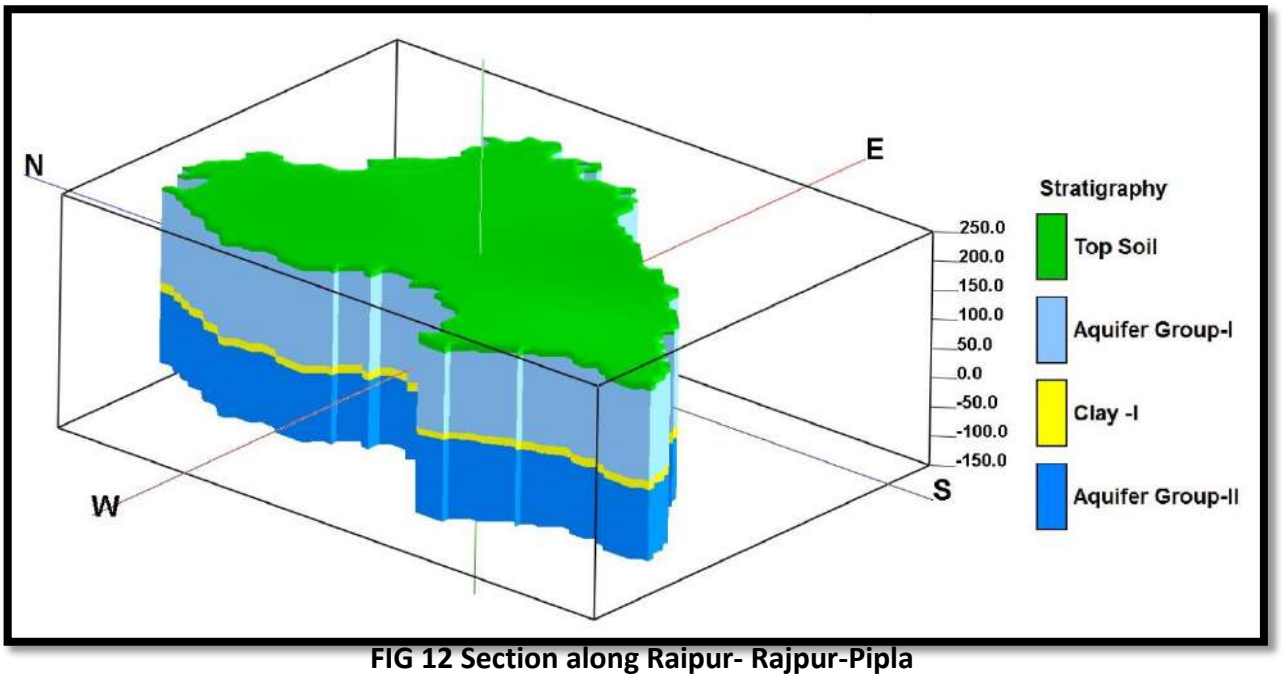



**FIG 12 Section along Raipur- Rajpur-Pipla**

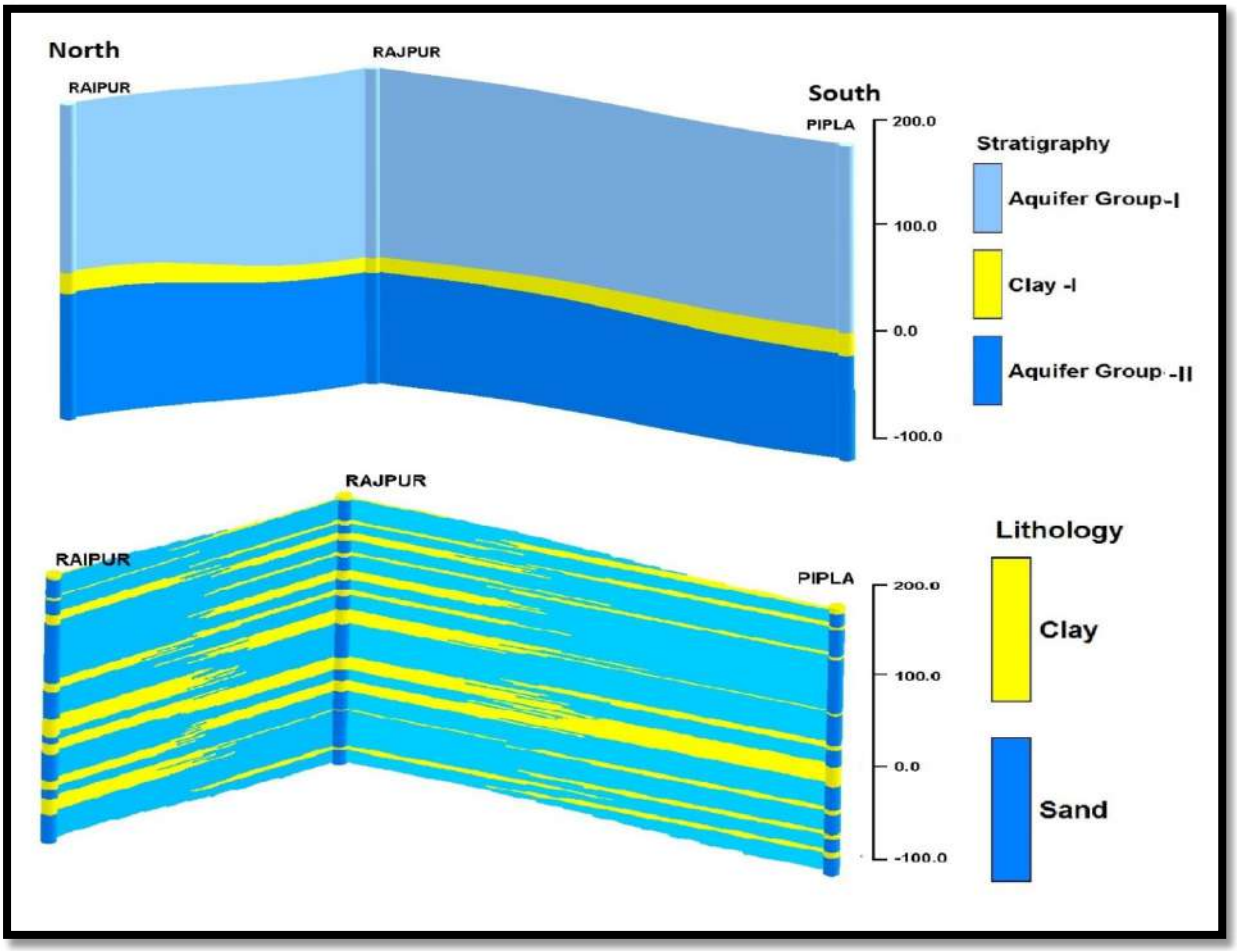
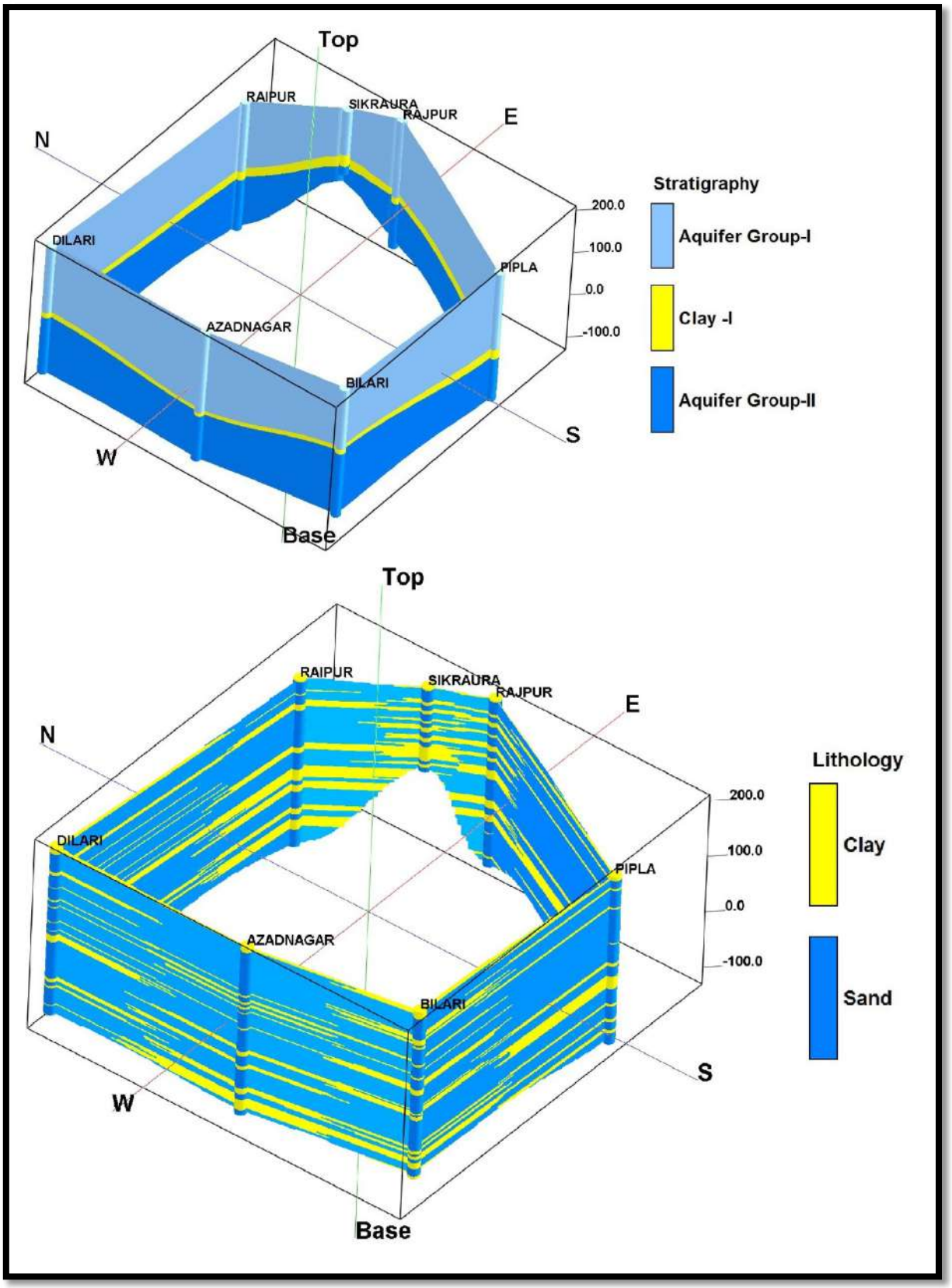


**FIG 13 Fence diagram showing disposition of Aquifer groups in area around Rampur Distillery**



## 6.2. Ground Water Occurrence

Ground water occurs in the pore spaces of the unconsolidated alluvial sediments in the saturation zone. The near surface sediments down to 20 m depth comprise fine to medium grained sand with thin clay intercalations. In this zone ground water generally occurs under unconfined conditions. The topography controls occurrence and movement of groundwater in the area. In shallow aquifer the groundwater occurs under unconfined state while in deeper aquifer it occurs in confined to semi-confined state.

## 6.3. Ground Water Condition in Area around Radico Khaitan Limited

In the study area around the distillery plant, ground water occurs in the pore spaces of unconsolidated alluvial sediments in the zone of saturation. The top sandy bed mixed with silt existing down to the depth of about 50 metres below ground level generally supports the dugwells, shallow tube wells and handpumps. The total depth of dugwells generally ranges from 8 to 15 mbgl. A large number of dugwells in the area have become obsolete due to construction of handpumps and shallow tubewells. As such handpumps have become more popular for domestic needs and shallow tubewells for irrigational purposes. Ground water in this zone occurs under water table conditions.

Radico Khaitan Ltd has constructed six piezometers at different locations in Chamraua block during 2016-17 and six piezometers during 2020-21. All the piezometers are fitted with Digital Water Level Recorder (DWLR) with telemetry system. The daily ground water level data is being automatically monitored regularly since 2017 and 2020 respectively. The entire data was downloaded from the server, validated and analysed for studying ground water scenario and extracting trends of changes in ground water scenario.

The premonsoon and post monsoon ground water level data has also been collected regularly from ground water monitoring stations (dugwells/ piezometers) by State Ground Water Department for last 10 to 15 years (data shown in Annexure-II & IV). The locations of piezometers and GWMS are shown in Fig 14). The data for all the monitoring stations located in Rampur district was obtained and was utilized for preparing pre and post monsoon period depth to ground water level maps for 2019 and seasonal ground water level fluctuation map for

2019. The ground water table maps for pre and post monsoon period of 2019 was also prepared for analyzing the ground water flow regime. These observations are discussed in following chapters.

### *6.3.1. Ground Water level situation during Premonsoon period*

The pre-monsoon water level map prepared from the data collected from the State Ground Water Department, Government of Uttar Pradesh, Lucknow (Annexure II & IV) indicate that the depth to water level in the study area varies from 3.98 to 7.72 mbgl (Fig 15). Depth to water levels of less than 5 mbgl has also been observed in small patches around Beesri and Milak Chikna villages located about 10 and 5 km in the south direction from Rampur Distillery. Shallowest water level of 3.98 mbgl is observed at Milak Chikna piezometer of Radico Khaitan Ltd. Water levels around Koela in the northern parts of study area also show water levels less than 5.0 mbgl. Maximum water level is observed in northeastern part of the study area, about 2 to 3 km from Koela village, around Bhont (7.72 mbgl) and Chamraua (6.6 mbgl). Water levels of more than 7.0 mbgl are also observed in Rampur town and in the southern side of the study area around Deenpur and Madhaiya Udairaj. In general water levels vary between 5.0 and 6.0 mbgl in the maximum part of the study area. Water level increases from north and west towards east and southeast. Table-4 shows that 60% stations show water levels ranging from 5 to 7 mbgl and 27% show water levels below 5 mbgl. The depth to ground water levels in the area around Rampur Distillery falls in the range of 6.0 to 6.5 mbgl.

**Table 4 Frequency distribution of Water Levels during Premonsoon period of 2019, Chamraua block of Rampur district**

| Block | Total monitoring stations analysed | 3.0 - 5.0 mbgl | 5.0 - 7.0 mbgl | > 7.0 mbgl |
|---|---|---|---|---|
| Chamraua | 15 | 4 (27%) | 9 (60%) | 2 (13%) |

**Table 5 Frequency distribution of Water Levels during Premonsoon period of 2020, Chamraua block of Rampur district**

| Block | Total monitoring stations analysed | 3.0 - 5.0 mbgl | 5.0 - 7.0 mbgl | > 7.0 mbgl |
|---|---|---|---|---|
| Chamraua | 7 | 1 (14%) | 5 (72%) | 1 (14%) |

**FIG 14**

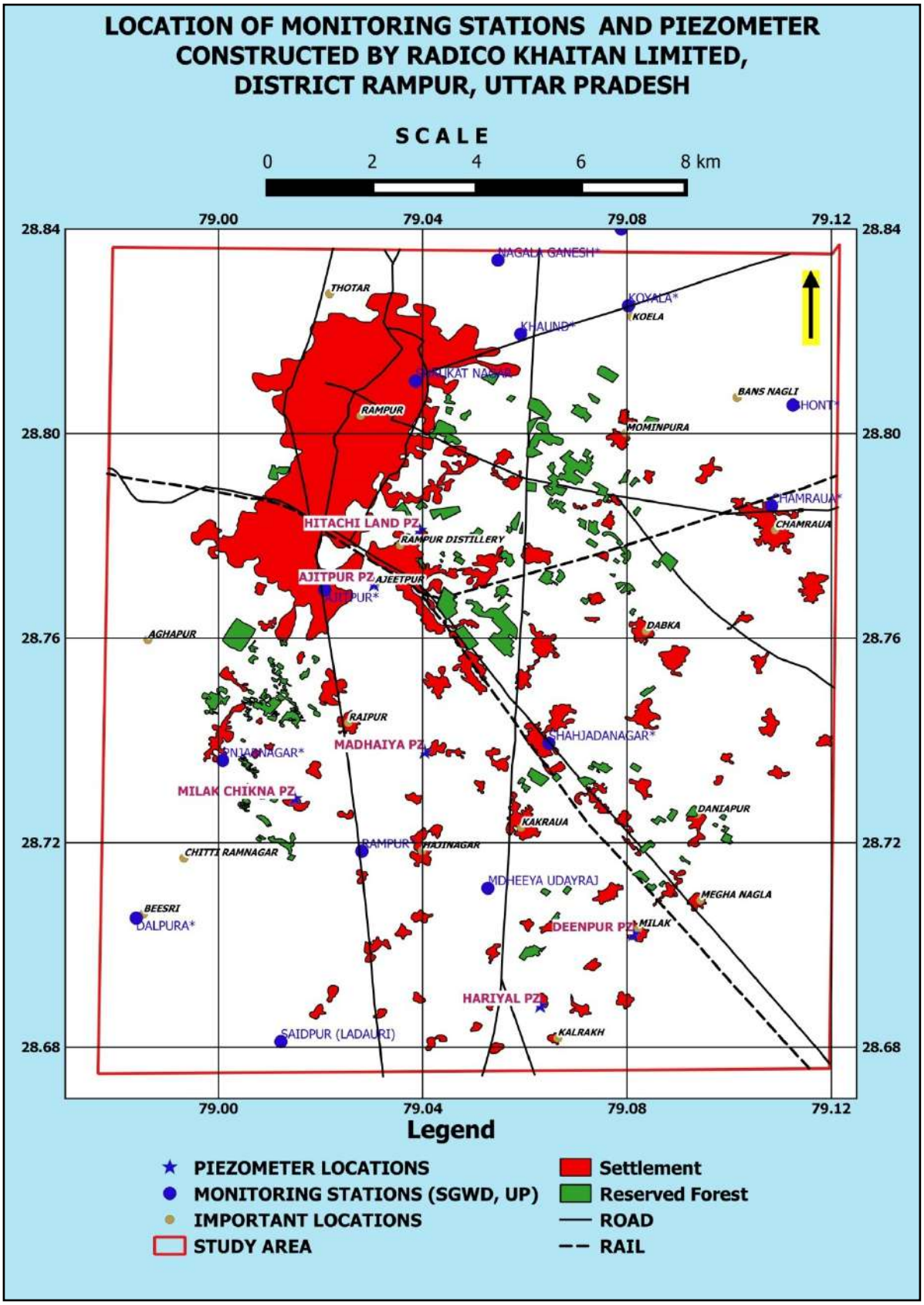

LOCATION OF MONITORING STATIONS AND PIEZOMETER CONSTRUCTED BY RADICO KHAITAN LIMITED, DISTRICT RAMPUR, UTTAR PRADESH
SCALE
0 2 4 6 8 km
79.00
79.04
79.08
79.12
28.84
28.80
28.76
28.72
28.68
NAGALA GANESH*
THOTAR
KOYALA*
KOELA
KHALIND*
RAMPUR
BANS NAGLI
HONT*
MOMINPURA
CHAMRAUA*
CHAMRAUA
HITACHI LAND PZ
RAMPUR DISTILLERY
AJITPUR PZ
AJEETPUR
AJITPUR*
AGHAPUR
DABKA
RAIPUR
MADHAIYA PZ
SHAHJADANAGAR*
MILAK CHIKNA PZ
KAKRAUA
DANIAPUR
CHITTI RAMNAGAR
RAMPUR MAJHNAGAR
MDHEEYA UDAYRAJ
MEGHA NAGLA
BEESRI
DALPURA*
DEENPUR PZ
MILAK
HARIYAL PZ
SAIDPUR (LADAURI)
KALRAKH
Legend
PIEZOMETER LOCATIONS
MONITORING STATIONS (SGWD, UP)
IMPORTANT LOCATIONS
STUDY AREA
Settlement
Reserved Forest
ROAD
RAIL

**FIG 15 Depth to Water Level (Premonsoon period 2019) in the Study Area, Rampur District**

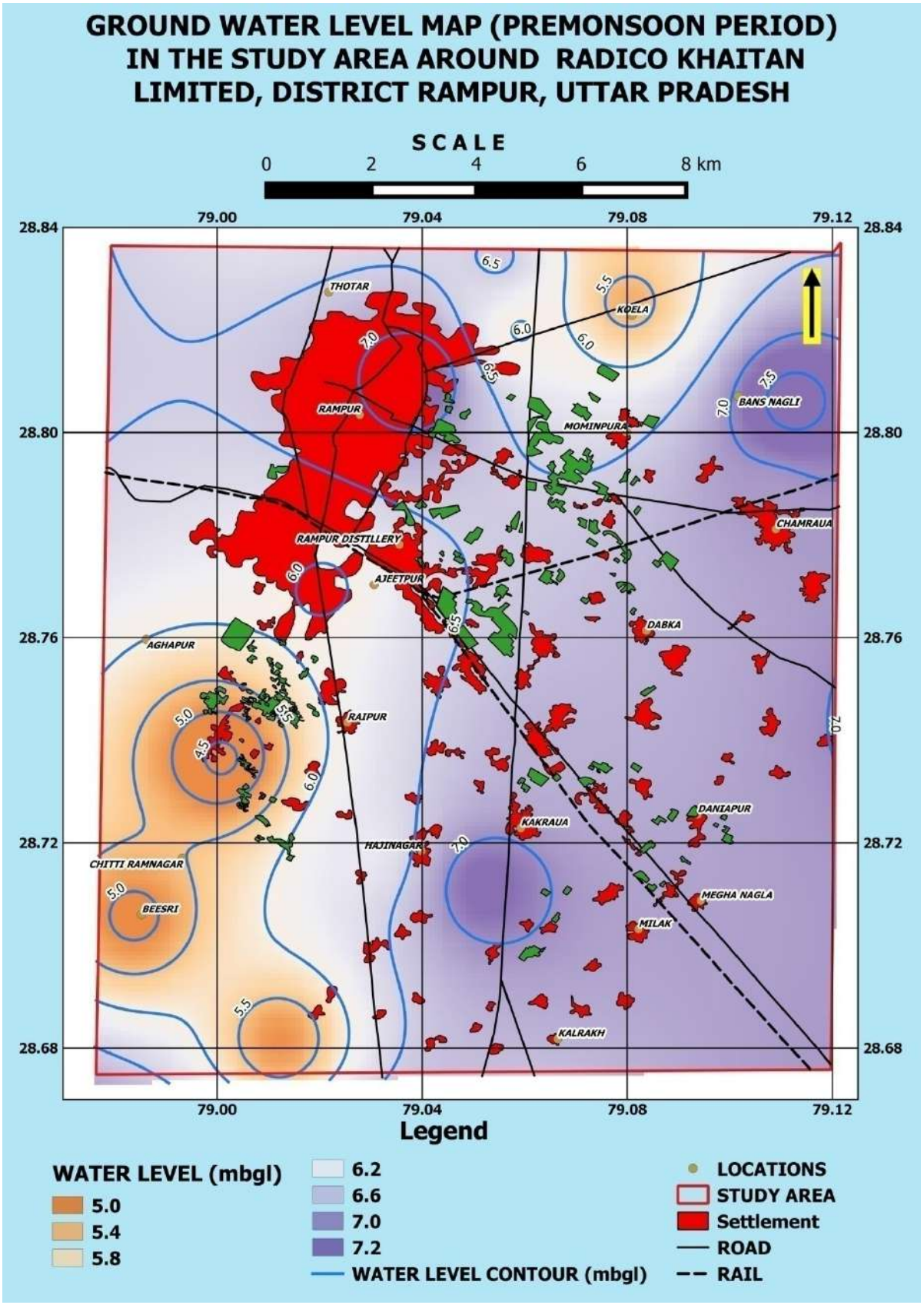
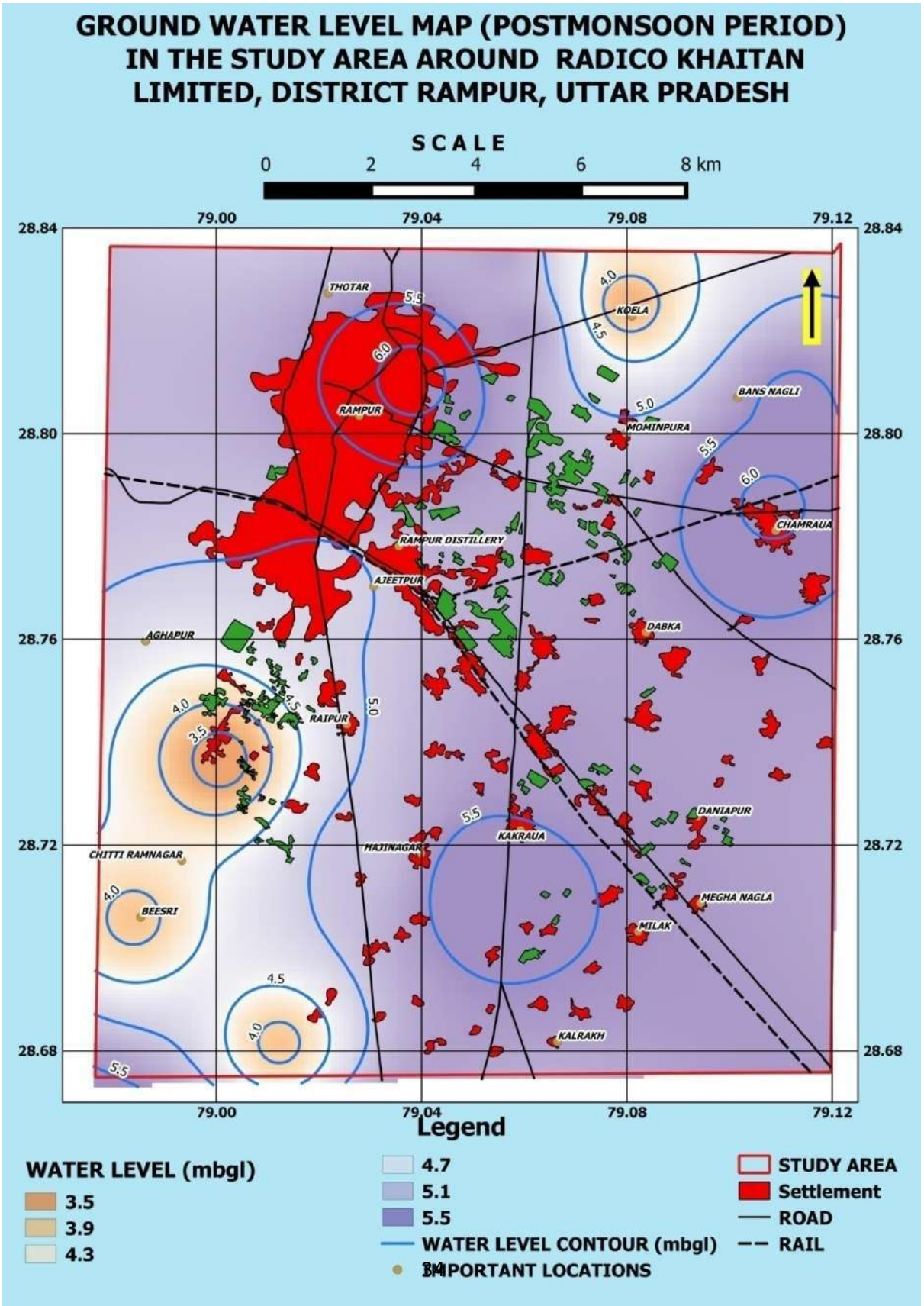


**FIG 16 Depth to Water Level (Postmonsoon period 2019) in the Study Area, Rampur District**



### *6.3.2. Ground Water level situation during Postmonsoon period*

During post monsoon period of 2019, 13 monitoring stations in Chamraua block of Rampur district have been analysed for establishing spatial distribution of ground water levels in the study area. The water level pattern is similar to that of premonsoon period, except that water levels range from 3.45 to 6.82 mbgl. The depth to ground water levels in the area around Rampur Distillery falls in the range of 5.0 to 6.0 mbgl. (Fig 16)

| **Table 6a Frequency distribution of Water Levels during Postmonsoon period of 2019, Chamraua block of Rampur district** | | | | |
|---|---|---|---|---|
| **Block** | **Total monitoring stations analysed** | **3.0- 5.0 mbgl** | **5.0 - 7.0 mbgl** | **> 7.0 mbgl** |
| Chamraua | 13 | 7 (54%) | 6 (46%) | 0 |

| **Table 7b Frequency distribution of Water Levels during Postmonsoon period of 2020, Chamraua block of Rampur district** | | | | |
|---|---|---|---|---|
| **Block** | **Total monitoring stations analysed** | **3.0- 5.0 mbgl** | **5.0 - 7.0 mbgl** | **> 7.0 mbgl** |
| Chamraua | 7 | 3 (43%) | 4 (57%) | 0 |

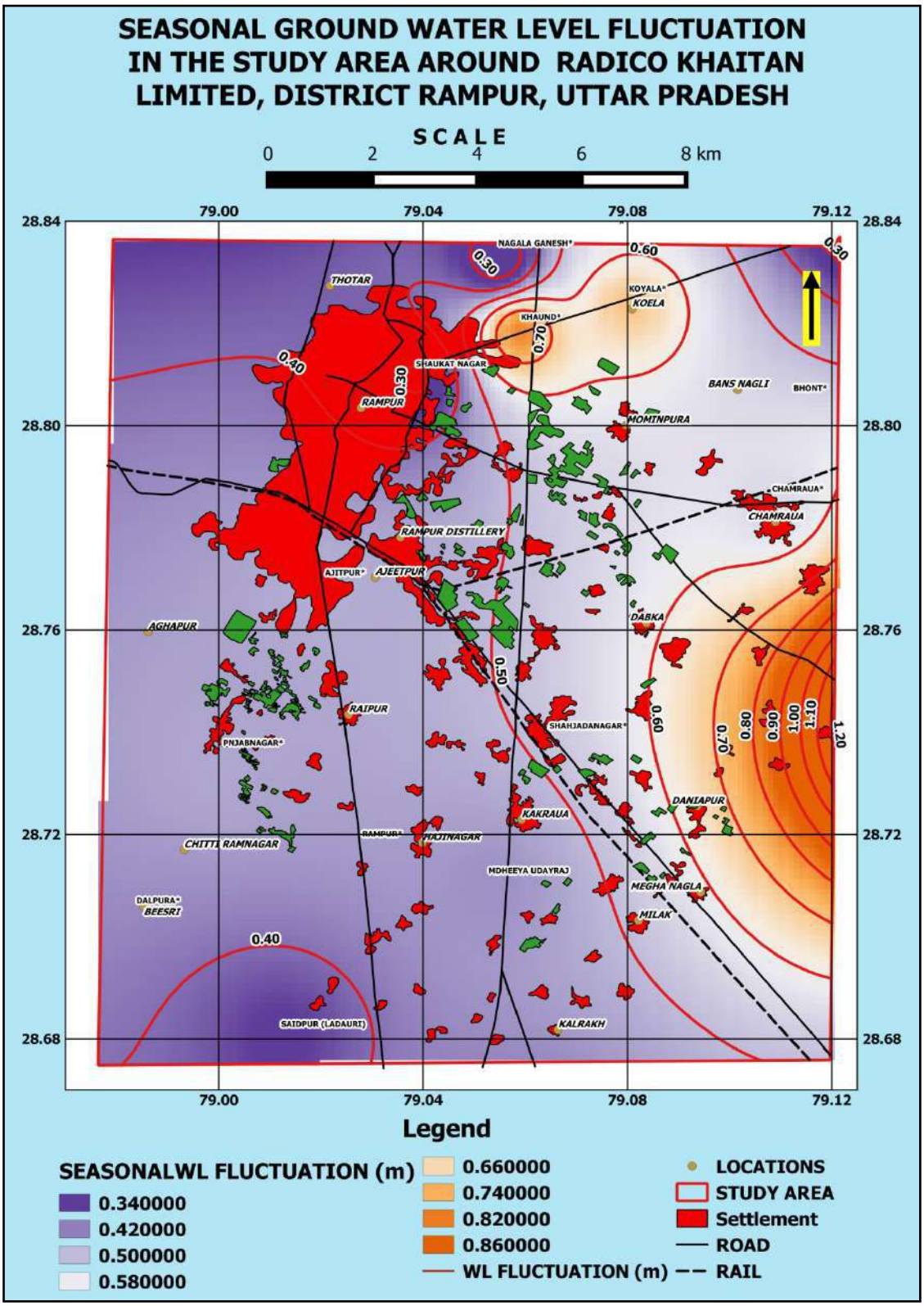
Thus studies indicate that in general water levels are deeper than 5.0 mbgl, therefore the recharge measures are feasible through site specific structures. Historical Water levels do not show much decline as the aquifers in the zone are being recharged from Tarai zone in the northern parts of Rampur district.

### *6.3.3. Seasonal Water level Fluctuation*

A perusal of the water level seasonal fluctuation map (*Pre and Monsoon period, 2019)* in study area reveals that a rise in water level is observed in entire study area. A rise of less than 1 m is observed at all the 13 monitoring stations in Chamraua block. Maximum part of the study area shows seasonal water level fluctuation ranging from 0.34 to 0.60 m. Fluctuation of more than 0.60 m is observed in the northern part of the area around Khaund and Koela villages, and in the eastern part of the study area east of Daniapur village. The fluctuation of more than 1.0 m is seen in the seasonal water level fluctuation map (Fig -17) in the eastern parts which is effect of fluctuation in Barakhas station of Milak block. This minimal fluctuation shows that in study

area the ground water withdrawal for irrigation and other purposes is quickly replenished by lateral flow of ground water from tarai areas in the north and recharge to ground water by rainfall is ample to restore the water levels during monsoon period.

**FIG 17 Seasonal Water Level Fluctuation in the Study Area (Pre & Post monsoon, 2019), Rampur District**



### *6.3.4. Long Term Water Level Trends*

Radico Khaitan Ltd has established six piezometers within the premises and buffer zone in Chamraua block. Two piezometers are located within the premises at Ajitpur and Hitachi Land. These piezometers are about 25 m in depth. Four other piezometers are located in surrounding buffer zone at Deenpur, Hariyal, Milak Chikna and Madhaiya. The water level data has been collected at these piezometers through DWLR and telemetry system, since issuance of NOC for ground water abstraction in 2017. This water level data was downloaded from the server for long term water level trend analysis.

State Ground Water Department, Government of Uttar Pradesh, Lucknow has also collected historical water level data for last 10 12 years from fixed Ground Water Monitoring Stations (GWMS) located in different parts of Rampur district. Eight such monitoring stations in Chamraua block and one in adjacent Bilaspur block have been selected for long term water level trend analysis. These GWMS represent the buffer zone around the industry where rainwater conservation measures and ground water recharge measures have been implemented by Radico Khaitan Ltd.

The annual water level trends observed at piezometer of Radico Khaitan Ltd are shown in Table-6. The data indicates that the ground water levels at all the six piezometers are showing rising trends ranging from 0.365 m/year at Hitachi Land to 0.620 m/year as observed at Madhaiya piezometer. Falling trend is not observed at any piezometer in the premises or in the buffer zone. The hydrographs of all the piezometers are shown in Fig 18 to 23.

The depth to ground water levels at these piezometers ranges from 2.55 mbgl at Madhaiya to 8.59 mbgl at Deenpur. In general the minimum water levels vary from 2.55 mbgl at Madhaiya to 6.39 mbgl at Deenpur. The maximum water level varies from 4.23 mbgl at Milak Chikna to 8.59 Deenpur.

Earlier the trends were estimated for the period upto 2019. In the present report the ground water level data for the year 2020 collected by State Ground Water Department has been updated and trends were calculated upto 2020. As shown in Table 8 below it is indicated that rising trends of water levels are observed for all the six piezometers. The rate of rise has

reduced slightly at 5 piezometers and for one it is stable. Thus a rise in water levels is observed since 2017 at all the piezometer locations in Chamraua block.

**Table 8 LONG TERM WATER LEVEL TRENDS AT PIEZOMETERS CONSTRUCTED BY RADICO KHAITAN LTD WITHIN THE PREMISES AND IN BUFFER ZONE AROUND THE DISTILLERY**

| PIEZOMETERS OF RADICO KHAITAN LIMITED | DATA AVAILBLE FOR | LONG TERM WATER LEVEL TRENDS (m/year) | | DATA UPDATED UPTO SEPTEMBER, 2021 | LONG TERM WATER LEVEL TRENDS (m/year) | |
|---|---|---|---|---|---|---|
| | | RISE | FALL | | RISE | FALL |
| AJEETPUR | May'2017 – Feb-2020 | 0.548 | - | MAY'2017 –Sep'2021 | 0.256 | - |
| HITACHI LAND | MAY'2017– Feb-2020 | 0.365 | - | MAY'2017– Sep'2021 | 0.365 | - |
| DEENPUR | OCT'2017 – Feb-2020 | 0.584 | - | OCT'2017 – Sep'2021 | 0.037 | - |
| HARIYAL | OCT'2017 – Feb-2020 | 0.475 | - | OCT'2017 – Sep'2021 | 0.110 | - |
| MADHAIYA | OCT'2017 – Feb-2020 | 0.620 | - | OCT'2017 – Sep'2021 | 0.073 | - |
| MILAK CHIKNA | JUN'2019– Feb-2020 | 0.438 | - | JUN'2019– Sep'2021 | 0.329 | - |

**FIG 18**

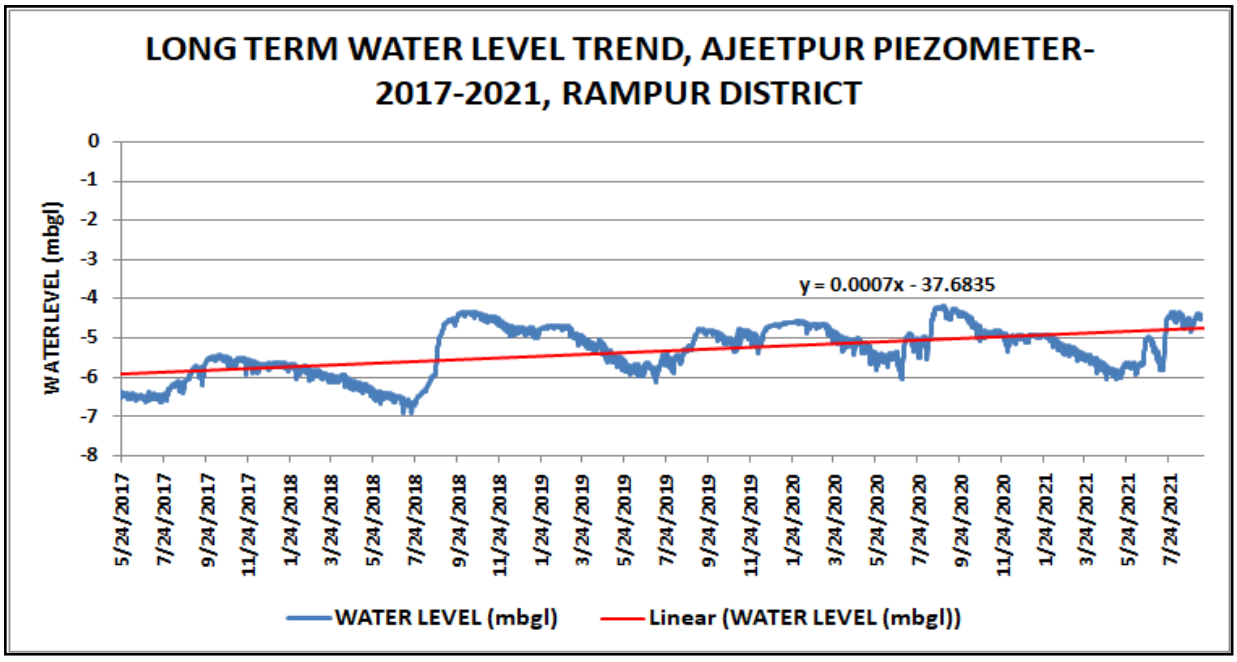


**FIG 19**

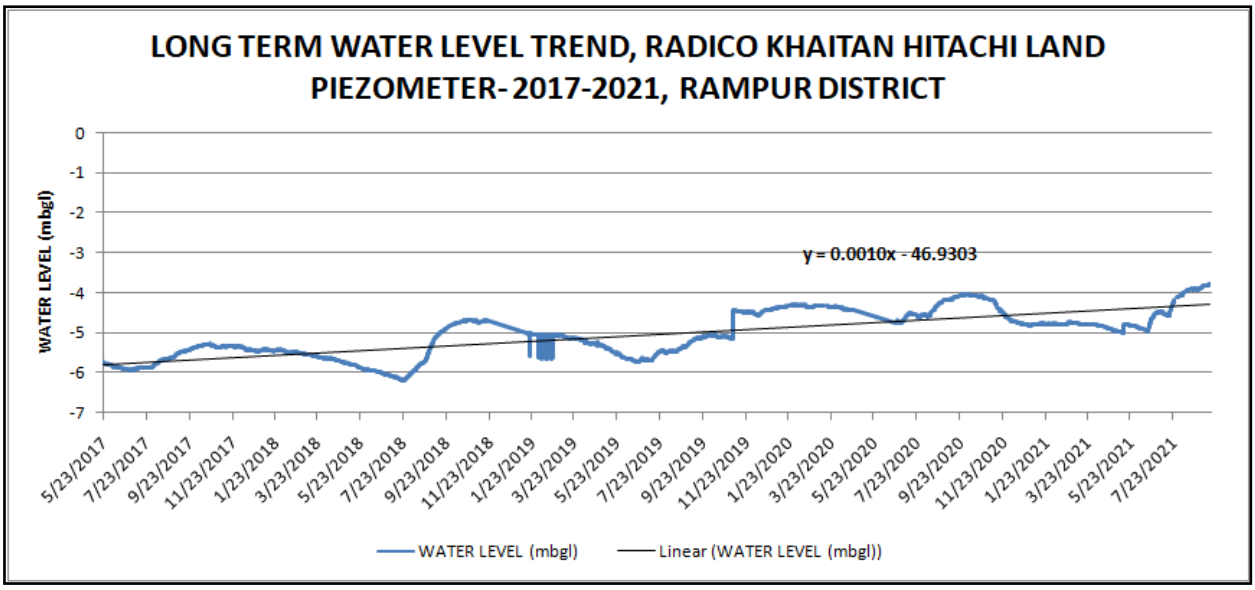

LONG TERM WATER LEVEL TREND, RADICO KHAITAN HITACHI LAND PIEZOMETER- 2017-2021, RAMPUR DISTRICT
WATER LEVEL (mbgl)
y = 0.0010x - 46.9303
WATER LEVEL (mbgl)
Linear (WATER LEVEL (mbgl))

**FIG 20**

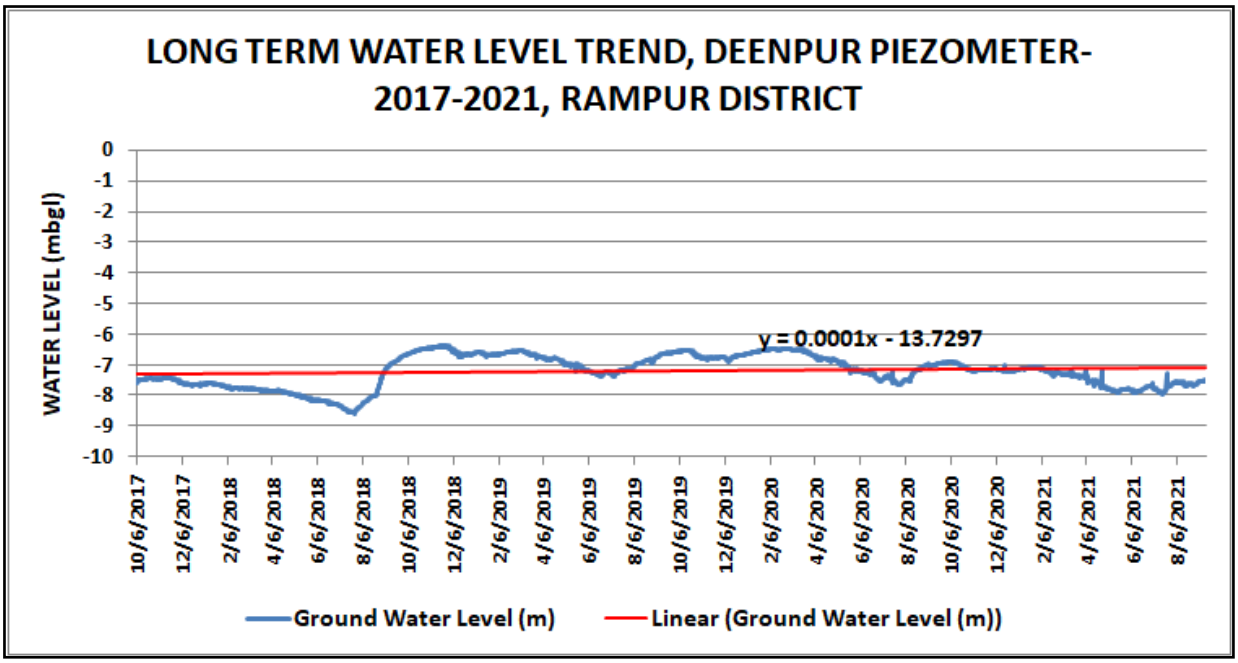

LONG TERM WATER LEVEL TREND, DEENPUR PIEZOMETER- 2017-2021, RAMPUR DISTRICT
WATER LEVEL (mbgl)
y = 0.0001x - 13.7297
Ground Water Level (m)
Linear (Ground Water Level (m))

FIG 21

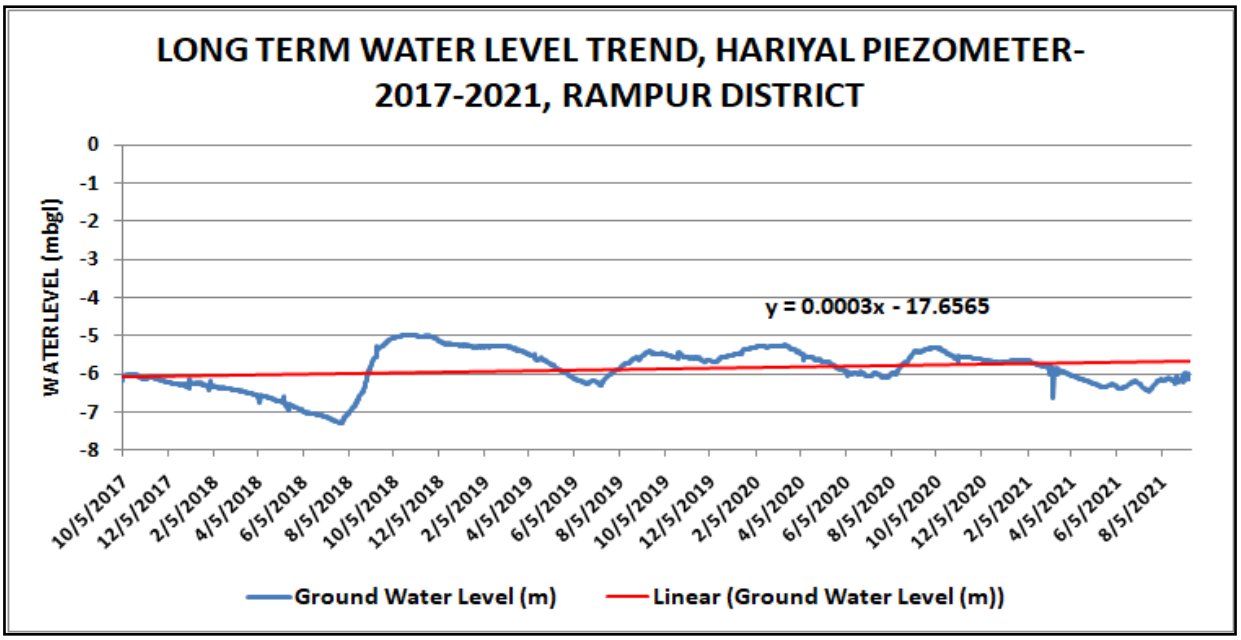

LONG TERM WATER LEVEL TREND, HARIYAL PIEZOMETER- 2017-2021, RAMPUR DISTRICT
WATER LEVEL (mbgl)
0
-1
-2
-3
-4
-5
-6
-7
-8
y = 0.0003x - 17.6565
10/5/2017
12/5/2017
2/5/2018
4/5/2018
6/5/2018
8/5/2018
10/5/2018
12/5/2018
2/5/2019
4/5/2019
6/5/2019
8/5/2019
10/5/2019
12/5/2019
2/5/2020
4/5/2020
6/5/2020
8/5/2020
10/5/2020
12/5/2020
2/5/2021
4/5/2021
6/5/2021
8/5/2021
Ground Water Level (m)
Linear (Ground Water Level (m))

FIG 22

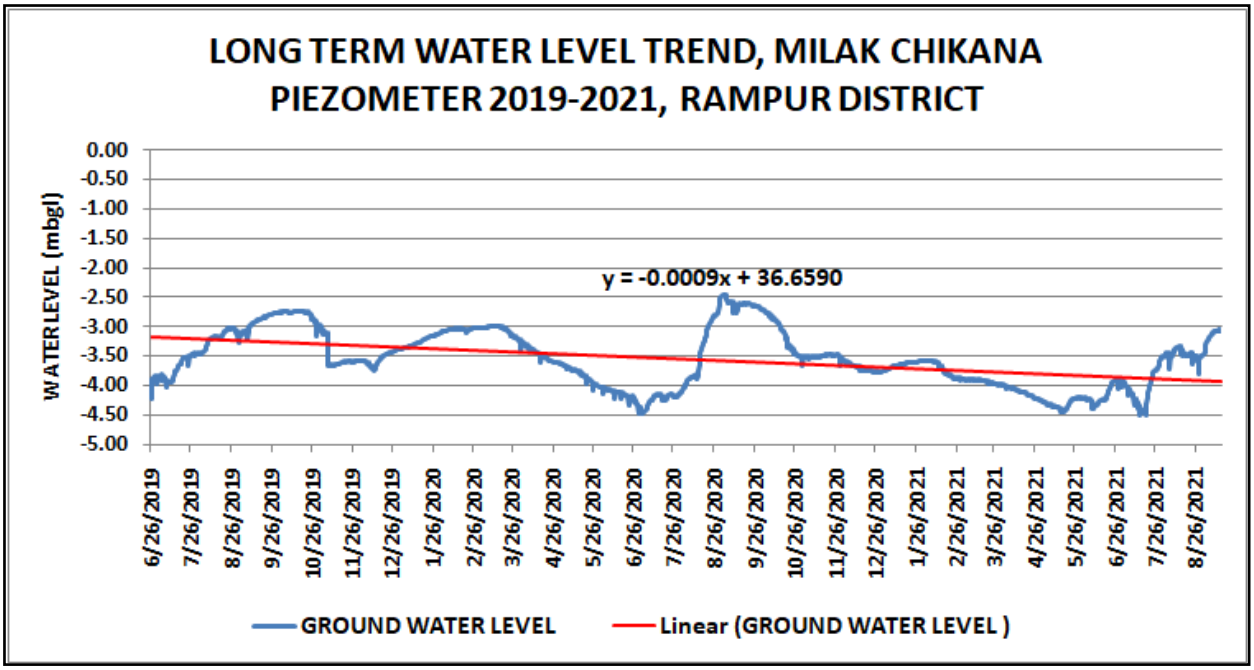
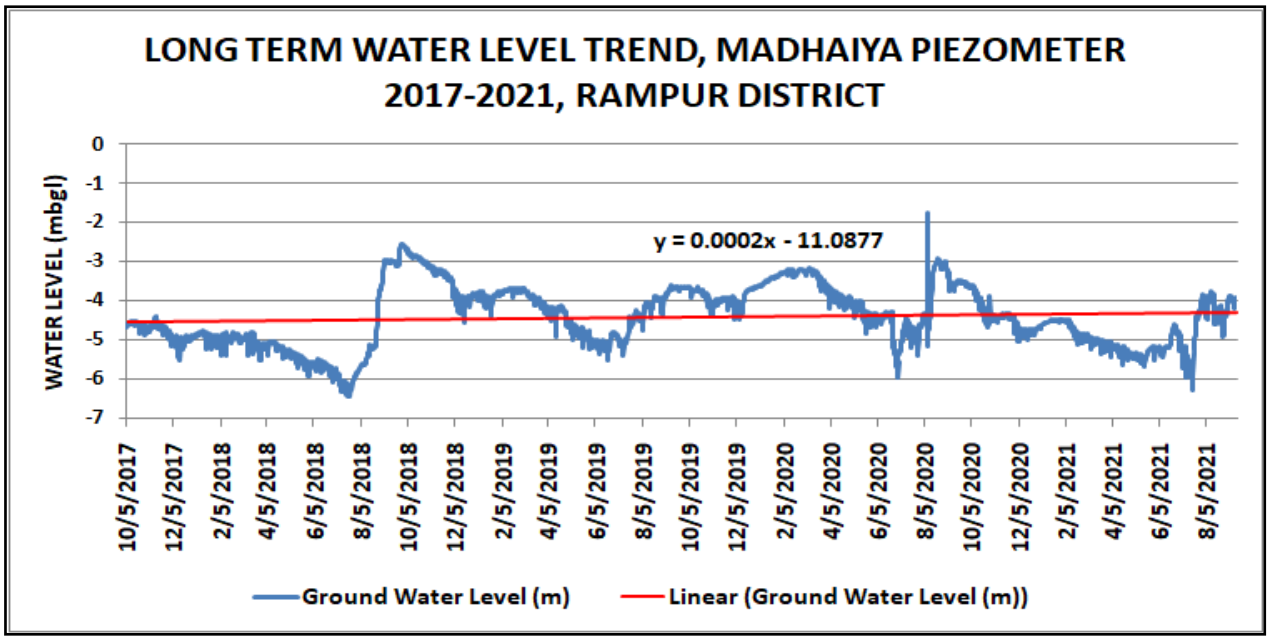

LONG TERM WATER LEVEL TREND, MILAK CHIKANA PIEZOMETER 2019-2021, RAMPUR DISTRICT
WATER LEVEL (mbgl)
0.00
-0.50
-1.00
-1.50
-2.00
-2.50
-3.00
-3.50
-4.00
-4.50
-5.00
y = -0.0009x + 36.6590
6/26/2019
7/26/2019
8/26/2019
9/26/2019
10/26/2019
11/26/2019
12/26/2019
1/26/2020
2/26/2020
3/26/2020
4/26/2020
5/26/2020
6/26/2020
7/26/2020
8/26/2020
9/26/2020
10/26/2020
11/26/2020
12/26/2020
1/26/2021
2/26/2021
3/26/2021
4/26/2021
5/26/2021
6/26/2021
7/26/2021
8/26/2021
GROUND WATER LEVEL
Linear (GROUND WATER LEVEL )

**FIG 23**




Long term water level trends have also been estimated using long term water level data collected at GWMS of State Ground Water Department and the summary is shown in table-7. It is observed that out of ten stations analysed, two stations at Bilaspur (Bilaspur block) and Panjabnagar (Chamraua block) show a rise in water level trends for the last 10 to 11 years. Remaining eight GWMS show a long term declining trend of ground water level trends, ranging from 0.014 m/year (at Dalpura) to 0.250 m/year at Chamraua. The hydrographs are shown in Fig 24 to 33.

Thus it is observed that historical ground water levels indicate a falling trend in the buffer zone prior to interventions for ground water recharge by Radico Khaitan Ltd, whereas piezometers that have been constructed by Radico Khaitan Ltd in the buffer zone during or after 2017 (after issuance of NOC and compliance to directives), show a rise at all the stations.

FIG 24

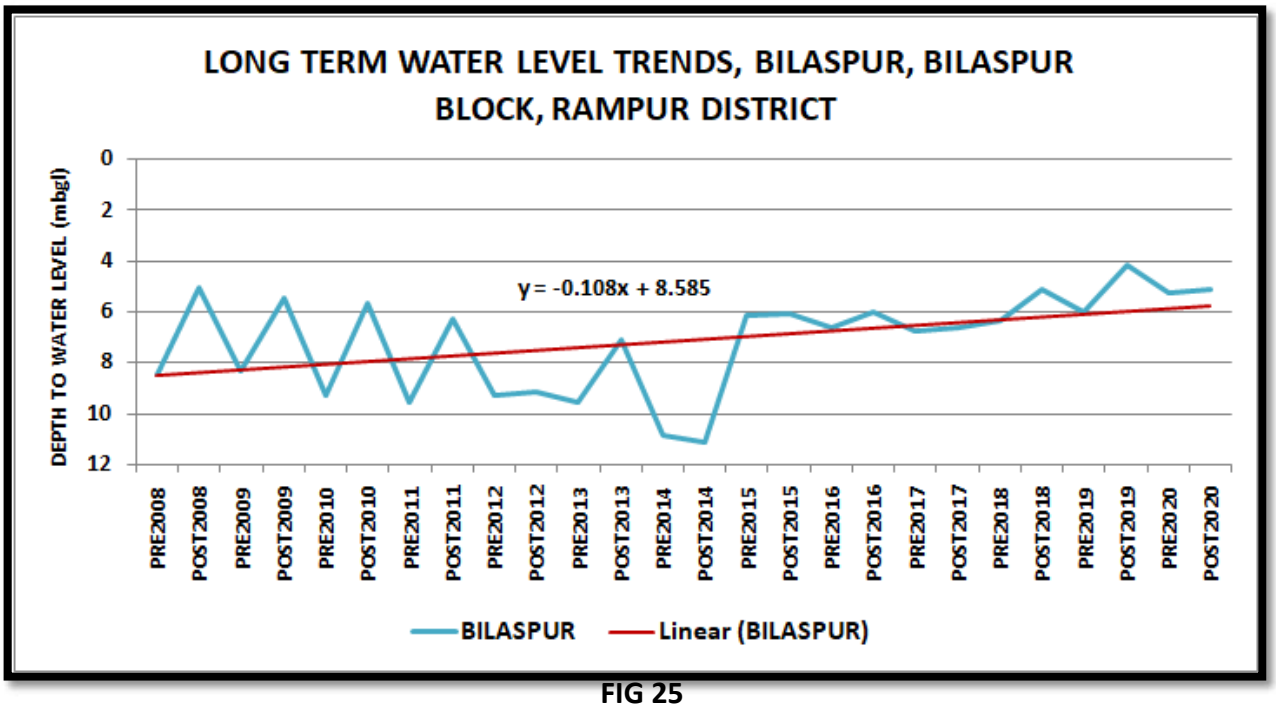

LONG TERM WATER LEVEL TRENDS, BILASPUR, BILASPUR BLOCK, RAMPUR DISTRICT
DEPTH TO WATER LEVEL (mbgl)
0
2
4
6
8
10
12
y = -0.108x + 8.585
PRE2008
POST2008
PRE2009
POST2009
PRE2010
POST2010
PRE2011
POST2011
PRE2012
POST2012
PRE2013
POST2013
PRE2014
POST2014
PRE2015
POST2015
PRE2016
POST2016
PRE2017
POST2017
PRE2018
POST2018
PRE2019
POST2019
PRE2020
POST2020
BILASPUR
Linear (BILASPUR)

FIG 25

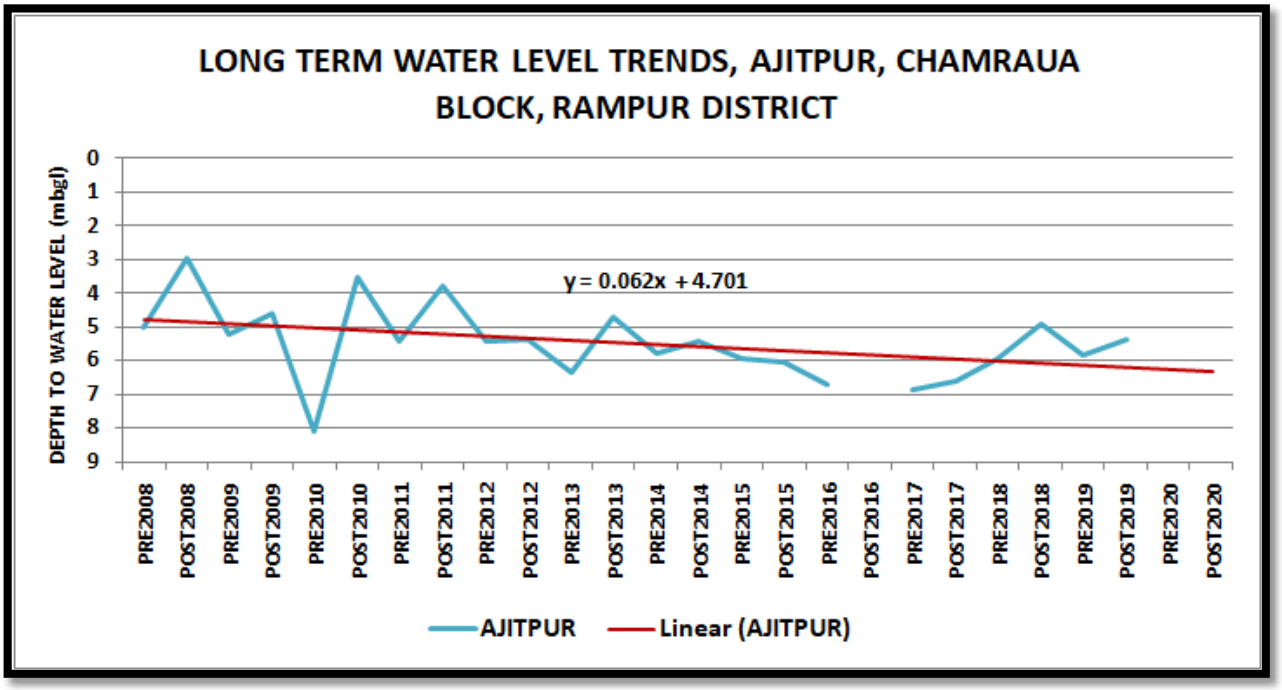

LONG TERM WATER LEVEL TRENDS, AJITPUR, CHAMRAUA BLOCK, RAMPUR DISTRICT
DEPTH TO WATER LEVEL (mbgl)
0
1
2
3
4
5
6
7
8
9
y = 0.062x + 4.701
PRE2008
POST2008
PRE2009
POST2009
PRE2010
POST2010
PRE2011
POST2011
PRE2012
POST2012
PRE2013
POST2013
PRE2014
POST2014
PRE2015
POST2015
PRE2016
POST2016
PRE2017
POST2017
PRE2018
POST2018
PRE2019
POST2019
PRE2020
POST2020
AJITPUR
Linear (AJITPUR)

FIG 26

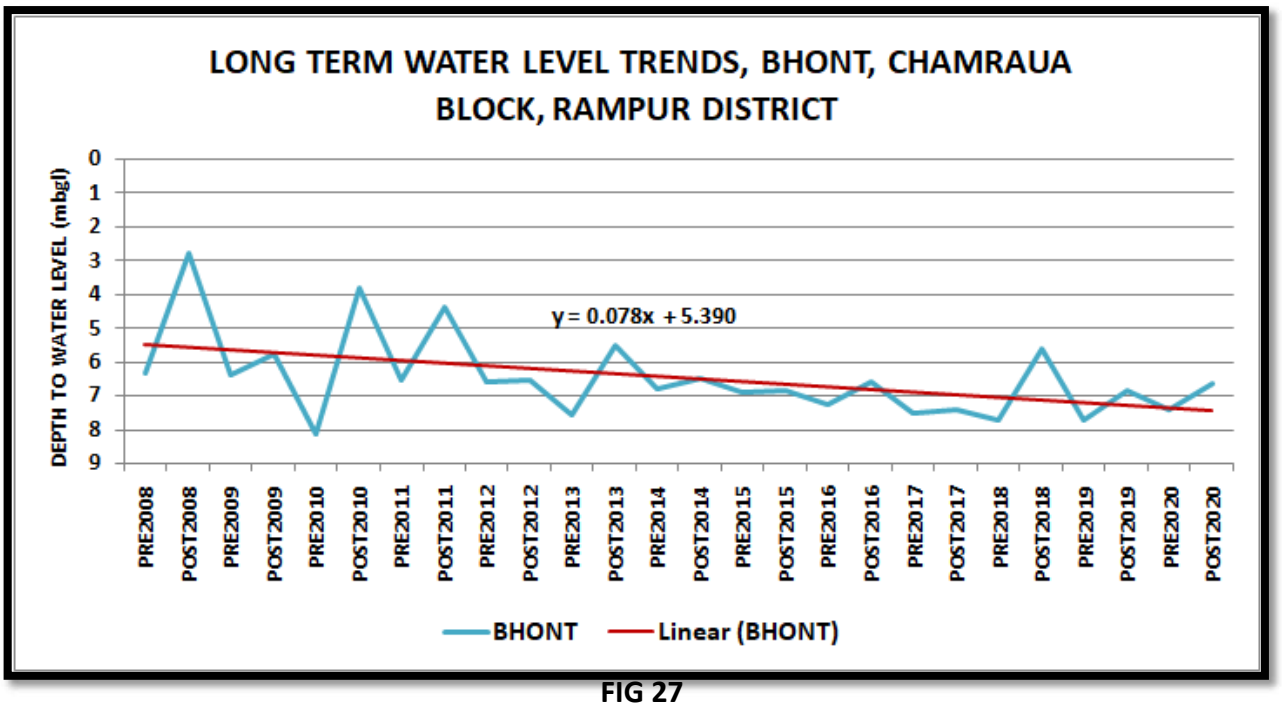

LONG TERM WATER LEVEL TRENDS, BHONT, CHAMRAUA BLOCK, RAMPUR DISTRICT
DEPTH TO WATER LEVEL (mbgl)
0
1
2
3
4
5
6
7
8
9
y = 0.078x + 5.390
PRE2008
POST2008
PRE2009
POST2009
PRE2010
POST2010
PRE2011
POST2011
PRE2012
POST2012
PRE2013
POST2013
PRE2014
POST2014
PRE2015
POST2015
PRE2016
POST2016
PRE2017
POST2017
PRE2018
POST2018
PRE2019
POST2019
PRE2020
POST2020
BHONT
Linear (BHONT)

FIG 27

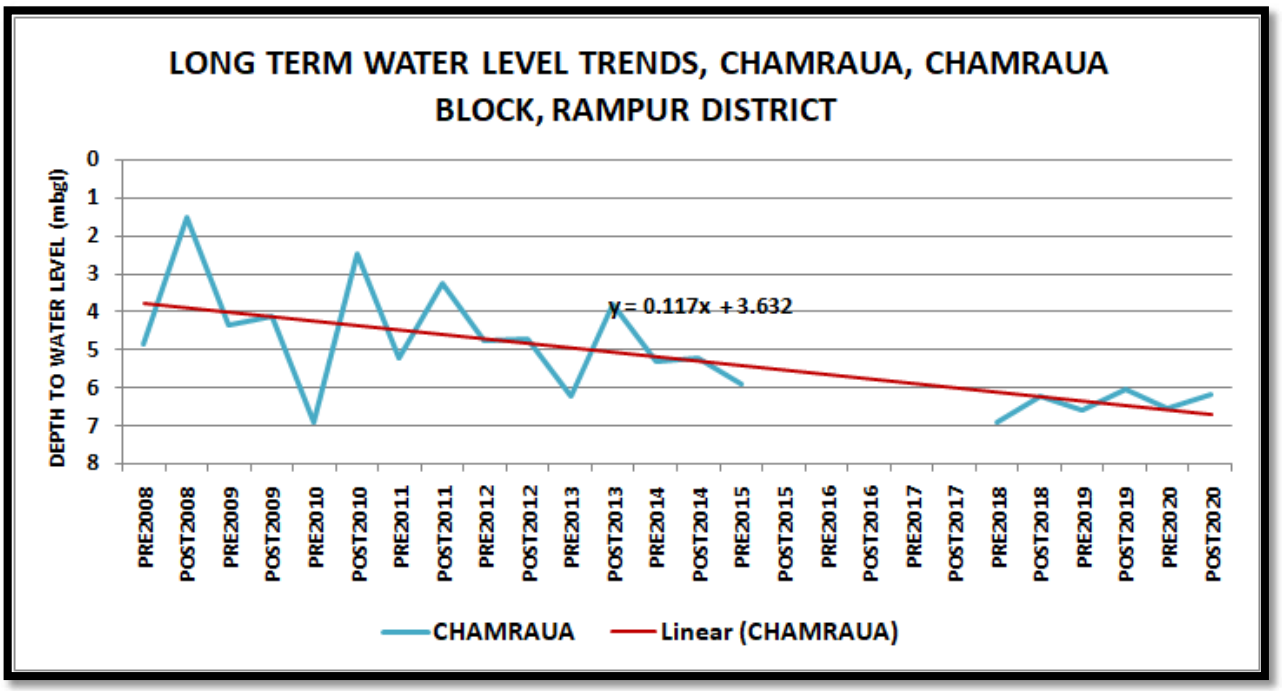

LONG TERM WATER LEVEL TRENDS, CHAMRAUA, CHAMRAUA BLOCK, RAMPUR DISTRICT
DEPTH TO WATER LEVEL (mbgl)
0
1
2
3
4
5
6
7
8
y = 0.117x + 3.632
PRE2008
POST2008
PRE2009
POST2009
PRE2010
POST2010
PRE2011
POST2011
PRE2012
POST2012
PRE2013
POST2013
PRE2014
POST2014
PRE2015
POST2015
PRE2016
POST2016
PRE2017
POST2017
PRE2018
POST2018
PRE2019
POST2019
PRE2020
POST2020
CHAMRAUA
Linear (CHAMRAUA)

FIG 28

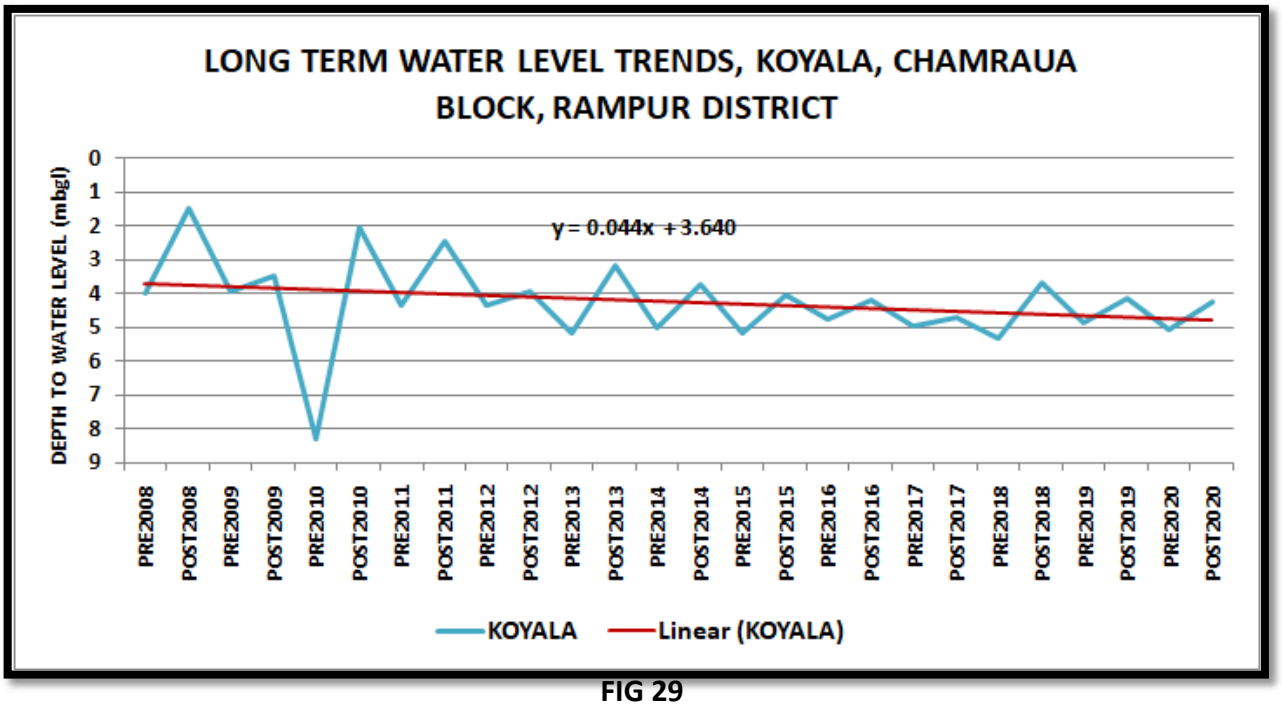

LONG TERM WATER LEVEL TRENDS, KOYALA, CHAMRAUA BLOCK, RAMPUR DISTRICT
DEPTH TO WATER LEVEL (mbgl)
y = 0.044x + 3.640
PRE2008
POST2008
PRE2009
POST2009
PRE2010
POST2010
PRE2011
POST2011
PRE2012
POST2012
PRE2013
POST2013
PRE2014
POST2014
PRE2015
POST2015
PRE2016
POST2016
PRE2017
POST2017
PRE2018
POST2018
PRE2019
POST2019
PRE2020
POST2020
KOYALA
Linear (KOYALA)

FIG 29

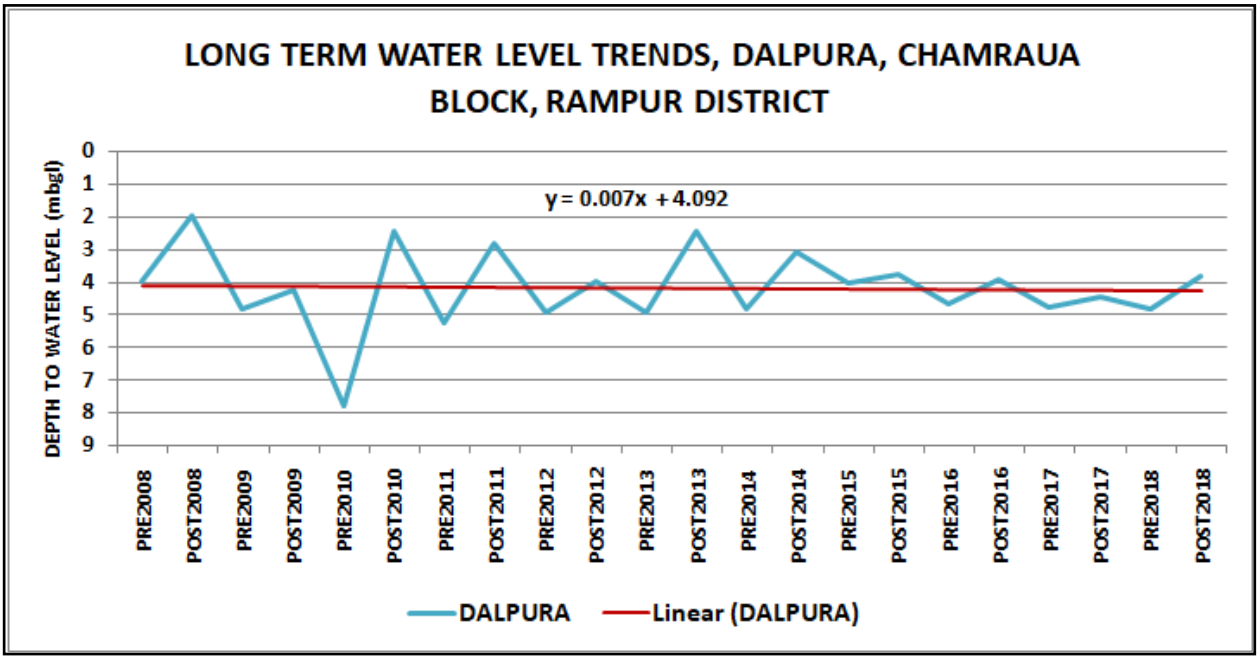

LONG TERM WATER LEVEL TRENDS, DALPURA, CHAMRAUA BLOCK, RAMPUR DISTRICT
DEPTH TO WATER LEVEL (mbgl)
y = 0.007x + 4.092
PRE2008
POST2008
PRE2009
POST2009
PRE2010
POST2010
PRE2011
POST2011
PRE2012
POST2012
PRE2013
POST2013
PRE2014
POST2014
PRE2015
POST2015
PRE2016
POST2016
PRE2017
POST2017
PRE2018
POST2018
DALPURA
Linear (DALPURA)

FIG 30

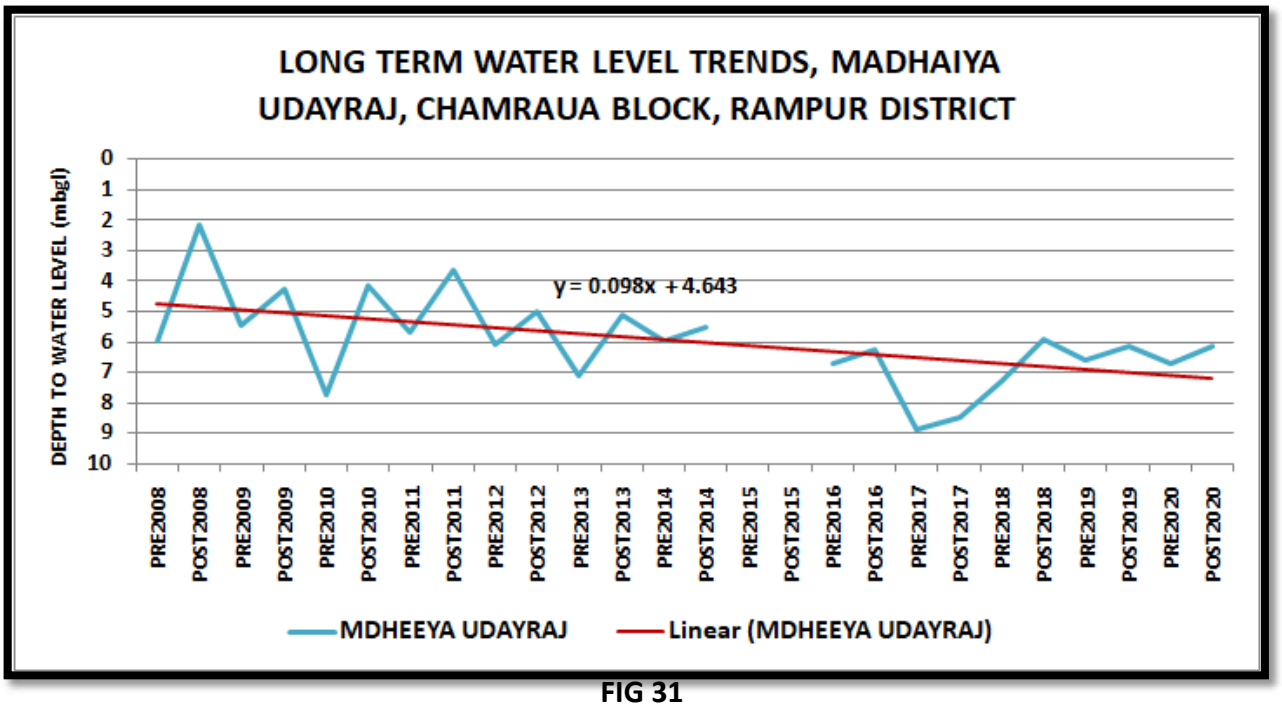

LONG TERM WATER LEVEL TRENDS, MADHAIYA UDAYRAJ, CHAMRAUA BLOCK, RAMPUR DISTRICT
DEPTH TO WATER LEVEL (mbgl)
y = 0.098x + 4.643
PRE2008
POST2008
PRE2009
POST2009
PRE2010
POST2010
PRE2011
POST2011
PRE2012
POST2012
PRE2013
POST2013
PRE2014
POST2014
PRE2015
POST2015
PRE2016
POST2016
PRE2017
POST2017
PRE2018
POST2018
PRE2019
POST2019
PRE2020
POST2020
MDHEEYA UDAYRAJ
Linear (MDHEEYA UDAYRAJ)

FIG 31

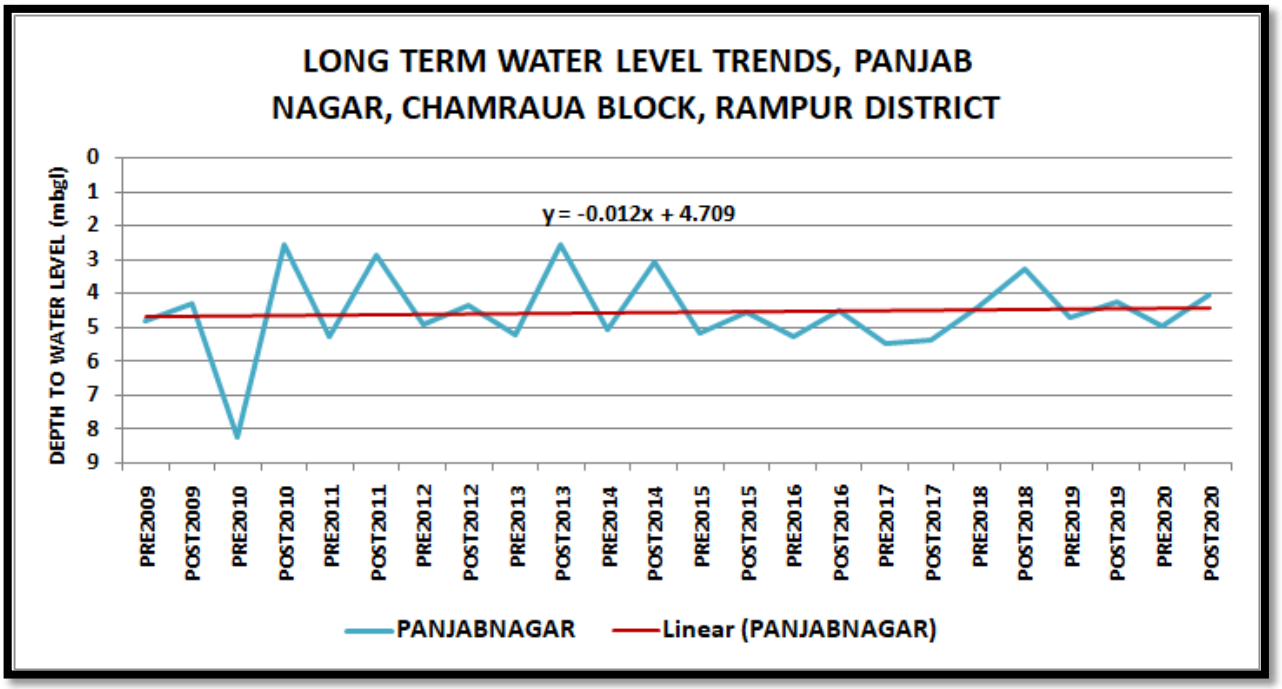

LONG TERM WATER LEVEL TRENDS, PANJAB NAGAR, CHAMRAUA BLOCK, RAMPUR DISTRICT
DEPTH TO WATER LEVEL (mbgl)
y = -0.012x + 4.709
PRE2009
POST2009
PRE2010
POST2010
PRE2011
POST2011
PRE2012
POST2012
PRE2013
POST2013
PRE2014
POST2014
PRE2015
POST2015
PRE2016
POST2016
PRE2017
POST2017
PRE2018
POST2018
PRE2019
POST2019
PRE2020
POST2020
PANJABNAGAR
Linear (PANJABNAGAR)

FIG 32

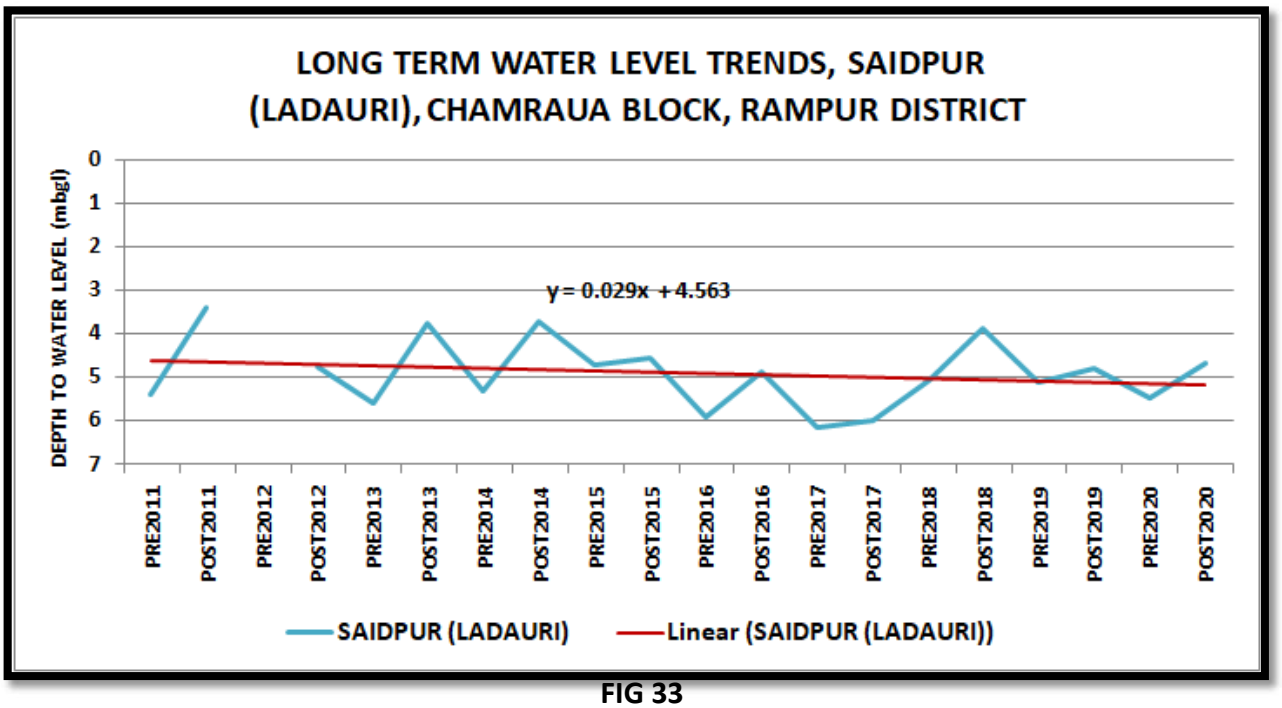
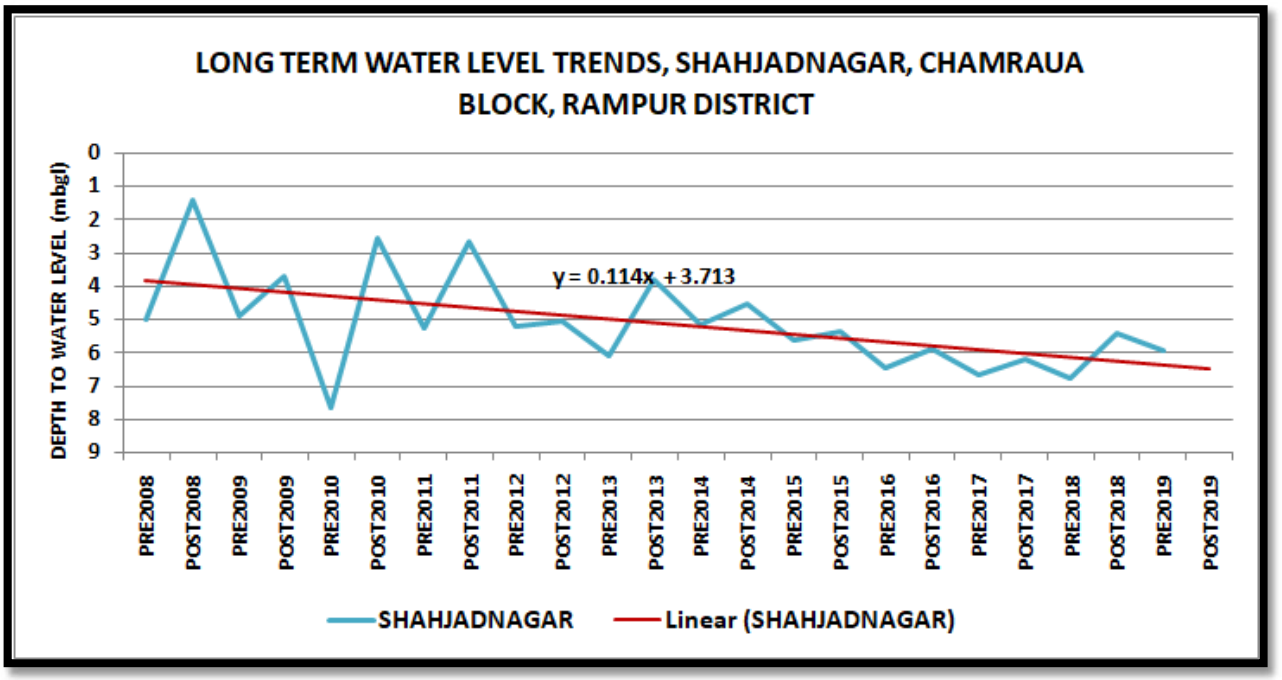



FIG 33




The long term water level trends for monitoring stations in Chamraua block were updated for 2020 water level data. The re-estimated water level trends are shown in Table 9 b. At Bilaspur and Punjab nagar stations the rising trend is observed during 2008-2020 also but rate of rise is slightly higher as compared to that of 2008-2019 period in Bilaspur area. Remaining stations

show a declining trend similar to 2008-2019 period. The declining trends during 2008-2020 (Table 9b) at all these stations are slightly less than trends during 2008-2019 (Table 9a).

**Table 9a LONG TERM WATER LEVEL TRENDS (2008-2019) AT GWMS MONITORED BY STATE GROUND WATER DEPARTMENT IN BUFFER ZONE AROUND THE DISTILLERY**

| BLOCK | PIEZOMETERS OF RADICO KHAITAN LIMITED | DATA AVAILBLE FOR | RANGE OF WATER LEVELS (mbgl) | LONG TERM WATER LEVEL TRENDS (m/year) | |
|---|---|---|---|---|---|
| | | | | RISE | FALL |
| BILASPUR | BILASPUR | 2008-2019 | 4.18 – 11.10 | 0.186 | - |
| CHAMRAUA | AJITPUR | 2008-2019 | 2.95 – 8.10 | | 0.124 |
| CHAMRAUA | BHONT | 2008-2019 | 2.77 – 8.11 | | 0.172 |
| CHAMRAUA | CHAMRAUA | 2008-2015 | 1.50 – 6.90 | | 0.250 |
| CHAMRAUA | KOYALA | 2008-2019 | 1.45 – 8.30 | | 0.094 |
| CHAMRAUA | DALPURA | 2008-2018 | 1.97 – 7.80 | | 0.014 |
| CHAMRAUA | MADHAIYA | 2008-2019 | 2.15 – 8.90 | | 0.232 |
| CHAMRAUA | PANJABNAGAR | 2009-2019 | 2.55 – 8.26 | 0.028 | |
| CHAMRAUA | SAIDPUR (LADAURI) | 2011-2019 | 3.38 – 6.15 | | 0.068 |
| CHAMRAUA | SHAHJADNAGAR | 2008-2019 | 1.40 – 7.63 | | 0.228 |

**Table 9b LONG TERM WATER LEVEL TRENDS (2008-2020) AT GWMS MONITORED BY STATE GROUND WATER DEPARTMENT IN BUFFER ZONE AROUND THE DISTILLERY**

| BLOCK | PIEZOMETERS OF RADICO KHAITAN LIMITED | DATA AVAILBLE FOR | RANGE OF WATER LEVELS (mbgl) | LONG TERM WATER LEVEL TRENDS (m/year) | | REMARKS (CHANGE WITH RESPECT TO 2008-2019 PERIOD) |
|---|---|---|---|---|---|---|
| | | | | RISE | FALL | |
| BILASPUR | BILASPUR | 2008-2020 | 4.18 – 11.10 | 0.216 | - | Increase in rising trend |
| CHAMRAUA | AJITPUR | 2008-2019 | 2.95 – 8.10 | | 0.124 | No change |
| CHAMRAUA | BHONT | 2008-2020 | 2.77 – 8.11 | | 0.156 | Reduction in declining trend |
| CHAMRAUA | CHAMRAUA | 2008-2020 | 1.50 – 6.90 | | 0.234 | Reduction in declining trend |
| CHAMRAUA | KOYALA | 2008-2020 | 1.45 – 8.30 | | 0.088 | Reduction in declining trend |
| CHAMRAUA | DALPURA | 2008-2018 | 1.97 – 7.80 | | 0.014 | No change |
| CHAMRAUA | MADHAIYA | 2008-2020 | 2.15 – 8.90 | | 0.196 | Reduction in declining trend |
| CHAMRAUA | PANJABNAGAR | 2009-2019 | 2.55 – 8.26 | 0.024 | | Slight change in rising trend |
| CHAMRAUA | SAIDPUR (LADAURI) | 2011-2020 | 3.38 – 6.15 | | 0.058 | Reduction in declining trend |
| CHAMRAUA | SHAHJADNAGAR | 2008-2019 | 1.40 – 7.63 | | 0.228 | No change |

## 6.4. Ground Water Flow:

Ground water movement is derivative of various functions of slope, topography and micro-geomorphology of the area. Usually it follows the topographic slope of the area. In the area close to the Distillery site, ground water movement has been deciphered on the basis of water table elevations monitored at hydrograph stations of State Ground Water Department in Rampur district and detailed analysis has been done for GWMS in Chamraua block, in which the Rampur distillery is situated. Gridding of the water table elevation gives the movement direction, which is being followed by ground water. Movement can be categorized as short-term movement.

### *6.4.1. Ground Water flow during Premonsoon period*

Ground water movement for pre monsoon period of 2019, shows a master flow direction from north around Koela towards Kalrakh in south. Water table elevation varies from 187 to 177 mamsl (metres above mean sea level) (Fig 34).

- In the northwestern part of the study area flow is from Khound in the east to west towards Kosi river. The ground water gradient in this part is about 1.4 m/km.
- In the northeastern parts ground water flows from Khound towards Dabka and Shahjadnagar, where gradient is about 1.2 m/km. After this point, gradient further decreases to 0.5 m/km and about 0.25 m/km further south around Daniapur and Kalrakh.
- There is small crest at Madhaiya Udayraj where water table elevation is recorded as 182 mamsl. Another crest is observed at Rampur town around Distillery. The water table elevation is 182 mamsl and gradient is about 1.0 m/km in all directions and especially towards south.

### *6.4.2. Ground Water flow during Post monsoon period*

Ground water movement for post monsoon period of 2019, also shows a master flow direction from north around Koela towards Kalrakh in south. Water table elevation varies from 189 to 178 mamsl (Fig 35).

- In the northwestern part of the study area flow is from Khound in the east to west towards Kosi river. The ground water gradient in this part is about 1.45 m/km.

- In the northeastern parts ground water flows from Khound towards Dabka and Shahjadnagar, where gradient is about 1.5 m/km. After this point, gradient further decreases to 0.5 m/km and about 0.30 m/km further south around Daniapur and Kalrakh.
- There is small crest at Madhaiya Udayraj where water table elevation is recorded as 184 mamsl.
- Another crest is observed at Rampur town around Distillery. The water table elevation is 183 mamsl and gradient is about 0.8 m/km in all directions and especially towards south.
- Lowest ground water elevation is 178 mamsl recorded at Beesri in the southwestern part of the study area. In this part entire ground water flows towards Kosi river flowing west of study area or towards Ramganga river in the south.
- Ground water flow pattern during 2020 is similar to that during 2019.

**FIG 34 Ground Water Flow (Premonsoon period, 2019) in the Study Area, Rampur District**

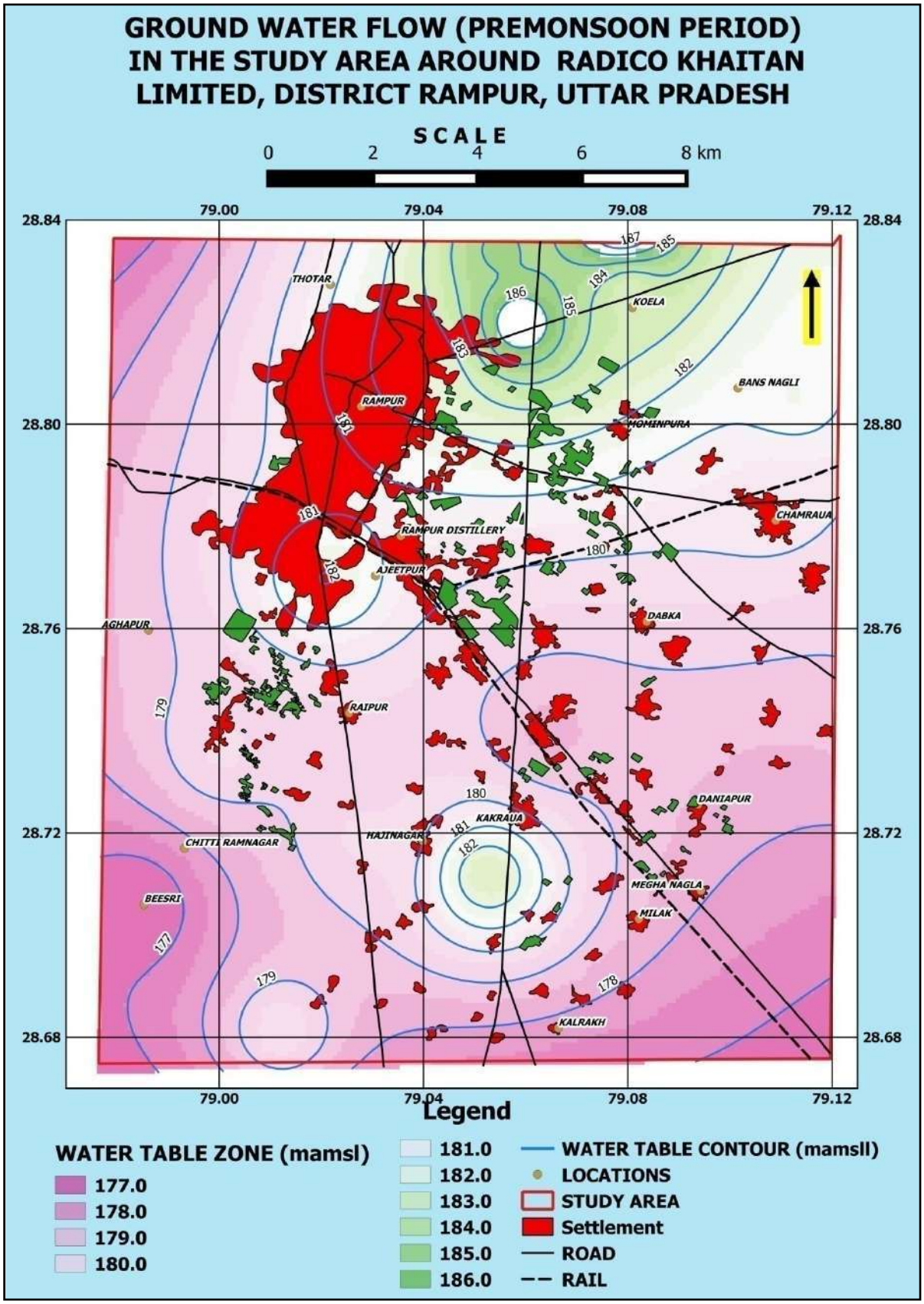
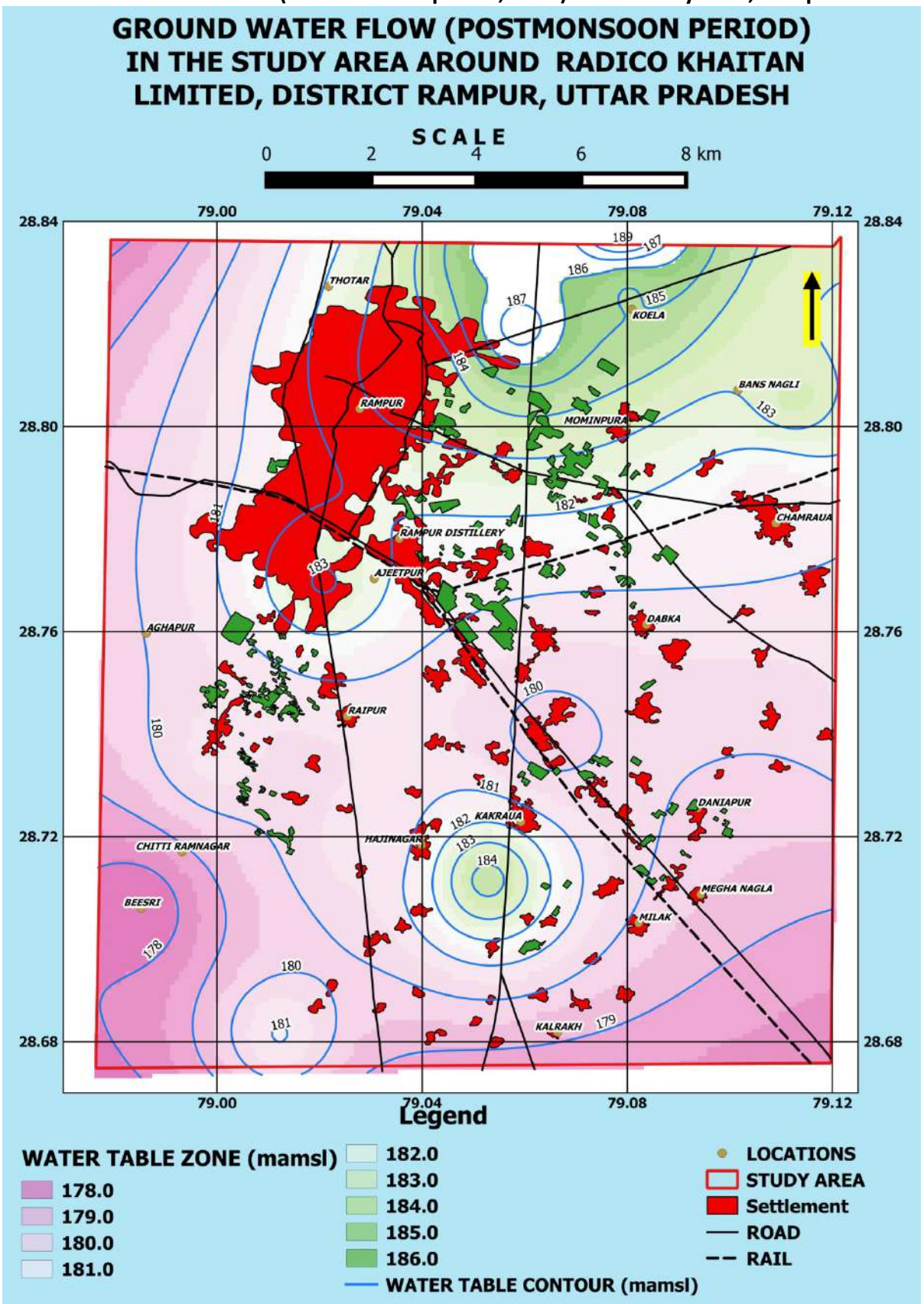


**FIG 35 Ground Water Flow (Postmonsoon period, 2019) in the Study Area, Rampur District**



# 7. GROUND WATER RESOURCE ESTIMATES AND STATUS OF GW WITHDRAWAL

## 7.1. Ground Water Resources Estimation as on March 2017

Ground Water Resource estimation of Ground Water Assessment units (blocks in case of Uttar Pradesh) has been carried out by Central Ground Water Board in coordination with State Ground Water Department, Lucknow and its corresponding field divisions according to the methodology recommended by the Ground Water Estimation Committee, 2015 constituted by Government of India (Groundwater Estimation Committee, 2015).

### *7.1.1. Dynamic Ground Water Resources*

Dynamic Ground Water Resource Estimation as on 31.3.2017 has been carried out with administrative blocks as ground water assessment units by CGWB. Due to lack of data on command, non-command and poor ground water quality areas, the resources could not be estimated separately and the administrative unit (block) as a whole without sub-dividing it into sub-units has been considered. The precise estimation of ground water reserves and irrigation potential is prerequisite for proper planning and execution for socio-economic development in the area. The ground water recharge has been estimated on the basis of water level fluctuation method which has been evaluated by significant change in water level during pre and post monsoon periods. Estimation of ground water resources for Chamraua block of Rampur district has been discussed below.

### *7.1.2. Recharge from Rainfall*

Precipitation is the principal source of recharge to ground water in the district. The quantity of recharge depends upon the intensity and duration of rainfall, nature and texture of soil, vegetation cover and land use pattern of the area. Recharge from rainfall has been computed separately for monsoon and non-monsoon periods. Recharge from rainfall is mainly a function of geographical area of the district, normal monsoon rainfall and lithology of the area. The recharge from rainfall during monsoon season has been computed using mainly Water Level Fluctuation Method & Rainfall Infiltration Factor Method, whereas recharge from rainfall during

non-monsoon period has been computed using Rainfall Infiltration Factor Method. Block-wise recharge from rainfall is given in Table-10. Total recharge from monsoon rainfall in the Chamraua block is of the order of 3072.32 ham (hectare meter).

### *7.1.3. Recharge from Other Sources:*

Total Recharge to ground water has several components, rainfall being the major one. The other component include seepage from canals, return flow from surface water irrigation, return flow from ground water irrigation, seepage from Tanks and Ponds etc. for command area. Blockwise recharge from other sources is given Table-10. Component of recharge from other sources during monsoon is 1382.28 ham and during non monsoon it is 2249.15 ham.

**Table 10 Annual Ground Water Recharge Estimation**

| Sl. No. | Assessment Units/ Blocks in Rampur | Recharge from Rainfall during Monsoon Season | Recharge from Other Sources during Monsoon Season | Recharge from Rainfall during Non-Monsoon Season | Recharge from Other Sources during Non-Monsoon Season | Total Annual Ground Water Recharge (3+4+5+6) |
|---|---|---|---|---|---|---|
| | | (ham) | | | | |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 1 | Chamraua | 3072.32 | 1382.28 | 172.35 | 2249.15 | 6876.11 |

### *7.1.4. Recharge from All Sources:*

Total replenishable ground water resources including rainfall recharge and recharge from other sources have been computed block- wise which is presented Table-10. Total annual recharge from all sources in Chamraua is of the order 6876.11 ham.

### *7.1.5. Unaccounted Natural Discharge and Net Ground Water Availability*

The total annual ground water recharge of the area is the sum of monsoon and non-monsoon recharge. An allowance of 10% of total annual ground water recharge has been kept for natural discharge in the non-monsoon season because WLF/RIF method respectively is employed to compute rainfall recharge during monsoon season. The balance of ground water available accounts for existing net ground water availability for various uses and potential for future development. Block wise unaccounted natural discharge and net ground water availability is

given in Table -11. Total unaccounted natural discharge in the Chamraua block is of the order of 687.61 ham. The net ground water availability in the block is 6188.50 ham.

| Table 11 Unaccounted Natural Discharge & Net Ground Water Availability | | | | |
|---|---|---|---|---|
| **Sl. No.** | **Assessment Unit/ Blocks in Rampur** | **Total Annual Ground Water Recharge (a)** | **Provision for Natural Discharges (b)** | **Net Annual Ground Water Availability (a-b)** |
| | | **(ham)** | | |
| 1 | Chamraua | 6876.11 | 687.61 | 6188.50 |

### *7.1.6. Ground Water Draft:*

The ground water draft is the quantity of water withdrawn from ground water reservoirs. The principal ground water development structures for utilization of ground water in the district are open wells, dug cum borewells, private tubewells/ government tubewells/ government tubewells constructed under minor irrigation works and by other state government departments. On the basis of statistical data available on the number of various ground water structures, the block wise annual gross draft has been computed by multiplying its average discharge and annual working hours. The total draft from the Chamraua block of Rampur is 8240.27 ham (Table-12).

| Table 12 Total Annual Ground Water Draft for various uses | | | | |
|---|---|---|---|---|
| **Sl. No.** | **Assessment Unit/ Blocks in Rampur** | **Total GW Draft for Irrigation (a)** | **Total GW Draft for Domestic & Industrial purposes (b)** | **Total GW Draft for all uses (a+b)** |
| | | **(ham)** | | |
| 1 | Chamraua | 7698.29 | 541.98 | 8240.27 |

### *7.1.7. Stage of Ground Water Withdrawal and Categorization of Blocks*

The level of ground water withdrawal in Chamraua block has been worked out as the ratio of gross annual draft to net ground water availability.

$$\text{Stage of Ground Water Withdrawal (\%)} = \frac{\text{Gross Annual Ground Water Draft}}{\text{Net Ground Water Availability}} \times 100$$

The Chamraua block shows the stage of Ground water Withdrawal as 133.15%, as shown in the Table 13 & 14. This block has been categorized as "Over Exploited".

| Table 13 Annual GW Draft and Stage of GW Withdrawal | | | | | | |
|---|---|---|---|---|---|---|
| Sl. No. | Assessment Units/ Blocks in Rampur City area | Net Annual Ground Water Availability | Existing Gross Ground Water Draft for Irrigation | Existing Gross Ground Water Draft for Domestic & Industrial Water Supply | Existing Gross Ground Water Draft for All Uses (4+5) | Stage of Ground Water Withdrawal (6/3)*100 |
| | | (ham) | | | | (%) |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 1 | Chamraua | 6188.50 | 7698.29 | 541.98 | 8240.27 | 133.15 |

| Table 14 Category of Blocks | | | | | |
|---|---|---|---|---|---|
| Sl. No. | Assessment Units - Blocks/ District | Net Annual Ground Water Availability | Existing Gross Ground Water Draft for All Uses | Stage of Ground Water Development | CATEGORY OF BLOCK |
| | | (ham) | | % | |
| 1 | Chamraua | 6188.50 | 8240.27 | 133.15 | OVER EXPLOITED |

**Comparison of ground water draft for various uses reveals that draft for irrigation accounts for more than 93% of total ground water draft, where as draft for domestic & industrial supply accounts** for **7% of the total ground water draft in the block. Even if draft for domestic & industrial use is reduced to zero, the stage of ground water extraction will still be 124.40%.**

### *7.1.8. Dynamic Ground Water Resource Estimation as on 31.03.2020*

***The dynamic ground water resource as on 31.03.2020 has also been carried out jointly by Central and state Ground Water Department. As per the assessment report the Chamraua block of Rampur which had stage of ground water abstraction as 133.15% was categorized as "Over Exploited" block. During 2019-20 assessment the stage of ground water abstraction has been further refined and the new figure is 94.46% and the block has been categorized as "Critical" block (as per the unpublished report prepared jointly by Central Ground Water Board, Govt. of India and State Ground Water Department, Govt of UP, Lucknow).***

## 7.2. GROUND WATER QUALITY

Ground water quality plays an important role in the development. The quality of ground water is as important as its quantity. The most extensive use of ground water is for irrigation of crops and a part of the ground water potential is for domestic and industrial uses. With the advent of industrialization and inadequate attention paid to protect the environment degradation in water quality one of the challenges of modern time. Sometimes the excess mineralization exceeds the maximum permissible limit for human consumption. Followings are the factors affecting the chemical quality of ground water.

- Physiochemical characteristics of the rocks through which ground water is circulating.
- Geological environment of the area.
- Climate of the area.
- Role of microorganism.
- Chemical physical and mineralogical characteristic of the soil through which Meteoric water percolate to the underground reservoir.
- Topography of the area.
- Mixing of connate water.
- Manmade pollution due to excessive use of manure, pesticides, harmful disposal of industrial and sewerage of urban area etc.

**a) Results of Basic Constituents**

To study the chemical quality of ground water, samples from three tubewells within the premises of Rampur Distillery were collected and analysed regularly. These samples represented the ground water from first aquifer group down to 100-120 mbgl. The summarized result of basic constituents, for these samples is given in Table 15 and Annexure- V.

| Table 15 Ground Water Quality – Ranges of Basic Parameters, 2019 | | | | | | |
|---|---|---|---|---|---|---|
| **S. No.** | **Parameters** | **Unit** | **Minimum** | **Maximum** | **BIS Standard IS 10500: 2012** | |
| | | | | | **Requirement (Acceptable limit)** | **Permissible limit in the absence of alternate source** |
| 1. | pH | - | 7.23 | 7.25 | 6.5-8.5 | NR |
| 2. | Electrical Conductivity | µmhos/cm | 710 | 736 | 750 | - |
| 3. | TDS | mg/l | 476 | 493 | 500 | 2000 |
| 4. | Hardness as CaCO3 | mg/l | 167 | 180 | 200 | 600 |
| 5. | Alkalinity | mg/l | 185 | 192 | 200 | 600 |
| 6. | Chloride as Cl | mg/l | 81.2 | 88.6 | 250 | 1000 |
| 7. | Sulphate as SO4 | mg/l | 42.5 | 48.0 | 200 | 400 |
| 8. | Fluoride as F | mg/l | 0.20 | 0.23 | 1.0 | 1.5 |
| 9. | Iron as Fe | mg/l | 0.24 | 0.29 | 0.3 | - |

**i. pH Value:**

pH is one of the most important parameter in water chemistry and is defined as log[H+]. The pH concentration determines the alkaline/acidic nature of water on a scale ranges from 0-14. The pH concentration determines the alkaline/acidic nature of water. The BIS, (10500- 2012) has indicated a maximum range of 6.5 to 8.5 but allows a range of 6.5 to 9.2 for domestic uses. In the study area, the pH range of 7.23 to 7.25 with average values of 7.24 which is quite safe and water is free from al corrosive & sealing action.

**ii. Electrical Conductivity (EC):**

Electrical conductivity is a measure of the total mineralization in water and thus indicates its degree of salinity. EC has been arrived at after dividing TDS values by a factor of 0.67. Thus EC values of the area indicate that conductivity in ground water generally varies from 710 to 736 µmhos/cm at $25^0$C (Table 15). Thus salinity of ground water is well within permissible limits.

### iii. Total Hardness as Caco3:

Hardness in water is caused by a variety of dissolved polyvalent metallic ions, predominantly calcium and magnesium cations. It is usually expressed as milligrams of calcium carbonate per litre. The degree of hardness of drinking-water is important for aesthetic acceptability by consumers. Hardness is the property of water which prevents the lather (foam) formation with the soap and increases the boiling point of the water. Hardness is classified in four categories as soft water, hard water, moderately hard water and very hard water in table-16 below.

**Table 16 WATER CLASS AS PER HARDNESS**

| **HARDNESS (mg/l)** | **WATER CLASS** |
|---|---|
| 0-75 | SOFT |
| 75-150 | MODERATELY HARD |
| 150-300 | HARD |
| > 300 | VERY HARD |

The BIS, (10500- 2012) shows desirable limit upto 200 mg/l. maximum permissible limit of 600 mg/l. Higher concentration may cause urinary diseases of kidney, bladder and stomach disorder. Total hardness of the groundwater in Rampur Distillery area varies between 167 and 180 mg/l. In general water is Hard in nature as per above table-16.

### iv. Chloride:

The concentration of chloride (Cl) controls the taste of the water and its maximum permissible limit is 250 mg/l by BIS, (10500- 2012). However the permissible limit in the absence of alternate sources is relaxable upto 1000 mg/l. the chloride concentration in water samples varies between 81.2 and 88.6 mg/l. Chloride is below 250 mg/l, hence the quality of ground in the area with reference to chloride concentration is fit for human consumption.

### v. Alkalinity as CaCO3:

Alkalinity determines how water resists changes in pH, in particular resistance to becoming acidic. Higher alkalinity means higher resistance to changes in pH. Changes in pH can be devastating to the ecosystem. Many plants and aquatic animals require a very narrow pH range

to survive. Even less pH-sensitive animals suffer if changes in pH impact the food chain. In addition to the natural ecosystem, alkalinity impacts wastewater systems and suitability of water for irrigation. Alkalinity, also referred to as water hardness, impacts home water systems by building mineral deposits in pipes and pans as well as increasing the amount of soap people use by inhibiting lather.

Alkalinity measures the amount of calcium, magnesium and other acid-moderating ions. Alkalinity may be reported in terms of calcium carbonate, $CaCO_3$. Alkalinity is usually measured and reported in terms of parts per million (ppm).

Required alkalinity is 200 mg/l and maximum permissible limit is 600 mg/l. Ground water in the area ranges from 185 to 192 mg/l, which is within permissible limit of drinking standard and considered to be fairly safe and good for irrigation and domestic purposes.

**vi. Fluoride:**

Fluoride is found in all natural waters at some concentration. Seawater typically contains about 1 mg/L while rivers and lakes generally exhibit concentrations of less than 0.5 mg/L. In groundwater, however, low or high concentrations of fluoride can occur, depending on the nature of the rocks and the occurrence of fluoride-bearing minerals. Fluoride occurs as fluorspar (fluorite), rock phosphate, triphite, phosphorite minerals etc in nature. The WHO (2011) and BIS (10500- 2012) estimates the maximum allowable limit for fluoride uptake to human's in drinking water as 1.5 mg/L. Excess fluoride intake causes different types of fluorosis, primarily dental and skeletal fluorosis. White line striations followed by brown patches and, in severe cases, brittling of the enamel are common symptoms of dental fluorosis. Skeletal fluorosis first causes pain in the different joints, then limits joint movement and finally causes skeletal deformities, which become particularly acute if fluoride uptake occurs during growth. Since these ailments are incurable, fluorosis can only be mitigated by preventing intake of excess fluoride. Fluoride concentration in the area ranges from 0.20 to 0.23 mg/l which is well within desirable limit of 1.0 mg/l.

**Thus from chemical analysis of ground water samples collected in the study area it is evident that ground water quality is well within permissible for domestic as well as irrigation purposes.**

**b) Changes in Ground Water Quality since issuance of NOC to industry in 2016**

The changes in water quality over time indicate deterioration or improvement in quality of ground water due to geogenic or anthropogenic processes. The quality of ground water levels has been analysed every year since 2016 and up to 2019 as shown in Annexure-V.

**FIG 36**

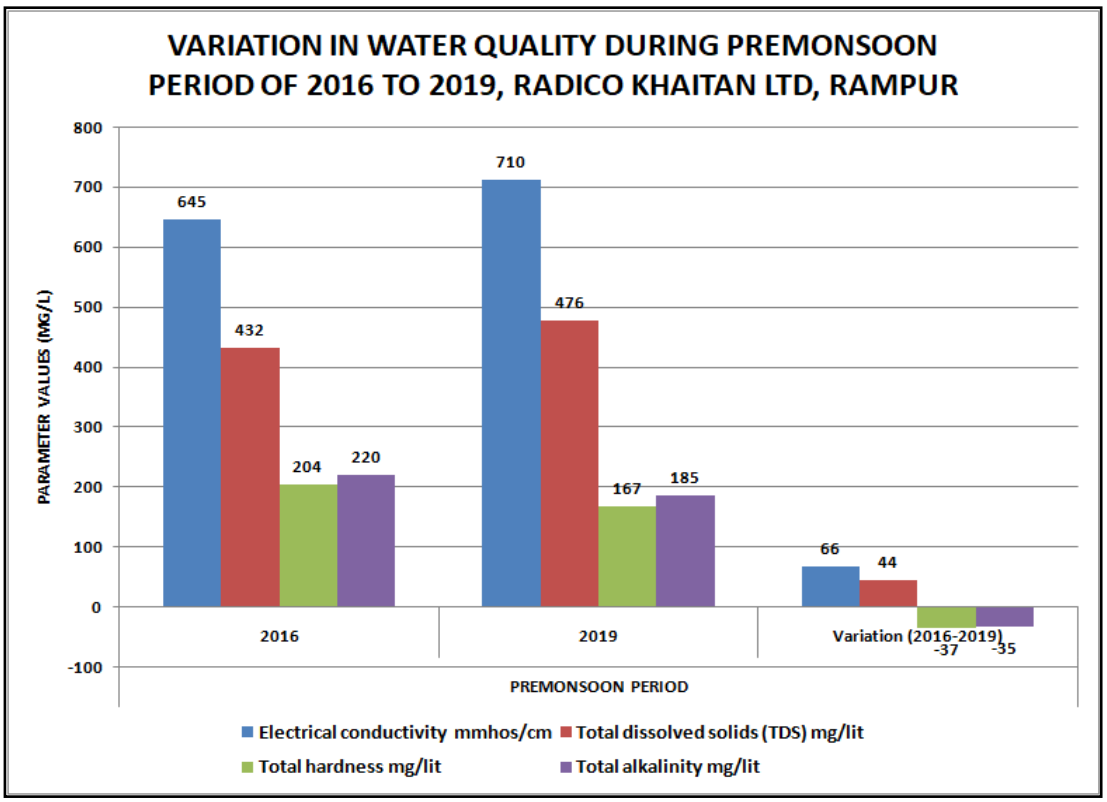


**FIG 37**

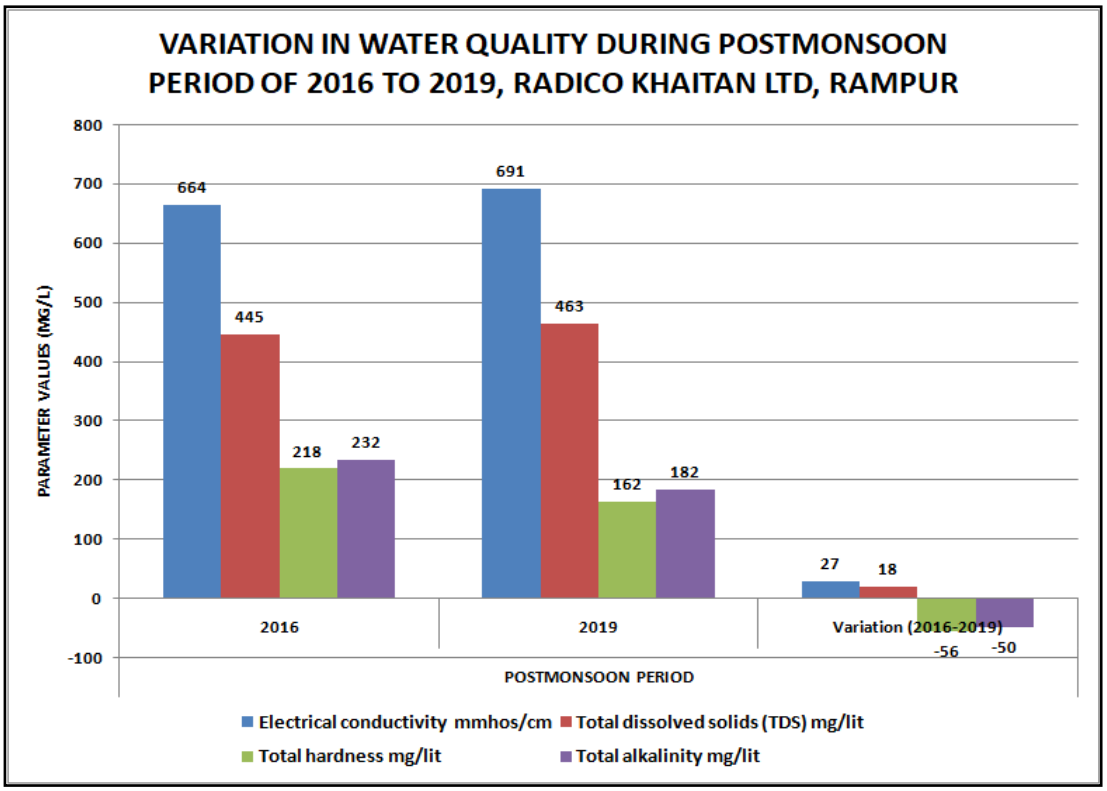



**Table 17 Pre and Post monsoon period Variation in GW Quality from 2016 to 2019, Radico Khaitan Premises, Rampur**

| Parameters | Units | PREMONSOON PERIOD | | | POSTMONSOON PERIOD | | |
|---|---|---|---|---|---|---|---|
| | | 2016 | 2019 | Variation (2016-2019) | 2016 | 2019 | Variation (2016-2019) |
| pH | | 7.21 | 7.23 | 0.02 | 7.24 | 7.21 | -0.03 |
| Electrical conductivity | µmhos/cm | 645 | 710 | 66 | 664 | 691 | 27 |
| Total dissolved solids (TDS) | mg/lit | 432 | 476 | 44 | 445 | 463 | 18 |
| Total hardness | mg/lit | 204 | 167 | -37 | 218 | 162 | -56 |
| Total alkalinity | mg/lit | 220 | 185 | -35 | 232 | 182 | -50 |
| Fluoride(F) | mg/lit | 0.09 | 0.2 | 0.11 | 0.11 | 0.19 | 0.08 |
| Iron (Fe) | mg/lit | 0.14 | 0.24 | 0.1 | 0.22 | 0.22 | 0.0 |

Table-17 shows the variation in ground water quality within the premises of Rampur Distillery from 2016 and 2019, for pre and post monsoon periods. The variations are also shown graphically in Fig 36 & 37.

- Very minor changes are observed in the ground water parameters.

- pH value shows no variation during last four years.
- Electrical Conductivity shows a rise of 66 μmhos/cm, during premonsoon period of 2016 and 2019 whereas during postmonsoon period a rise of 27 μmhos/cm is observed. This reduction may be due to dilution due to rain water harvesting and ground water recharge measures within the premises since issuance of NOC to the industry in 2016.
- Total hardness and alkalinity both show a decline for pre as well as post monsoon period 2016 and 2019.
- Fluoride content shows a minor rise of 0.11 mg/lit from premonsoon of 2016 and 2019. The fluoride shows a rise of 0.08 mg/lit for postmonsoon period of 2016 to 2019.
- Minor rise of 0.1 mg/lit is observed in Iron content over this period.
- Thus ground water quality does not show any significant changes over last 4 years since 2016, rather an improvement in water quality is observed, which may be due to ground water recharge measures adopted by industry.

# 8. GROUND WATER RECHARGE MEASURES ADOPTED BY RADICO KHAITAN LTD

The Radico Khaitan Limited obtained NOC for ground water abstraction of 2600 KLD (949000 kl/annum) in 17.10.2016. The industry is extracting ground water through three tubewells constructed within the premises of the industry. As per the directives of CGWA, vide issued NOC, the industry was to adopt measures for recharging ground water to the tune of 18,98,000 KL/annum.

In pursuance of the directives of CGWA industry has adopted suitable ground water recharge measures both within the premises as well as outside the premises in the buffer zone. The structures are discussed below.

## 8.1. Ground Water Recharge Measures within the premises

Industry covers a total area of 4,43,920 $m^2$, which includes 153407 $m^2$ of roof area; 23300 $m^2$ of road and paved areas; 156862 $m^2$ of green belt area and 110351$m^2$ of open area. The rainfall runoff from the premise area, except the runoff from open area, has been used for recharging ground water through twenty (22) recharge trenches constructed within the premises. Through these measures annually **156074 m3** of rainfall runoff is being recharged to ground water. The photographs of few recharge structures are shown in Fig 38 to 40.

**FIG 38** RAIN WATER HARVESTING WITHIN PREMISES

**FIG 39**

**FIG 40 Rain Water harvesting structures within the premsies**

## 8.2. Ground Water Recharge Measures outside the premises

The ground water recharge measures within the premises were not sufficient to meet the requirement as per CGWA directives; hence Radico Khaitan Limited has adopted several ponds in the buffer zone within the Chamraua block for taking up recharge measures. Table –18 shows the list of ponds adopted by the industry. A total area of ponds is 299140 sq meter and annual expected recharge through construction of recharge shafts in each pond is about 18,84,582 $m^3$. The design of recharge shaft is shown in Fig 41. A total of 28 villages of Chamraua block have been covered for the interventions (Fig-42).

**Table 18 List of Villages & Ponds with Water Recharging Summary**

| S. No | Location | Area (Hect) | Area (Acre) | Area (Sqmt) | Depth (m) | Total Storage capacity (cum) | 60% | No of filling in Year | Quantity of water to be recharge (M3/Yr) | No of Shafts |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | Madhaiya Ballu | 0.746 | 1.843 | 7460 | 3.5 | 26110 | 15666 | 3 | 46998 | 3 |
| 2 | Madhaiya Rami | 0.177 | 0.437 | 1770 | 3.5 | 6195 | 3717 | 3 | 11151 | 2 |
| 3 | Chamraoa | 0.809 | 1.999 | 8090 | 3.5 | 28315 | 16989 | 3 | 50967 | 3 |
| 4 | Dabka | 0.873 | 2.157 | 8730 | 3.5 | 30555 | 18333 | 3 | 54999 | 2 |
| 5 | Rajarampur | 0.417 | 1.03 | 4170 | 3.5 | 14595 | 8757 | 3 | 26271 | 2 |
| 6 | Raipur | 0.834 | 2.061 | 8340 | 3.5 | 29190 | 17514 | 3 | 52542 | 3 |
| 7 | Deenpur | 0.126 | 0.311 | 1260 | 3.5 | 4410 | 2646 | 3 | 7938 | 2 |
| 8 | Agapur | 0.899 | 2.221 | 8990 | 3.5 | 31465 | 18879 | 3 | 56637 | 4 |
| 9 | Kalrakh | 1.087 | 2.686 | 10870 | 3.5 | 38045 | 22827 | 3 | 68481 | 4 |
| 10 | Hariyal-3 | 1.138 | 2.812 | 11380 | 3.5 | 39830 | 23898 | 3 | 71694 | 3 |
| 11 | Khajuria | 0.721 | 1.782 | 7210 | 3.5 | 25235 | 15141 | 3 | 45423 | 2 |
| 12 | Chikti Ramnagar | 2.859 | 7.064 | 28590 | 3.5 | 100065 | 60039 | 3 | 180117 | 9 |
| 13 | Megha Nagla | 0.959 | 2.37 | 9590 | 3.5 | 33565 | 20139 | 3 | 60417 | 4 |
| 14 | Naugawan | 1.607 | 3.971 | 16070 | 3.5 | 56245 | 33747 | 3 | 101241 | 6 |
| 15 | Bhamraua | 2.267 | 5.602 | 22670 | 3.5 | 79345 | 47607 | 3 | 142821 | 4 |
| 16 | Kakrava | 1.15 | 2.842 | 11500 | 3.5 | 40250 | 24150 | 3 | 72450 | 3 |
| 17 | Bhandpura | 2.213 | 5.468 | 22130 | 3.5 | 77455 | 46473 | 3 | 139419 | 7 |
| 18 | Hajinagar | 0.545 | 1.347 | 5450 | 3.5 | 19075 | 11445 | 3 | 34335 | 3 |
| 19 | Madhauli | 2.263 | 5.592 | 22630 | 3.5 | 79205 | 47523 | 3 | 142569 | 3 |
| 20 | Beesri | 0.2 | 0.494 | 2000 | 3.5 | 7000 | 4200 | 3 | 12600 | 4 |
| 21 | Daniyapur | 1.1 | 2.718 | 11000 | 3.5 | 38500 | 23100 | 3 | 69300 | 2 |
| 22 | Shankerpur | | | | | | | | | 2 |
| 23 | Ladaura-Narayanpur | 2.36 | 5.831 | 23600 | 3.5 | 82600 | 49560 | 3 | 148680 | 3 |
| 24 | Nasrat Nagar | 0.468 | 1.156 | 4680 | 3.5 | 16380 | 9828 | 3 | 29484 | 2 |
| 25 | Mahmoodpur | 0.126 | 0.311 | 1260 | 3.5 | 4410 | 2646 | 3 | 7938 | 4 |
| 26 | Milak Chikna | 1.68 | 4.151 | 16800 | 3.5 | 58800 | 35280 | 3 | 105840 | 5 |

| Table 18 List of Villages & Ponds with Water Recharging Summary | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| S. No | Location | Area (Hect) | Area (Acre) | Area (Sqmt) | Depth (m) | Total Storage capacity (cum) | 60% | No of filling in Year | Quantity of water to be recharge (M3/Yr) | No of Shafts |
| 27 | Sikraual | 1.31 | 3.237 | 13100 | 3.5 | 45850 | 27510 | 3 | 82530 | 3 |
| 28 | Jasmauli | 0.98 | 2.422 | 9800 | 3.5 | 34300 | 20580 | 3 | 61740 | 2 |
| Total | | 29.91 | 73.92 | 299140 | | 1046990 | 628194 | 3 | **1884582** | 96 |
| **Recharge available from premises** | | | | | | | | | **156000** | |
| **Grand Total** | | | | | | | | | **2040582** | |

**FIG 41 Design of Recharge Shafts Constructed in ponds for ground water recharge**

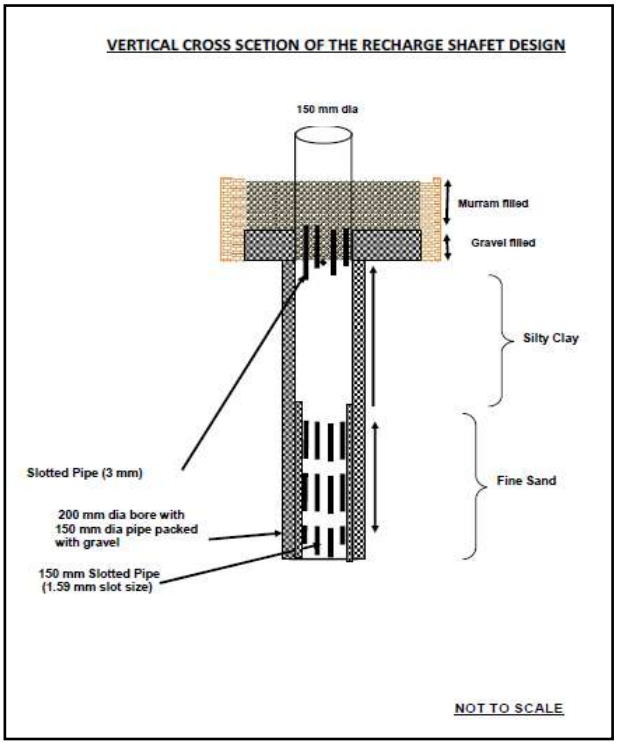



Table-20 shows summary of required ground water vis-à-vis the ground water recharge being done by industry through different measures within and outside the premises. Against required recharge of 1898000 m3/year (200% of ground water extraction for Over Exploited areas), industry is doing total ground water recharge of **20,40,656 m3/year** which is **215% of required quantity of water for the industry**.

| Table 19 Summary of Required Recharge versus Implemented ground water recharge by Radico Khaitan Limited | |
|---|---|
| **Annual Water recharge through Roof Top measures upto 2018-19 (M3)** | 156074 |
| **Annual Water recharge through Ponds upto 2018-19(M3)** | 1884582 |
| **Total Annual Water Recharge (M3)** | **2040656** |
| Existing permission – (M3/Day) | 2600 |
| Existing permission – (M3/Year) | 949000 |
| Required recharge with 200% - (M3/Year) | 1898000 |
| Actual Recharging Done (M3/Year) | 2040656 |
| **Ground water recharge as %age of Ground water utilization** | **215%** |
| **Ground Water Recharge through adoption of ponds during 2019-20 – (**M3/Year) | **343350** |
| **Annual Water recharge through Roof Top measures during 2019-20 (M3)** | **17019** |
| **Total recharge including additional recharge proposed in 2019-20 (**M3/Year) | **2401025** |
| **Ground water recharge as %age of Ground water utilization** | **253%** |
| **Ground Water Recharge through adoption of ponds during 2020-21-** (M3/Year) | **395262** |
| **Grand total of recharge and required recharge by industry (**M3/Year) | **2796287** |
| **Ground water recharge as %age of Ground water utilization** | **295%** |

Ponds in five villages covering a total area of 73900 sq meters were adopted up during 2019-20 for recharge measures (upto Mar, 2020). The expected annual recharge through these ponds will be **3,43,350 m3/year.**

In addition to this industry has constructed roof top rain water structures within the premises which would help in recharging **17,019 m3/year** of roof top runoff.

The total ground water recharge through measures adopted upto Mar, 2020 was **24,01,025 m3/year, which is 253% of the annual withdrawal of ground water by the industry (Table 19).**

**Table 20 List of Villages & Ponds for Proposed Water Recharging 2019-20 & 20-21 (Status as on 31.08.2021)**

| S. No | Village | Area (Hect) | Area (Acre) | Area (Sqmt) | Depth (m) | Total Storage capacity (cum) | 60 | No of filling in Year | No of Shafts | uantity of water to be recharge (M3/Yr) | Status |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | Behpuri | | | | 0.0 | 0 | 0 | 3 | 0 | 0 | Water in Pond |
| 2 | Bijaiya | 1.76 | 4.35 | 17600 | 3.5 | 61600 | 36960 | 3 | 5 | 110880 | Completed |

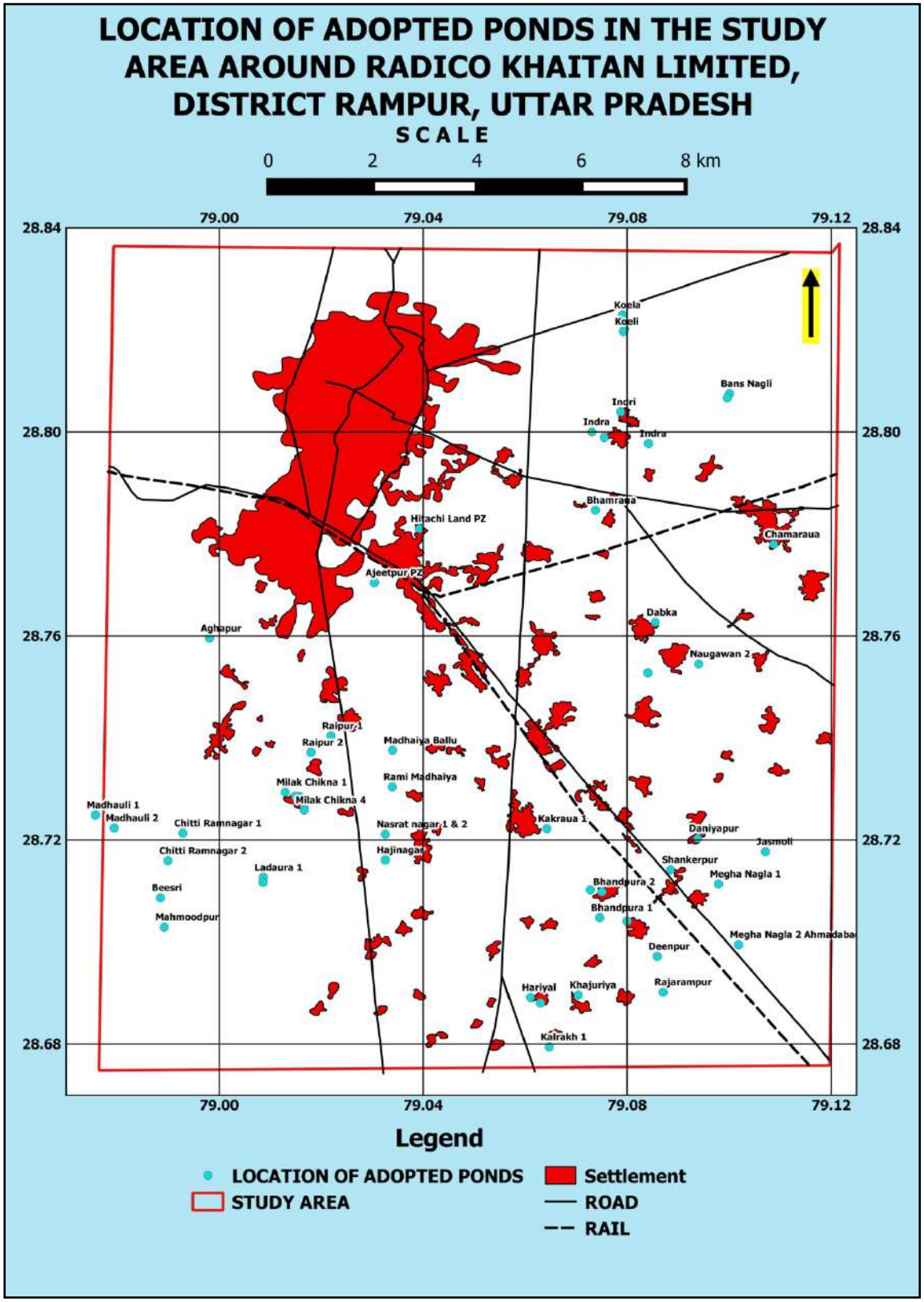
| Table 20 List of Villages & Ponds for Proposed Water Recharging 2019-20 & 20-21 (Status as on 31.08.2021) | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| S. No | Village | Area (Hect) | Area (Acre) | Area (Sqmt) | Depth (m) | Total Storage capacity (cum) | 60 | No of filling in Year | No of Shafts | uantity of water to be recharge (M3/Yr) | Status |
| 3 | Jaulpur | | | | 0.0 | 0 | 0 | 3 | 0 | 0 | Water in Pond |
| 4 | Ladauri | | | | 0.0 | 0 | 0 | 3 | 0 | 0 | Water in Pond |
| 5 | Milak Sikraul | | | | 0.0 | 0 | 0 | 3 | 0 | 0 | Water in Pond |
| 6 | Thakurdwara | | | | 0.0 | 0 | 0 | 3 | 0 | 0 | Water in Pond |
| 7 | Baasnagli | 0.58 | 1.43 | 5800 | 3.5 | 20300 | 12180 | 3 | 1 | 18270 | 50% Completed |
| 8 | Barapura serki | | | | 0.0 | 0 | 0 | 3 | 0 | 0 | Water in Pond |
| 9 | Indra | 1.84 | 4.55 | 18400 | 3.5 | 64400 | 38640 | 3 | 2 | 57960 | 50% Completed |
| 10 | Indri | | | | 0.0 | 0 | 0 | 3 | 0 | 0 | Water in Pond |
| 11 | Mominpur Ahmedabad | 1.98 | 4.89 | 19800 | 3.5 | 69300 | 41580 | 3 | 5 | 78750 | Completed |
| 12 | Koyli | 1.23 | 3.04 | 12300 | 3.5 | 43050 | 25830 | 3 | 5 | 77490 | Completed |
| **TOTAL (2019-20)** | | **7.39** | **18.26** | **73900** | **3.5** | **258650** | **155190** | **3** | **18** | **343350** | |
| 13 | Koyla | 1.57 | 3.87 | 15680 | 3.5 | 54880 | 32928 | 3 | 1 | 98784 | Completed |
| 14 | Tumaria | 2.83 | 7.00 | 28310 | 3.5 | 99085 | 59451 | 3 | 5 | 178353 | Completed |
| 15 | Dundai | 0.75 | 1.85 | 7500 | 3.5 | 26250 | 15750 | 3 | 3 | 47250 | Completed |
| 16 | Madhaiya Udairaj | 0.59 | 1.47 | 5940 | 3.5 | 20790 | 12474 | 3 | 3 | 37422 | Completed |
| 17 | Milak Nibbi Singh | 0.53 | 1.31 | 5310 | 3.5 | 18585 | 11151 | 3 | 3 | 33453 | Completed |
| **TOTAL (2020-21)** | | **6.27** | **15.50** | **62740** | | **219590** | **131754** | | **15** | **395262** | |
| **Grand Total** | | **13.66** | **33.76** | **136640** | | **478240** | **286944** | | **33** | **738612** | |

Five ponds in other villages having a total area of **62740 m2**, were taken up during 2020-21 (after March, 2020) and recharge measures were adopted at these ponds through deepening and construction of suitably designed 15 recharge shafts. The expected annual recharge through these ponds will be **3,95,262 m3/year** (Table-20).

***Remaining 7 (seven) ponds selected for the purpose were filled up with water so the development work and construction of recharge measures could not be taken up in these ponds. It is proposed to complete this work later.***

The total ground water recharge measures adopted by Radico Khaitan Limited till date is therefore **27,96,287 m3/year which is 295% of the annual withdrawal of ground water by the industry (Table 20).**

**FIG 42**


LOCATION OF ADOPTED PONDS IN THE STUDY AREA AROUND RADICO KHAITAN LIMITED, DISTRICT RAMPUR, UTTAR PRADESH
SCALE
0 2 4 6 8 km
79.00
79.04
79.08
79.12
28.84
28.80
28.76
28.72
28.68
Koela
Koeli
Bans Nagli
Indri
Indra
Bhamraua
Hitachi Land PZ
Chamaraua
Ajeetpur PZ
Dabka
Aghapur
Naugawan 2
Raipur 1
Raipur 2
Madhaiya Ballu
Rami Madhaiya
Milak Chikna 1
Milak Chikna 4
Madhauli 1
Madhauli 2
Chitti Ramnagar 1
Chitti Ramnagar 2
Nasrat nagar 1 & 2
Hajinagar
Kakraua 1
Daniyapur
Jasmoli
Shankerpur
Megha Nagla 1
Ladaura 1
Beesri
Bhandpura 2
Bhandpura 1
Mahmoodpur
Megha Nagla 2 Ahmadaba
Deenpur
Rajarampur
Hariyal
Khajuriya
Kairakh 1
Legend
LOCATION OF ADOPTED PONDS
STUDY AREA
Settlement
ROAD
RAIL

# 9. IMPACT OF GROUND WATER EXTRACTION AND GROUND WATER RECHARGE ON GROUND WATER REGIME

## 9.1. Spatial and Temporal Variations in Water Level

In the earlier chapters general hydrogeological features of the study area around industry premises and in the buffer zone around the industry have been studied. It has been observed that, ground water level around the distillery in the study area varies from about 3 mbgl to 7 mbgl in general. Maximum area shows ground water levels ranging from 4 to 6 mbgl. Areas showing water levels more than 6 mbgl are observed in patches in northern parts of the study area around Koela and eastern parts around Bhont and Chamraua. Another patch is observed in the southern parts around Madhaiya.

During pre as well as post monsoon period of 2019, ground water flows from north to south in the eastern parts of industry, whereas it flows towards west and southwest towards Kosi river, in the western side of industry. During premonsoon period, 2019, water table elevation varies from 187 to 177 mamsl (metres above mean sea level). The ground water gradient varies from 1.4 m/km in the northern parts to 0.25 to 0.50 m/km in the southern parts.

During postmonsoon period 2019, the water table elevation varies from 189 to 178 mamsl. In the northwestern part of the study area flow is from Khound in the east to west towards Kosi river. In the northeastern parts of study area, ground water flows from Khound towards Dabka and Shahjadnagar, where gradient is about 1.5 m/km. Lowest ground water elevation is 178 mamsl recorded at Beesri in the southwestern part of the study area.

For studying the impact of ground water abstraction and ground water recharge by Radico Khaitan Limited the historical data collected from GWMS of State Ground Water Department located in Chamraua block (and one in Bilaspur block) have been considered. The water levels collected from piezometer of Radico Khaitan Ltd has also been analysed to assess the impacts of ground water recharge measures by the industry.

**The impacts of ground water withdrawal and ground water regime has been further analysed in subsequent chapters, based on the long term water level trends for premonsoon and post monsoon period separately for period prior to issuance of NOC and also for period after the issuance of NOC**.

## 9.2. Impact of Ground Water Extraction and Ground Water Recharge on Ground Water Regime within the premises

The piezometers constructed within the premises were constructed after issuance of NOC hence the GWMS of State GWD at Ajitpur, which is located adjacent to lagoon of distillery, was considered for studying ground water scenario prior to issuance of NOC.

### *9.2.1. Historical Water Level Data analysis*

The long term water trends at Ajitpur from **2008 to 2019** show a declining trend of 0.124 m/year (12.4 cm/year) (Table 21). The observed decline in water levels was not significant, as it was less than 20 cm/year.

**Table 21 LONG TERM WATER LEVEL TRENDS AT GWMS IN PREMISES OF RADICO KHAITAN LTD, RAMPUR DISTRICT**

| BLOCK | GROUND WATER MONITORING STATIONS | HISTORICAL WATER LEVEL TRENDS (m/year) | |
|---|---|---|---|
| | | RISE | FALL |
| CHAMRAUA | AJITPUR | | 0.124 |

### *9.2.2. Analysis of water level trends prior to issuance of NOC*

The time series data for Ajitpur GWMS has been classified for pre NOC issuance period and post NOC issuance period and the long term trends have been analysed. The hydrographs are shown in Fig- 43 & 44. The water level trends prior to issuance of NOC for the period 2008 – 2016 have been estimated and a declining trend of 0.202 m/year (20.2 cm/year) was observed, which is significant.

FIG 43

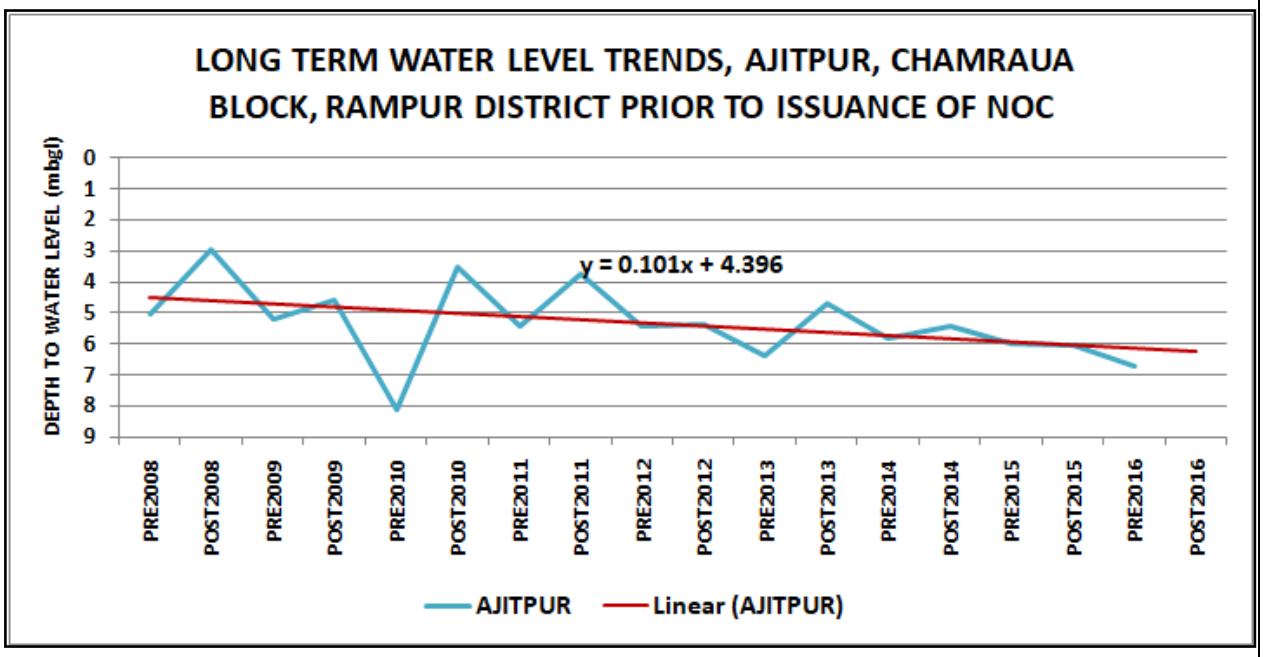
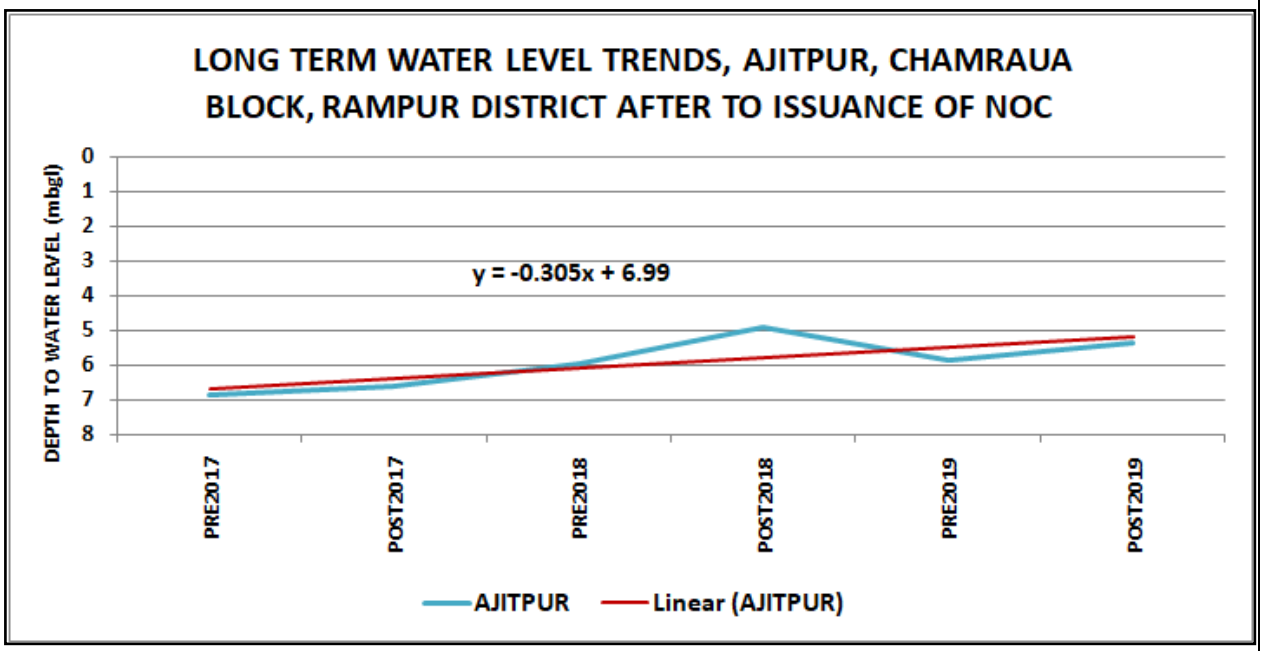

LONG TERM WATER LEVEL TRENDS, AJITPUR, CHAMRAUA BLOCK, RAMPUR DISTRICT PRIOR TO ISSUANCE OF NOC
DEPTH TO WATER LEVEL (mbgl)
0
1
2
3
4
5
6
7
8
9
y = 0.101x + 4.396
PRE2008
POST2008
PRE2009
POST2009
PRE2010
POST2010
PRE2011
POST2011
PRE2012
POST2012
PRE2013
POST2013
PRE2014
POST2014
PRE2015
POST2015
PRE2016
POST2016
AJITPUR
Linear (AJITPUR)

FIG 44


LONG TERM WATER LEVEL TRENDS, AJITPUR, CHAMRAUA BLOCK, RAMPUR DISTRICT AFTER TO ISSUANCE OF NOC
DEPTH TO WATER LEVEL (mbgl)
0
1
2
3
4
5
6
7
8
y = -0.305x + 6.99
PRE2017
POST2017
PRE2018
POST2018
PRE2019
POST2019
AJITPUR
Linear (AJITPUR)

### *9.2.3. Analysis of water level trends after the issuance of NOC*

The water level trends at Ajitpur GWMS for the period of 2017 – 2019 (after issuance of NOC and compliance by industry) show a **rising trend of 0.61 m/year (61 cm/year)**. The data for 2020 was not available for Ajitpur station.

**The piezometers** constructed **by industry, at Ajitpur and Hitachi land (both within the premises) during 2017 also show a rising trend of 0.548 m/year (54.8 cm/year) and 0.365 m/year (36.5 cm/year) respectively, as shown in Table 8 and Fig 18 & 19 in the earlier chapter.** These observations show a lot of improvement in the ground water scenario of the area.

The trends for period 2017-2021 were again estimated in the present report and shown in Table 8. The rising trend is observed at all the six piezometers ranging from 0.037 m/year (Deenpur) to 0.365 m/year (Hitachi Land). There is a slight decrease in rate of ground water rise during 2017-2021 period.

### *9.2.4. Inferences*

The trends clearly indicate that **ground water regime which was showing deteriorating tendency since 2008, has improved after the recharge measures adopted by Radico Khaitan Ltd** within the premises.

- The water level trends at Ajitpur GWMS prior to issuance of NOC for the period 2008 – 2016 have shown a declining trend of 0.202 m/year (20.2 cm/year). Whereas, for the period of 2017 – 2019 (after issuance of NOC and compliance by industry) this station shows a **rising trend of 0.61 m/year (61 cm/year)**.
- **The piezometers constructed by industry, at Ajitpur and Hitachi land (both within the premises) also show a rising trend of 0.548 m/year (54.8 cm/year) and 0.365 m/year (36.5 cm/year) respectively since 2017.**
- Ground water levels measured at these monitoring stations vary from 4.30 to 6.91 mbgl. The historical data of Ajitpur GWMS also shows water levels within 7.0 mbgl. The maximum water level of 8.10 mbgl, as shown in Annexure IV, was recorded during premonsoon period of 2010. Frequency Distribution of monitoring stations showing rise/ fall in water level trends is shown in Table 22.

| Table 22 Frequency Distribution of monitoring stations showing rise/ fall in water level trends | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| BLOCK | NO OF STATIONS SHOWING RISE/FALL IN HISTORICAL WATER LEVEL TRENDS | | | | NO OF STATIONS SHOWING RISE/FALL IN WATER LEVEL TRENDS PRIOR TO ISSUANCE OF NOC | | | | NO OF STATIONS SHOWING RISE/FALL IN WATER LEVEL TRENDS AFTER TO ISSUANCE OF NOC | | | |
| | Pre monsoon | | Post monsoon | | Pre monsoon | | Post monsoon | | Pre monsoon | | Post monsoon | |
| | RISE | FALL | RISE | FALL | RISE | FALL | RISE | FALL | RISE | FALL | RISE | FALL |
| BILASPUR | 1 | - | 1 | - | 1 | - | - | 1 | 1 | - | 1 | - |
| CHAMRAUA | 2 | 6 | 1 | 7 | 3 | 5 | 1 | 7 | 5 | 3 | 8 | - |

## 9.3. Impact of Ground Water Extraction on the Ground Water Regime in the Buffer Zone

Ground water levels, it's spatial and temporal variation, are main indicator of ground water regime condition in any area. To study the impacts of ground water extraction and ground water recharge measures, adopted by Radico Khaitan Ltd, on ground water regime in buffer zone around the industry, the historical water level data collected from six piezometers constructed by the industry and ten GWMS of State GWD located in the study areas were considered.

### *9.3.1. Historical Water Level data analysis*

The water level data has been collected from six piezometers through DWLR and telemetry system, since issuance of NOC for ground water abstraction in 2017.

The annual water level trends observed at piezometer of Radico Khaitan Ltd are shown in Table-23. The data indicates that ground water levels at **all the six piezometers are showing rising trends ranging from 0.365 m/year at Hitachi Land to 0.620 m/year as observed at Madhaiya piezometer** (Table 23). Falling trend is not observed at any piezometer in the premises or in the buffer zone. The hydrographs of all the piezometers are shown in Fig 18 to 23 in earlier chapter.

**Table 23 LONG TERM WATER LEVEL TRENDS (2017-2020) AROUND THE DISTILLERY**

| PIEZOMETERS OF RADICO KHAITAN LIMITED | DATA AVAILBLE FOR | LONG TERM WATER LEVEL TRENDS (m/year) | |
|---|---|---|---|
| | | RISE | FALL |
| AJEETPUR | MAY'2017 –Sep'2021 | 0.256 | - |
| HITACHI LAND | MAY'2017– Sep'2021 | 0.365 | - |
| DEENPUR | OCT'2017 – Sep'2021 | 0.037 | - |
| HARIYAL | OCT'2017 – Sep'2021 | 0.110 | - |
| MADHAIYA | OCT'2017 – Sep'2021 | 0.073 | - |
| MILAK CHIKNA | JUN'2019– Sep'2021 | 0.329 | - |

**Table 24 LONG TERM WATER LEVEL TRENDS (2008 -2019 & 2008-2020) AT GWMS IN BUFFER ZONE AROUND RADICO KHAITAN LTD, RAMPUR DISTRICT**

| BLOCK | GROUND WATER MONITORING STATIONS | HISTORICAL WATER LEVEL TRENDS (m/year) | | | |
|---|---|---|---|---|---|
| | | 2008-2019 | | 2008-2020 | |
| | | RISE | FALL | RISE | FALL |
| BILASPUR | BILASPUR | 0.186 | - | 0.216 | - |
| CHAMRAUA | AJITPUR | | 0.124 | | 0.124 |
| CHAMRAUA | BHONT | | 0.172 | | 0.156 |
| CHAMRAUA | CHAMRAUA | | 0.250 | | 0.234 |
| CHAMRAUA | KOYLA | | 0.094 | | 0.088 |
| CHAMRAUA | DALPURA | | 0.014 | | 0.014 |
| CHAMRAUA | MADHAIYA UDAIRAJ | | 0.232 | | 0.196 |
| CHAMRAUA | PUNJAB NAGAR | 0.028 | | 0.024 | |
| CHAMRAUA | SAIDNAGAR LADAURI | | 0.068 | | 0.058 |
| CHAMRAUA | SHAHJAD NAGAR | | 0.228 | | 0.228 |

Historical water level data for Ten GWMS of State Ground Water Department, for last 10 to 12 years, was also analysed for studying water level trends in the buffer zone since 2008 and analysis has been shown in Table- 24.

- It is observed that out of ten stations analysed, two stations at Bilaspur (Bilaspur block) and Panjabnagar (Chamraua block) show a rise in water level trends for the last 10 to 11 years.
- All the remaining eight GWMS show a long term declining trend of ground water level trends, ranging from 0.014 m/year (at Dalpura) to 0.234 m/year at Chamraua. The hydrographs are shown in Fig 23 to 32.

Thus it is observed that historical ground water levels indicate a long term falling trend in the buffer zone prior to interventions for ground water recharge and rain water harvesting by Radico Khaitan Limited, whereas piezometers that have been constructed by Radico Khaitan Ltd in the buffer zone during or after 2017 (after issuance of NOC and compliance to directives), show a rise at all the stations.

### *9.3.2. Comparison of Post monsoon water level map in the study area for 2016 and 2019*

Depth to water level during post monsoon period of 2016 and post monsoon period of 2019 has also been compared for the study area. The maps are shown in **Annexure –VI.** Maximum area during 2016 post monsoon period falls under water level range of 5 to 6 mbgl as seen in the map. However, during post monsoon period of 2019 maximum area falls under depth range of 4.5 to 5.5 mbgl. This indicates improvement in ground water level scenario in the study area, which is likely a result of ground water recharge measures adopted by the industry.

### *9.3.3. ANALYSIS OF WATER LEVEL TRENDS PRIOR TO ISSUANCE OF NOC*

In order to assess the ground water scenario and trends prior to issuance of NOC to industry and adoption of recharge measures, the historical water level data has been analysed separately for periods prior and after the issuance of NOC. Table 25 shows the summary of water level trends prior and after the issuance of NOC (and interventions by industry). Hydrographs are shown in Fig- 45 to 53.

It is indicated from the table-25 that during period prior to issuance of NOC, **2008 to 2016**, two GWMS at Dalpura and Panjabnagar are showing rising trends of water levels, rest eight GWMS are showing declining trends of water levels. For Chamraua GWMS water level data was available only upto 2016, after which the station was abandoned.

This indicates that **ground water level situation since 2008 was showing a declining trend in upto 2016**. The result of this declining trend has resulted in categorization of Chamraua block as Over Exploited.

**Table 25 LONG TERM WATER LEVEL TRENDS IN BUFFER ZONE AROUND RADICO KHAITAN LTD, RAMPUR DISTRICT (2008-2016)**

| BLOCK | GROUND WATER MONITORING STATIONS | WATER LEVEL TRENDS PRIOR TO ISSUANCE OF NOC (m/year) | |
|---|---|---|---|
| | | RISE | FALL |
| BILASPUR | BILASPUR | - | 0.018 |
| CHAMRAUA | AJITPUR | - | 0.202 |
| CHAMRAUA | BHONT | - | 0.204 |
| CHAMRAUA | CHAMRAUA | - | 0.250 |
| CHAMRAUA | KOYLA | - | 0.114 |

**Table 25 LONG TERM WATER LEVEL TRENDS IN BUFFER ZONE AROUND RADICO KHAITAN LTD, RAMPUR DISTRICT (2008-2016)**

| BLOCK | GROUND WATER MONITORING STATIONS | WATER LEVEL TRENDS PRIOR TO ISSUANCE OF NOC (m/year) | |
|---|---|---|---|
| | | RISE | FALL |
| CHAMRAUA | DALPURA | 0.020 | - |
| CHAMRAUA | MADHAIYA UDAIRAJ | - | 0.208 |
| CHAMRAUA | PUNJAB NAGAR | 0.060 | - |
| CHAMRAUA | SAIDNAGAR LADAURI | - | 0.088 |
| CHAMRAUA | SHAHJAD NAGAR | - | 0.226 |

**FIG 45**

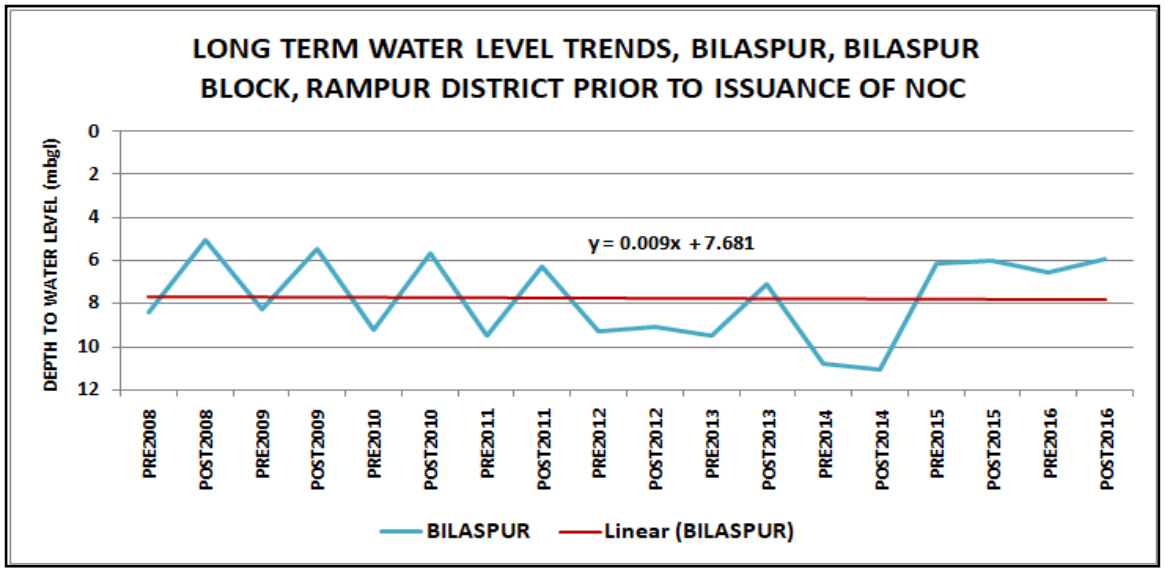


**FIG 46**

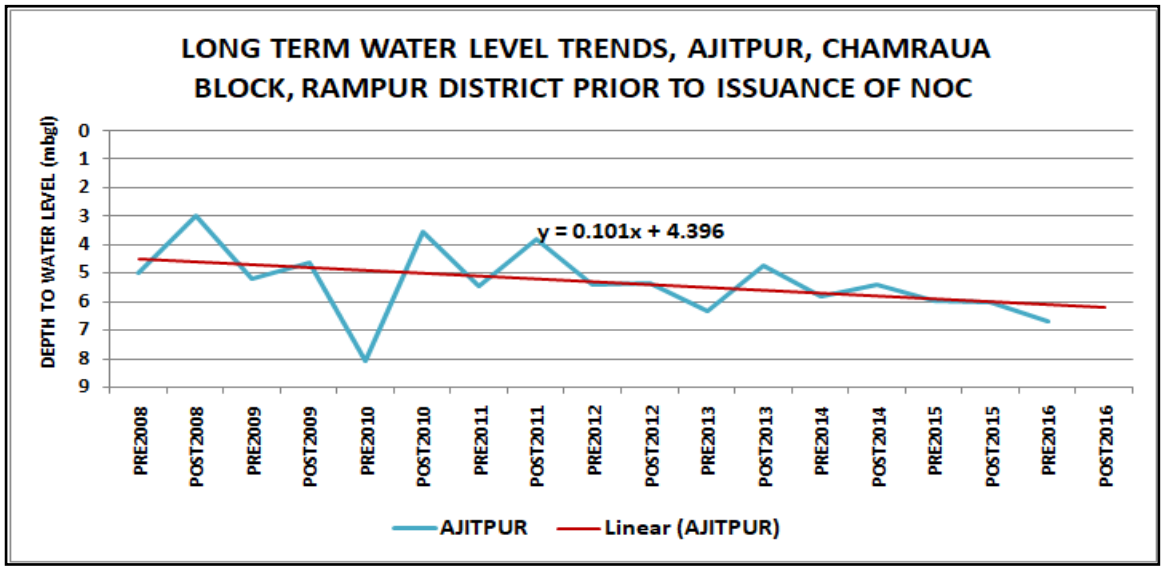

LONG TERM WATER LEVEL TRENDS, AJITPUR, CHAMRAUA BLOCK, RAMPUR DISTRICT PRIOR TO ISSUANCE OF NOC
DEPTH TO WATER LEVEL (mbgl)
0
1
2
3
4
5
6
7
8
9
y = 0.101x + 4.396
PRE2008
POST2008
PRE2009
POST2009
PRE2010
POST2010
PRE2011
POST2011
PRE2012
POST2012
PRE2013
POST2013
PRE2014
POST2014
PRE2015
POST2015
PRE2016
POST2016
AJITPUR
Linear (AJITPUR)

**FIG 47**

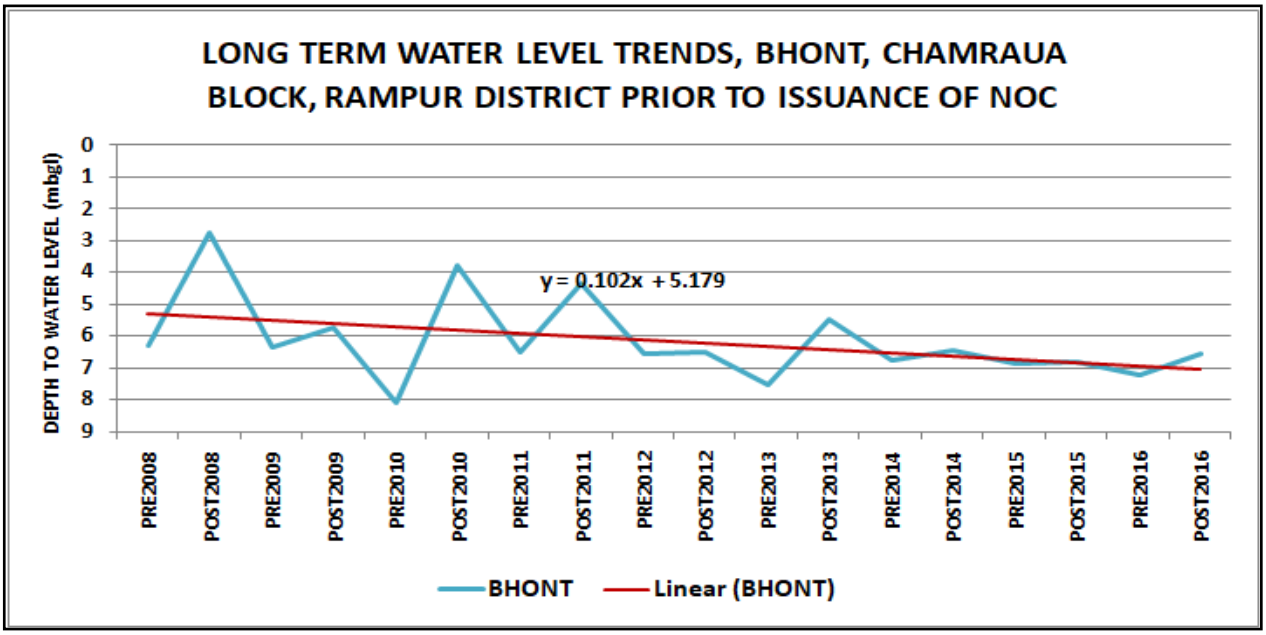

LONG TERM WATER LEVEL TRENDS, BHONT, CHAMRAUA BLOCK, RAMPUR DISTRICT PRIOR TO ISSUANCE OF NOC
DEPTH TO WATER LEVEL (mbgl)
0
1
2
3
4
5
6
7
8
9
y = 0.102x + 5.179
PRE2008
POST2008
PRE2009
POST2009
PRE2010
POST2010
PRE2011
POST2011
PRE2012
POST2012
PRE2013
POST2013
PRE2014
POST2014
PRE2015
POST2015
PRE2016
POST2016
BHONT
Linear (BHONT)

FIG 48

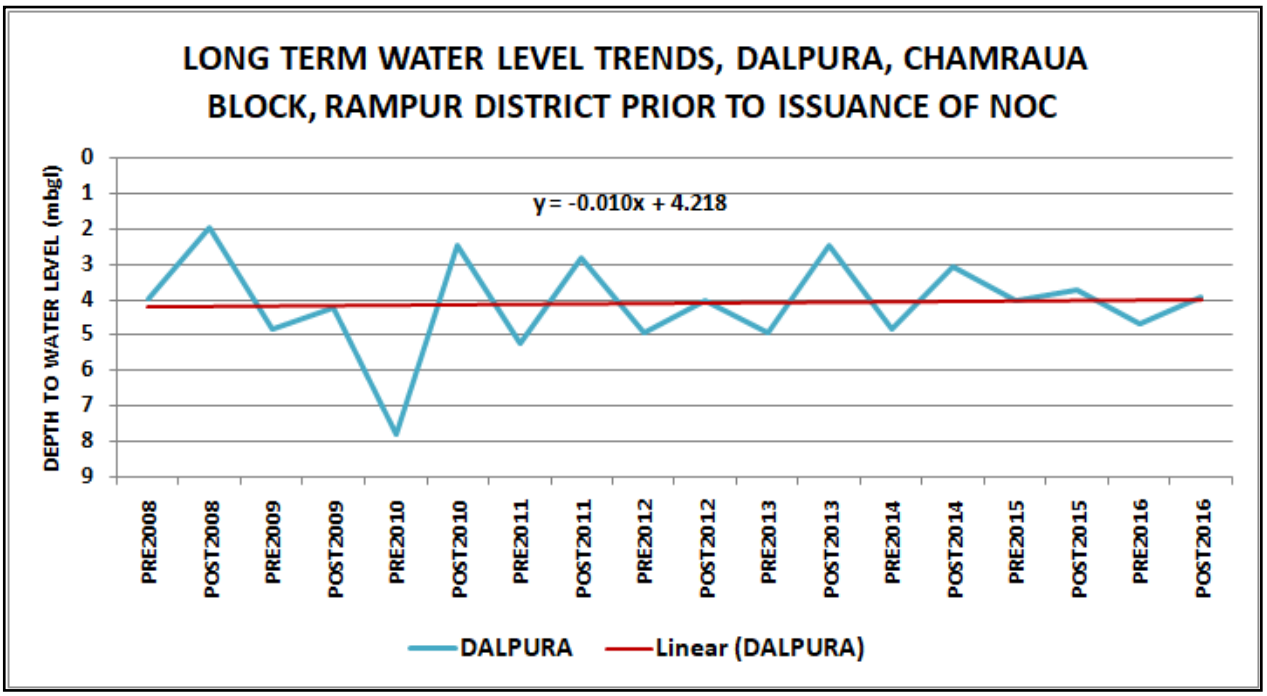

LONG TERM WATER LEVEL TRENDS, DALPURA, CHAMRAUA BLOCK, RAMPUR DISTRICT PRIOR TO ISSUANCE OF NOC
DEPTH TO WATER LEVEL (mbgl)
y = -0.010x + 4.218
0
1
2
3
4
5
6
7
8
9
PRE2008
POST2008
PRE2009
POST2009
PRE2010
POST2010
PRE2011
POST2011
PRE2012
POST2012
PRE2013
POST2013
PRE2014
POST2014
PRE2015
POST2015
PRE2016
POST2016
DALPURA
Linear (DALPURA)

FIG 49

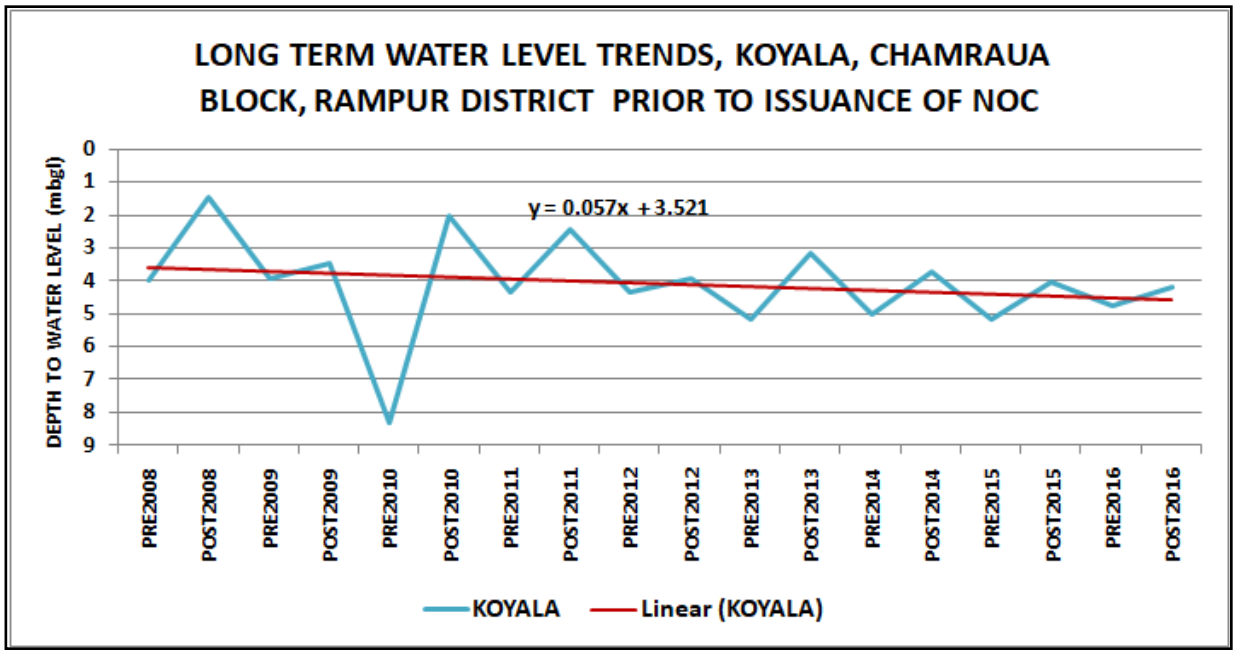

LONG TERM WATER LEVEL TRENDS, KOYALA, CHAMRAUA BLOCK, RAMPUR DISTRICT PRIOR TO ISSUANCE OF NOC
DEPTH TO WATER LEVEL (mbgl)
y = 0.057x + 3.521
0
1
2
3
4
5
6
7
8
9
PRE2008
POST2008
PRE2009
POST2009
PRE2010
POST2010
PRE2011
POST2011
PRE2012
POST2012
PRE2013
POST2013
PRE2014
POST2014
PRE2015
POST2015
PRE2016
POST2016
KOYALA
Linear (KOYALA)

**FIG 50**

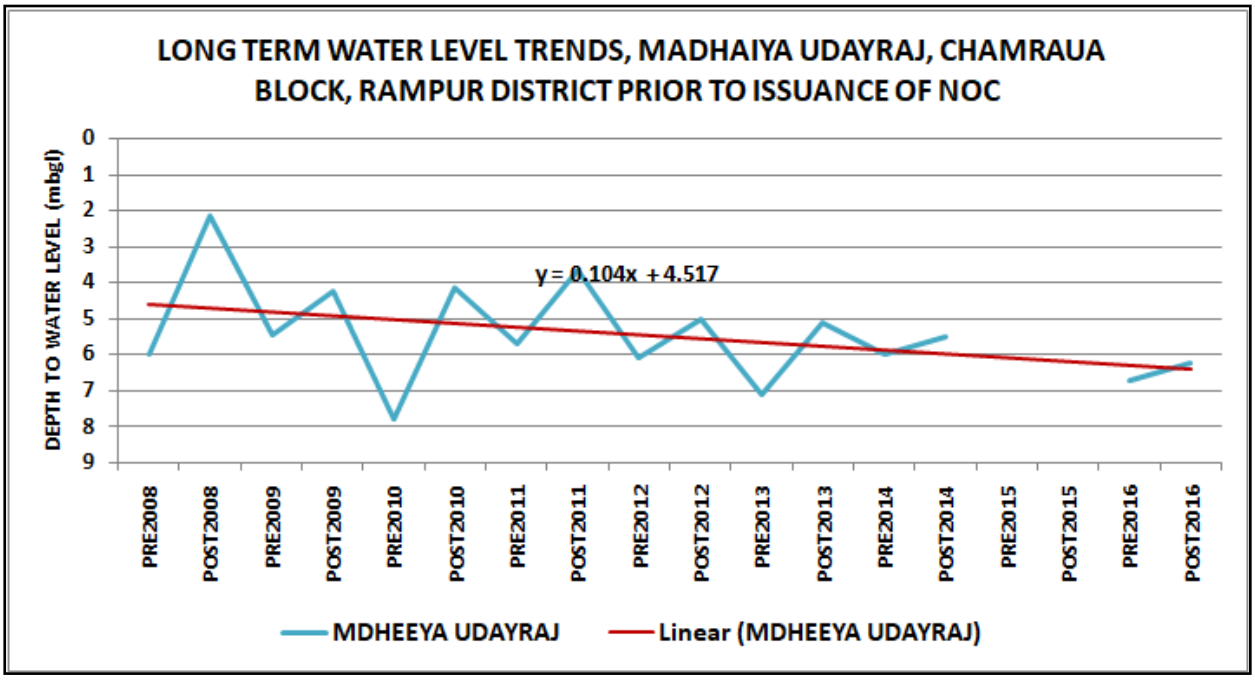

LONG TERM WATER LEVEL TRENDS, MADHAIYA UDAYRAJ, CHAMRAUA BLOCK, RAMPUR DISTRICT PRIOR TO ISSUANCE OF NOC
DEPTH TO WATER LEVEL (mbgl)
0
1
2
3
4
5
6
7
8
9
y = 0.104x + 4.517
PRE2008
POST2008
PRE2009
POST2009
PRE2010
POST2010
PRE2011
POST2011
PRE2012
POST2012
PRE2013
POST2013
PRE2014
POST2014
PRE2015
POST2015
PRE2016
POST2016
MDHEEYA UDAYRAJ
Linear (MDHEEYA UDAYRAJ)

**FIG 51**

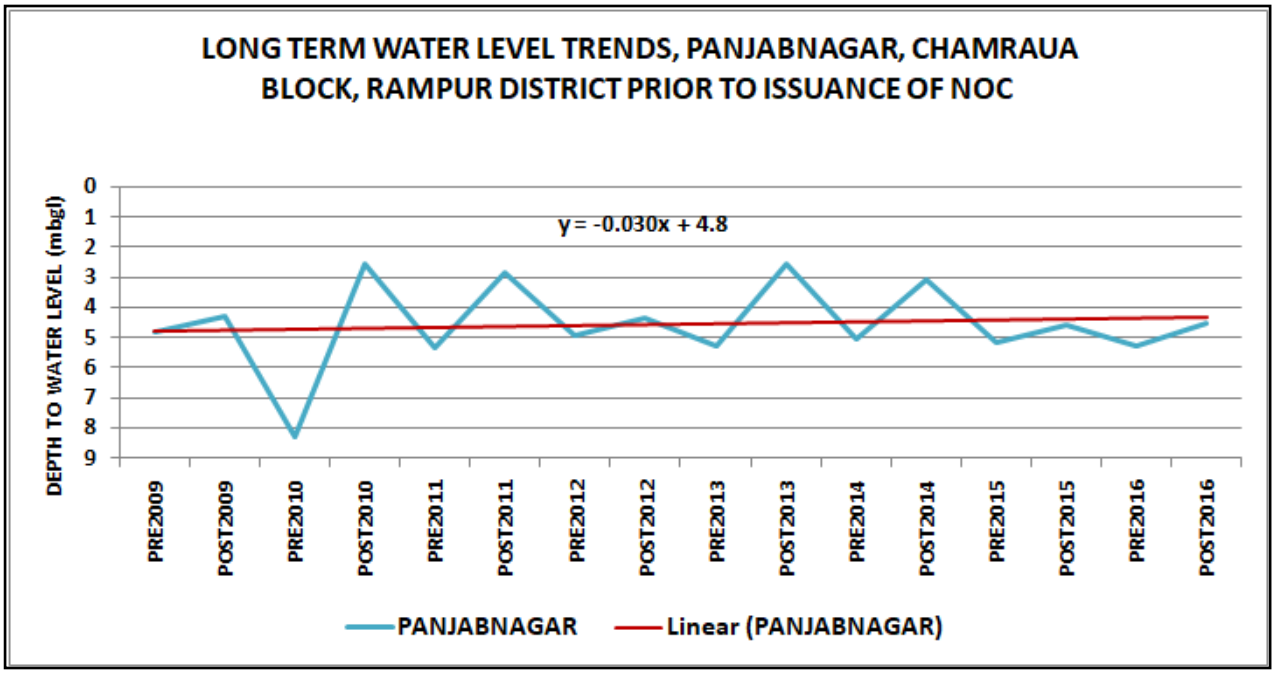

LONG TERM WATER LEVEL TRENDS, PANJABNAGAR, CHAMRAUA BLOCK, RAMPUR DISTRICT PRIOR TO ISSUANCE OF NOC
DEPTH TO WATER LEVEL (mbgl)
0
1
2
3
4
5
6
7
8
9
y = -0.030x + 4.8
PRE2009
POST2009
PRE2010
POST2010
PRE2011
POST2011
PRE2012
POST2012
PRE2013
POST2013
PRE2014
POST2014
PRE2015
POST2015
PRE2016
POST2016
PANJABNAGAR
Linear (PANJABNAGAR)

FIG 52

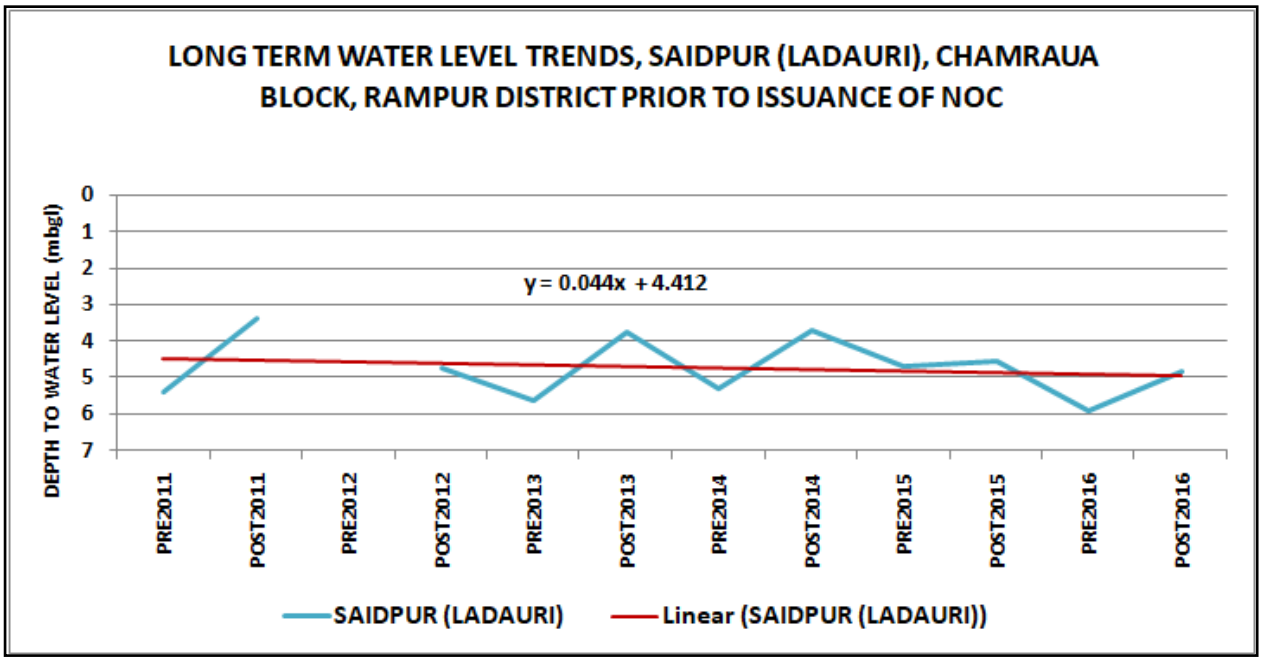
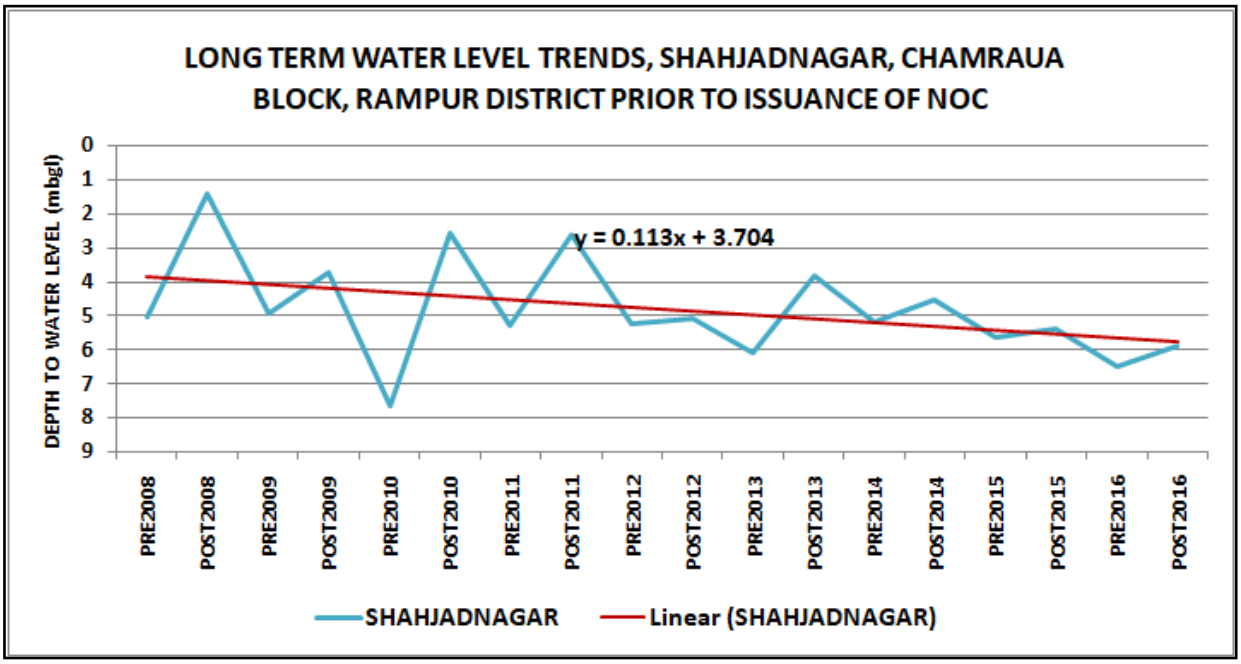

LONG TERM WATER LEVEL TRENDS, SAIDPUR (LADAURI), CHAMRAUA BLOCK, RAMPUR DISTRICT PRIOR TO ISSUANCE OF NOC
DEPTH TO WATER LEVEL (mbgl)
0
1
2
3
4
5
6
7
y = 0.044x + 4.412
PRE2011
POST2011
PRE2012
POST2012
PRE2013
POST2013
PRE2014
POST2014
PRE2015
POST2015
PRE2016
POST2016
SAIDPUR (LADAURI)
Linear (SAIDPUR (LADAURI))

FIG 53


LONG TERM WATER LEVEL TRENDS, SHAHJADNAGAR, CHAMRAUA BLOCK, RAMPUR DISTRICT PRIOR TO ISSUANCE OF NOC
DEPTH TO WATER LEVEL (mbgl)
0
1
2
3
4
5
6
7
8
9
y = 0.113x + 3.704
PRE2008
POST2008
PRE2009
POST2009
PRE2010
POST2010
PRE2011
POST2011
PRE2012
POST2012
PRE2013
POST2013
PRE2014
POST2014
PRE2015
POST2015
PRE2016
POST2016
SHAHJADNAGAR
Linear (SHAHJADNAGAR)

### *9.3.4. ANALYSIS OF WATER LEVEL TRENDS AFTER THE ISSUANCE OF NOC*

For assessing the ground water scenario and trends after the issuance of NOC to industry and adoption of recharge measures, the historical water level data since 2017, has been analysed. Table 26 shows the summary of water level trends after the issuance of NOC (and interventions by industry). Hydrographs are shown in Fig- 54 to 62.

Table-26 showing water level trends since 2017 indicate that **all the GWMS (except Chamraua station, for which water level data since 2017 is not available) are showing rising water level trends**. Rising water level trends are ranging from 0.162 m/year (16 cm/year) at Bhont GWMS which is located in northeastern part of study area to 0.734 m/year at Madhaiya GWMS which is located in the southeastern parts of the study area.

As already discussed earlier the annual water level trends observed at all the piezometers of Radico Khaitan Ltd are **showing rising trends ranging from 0.365 m/year (36.5 cm/year) at Hitachi Land to 0.620 m/year (62 cm/year) as observed at Madhaiya piezometer**.

**Table 26 WATER LEVEL TRENDS AFTER ISSUANCE OF NOC IN BUFFER ZONE AROUND RADICO KHAITAN LTD, RAMPUR DISTRICT**

| BLOCK | GROUND WATER MONITORING STATIONS | WATER LEVEL TRENDS AFTER ISSUANCE OF NOC (m/year) | | | | REMARKS (Change in trend value with respect to 2008-2019 period) |
|---|---|---|---|---|---|---|
| | | 2017-2019 | | 2017-2020 | | |
| | | RISE | FALL | RISE | FALL | |
| BILASPUR | BILASPUR | 0.904 | - | 0.556 | - | Slight reduction in rate of rising trends |
| CHAMRAUA | AJITPUR | 0.610 | - | 0.610 | - | No change |
| CHAMRAUA | BHONT | 0.260 | - | 0.162 | - | Slight reduction in rate of rising trends |
| CHAMRAUA | CHAMRAUA | - | - | | - | - |
| CHAMRAUA | KOYLA | 0.296 | - | 0.128 | - | Slight reduction in rate of rising trends |
| CHAMRAUA | DALPURA | 0.490 | - | 0.490 | - | No change |
| CHAMRAUA | MADHAIYA UDAIRAJ | 1.188 | - | 0.734 | - | Slight reduction in rate of rising trends |
| CHAMRAUA | PUNJAB NAGAR | 0.538 | - | 0.270 | - | Slight reduction in rate of rising trends |
| CHAMRAUA | SAIDNAGAR LADAURI | 0.616 | - | 0.302 | - | Slight reduction in rate of rising trends |
| CHAMRAUA | SHAHJAD NAGAR | 0.452 | - | 0.452 | - | No change |

FIG 54

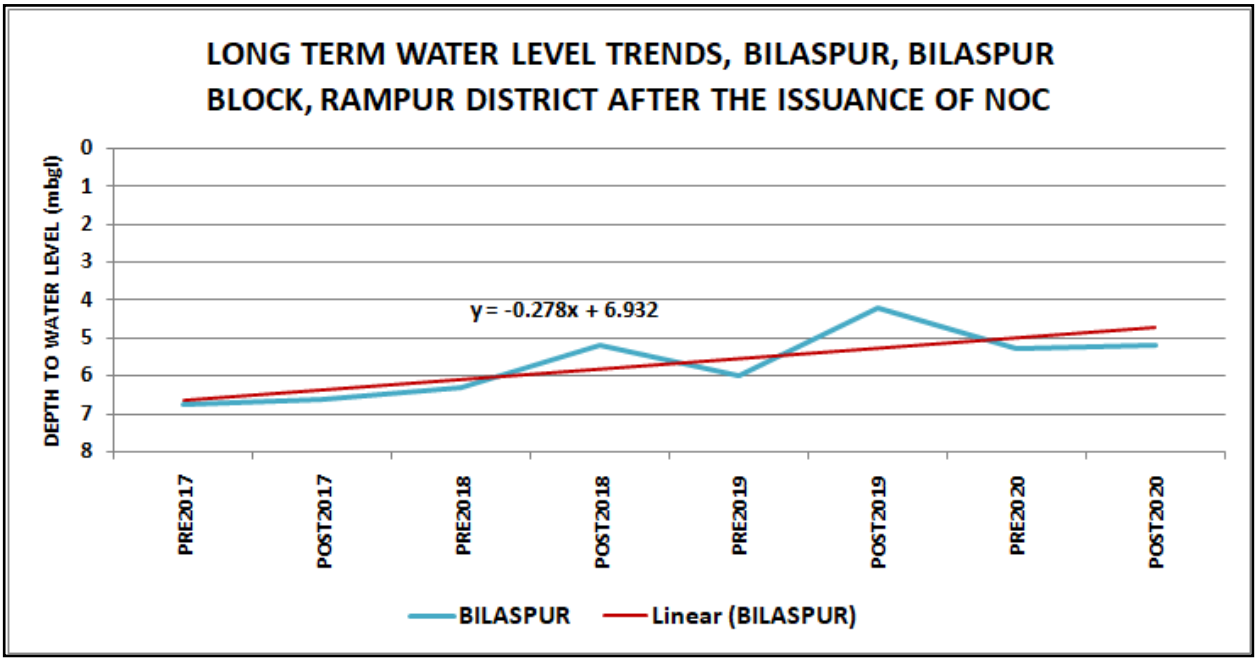

LONG TERM WATER LEVEL TRENDS, BILASPUR, BILASPUR BLOCK, RAMPUR DISTRICT AFTER THE ISSUANCE OF NOC
DEPTH TO WATER LEVEL (mbgl)
0
1
2
3
4
5
6
7
8
y = -0.278x + 6.932
PRE2017
POST2017
PRE2018
POST2018
PRE2019
POST2019
PRE2020
POST2020
BILASPUR
Linear (BILASPUR)

FIG 55

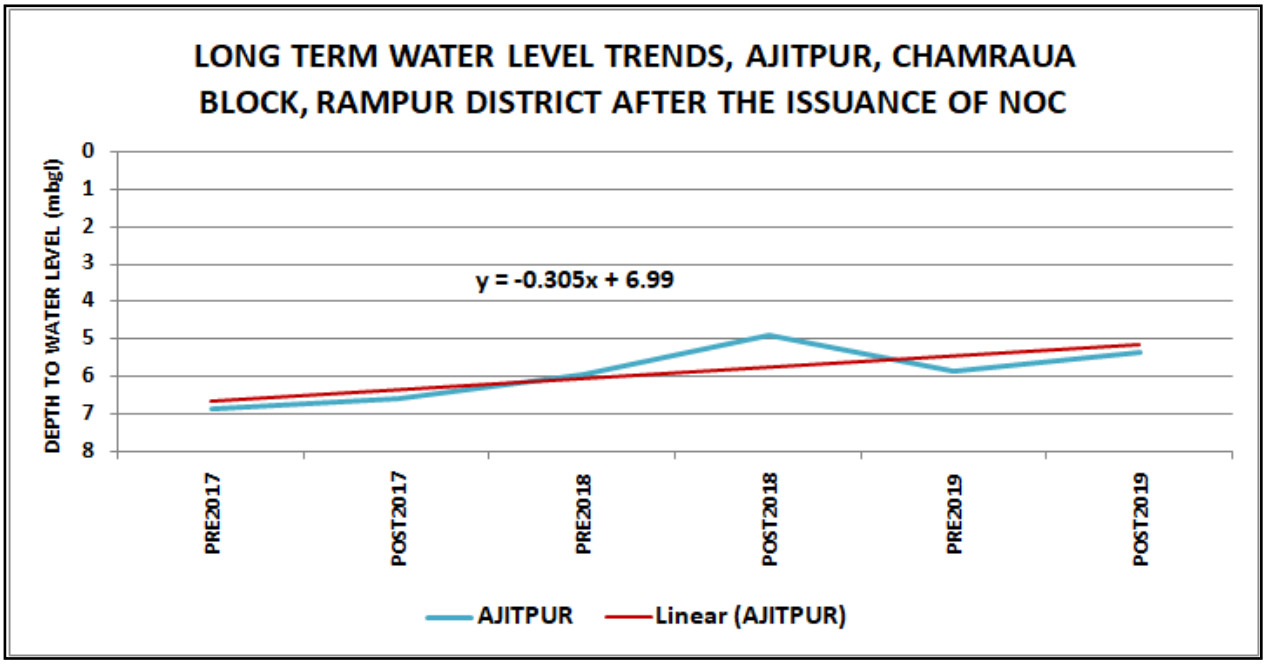

LONG TERM WATER LEVEL TRENDS, AJITPUR, CHAMRAUA BLOCK, RAMPUR DISTRICT AFTER THE ISSUANCE OF NOC
DEPTH TO WATER LEVEL (mbgl)
0
1
2
3
4
5
6
7
8
y = -0.305x + 6.99
PRE2017
POST2017
PRE2018
POST2018
PRE2019
POST2019
AJITPUR
Linear (AJITPUR)

FIG 56

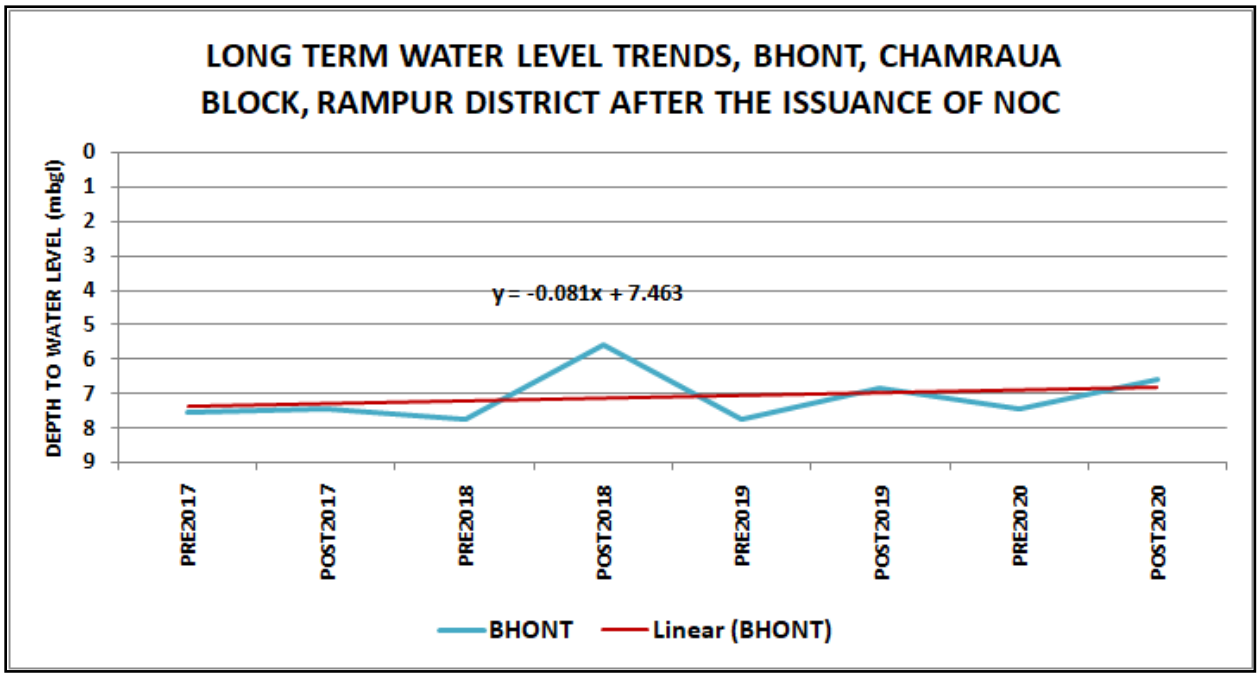

LONG TERM WATER LEVEL TRENDS, BHONT, CHAMRAUA BLOCK, RAMPUR DISTRICT AFTER THE ISSUANCE OF NOC
DEPTH TO WATER LEVEL (mbgl)
0
1
2
3
4
5
6
7
8
9
y = -0.081x + 7.463
PRE2017
POST2017
PRE2018
POST2018
PRE2019
POST2019
PRE2020
POST2020
BHONT
Linear (BHONT)

FIG 57

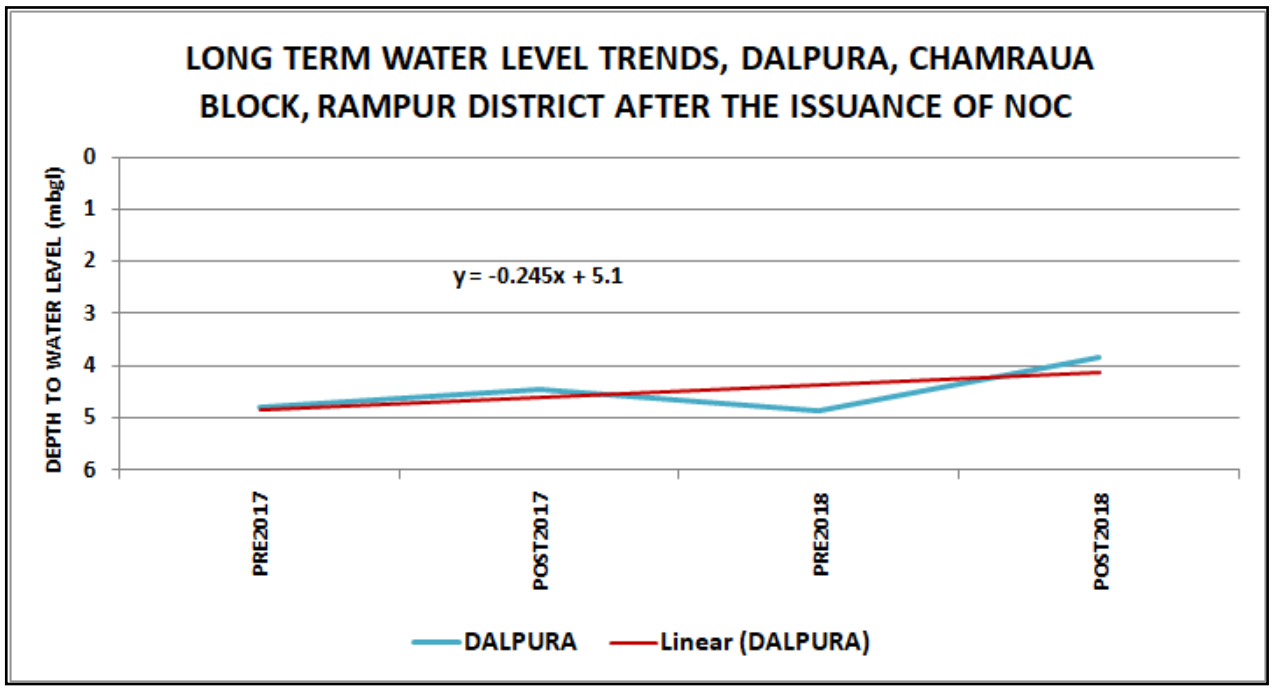

LONG TERM WATER LEVEL TRENDS, DALPURA, CHAMRAUA BLOCK, RAMPUR DISTRICT AFTER THE ISSUANCE OF NOC
DEPTH TO WATER LEVEL (mbgl)
0
1
2
3
4
5
6
y = -0.245x + 5.1
PRE2017
POST2017
PRE2018
POST2018
DALPURA
Linear (DALPURA)

FIG 58

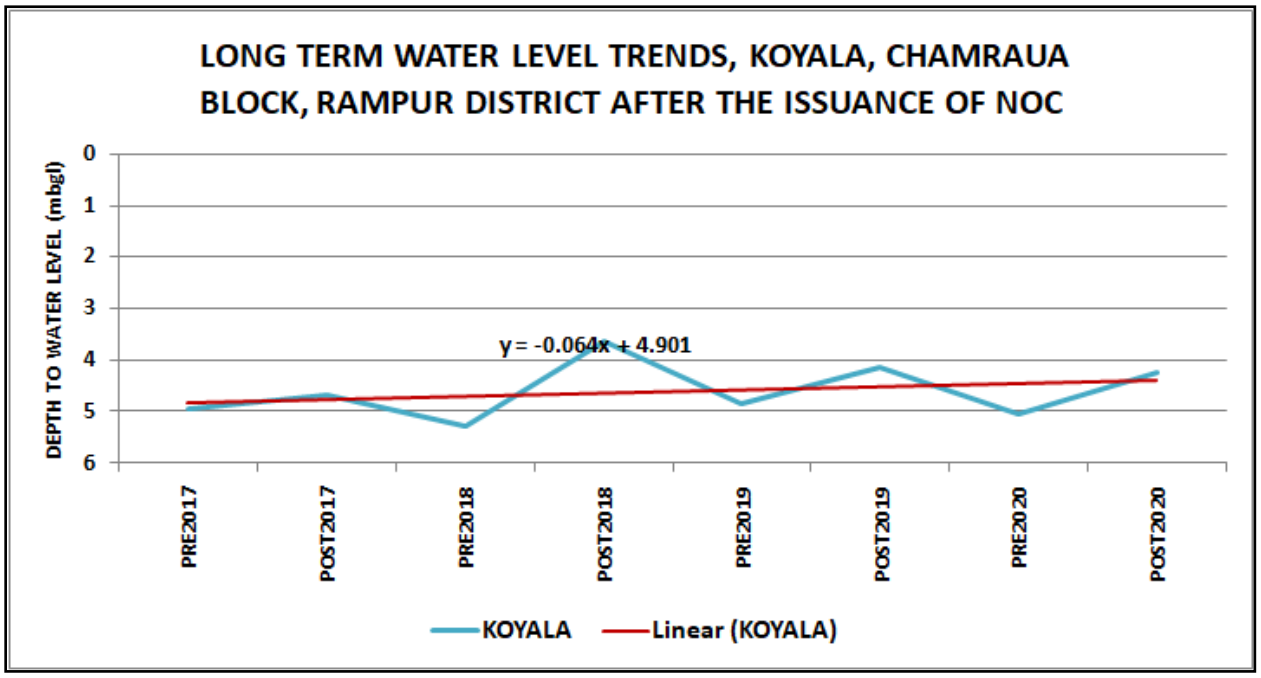

LONG TERM WATER LEVEL TRENDS, KOYALA, CHAMRAUA BLOCK, RAMPUR DISTRICT AFTER THE ISSUANCE OF NOC
DEPTH TO WATER LEVEL (mbgl)
0
1
2
3
4
5
6
y = -0.064x + 4.901
PRE2017
POST2017
PRE2018
POST2018
PRE2019
POST2019
PRE2020
POST2020
KOYALA
Linear (KOYALA)

FIG 59

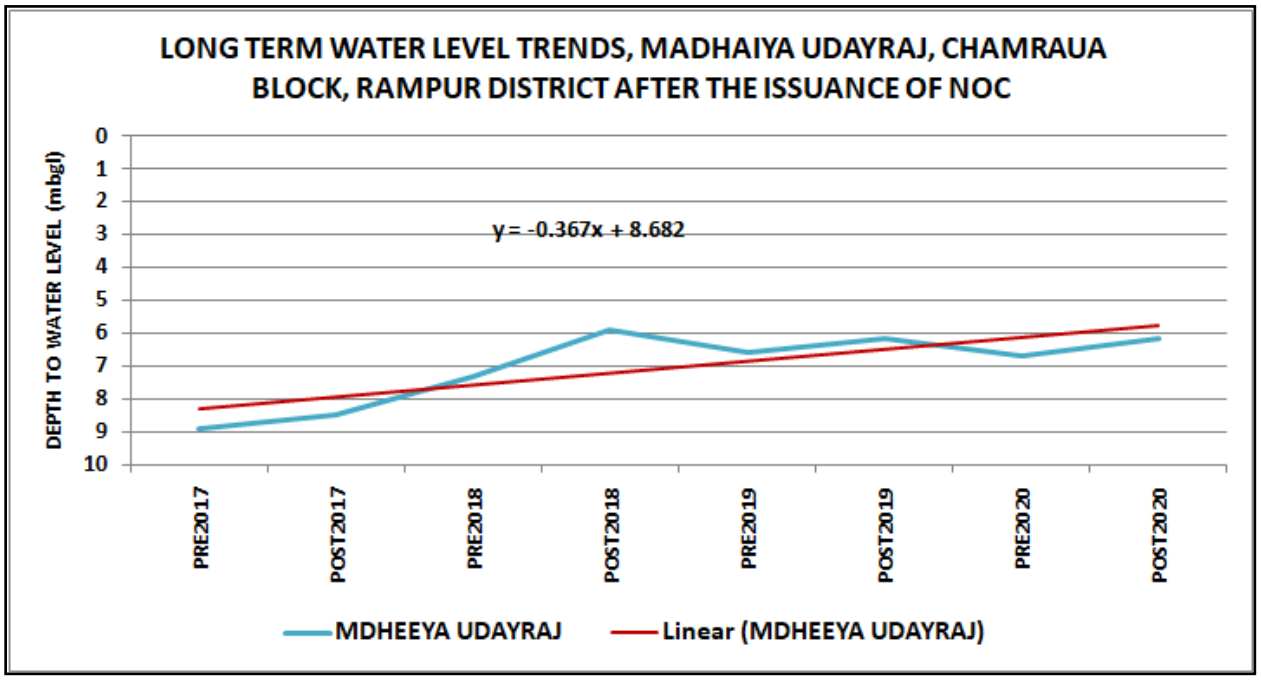

LONG TERM WATER LEVEL TRENDS, MADHAIYA UDAYRAJ, CHAMRAUA BLOCK, RAMPUR DISTRICT AFTER THE ISSUANCE OF NOC
DEPTH TO WATER LEVEL (mbgl)
0
1
2
3
4
5
6
7
8
9
10
y = -0.367x + 8.682
PRE2017
POST2017
PRE2018
POST2018
PRE2019
POST2019
PRE2020
POST2020
MDHEEYA UDAYRAJ
Linear (MDHEEYA UDAYRAJ)

**FIG 60**

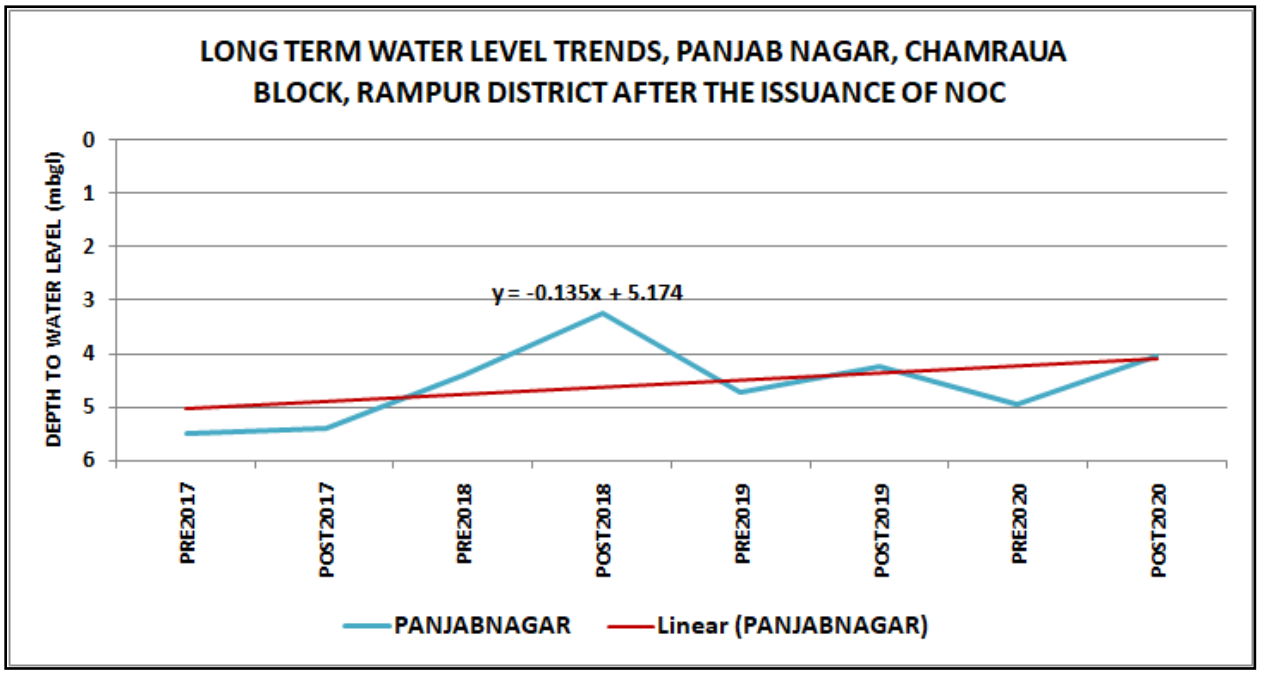

LONG TERM WATER LEVEL TRENDS, PANJAB NAGAR, CHAMRAUA BLOCK, RAMPUR DISTRICT AFTER THE ISSUANCE OF NOC
DEPTH TO WATER LEVEL (mbgl)
0
1
2
3
4
5
6
y = -0.135x + 5.174
PRE2017
POST2017
PRE2018
POST2018
PRE2019
POST2019
PRE2020
POST2020
PANJABNAGAR
Linear (PANJABNAGAR)

**FIG 61**

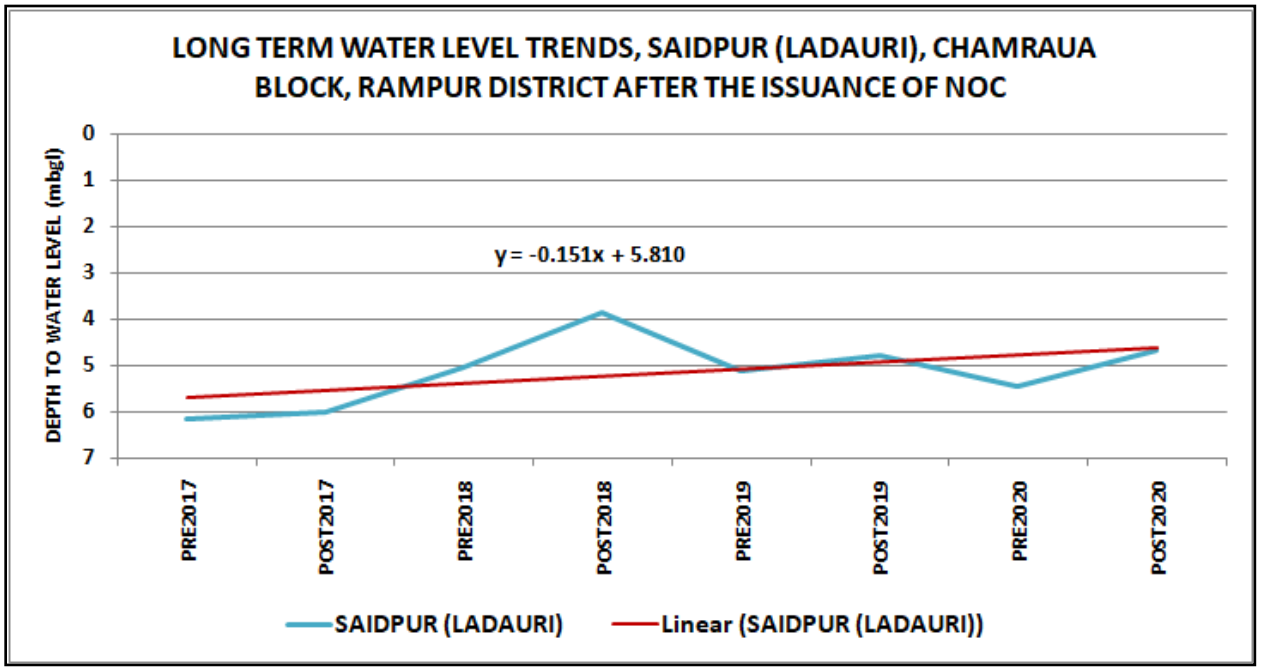
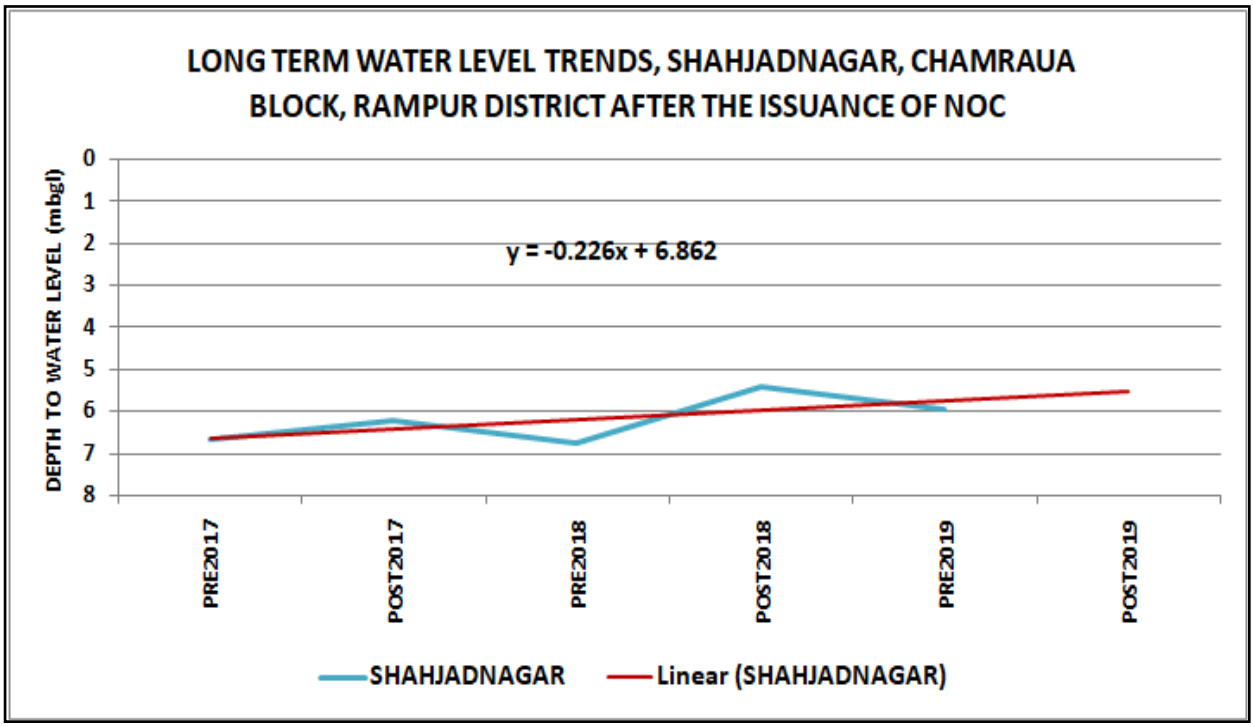

LONG TERM WATER LEVEL TRENDS, SAIDPUR (LADAURI), CHAMRAUA BLOCK, RAMPUR DISTRICT AFTER THE ISSUANCE OF NOC
DEPTH TO WATER LEVEL (mbgl)
0
1
2
3
4
5
6
7
y = -0.151x + 5.810
PRE2017
POST2017
PRE2018
POST2018
PRE2019
POST2019
PRE2020
POST2020
SAIDPUR (LADAURI)
Linear (SAIDPUR (LADAURI))

**FIG 62**


LONG TERM WATER LEVEL TRENDS, SHAHJADNAGAR, CHAMRAUA BLOCK, RAMPUR DISTRICT AFTER THE ISSUANCE OF NOC
DEPTH TO WATER LEVEL (mbgl)
0
1
2
3
4
5
6
7
8
y = -0.226x + 6.862
PRE2017
POST2017
PRE2018
POST2018
PRE2019
POST2019
SHAHJADNAGAR
Linear (SHAHJADNAGAR)

### *9.3.5. ANALYSIS OF PRE AND POST MONSOON PERIOD WATER LEVEL TRENDS BEFORE AND AFTER THE ISSUANCE OF NOC*

The **impacts of ground water recharge have also been assessed using pre and post monsoon water level data for period prior and after the issuance of NOC to the industry**. The following analysis has been done using historical data from GWMS, and shown in Table-27 a & b below.

a. Overall (historical) pre and post monsoon water level trends
b. Pre and post monsoon water level trends prior to issuance of NOC
c. Pre and post monsoon water level trends after the issuance of NOC

Premonsoon (May/Jun) water levels are normally the maximum ground water levels observed during the year and post monsoon (Nov) water levels are resultant of monsoon period withdrawal of ground water for various purposes and the monsoon recharge. For categorization of ground water assessment units also, the pre and post monsoon water level trends are considered. The hydrographs showing annual, premonsoon and post monsoon period water levels are shown in Fig 63 to 71).

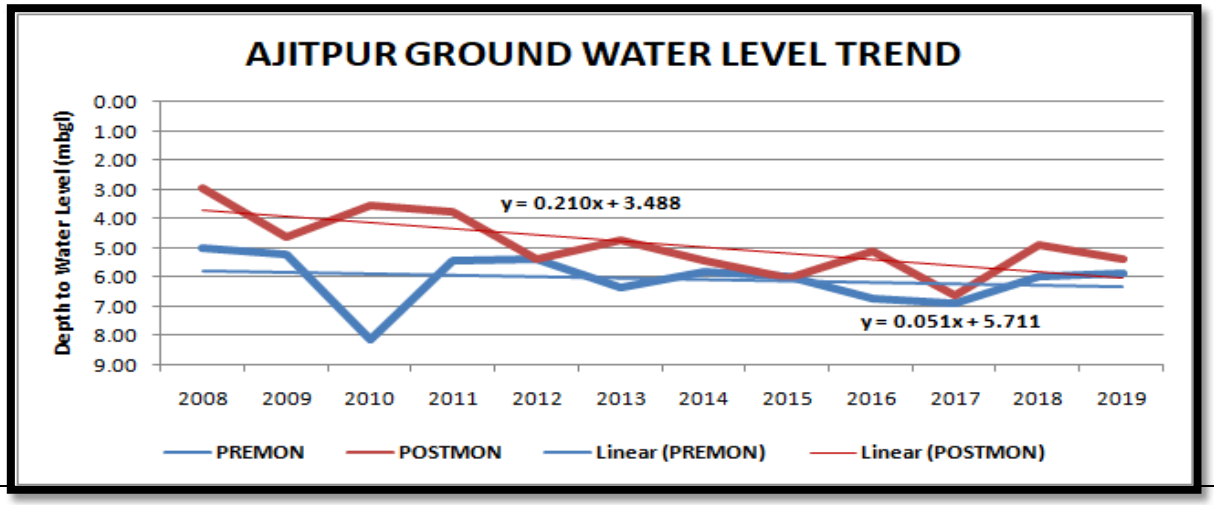
**Table 27 a LONG TERM WATER LEVEL TRENDS IN BUFFER ZONE AROUND RADICO KHAITAN LTD, RAMPUR**

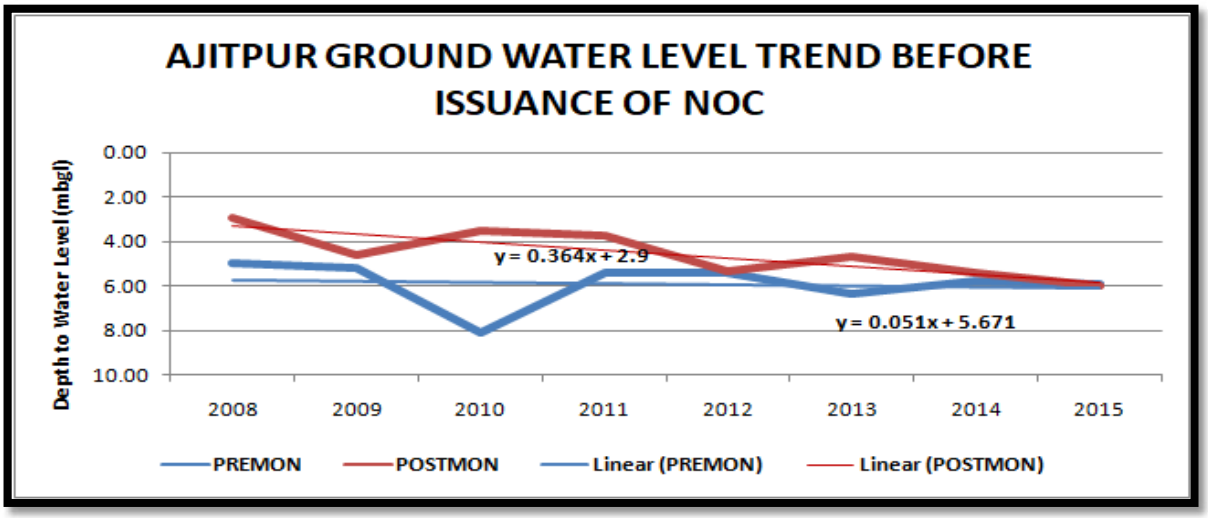
| BLOCK | GROUND WATER MONITORING STATIONS | HISTORICAL WATER LEVEL TRENDS (m/year) | | | | WATER LEVEL TRENDS PRIOR TO ISSUANCE OF NOC (2008-2016) (m/year) | | | | WATER LEVEL TRENDS AFTER THE ISSUANCE OF NOC (m/year) | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Premonsoon | | Postmonsoon | | Premonsoon | | Postmonsoon | | Premonsoon | | Postmonsoon | |
| | | RISE | FALL | RISE | FALL | RISE | FALL | RISE | FALL | RISE | FALL | RISE | FALL |
| BILASPUR | BILASPUR | 0.297 | | 0.046 | | 0.031 | | | 0.498 | 0.140 | | 0.425 | |
| CHAMRAUA | AJITPUR | | 0.051 | | 0.210 | | 0.051 | | 0.364 | 0.345 | | 0.089 | |
| CHAMRAUA | BHONT | | 0.086 | | 0.284 | | 0.049 | | 0.464 | | 0.097 | 0.099 | |
| CHAMRAUA | DALPURA | | 0.062 | 0.127 | | 0.099 | | | 0.093 | | 0.042 | 0.090 | |
| CHAMRAUA | KOYLA | | 0.011 | | 0.210 | | 0.053 | | 0.290 | | 0.065 | 0.120 | |
| CHAMRAUA | MADHAIYA UDAIRAJ | | 0.126 | | 0.366 | | 0.050 | | 0.416 | 0.190 | | 0.287 | |
| CHAMRAUA | PANJAB NAGAR | 0.133 | | | 0.113 | 0.193 | | 0.05 | | 0.272 | | 0.290 | |
| CHAMRAUA | SHAHJAD NAGAR | | 0.091 | | 0.362 | | 0.007 | | 0.450 | 0.149 | | 0.185 | |
| CHAMRAUA | SAIDNAGAR LADAURI | 0.010 | | | 0.142 | 0.151 | | | 0.131 | 0.350 | | 0.239 | |

**Table 27 b LONG TERM WATER LEVEL TRENDS IN BUFFER ZONE AROUND RADICO KHAITAN LTD, RAMPUR- COMPARISON OF TRENDS UPTO 2019 AND UPDATED DATA FOR 2020**

| BLOCK | GROUND WATER MONITORING STATIONS | WATER LEVEL TRENDS PRIOR TO ISSUANCE OF NOC (2008-2019) (m/year) | | | | WATER LEVEL TRENDS AFTER TO ISSUANCE OF NOC (2017-2019 period) (m/year) | | | | WATER LEVEL TRENDS AFTER THE ISSUANCE OF NOC (2017-2020) AS PER UPDATED DATA FOR 2020 (m/year) | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Premonsoon | | Postmonsoon | | Premonsoon | | Postmonsoon | | Premonsoon | | Postmonsoon | |
| | | RISE | FALL | RISE | FALL | RISE | FALL | RISE | FALL | RISE | FALL | RISE | FALL |
| BILASPUR | BILASPUR | 0.031 | | | 0.498 | 0.140 | | 0.425 | | 0.189 | | 0.326 | |
| CHAMRAUA | AJITPUR | | 0.051 | | 0.364 | 0.345 | | 0.089 | | 0.095 | | 0.242 | |
| CHAMRAUA | BHONT | | 0.049 | | 0.464 | | 0.097 | 0.099 | | | 0.122 | 0.059 | |
| CHAMRAUA | CHAMRAUA | 0.099 | | | 0.093 | | 0.042 | 0.090 | | | 0.138 | 0.020 | |
| CHAMRAUA | DALPURA | | 0.053 | | 0.290 | | 0.065 | 0.120 | | | 0.042 | 0.090 | |
| CHAMRAUA | KOYLA | | 0.050 | | 0.416 | 0.190 | | 0.287 | | | 0.004 | 0.005 | |
| CHAMRAUA | MADHAIYA UDAIRAJ | 0.193 | | 0.05 | | 0.272 | | 0.290 | | 0.230 | | 0.252 | |
| CHAMRAUA | PANJAB NAGAR | | 0.007 | | 0.450 | 0.149 | | 0.185 | | 0.106 | | 0.154 | |
| CHAMRAUA | SHAHJAD NAGAR | 0.151 | | | 0.131 | 0.350 | | 0.239 | | 0.149 | | 0.185 | |
| CHAMRAUA | SAIDNAGAR LADAURI | 0.031 | | | 0.498 | 0.140 | | 0.425 | | | 0.007 | 0.051 | |

FIG 63


AJITPUR GROUND WATER LEVEL TREND
Depth to Water Level (mbgl)
0.00
1.00
2.00
3.00
4.00
5.00
6.00
7.00
8.00
9.00
y = 0.210x + 3.488
y = 0.051x + 5.711
2008
2009
2010
2011
2012
2013
2014
2015
2016
2017
2018
2019
PREMON
POSTMON
Linear (PREMON)
Linear (POSTMON)


AJITPUR GROUND WATER LEVEL TREND BEFORE ISSUANCE OF NOC
Depth to Water Level (mbgl)
0.00
2.00
4.00
6.00
8.00
10.00
y = 0.364x + 2.9
y = 0.051x + 5.671
2008
2009
2010
2011
2012
2013
2014
2015
PREMON
POSTMON
Linear (PREMON)
Linear (POSTMON)

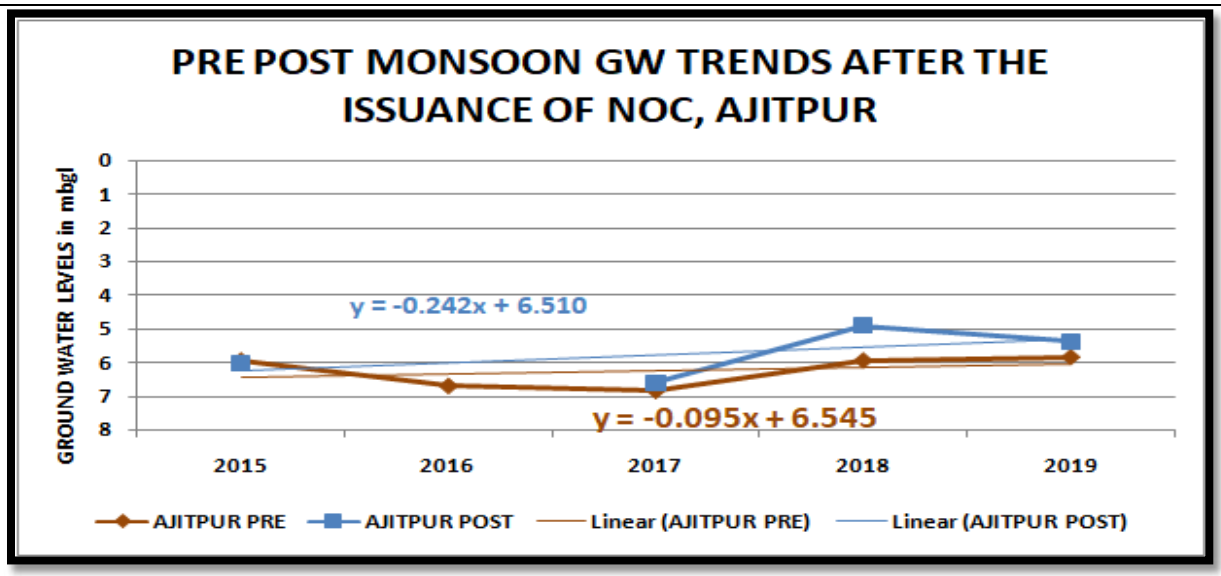
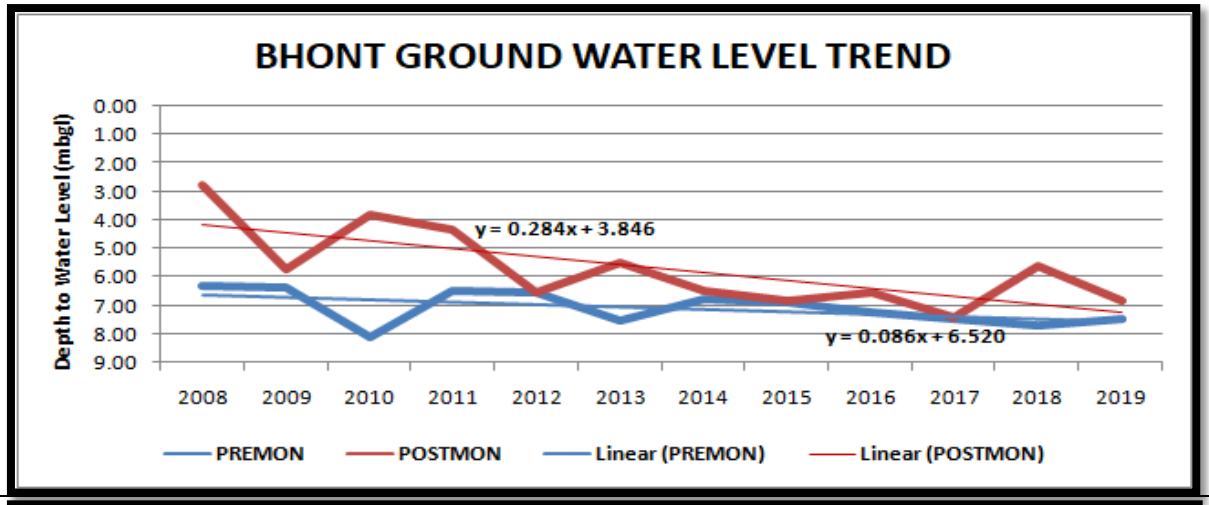
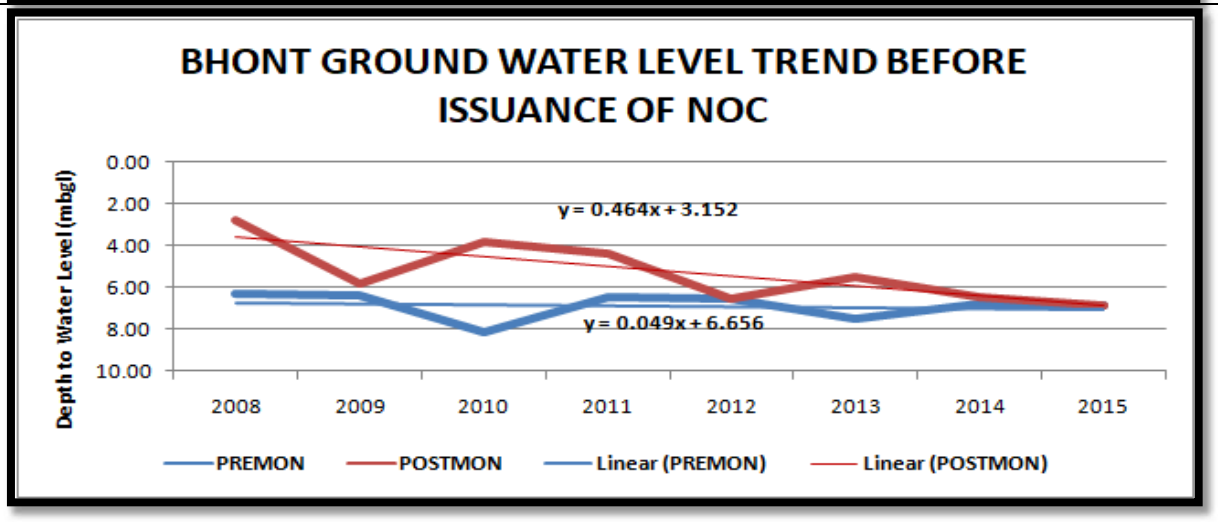

PRE POST MONSOON GW TRENDS AFTER THE ISSUANCE OF NOC, AJITPUR
GROUND WATER LEVELS in mbgl
0
1
2
3
4
5
6
7
8
y = -0.242x + 6.510
y = -0.095x + 6.545
2015
2016
2017
2018
2019
AJITPUR PRE
AJITPUR POST
Linear (AJITPUR PRE)
Linear (AJITPUR POST)

FIG 64


BHONT GROUND WATER LEVEL TREND
Depth to Water Level (mbgl)
0.00
1.00
2.00
3.00
4.00
5.00
6.00
7.00
8.00
9.00
y = 0.284x + 3.846
y = 0.086x + 6.520
2008
2009
2010
2011
2012
2013
2014
2015
2016
2017
2018
2019
PREMON
POSTMON
Linear (PREMON)
Linear (POSTMON)


BHONT GROUND WATER LEVEL TREND BEFORE ISSUANCE OF NOC
Depth to Water Level (mbgl)
0.00
2.00
4.00
6.00
8.00
10.00
y = 0.464x + 3.152
y = 0.049x + 6.656
2008
2009
2010
2011
2012
2013
2014
2015
PREMON
POSTMON
Linear (PREMON)
Linear (POSTMON)

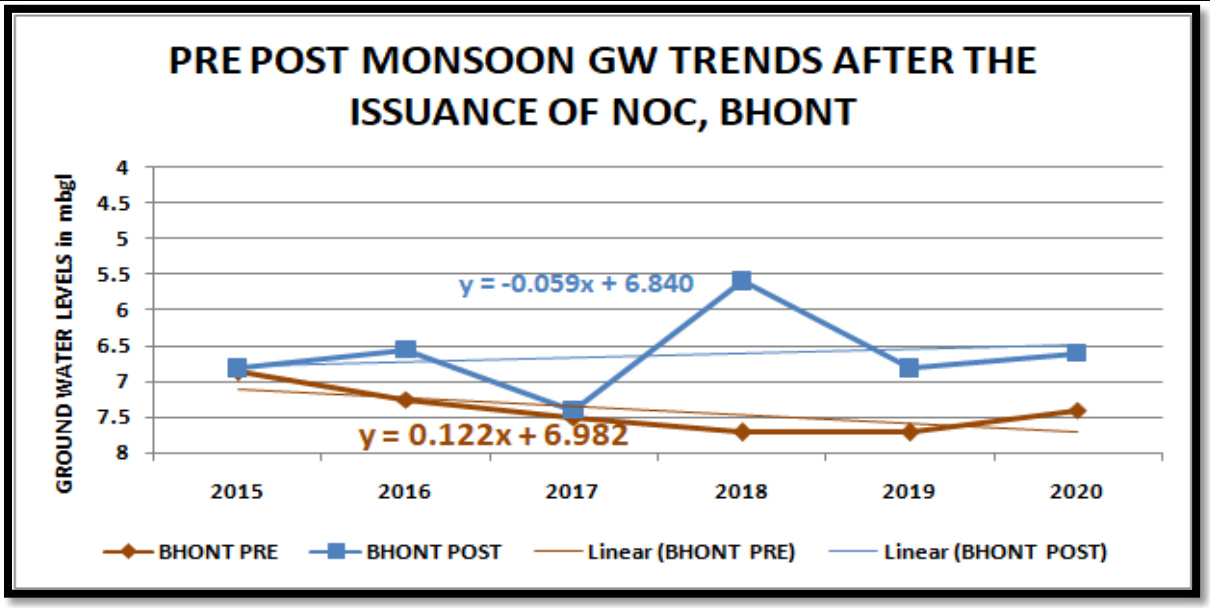
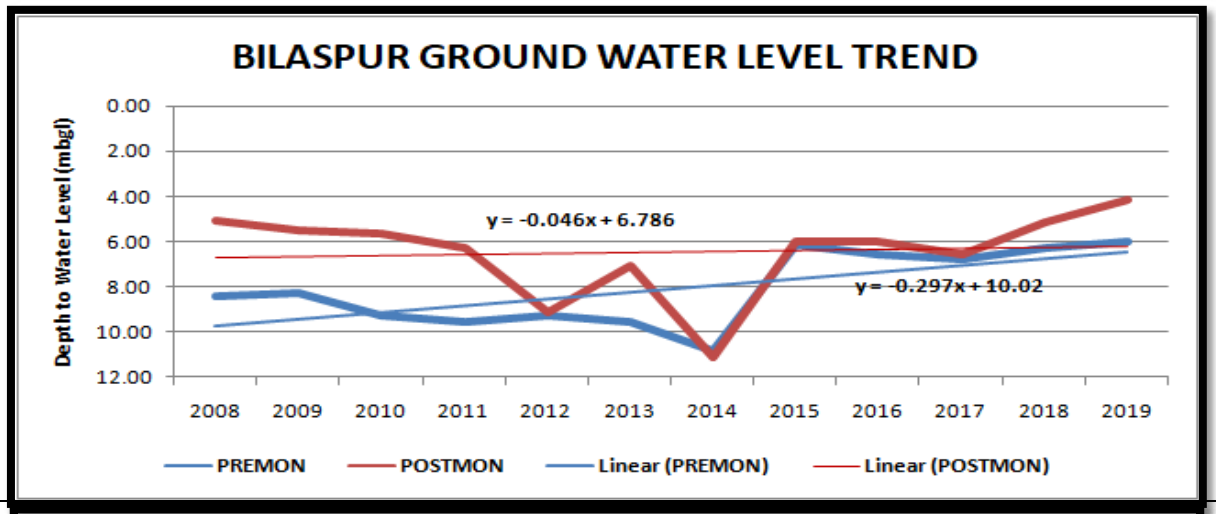
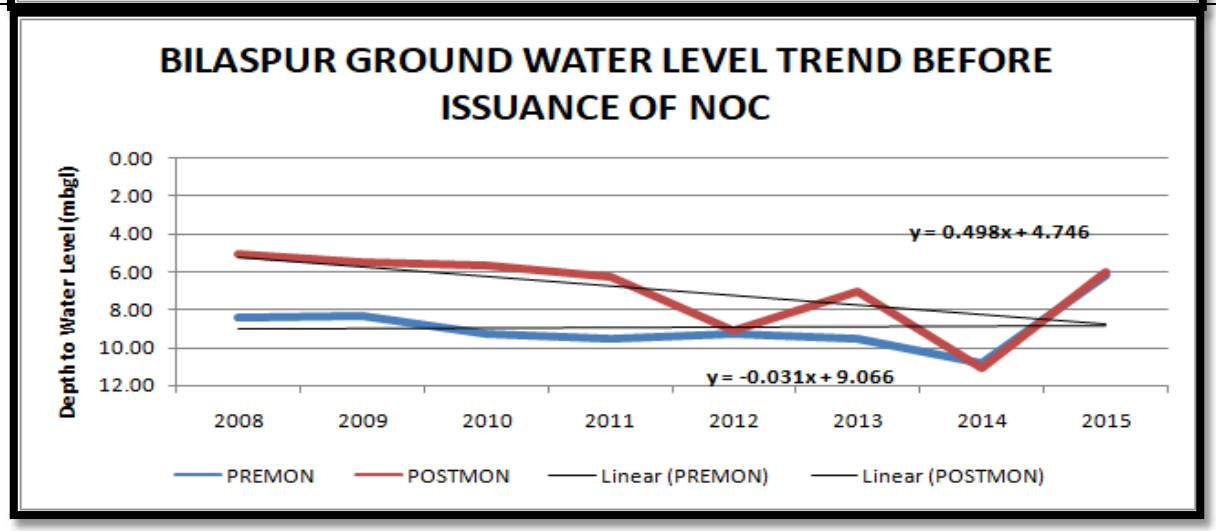

PRE POST MONSOON GW TRENDS AFTER THE ISSUANCE OF NOC, BHONT
GROUND WATER LEVELS in mbgl
4
4.5
5
5.5
6
6.5
7
7.5
8
y = -0.059x + 6.840
y = 0.122x + 6.982
2015
2016
2017
2018
2019
2020
BHONT PRE
BHONT POST
Linear (BHONT PRE)
Linear (BHONT POST)

FIG 65


BILASPUR GROUND WATER LEVEL TREND
Depth to Water Level (mbgl)
0.00
2.00
4.00
6.00
8.00
10.00
12.00
y = -0.046x + 6.786
y = -0.297x + 10.02
2008
2009
2010
2011
2012
2013
2014
2015
2016
2017
2018
2019
PREMON
POSTMON
Linear (PREMON)
Linear (POSTMON)


BILASPUR GROUND WATER LEVEL TREND BEFORE ISSUANCE OF NOC
Depth to Water Level (mbgl)
0.00
2.00
4.00
6.00
8.00
10.00
12.00
y = 0.498x + 4.746
y = -0.031x + 9.066
2008
2009
2010
2011
2012
2013
2014
2015
PREMON
POSTMON
Linear (PREMON)
Linear (POSTMON)

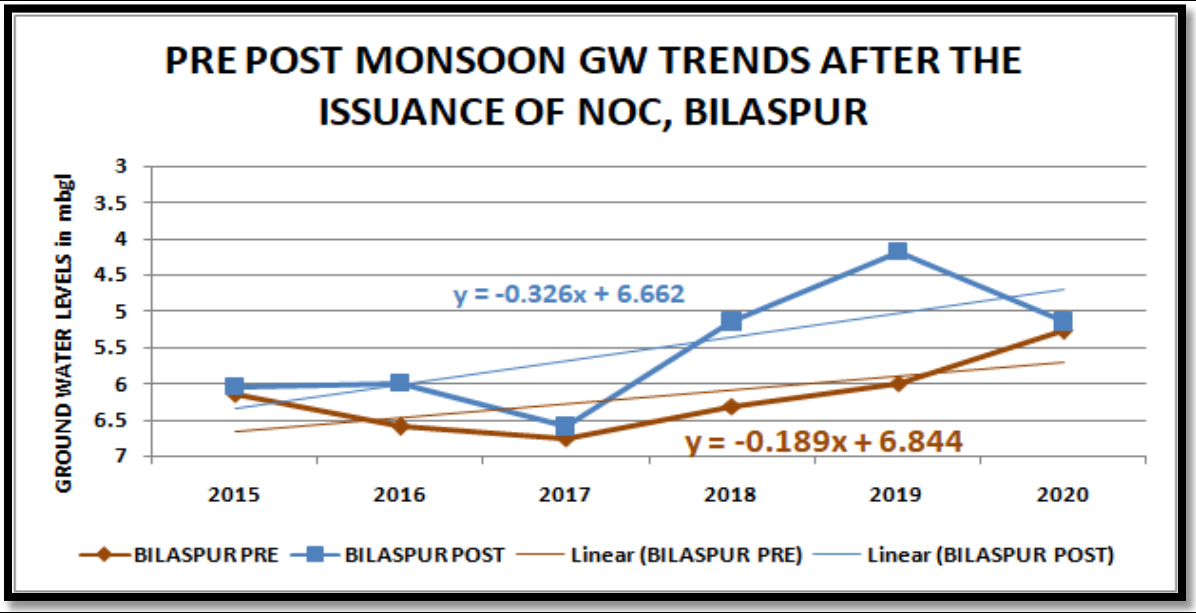
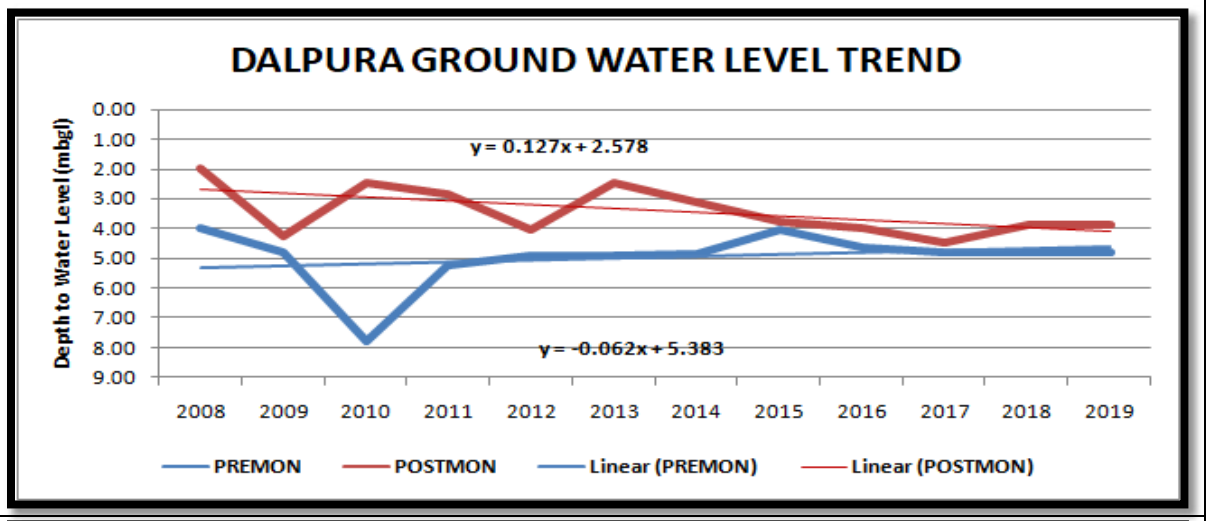
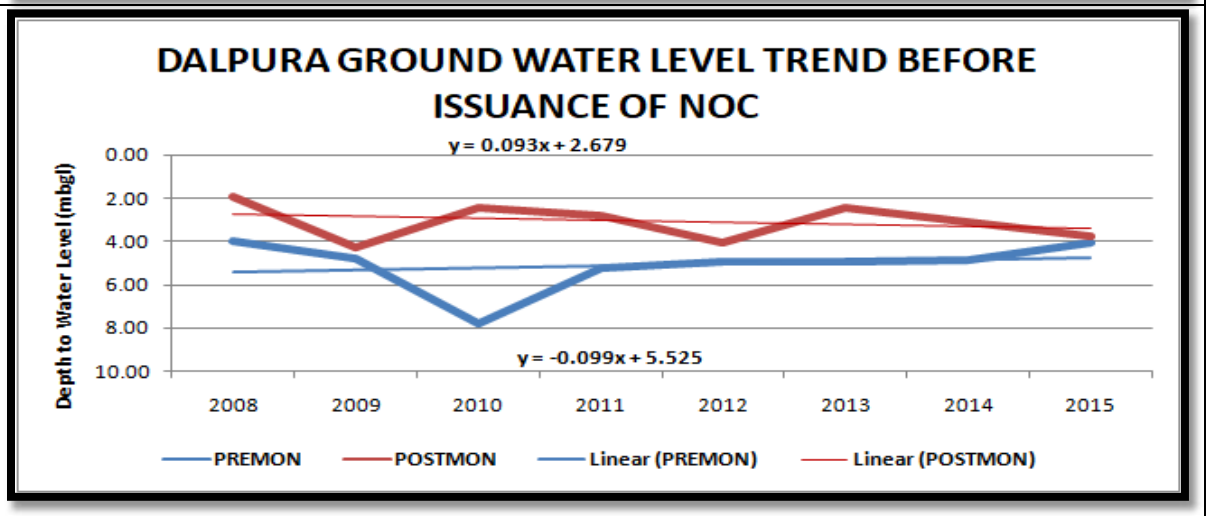

PRE POST MONSOON GW TRENDS AFTER THE ISSUANCE OF NOC, BILASPUR
GROUND WATER LEVELS in mbgl
3
3.5
4
4.5
5
5.5
6
6.5
7
y = -0.326x + 6.662
y = -0.189x + 6.844
2015
2016
2017
2018
2019
2020
BILASPUR PRE
BILASPUR POST
Linear (BILASPUR PRE)
Linear (BILASPUR POST)

**FIG 66**


DALPURA GROUND WATER LEVEL TREND
Depth to Water Level (mbgl)
0.00
1.00
2.00
3.00
4.00
5.00
6.00
7.00
8.00
9.00
y = 0.127x + 2.578
y = -0.062x + 5.383
2008
2009
2010
2011
2012
2013
2014
2015
2016
2017
2018
2019
PREMON
POSTMON
Linear (PREMON)
Linear (POSTMON)


DALPURA GROUND WATER LEVEL TREND BEFORE ISSUANCE OF NOC
Depth to Water Level (mbgl)
0.00
2.00
4.00
6.00
8.00
10.00
y = 0.093x + 2.679
y = -0.099x + 5.525
2008
2009
2010
2011
2012
2013
2014
2015
PREMON
POSTMON
Linear (PREMON)
Linear (POSTMON)

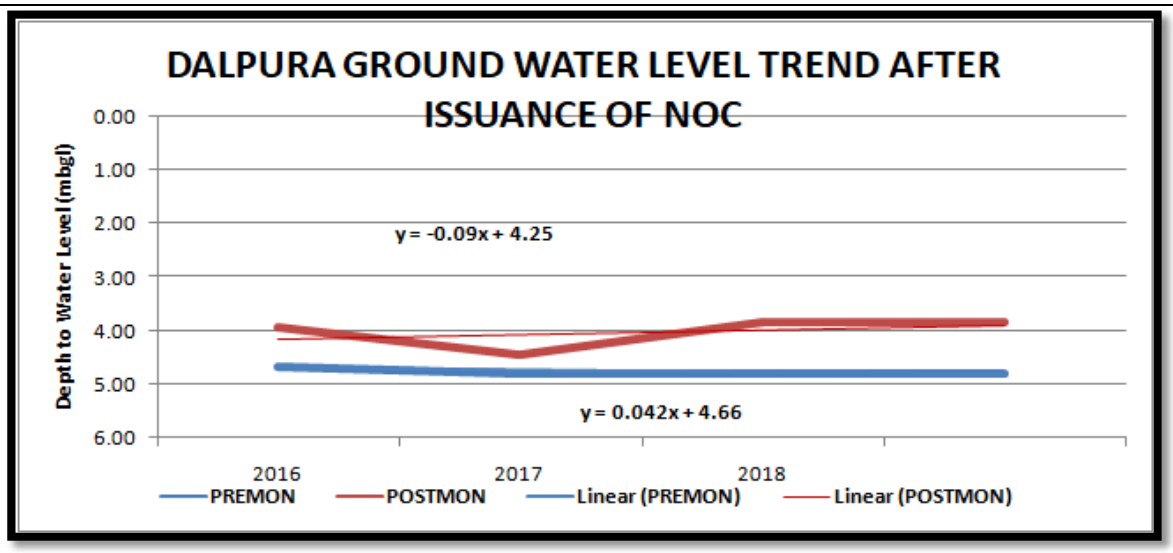
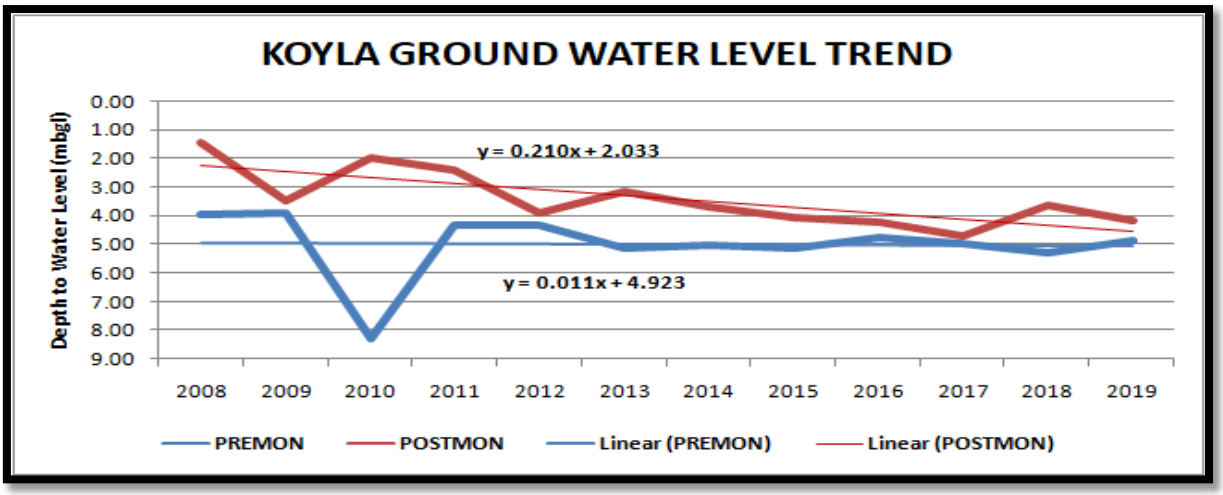
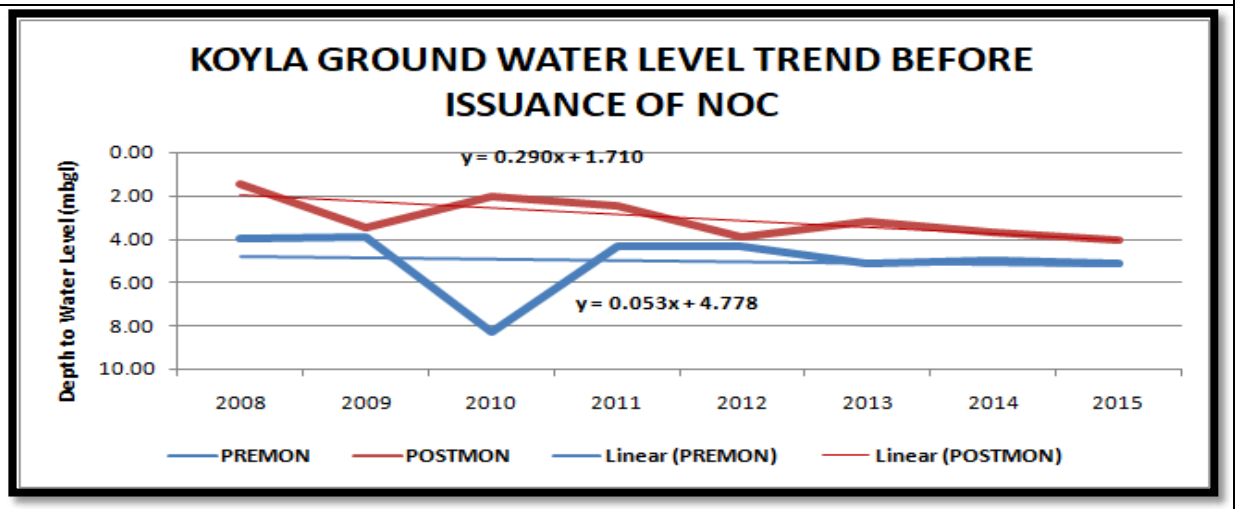

DALPURA GROUND WATER LEVEL TREND AFTER ISSUANCE OF NOC
Depth to Water Level (mbgl)
0.00
1.00
2.00
3.00
4.00
5.00
6.00
y = -0.09x + 4.25
y = 0.042x + 4.66
2016
2017
2018
PREMON
POSTMON
Linear (PREMON)
Linear (POSTMON)

FIG 67


KOYLA GROUND WATER LEVEL TREND
Depth to Water Level (mbgl)
0.00
1.00
2.00
3.00
4.00
5.00
6.00
7.00
8.00
9.00
y = 0.210x + 2.033
y = 0.011x + 4.923
2008
2009
2010
2011
2012
2013
2014
2015
2016
2017
2018
2019
PREMON
POSTMON
Linear (PREMON)
Linear (POSTMON)


KOYLA GROUND WATER LEVEL TREND BEFORE ISSUANCE OF NOC
Depth to Water Level (mbgl)
0.00
2.00
4.00
6.00
8.00
10.00
y = 0.290x + 1.710
y = 0.053x + 4.778
2008
2009
2010
2011
2012
2013
2014
2015
PREMON
POSTMON
Linear (PREMON)
Linear (POSTMON)

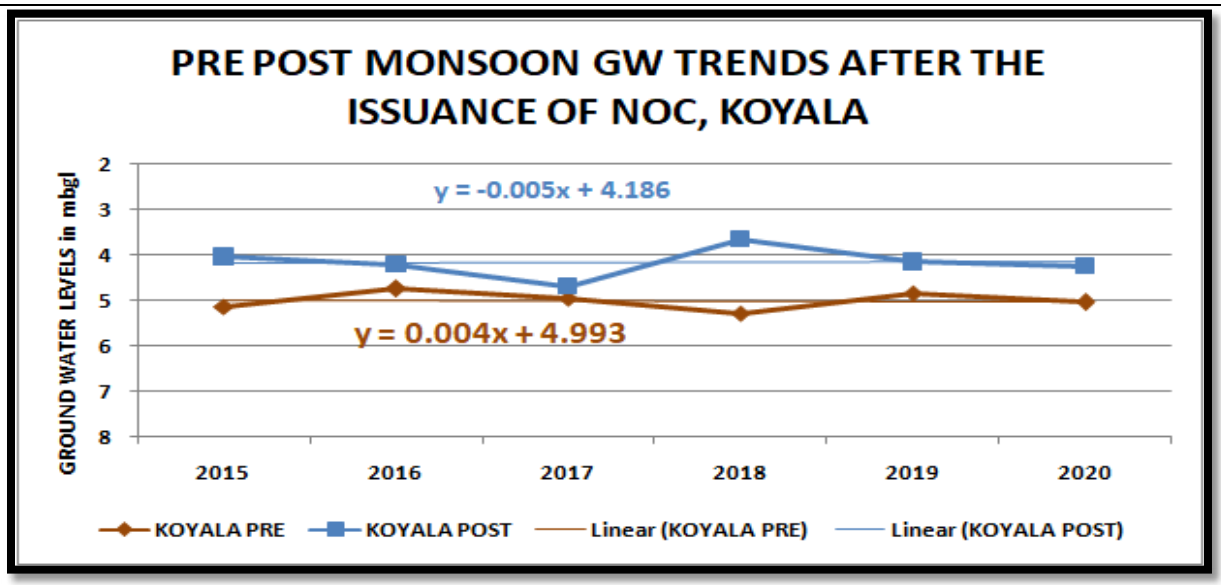
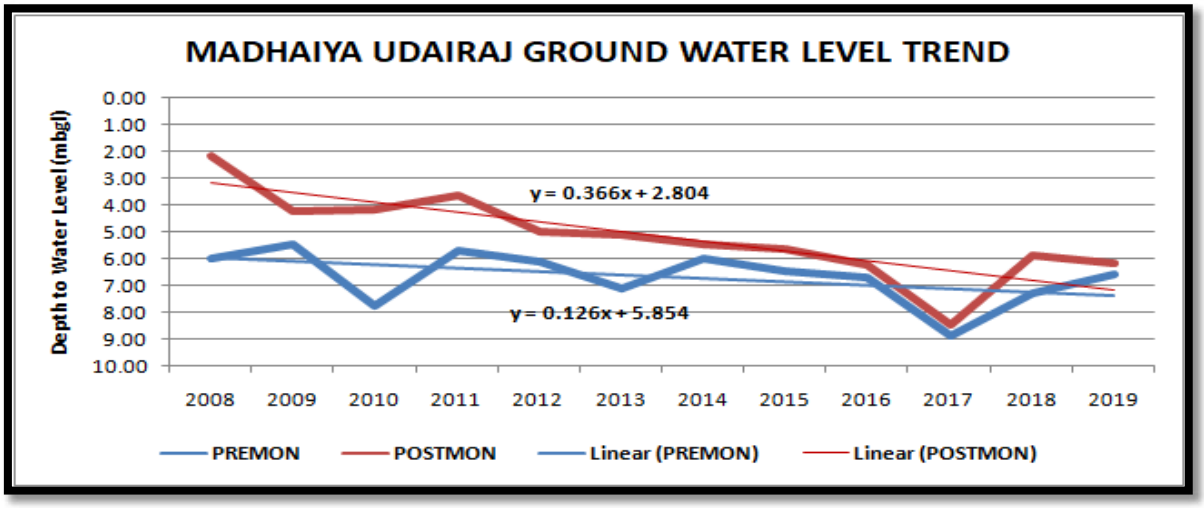
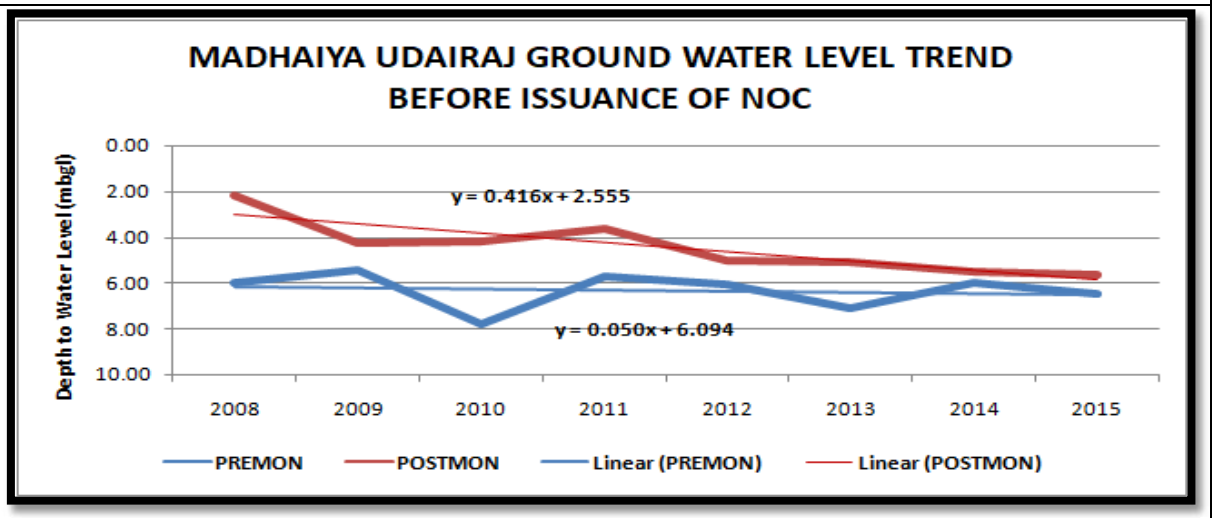

PRE POST MONSOON GW TRENDS AFTER THE ISSUANCE OF NOC, KOYALA
GROUND WATER LEVELS in mbgl
2
3
4
5
6
7
8
y = -0.005x + 4.186
y = 0.004x + 4.993
2015
2016
2017
2018
2019
2020
KOYALA PRE
KOYALA POST
Linear (KOYALA PRE)
Linear (KOYALA POST)

**FIG 68**


MADHAIYA UDAIRAJ GROUND WATER LEVEL TREND
Depth to Water Level (mbgl)
0.00
1.00
2.00
3.00
4.00
5.00
6.00
7.00
8.00
9.00
10.00
y = 0.366x + 2.804
y = 0.126x + 5.854
2008
2009
2010
2011
2012
2013
2014
2015
2016
2017
2018
2019
PREMON
POSTMON
Linear (PREMON)
Linear (POSTMON)


MADHAIYA UDAIRAJ GROUND WATER LEVEL TREND
BEFORE ISSUANCE OF NOC
Depth to Water Level (mbgl)
0.00
2.00
4.00
6.00
8.00
10.00
y = 0.416x + 2.555
y = 0.050x + 6.094
2008
2009
2010
2011
2012
2013
2014
2015
PREMON
POSTMON
Linear (PREMON)
Linear (POSTMON)

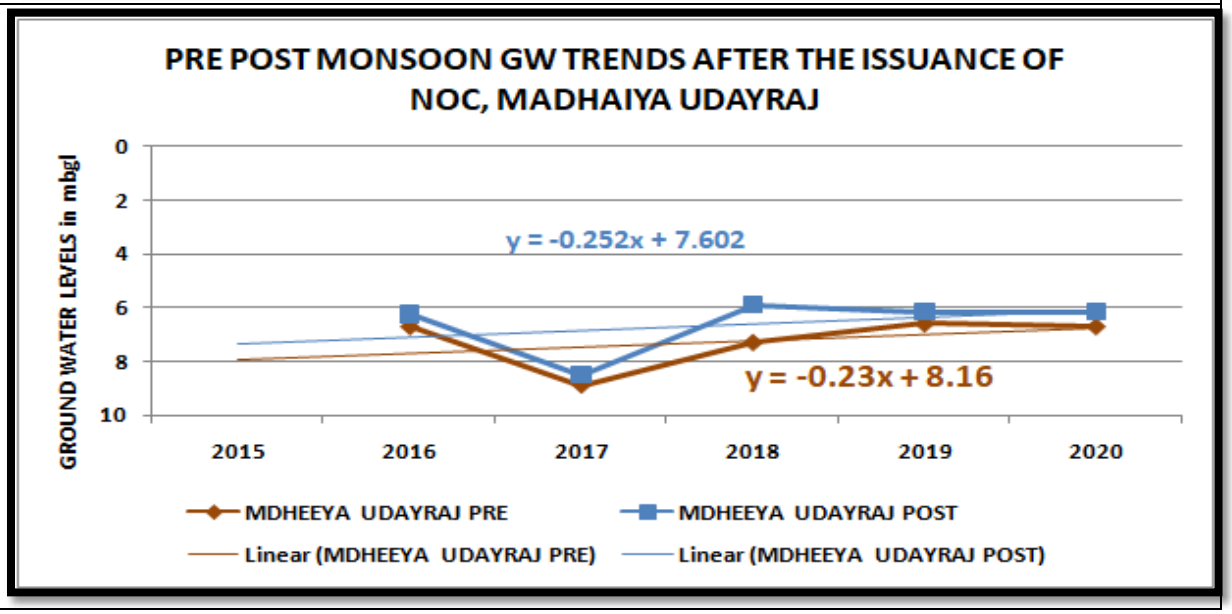
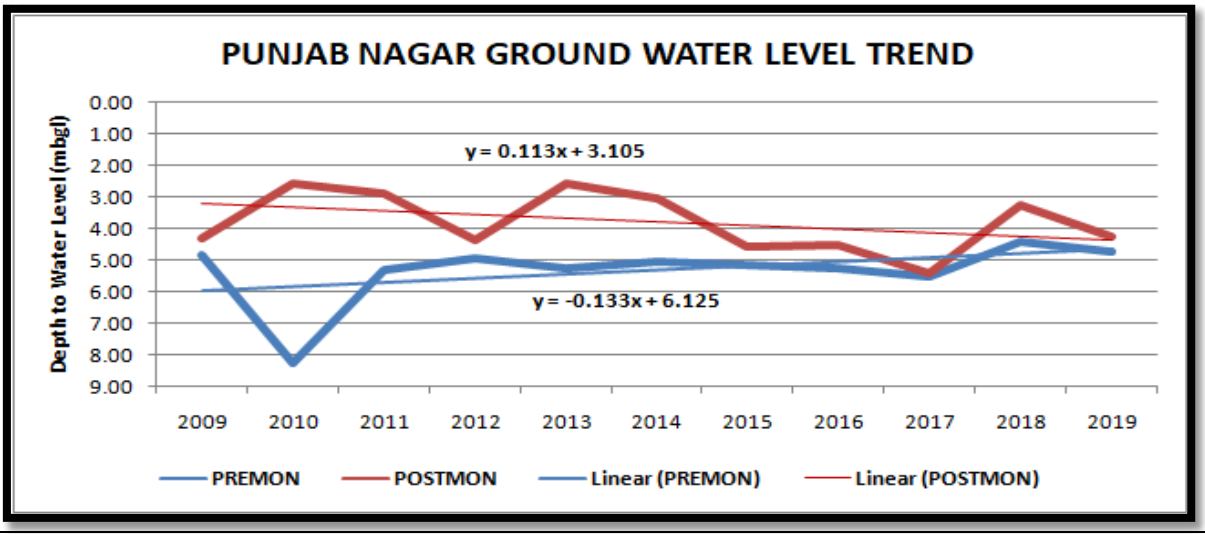
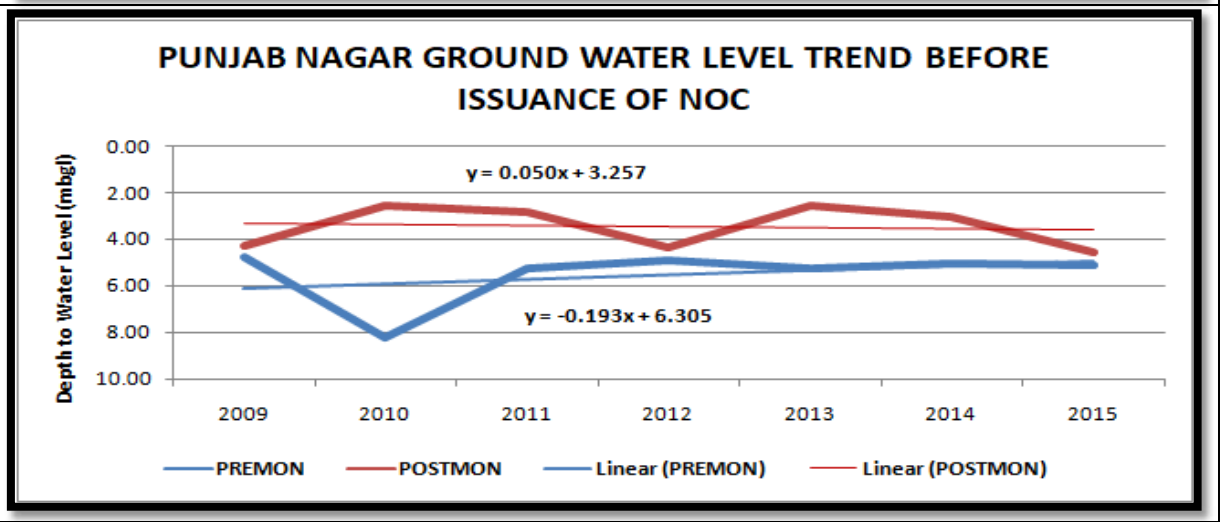

PRE POST MONSOON GW TRENDS AFTER THE ISSUANCE OF
NOC, MADHAIYA UDAYRAJ
GROUND WATER LEVELS in mbgl
0
2
4
6
8
10
y = -0.252x + 7.602
y = -0.23x + 8.16
2015
2016
2017
2018
2019
2020
MDHEEYA UDAYRAJ PRE
MDHEEYA UDAYRAJ POST
Linear (MDHEEYA UDAYRAJ PRE)
Linear (MDHEEYA UDAYRAJ POST)

**FIG 69**


PUNJAB NAGAR GROUND WATER LEVEL TREND
Depth to Water Level (mbgl)
0.00
1.00
2.00
3.00
4.00
5.00
6.00
7.00
8.00
9.00
y = 0.113x + 3.105
y = -0.133x + 6.125
2009
2010
2011
2012
2013
2014
2015
2016
2017
2018
2019
PREMON
POSTMON
Linear (PREMON)
Linear (POSTMON)


PUNJAB NAGAR GROUND WATER LEVEL TREND BEFORE ISSUANCE OF NOC
Depth to Water Level (mbgl)
0.00
2.00
4.00
6.00
8.00
10.00
y = 0.050x + 3.257
y = -0.193x + 6.305
2009
2010
2011
2012
2013
2014
2015
PREMON
POSTMON
Linear (PREMON)
Linear (POSTMON)

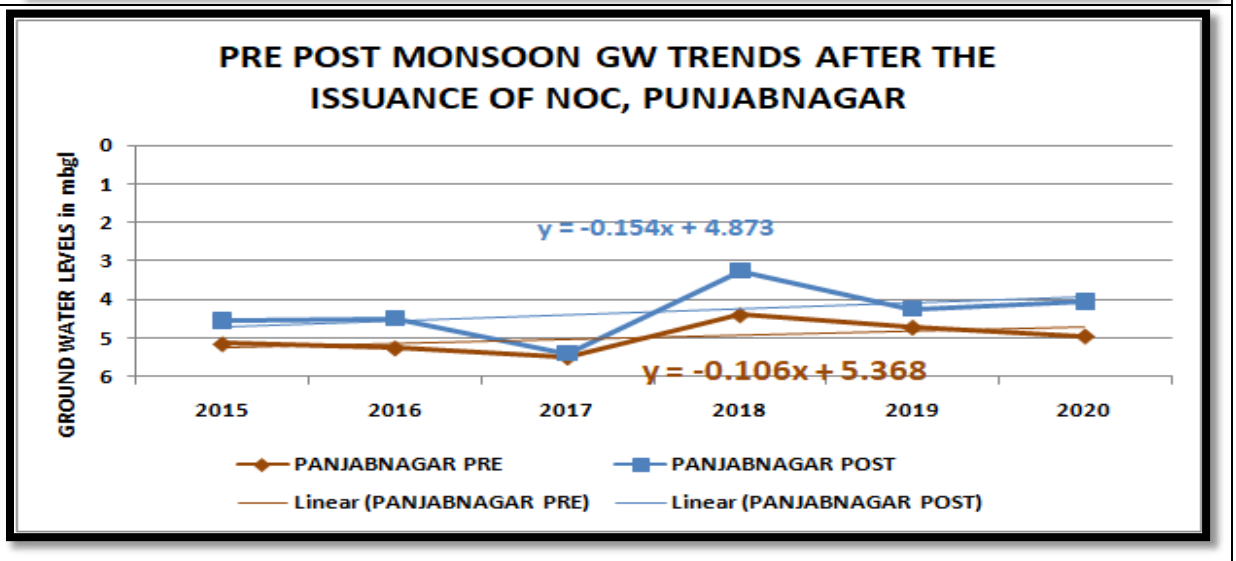
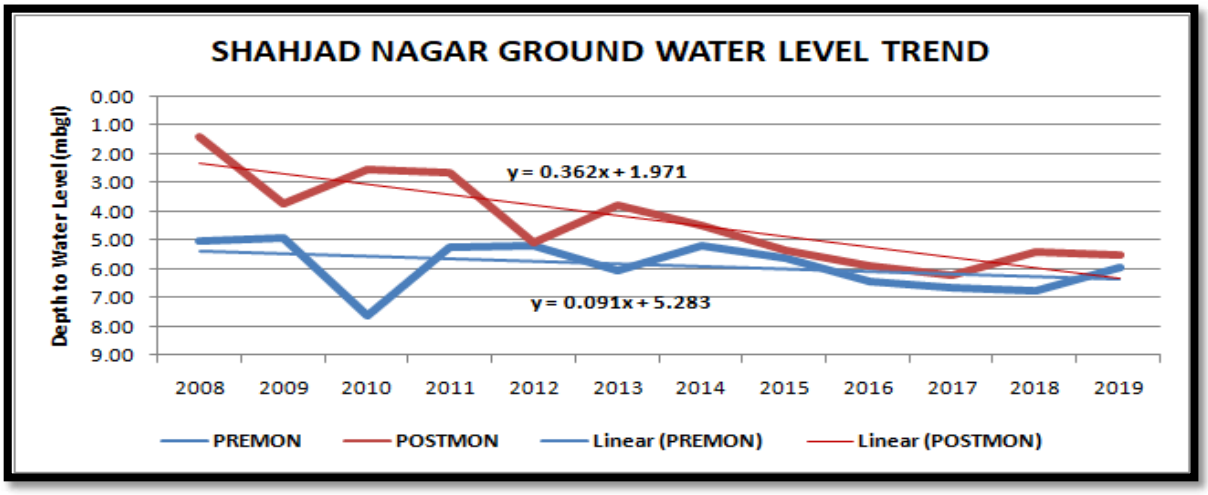
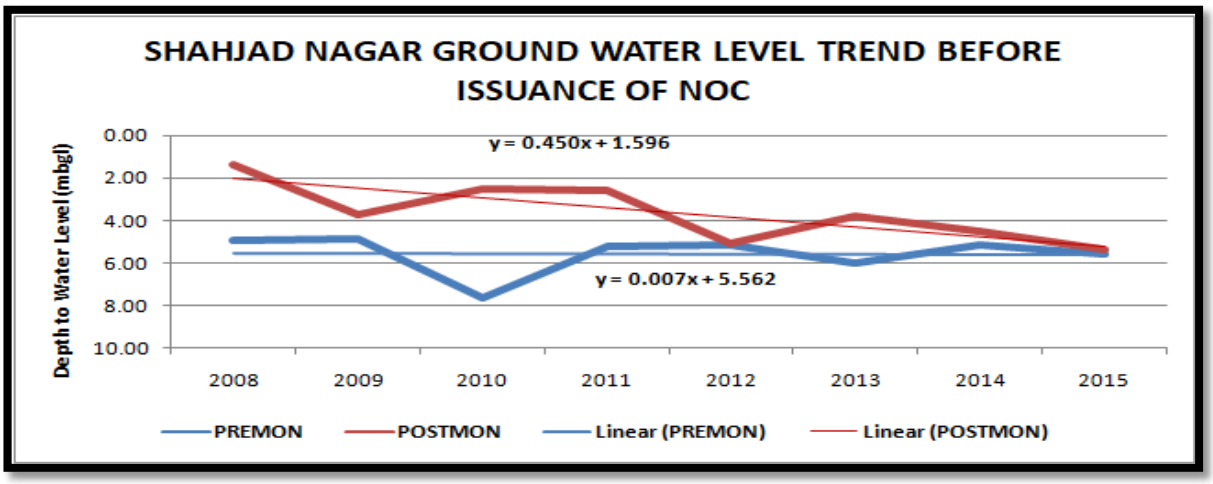

PRE POST MONSOON GW TRENDS AFTER THE ISSUANCE OF NOC, PUNJABNAGAR
GROUND WATER LEVELS in mbgl
0
1
2
3
4
5
6
y = -0.154x + 4.873
y = -0.106x + 5.368
2015
2016
2017
2018
2019
2020
PANJABNAGAR PRE
PANJABNAGAR POST
Linear (PANJABNAGAR PRE)
Linear (PANJABNAGAR POST)

**FIG 70**


SHAHJAD NAGAR GROUND WATER LEVEL TREND
Depth to Water Level (mbgl)
0.00
1.00
2.00
3.00
4.00
5.00
6.00
7.00
8.00
9.00
y = 0.362x + 1.971
y = 0.091x + 5.283
2008
2009
2010
2011
2012
2013
2014
2015
2016
2017
2018
2019
PREMON
POSTMON
Linear (PREMON)
Linear (POSTMON)


SHAHJAD NAGAR GROUND WATER LEVEL TREND BEFORE ISSUANCE OF NOC
Depth to Water Level (mbgl)
0.00
2.00
4.00
6.00
8.00
10.00
y = 0.450x + 1.596
y = 0.007x + 5.562
2008
2009
2010
2011
2012
2013
2014
2015
PREMON
POSTMON
Linear (PREMON)
Linear (POSTMON)

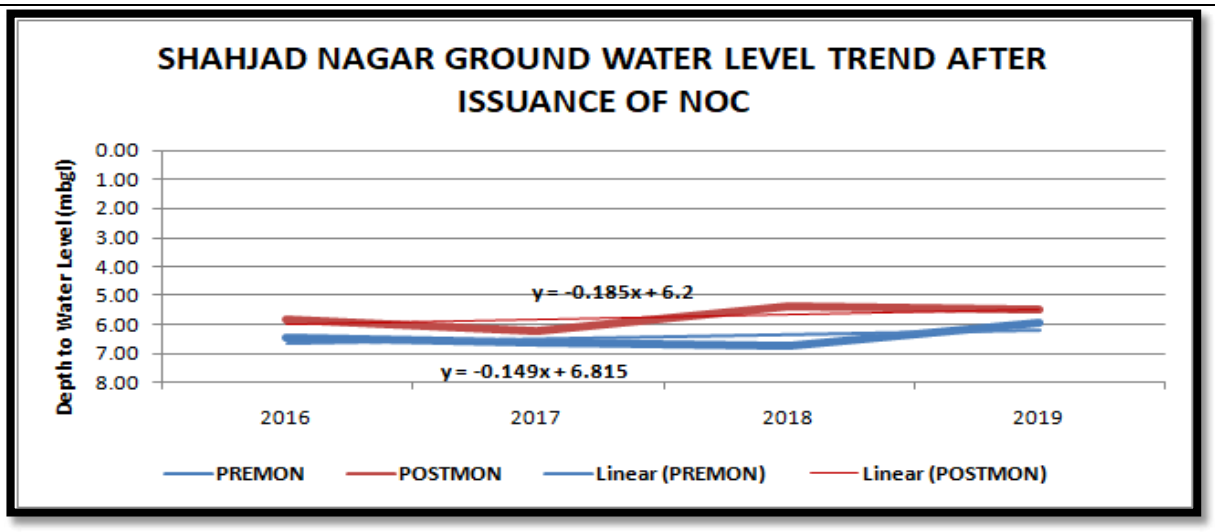
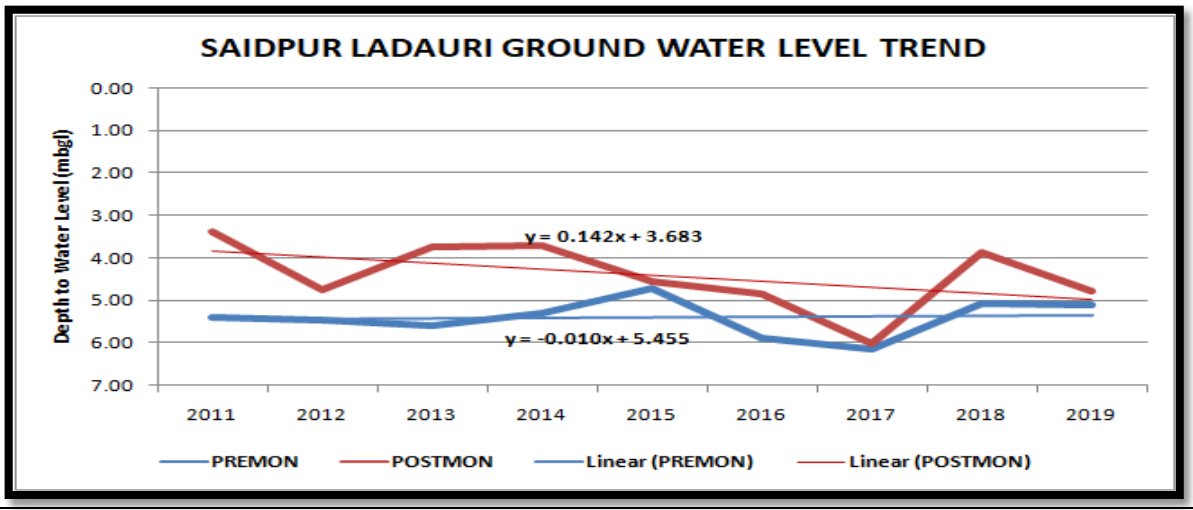
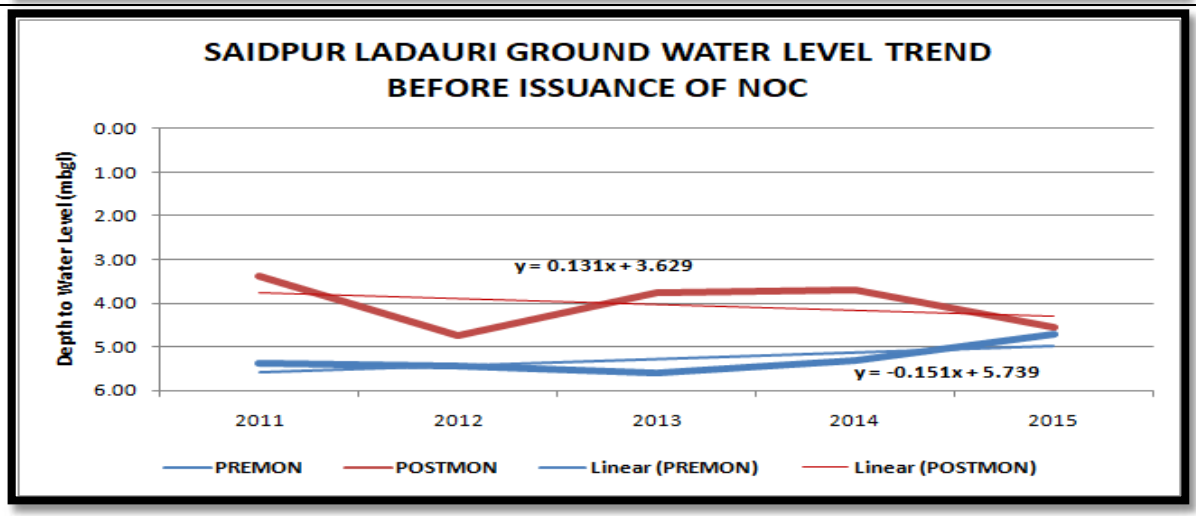
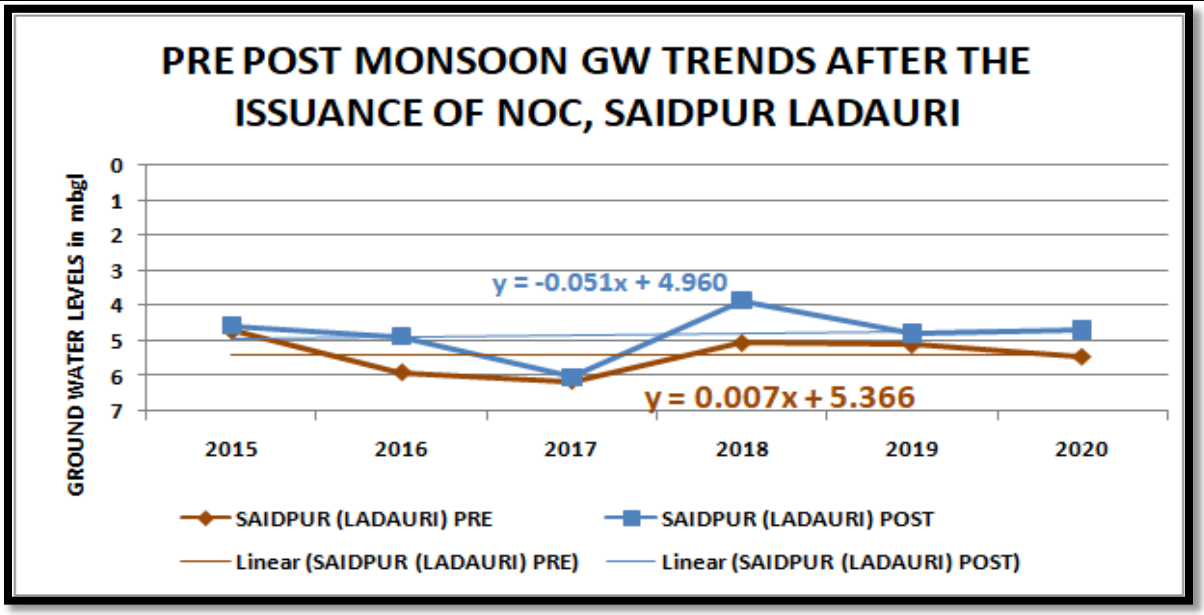

SHAHJAD NAGAR GROUND WATER LEVEL TREND AFTER ISSUANCE OF NOC
Depth to Water Level (mbgl)
0.00
1.00
2.00
3.00
4.00
5.00
6.00
7.00
8.00
y = -0.185x + 6.2
y = -0.149x + 6.815
2016
2017
2018
2019
PREMON
POSTMON
Linear (PREMON)
Linear (POSTMON)

**FIG 71**


SAIDPUR LADAURI GROUND WATER LEVEL TREND
Depth to Water Level (mbgl)
0.00
1.00
2.00
3.00
4.00
5.00
6.00
7.00
y = 0.142x + 3.683
y = -0.010x + 5.455
2011
2012
2013
2014
2015
2016
2017
2018
2019
PREMON
POSTMON
Linear (PREMON)
Linear (POSTMON)


SAIDPUR LADAURI GROUND WATER LEVEL TREND
BEFORE ISSUANCE OF NOC
Depth to Water Level (mbgl)
0.00
1.00
2.00
3.00
4.00
5.00
6.00
y = 0.131x + 3.629
y = -0.151x + 5.739
2011
2012
2013
2014
2015
PREMON
POSTMON
Linear (PREMON)
Linear (POSTMON)


PRE POST MONSOON GW TRENDS AFTER THE
ISSUANCE OF NOC, SAIDPUR LADAURI
GROUND WATER LEVELS in mbgl
0
1
2
3
4
5
6
7
y = -0.051x + 4.960
y = 0.007x + 5.366
2015
2016
2017
2018
2019
2020
SAIDPUR (LADAURI) PRE
SAIDPUR (LADAURI) POST
Linear (SAIDPUR (LADAURI) PRE)
Linear (SAIDPUR (LADAURI) POST)

**a. Overall (historical) Pre and Post monsoon water level trends**

***Premonsoon water level Trends (2008-2020)*** - indicate that during premonsoon period, out of nine stations analysed **four GWM stations viz Bilaspur, Dalpura, Panjabnagar and Saidnagar, show a rising trend** whereas six GWMS show a declining trends ranging from 0.007 m/year (0.7 cm/year) at Shahjadnagar to 0.148 m/year (14.8 cm/year) at Chamraua (Table 27 b and Fig 63 to 71).

***Postmonsoon water level Trends (2008-2020)***- during postmonsoon period the **rising trend is observed only at one station** namely Bilaspur. For remaining nine GWM Stations a falling trend ranging from 0.097 m/year (9.7 cm/year) to 0.450 m/year (45.0 cm/year) is observed.

**b. Pre and post monsoon water level trends PRIOR TO ISSUANCE OF NOC**

Premonsoon and postmonsoon water level trends for the period 2008 to 2019 i.e. prior to ground water recharge measures by the industry are shown in Table 27 a & b (Fig 63 to 71).

***Premonsoon water level Trends (2008-2016)*** - During premonsoon period, out of nine stations analysed **four GWM stations** viz Bilaspur, Dalpura, Panjabnagar and Saidnagar, **show a rising trend** ranging from 0.031 m/year to 0.193 m/year, whereas five GWMS show a declining trends ranging from 0.007 m/year (0.70 cm/year) at Shahjadnagar to 0.053 m/year (5.3 cm/year) at Koyla.

***Postmonsoon water level Trends (2008-2016)*** - Postmonsoon trends prior to issuance of NOC and ground water recharge measures indicate the **rising trend only at one station** namely Panjabnagar. Falling trends are observed for remaining eight GWM Stations, ranging from 0.093 m/year (9.3 cm/year) to 0.498 m/year (49.8 cm/year). Only two stations show a declining trend of less than 20 cm/year. Other six stations show significant trends of more than 20 cm/year and as high as 49.8 cm/year.

**c. Pre and post monsoon water level trends AFTER THE ISSUANCE OF NOC**

After the issuance of NOC from CGWA, industry has adopted several measures for rain water harvesting and ground water recharge. To bring out the impacts of these interventions,

Premonsoon and postmonsoon water level trends were analysed for the period 2017 to 2020. Pre and post monsoon trend values for the GWMS are shown in Table 27 b and Fig 63 to 71.

***Premonsoon water level Trends (2017-2020)*** - During premonsoon period, out of ten stations analysed **five GWM stations** viz Bilaspur, Ajitpur (near the premises), Madhaiya Udairaj, Shahjadnagar and Panjab nagar, **show a rising trend** ranging from 0.095 m/year to 0.230 m/year, whereas four GWMS show a declining trends ranging from 0.004 m/year (0.40 cm/year) at Koyla to 0.138 m/year (13.8 cm/year) at Chamraua.

***Postmonsoon water level Trends (2017-2020)*** - **Postmonsoon trends after the issuance of NOC and ground water recharge measures indicate a rising ground water level trends at all the GWM Stations**, ranging from 0.005 m/year (0.50 cm/year) to 0.326 m/year (432.6 cm/year) at Bilaspur. **None of the stations show a declining trend**. There is slight decline in rising trends as compared to that of period 2008-2019.

### *9.3.6. Inferences drawn*

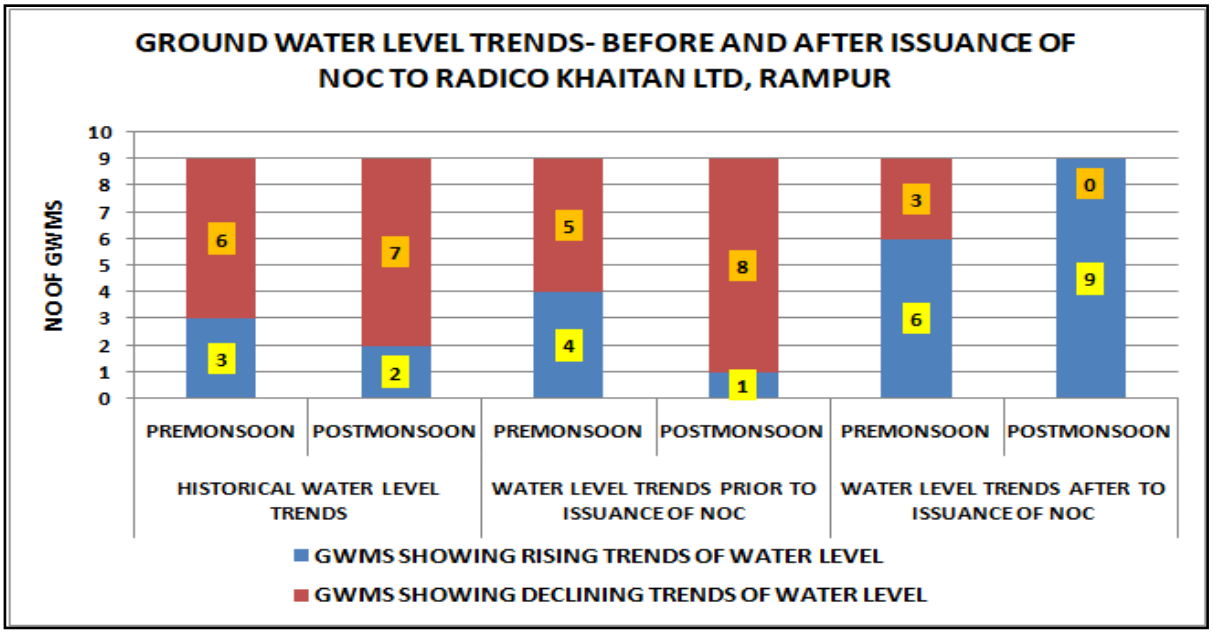
Detailed analysis of ground water level trends of all the monitoring stations in the study area indicate that the overall annual, pre and post monsoon trends in the entire study area has

- The **annual water level trends** observed at all the six piezometers of Radico Khaitan Ltd **are showing rising trends ranging from 0.365 m/year at Hitachi Land to 0.620 m/year as observed at Madhaiya piezometer**. Falling trend is not observed at any piezometer in the premises or in the buffer zone.
- Annual ground water trends at eight out of ten GWM stations show declining trends for the period of 2008 to 2020. Only two stations at Bilaspur (Bilaspur block) and Panjabnagar (Chamraua block) show a rise in water level trends for the last 10 to 11 years. All the remaining eight GWMS show a long term declining trend of ground water level trends, ranging from 0.014 m/year (at Dalpura) to 0.234 m/year at Chamraua (Table 24).
- Analysis of water level trends for 2008-2016 (prior to issuance of NOC), indicates that **ground water level situation since 2008 was showing a declining trend in general upto 2016**. Eight out of ten stations were showing declining trends of water level.
- The trend analysis of water levels since 2017, that is after issuance of NOC and ground water recharge measures adopted by industry show a remarkable improvement in ground

water scenario. Post monsoon Water level trends since 2017 and upto 2020 indicate that **all the GWMS (for Dalpura and Shahjadnagar stations trends for 2017-2019 has been taken as data for 2020 was not available) are showing rising water level trends (Table 27 b)**. Rising water level trends are ranging from 0.128 m/year (12.8 cm/year) at Koyla GWMS which is located in northern part of study area to 0.734 m/year at Madhaiya GWMS which is located in the southeastern parts of the study area.

- Pre and post monsoon water level trends (Table 27 a & b) also indicate that there is much improvement in ground water scenario since the interventions by industry for ground water recharge.
- During premonsoon period for period of 2008 to 2016 it is observed that five GWMS show a declining trend and five show rising trend. Ground water level trends during the premonsoon period of 2017-2020 also show that five stations show a declining trend of water levels and five stations show a rising trend.
- **During post monsoon period for period of 2008 to 2016 (prior to issuance of NOC) it is observed that nine GWMS show a declining trends and only one station shows a rising trends, whereas, water level trends during the period of 2017-2020, after ground water measures by industry, all the stations show a rising trend of water levels (Table 27 b).**
- Fig-72 below shows number of GWMS stations showing rising or declining trends for different periods of prior and after the issuance of NOC to the industry.

**FIG 72**




- Study revealed that maximum area **during 2016 post monsoon period falls under water level range of 5 to 6 mbgl** as seen in the map, whereas, **during post monsoon period of 2019 maximum area falls under depth range of 4.5 to 5.5 mbgl**. The maps show an improvement from year 2016 to 2019.

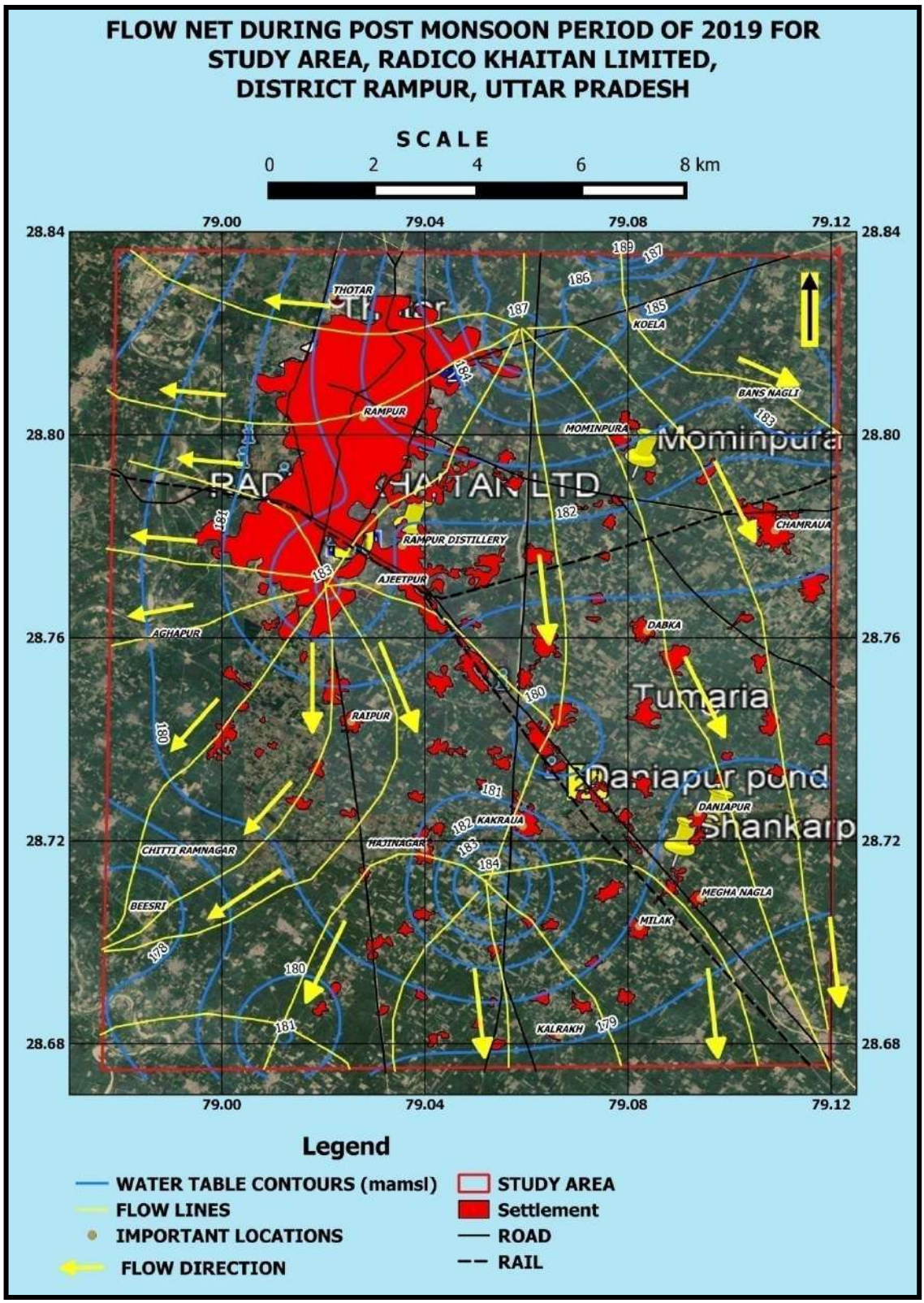
## 9.4. FLOW NET ANALYSIS (GROUND WATER FLOW DIRECTION)

A flow net is a graphical solution to the equations of steady state groundwater flow. A flow net consists of two sets of lines which must always be orthogonal (perpendicular to each other): flow lines, which show the direction of groundwater flow, and equipotential lines (lines of constant head), which show the distribution of potential energy.

For the study area, post monsoon water level data was collected from ground water monitoring stations, for November, 2019. Based on the elevation of ground level at piezometer station's site (in meters above mean sea level), the water table contour map was prepared for the study area. Subsequently ground water flow lines have been drawn based on water table contours. A plan view of flow net by contouring using field heads (water table data) and drawing flow lines perpendicular are shown in Fig- 73.

- From Fig 73 it is observed that there are two crests showing water table contour value as 189 and 183 mamsl (meter above mean sea level) at Nawada in the north of Koela in the northern part and near Rampur Distillery respectively.
- The ground water flow in the study area is from northern boundary towards south, west and southeastern directions. **Major ground water flow is towards south**, but the gradient changes (reduces) towards south up to Daniapur.
- In the northwestern part of the study area, ground water flows from Khound in the east towards Kosi river in west. The ground water gradient in this part is about 1.45 m/km.
- In the northeastern parts ground water flows from Khound towards Dabka and Shahjadnagar, where gradient is about 1.5 m/km. After this point, gradient further decreases to 0.5 m/km and about 0.30 m/km further south around Daniapur and Kalrakh.
- There is a crest at Madhaiya Udayraj where water table elevation is recorded as 184 mamsl.
- Another crest is observed at Rampur town around Distillery. The water table elevation is 183 mamsl and gradient is about 0.8 m/km in west, south and east directions (especially towards south).
- Lowest ground water elevation is 178 mamsl recorded at Beesri in the southwestern part of the study area. Entire ground water flows towards Kosi river flowing west of study area or towards Ramganga river in the south.

**FIG 73**


FLOW NET DURING POST MONSOON PERIOD OF 2019 FOR
STUDY AREA, RADICO KHAITAN LIMITED,
DISTRICT RAMPUR, UTTAR PRADESH
SCALE
0 2 4 6 8 km
79.00
79.04
79.08
79.12
28.84
28.80
28.76
28.72
28.68
THOTAR
KOELA
RAMPUR
BANS NAGLI
MOMINPURA
Mominpura
RADICO KHAITAN LTD
CHAMRAUA
RAMPUR DISTILLERY
AJEETPUR
AGHAPUR
DABKA
Tumaria
RAIPUR
Daniapur pond
DANIAPUR
Shankarp
KAKRAUA
HAJINAGAR
CHITTI RAMNAGAR
MEGHA NAGLA
BEESRI
MILAK
KALRAKH
Legend
WATER TABLE CONTOURS (mamsl)
FLOW LINES
IMPORTANT LOCATIONS
FLOW DIRECTION
STUDY AREA
Settlement
ROAD
RAIL

# 10. IMPACTS OF GROUND WATER RECHARGE MEASURES TAKEN BY INDUSTRY ON SOCIO ECONOMIC DEVELOPMENT IN THE BUFFER ZONE

The precise estimation of ground water scenario and irrigation potential is prerequisite for proper planning and execution for socio-economic development in the area. Water conservation and recharge measures also have positive impact on the socio economic development of the population living in the area around the industry, by way of improving cropping intensity, change in land use pattern, sustainability of the groundwater abstraction structures and reduction in the power consumed for groundwater withdrawal. The impact of the interventions adopted by Rampur Distillery is evident as discussed below.

- The impacts of ground water recharge measures have resulted in improvement in ground water regime as discussed in earlier chapters. The water levels have shown rising trends. The augmentation of ground water resources has resulted in sustainability of ground water abstraction structures and overall improvement of ecology of the area.
- The reduced heads, due to rise in water levels, has lead to reduction in pumping energies thus saving money for the farmers.
- The area has a network of canal system but as per the information from locales water is not being released in the canals for last several years. Thus ground water sustainability has helped farmers in enhancing cropping intensity as well as irrigation intensity. This has added to the livelihood and income of the farmers.
- The plantation of poplar trees is very commonly observed in the area and cultivation of khariff, wheat and sugarcane is common in the area. But augmentation of ground water reserves due to measures adopted by Radico Khaitan Ltd, are supporting these water intensive plantation, which otherwise would have lead to significant depletion of the ground water resources.
- Fishery has also been adopted as livelihood by villagers after the renovation and repair of ponds.

# 11. SUMMARY OF WATER AUDIT REPORT

Water audit is an effective management tool for minimizing losses, optimizing various uses and thus enabling considerable conservation of water. Thus, RADICO KHAITAN LTD, RAMPUR has entrusted PHDCCI for conducting water audit in their plant premises. This detailed audit report was submitted during Jun, 2021. The report discusses the existing water scenario at RADICO KHAITAN LTD, RAMPUR and its potential water savings and how the basic water audit approach has been applied to water conservation in line with the guidelines of CGWA. Few highlights of the report are given below.

## 11.1. Water Consumption Pattern

- It is evident from the water balance diagram that major water consuming area is 42% fresh water consumption & 58% as recycled soft water. Process accounts for 21%, Utility accounts for 11%, 15% accounts for DM water, 50% accounts for soft water, 2% for gardening and almost 1% for domestic accounts.
- About 10,99,208 KL/year wastewater is generated in the plant and is transferred to Condensing Polishing Unit(CPU) & ETP from which a part of treated water is being mixed with water from bore wells and passed through DM water treatment & softener so that recycled soft water can be used as make up water for Cooling tower, Boiler, cleaning and washing. Remaining part of treated waste water from ETP is used for horticulture in green belt.
- The evaluated pump efficiency of bore wells and other transferring pump are 52.8%, 23.3% &46.8%, respectively, which were found to be satisfactory.
- It is recommended that additional flow meters need to be installed in lines going to STP treated water and residential colony area.

## 11.2. Waste Water Treatment Practices

- Radico Khaitan Ltd has achieved remarkable landmarks in the field of effluent management, achieving Zero Spent Wash Discharge through various means and reduction in fresh water consumption per litre of alcohol production.

- The water treatment & Waste Water Treatment Practices in Radico Khaitan Ltd, Rampur includes borewell water, and 1 x 150 KLD STP for domestic sewage generation in the plant & ETP which collects waste water and provide treated water to be used in gardening and in utility as soft water.
- Distillery has adopted the process of reducing and recycling process to manage effluent. All the waste water generated in the plant (except from residential colony) is being transferred to CPU. There is waste water collection tank (can be called as pre-ETP treatment) in which water is stored & passed through TSS reduction system, MEE, Bio-digesters before pumping into ETP. In ETP, there is set of ROs, collection tanks and aeration tanks in which Effluent water is treated and treated water is used for horticulture.
- In the year 2002, RKL started Bio-Composting and at present they have about 52 Acres of Bio-composting. At present there is 14 Acres of covered Bio- Composting for composting in rainy season.
- RKL is one of the pioneers to accept and introduce the new Technologies. For the First Time in India they had installed the DAF System on Distillery Effluent. TSS Reduction through DAF is from 3200 PPM to 2000 PPM i.e. about 38%. It has achieved 70% reduction in overall effluent volume and targeted to have 80% reduction after stabilization of currently installed systems.

## 11.3. Sewage Treatment Plant

- All residential waste water is sent to 150 KLD STP installed in the plant for treatment of sewage water and treated water is utilized in gardening of cricket ground and nearby areas for vegetation and plantation.

## 11.4. Environmental Compliance (Related To Water)

- Radico Khaitan Ltd, Rampur does comply with the NOC for ground water withdrawal of 2600 KL/day (and not exceeding 949,000 KL/year) of ground water; through proposed three bore wells only. As per data provided by the plant, the total ground water abstraction in FY 2020-21 is 811,437 KL/year which is less than the CGWA NOC of 949,000 KL/year, issued to plant on 17/10/2016.

- Radico Khaitan Ltd, Rampur have installed flow meters on all the bore wells and are maintaining the data on monthly basis. All the raw water extraction data is submitted to CGWA on yearly basis.
- Joint Inspection Report of CPCB after inspection on 27th October 2020, reports of hand pump, piezometer wells and bore wells that the Fe, Mn & Pb contents are marginally above the limits. Water audit team has investigated the same and it was observed that the presence of Fe, Mn & Pb is possible due to the pipe material. Generally galvanized iron or Mild Steel pipes can show increase in such components. Especially piezometer wells, where inside water is stagnant, may show slightly higher values.

## 11.5. Recommendations for Water Conservation

- Based on the information collected and observations, the following interventions are recommended by the Water audit Team to reduce water use and increase its efficiency.
    - Automatic nozzles or sprinkler for gardening with timer based system can save about 6051 KL/year.
    - Flow regulators in faucets of wash basin to reduce the flow from 4LPM to 2LPM, which can save about 6658 KL/year
    - Replacements of inefficient pumps with new energy efficient pumps
    - Recovery of back wash water of Pressure Sand Filters (PSF) and Sand Filters (SF) will reduce the fresh water consumption by 1-2% in water treatment plant. This can save water upto 26,183 KL/year.
    - Replacement of open type cooling tower with Closed Circuit Cooling Tower (CCCT) which can reduce losses and will result into huge water saving of 25,828 KL/year.
    - Saving water through monitoring and operational procedures

# 12. ACTIVITIES UNDER CSR BY RKL

RKL has always striven to achieve ecological balance and ensure sustainability of natural resources available. The efforts for reducing the water consumption for the industry and restoration of ground water resources have been appreciable. The ground water recharge measures have been beyond the compliance requirements of CGWA. RKL has adopted suitable measures to recharge ground water by 295% of total annual ground water abstraction.

In addition to above RKL have endeavored in another field of water resource sustainability. In view of dwindling surface water resources and drying up rivers it has given a thought to rejuvenate the rivers/ streams which have lost their perenniality with time due to various human interventions and natural hazards. The Kosi river which emerges from the Himalayas and flows along western boundary of district Rampur was a perennial river about 2 to 3 decades ago. This flow in this river has been adversely affected by erratic rainfall and its skewed distribution and also by the large scale urbanization and changes in land use in Bhabhar and terai belt in the northern parts.

RKL has ventured into a Kosi rejuvenation proposal under technical support of "**Art of Living**". Leading technical experts from Art of Living family have mopped up their resources and are conceptualizing a suitable management plan for catchment areas of river Kosi so as to rejuvenate the river and maintain E-flows throughout the year.

The project would be very helpful to augment ground and surface water resources and local farmers and other stake holders will be benefitted.

# 13. CONCLUSIONS

Radico Khaitan Limited, Rampur district, Uttar Pradesh- is a distillery located east of Rampur town, covering an area of 44.392 Ha and occupies western parts of Chamraua block of Rampur district. The distillery produces high-grade Extra Neutral Alcohol ("ENA") from molasses, grains and Scottish design malt spirit from barley malt.

**i.** The industry has obtained NOC for ground water withdrawal of 2600 kld (kilo litre per day), vide NOC no. CGWA/NOC/IND/ORIG/2016/2308 dated 17.10.2016. Since the industry is located in Chamraua block of Rampur district which has been categorized as "Over Exploited" as per Dynamic Ground Water Estimation and categorization of assessment units. As per CGWA norms the Industry located in "Over Exploited" can withdraw ground water to the tune of 50% of annual ground water recharge being done by the industry through suitable measures within and outside the industry.

**ii.** The present study has been taken up within and outside the premises of Radico Khaitan Ltd to study the hydrogeological, geological, climate, landuse, topography, drainage and geomorphological conditions of the study area and mainly to assess the impacts of ground water abstraction and ground water recharge measures adopted by Radico Khaitan Ltd within or outside the premises'

**iii.** The study area occupies an area of **230 sq. km** and is located in the western part of Chamraua block of Rampur district, Uttar Pradesh state. It lies between north latitudes 28.674800° and 28.835600° and east longitudes 78.976700° and 79.121300°. The average annual rainfall is 976 mm.

**iv.** Land use distribution in the study area shows that maximum area falls under cropped land i.e. about 85.7 % of total surveyed area. Fallow land and forest plantation, occupy about 4% together, out of the total area. Urban area including the rural settlement area covers about 10.0% of total area. The Radico Khaitan industry is located in the urban settlement area of Rampur town. Cropping intensity in the block is 201% and the irrigation intensity is 168%.

**v.** The study area overlies older alluvial plain occupying upland with general north to south slope. It is marked by palaeochannels, meander channels, river valleys and shallow

depressions. The ground elevation in the study are varies from 138 mamsl in the northern parts around Thotri to 121 mamsl in the southeast.

**vi.** Maximum part of the study area occupies a relatively higher elevation than the younger alluvial plain and forms the inter stream area. This plain covers about 70% of the study area. This is further classified depending on canal command area. Major part falls under older alluvial plain under canal command area.

**vii.** Study area lies over alluvial deposits of the Quaternary period brought by river system of Ram Ganga. These comprise sand, silt and clays in various proportions. There are four aquifer groups present in the area down to 440 mbgl. A single aquifer system has been deciphered in the area down to 180 to 200 mbgl. The system at places is separated or divided into a number of aquifers by the intercalated clay layers. General depth of tubewells ranges from 50 to 130 mbgl. The cumulative screened length varies from 20 to 30 m down to the depth of tubewell. The specific capacity of tubewells ranging from 50 to 100 mbgl varies from 295 to 1263 lit/min/m and average yield in this first aquifer varies from 800 to 5200 lpm (litre per minute) for draw downs ranging from 1.5 to 8.0 m. The exploratory drilling at Pipla Shiv Nagar indicates that Transmissivity values are 1140 m2/day and Storativity is $6.95x10^{-3}$. The second aquifer is intermixing zone in which clay and sand layers are intercalated. This zone extends from 200 m to 300 mbgl at Pipla EW in Milak block of Rampur district. The third aquifer occurs at a depth range of 388 to 400 mbgl and the change in the sediment facies occur at this depth range. The fourth aquifer extends beyond 400 mbgl, and is not explored in this area.

**viii.** In the study area around the distillery plant, ground water occurs in the pore spaces of unconsolidated alluvial sediments in the zone of saturation. The top sandy bed mixed with silt existing down to the depth of about 50 metres below ground level generally supports the dugwells, shallow tube wells and handpumps.

**ix.** In general water levels during premonsoon period of 2019, vary between 5.0 and 6.0 mbgl in the maximum part of the study area. Water level increases from north and west towards east and southeast. The depth to ground water levels in the area around Rampur Distillery falls in the range of 6.0 to 6.5 mbgl.

**x.** During post monsoon period 2019, the water level pattern is similar to that of premonsoon period, except that water levels range from 3.45 to 6.82 mbgl. The depth to ground water levels in the area around Rampur Distillery falls in the range of 5.0 to 6.0 mbgl. Maximum area falls under depth to water level range of 4.5 to 5.5 mbgl.

**xi.** The study area shows seasonal water level fluctuation (pre to post monsoon period 2019) ranging from 0.34 to 0.60 m. Fluctuation of more than 0.60 m is observed in the northern part of the area around Khaund and Koela villages, and in the eastern part of the study area east of Daniapur village.

**xii.** It is observed that long term historical ground water levels indicate a falling trend in the buffer zone prior to interventions by Radico Khaitan Ltd, whereas piezometers that have been constructed by Radico Khaitan Ltd in the buffer zone during or after 2017 (after issuance of NOC and compliance to directives), show a rise at all the six stations.

**xiii.** Ground water movement for pre monsoon period of 2019, shows a master flow direction from north around Koela towards Kalrakh in south. Water table elevation varies from 187 to 177 mamsl. In the northwestern part of the study area flow is from Khound in the east to west towards Kosi river. The ground water gradient in this part is about 1.4 m/km. In the northeastern parts ground water flows from Khound towards Dabka and Shahjadnagar, where gradient is about 1.2 m/km. After this point, gradient further decreases to 0.5 m/km and about 0.25 m/km further south around Daniapur and Kalrakh.

**xiv.** Pattern of Ground water movement for post monsoon period of 2019, is similar to that of premonsoon period except that water table elevation varies from 189 to 178 mamsl.

**xv.** The Chamraua block shows the stage of Ground water Withdrawal as 133.15% as on 31.03.2017, as shown in the Table 10 & 11. This block has been categorized as “Over Exploited”.

***xvi. As per dynamic ground water resource estimation as on 31.03.2020 the Chamraua block has been re-categorized as “Critical” block (as per the unpublished report prepared jointly by Central Ground Water Board, Govt. of India and State Ground Water Department, Govt of UP, Lucknow). This shows improvement in the ground water scenario of the block.***

xvii. **As per the chemical analysis of ground water samples collected in the study area it is evident that ground water quality is well within permissible for domestic as well as irrigation purposes.** During 2019 EC values of the area indicate that conductivity in ground water generally varies from 710 to 736 μmhos/cm at $25^0$C, which is well within permissible limits. Total hardness of the groundwater in Rampur Distillery area varies between 167 and 180 mg/l, therefore is classified as Hard in nature. The Fluoride and iron contents are also within permissible limits.

xviii. Ground water quality does not show any significant changes over last 4 years since 2016, analysis of data reveals a improvement in water quality which may be due to ground water recharge measures adopted by industry.

xix. The rainfall runoff from the premise area, except the runoff from open area, has been used for recharging ground water through twenty (20) recharge trenches constructed within the premises. Through these measures annually **156074 m3** of rainfall runoff is being recharged to ground water.

xx. To meet the required ground water recharge measures for meeting the requirement as per CGWA directives; Radico Khaitan Limited has also adopted ponds in Chamraua block. The total ground water recharge measures adopted by Radico Khaitan Limited till date is **27,96,287 m3/year which is 295% of the annual withdrawal of ground water by the industry.**

xxi. Ground water levels, it's spatial and temporal variation, are main indicator of ground water regime condition in any area. To study the impacts of ground water extraction and ground water recharge measures, adopted by Radico Khaitan Ltd, on ground water regime in buffer zone around the industry, the historical water level data collected from six piezometers constructed by the industry and ten GWMS of State GWD located in the study areas were considered.

xxii. The water level trends in the **buffer zone**, clearly indicate that **ground water regime which was showing deteriorating tendency since 2008, has improved after the recharge measures adopted by Radico Khaitan Ltd** within the premises.

**xxiii.** The water level trend data **is showing rising trend** at **all the six piezometers ranging from 0.365 m/year at Hitachi Land to 0.620 m/year as observed at Madhaiya piezometer**. Falling trend is not observed at any piezometer in the premises or in the buffer zone.

**xxiv. Impacts of ground water extraction by industry and adopted measures for ground water recharge in the study area vis-à-vis overall annual, pre and post monsoon trends in the entire study area are as below**

- The annual water level trends observed at all the six piezometers of Radico Khaitan Ltd **are showing rising trends ranging from 0.365 m/year at Hitachi Land to 0.620 m/year as observed at Madhaiya piezometer**. Falling trend is not observed at any piezometer in the premises or in the buffer zone.
- Annual ground water trends at eight out of ten GWM stations show declining trends **for the period of 2008 to 2020**. Only two stations at Bilaspur (Bilaspur block) and Panjabnagar (Chamraua block) show a rise in water level trends for the last 10 to 11 years. All the remaining eight GWMS show a long term declining trend of ground water level trends, ranging from 0.014 m/year (at Dalpura) to 0.234 m/year at Chamraua.
- Analysis of water level trends for **2008-2016** (prior to issuance of NOC), indicates that **ground water level situation since 2008 was showing a declining trend in general upto 2016**. Eight out of ten stations were showing declining trends of water level.
- The trend analysis of water levels **since 2017**, that is after issuance of NOC and ground water recharge measures adopted by industry show a remarkable improvement in ground water scenario. Water level trends since 2017 indicate that **all the nine GWMS (except Chamraua station, for which water level data since 2017 is not available) are showing rising water level trends**. Rising water level trends are ranging from 0.128 m/year (12.8 cm/year) at Koyla GWMS which is located in northern part of study area to 0.734 m/year at Madhaiya GWMS which is located in the southeastern parts of the study area (Table 27 b).

- **Pre and post monsoon water level trends also indicate that there is much improvement in ground water scenario since the interventions by industry for ground water recharge.**
- During premonsoon period for period of 2008 to 2016 it is observed that five GWMS show a declining trend of water levels whereas, water level trends during the period of 2017-2020 only three stations show a declining trends of water level (Table 27 b).
- **During post monsoon period for period of 2008 to 2016 it is observed that nine GWMS show a declining trends and one station shows a rising trends, whereas, water level trends during the period of 2017-2020, after ground water measures by industry, all the stations show a rising trend of water levels.**
- Thus it is clearly observed that water level monitoring stations which were showing declining trends prior to adoption of ground water recharge measures by the industry, are showing rising water level trends at all the stations.
- **Although three stations in the study area show declining trends during the premonsoon period, the recharge measures taken are sufficient to replenish the depleted ground water levels and the ground water levels recover to the normal levels or even shallower water levels (Table 27 b)**. Three stations show rising water level trends of more than 20 cm/year and remaining stations show rising trends between 0.50 to 18 cm/year.
- Study revealed that during 2016 post monsoon period maximum area falls under water level range of 5 to 6 mbgl as seen in the map, whereas, during post monsoon period of 2019 maximum area falls under depth range of 4.5 to 5.5 mbgl. The depth to post monsoon water level maps for 2016 and 2019, also show an improvement in ground water conditions from year 2016 to 2019.
- **The piezometers constructed by industry, at Ajitpur and Hitachi land (both within the premises) also show a rising trend of 0.548 m/year (54.8 cm/year) and 0.365 m/year (36.5 cm/year) respectively since 2017.**

**xxv.** **Flow net analysis in the study area** indicates that there are two crests showing water table contour value as 189 and 183 mamsl (meter above mean sea level) at Nawada in the north

of Koela in the northern part and near Rampur Distillery respectively. The ground water flow in the study area is from northern boundary towards south, west and southeastern directions. Major ground water flow is towards south, but the gradient changes (reduces) towards south upto Daniapur. In the northwestern part of the study area, ground water flows from Khound in the east towards Kosi river in west. The ground water gradient in this part is about 1.45 m/km. In the northeastern parts ground water flows from Khound towards Dabka and Shahjadnagar, where gradient is about 1.5 m/km. After this point, gradient further decreases to 0.5 m/km and about 0.30 m/km further south around Daniapur and Kalrakh.

**xxvi.** Water conservation and recharge measures also have positive impact on the socio economic development of the population living in the area around the industry, by way of improving cropping intensity, change in land use pattern, sustainability of the groundwater abstraction structures and reduction in the power consumed for groundwater withdrawal.

**xxvii.** Major water consuming area is 42% fresh water consumption & 58% as recycled soft water. Process accounts for 21%, Utility accounts for 11%, 15% accounts for DM water, 50% accounts for soft water, 2% for gardening and almost 1% for domestic accounts

**xxviii.** RKL has achieved remarkable landmarks in the field of effluent management, achieving Zero Spent Wash Discharge through various means and reduction in fresh water consumption per litre of alcohol production.

**xxix.** RKL is one of the pioneers to accept and introduce the new Technologies. For the First Time in India they had installed the DAF System on Distillery Effluent. TSS Reduction through DAF is from 3200 PPM to 2000 PPM i.e. about 38%.

**xxx.** All residential waste water is sent to 150 KLD STP installed in the plant for treatment of sewage water and treated water is utilized in gardening of cricket ground and nearby areas for vegetation and plantation.

**xxxi.** In pursuance of compliance conditions of NOC, RKL have established total 12 piezometers. Six piezometers were established during 2016-17 and six piezometers have been constructed during 2020-21. The piezometers are fitted with telemetry system and daily water level data is being collected automatically and is accessible through server. The data

will be very helpful in keeping a close look at short and long term ground water level changes in the area around the plant.

**xxxii.** RKL has ventured into Kosi rejuvenation proposal under technical support of "**Art of Living**". Leading technical experts from Art of Living family are conceptualizing a suitable management plan for catchment areas of river Kosi so as to rejuvenate the river and maintain E-flows throughout the year.

**xxxiii.** Thus ground water abstraction by RKL is not having any significant adverse impacts on ground water regime in the area. Rather extensive activities for ground water recharge have resulted in improved ground water scenario in the Chamraua block.

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## Annexure I
## : Composite Litholog of Pipla Shiv Nagar Exploratory Well - I, Milak Block, Rampur District, Uttar Pradesh

| S.No. | Lithology | Depth Range (mbgl) | | Thickness (m) |
|---|---|---|---|---|
| | | From | To | |
| 1 | Clay,brown in color sticky in nature | 0 | 10 | 10 |
| 2 | Medium grained sand, light grey in color sub angular to sub rounded | 10 | 20 | 10 |
| 3 | Medium grained sand, light grey in color sub angular to sub rounded mixed with clay | 20 | 26 | 6 |
| 4 | Medium to coarse grained sand, brown in color sub angular to sub rounded | 26 | 42 | 16 |
| 5 | Fine grained sand, brown in color well rounded | 42 | 48 | 6 |
| 6 | Medium to coarse grained sand, brown in color sub angular to sub rounded | 48 | 54 | 6 |
| 7 | Medium to coarse grained sand, brown in color sub angular to sub rounded mixed with clay | 54 | 60 | 6 |
| 8 | Medium to coarse grained sand, brown in color sub angular to sub rounded | 60 | 72 | 12 |
| 9 | Medium grained sand, brown in color sub angular to sub rounded mixed with silt | 72 | 76 | 4 |
| 10 | Medium grained sand, brown in color sub angular to sub rounded | 76 | 84 | 8 |
| 11 | Medium to coarse grained sand, brown in color sub angular to sub rounded mixed with little kankar and silt | 84 | 92 | 8 |
| 12 | Medium to coarse grained sand, brown in color sub angular to sub rounded mixed with little kankar | 92 | 98 | 6 |
| 13 | Medium to coarse grained sand, brown in color sub angular to sub rounded mixed with little kankar and silt | 98 | 112 | 14 |
| 14 | Medium grained sand, brown in color sub angular to sub rounded mixed with clay | 112 | 120 | 8 |
| 15 | Medium to coarse grained sand, brown in color sub angular to sub rounded | 120 | 146 | 26 |

| S.No. | Lithology | Depth Range (mbgl) | | Thickness (m) |
|---|---|---|---|---|
| | | From | To | |
| 16 | Medium to coarse grained sand, brown in color sub angular to sub rounded | 146 | 150 | 4 |
| 17 | Medium to coarse grained sand, brown in color sub angular to sub rounded | 150 | 154 | 4 |
| 18 | Medium to coarse grained sand, brown in color sub angular to sub rounded mixed with clay | 154 | 160 | 6 |
| 19 | Medium grained sand, brown in color sub angular to sub rounded | 160 | 178 | 18 |
| 20 | Medium to coarse grained sand, reddish brown color sub angular to sub rounded mixed with some parts of fine grain sand and clay | 178 | 200 | 22 |
| 21 | Medium to coarse grained sand, reddish brown color sub angular to sub rounded mixed with kankar | 200 | 206 | 6 |
| 22 | Medium to coarse grained sand, reddish brown color sub angular to sub rounded mixed with kankar | 206 | 216 | 10 |
| 23 | Medium to coarse grained sand, reddish brown color sub angular to sub rounded mixed with some parts of fine grain sand and clay | 216 | 232 | 16 |
| 24 | Fine to medium grained sand, brown in color sub angular to sub rounded | 232 | 236 | 4 |
| 25 | Fine to medium grained sand, brown in color sub angular to sub rounded | 236 | 240 | 4 |
| 26 | Fine to medium grained sand, brown in color sub angular to sub rounded | 240 | 248 | 8 |
| 27 | Medium to coarse grained sand, reddish brown color sub angular to sub rounded mixed with some parts of fine grain sand mixed with clay | 248 | 250 | 2 |
| 28 | Medium to coarse grained sand, reddish brown color sub angular to sub rounded mixed with some parts of fine grain sand | 250 | 254 | 4 |
| 29 | Medium to coarse grained sand, reddish brown color sub angular to sub rounded mixed with some parts of fine grain sand mixed with clay | 254 | 260 | 6 |
| 30 | Medium to coarse grained sand, reddish brown color sub | 260 | 270 | 10 |

| S.No. | Lithology | Depth Range (mbgl) | | Thickness (m) |
|---|---|---|---|---|
| | | From | To | |
| | angular to sub rounded mixed with some parts of fine grain sand | | | |
| 31 | Medium to coarse grained sand, reddish brown color sub angular to sub rounded mixed with some parts of fine grain sand mixed with clay | 270 | 280 | 10 |
| 32 | Medium to coarse grained sand, reddish brown color sub angular to sub rounded mixed with some parts of fine grain sand | 280 | 288 | 8 |
| 33 | Medium to coarse grained sand, reddish brown color sub angular to sub rounded mixed with some parts of fine grain sand mixed with silt | 288 | 292 | 4 |
| 34 | Medium to coarse grained sand, reddish brown color sub angular to sub rounded mixed with some parts of fine grain sand mixed with silt | 292 | 300 | 8 |

## Annexure II

**PRE AND POST MONSOON DATA FOR CHAMRAUA BLOCK, DISTRICT RAMPUR (2008-2020)**

| HYDROGRAPH | Reduced Level (mamsl) | PERIOD | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | (values in meters below ground level) | | | | | | | | | | | | |
| AJITPUR PZ | 187.970 | PRE | | | | | | | | | | | | 5.57 | 5.34 |
| AJITPUR PZ | | POST | | | | | | | | | | | | 4.96 | 4.90 |
| AJITPUR* | 187.970 | PRE | 5.00 | 5.2 | 8.1 | 5.43 | 5.4 | 6.35 | 5.79 | 5.95 | 6.7 | 6.85 | 5.95 | 5.85 | - |
| AJITPUR* | | POST | 2.95 | 4.6 | 3.53 | 3.76 | 5.35 | 4.7 | 5.4 | 6.02 | 0 | 6.6 | 4.9 | 5.37 | - |
| BHONT* | 189.240 | PRE | 6.32 | 6.37 | 8.11 | 6.5 | 6.57 | 7.52 | 6.77 | 6.87 | 7.25 | 7.5 | 7.72 | | 7.4 |
| BHONT* | | POST | 2.77 | 5.75 | 3.8 | 4.36 | 6.52 | 5.47 | 6.45 | 6.82 | 6.55 | 7.4 | 5.6 | 6.82 | 6.6 |
| CHAMRAUA* | 187.260 | PRE | 4.85 | 4.35 | 6.9 | 5.2 | 4.75 | 6.23 | 5.3 | 5.9 | | Choked | 6.9 | 6.6 | 6.52 |
| CHAMRAUA* | | POST | 1.5 | 4.1 | 2.46 | 3.23 | 4.7 | 3.8 | 5.2 | | | Choked | 6.2 | 6.05 | 6.16 |
| DALPURA* | 181.280 | PRE | 4.00 | 4.81 | 7.8 | 5.25 | 4.93 | 4.95 | 4.85 | 4.05 | 4.66 | 4.8 | 4.85 | | - |
| DALPURA* | | POST | 1.97 | 4.25 | 2.46 | 2.82 | 4.01 | 2.45 | 3.1 | 3.75 | 3.95 | 4.45 | 3.85 | | - |
| DEENPUR PZ | 185.000 | PRE | | | | | | | | | | | | 7.01 | 7.02 |
| DEENPUR PZ | | POST | | | | | | | | | | | | 6.78 | 7.17 |
| HARIYAL PZ | 183.000 | PRE | | | | | | | | | | | | 5.88 | 5.76 |
| HARIYAL PZ | | POST | | | | | | | | | | | | 5.59 | 5.58 |
| HITACHI LAND PZ | 189.000 | PRE | | | | | | | | | | | | 5.44 | 4.73 |
| HITACHI LAND PZ | | POST | | | | | | | | | | | | 4.59 | 4.35 |
| KOYALA* | 188.590 | PRE | 3.95 | 3.9 | 8.3 | 4.34 | 4.35 | 5.15 | 5.00 | 5.15 | 4.75 | 4.95 | 5.3 | 4.85 | 5.05 |
| KOYALA* | | POST | 1.45 | 3.45 | 2.00 | 2.43 | 3.9 | 3.15 | 3.7 | 4.05 | 4.2 | 4.7 | 3.65 | 4.15 | 4.25 |
| MADHAIYA PZ | 185.000 | PRE | | | | | | | | | | | | 4.81 | 4.27 |
| MADHAIYA PZ | | POST | | | | | | | | | | | | 4.07 | 4.43 |
| MDHEEYA UDAYRAJ | 190.180 | PRE | 6.00 | 5.45 | 7.78 | 5.7 | 6.1 | 7.1 | 6.00 | | 6.7 | 8.9 | 7.3 | 6.6 | - |
| MDHEEYA UDAYRAJ | | POST | 2.15 | 4.24 | 4.15 | 3.65 | 5.00 | 5.1 | 5.5 | | 6.25 | 8.5 | 5.9 | 6.16 | - |
| MILAK CHIKNA PZ | 187.000 | PRE | | | | | | | | | | | | 3.98 | 3.82 |
| MILAK CHIKNA PZ | | POST | | | | | | | | | | | | 3.45 | 3.51 |

## Annexure II

**PRE AND POST MONSOON DATA FOR CHAMRAUA BLOCK, DISTRICT RAMPUR (2008-2020)**

| HYDROGRAPH | Reduced Level (mamsl) | PERIOD | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | (values in meters below ground level) | | | | | | | | | | | | |
| PNJABNAGAR* | 183.990 | PRE | | 4.8 | 8.26 | 5.3 | 4.91 | 5.25 | 5.05 | 5.15 | 5.26 | 5.5 | 4.4 | 4.72 | 4.95 |
| PNJABNAGAR* | | POST | | 4.3 | 2.56 | 2.86 | 4.35 | 2.55 | 3.05 | 4.55 | 4.5 | 5.4 | 3.25 | 4.25 | 4.05 |
| RAMPUR* | 185.820 | PRE | 4.46 | 4.00 | 7.00 | 4.64 | 4.5 | 4.65 | 4.33 | 4.65 | Choked | | 6.25 | 6.15 | - |
| RAMPUR* | | POST | 2.45 | 3.9 | 3.6 | 3.28 | 3.95 | 3.5 | 5.1 | 4.55 | Choked | | 5.1 | | - |
| SAIDPUR (LADAURI) | 184.890 | PRE | | | | 5.38 | | 5.6 | 5.3 | 4.7 | 5.9 | 6.15 | 5.05 | 5.1 | 5.45 |
| SAIDPUR (LADAURI) | | POST | | | | 3.38 | 4.73 | 3.75 | 3.7 | 4.55 | 4.85 | 6.00 | 3.85 | 4.77 | 4.67 |
| SHAHJADANAGAR* | 185.120 | PRE | 5.00 | 4.9 | 7.63 | 5.25 | 5.2 | 6.05 | 5.15 | 5.6 | 6.45 | 6.65 | 6.75 | 5.92 | - |
| SHAHJADANAGAR* | | POST | 1.4 | 3.7 | 2.55 | 2.63 | 5.05 | 3.8 | 4.5 | 5.35 | 5.85 | 6.2 | 5.4 | | - |

## Annexure III

**LONG TERM WATER LEVEL TRENDS IN AREA AROUND RADICO KHAITAN LTD, RAMPUR (2008-2020)**

| BLOCK | MONITORING STATIONS | HISTORICAL WATER LEVEL TRENDS (m/year) | | | | WATER LEVEL TRENDS PRIOR TO ISSUANCE OF NOC (m/year) | | | | WATER LEVEL TRENDS AFTER TO ISSUANCE OF NOC (m/year) | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Premonsoon | | Postmonsoon | | Premonsoon | | Postmonsoon | | Premonsoon | | Postmonsoon | |
| | | RISE | FALL | RISE | FALL | RISE | FALL | RISE | FALL | RISE | FALL | RISE | FALL |
| BILASPUR | BILASPUR | 0.297 | | 0.046 | | 0.031 | | | 0.498 | **0.189** | | **0.326** | |
| CHAMRAUA | AJITPUR | | 0.051 | | 0.210 | | 0.051 | | 0.364 | **0.095** | | **0.242** | |
| CHAMRAUA | BHONT | | 0.086 | | 0.284 | | 0.049 | | 0.464 | | **0.122** | **0.059** | |
| CHAMRAUA | CHAMRAUA | | 0.148 | | 0.339 | | | | | | 0.138 | 0.020 | |
| CHAMRAUA | DALPURA | | 0.062 | 0.127 | | 0.099 | | | 0.093 | | **0.042** | **0.090** | |
| CHAMRAUA | KOYLA | | 0.011 | | 0.210 | | 0.053 | | 0.290 | | **0.004** | **0.005** | |
| CHAMRAUA | MADHAIYA UDAIRAJ | | 0.126 | | 0.366 | | 0.050 | | 0.416 | **0.230** | | **0.252** | |
| CHAMRAUA | PUNJAB NAGAR | 0.133 | | | 0.113 | 0.193 | | 0.050 | | **0.106** | | **0.154** | |
| CHAMRAUA | SHAHJAD NAGAR | | 0.091 | | 0.362 | | 0.007 | | 0.450 | **0.149** | | **0.185** | |
| CHAMRAUA | SAIDNAGAR LADAURI | 0.010 | | | 0.142 | 0.151 | | | 0.131 | | **0.007** | **0.051** | |

## Annexure IV

**GROUND WATER LEVEL DATA 2019, RAMPUR DISTRICT**

| BLOCK | HYDROGRAPH | LONGITUDE | LATITUDE | P_W | RL | PRM_19 | PTM_19 | WLFLUCT19 | WTPRE19 | WTPOST19 |
|---|---|---|---|---|---|---|---|---|---|---|
| BILASPUR | BAIRKHERI | 79.279444 | 28.918333 | P | 175.780 | 5.90 | 3.95 | 1.95 | 169.880 | 171.830 |
| BILASPUR | BALKHERA | 79.332222 | 28.759444 | P | 178.190 | 6.35 | 5.95 | 0.40 | 171.84 | 172.24 |
| BILASPUR | BILASPUR* | 79.262500 | 28.886667 | P | 169.800 | 6.00 | 4.18 | 1.82 | 163.800 | 165.620 |
| BILASPUR | KAUSHAL GANJ | 79.376667 | 28.889444 | P | 173.520 | 8.29 | 4.90 | 3.39 | 165.230 | 168.620 |
| BILASPUR | MUNDIYA KALAN | 79.276667 | 28.741389 | P | 175.630 | 9.80 | 8.13 | 1.67 | 165.830 | 167.500 |
| BILASPUR | PAIGAMBARPUR DANDIA | 79.347222 | 28.822222 | P | 172.040 | 5.25 | 5.85 | -0.60 | 166.790 | 166.190 |
| BILASPUR | PANWARIYA | 79.360000 | 28.786111 | P | 176.920 | 6.55 | 5.80 | 0.75 | 170.370 | 171.120 |
| CHAMRAUA | AJITPUR PZ | 28.770456 | 79.030434 | PZ | 187.970 | 5.57 | 4.96 | 0.61 | 182.400 | 183.010 |
| CHAMRAUA | AJITPUR* | 79.020833 | 28.769444 | P | 187.970 | 5.85 | 5.37 | 0.48 | 182.120 | 182.600 |
| CHAMRAUA | BHONT* | 79.112500 | 28.805556 | P | 189.240 |  | 6.82 |  |  | 182.420 |
| CHAMRAUA | CHAMRAUA* | 79.108333 | 28.785833 | P | 187.260 | 6.60 | 6.05 | 0.55 | 180.660 | 181.210 |
| CHAMRAUA | DALPURA* | 78.983889 | 28.705278 | P | 181.280 | 4.85 | 3.85 | 1.00 | 176.43 | 177.43 |
| CHAMRAUA | DEENPUR PZ | 28.702063 | 79.081201 | PZ | 185.000 | 7.01 | 6.78 | 0.23 | 177.990 | 178.220 |
| CHAMRAUA | HARIYAL PZ | 28.688075 | 79.062984 | PZ | 183.000 | 5.88 | 5.59 | 0.29 | 177.120 | 177.410 |
| CHAMRAUA | HITACHI LAND PZ | 28.781005 | 79.039276 | PZ | 189.000 | 5.44 | 4.59 | 0.85 | 183.560 | 184.410 |
| CHAMRAUA | KOYALA* | 79.080278 | 28.825000 | P | 188.590 | 4.85 | 4.15 | 0.70 | 183.740 | 184.440 |
| CHAMRAUA | MADHAIYA PZ | 28.737700 | 79.040349 | PZ | 185.000 | 4.81 | 4.07 | 0.74 | 180.190 | 180.930 |
| CHAMRAUA | MDHEEYA UDAYRAJ | 79.052778 | 28.711111 | P | 190.180 | 6.60 | 6.16 | 0.44 | 183.580 | 184.020 |
| CHAMRAUA | MILAK CHIKNA PZ | 28.728582 | 79.014939 | PZ | 187.000 | 3.98 | 3.45 | 0.53 | 183.020 | 183.550 |
| CHAMRAUA | PNJABNAGAR* | 79.000833 | 28.736111 | P | 183.990 | 4.72 | 4.25 | 0.47 | 179.270 | 179.740 |
| CHAMRAUA | RAMPUR* | 79.028056 | 28.718333 | P | 185.820 | 6.15 |  |  | 179.670 |  |
| CHAMRAUA | SAIDPUR (LADAURI) | 79.012222 | 28.681111 | P | 184.890 | 5.10 | 4.77 | 0.33 | 179.790 | 180.120 |
| CHAMRAUA | SHAHJADANAGAR* | 79.064722 | 28.739444 | P | 185.120 | 5.92 |  |  | 179.200 |  |
| MILAK | BALBHADRAPUR | 79.269167 | 28.689444 | P | 173.610 | 7.10 | 6.80 | 0.30 | 166.510 | 166.810 |
| MILAK | BARAKHAS | 79.144167 | 28.745556 | P | 188.110 | 6.80 | 4.38 | 2.42 | 181.310 | 183.730 |

## Annexure IV

**GROUND WATER LEVEL DATA 2019, RAMPUR DISTRICT**

| BLOCK | HYDROGRAPH | LONGITUDE | LATITUDE | P_W | RL | PRM_19 | PTM_19 | WLFLUCT19 | WTPRE19 | WTPOST19 |
|---|---|---|---|---|---|---|---|---|---|---|
| MILAK | BHAWERKA | 79.255278 | 28.712500 | P | 166.770 | 6.15 | 5.48 | 0.67 | 160.620 | 161.290 |
| MILAK | GANGAPUR KDIM* | 79.203333 | 28.766111 | P | 181.760 | 5.63 | 4.90 | 0.73 | 176.130 | 176.860 |
| MILAK | INAYTPUR | 79.298056 | 28.738611 | P | 177.390 | | 6.20 | | | 171.190 |
| MILAK | KAPNERI | 79.256667 | 28.721944 | P | 165.720 | 6.37 | 5.55 | 0.82 | 159.350 | 160.170 |
| MILAK | KHATA CHINTAMAN | 79.187222 | 28.675000 | P | 181.630 | 5.13 | 5.90 | -0.77 | 176.500 | 175.730 |
| MILAK | KUNDANPUR PIEZ | 79.110278 | 28.600556 | P | 188.240 | 5.20 | 4.85 | 0.35 | 183.040 | 183.390 |
| MILAK | MANOUNA | 79.272500 | 28.723056 | P | 174.790 | 7.10 | | | 167.690 | |
| MILAK | NIPANIYA | 79.173889 | 28.741111 | P | 186.060 | 5.54 | | | 180.520 | |
| MILAK | ROOPPUR | 79.193056 | 28.723611 | P | 186.470 | 6.20 | | | 180.270 | |
| SAIDNAGAR | DILPURA* | 79.138611 | 28.857500 | P | 192.800 | 4.55 | 5.15 | -0.60 | 188.250 | 187.650 |
| SAIDNAGAR | HAMIRPUR* | 78.949444 | 28.888611 | P | 191.060 | 6.77 | 6.53 | 0.24 | 184.290 | 184.530 |
| SAIDNAGAR | KARANPUR* | 79.068611 | 28.908056 | P | 192.130 | 6.27 | 7.00 | -0.73 | 185.860 | 185.130 |
| SAIDNAGAR | KHAUND* | 79.059167 | 28.819444 | P | 192.950 | 5.60 | 4.80 | 0.80 | 187.350 | 188.150 |
| SAIDNAGAR | KISHANPUR ATARI | 79.122222 | 28.883333 | P | 191.980 | 5.85 | 5.60 | 0.25 | 186.130 | 186.380 |
| SAIDNAGAR | LALPUR* | 79.016111 | 28.868333 | P | 189.330 | 4.65 | 4.50 | 0.15 | 184.680 | 184.830 |
| SAIDNAGAR | NAGALA GANESH* | 79.054722 | 28.833889 | P | 191.740 | 6.58 | 6.35 | 0.23 | 185.160 | 185.390 |
| SAIDNAGAR | NAWARNGAPUR* | 79.078889 | 28.840000 | P | 195.340 | 5.40 | 4.80 | 0.60 | 189.940 | 190.540 |
| SAIDNAGAR | SAID NAGAR* | 78.978333 | 28.894444 | P | 153.930 | 6.25 | 6.50 | -0.25 | 147.680 | 147.430 |
| SAIDNAGAR | SHAUKAT NAGAR | 79.038611 | 28.810278 | P | 189.870 | 7.14 | 6.85 | 0.29 | 182.730 | 183.020 |
| SHAHABAD | CHAKARPUR* | 78.991667 | 28.536944 | P | 181.340 | 13.90 | 13.60 | 0.30 | 167.440 | 167.740 |
| SHAHABAD | DEVIYA NAGLA | 78.976111 | 28.616944 | P | 182.350 | 5.20 | 5.10 | 0.10 | 177.150 | 177.250 |
| SHAHABAD | DHAKIYA | 78.971389 | 28.466667 | P | 181.770 | 12.85 | | | 168.920 | |
| SHAHABAD | ISHAKHERA | 79.068056 | 28.526944 | P | 174.280 | 11.60 | 11.30 | 0.30 | 162.680 | 162.980 |
| SHAHABAD | JAITOLI | 78.992500 | 28.597500 | P | 183.710 | 6.60 | 6.10 | 0.50 | 177.110 | 177.610 |
| SHAHABAD | KHADELI* | 78.970000 | 28.515556 | P | 181.900 | 14.45 | 14.05 | 0.40 | 167.450 | 167.850 |
| SHAHABAD | KIRA* | 79.006944 | 28.639167 | P | 182.330 | 5.85 | 5.68 | 0.17 | 176.480 | 176.650 |

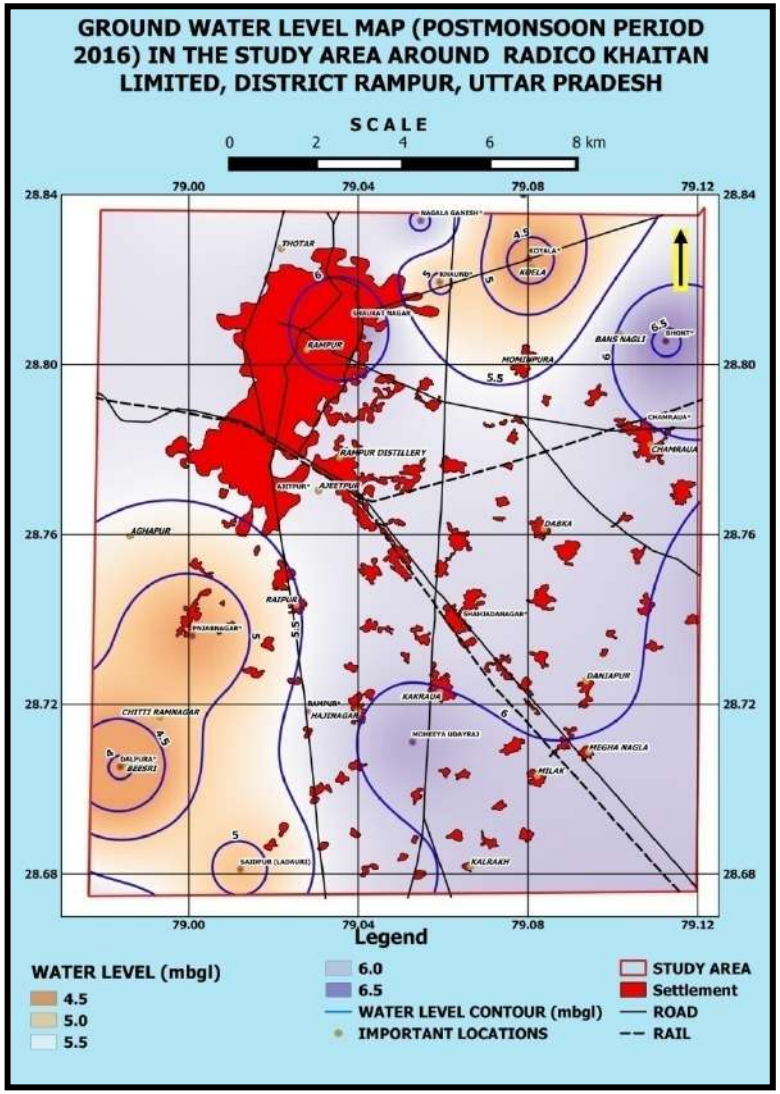
## Annexure IV

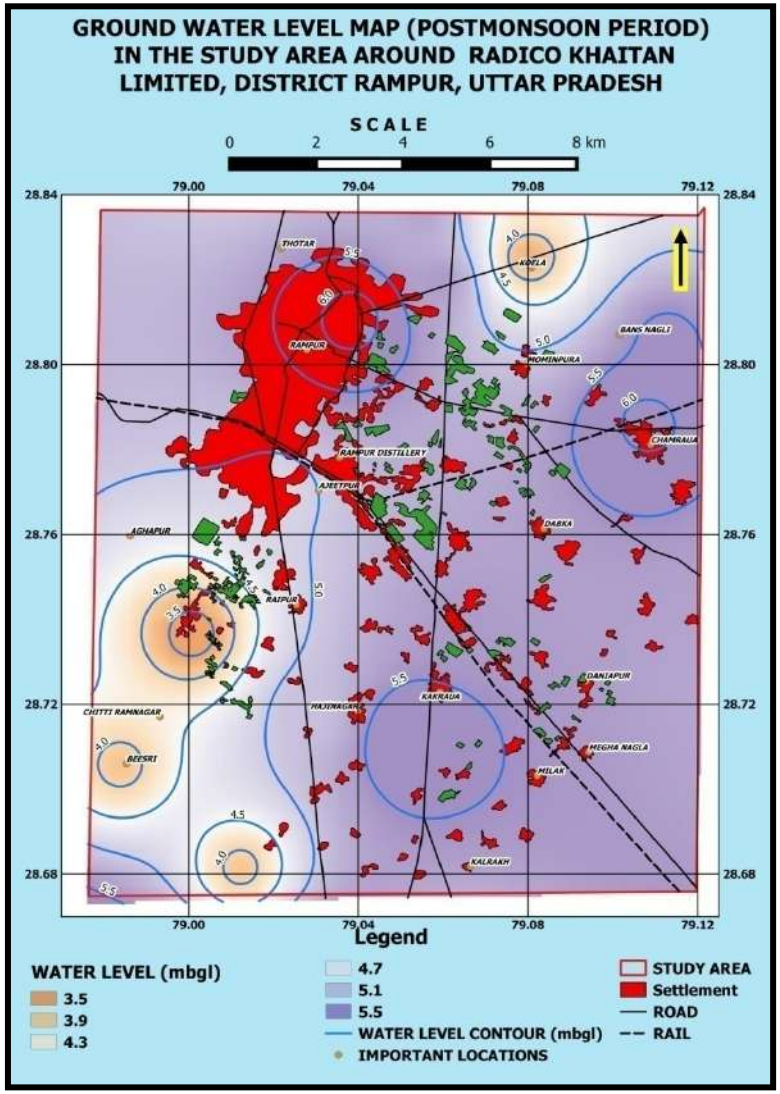
**GROUND WATER LEVEL DATA 2019, RAMPUR DISTRICT**

| BLOCK | HYDROGRAPH | LONGITUDE | LATITUDE | P_W | RL | PRM_19 | PTM_19 | WLFLUCT19 | WTPRE19 | WTPOST19 |
|---|---|---|---|---|---|---|---|---|---|---|
| SHAHABAD | MATHURAPUR* | 79.075278 | 28.604722 | P | 182.330 | 4.42 | 3.80 | 0.62 | 177.910 | 178.530 |
| SHAHABAD | NARKHERI* | 79.060556 | 28.648611 | P | 181.740 | 4.49 | 4.20 | 0.29 | 177.250 | 177.540 |
| SHAHABAD | RAWANA | 78.949444 | 28.614722 | P | 184.820 | 13.85 | | | 170.970 | |
| SHAHABAD | REVRI KHURAD | 79.044167 | 28.621111 | P | 180.880 | 4.75 | 4.45 | 0.30 | 176.130 | 176.430 |
| SHAHABAD | TANDA* | 79.035833 | 28.500000 | P | 180.380 | 15.04 | 14.80 | 0.24 | 165.340 | 165.580 |
| SHAHABAD | UCHA GAWA* | 79.033056 | 28.515833 | P | 182.440 | 13.82 | 13.50 | 0.32 | 168.620 | 168.940 |
| SHAHABAD | UDAYAPUR JAGIR | 79.019722 | 28.628333 | P | 184.430 | 6.60 | 5.53 | 1.07 | 177.830 | 178.900 |
| SWAR | DHAKKANAGLAIYA | 78.940833 | 28.959722 | P | 187.780 | 6.75 | 5.80 | 0.95 | 181.030 | 181.980 |
| SWAR | DHANUPURA | 79.016111 | 28.903611 | P | 161.250 | 5.50 | 4.80 | 0.70 | 155.750 | 156.450 |
| SWAR | SAMODIA | 79.097778 | 28.947222 | P | 164.510 | 3.65 | 3.00 | 0.65 | 160.860 | 161.510 |
| SWAR | SHIKAMPUR* | 78.943611 | 29.020833 | P | 162.750 | 9.40 | | | 153.350 | |
| SWAR | SHIKARPUR | 79.141389 | 29.060278 | P | 173.730 | 7.25 | 6.95 | 0.30 | 166.480 | 166.780 |
| SWAR | SWAR* | 79.060278 | 29.030278 | P | 166.810 | 5.00 | 4.35 | 0.65 | 161.810 | 162.460 |

| Annexure V Ground Water Quality since 2016, Radico Khaitan Ltd, Rampur | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Parameters** | **Units** | **BIS Standard IS 10500: 2012** | | **BOREWELL NO 1 & 2** | | **BOREWELL NO 3** | | **BOREWELL NO 1, 2 & 3** | | **BOREWELL NO -1** | | **BOREWELL NO 2** | | **BOREWELL NO 3** | |
| | | **Requirement (Acceptable limit)** | **Permissible limit in the absence of alternate source** | **Pre monsoon 2016** | **Post monsoon 2016** | **Pre monsoon 2017** | **Post monsoon 2017** | **Pre monsoon 2018** | **Post monsoon 2018** | **Pre monsoon 2019** | **Post monsoon 2019** | **Pre monsoon 2019** | **Post monsoon-2019** | **Pre monsoon 2019** | **Post monsoon 2019** |
| pH | | 6.5 - 8.5 | NR** | 7.21 | 7.24 | 7.22 | 7.19 | 7.28 | 7.3 | 7.23 | 7.21 | 7.25 | 7.23 | 7.27 | 7.26 |
| Electrical conductivity | mmhos/cm | - | - | 645 | 664 | 719 | 672 | 633 | 612 | 710 | 691 | 730 | 710 | 736 | 719 |
| Total dissolved solids (TDS) | mg/lit | 500 | 2000 | 432 | 445 | 482 | 450 | 424 | 410 | 476 | 463 | 489 | 476 | 493 | 482 |
| Total hardness | mg/lit | 200 | 600 | 204 | 218 | 229 | 215 | 199 | 210 | 167 | 162 | 172 | 167 | 180 | 174.5 |
| Total alkalinity | mg/lit | 200 | 600 | 220 | 232 | 245 | 230 | 215 | 212 | 185 | 182 | 189 | 182 | 192 | 186 |
| Sulphates (SO4) | mg/lit | 200 | 400 | 29 | 40 | 42 | 34 | 28 | 38 | 42.5 | 69.8 | 44.6 | 43.5 | 48 | 43.5 |
| Chloride (Cl) | mg/lit | 250 | 1000 | 114 | 110 | 128 | 104 | 98 | 92 | 81.2 | 80 | 84.5 | 82.9 | 88.6 | 84 |
| Fluoride(F) | mg/lit | 1 | 1.5 | 0.09 | 0.11 | 0.19 | 0.12 | 0.19 | 0.15 | 0.2 | 0.19 | 0.23 | 0.2 | 0.22 | 0.21 |
| iron (Fe) | mg/lit | 0.3 | NR** | 0.14 | 0.22 | 0.29 | 0.21 | 0.21 | 0.28 | 0.24 | 0.22 | 0.27 | 0.24 | 0.29 | 0.25 |
| Residual free chlorine | mg/lit | | | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 |

**Annexure VI Post monsoon period Depth to Water level Map of study area for 2016 and 2019**



**DEENPUR PZ**

**MADHAIYA PZ**

**AJEETPUR PZ**

**HITACHI LAND PZ**

**MILAK CHIKNA PZ**

**HARIYAL PZ**

# GROUND WATER DEPARTMENT

(Namami Gange & Rural Water Supply Department)
Ministry of Jal Shakti
Government of Uttar Pradesh

## Form 8 (A)/फॉर्म 8 (ए)

## APPLICATION FOR OBTAINING GRANT OF AUTHORIZATION/NO OBJECTION CERTIFICATE FOR SINKING OF EXISTING WELL
## विद्यमान कूप की बोरिंग हेतु प्राधिकार/अनापत्ति प्रमाणपत्र प्राप्त करने के लिए आवेदन

(Any Commercial or Industrial or Infrastructural or Bulk user)
(वाणिज्यिक अथवा औद्योगिक अथवा अवसंरचनात्मक अथवा सामूहिक उपयोक्ता)

[Under Section 14 of the Uttar Pradesh Ground Water Management and Regulation Bill, 2019]
[धारा 14, उत्तर प्रदेश भूगर्भ जल प्रबंधन तथा विनियमन बिल, 2019 के अधीन]

### Applicant's Details
### आवेदक का विवरण

| | | | |
|---|---|---|---|
| **Type of Applicant** आवेदक का प्रकार | Behalf of Firm/Company | **Application Number** आवेदन संख्या | RMPR1120NIN0004 |
| **Name of the Applicant** आवेदक का नाम | AMIT JAIN | **Father's Name** पिता का नाम | KAILASH BIHARI JAIN |
| **Date of Birth** जन्मतिथि | 22/01/1974 | **Gender** लिंग | Male |
| **Nationality** राष्ट्रीयता | Indian | **ID as Address Proof** निवास प्रमाण हेतु आईडी | Aadhaar Card |
| **Aadhaar Card Number** आधार कार्ड संख्या | 2484-6648-0412 | **Uploaded Aadhaar Card** अपलोड किया गया आधार कार्ड | Download |
| **House No./Flat No./Building No.** मकान सं0/फ़्लैट सं0/भवन सं0 | JAINA ESTATE | **Locality/Village** मुहल्ला/गाँव | CRPF ROAD |
| **City/Town/Post Office** नगर/कस्बा/पोस्ट ऑफिस | JWALA NAGAR | **State** राज्य | Uttar Pradesh |
| **District** जनपद | Rampur | **Pin Code** पिन कोड | 244901 |
| **Designation** पद | MANAGING DIRECTOR | **Company Name** कंपनी का नाम | DAMYAA PJ FOODS PRIVATE LIMITED |
| **Company Address** कंपनी का पता | KHASRA NO 334 VILLAGE CHIKNA SHAHBAD ROAD RAMPUR | **Authorization Letter** प्राधिकार पत्र | Download |

### Details of Existing Well
### विद्यमान कूप का विवरण

| | | | |
|---|---|---|---|
| **District** जनपद | Rampur | **Block** ब्लॉक | CHAMRAUAA (URBAN) |
| **Plot No./Khasra No.** प्लॉट संख्या/खसरा संख्या | KHASRA NO 334 | **Municipality/Municipal Corporation** नगर पालिक/नगर निगम | VILLAGE CHIKNA |
| **Ward No./Holding No.** वॉर्ड संख्या/होल्डिंग संख्या | | | SHAHBAD ROAD |

### Particulars of The Existing Well
### विद्यमान कूप का ब्यौरा

| | | | |
|---|---|---|---|
| **Date of Construction/Sinking of Well** कूप की निर्माण तिथि | 14/10/2013 | **Type of the Well** कूप का प्रकार | Tube Well/Boring |
| **Housing Pipe If Any** यदि कोई है | | No | |

For Damyaa (PJ) Foods Private Limited

Managing Director

## Strainer Details
## स्ट्रेनर का विवरण

| | | | |
|---|---|---|---|
| Material of Strainer<br>स्ट्रेनर की सामग्री | PVC | Number of Strainer(s)<br>स्ट्रेनर की संख्या | 1 |

| S.No.<br>क्रम संख्या | Strainer Installed at what Depth from Ground Level (in Meter)<br>स्ट्रेनर, भू-स्तर से कितनी गहराई पर स्थापित है (मीटर में) | Strainer Installed upto what Depth from Ground Level (in Meter)<br>स्ट्रेनर, भू-स्तर से कितनी गहराई तक स्थापित है (मीटर में) | Length (In meter)<br>लंबाई (मीटर में) | Diameter (In millimeter)<br>व्यास (मिलीमीटर में) |
|---|---|---|---|---|
| 1 | 38.00 | 44.00 | 6.00 | 100.00 |

| | | | |
|---|---|---|---|
| Approx. Depth of Well (In meter)<br>कूप की अनुमानित गहराई (मीटर में) | 44.00 | Whether there has been Any Adverse Report Regarding Water Quality of the Well?<br>क्या कूप के जल की गुणवत्ता के संबंध में कोई प्रतिकूल रिपोर्ट है? | No |
| Give Particulars Regarding Water Quality of the Well<br>कूप की जलीय गुणवत्ता का विवरण दें | | N/A | |

## Details of Existing Pumping Device
## विद्यमान पंपिंग उपकरण का विवरण

| | | | |
|---|---|---|---|
| Type of Pump to be Used<br>प्रयोग किये जाने वाले पंप का प्रकार | Submersible | Pump Capacity (In m3/hr)<br>पंप क्षमता (m3/hr) | 4.00 |
| Horse Power (H.P.)<br>हॉर्स पावर (एच.पी.) | | 2.00 | |
| Operational Device<br>परिचालन उपकरण | Electric Motor | Date of Energization<br>विद्युतीकरण तिथि | 14/10/2013 |

## Details of Utilization of Well
## कूप के उपयोग का विवरण

| | | | |
|---|---|---|---|
| Purpose of the Existing Well<br>विद्यमान कूप का उद्देश्य? | Industrial | Annual Running Hours<br>वार्षिक उपयोग (घंटे में) | 1825.00 |
| Daily Running Hours<br>दैनिक उपयोग (घंटे में) | 5.00 | Whether the Water Supplied in Well Area Through Pipe Water Supply or Not?<br>क्या क्षेत्र में जल की आपूर्ति पाइप जलापूर्ति के माध्यम से होती है? | No |
| Please Submit Mode of Treatment of Waste Water/Effluent (For Industries)<br>अपशिष्ट जल की उपचार प्रणाली भरें (उद्योग हेतु) | THROUGH EFFLUENT TREATMENT PLANT | Please Mention Whether Obtained NOC from Uttar Pradesh Pollution Control Board for Discharge of Effluent/Waste Water or Not?<br>कृपया उल्लेख करें कि क्या उत्तर प्रदेश प्रदूषण नियंत्रण बोर्ड से अपशिष्ट प्रवाह/ अपशिष्ट जल प्रवाह हेतु अनापत्ति प्रमाण पत्र प्राप्त कर लिया गया है अथवा नहीं | Yes |
| Upload NOC<br>अनापत्ति प्रमाणपत्र अपलोड करें | | Download | |
| Whether Rain Water Harvesting Structure has been Constructed within the Premises?<br>क्या परिसर में वर्षा जल संचयन संरचना का निर्माण किया गया है? | Yes | Any Other Information Which You Would Like to Furnish<br>कोई अन्य जानकारी जो आप प्रदान करना चाहते हैं: | N/A |
| Capacity of Structure, Constructed for Rain Water Harvesting ( $M^3$ )<br>वर्षा जल के संचयन हेतु निर्मित संरचना की क्षमता ( मी०$^3$ ) | | 4.00 | |

For Damyaa (PJ) Foods Private Limited

Managing Director

Declaration by the Applicant
आवेदक द्वारा उद्घोषणा

I do hereby declare that the particulars fuenished herein above are correct and true . I understand that in case any of the information and particulars is found to be incorrect at any stage of scrutiny and investigation or thereafter, my application/registration is liable to be rejected/cancelled .
मैं एतद्द्वारा घोषित करता हूँ कि ऊपर दिये गए विवरण सही व सत्य हैं। मैं जानता हूँ कि यदि जांच पड़ताल के दौरान किसी भी स्तर पर उपरोक्त विवरण असत्य पाये गए तो मेरा आवेदन रजिस्ट्रीकरण अस्वीकृत/निरस्त किए जाने योग्य होगा

**I Agree/सहमत**

For Damyaa (PJ) Foods Private Limited

Managing Director

Annexure 8

# REGIONAL LABORATORY OFFICE MORADABAD
# UTTAR PRADESH POLLUTION CONTROL BOARD

**1-A/I.N.S.-1, Avas Vikas Colony, Buddha Vihar, Delhi Road,Moradabad**

## TEST REPORT: WASTE WATER LABORATORY

**Ref No: 14027615/Moradabad/2021** **Date:22/11/2021**

**1- Name of Industry:** DAMYAA (PJ) FOODS PRIVATE LIMITED

**2- Address of Industry:** VILLAGE MILAK CHIKNA, SHAHBAD ROAD,TEHSIL RAMPUR DISTRICT RAMPUR U.P 244901,RAMPUR,244901

**3- District:** Rampur

**4- Description about sampling point:** FINAL OUTLET OF ETP

**5- Type of Sample (Grab/Composite/Integrated):** Grab

**6- Sample Collected By:** Vinod Kumar AEE & Jitendra Nath Tiwari JE

**7- Colour and Odour:** COLOURLESS ODOURLESS

**8- Quantity and Packing:** 2 liter (PLASTIC JERICAN)

**9- Date of Sample Collection:** 10/11/2021

**10- Analyis Indented by:** RO Moradabad

**11- Date of sample receipt in Lab:** 11/11/2021

| Parameter/Method Name | Unit | Results | Standard | Detection Range |
|---|---|---|---|---|
| pH,4500 H B Electronic method | - | 7.5 | - | 02-12 |
| Suspended Solids , 2540 D Total Suspended Solids dried at 103-105 0C | mg/l | 60 | - | 10-20000 mg/l |
| Dissolved Solids, 2540 C Total Dissolved Solids dried at 180 0C | mg/l | 580.0 | - | 10- 50000 mg/l |
| BOD, 3 day 27 0C IS 3025 ( Part 44): 1993 Bio | mg/l | 24.0 | - | 1.0 -50000 mg/l |
| COD, 5220 B Open Reflux Method | mg/l | 208 | - | 5.0 -100000 mg/l |

Reference- (1)General Standards for discharge of envieronment Pollutants are as pert-A Effluent(Schedule-VI).The eniveronment (Protection) Rules,1986 source: www.cpcb.nic.in/GeneralStandards.pdf. Besides these standards,refer EPA standards for specific purpose

***Remark:*** *NA*

**Analysed by**

[Alok Sharma (JRF)]

**Authorized by**

ANIL KUMAR VISHWAKARMA Digitally signed by ANIL KUMAR VISHWAKARMA Date: 2021.11.22 13:40:18 +05'30'

Anil Vishwkarma SA

VIKAS MISHRA Digitally signed by VIKAS MISHRA Date: 2021.11.23 11:00:09 +05'30'

**Regional Officer**

Note: 1 The results in the Test Report relate only to the items tested: 2. The report shall not be reproduced-except in full, without the written permission of laboratory. 3. The test report pertains to the sample as received in Lab.

Annexure-9

# ADEQUACY REPORT

OF

# EFFLUENT TREATMENT PLANT

OF

## DAMYAA (P.J) FOODS PVT . LTD

## RAMPUR, U.P

SUBMITTED

BY


DEPARTMENT OF CIVIL ENGINEERING
FACULTY OF ENGINEERING & TECHNOLOGY
ALIGARH MUSLIM UNIVERSITY ALIGARH


NOVEMBER-2021

## 1.0 INTRODUCTION

Damyaa Pj Foods Pvt. Ltd. is a noted name in the food industry. They are noted manufacturer and supplier of 9 am food products. A wide array of food products like sauce, combo sauce, synthetic vinegar, mayonnaise, tomato puree, pickles, noodles, sharbat, and jam. All of these food items are prepared under stringent hygienic conditions. Moreover, they provide eatables of Creamooz brand as well at nominal rates. Their teams ensure that every food item manufactured and supplied has the highest quality. Hence, people trust their services.

Damyaa Pj Foods Pvt. Ltd. is managed by Mr. Parth Jain. He established the company back in the year 2011 in Rampur (Uttar Pradesh). The prime aim behind establishing the company was to simplify the provision of 9 am snacks to all their clients. The dedicated workforce that provides the optimal resolution. They have expert team, that checks the acquired raw material and finalized products on international parameters. They ensure that all products belong to superlative quality while being delivered to the client.

Plant has a capacity to produce snacks sauce -5TPD, Ketchup-2.5 TPD, Soya Sauce 1TPD,Chilli sauce 2.5 TPD, Noodles -2 TPD etc.

The units function on consents and directions given by the U.P. Pollution Control Board. As per the consent the effluent is allowed to discharge outside the premises and in surface water body after proper treatment as per the instruction given in the consent letter. Damyaa (PJ) Foods has installed exhaustive treatment system to treat the waste water and making it suitable for reuse in to process as well as for use in horticulture.

**Damyaa (PJ) Foods private Ltd., Rampur, U.P** has been visited on November 12, 2021. The presence of unit operations/processes of ETP have been physically verified (photographs attached – Annexure III). At the time of visit, various units of ETP were installed and found to be operational. The unit has been suggested some minor modifications for efficient working/treatment of wastewater. Later on, unit has informed that they have completed the modifications. The aesthetic view of the plant is satisfactory and the plant area was odor free at the time of inspection.

## 2.0 Objective of the present study:

The aim of the present study is to assess adequacy of existing ETP schemes in Mls. **Damyaa (PJ) Foods private Ltd., Rampur, U.P.**

## 3.0 Manufacturing Process

**Production Process:**

Creating the emulsion: A continuous blending system is employed to sustain the correct degree of emulsification. An emulsion (known technically as a colloid) occurs when the blending of two liquids, in this case vinegar and oil, causes one of the liquids to form small droplets that are dispersed throughout the other liquid. The blend of vinegar and oil moves continuously through a series of positive replacement pumps. These pumps feature a cavity or set of cavities fitted with rotary impellers. A regulated pumping action causes the cavities to fill and empty. The impellers move the blended fluid from one cavity to another

Adding ingredients: Pre-measured ingredients are piped in through openings in the sides of the pumps or from spigots overhead.

Bottling the mayonnaise: The mayonnaise is moved through the pumping system to the bottling station. Pre-sterilized jars move along conveyer belts as premeasured amounts of mayonnaise are poured into the jars. The jars are sealed with metal screwcaps. They are not vacuum-sealed. Quality Control : All raw materials are check for freshness when they arrive at the processing plant. Stored materials are tested periodically as well. Samples of the mayonnaise are drawn off and taste-tested during the manufacturing process as shown in (Annexure IV).

## 4.0 WATER AND WASTEWATER: GENERATION AND CHARACTERIZATION

### 4.1 QUANTIFICATION OF WASTEWATER

The sources of effluent include water left after processing of food ingredients, washing /cleaning of plant and utility section. The quantity of effluent generated from various sources of the unit has been estimated considering 60% of the total water

consumption. The total effluent generated has been estimated for present scenario is run for Maximum 6.5 KLD as per consent. Whereas it can handle up to 25.0 KLD.

## 4.2 CHARACTERIZATION OF WASTEWATER

The characteristics of effluent are source specific and differ from source to source. Therefore, the effluent generated is of interest from the standpoint of environmental impact in terms of both effluent volume and contaminant loading. Therefore, the characteristics of effluent include mainly pH, total suspended solids, biochemical oxygen demand, chemical oxygen demand and oil and grease. The current reports of influent and effluent are seen and attached (Annexure –I).

## 4.3 QUANTIFICATION OF WATER

Two bore wells with capacity of 20 KLD are used to drawn water from underground. The average water consumption including from food processing, domestic as well as staff colony and horticulture purposes is 16KLD. The quantity of fresh water consumption from various sources of the unit has been estimated for present scenario found to be 16-20 KLD.

## 4.4 CHARACTERIZATION OF WATER

The characteristics of raw water are source specific and differ from source to source. Therefore, the water consumption is of interest from the standpoint of environmental impact in terms of both influent volume and contaminant loading. Therefore, the characteristics of influent include mainly pH, total suspended solids, biochemical properties, oil and grease. The current reports are seen and attached (Annexure-I).

## 5.0 TREATMENT PROCESS DESCRIPTION

The unit has provided effluent treatment plant (ETP) for the treatment of wastewater prior to discharge and to comply with the requirements of the pollution control board. The treatment system consists of conventional wastewater treatment system followed by adsorption system. The detail wastewater treatment plant units are shown in the given figure. Process wastewater is collected through gravity to a

collection tank. Wastewater is pumped to flash mixing tank where coagulation and flocculation is added to settle down suspended particles. To settle material by gravity, removing floatable objects, and reducing the pollution to ease secondary treatment primary settlers are constructed. Ultimately reduces the Biochemical Oxygen Demand (BOD) and Total Suspended Solids (TSS) in the wastewater. Aeration provides oxygen to bacteria for treating and stabilizing the wastewater. Oxygen is needed by the bacteria to allow biodegradation to occur. The supplied oxygen is utilised by bacteria in the wastewater to break down the organic matter containing carbon to form carbon dioxide and water. Treated wastewater from aeration tank is moved to secondary settlers flowed by activated sludge aeration tank. The treated wastewater from the secondary clarifier is pumped to multigame filter followed by activated carbon filter.

## 6.0 TREATMENT PLANT: UNIT OPERATIONS/PROCESSES

(i) Flash mixing tank
(ii) Primary settler
(iii) Collection cum Equalization Tank
(iv) Aeration tank I & II
(v) Secondary clarifier
(vi) Sludge drying bed
(vii) Dual Media Filter
(viii) Activated carbon filter

## 6.1 SPECIFICATION OF PROCESS UNITS

| S. No. | ETP component | Nos. | Size/capacity | Material of Construction | Whether adequate , If not , give reasons |
|---|---|---|---|---|---|
| (i) | Screening tank | 03 | Total volume 1000 kl | RCC. | HRT 16 hrs Adequate |
| (ii) | Collection tank | 01 | Total volume 16 m3 | RCC | HRT 16 hrs Adequate |
| (iii) | Flash mixing tank | 01 | Total volume 0.5 m3 | MS | HRT 30mint Adequate |

| | | | | | |
|---|---|---|---|---|---|
| (iv) | Primary settler | 01 | 1.0 m x 2.3 m x 1.0 m | MS Sheets | HRT 130 mint Adequate |
| (v) | Aeration tank | 01 | 14 m Depth 3.0 m | MS Sheets. | Adequate |
| (vi) | Secondary settler tank | 01 | 1.0 m x 2.3 m x 1.8 m | MS | HRT 3.3 hrs Adequate |
| (vii) | Activated carbon filter | 01 | 50 cubic meter capacity | MS | Adequate |
| (viii) | Dual Media Filter | 01 | 50 cubic meter capacity | MS | Adequate |

**Information provided by the client*

## 7.0 ANALYSIS OF INFLUENT AND EFFLUENT CHARACTERISTICS

The client has provided recent test report of influent and effluent characteristics. It can be seen from the report that quality of treated wastewater obtained after multi grade filter is good quality and suitable for discharge to drains as well as re use for cleaning / washing and gardening. Thus out of 6.5 KLD wastewater generated 3.5 KLD is used back to green zone and 3.0 KLD discharge in to the nearby drain. The values of characteristic parameters at the outlet of ETP have been found to be within the permissible limit (Annexure I).

## 8.0 CONCLUSIONS AND RECOMMENDATIONS

(i) The capacity - wise all the unit operations and processes of ETP are seem to be adequate to cater the wastewater generated from the unit.

(ii) The influent and effluent characteristics having case specific selected parameters complies the regulatory norms of discharge standards.

(iii) 58 % wastewater after treatment used in the green zone and rest 42 % discharge in the drain after proper treatment as per CPCB guidelines.

(iv) Damyaa (PJ) foods pvt Ltd is discharging 42 % effluent out of the premises.

(v) Wastewater treatment scheme is adequately designed and working satisfactorily.

(vi) It has been suggested to arrange the technical training programme for operating personnel on treatment plant operation and maintenance on regular bases to aware of the significance and principles of the operating system.

(vii) It has been suggested to make regular maintenances of Multi grade and activated carbon filters

**Name** : Dr. Sohail Ayub
**Designation** : Professor
**Name of organization/institute:** Dept. of Civil Engg.
Aligarh Muslim University Aligarh – 202002

Dr. Sohail Ayub (Ph.D.)
Professor, Dept. of Civil Engg.
A.M.U., Aligarh

## SUMMARY SHEET OF ADEQUACY REPORT FOR ETP

## OF

## M/S Damyaa (PJ) Foods private Ltd., Rampur, U.P.

Adequacy Report No.: EPES/CED/169/2021 Date of Issue: 23.11.2021

| S. No. | Description | Details |
|---|---|---|
| 1 | Name of unit | **M/S Damyaa (PJ) Foods private Ltd., Rampur, U.P.** |
| 2 | Address of unit | Village Milak Chikna, Shahbad road Rampur UP |
| 3 | Date of Commissioning/ Commencement of Production | 2011 |
| 4 | (a) Plot area (in sq feet )<br>(b) Built up area (in sq feet) | 12393.0 SQM<br>4135.38 SQM RCC and 5102.22 Shed |
| 5 | Name, Designation & contact No(s) of the In- charge dealing with pollution control matters. | Mr.Pramod Kumar<br>975923085 |
| 6 | Name, Designation of the person (s) contacted at the site during the visit. | Mr. Ajeet Singh |
| 7 | Activity/process | Manufacturer, Exporter , Wholesaler & Retailer |
| 8 | Production capacity | produce snacks sauce -5TPD,<br>Ketchup-2.5 TPD, Soya Sauce 1TPD,<br>Chilli sauce 2.5 TPD, Noodles -2 TPD etc. |
| 9 | Manufacturing process /Main Activities (in brief, Also Attach Process Flow Diagram)) | As per process flow chart (Annexure- IV) |
| 10 | Main Raw Materials | as per requirement |
| 11 | Main Products | Snack sauces, Ketchup, noodles, soya souse, jam, pickles, Jeggre etc. |
| 12 | Source of water | Ground water (bore well) |

**Part B: Water Consumption, Waste Water Generation and Treatment**

13 Water consumption, source and waste water generation (in KLD): (please Annex Water Mass Balance chart)

| | | Usage | Water consumption Quantity, KLD | Source | Water meter installed | Wastewater generation, KLD | Flow meter installed |
|---|---|---|---|---|---|---|---|

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| | (a) | Domestic (toilet/Bathroom/ washroom & colony etc. | 1.0 KLD | Ground Water | Yes | 0.5 KLD | |
| | (b) | Used in production as ingredient | 15.0 KLD | Ground Water | yes | 6.0 KLD | Yes |
| | | Total | 16.0 KLD | Ground Water | Yes | 6.50KLD | |

| | |
|---|---|
| 14 | Basis of the quantity of water consumption and waste water generation mentioned above: **Estimation/Waste Water Meter Reading** |
| 15 | Wastewater treatment facilities: Effluent Treatment Plant (ETP) |

| S No. | Design capacity (in KLD) | Treatment facility | Design parameter (BOD etc.) | Treatment process(physio-chemical/Biological, mention technology used) | Batch/Continuous process | Sources of waste water leading to ETP | Present average waste water generation KLD | Flow meter at inlet & outlet (yes/No) | Disposal point |
|---|---|---|---|---|---|---|---|---|---|
| 1 | 25.0 | ETP | BOD-350 mg/l COD-1000 mg/l | Physico-Chemical | Continuous process | By Pump | 6.5 | Yes | Yes |

| | | |
|---|---|---|
| 16 | Whether all the wastewater generated from the unit /establishment is treated: Yes | |
| 17 | Mode and location of effluent discharge : (please attach location map of disposal clearly indicating the outlets for sampling/effluent discharge )<br>(a) **Treated effluent** : partially used for cleaning/ gardening and partially discharges outside after proper treatment as per the CPCB guidlines. | |
| 18 | Details of the Constituent Units of ETP | Screening tanks,Collection cum Equalization tank, Flash mixing tank, primary settler, aeration tank, Treated Water Tank, Dual Media Filter, ACF |
| | Design Capacity of ETP (in KLD) | 25.00 |
| | Treatment process (physic-chemical /biological, mention technology used) | 1. *Physico-Chemical Process*<br>Collection cum Equalization tank, Flash mixing tank, primary settler<br>2. *Biological Treatment Process*<br>NIL<br>3. *Chemical Treatment*<br>Aeration<br>4. *Tertiary Treatment*<br>Dual Media Filter, ACF |

| | | |
|---|---|---|
| | Date of commissioning of ETP<br>Whether continuous or batch? if batch , no. of batches?<br>(Enclose schematic diagram/ process flow sheet of treatment scheme & photograph of ETP | Commissioning Date: 2014<br><br>Type: Continuous process<br><br>Photo attached (Annexure II & III) |

## ETP COMPONENTS DETAILS

| S. No. | ETP component | Nos. | Size/capacity | Material of Construction | Whether adequate , If not , give reasons |
|---|---|---|---|---|---|
| (i) | Screening tank | 03 | Total volume 1000 kl | RCC. | HRT 16 hrs Adequate |
| (i) | Collection tank | 01 | Total volume 16 m3 | M.S. | HRT 16 hrs Adequate |
| (ii) | Flash mixing tank | 01 | Total volume 0.5 m3 | MS | HRT 30mint Adequate |
| (iii) | Primary settler | 01 | 1.0 m x 2.3 m x 1.0 m | MS Sheets | HRT 130 mint Adequate |
| (iv) | Aeration tank | 01 | 14 m<br>Depth 3.0 m | MS Sheets. | Adequate |
| (v) | Secondary settler tank | 01 | 1.0 m x 2.3 m x 1.8 m | MS | HRT 3.3 hrs Adequate |
| (vi) | Activated carbon filter | 01 | 50 cubic meter capacity | MS | Adequate |
| (vii) | Dual Media Filter | 01 | 50 cubic meter capacity | MS | Adequate |

| | |
|---|---|
| 19 | Whether design aspects were taken in to account while evaluating the performance of ETP: Yes |
| 20 | • Whether any modification was suggested to rectify deficiencies improve /upgrade the ETP: Yes<br>• Whether modifications are incorporated: Yes |
| 21 | Whether ETP found operating and wastewater is treated : Yes |
| 22 | Whether wastewater measured : Yes, Electromagnetic Flowmeter (At inlet and outlet of ETP)<br>(if yes please enclose details of flow meters type /No locations etc.) photograph attached |
| 23 | Whether all the wastewater generated from the unit is treated? If not , how much % of is being treated: Yes 100% treated |
| 24 | Whether unit is having any Bypass arrangement for discharge of untreated effluent from the premises : No |
| 25 | Whether the entire treated effluent is being reused? If yes mention the quantity of reuse /recycle of treated effluent in various in various usages and provide details. If not. How much % is being reused?: 42 % is used in green zone re circulation and recycling purposes. |
| 26 | Whether the unit has proper arrangement /system for handling and disposal of sludge generated from the ETP: Yes |

| | | | | |
|---|---|---|---|---|
| 27 | Whether the unit is having adequate and qualified /skilled operators(s) for the proper operation and maintenance of the ETP: Yes (It was suggested to have one more) | | | |
| 28 | Whether proper log book is being maintained for the operation and maintenance of ETP?: Yes | | | |
| 29 | Whether influent (untreated) and effluent (treated) characteristics have been monitored? If yes, then details in the table below) | | | |
| | Date and time of effluent sampling | Whether grab or composite sample | Name & designation of the person who collected sample | Name of the Empanelled laboratory which conducted monitoring /analysis |
| | 28.07.2021<br>2;30 PM | Grab Sampling | Sunil Kumar | Green Lab Analysis & Research centre New Delhi |
| 30 | Whether the treated effluent is meeting the prescribed standards: Yes | | | |
| 31 | Date of visit /inspection of the unit /establishment | | 12-11-2021 | |
| 32 | Name and designation of the person conducted visit/inspection of the unit /establishment | | Dr. Sohail Ayub | |
| 33 | Whether existing ETP is adequate to treat the waste water up to its designed capacity (10.0KLD) to meet the prescribed standards: Yes | | | |
| 34 | Advice (if any) given to the unit for the proper operation & maintenance of ETP (separate sheet may be enclosed) Requested to adopt ZLD system and install RO unit and Multi evaporator. | | | |
| 35 | Suggestion for best available technology :Nil | | | |
| 36 | Remarks (if any): The sizes of the different treatment units were found adequate and as per the laboratory reports the ETP is treating wastewater satisfactorily and the effluent discharge limits of CPCB are achieved. | | | |

Adequacy Report No.: EPES/CED/169/2021 Date of Issue: 23.11.2021

**Name** : Dr. Sohail Ayub
**Designation :** Professor
**Name of organization/institute:** Dept. of Civil Engg.
Aligarh Muslim University Aligarh – 202002

Dr. Sohail Ayub (Ph.D.)
Professor, Dept. of Civil Engg.
A.M.U., Aligarh

**Enclosures:** As Above

## ANNEXURE -I

Analysis Reports:

1.Influent and Effluent Wastewater Quality.

2. Domestic Water Quality.

3. Ambient Noise Quality.

4. Air quality

**(Original reports attached)**

**Green Lab Analysis & Research Centre Pvt. Ltd.**
A-74, Naraina Industrial Area, Phase-I, New Delhi-110028
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Website: www.glarc.in

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# RESULT OF ANALYSIS

**TEST REPORT**

| | | | |
|---|---|---|---|
| Page No | 1 of 1 | Sample Report No | GLARC/WT-2107280105 |
| Name and Address of Customer: | M/s. Damyaa P J Foods, Village Chikna Shahbad Road, Rampur - 244901 (U.P.) | Date of Receipt: | 28-07-2021 |
| Sample Name | RO Water | Start Date of Analysis: | 28-07-2021 |
| Batch No | RO/WT/234 | End Date of Analysis: | 10-08-2021 |
| M.F.G Date | 29/06/2021 | Report Issue Date: | 12-08-2021 |
| Sampling Method : | IS: 3025 | Sample Quantity: | 5.0 Ltr. |
| Sample collected by | Lab Representative (Mr. Sunil Kumar) | Any Other Information | Sterilized Pet Bottle |

| S.No | Parameters | Unit | Result | Requirement as per IS 10500:2012 Amendment 1 & 2 | | Test Method |
|---|---|---|---|---|---|---|
| | | | | acceptable Limit | Permissible Limit | |
| 1 | Colour | Hazen | 4.0 | 5 Max | 15 Max | IS: 3025 ( Part 4) |
| 2 | Odour | ..... | Agreeable | Agreeable | Agreeable | IS: 3025 ( Part 5) |
| 3 | pH value | ..... | 7.73 | 6.5-8.5 | No relaxation | IS: 3025 ( Part 11) |
| 4 | Taste | ..... | Agreeable | Agreeable | Agreeable | IS: 3025 ( Part 7 & 8) |
| 5 | Turbidity | NTU | <1.0 | 1 Max | 5Max | IS: 3025 ( Part 10) |
| 6 | Total dissolved solids | mg/l | 73.0 | 500 Max | 2000 Max | IS: 3025 ( Part 16) |
| 7 | Aluminium | mg/l | BDL | 0.03Max | 0.2Max | IS: 3025 ( Part 55) |
| 8 | Ammonia | mg/l | BDL | 0.5Max | No relaxation | IS 3025 (Part 34) |
| 9 | Anionic detergents | mg/l | BDL | 0.2 Max | 1.0 Max | Annex K of IS 13428 |
| 10 | Barium(as Ba) | mg/l | BDL | 0.7 Max | No relaxation | Annex F of IS 13428 |
| 11 | Boron (as B), | mg/l | BDL | 0.5 Max | 1.0 Max | IS 3025 (Part 57) |
| 12 | Calcium (as Ca) | mg/l, | 12.15 | 75 Max | 200 Max | IS 3025 (Part 40) |
| 13 | Chloramines (as Cl2) | mg/l | BDL | 4.0 Max | No relaxation | IS 3025 (Part 26) |
| 14 | Chloride (as Cl) | mg/l | 21.30 | 250 Max | 1 000 Max | IS 3025 (Part 32) |
| 15 | Copper (as Cu), | mg/l | BDL | 0.05 Max | 1.5 Max | IS 3025 (Part 42) |
| 16 | Fluoride (as F) | mg/l, | 0.01 | 1.0 Max | 1.5 Max | IS 3025 (Part 60) |
| 17 | Free residual chlorine | mg/l | BDL | 0.2 Max | 1 Max | IS 3025 (Part 26) |
| 18 | Iron (as Fe) | mg/l | 0.03 | 0.3 Max | No relaxation | IS 3025 (Part 53) |
| 19 | Magnesium (as Mg) | mg/l | 6.58 | 30 Max | 100 Max | IS 3025 (Part 46) |
| 20 | Manganese (as Mn) | mg/l | BDL | 0.1 Max | 0.3 Max | IS 3025 (Part 59) |
| 21 | Mineral oil | mg/l | BDL | 0.5 Max | No relaxation | IS 3025 (Part 39) |
| 22 | Nitrate (as NO3) | mg/ | 0.07 | 45 Max | No relaxation | IS 3025 (Part 34) |
| 23 | Phenolic compounds (as C6H5OH) | mg/l | BDL | 0.001 Max | 0.002 Max | IS 3025 (Part 43) |
| 24 | Selenium (as Se) | mg/l | BDL | 0.01 Max | No relaxation | IS 3025 (Part 56) |



• The results listed refer only to tested samples and applicable parameters. Endorsement of product is neither inferred nor implied.
• Test certificate in full or part shall not be used for promotional or publicity purpose & cannot be used as an evidence in the court of law.
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• Total liability of our Analytical division is limited to the invoiced amount. • Sample is drawn by us unless otherwise stated. • Results given in report are related to sample tested.

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Website: www.glarc.in

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# RESULT OF ANALYSIS

**Nature of the sample : RO Water**

| S.No | Parameters | Unit | Result | Requirement as per IS 10500:2012 Amendment 1 & 2 | | Test Method |
|---|---|---|---|---|---|---|
| | | | | acceptable Limit | Permissible Limit | |
| 25 | Silver (as Ag) | mg/l | BDL | 0.1 Max | No relaxation | Annex J of IS 13428 |
| 26 | Sulphate (as SO4) | mg/l | 9.24 | 200 Max | 400 Max | IS 3025 (Part 24) |
| 27 | Sulphide (as H2S) | mg/l | BDL | 0.05 Max | No relaxation | IS 3025 (Part 29) |
| 28 | Total alkalinity as calcium carbonate | mg/l | 18.70 | 200 Max | 600 Max | IS 3025 (Part 23) |
| 29 | Total hardness (as CaCO3) | mg/l | 22.54 | 200 Max | 600 Max | IS 3025 (Part 21) |
| 30 | Zinc (as Zn) | mg/l | BDL | 5 Max | 15 Max | IS 3025 (Part 49) |
| 31 | Cadmium (as Cd) | mg/l. | BDL | 0.003 Max | No relaxation | IS 3025 (Part 41) |
| 32 | Cyanide (as CN) | mg/l | BDL | 0.05 Max | No relaxation | IS 3025 (Part 27) |
| 33 | Lead (as Pb) | mg/l | BDL | 0.01 Max | No relaxation | IS 3025 (Part 47) |
| 34 | Mercury (as Hg) | mg/l. | BDL | 0.001 Max | No relaxation | IS 3025 (Part 48) |
| 35 | Molybdenum (as Mo) | mg/l | BDL | 0.07 Max | No relaxation | IS 3025 (Part 2) |
| 36 | Nickel (as Ni) | mg/l | BDL | 0.02 Max | No relaxation | IS 3025 (Part 54) |
| 37 | Polychlorinated biphenyls | mg/l | BDL | 0.000 5 Max | No relaxation | ASTM |
| 38 | Polynuclear aromatic hydrocarbons (as PAH) | mg/l | BDL | 0.000 1 Max | No relaxation | APHA |
| 39 | Total arsenic (as As) | mg/l | BDL | 0.01 Max | 0.05 Max | IS 3025 (Part 37) |
| 40 | Total chromium (as Cr) | mg/l | BDL | 0.05 Max | No relaxation | IS 3025 (Part 52) |
| 41 | Trihalomethanes: | | | | | |
| a) | Bromoform | mg/l | BDL | 0.1 Max | No relaxation | APHA |
| b) | Dibromochloromethane | mg/l | BDL | 0.1 Max | No relaxation | APHA |
| c) | Bromodichloromethane | mg/l | BDL | 0.06 Max | No relaxation | APHA |
| d) | Chloroform | mg/l | BDL | 0.2 Max | No relaxation | APHA |
| **Pesticide Parameters** | | | | | | |
| 1 | Alachlor | µg/l | BDL | 20 | -- | USEPA-525.2,507 |
| 2 | Atrazine | µg/l | BDL | 2 | -- | USEPA- 525.2, 8141 A |
| 3 | Aldrin | µg/l | BDL | 0.03 | -- | USEPA-506 |
| 4 | Dieldrin | µg/l | BDL | | -- | USEPA-508 |
| 5 | Alpha HCH | µg/l | BDL | 0.01 | -- | USEPA-508 |
| 6 | Beta HCH | µg/l | BDL | 0.04 | -- | USEPA-508 |
| 7 | Butachlor | µg/l | BDL | 125 | -- | USEPA-525.2, 8141 A |



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# RESULT OF ANALYSIS

Nature of the sample : RO Water

| S.No | Parameters | Unit | Result | Requirement as per IS 10500:2012 Amendment 1 & 2 | | Test Method |
|---|---|---|---|---|---|---|
| | | | | acceptable Limit | Permissible Limit | |
| 8 | Chlorpyriphos | µg/l | BDL | 30 | -- | USEPA-525.2, 8141 A |
| 9 | Delta HCH | µg/l | BDL | 0.04 | -- | USEPA-508 |
| 10 | 2,4- Dichlorophenoxyacetic acid | µg/l | BDL | 30 | -- | USEPA-515.1 |
| 11 | DDT | µg/l | BDL | 1 | -- | USEPA-508 |
| 12 | Isomers of DDT | µg/l | BDL | | | |
| 13 | DDE | µg/l | BDL | | | |
| 14 | DDD | µg/l | BDL | | | |
| 15 | Endosulfan | µg/l | BDL | 0.4 | -- | USEPA-508 |
| 16 | Ethion | µg/l | BDL | 3 | -- | USEPA-1657 A |
| 17 | Gamma — HCH (Lindane) | µg/l | BDL | 2 | -- | USEPA-532 |
| 18 | Isoproturon | µg/l | BDL | 9 | -- | USEPA-8141 A |
| 19 | Malathion | µg/l | BDL | 190 | -- | USEPA-8141 A |
| 20 | Methyl parathion | µg/l | BDL | 0.3 | -- | USEPA-8141 A |
| 21 | Monocrotophos | µg/l | BDL | 1 | -- | USEPA-8141 A |
| 22 | Phorate | µg/l | BDL | 2 | -- | USEPA-8141 A |
| **Microbiology Parameters** | | | | | | |
| 1 | Aerobic Microbial Count (at 20-22°C IN 72 Hours) | cfu/ml | 18 | 100.0max. | -- | FSSAI Lab Manual |
| 2 | Yeast and mould counts | per 250ml | Absent | Absent | -- | FSSAI Lab Manual |
| 3 | Salmonella | per 250ml | Absent | Absent | -- | FSSAI Lab Manual |
| 4 | Shigella | per 250ml | Absent | Absent | -- | FSSAI Lab Manual |
| 5 | E.coli | per 250ml | Absent | Absent | -- | FSSAI Lab Manual |
| 6 | Coliforms | per 250ml | Absent | Absent | -- | FSSAI Lab Manual |
| 7 | Staphylococcus aureus | per 250ml | Absent | Absent | -- | FSSAI Lab Manual |
| 8 | Pseudomonas aeruginosa | per 250ml | Absent | Absent | -- | FSSAI Lab Manual |
| 9 | Sulphite-reducing anaerobes | per 250ml | Absent | Absent | -- | FSSAI Lab Manual |
| 10 | Vibrio cholera | per 250ml | Absent | Absent | -- | FSSAI Lab Manual |
| 11 | V. paraheamolyticus | per 250ml | Absent | Absent | -- | FSSAI Lab Manual |

**Remarks : The sample conform to various requirement tested as per IS 10500 with Amendment 1 & 2 respect to above tests.**

****End of Report****

**Authorized Signatory**
**(S.D Sharma)**



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# RESULT OF ANALYSIS

## TEST REPORT

| | | | |
|---|---|---|---|
| Page No | 1 of 1 | Sample Report No | GLARC/WT-2106300104 |
| Name and Address of Customer: | M/s. Damyaa P J Foods, Village Chikna Shahbad Road, Rampur - 244901 (U.P.) | Date of Receipt: | 30-06-2021 |
| Sample Name | ETP Outlet Water | Start Date of Analysis: | 30-06-2021 |
| Batch No | ETPOUT/WT/286 | End Date of Analysis: | 05-07-2021 |
| M[illegible] Date | 28.06.2021 | Report Issue Date: | 05-07-2021 |
| Sample Pkg | Sterilized Pet Bottle | Sample Quantity: | 2.0 Ltr. |
| Sampling Method : | N.S | Any Other Information | N.S |
| Sample collected by | Lab Representative (Mr. Sunil Kumar) | | |

| S.NO. | Test Parameter | Unit of Measurements | Result | Requirement as per CPCB | Method Reference |
|---|---|---|---|---|---|
| CHEMICAL PARAMETERS | | | | | |
| 1. | pH value (at 25°C) | - | 7.42 | 6.5 – 8.5 | IS: 3025 (P-11)-1983 |
| 2. | Colour | Hazen | <1.0 | 5 max | IS: 3025 (P-4)-1984 |
| 3. | Chemical Oxygen Demand (COD) | mg/l | 53.0 | 250.0 Max. | IS: 3025 (P-58) 2006 |
| 4. | Biochemical Oxygen demand (at 3 days at 27°C) | mg/l | 15.0 | 50.0 Max. | IS: 3025 (P-44) - 1993 |
| 5. | Total Suspended Solids | mg/l | 8.0 | 100.0 Max. | IS: 3025 (P-17) -1984 |

CPCB : Central pollution control board

***End of Report***

Authorized Signatory
(Chemical)

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Test certificate in full or part shall not be used for promotional or publicity purpose & cannot be used as an evidence in the court of law.
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Total liability of our Analytical division is limited to the invoiced amount. • Sample (s) not drawn by us unless otherwise stated. • Results given in report are related to sample tested.

# ENVIRONMENT POLLUTION ANALYSIS LAB

(AN ISO 9001, ISO 14001, OHSAS 18001, NABL CERTIFIED LAB)
Laboratory : 1/18, 1st Floor, UIT Colony, Near Mansa Chowk Bhiwadi-301019, Alwar (Raj.), +91-9759427231

NABL ACCREDITED

## TEST CERTIFICATE

Issued to:
M/S DAMYA (PJ) FOODS PVT. LTD.
VILL.- CHIKNA, SHAHBAD ROAD, RAMPUR
U.P.- 244901, INDIA

Date of Report : 21/12/2020
Report No : EPAL/20/0923
Job Order No : EPAL/20/12/1215
Period of Testing : 18/12/2020 to 21/12/2020
Date of Receiving : 18/12/2020

## STACK EMISSION TEST REPORT

### A. SAMPLE PARTICULARS:

| | | |
|---|---|---|
| 1. **Name of the Unit** | : | **M/S DAMYA (PJ) FOODS PVT. LTD.** |
| 2. Name of Plant/Section | : | Boiler |
| 3. Capacity of Boiler | : | 5 TPH |
| 4. Type of the Sample | : | Stack Emission |
| 5. Date of Sampling | : | 18/12/2020 |
| 6. Type of Fuel Used | : | Coal |
| 7. Stack Height in feet | : | 95 Feet |
| 8. Diameter of stack in Inch | : | 750 mm |
| 9. Instrument Status | : | Calibrated |
| 10. Parameter Monitored | : | PM, $SO_x$, $NO_x$ |
| 11. Point of Sample Collection | : | From Port Hole of Stack |
| 12. Purpose of Analysis | : | Monitoring |
| 13. Sample Collected/ Supplied by | : | Lab Rep. |

### B. OBSERVATIONS:

| | | |
|---|---|---|
| 1. Stack Temperature, °C | : | 42 |
| 2. Ambient Temperature, °C | : | 20.0 |
| 3. Flue gas velocity, m/sec | : | 6.6 |
| 4. Sampling flow rate, lt./min. | : | 15.1 |
| 5. Period of sampling, minutes | : | 13.4 |
| 6. Volumetric Flow Rate (h/$Nm^3$) | : | 213.87 |

### C. TEST RESULTS:

| S.No. | Parameters | Units | Results | Limits as per CPCB | Protocol Used |
|---|---|---|---|---|---|
| 1. | Particulate Matter (at 15% $O_2$) | $mg/Nm^3$ | 22.4 | 800 | IS 11255(P-1) |
| 2. | Sulphur dioxide (at 15% $O_2$) | $mg/Nm^3$ | 8.2 | --- | IS 11255(P-2) |
| 3. | Oxides of Nitrogen (as $NO_2$) | $mg/Nm^3$ | 32.6 | --- | IS 11255(P-7) |

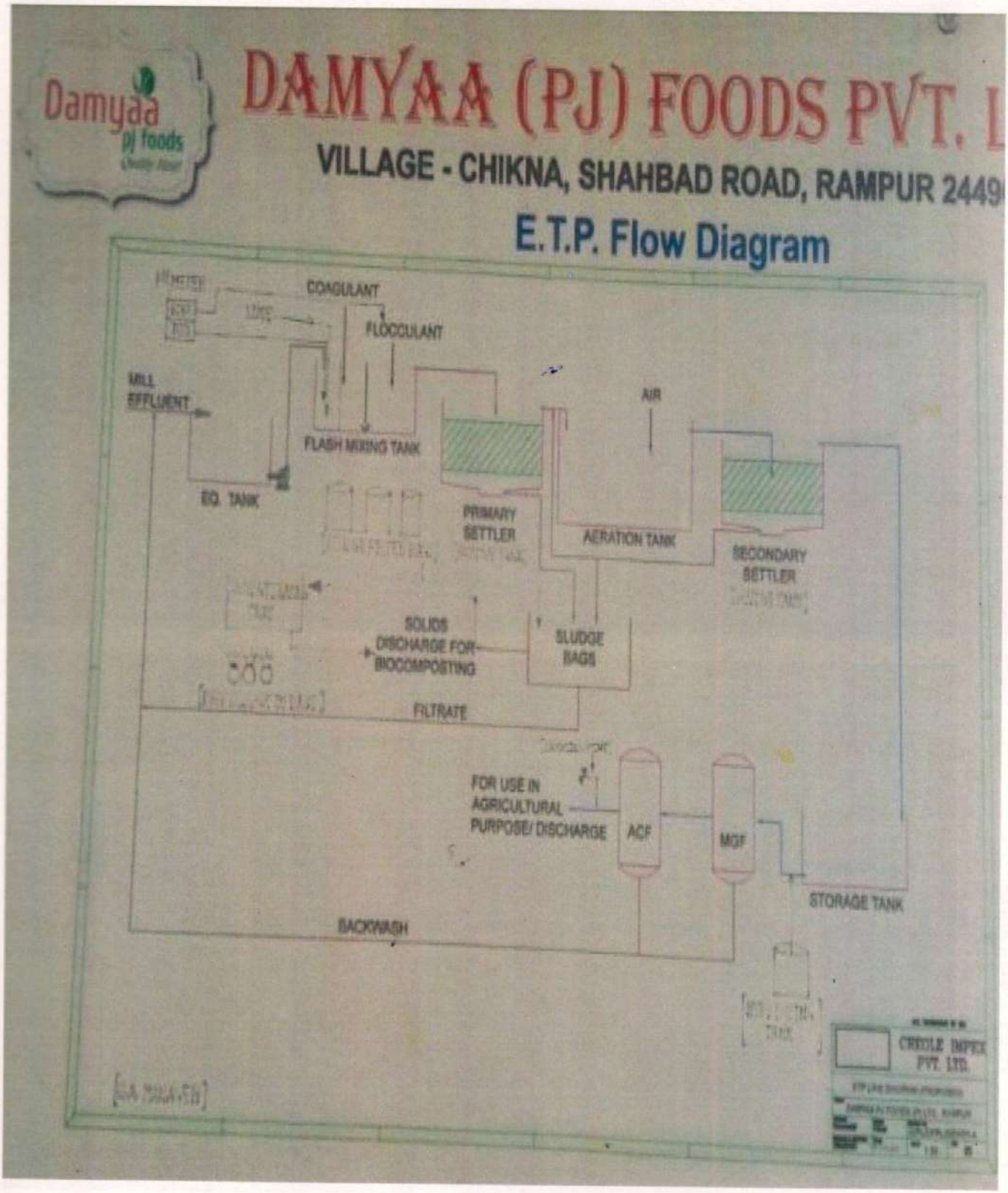
Checked By

Approved By

Note: 01. The result listed refer only to the tested samples and applicable parameters.
02. Sample will be destroyed one month from the date of issue of test certificate.
03. Any complaints about this report should be communicated within 7 days of issue of this report.
04. The report is not to be reproduced- wholly or in part and cannot be used as an evidence in the court of law and should not be used in any advertising media without our special permission in writing.

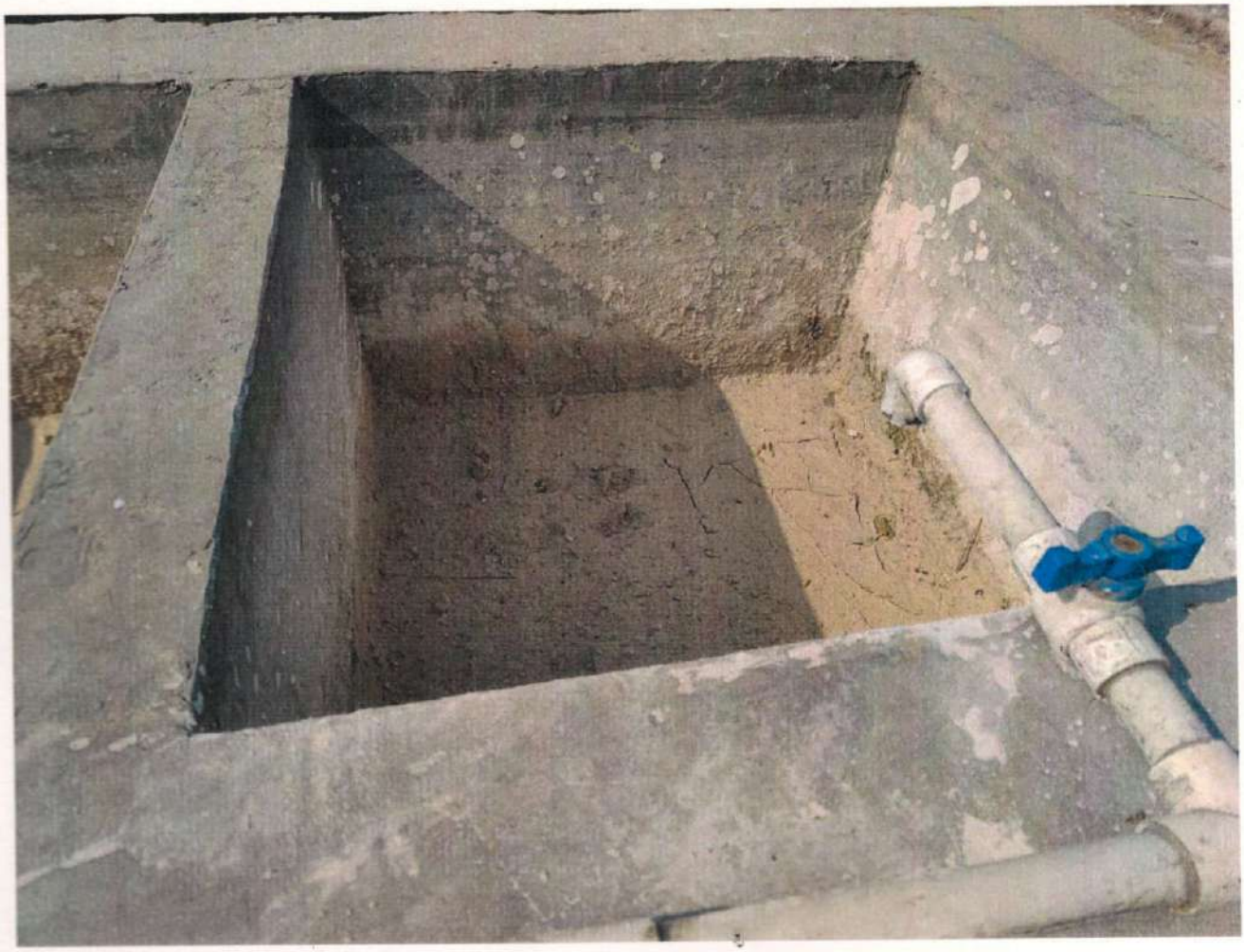
## ANNEXURE-II

1. ETP Process Flow Scheme



## ANNEXURE -III

Current Photographs of the existing treatment plant:

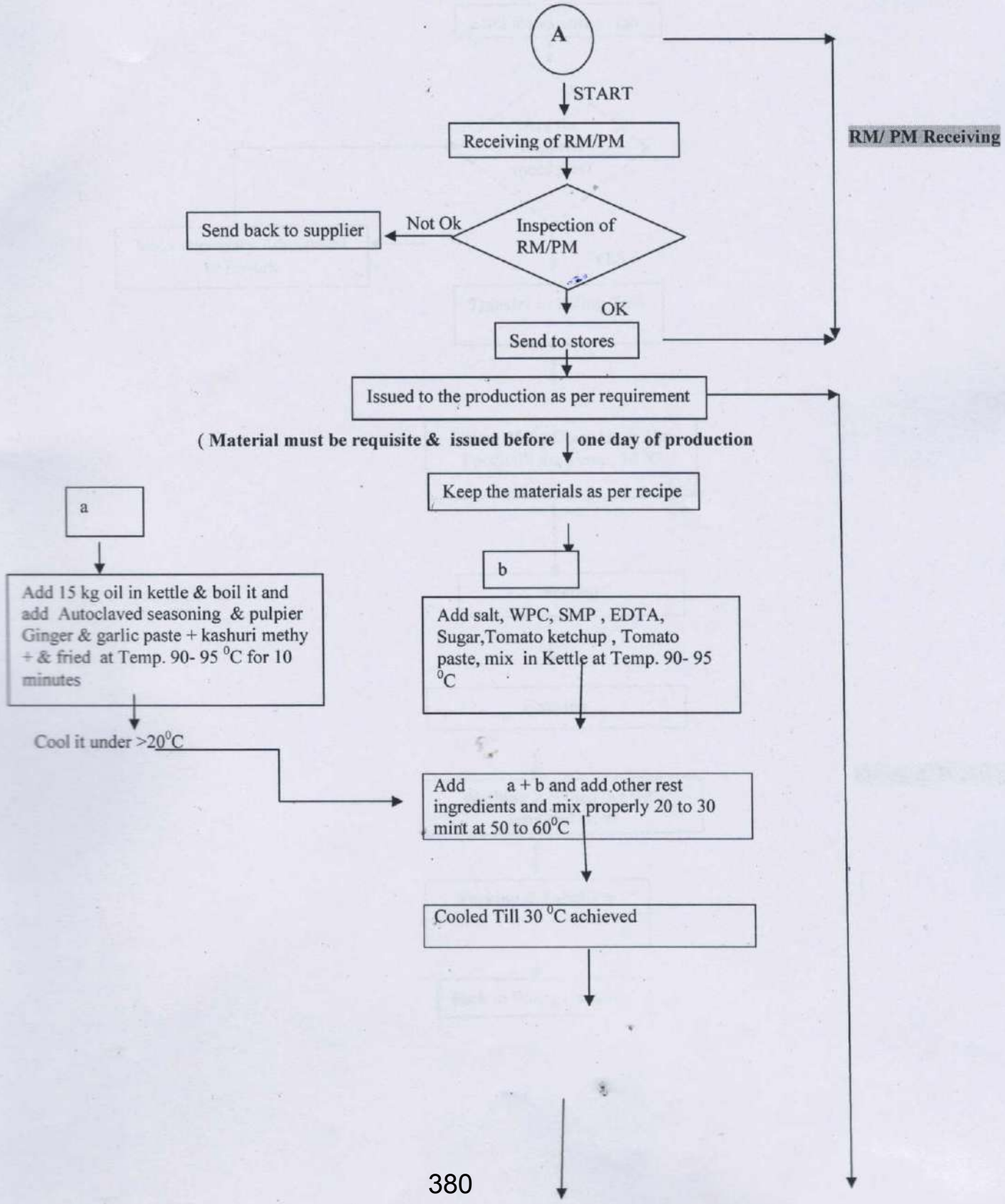


## ANNEXURE -IV

Details of the Manufacturing Process:

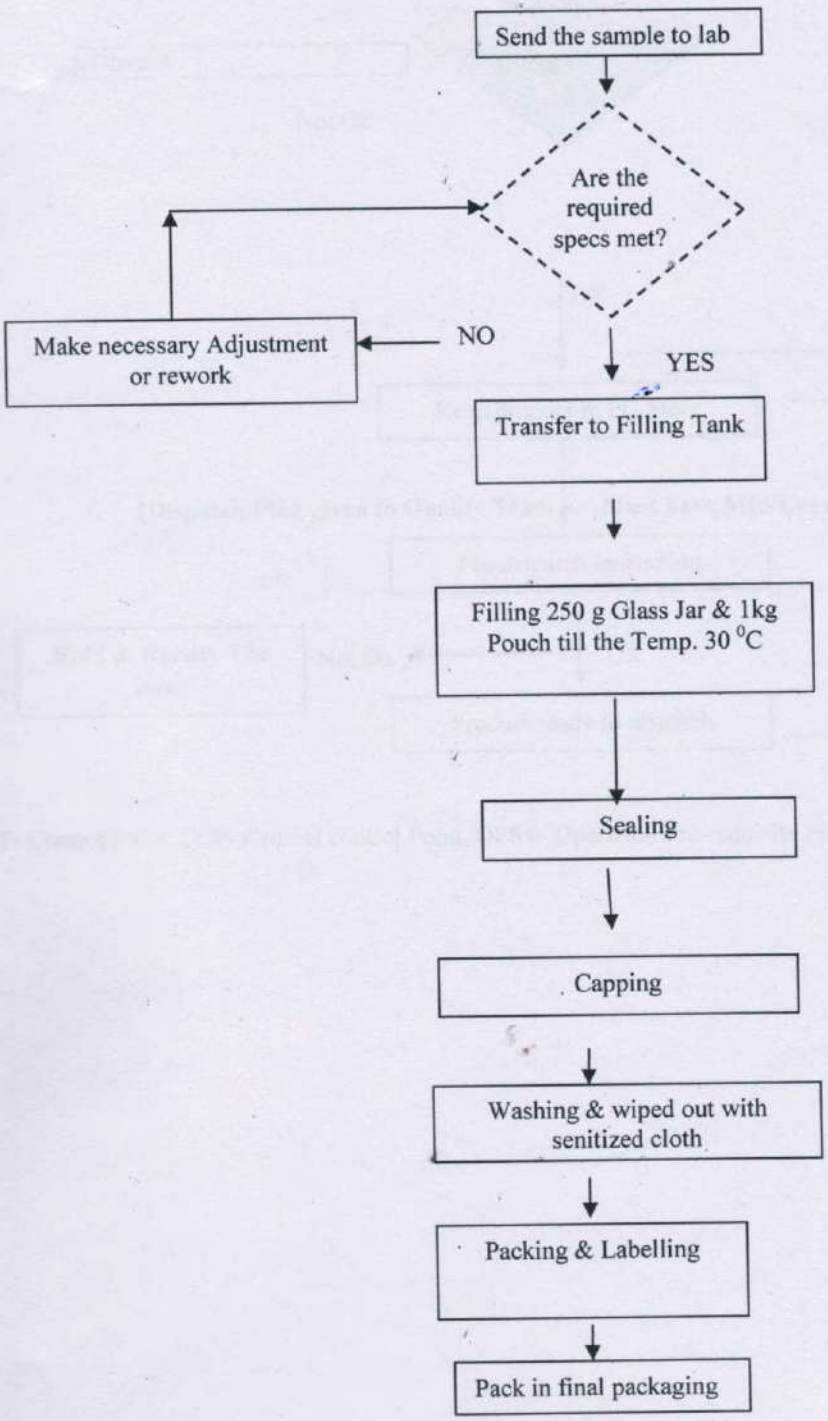
| | DAMYAA (P.J.) FOODS PVT. LTD | Doc. No : DPJFPL/QC//FC- |
|---|---|---|
| | Village-Chikna, Shahbad Road, Rampur,(U.P.)-244901 | W.E.d :22.02.21 |
| | Food Safety Management System | Rev. No/ Date :21.02.22 |
| | Process Flow Chart- Tandoori mayo | Issue No/ Issue Date :01/01.08.2016 |
| Location : Mayonnaise section | | Responsibility : Quality executive |

## TANDOORI MAYO FLOW CHART:-



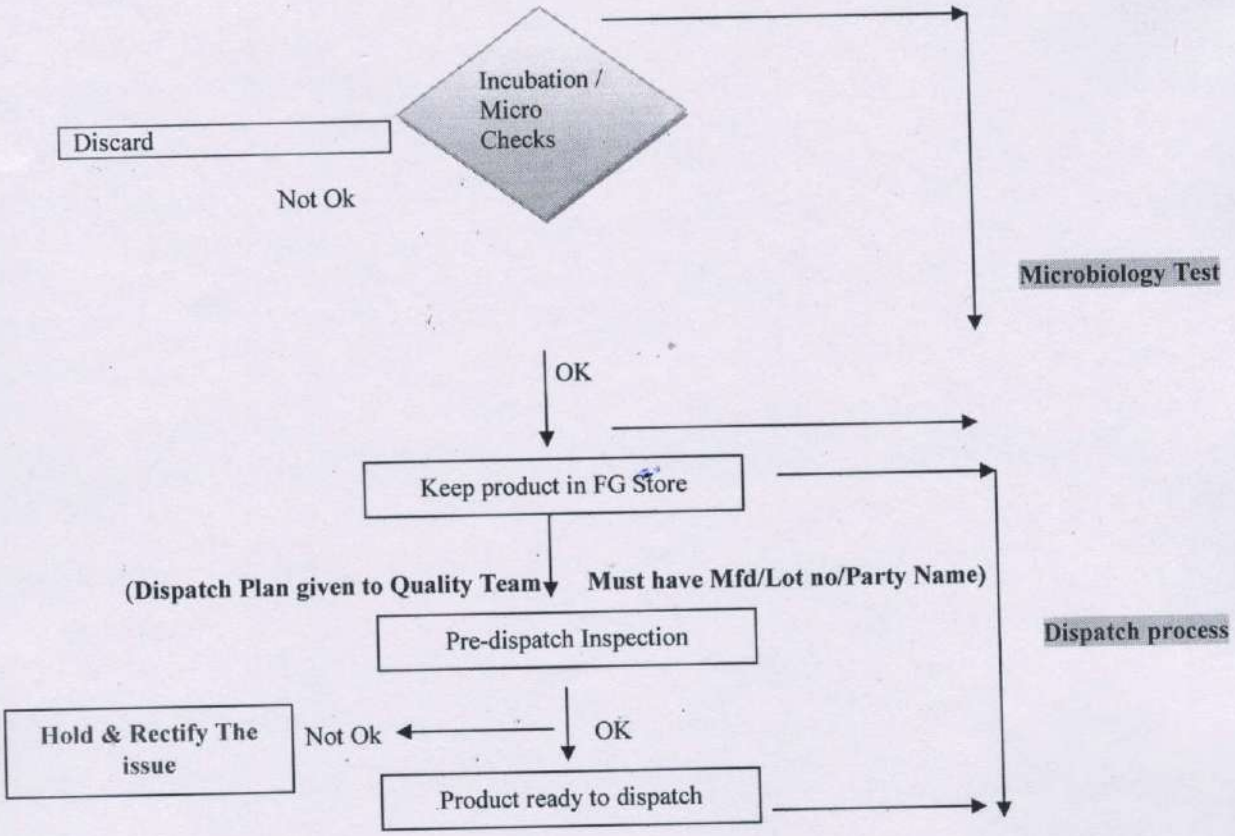
| | | |
|---|---|---|
| 9am | DAMYAA (P.J.) FOODS PVT. LTD | Doc. No : DPJFPL/QC//FC- |
| | Village-Chikna, Shahbad Road, Rampur,(U.P.)-244901 | W.E.d :22.02.21 |
| | Food Safety Management System | Rev. No/ Date :21.02.22 |
| | Process Flow Chart- Tandoori mayo | Issue No/ Issue Date :01/01.08.2016 |
| Location : Mayonnaise section | | Responsibility : Quality executive |

**Manufacturing**




**Filling & Packing**

| | | |
|---|---|---|
| 9am | DAMYAA (P.J.) FOODS PVT. LTD | Doc. No : DPJFPL/QC//FC- |
| | Village-Chikna, Shahbad Road, Rampur,(U.P.)-244901 | W.E.d :22.02.21 |
| | Food Safety Management System | Rev. No/ Date :21.02.22 |
| | Process Flow Chart- Tandoori mayo | Issue No/ Issue Date :01/01.08.2016 |
| Location : Mayonnaise section | | Responsibility : Quality executive |




**Abbreviation** : CP- Control point, CCP- Critical control Point, OPRP- Operation Pre-requisite Program.

## ANNEXURE -V

Details of the available consents:

**UTTAR PRADESH POLLUTION CONTROL BOARD**
**Building. No TC-12V Vibhuti Khand, Gomti Nagar, Lucknow-226010**
**Phone:0522-2720828,2720831, Fax:0522-2720764, Email: info@uppcb.com, Website: www.uppcb.com**

## CONSENT ORDER

**Ref No. -**
**112860/UPPCB/Moradabad(LAB)/CTO/water/RAMPUR/2020**

**Dated : 29/12/2020**

**To ,**

Shri AMIT JAIN
M/s DAMYAA (PJ) FOODS PRIVATE LIMITED
VILLAGE MILAK CHIKNA, SHAHBAD ROAD,TEHSIL RAMPUR DISTRICT RAMPUR U.P 244901,RAMPUR,244901
RAMPUR

**Sub : Consent under Section 25/26 of The Water (Prevention and control of Pollution) Act, 1974 (as amended) for discharge of effluent to M/s. DAMYAA (PJ) FOODS PRIVATE LIMITED**

**Reference Application No :10377838** **Dated :29/12/2020**

1. For disposal of effluent into water body or drain or land under The Water (Prevention and control of Pollution) Act,1974 as amended (here in after referred as the act ) M/s. DAMYAA (PJ) FOODS PRIVATE LIMITED is hereby authorized by the board for discharge of their industrial effluent generated through ETP for irrigation/river through drain and disposal of domestic effluent through septic tant/soak pit subject to general and special conditions mentioned in the annexure ,in refrence to their foresaid application .
2. This consent is valid for the period from 01/01/2021 to 31/07/2022 .
3. In spite of the conditions and provisions mentioned in this consent order UP Pollution Control Board reserves its right and powers to reconsider/amend any or all conditions under section 27(2) of the Water (Previntion and Controt of Pollution) Act, 1974 as amended .

This consent is being issued with the permission of competent authority .

**For and on behalf of U.P. Pollution Control Board**

VIKAS MISHRA Digitally signed by VIKAS MISHRA Date: cn=VIKAS MISHRA, o=Personal, 2.5.4.20=54d7d02dd72698c594c01418af650f9ed178b8c282d3496e427fb4d67c27e451e46, postalCode=226017, st=Uttar pradesh, serialNumber=a701d81c6f876764428e37dec5b16a664bf7abbcd5f5c97845baf205d7b4ab37f2d, cn=VIKAS MISHRA Date: 2020.12.29 18:49:54 +05'30'

**Regional Officer**

**Enclosed : As above**
**(condition of consent):**

Copy to:

**Regional Officer**

## U.P. POLLUTION CONTROL BOARD, LUCKNOW

**Annexure to Consent issued to M/s.DAMYAA (PJ) FOODS PRIVATE LIMITED vide**

Consent Order No. 10377838/ Water Dated : 29/12/2020

### CONDITIONS OF CONSENT

1. This consent is valid only for the approved production capacity of Snacks Sauce-5 TPD,Ketchup-2.5 TPD,Soya Sauce-1 TPD,Chilli Sauce-2.5TPD, Noodles-2 TPD.
2. The quantity of maximum daily effluent discharge should not be more than the following :

| Effluent Discharge Details | | | |
|---|---|---|---|
| **S.No** | **Kind of Effulant** | **Maximum daily discharge,KL/day** | **Treatment facility and discharge point** |
| 1 | Domestic | 1 KLD | Septic Tank |
| 2 | Industrial | 15 KLD | ETP |

3. Arrangement should be made for collection of water used in process and domestic effluent separately in closed water supply system. The treated domestic and industrial effluent if discharged outside the premises, if meets at the end of final discharge point, arrangement should be made for measurement of effluent and for collecting its sample. Except the effluent informed in the application for consent no other effluent should enter in the said arrangements for collection of effluent. It should also be ensured that domestic effluent should not be discharged in storm water drain .

4(a) The domestic effluent should be treated in treatment plant so that the should be in conformity with the following norms dated treated effluent .

| Domestic Effulant | | |
|---|---|---|
| **S.No** | **Parameter** | **Standard** |
| 1 | Total Suspended Solids | 100 mg/l |
| 2 | BOD | 30 mg/l |
| 3 | COD | 250 mg/l |
| 4 | Oil & Grease | 10 mg/l |

4(b). The industrial effluent should be treated in treatment plant so that the treated effluent should be in conformity with the following norms. .

| Industrial Effulant | | |
|---|---|---|
| **S.No** | **Parameter** | **Standard** |
| 1 | Total Suspended Solids | 100 mg/l |
| 2 | BOD | 30 mg/l |
| 3 | COD | 250 mg/l |
| 4 | Oil & Grease | 10 mg/l |

5. Effluent generated in all the processes, bleed water, cooling effluent and the effluent generated from washing of floor and equipments etc should be treated before its disposal with treated industrial effluent so that it should be according to the norms prescribed under The Environment (Protection) Act,1986 or otherwise mandatory .
6. The other pollutant for which norms have not been prescribed, the same should not be more than the norms prescribed for the water used in manufacturing process of the industry .
7. The method for collecting industrial and domestic effluent and its analysis should be as per legal Indian standards and its subsequent amendments/standards prescribed under The Environment (Protection) Act, 1986.
8. The treated domestic and industrial effluent be mixed (as per the provisions of Condition No. 2) and disposed of on one disposal point. This common effluent disposal point should have arrangement for flow meter/V Notch for measuring effluent and its log book be maintained .
9. The Unit will file the renewal application at least 2 months prior to the expiry of this Order.

VIKAS MISHRA

**Specific Conditions:**

1. This consent is valid for the production of Snacks Sauce-5 TPD,Ketchup-2.5 TPD,Soya Sauce-1 TPD,Chilli Sauce-2.5TPD, Noodles-2 TPD by using Vegetables,Wheat Flour,Sugar,Salt,Spices etc. as raw material.
2. This consent is valid for the current products and capacity. In Case of any change in process, capacity enhancement, etc., the No Objection Certificate shall be obtained from the Board.
3. Generated hazardous waste shall be stored temporarily in the factory premises and disposed off through authorized TSDF after obtaining the authorization from the Board.
4. Industry shall submit the latest copy of Audited Balance Sheet/C.A. Certificate (Fixed Assets+ Current Assets - Current Liabilities) so the Consent fee payable by the industry may be verified.
5. The Order issued by Hon'ble Courts/Hon'ble NGT, MoEF &CC, Central Pollution Control Board, U.P. Pollution Control Board, shall be complied with.
6. The industry shall ensure the proper operation and maintenance of Effluent Treatment Plant .The industry shall also ensure to make arrangement to maximise the use of treated water in Horticulture/reuse in floor washing etc.
7. The industry shall ensure to submit the analysis report of treated effluent from NABL accredited laboratory on quarterly basis.
8. Industry shall obtain permission from UPGWD for withdrawal of ground water immediately and submit it to the Board.
9. The unit shall develop green belt as per the protocol attached with the UPPCB office order no. H16405/220/2018/02 dated 16-02-2018 which is available on board's website. The plantation of saplings should be completed within 04 months time and action taken report shall be submitted to this office. Failing which consent would be revoked without serving any notice to the industry.
10. The industry shall comply with the provisions of the Environment (Protection) Act 1986, Water (Prevention and Control of Pollution) Act, 1974 as amended, Air (Prevention and Control of Pollution) Act, 1981 as amended, Plastic Waste Management Rules 2016, E- Waste (Management) Rules 2016, Solid Waste Management Rules 2016 & Hazardous and other Waste (Management and Transboundary Movement) Rules 2016 (Whichever is applicable).
11. If closure order is issued by CPCB or UPPCB against any defaulting unit, then CTO issued earlier will remain suspended during the closure period and after ensuring the compliance and after revocation of closure order, the CTO will automatically be effective from the date of issuance of closure order revocation, with additional conditions mentioned in the closure revocation order.
12. This Consent is being issued under the provisions of the Water (Prevention and Control of Pollution)Act 1974.
13. All the necessary NOC's, Permissions, Licenses etc shall be taken from all concerned statutory authorities.

**Issued with the permission of competent authority .**

**For and on behalf of U.P. Pollution Control Board .**

**Regional Officer**

VIKAS MISHRA

Digitally signed by VIKAS MISHRA
DN: c=IN, o=Personal, 2.5.4.20=94df3d52d73698c894e0141 8ef6307fed13f7b8d282d6496e427b4ed 67c27e451e4f, postalCode=226017, st=Uttar pradesh, serialNumber=a701d81c0d7df594428 e3708e5b14446fa5f7a5bd5f5c0784b e2004d7c4ab37f2d, cn=VIKAS MISHRA
Date: 2020.12.28 18:50:23 +05'30'

**UTTAR PRADESH POLLUTION CONTROL BOARD**
**Building. No TC-12V Vibhuti Khand, Gomti Nagar, Lucknow-226010**
**Phone:0522-2720828,2720831, Fax:0522-2720764, Email: info@uppcb.com, Website: www.uppcb.com**

## CONSENT ORDER

**Ref No. - 112855/UPPCB/Moradabad(LAB)/CTO/air/RAMPUR/2020** **Dated : 29/12/2020**

**To ,**

Shri AMIT JAIN
M/s DAMYAA (PJ) FOODS PRIVATE LIMITED
VILLAGE MILAK CHIKNA, SHAHBAD ROAD,TEHSIL RAMPUR DISTRICT RAMPUR U.P 244901,RAMPUR,244901
RAMPUR

**Sub : Consent under section 21/22 of the Air (Prevention and control of Pollution) Act, 1981 (as amended) to M/s. DAMYAA (PJ) FOODS PRIVATE LIMITED**

Reference Application No. 10376994 Dated : 29/12/2020

1. With reference to the application for consent for emission of air pollutants from the plant of M/s DAMYAA (PJ) FOODS PRIVATE LIMITED . under Air Act 1981. It is being authorised for said emissions, as per the standards, in environment, by the Board as per enclosed conditions .
2. This consent is valid for the period from 01/01/2021 to 31/07/2022 .
3. Inspite of the conditions and provisions mentioned in this consent order UP Pollution Control Board reserves its right and powers to reconsider/amend any or all conditions under section 21 (6) of the Air (Previntion and Controt of Pollution) Act, 1981 as amended.

This consent is being issued with the permission of competent authority .

**For and on behalf of U.P. Pollution Control Board**

VIKAS MISHRA

**Regional Officer**

**Enclosed : As above (condition of consent):**

Copy to:

**Regional Officer**

**U.P. Pollution Control Board**

Dated : 29/12/2020

## CONDITIONS OF CONSENT

1. This consent is valid only for the approved production capacity of Snacks Sauce-5 TPD,Ketchup-2.5 TPD,Soya Sauce-1 TPD,Chilli Sauce-2.5TPD, Noodles-2 TPD.
2. This consent is valid only for products and quantity mentioned above. Industry shall obtain prior approval before making any modification in product/ process /fuel/ plant machinery failing which consent would be deemed void.

3(a) The maximum rate of emission of flue gas should not be more than the emission norms for the stacks.

3(b) Air Pollution Source Details.

| Air Pollution Source Details | | | | | |
|---|---|---|---|---|---|
| **S.No** | **Air Polution Source** | **Type of Fuel** | **Stack No.** | **Parameters** | **Height** |
| 1 | Boiler-5 TPH & 1.5 TPH | Rice Husk | 1 | Particulate Matter | 30 meter above Ground level |
| 2 | DG set-250 KVA | Diesel | 2 | Particulate Matter | 3.0 meter from nearest highest roof level |
| 3 | DG Set-63 KVA | Diesel | 3 | Particulate Matter | 2.0 meter from nearest highest roof level |

3(c) The emissions by various stacks into the environment should be as per the norms of the Board .

| Emission Quality Details Detail | | | |
|---|---|---|---|
| **S.No** | **Stack No** | **Parameter** | **Standard** |

4. Quantity of other pollutants should also be as per the norms prescribed by the Board/MOEF & CC/or otherwise mandatory .
5. The equipment for air pollution control system and monitoring ,as proposed by the industry and approved by the Board should be installed in their premises itself .
6. The modification or installation in the existing pollution control equipments should be done only by prior approval of Board .
7. The operation of air pollution control system and maintenance be done in such a way that the quantity of pollutants should be in accordance with the standards prescribed by the Board/MoEF & CC/or otherwise mandatory .
8. Unit should do provisions for fugitive emissions chimney/stack as per the norms of the Board/MOEF & CC/or otherwise mandatory .
9. The unit should submit the stack emissions monitoring report within one month from issuance of consent order along with the point wise compliance report of the consent order . Further quarterly monitering report should be submitted .

**The Unit will file the renewal application at least 2 months prior to the expiry of this Order.**

**Specific Conditions:**

VIKAS MISHRA

1. This consent is valid for the production of Snacks Sauce-5 TPD,Ketchup-2.5 TPD,Soya Sauce-1 TPD,Chilli Sauce-2.5TPD, Noodles-2 TPD by using Vegetables,Wheat Flour,Sugar,Salt,Spices etc. as raw material.
2. This consent is valid for the current products and capacity. In Case of any change in process, capacity enhancement, etc, the No Objection Certificate shall be obtained from the Board.
3. Generated hazardous waste shall be stored temporarily in the factory premises and disposed off through authorized TSDF after obtaining the authorization from the Board.
4. Industry shall submit the latest copy of Audited Balance Sheet/C.A. Certificate (Fixed Assets+ Current Assets - Current Liabilities) so the Consent fee payable by the industry may be verified.
5. The Order issued by Hon'ble Courts/Hon'ble NGT, MoEF&CC, Central Pollution Control Board, U.P. Pollution Control Board, shall be complied with.
6. Industry shall operate and maintain installed APCS effectively .The stack of boilers shall not be less than 30 m from Ground Level.
7. Source Emission monitoring report and Ambient Air Quality Monitoring report from any EPA recognised/NABL accredited laboratory must be submitted quarterly basis.
8. Noise and emission level from the DG sets installed of 250 KVA and 63 KVA capacity shall be within the prescribed norms.
9. The unit shall ensure the ambient air quality according to the standards.
10. In case of installation of any new source of air pollution, the unit shall ensure to obtain separate CTE/NOC from the Board.
11. The unit shall develop green belt as per the protocol attached with the UPPCB office order no. H16405/220/2018/02 dated 16-02-2018 which is available on board's website. The plantation of saplings should be completed within 04 months time and action taken report shall be submitted to this office. Failing which consent would be revoked without serving any notice to the industry.
12. The industry shall comply with the provisions of, Environment (Protection) Act 1986, Water (Prevention and Control of Pollution) Act, 1974 as amended, Air (Prevention and Control of Pollution) Act, 1981 as amended, Plastic Waste Management Rules 2016, E- Waste (Management) Rules 2016, Solid Waste Management Rules 2016 & Hazardous and other Waste (Management and Transboundary Movement) Rules 2016 (Whichever is applicable).
13. If closure order is issued by CPCB or UPPCB against the unit, then CTO issued earlier will remain suspended during the closure period and after ensuring the compliance and after revocation of closure order, the CTO will automatically be effective from the date of issuance of closure order revocation, with additional conditions mentioned in the closure revocation order.
14. This Consent is being issued under the provisions of the Air (Prevention and Control of Pollution)Act 1981.
15. All the necessary NOC's, Permissions, Licenses etc shall be taken from all concerned statutory authorities.

**Issued with the permission of competent authority .**

**For and on behalf of U.P. Pollution Control Board .**

**Regional Officer**

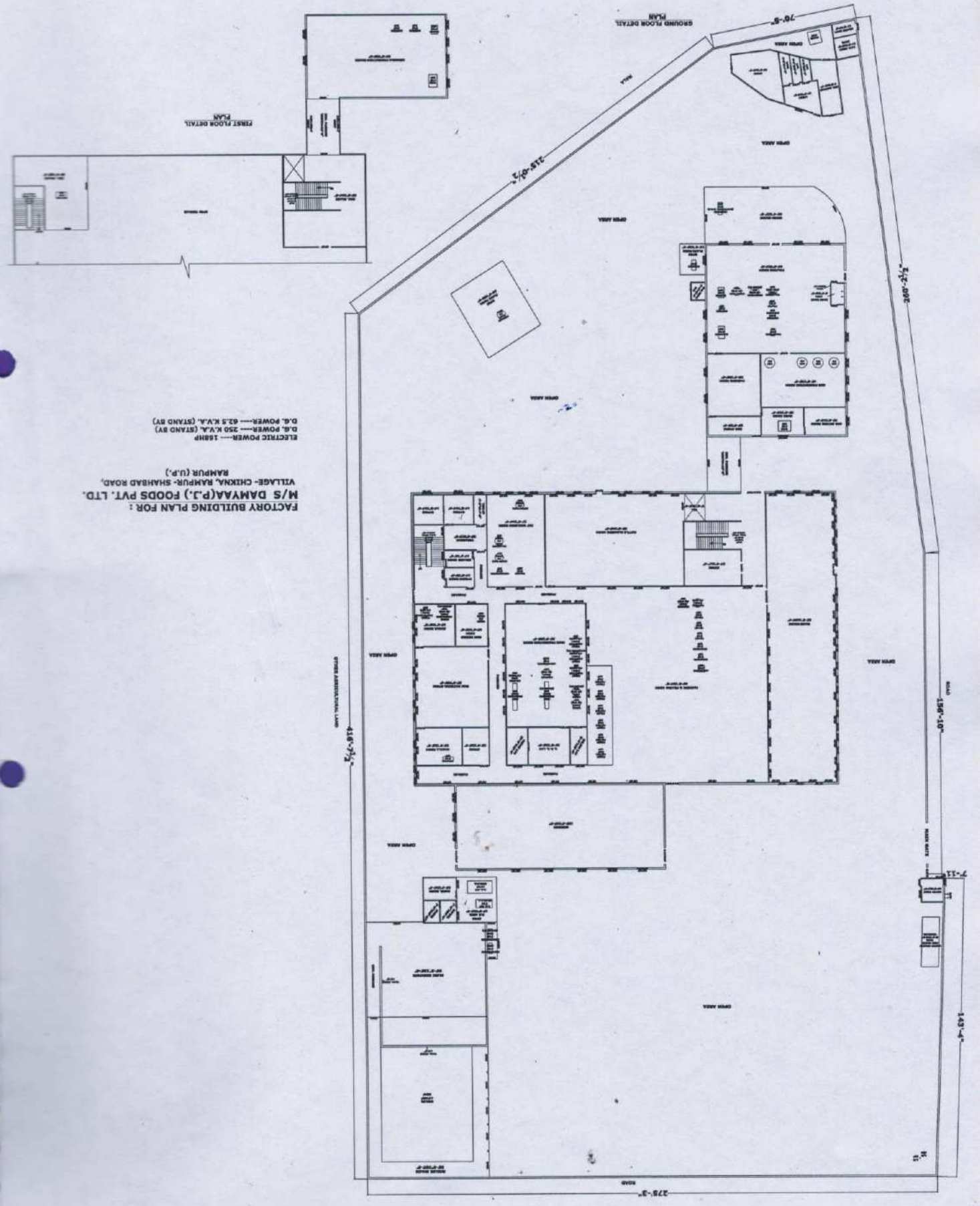
VIKAS MISHRA

## ANNEXURE -VI

Details of the Damyaa Foods layout Plan

① - Head of Plant - Mr. Amit Jain

② - ETP of Mske - Mr. Prasad Kumar - 8-975923085



# GROUND WATER DEPARTMENT

Namami Gange & Rural Water Supply Department
Ministry of Jal Shakti
Government of Uttar Pradesh

## Form 8 (A)/फॉर्म 8 (ए)

## APPLICATION FOR OBTAINING GRANT OF AUTHORIZATION/NO OBJECTION CERTIFICATE FOR SINKING OF EXISTING WELL IN NON-NOTIFIED AREA
## विद्यमान कूप की बोरिंग हेतु प्राधिकार/अनापत्ति प्रमाणपत्र प्राप्त करने के लिए आवेदन

(Any Commercial or Industrial or Infrastructural or Bulk user)
(वाणिज्यिक अथवा औद्योगिक अथवा अवसंरचनात्मक अथवा सामूहिक उपयोक्ता)

[Under Section 14 of the Uttar Pradesh Ground Water Management and Regulation Bill, 2019]
[धारा 14, उत्तर प्रदेश भूगर्भ जल प्रबंधन तथा विनियमन बिल, 2019 के अधीन]

### Applicant's Details
### आवेदक का विवरण

| | | | |
|---|---|---|---|
| Type of Applicant<br>आवेदक का प्रकार | Behalf of Firm/Company | **Application Number**<br>**आवेदन संख्या** | RMPR1121NIN0042 |
| Application Date<br>आवेदन तिथि | | 16/11/2021 | |
| Name of the Applicant<br>आवेदक का नाम | USHA GUPTA | | |
| Mobile No.<br>मोबाइल नंबर | 9412717711 | **Email ID.**<br>**ईमेल आईडी** | pc00793@rediffmail.com |
| Date of Birth<br>जन्मतिथि | 14/12/1955 | **Gender**<br>**लिंग** | Female |
| Nationality<br>राष्ट्रीयता | Indian | **ID as Address Proof**<br>**निवास प्रमाण हेतु आईडी** | Aadhaar Card |
| Aadhaar Card Number | 3442-2934-9071 | **Uploaded Aadhaar Card**<br>**अपलोड किया गया आधार कार्ड** | Download |
| House No./Flat No./Building No.<br>मकान सं0/फ्लैट सं0/भवन सं0 | D-22,23,29 AJEETPUR INDUSTRIAL ESTATE TEHSIL RAMPUR DISTRICT RAMPUR U.P 244901 | | |
| City/Town/Post Office<br>नगर/कस्बा/पोस्ट ऑफिस | RAMPUR | **State**<br>**राज्य** | Uttar Pradesh |
| District<br>जनपद | RAMPUR | **Pin Code**<br>**पिन कोड** | 244901 |
| Designation<br>पद | OWNER | **Company Name**<br>**कंपनी का नाम** | USHA STEEL PROCESS |
| Company Address<br>कंपनी का पता | AJEET INDUSTRIAL AREA RAMPUR 244901 | **Authorization Letter**<br>**प्राधिकार पत्र** | Download |

### Details of Existing Well
### विद्यमान कूप का विवरण

| | | | |
|---|---|---|---|
| District<br>जनपद | Rampur | **Block**<br>**ब्लॉक** | CHAMRAUAA (URBAN) |

Usha Steel Process

Proprietor

| | |
|---|---|
| Plot No./Khasra No.<br>प्लॉट संख्या/खसरा संख्या | D- 22, 23, 29 |
| Ward No./Holding No.<br>वॉर्ड संख्या/होल्डिंग संख्या | N/A |

## Particulars of The Existing Well
## विद्यमान कूप का ब्यौरा

| | |
|---|---|
| Date of Construction/Sinking of Well<br>कूप की निर्माण तिथि | 01/01/2013 |
| Approx. Depth of Well (In meter)<br>कूप की अनुमानित गहराई (मीटर में) | 76.00 |

Give Particulars Regarding Water Quality of the Well
कूप की जलीय गुणवत्ता का विवरण दें

pH 7.04 TDS 1.22 ppt its

## Details of Existing Pumping Device
## विद्यमान पंपिंग उपकरण का विवरण

| | |
|---|---|
| Type of Pump to be Used<br>प्रयोग किये जाने वाले पंप का प्रकार | Submersible |
| Horse Power (H.P.)<br>हॉर्स पावर (एच.पी.) | 2.00 |
| Operational Device<br>परिचालन उपकरण | Electric Motor |

## Details of Utilization of Well
## कूप के उपयोग का विवरण

| | |
|---|---|
| Purpose of the Existing Well<br>विद्यमान कूप का उद्देश्य? | Industrial |
| Daily Running Hours<br>दैनिक उपयोग (घंटे में) | 1.00 |
| Please Submit Mode of Treatment of Waste Water/Effluent (For Industries)<br>अपशिष्ट जल की उपचार प्रणाली भरें (उद्योग हेतु) | ETP |
| Upload NOC<br>अनापत्ति प्रमाणपत्र अपलोड करें | Download |
| Whether Rain Water Harvesting Structure has been Constructed within the Premises?<br>क्या परिसर में वर्षा जल संचयन संरचना का निर्माण किया गया है? | No |

| | |
|---|---|
| Municipality/Municipal Corporation<br>नगर पालिक/नगर निगम | No |
| Uploaded Land Details<br>अपलोड किया गया भूमि का विवरण | Download |
| Type of the Well<br>कूप का प्रकार | Others |
| Whether there has been Any Adverse Report Regarding Water Quality of the Well?<br>क्या कूप के जल की गुणवत्ता के संबंध में कोई प्रतिकूल रिपोर्ट है? | Yes |
| Pump Capacity (In $m^3$/hr)<br>पंप क्षमता ($m^3$/hr) | 2.00 |
| Date of Energization<br>विद्युतीकरण तिथि | 01/01/2012 |
| Annual Running Hours<br>वार्षिक उपयोग (घंटे में) | 365.00 |
| Whether the Water Supplied in Well Area Through Pipe Water Supply or Not?<br>क्या क्षेत्र में जल की आपूर्ति पाइप जलापूर्ति के माध्यम से होती है? | No |
| Please Mention Whether Obtained NOC from Uttar Pradesh Pollution Control Board for Discharge of Effluent/Waste Water or Not?<br>कृपया उल्लेख करें कि क्या उत्तर प्रदेश प्रदूषण नियंत्रण बोर्ड से अपशिष्ट प्रवाह/ अपशिष्ट जल प्रवाह हेतु अनापत्ति प्रमाण पत्र प्राप्त कर लिया गया है अथवा नहीं | Yes |
| Length of Section Pipe (in Meter)<br>सक्शन पाइप की लंबाई (मीटर में) | 15.00 |
| Any Other Information Which You Would Like to Furnish<br>कोई अन्य जानकारी जो आप प्रदान करना चाहते हैं: | Treated Water Recycle By RO |

M/s Usha Steal Process
Proprietor

- Maximum Allowable Annual Extraction of Ground Water: 730

| | | | |
|---|---|---|---|
| affidavit on non judicial stamp paper of Rs. 10/- regarding non availability of water supply from local government agencies in cases where ground water requirement is up to 10 $m^3$/day | Download | Certificate regarding non/ partial availability of fresh water/ treated waste water supply from the concerned local government water supply agency in cases where requirement of ground water is more than 10$m^3$/day | Download |
| Ground water quality data of bore well/ tube well/ dug well in respect of existing industries from NABL accredited laboratories/Government approved laboratories | Download | Proposal for rain water harvesting/ recharge within the premises as per Model Building Bye Laws issued by Ministry of Housing & Urban Affairs | Download |
| Impact Assessment report: All projects extracting/proposing to extract ground water in excess of 100 $m^3$/day in Notified and non-notified areas shall have to mandatorily submit impact assessment report of existing/ proposed ground water withdrawal on the ground water regime and also socio-economic impacts report prepared by accredited consultants. Pro-forma for the report is given in Annexure-1. | Download | | |
| Does industry come under MSME? क्या उद्योग MSME के अंतर्गत आता है ? | Yes | | |
| MSME Certificate No. एमएसएमई प्रमाणपत्र संख्या | UP63A0001513 | MSME Certificate Issuance Date एमएसएमई प्रमाणपत्र के निर्गमन की तिथि | 08/02/2017 |
| MSME Certificate Validity एमएसएमई प्रमाणपत्र की वैधता | 07/02/2022 | Uploaded MSME Certificate अपलोड किया गया एमएसएमई प्रमाणपत्र | Download |
| Type of MSME एमएसएमई का प्रकार | Small | | |

M/s Usha Steel Process

Proprietor

## Declaration by the Applicant
## आवेदक द्वारा उद्घोषणा

I do hereby declare that the particulars fuenished herein above are correct and true . I understand that in case any of the information and particulars is found to be incorrect at any stage of scrutiny and investigation or thereafter, my application/registration is liable to be rejected/cancelled .
मैं एतद्द्वारा घोषित करता हूँ कि ऊपर दिये गए विवरण सही व सत्य हैं। मैं जानता हूँ कि यदि जांच पड़ताल के दौरान किसी भी स्तर पर उपरोक्त विवरण असत्य पाये गए तो मेरा आवेदन/रजिस्ट्रीकरण अस्वीकृत/निरस्त किए जाने योग्य होगा"

# I Agree/सहमत

Note/नोट

- Separate application form should be used for registration of each individual well.
- The application form should be completed in all respect before submission. Incomplete applications are liable for rejection. Any correction I alteration shall be duly authenticated.
- In case any of the particulars/information is found to be incorrect at any stage of verification I scrutiny. the application is liable for rejection.
- In case any of the particulars/ information furnished is found to be in correct at any stage even after issue of the AUTHORIZATION/ NO_OBJECTION CERTIFICATE FOR SINKING OF NEW WELL, same shall be liable for cancellation.
- Please write 'N.A.' against those items which are not applicable.
- Please attach the following documents along with the application:
- (a) Document showing proof of ownership of land;
- (b) Photocopy of Aadhaar card / voter ID I ration card I any other proof of identification
- (c) Map showing location of the proposed well, which have been referred to in item no.2(a), (b)and(c).
- (d) Affidavit referred to in item no. 7(i) or 7(ii), as the case may be (if required)
- **Additional Documents to be submitted with the application**
- **(I) For Industrial User**
- (a) An affidavit on non judicial stamp paper of Rs. 10/- regarding non availability of water supply from local government agencies in cases where ground water requirement is up to 10 cubic meter/day.
- (b) Certificate regarding non/ partial availability of fresh water/ treated waste water supply from the concerned local government water supply agency in cases where requirement of ground water is more than 10 cubic meter/day.
- (c) Ground water quality data of bore well/ tube well/ dug well in respect of existing industries from NABL accredited laboratories/Government approved laboratories.
- (d) Proposal for rain water harvesting/ recharge within the premises as per Model Building Bye Laws issued by Ministry of Housing & Urban Affairs.
- (e) Impact Assessment report: All projects extracting/proposing to extract ground water in excess of 100 $m^3$/day in Notified and non-notified areas shall have to mandatorily submit impact assessment report of existing/ proposed ground water withdrawal on the ground water regime and also socio-economic impacts report prepared by accredited consultants. Pro-forma for the report is given in Annexure-1.
- **(II) For Commercial User**
- (a) In cases where dewatering is involved, submission of impact assessment report prepared by a consultant on the ground water situation in the area giving detailed plan of pumping, proposed usage of pumped water and comprehensive impact assessment of the same on the ground water regime shall be mandatory. The report should highlight environmental risks and proposed management strategies to overcome any significant environmental issues such as ground water level decline, land subsidence etc.
- (b) An affidavit on non judicial stamp paper of Rs. 10/- regarding non availability of water from any other source in case water is required for construction in safe and semi critical areas.
- (c) Certificate from a government agency regarding non availability of treated sewage water for construction within 10 km radius of the site in notified areas.
- (d) Certificate of non-availability of water from local government water supply agency in respect of all categories of assessments units for commercial use.
- (e) Details of water requirement computed as per National Building Code, 2016 (Annexure I), taking into account recycling/ reuse of treated water for flushing etc. (in case of completed infrastructure projects for commercial use).
- (f) Completion certificate from the concerned agency for infrastructure projects requiring water for commercial use.
- The District Ground Water Management Council reserves the right to ask for any other document(s) from the owner applicant for examination of the merit of the case.

For Usha Steal Process

Proprietor

Usha Steel Process

Proprietor

Aug-2021

Annexure-12

R.O

| Date | Flow Meter opening Reading | Flow Meter closing Reading | Total used water |
|---|---|---|---|
| 1/8/21 | — | — | — |
| 2/8/21 | 472.6 | 473.6 | 1000 |
| 3/8/21 | 473.6 | 474.6 | 1000 |
| 4/8/21 | 474.6 | 475.5 | 900 |
| 5/8/21 | 475.5 | 476.4 | 900 |
| 6/8/21 | 476.4 | 477.4 | 1000 |
| 7/8/21 | 477.4 | 478.3 | 900 |
| 8/8/21 | 478.3 | — | — |
| 9/8/21 | 478.3 | 479.3 | 1000 |
| 10/8/21 | 479.3 | 480.3 | 1000 |
| 11/8/21 | 480.3 | 481.2 | 900 |
| 12/8/21 | 481.2 | 482.2 | 1000 |
| 13/8/21 | 482.2 | 483.2 | 1000 |
| 14/8/21 | 483.2 | 404.1 | 900 |
| 15/8/21 | — | — | — |
| 16/8/21 | 404.1 | 485 | 900 |
| 17/8/21 | 405 | 486 | 1000 |
| 18/8/21 | 406 | 407 | 1000 |
| 19/8/21 | 407 | 407.9 | 900 |
| 20/8/21 | 407.9 | 488.9 | 1000 |
| 21/8/21 | 488.9 | 489.9 | 1000 |
| 22/8/21 | — | — | — |
| 23/8/21 | 489.9 | 490.9 | 1000 |
| 24/8/21 | 490.9 | 491.8 | 900 |
| 25/8/21 | 491.8 | 492.8 | 1000 |
| 26/8/21 | 492.8 | 493.8 | 1000 |
| 27/8/21 | 493.8 | 494.7 | 900 |
| 28/8/21 | 494.7 | 495.7 | 1000 |
| 29/8/21 | — | — | — |
| 30/8/21 | 495.7 | 496.7 | 1000 |

R.O Sep. 2024

M/s Usha Steal Process

| DATE | Flow meter oloning Reding | Flow meter closing Red | use water |
|---|---|---|---|
| 01/9/21 | 497.6 | 498.6 | 1000 |
| 02/9/21 | 498.6 | 499.4 | 800 |
| 03/9/21 | 499.4 | 500.4 | 1000 |
| 04/9/21 | 500.4 | 501.4 | 1000 |
| 05/9/21 | — | — | — |
| 06/9/21 | 501.4 | 502.3 | 900 |
| 07/9/21 | 502.3 | 503.3 | 1000 |
| 08/9/21 | 503.3 | 504.3 | 1000 |
| 9-9-21 | 504.3 | 505.2 | 900 |
| 10.9.21 | 505.2 | 506.2 | 1000 |
| 11.9.21 | 506.2 | 507.1 | 900 |
| 12.9.21 | — | — | — |
| 13.9.21 | 507.1 | 508.0 | 900 |
| 14/9/21 | 508.0 | 509.0 | 1000 |
| 15/9/21 | 509.0 | 510 | 1000 |
| 16/9/21 | 510 | 510.8 | 800 |
| 17/9/21 | — | — | — |
| 18/9/21 | 510.8 | 511.7 | 900 |
| 19/9/21 | — | — | — |
| 20/9/21 | 511.7 | 512.7 | 1000 |
| 21/9/21 | 512.7 | 513.6 | 900 |
| 22/9/21 | 513.6 | 514.6 | 1000 |
| 23/9/21 | 514.6 | 515.6 | 1000 |
| 24/9/21 | 515.6 | 516.5 | 900 |
| 25/9/21 | 516.5 | 517.5 | 1000 |
| 26/9/21 | — | — | — |
| 27/9/21 | 517.5 | 518.4 | 900 |
| 28/9/21 | 518.4 | 519.4 | 1000 |
| 29/9/21 | — | — | — |
| 30/9/21 | — | — | — |

Proprietor R.O Oct. 2024 USHA STEEL

| e | Flow Meter Okaming Reading | Flow Meter Closing Reading | Proprietor use water |
|---|---|---|---|
| 1/10/24 | - | - | - |
| 22/10/24 | - | - | - |
| 23/10/24 | - | - | - |
| 24/10/24 | 519.4 | 520.4 | 1000 |
| 25/10/24 | 520.4 | 521.3 | 900 |
| 26/10/24 | 521.3 | 522.2 | 900 |
| 27/10/24 | 522.2 | 523.2 | 1000 |
| 28/10/24 | 523.2 | 524.2 | 1000 |
| 29/10/24 | 524.2 | 525.1 | 900 |
| 30/10/24 | - | - | - |
| 31/10/24 | 525.1 | 526.1 | 1000 |
| 12/11/24 | 526.1 | 527.0 | 900 |
| 13/11/24 | 527.0 | 527.9 | 900 |
| 14/11/24 | 527.9 | 528.9 | 1000 |
| 15/11/24 | - | - | - |
| 16/11/24 | 528.9 | 529.8 | 900 |
| 17/11/24 | - | - | - |
| 18/11/24 | 529.8 | 530.8 | 1000 |
| 19/11/24 | 530.8 | 531.7 | 900 |
| 20/11/24 | 531.7 | 532.7 | 1000 |
| 21/11/24 | 532.7 | 533.6 | 900 |
| 22/11/24 | 533.6 | 534.5 | 900 |
| 23/11/24 | 534.5 | 535.3 | 800 |
| 24/11/24 | - | - | - |
| 25/11/24 | 535.3 | 536.3 | 1000 |
| 26/11/24 | 536.3 | 537.3 | 1000 |
| 27/11/24 | 537.3 | 538.3 | 1000 |
| 28/11/24 | 538.3 | 538.2 | 900 |
| 29/11/24 | 538.2 | 539.1 | 900 |
| 30/11/24 | 539.1 | 540.1 | 1000 |
| 31/11/24 | - | - | - |

R·O NOV·2024

M/s Usha Steel Process

Proprietor

| Date | Flow meter opening Reading | Flow Meter Closing Reading | Total use meter |
|---|---|---|---|
| 01/11/24 | 540·1 | 541 | 900 |
| 02/11/24 | 541 | 542 | 1000 |
| 03/11/24 | 542 | 543 | 1000 |
| 04/11/24 | - | - | - |
| 05/11/24 | - | - | - |
| 06/11/24 | - | - | - |
| 07/11/24 | - | - | - |
| 08/11/24 | 543 | 543·9 | 900 |
| 9/11/24 | 543·9 | 545·1 | 1200 |
| 10/11/24 | 545·1 | | |

| Date | Flow Meter opening Rd | Flow Meter Closing Rd | Total | Water PH Before Treatment | Chemical Caustic | Chemical Alum | Chemical Poly in Lit | Water Treat PH | Filter Press strg IN Kg | Water PH for Poly RO | A/S. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 9/21 | — | — | — | — | — | — | — | — | — | — | — |
| 9/21 | 438.2 | 439.4 | 1200 | 2 | 13 | 8 | 9 | 8 | 14.5 | 7.5 | E.T.P |
| 9/21 | 439.4 | 440.4 | 1000 | 2 | 10 | 6 | 5 | 8 | 10 | 7.5 | |
| 9/21 | 440.4 | 441.5 | 1100 | 2 | 10 | 6 | 5 | 8 | 10½ | 7.5 | |
| 9/21 | 441.5 | 442.5 | 1000 | 2 | 9 | 5 | 4 | 8 | 10 | 7.5 | |
| 9/21 | 442.5 | 443.7 | 1200 | 2 | 12 | 7 | 8 | 8 | 13½ | 7.5 | |
| 9/21 | 443.7 | 444.8 | 1100 | 2 | 11 | 7 | 6 | 8 | 12 | 7.5 | |
| 9/21 | — | — | — | — | — | — | — | — | — | — | — |
| 9/21 | 444.8 | 446.0 | 1200 | 2 | 12 | 8 | 5 | 8 | 14 | 7.5 | |
| 9/21 | 446.0 | 447.2 | 1200 | 2 | 12½ | 8 | 6 | 8 | 14 | 7.5 | |
| 9/21 | 447.2 | 448.4 | 1200 | 2 | 11 | 8 | 8 | 8 | 12 | 7.5 | |
| 9/21 | 448.4 | 449.5 | 1100 | 2 | 10 | 8 | 7 | 8 | 11 | 7.5 | |
| 9/21 | 449.5 | 450.7 | 1200 | 2 | 12 | 6 | 8 | 8 | 12 | 7.5 | |
| 9/21 | 450.7 | 451.7 | 1000 | 2 | 9 | 6 | 8 | 8 | 12 | 7.5 | |
| 9/21 | — | — | — | — | — | — | — | — | — | — | |
| 9/21 | 451.7 | 452.9 | 1200 | 2 | 12 | 8 | 7 | 8 | 14 | 7.5 | |
| 9/21 | 452.9 | 454 | 1100 | 2 | 11 | 8 | 6 | 8 | 13 | 7.5 | |
| 9/21 | 454 | 455.2 | 1200 | 2 | 11 | 8 | 8 | 8 | 14½ | 7.5 | |
| 9/21 | | | | | | | | | | | |

400

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | 451.7 | 452.9 | 1200 | 2 | 12 | 8 | 7 | 8 | 14 | 7.5 | Avg. 8 |
| 8/21 | 452.9 | 454 | 1100 | 2 | 11 | 8 | 6 | 8 | 13 | 7.5 | |
| 8/8/21 | 454 | 455.2 | 1200 | 2 | 11 | 8 | 8 | 8 | 14½ | 7.5 | E.T.A |
| 9/8/21 | 455.2 | 456.4 | 1200 | 2 | 12 | 7 | 6 | 8 | 13½ | 7.5 | |
| 0/8/21 | 456.4 | 457.5 | 1100 | 2 | 11 | 8 | 7 | 8 | 12 | 7.5 | |
| 1/8/21 | 457.5 | 458.7 | 1200 | 2 | 12 | 9 | 8 | 8 | 13 | 7.5 | |
| 2/8/21 | — | — | — | — | — | — | — | — | — | — | — |
| 3/8/21 | 458.7 | 459.9 | 1200 | 2 | 12 | 8 | 7 | 8 | 14 | 7.5 | |
| 4/8/21 | 459.9 | 461.0 | 1150 | 2 | 10 | 8 | 7 | 8 | 13 | 7.5 | |
| 5/8/21 | 461.0 | 462.2 | 1200 | 2 | 12 | 8 | 6 | 8 | 14 | 7.5 | |
| 6/8/21 | 462.2 | 463.4 | 1200 | 2 | 12 | 8 | 6 | 8 | 13 | 7.5 | |
| 7/8/21 | 463.4 | 464.5 | 1100 | 2 | 10 | 7 | 5 | 8 | 12 | 7.5 | |
| 8/8/21 | 464.5 | 465.7 | 1200 | 2 | 12 | 8 | 6 | 8 | 12½ | 7.5 | |
| 9.9.21 | — | — | — | — | — | — | — | — | — | — | |
| 0.09.21 | 465.7 | 466.9 | 1200 | 2 | 13 | 8 | 6 | 8 | 13 | 7.5 | |
| 9/21 | 4669 | 468 | 1150 | 2 | 11 | 7 | 6 | 8 | 12 | 7.5 | |

M/s Usha Steal

Pro

Sep. 2021

E.T.P

| | Opening Read | Closing Read | QTY | PH Befor Treatment | caustic | Alum | Poly | treatment PH | Slug | PH for 2.0 |
|---|---|---|---|---|---|---|---|---|---|---|
| 9.21 | 468.0 | 469.2 | 1200 | 2 | 12½ | 7 | 8 | 8 | 14 | 7.5 |
| 9.21 | 469.2 | 470.2 | 1000 | 2 | 11 | 5 | 6 | 8 | 9½ | 7.5 |
| 9.21 | 470.2 | 471.4 | 1200 | 2 | 13 | 8 | 9 | 8 | 13 | 7.5 |
| 09.21 | 471.4 | 472.6 | 1200 | 2 | 12½ | 7 | 8 | 8 | 14 | 7.5 |
| 09.21 | — | — | — | — | — | — | — | — | — | — |
| 09.21 | 472.6 | 473.7 | 1100 | 2 | 12 | 5 | 6 | 8 | 11 | 7.5 |
| 1.21 | 473.7 | 474.9 | 1200 | 2 | 13 | 8 | 9 | 8 | 13 | 7.5 |
| 1.21 | 474.9 | 476.1 | 1200 | 2 | 12 | 8 | 8 | 8 | 12½ | 7.5 |
| 1.21 | 476.1 | 477.2 | 1100 | 2 | 11 | 6 | 7 | 8 | 12 | 7.5 |
| 1.21 | 477.2 | 478.4 | 1200 | 2 | 13 | 7 | 8 | 8 | 13 | 7.5 |
| 1.21 | 478.4 | 479.6 | 1200 | 2 | 13 | 8 | 7 | 8 | 14 | 7.5 |
| .21 | — | — | — | — | — | — | — | — | — | — |
| 1.21 | 479.6 | 480.7 | 1100 | 2 | 11 | 7 | 7 | 8 | 12 | 7.5 |
| 1.21 | 480.7 | 402 | 1300 | 2 | 14 | 8 | 8 | 8 | 14 | 7.5 |
| 1.21 | 402 | 403.2 | 1200 | 2 | 13 | 7 | 6 | 8 | 13 | 7.5 |
| 1.21 | 403.2 | 404.2 | 1000 | 2 | 10 | 6 | 5 | 8 | 11 | 7.5 |
| 1.21 | — | — | — | — | — | — | — | — | — | — |
| 1.21 | 404.2 | 405.4 | 1200 | 2 | 13 | 7 | 6 | 8 | 12 | 7.5 |
| 1.21 | — | — | — | — | — | — | — | — | — | — |

402

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 2 | 403.2 | 1000 | 2 | 10 | 6 | 5 | 8 | 11 | 5.5 | | |
| — | — | — | — | — | — | — | — | — | — | | |
| 19/21 | 404.2 | 405.4 | 1200 | 2 | 13 | 7 | 6 | 8 | 12 | 7.5 | |
| 19/21 | — | — | — | — | — | — | — | — | — | — | |
| 20/9/21 | 405.4 | 406.6 | 1200 | 2 | 13½ | 8 | 8 | 8 | 13½ | 7.5 | |
| 21/9/21 | 406.6 | 407.7 | 1100 | 2 | 12 | 8 | 7 | 8 | 12½ | 7.5 | |
| 22/9/21 | 407.7 | 408.7 | 1000 | 2 | 10 | 6 | 5 | 8 | 9½ | 7.5 | |
| 23/9/21 | 408.7 | 409.9 | 1200 | 2 | 14 | 8 | 7 | 8 | 13½ | 7.5 | |
| 24/9/21 | 409.9 | 411.1 | 1200 | 2 | 13 | 8 | 6 | 8 | 13 | 7.5 | |
| 25/9/21 | 411.1 | 412.3 | 1300 | 2 | 14 | 8 | 7 | 8 | 14 | 7.5 | |
| 26/9/21 | — | — | — | — | — | — | — | — | — | — | |
| 27/9/21 | 412.3 | 413.3 | 1000 | 2 | 8 | 4 | 4 | 8 | 9 | 7.5 | |
| 28/9/21 | 413.3 | 414.5 | 1200 | 2 | 13 | 8 | 6 | 8 | 13 | 7.5 | |
| 29/9/21 | — | — | — | — | — | — | — | — | — | — | |
| 30/9/21 | — | — | — | — | — | — | — | — | — | — | |

Sep. 2
E.T.P

403

| | Flowmeter opening Read | Flow meter closing Read | Total GR | Water P.H Befoor Treatment | Chemical | | | After Treatment P.H | After Press slug | Water P.H for R.O | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | caustic | Alkali | Poly. | | | | |
| | – | – | – | – | – | – | – | – | – | – | M/s Usha Ste |
| | – | – | – | – | – | – | – | – | – | – | ETP |
| | 495·5 | – | – | – | – | – | – | – | – | – | |
| | 495·5 | 496·7 | 1200 | 2 | 12 | 7 | 8 | 8 | 14 | 7·5 | |
| | 496·7 | 497·8 | 1100 | 2 | 11 | 5 | 6 | 8 | 12 | 7·5 | |
| | 497·8 | 498·8 | 1000 | 2 | 11 | 6 | 6 | 8 | 12 | 7·5 | |
| | 498·8 | 500·0 | 1200 | 2 | 13 | 7 | 8 | 8 | 13 | 7·5 | |
| /24 | 500 | 501·2 | 1200 | 2 | 12 | 7 | 8 | 7 | 14 | 7·5 | |
| /24 | 501·2 | 502·3 | 1100 | 2 | 10 | 8 | 8 | 7 | 13 | 7·5 | |
| /24 | – | – | – | – | – | – | – | – | – | – | – |
| /24 | 502·3 | 503·5 | 1200 | 2 | 12 | 7 | 8 | 7 | 13 | 7·5 | |
| /24 | 503·5 | 504·6 | 1100 | 2 | 12 | 7 | 7 | 8 | 13 | 7·5 | |
| /24 | 504·6 | 505·6 | 1000 | 2 | 11 | 8 | 7 | 7 | 12 | 7·5 | |
| /24 | 505·6 | 506·8 | 1200 | 2 | 12 | 8 | 8 | 8 | 14 | 7·5 | |
| /24 | – | – | – | – | – | – | – | – | – | – | – |
| /24 | 506·8 | 507·9 | 1100 | 2 | 12 | 7 | 7 | 8 | 13 | 7·5 | |
| /24 | – | – | – | – | – | – | – | – | – | – | – |

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| " | 506.8 | 507.9 | 1100 | 2 | 12 | 7 | 7 | 8 | 13 | 7.5 | | OCT-2 |
| 10/24 | — | — | — | — | — | — | — | — | — | — | | -ETP |
| 3/10/24 | 507.9 | 509.1 | 1200 | 2 | 13 | 8 | 7 | 7 | 14 | 7.5 | | |
| 4/10/24 | 509.1 | 510.1 | 1000 | 2 | 10 | 6 | 5 | 7 | 10 | 7.5 | | |
| 5/10/24 | 510.1 | 511.3 | 12 | 2 | 13 | 8 | 7 | 7 | 13½ | 7.5 | | |
| 6/10/24 | 511.3 | 512.5 | 12 | 2 | 12 | 7 | 6 | 7 | 14 | 7.5 | | |
| 7/10/24 | 512.5 | 513.6 | 1100 | 2 | 12 | 6 | 5 | 7 | 12 | 7.5 | | |
| 8/10/24 | 513.6 | 514.8 | 12 | 2 | 13 | 7 | 8 | 7 | 14 | 7.5 | | |
| 9/10/24 | — | — | — | — | — | — | — | — | — | — | | |
| 10/10/24 | 514.8 | 516. | 1200 | 2 | 14 | 8 | 7 | 7 | 13 | 7.5 | | |
| 11/10/24 | 516 | 517.3 | 1300 | 2 | 14 | 8 | 8 | 7 | 14½ | 7.5 | | |
| 12/10/24 | 517.3 | 518.3 | 1000 | 2 | 10 | 6 | 5 | 7 | 11 | 7.5 | | |
| 13/10/24 | 518.3 | 519.3 | 1000 | 2 | 10 | 5 | 6 | 7 | 11½ | 7.5 | | |
| 14/10/24 | 519.3 | 520.5 | 1200 | 2 | 14 | 5 | 5 | 7 | 14 | 7.5 | | |
| 15/10/24 | 520.5 | 521.6 | 1100 | 2 | 13 | 4 | 5 | 7 | 12½ | 7.5 | | |
| 16/10/24 | — | — | — | — | — | — | — | — | — | — | | |

405

| | Opening Rdg | Closing Rdg | Ltr | PH Befor Treatment | Chemicals Caustic | Alum | Poly. 1N Ltr | Treatment PH | Sludge in Kg | for RO | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1/24 | 521.6 | 522.7 | 1100 | 2 | 11 | 6 | 4 | 8 | 12.5 | 7.5 | |
| /24 | 522.7 | 524 | 1300 | 2 | 14 | 7 | 6 | 8 | 14 | 7.5 | |
| /24 | 524 | 525.2 | 1200 | 2 | 13 | 6 | 5 | 8 | 13 | 7.5 | |
| /24 | - | - | - | - | - | - | - | - | - | - | |
| /24 | - | - | - | - | - | - | - | - | - | - | |
| /24 | - | - | - | - | - | - | - | - | - | - | |
| /24 | - | - | - | - | - | - | - | - | - | - | |
| /24 | 525.2 | 526.2 | 1000 | 2 | 10 | 4 | 4.5 | 8 | 12 | 7.5 | |
| /24 | 526.2 | 527.7 | 1500 | 2 | 14 | 8 | 7 | 8 | 13 | 7.5 | |
| /24 | 527.7 | | | | | | | | | | |

406

NOV-20

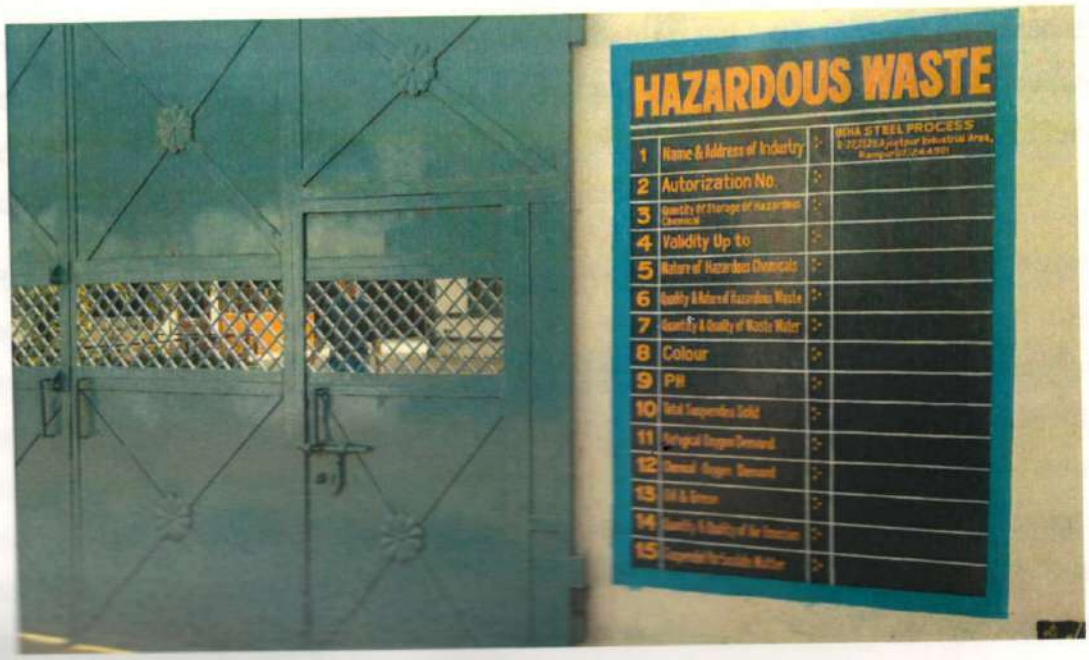
E.T.P

Usha Ste

# ADEQUACY REPORT OF

# EFFLUENT TREATMENT PLANT

# OF




# M/S USHA STEEL PROCESS

# AJEETPUR,RAMPUR U.P

SUBMITTED

BY


**DEPARTMENT OF CIVIL ENGINEERING**
**FACULTY OF ENGINEERING & TECHNOLOGY**
**ALIGARH MUSLIM UNIVERSITY ALIGARH**


**NOVEMBER-2021**



M/s Usha Steal Process
Prakash Chandra
Proprietor

## 1.0 INTRODUCTION

**M/s Usha Steel process Rampur, U.P.** is in pickling business. Pickling is a metal treatment process that removes superficial impurities from metal. It's called "pickling" because it involves the use of an acidic solution known as pickle liquor. The exact composition of the pickle liquor varies depending on the type of metal on which it's used. For low-carbon steel, pickle liquor typically consists of hydrochloric or sulfuric acid. For high-carbon steel, on the other hand, pickle liquor typically contains additional acids like phosphoric and/or nitric acid.

**The Benefits of Pickling:** It's not uncommon for newly produced metal to have a layer of impurities on the surface. Hot-rolled steel, for example, develops an oxide layer when worked. The presence of this oxide prevents the steel from obtaining a smooth and clean surface. Although there are numerous ways to remove oxide from steel, manufacturing companies often prefer pickling because of its simplicity. When pickled, the acidic pickle liquor eats away at the oxide layer without harming or otherwise disturbing the underlying steel. Even if a piece of metal doesn't have oxide on its surface, it probably still contains some impurities. It's not uncommon for newly produced metal to contain inorganic compounds like trace metals. Depending on the application for which the metal is intended, these impurities may hinder its performance. Pickling, however, can remove most impurities thanks to the acidic properties of pickle liquor.

Pickling is performed by submerging metal in pickle liquor. After working a piece of metal, the manufacturing company will submerge it in the acid solution. The pickle liquor will then eat away at any oxide or other impurities lingering on the surface of the metal.In addition to pickling, there are other ways to descale and clean metal. Smooth clean surface is an alternative treatment process that offers similar benefits. With smooth clean surface, metal is exposed to an abrasive compound that physically removes surface imperfections and impurities. There's also abrasive blasting, which involves blasting metal with a pressurized stream of an abrasive solution to create a clean and smooth surface.



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The unit was visited on November 12, 2021. The different unit operations/processes of ETP were physically verified (photographs attached – Annexure II). At the time of visit, the ETP was found in running condition with all the units operational. Certain instructions were given to the management as well as ETP operators regarding improving the working of the plant.

**2.0 Objective of the present study:**

The aim of the present study is to assess the feasibility to explore possibility of reuse of treated effluent from ETP within industrial process schemes in **Mls. Usha Steel Process.** The broad objectives of the work are

- To assess availability and efficacy of cleaner/ advance technology/state of the art technology for implementation of **Zero Liquid Discharge** (ZLD) in **Usha Steel Process**.
- To explore and carry out technical assessment of implementation of '**Zero Liquid Discharge**' scheme (Annexure-III).

3.0 Methodology:

The two possible options for zero liquid discharge (ZLD) are:

(i) Close up all process water loops by total recycling inside a process sequence or into adifferent process sequence within the industry.

(ii) Treat the effluent in a stand-alone facility to render it suitable for process reuse.

The scope of the adequacy assessment of ZLD in the **Mls. Usha Steel Process** is to analyze the feasibility of steps taken by the industry under both the above options. Following are the three major steps to achieve the above scope of work

(i) Water audit of the unit and preparation of the Water Balance

(ii) To assess water recycling arrangements

(iii) Analysis of ZLD scheme.

Following check list is used as guideline for the work

- Complete process flow sheet showing material flow including water



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balance of the production process.

- Scheme of Zero liquid discharge along with water and pollution load balance diagram.
- Balance of water and pollution load across various unit operations used for treating process water for recycling/treatment under ZLD scheme.
- Provision of flow meter and water sampling wherever recycled water is used in the process.
- Balance of water and contaminants across the section where fresh water or recycled water is used.
- Flow meters log records put across the various unit operations used for treating process water for recycling/treatment under ZLD scheme.
- Log book record of utility section including fuel consumption.
- Record of solid waste generation and disposal generated from ZLD scheme.
- Recovery and reject ratio of RO plant if exist
- Log record of RO plant.
- Operation and maintenance record of unit operation used for treating process water for recycling/treatment under ZLD scheme (Annexure III).

**Water Audit:** Water audit includes collection and compilation of water consumption data, process details, and section wise water balance. Documents and information are necessary to implement an audit. Following are the steps for the water audit

- Meeting with Management
- Plant Visit.

Preparation of Process Flow Diagram and complete Water balance of the plant. Available information of the industry was tried to collect as much as possible. The information includes the process flow sheet of different sections of the industry, mass flow rate, and consistencies. Data and detailed flow diagrams provided by the industry helped in achieving the objective of the report.



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**Water Recycling Arrangement:** Adequacy of water recycling arrangements is assessed through

- Adequacy of treatment scheme
- Recycling water quality analysis

**Analysis of ZLD scheme:**

- Flow sheet analysis
- Technical feasibility

## 4.0 Manufacturing Process

No manufacturing is done at M/s Usha Steel Process

## 5.0 WATER AND WASTEWATER: GENERATION AND CHARACTERIZATION

### 5.1 QUANTIFICATION OF WASTEWATER

The sources of effluent include cooling tower for chillers condensers (refrigeration) cooling towers for distillation condensers and floor washing section. The quantity of effluent generated from various sources of the unit has been estimated considering 100% of the total water consumption. The total effluent generated has been estimated for present scenario is run for Maximum 0.8 KLD. Whereas it can handle up to 4.0 KLD.

### 5.2 CHARACTERIZATION OF WASTEWATER

The characteristics of effluent are source specific and differ from source to source. Therefore, the effluent generated is of interest from the standpoint of environmental impact in terms of both effluent volume and contaminant loading. Therefore, the characteristics of effluent include mainly pH, total suspended solids, biochemical oxygen demand, chemical oxygen demand and oil and grease. The current reports of influent and effluent are seen and attached (Annexure –I).



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## 5.3 QUANTIFICATION OF WATER

One bore well with total capacity of 4.0 KLD are used to drawn water from underground. The quantity of fresh water consumption from various sources of the unit has been estimated for present scenario found to be 1.3KLD.

## 5.4 CHARACTERIZATION OF WATER

The characteristics of raw water are source specific and differ from source to source. Therefore, the water consumption is of interest from the standpoint of environmental impact in terms of both influent volume and contaminant loading. Therefore, the characteristics of influent include mainly pH, total suspended solids, biochemical properties, oil and grease. The current reports are seen and attached (Annexure-I).

## 6.0 TREATMENT PROCESS DESCRIPTION

The unit has provided effluent treatment plant (ETP) for the treatment of wastewater prior to discharge and to comply with the requirements of the pollution control board. The designed capacity of ETP to treat the wastewater is 4.0 KLD, However, the estimated effluent generated has been found to be 0.8KLD. The wastewater generated from process of rinsing after pickling will collect in an equalization tank where flow will equalise. The waste water from equalisation tank will pump to ETP. The waste water collected in equalization tank is being pumped to reaction cum settling tank, where pH boosting chemicals is being added to maintain pH between 9-10. After that coagulants agent is being added so that precipitation could start and then flocculating agent is being added to increase the weight of precipitate due to which solid and liquid get separated. The solid in form of sludge settled down at hopper i.e bottom of reaction cum settling chamber. The treated water is being pumped to multigrade filter and then activated carbon filter. The filtered water from activated carbon being pushed to reverse osmosis plant. The permeate water after osmosis plant is being collected in permeate water collection tank and is further pumped to rinsing water tanks for rinsing MS Sheets after process of pickling. The reject water will transfer in treated water tank for feeding in RO plant. When TDS increases more than 30,000 mg/l in that case RO reject water transfer to evaporator.



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Vapour from evaporator is being recover in permeate water collection tank for recycling in process of rinsing. Online monitoring system is being installed as per the guidelines of CPCB

## 7.0 TREATMENT PLANT: UNIT OPERATIONS/PROCESSES

(i) Equalization tank
(ii) Reaction cum settling chamber
(iii) Treated water collection tank
(iv) Multi media filter
(v) Activated carbon filter
(vi) Filter press
(vii) Reverse Osmosis plant
(viii) RO treated water (permeate) collection tank
(ix) RO reject water collection tank
(x) Evaporator

### 7.1 SPECIFICATION OF PROCESS UNITS

| S. No. | ETP component | Nos. | Size/capacity in feet | Material of Construction | Whether adequate , If not , give reasons |
|---|---|---|---|---|---|
| (i) | Equalization tank | 01 | Volume 4,500 lt | BW/RCC | Adequate |
| (ii) | Reaction cum settling tank | 01 | 2 m high<br>2.0 m in dia | MS febricated | Adequate |
| (iii) | Treated water collection tank | 01 | 1.3 m high<br>1.50 m in dia | MS fabricated | 3.50 hrs detention time Adequate |
| (iv) | Pressure sand filter | 01 | Dia 0.4m<br>Height 0.60 m | PVC. | Adequate |
| (v) | Activated carbon filter | 01 | Dia 30.4 m<br>Height 0.60 m | PVC. | Adequate |



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| | | | | | |
|---|---|---|---|---|---|
| (vi) | Filtered water tank | 01 | 2000 lit capacity | PVC. | Adequate |
| (vii) | Filter press | 01 | 600mm x 600 mm x 24 plates | Steel | Adequate |
| (viii) | RO plant | 01 | Average permeate flow 300-500 lph | | Adequate |
| (ix) | Evaporator | 01 | 100 lph capacity 800 mm dia x 1500 mm | PVC | Adequate |

**Information provided by the client*

## 8.0 ANALYSIS OF INFLUENT AND EFFLUENT CHARACTERISTICS

The client has provided recent test report of influent and effluent characteristics (issued on July 05, 2021) having case specific selected parameters. The parameters include pH, Total Suspended Solids, TDS, TS, odour, colour, heavy metals, BOD, COD, Oil, and Grease. These parameters have been analyzed by Research testing and calibration laboratory Moradabad UP (Annexure -I). The values of characteristic parameters at the outlet of ETP have been found to be within the permissible limit.

## 6.0 CONCLUSIONS AND RECOMMENDATIONS

(i) The capacity - wise all the unit operations and processes of ETP are seem to be adequate to cater the wastewater generated from the unit.

(ii) The influent and effluent characteristics (as provided by the client) comply with the regulatory norms of discharge standards.

(iv) The treated water is used for rinsing of M.S Sheets after process of pickling. The reject water transfer to treated water chamber for feeding in RO plant.

(v) Vapour from evaporator is being used to recover in permeate water collection tank for recycling in process of rinsing.

(iv) 100 % wastewater after treatment used within the premises.



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(vi) **Mls. Usha Steel Process** is not discharging any effluent out of the premises.

(vii) Wastewater treatment including zero level discharge schemes is adequately designed and working satisfactorily.

(viii) It has been advise to check updates from CPCB website for compliance of pollution emerging from the industries.

(ix) It has been suggested to arrange the technical training programme for operating personnel on treatment plant operation and maintenance on regular bases to aware of the significance and principles of the operating system.

**Consultant**

**Name** : **Dr. Sohail Ayub**
**Designation** : **Professor**
**Name of organization/institute: Dept. of Civil Engg.**
**Aligarh Muslim University, Aligarh**

**Dr. Sohail Ayub** (Ph.D.)
**Professor, Dept. of Civil Engg.**
**A.M.U., Aligarh**

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Proprietor

# SUMMARY SHEET OF FEASIBILITY REPORT FOR ETP

# OF

# M/S. USHA STEEL PROCESS, AJEETPUR INDUSTRIAL AREA

# RAMPUR, U.P.

Adequacy Report No.: EPES/CED/167/2021 Date of Issue: 17.11.2021

| S. No. | Description | Details |
|---|---|---|
| 1 | Name of unit | **Mls. Usha Steel Process.** |
| 2 | Address of unit | *Ajeetpur Industrial Area Dist.Rampur, U.P.* |
| 3 | Date of Commissioning/ Commencement of Production | 2011 |
| 4 | (a) Plot area (in sq meter )<br>(b) Built up area (in sq meter ) | 1500.00<br>978.82 |
| 5 | Name, Designation & contact No(s) of the In- charge dealing with pollution control matters. | Shri. Usha Gupta<br>CEO<br>Contact No.: |
| 6 | Name, Designation of the person (s) contacted at the site during the visit. | Mr. Prakash Chandra<br>ETP Manager<br>Contact No.: +91-9412717711 |
| 7 | Activity/process | Attached (Annexure – III) |
| 8 | Production capacity | Pickling of 1000 sheets per day |
| 9 | Manufacturing process /Main Activities (in brief, Also Attach Process Flow Diagram)) | Only processing (No manufacturing) |
| 10 | Main Raw Materials | MS Plates |
| 11 | Main Products | MS Plates process |
| 12 | Source of water | Ground water (bore well) |

**Part B: Water Consumption, Waste Water Generation and Treatment**

13 Water consumption, source and waste water generation (in KLD): (please Annex Water Mass Balance chart)

| | | Usage | Quantity, KLD | Source | Water meter installed | Wastewater generation, KLD | Flow meter installed |
|---|---|---|---|---|---|---|---|
| | (a) | Domestic (toilet/Bathroom/ washroom etc. | 0.5KLD | Ground Water | Yes | 0.5KLD to septic tank | yes |
| | (b) | RPO cleaning | 0.8 KLD | Ground Water | Yes | 0.8 KLD | |



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| | | | | | | | |
|---|---|---|---|---|---|---|---|
| | **Total** | **1.3 KLD** | **Ground Water** | **Yes** | **0.8 KLD** | **Yes** | |

| | |
|---|---|
| 14 | Basis of the quantity of water consumption and waste water generation mentioned above: **Estimation/Waste Water Meter Reading** |
| 15 | Wastewater treatment facilities: Effluent Treatment Plant (ETP) |

| S No. | Design capacity (in KLD) | Treatment facility | Design parameter (BOD etc.) | Treatment process(physio-chemical/Biological, mention technology used) | Batch/Continuous process | Sources of waste water leading to ETP | Present average waste water generation KLD | Flow meter at inlet & outlet (yes/No) | Disposal point |
|---|---|---|---|---|---|---|---|---|---|
| 1 | 4.0 | ETP | BOD-10 - 20 mg/l COD-500-600 mg/l | Physical, Chemical as well as Biological with tertiary treatment | Continuous process | By Pump | 0.8 | Yes | Yes |

| | | |
|---|---|---|
| 16 | Whether all the wastewater generated from the unit /establishment is treated: Yes | |
| 17 | Mode and location of effluent discharge : (please attach location map of disposal clearly indicating the outlets for sampling/effluent discharge )<br>(a) **Treated effluent** : Partly for watering of streets and gardening purposes but majority of treated wastewater is taken for cooling tower re cycling | |
| 18 | Details of the Constituent Units of ETP | Equalization tank ,Reaction cum settling chamber ,Treated water collection tank, Multi media filter, Activated carbon filter Filter press ,Reverse Osmosis plant RO treated water (permeate) collection tank ,RO reject water collection tank Evaporator, Air Blowers, Effluent Transfer Pump, Filter Feed Pump, Sludge Transfer Pump |
| | Design Capacity of ETP (in KLD) | 04 |
| | Treatment process (physic-chemical /biological, mention technology used) | 1. *Physico-Chemical Process*<br>Settling Chambers, Oil and Fat Removal, Equalization tank<br>2. *Biological Treatment Process*<br>NIL |



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| | | |
|---|---|---|
| | | 4. *Tertiary Treatment*<br>Multi Media Filter, Activated Carbon Filter<br>Reverse osmosis and evaporator |
| | Date of commissioning of ETP<br>Whether continuous or batch? if batch , no. of batches?<br>(Enclose schematic diagram/ process flow sheet of treatment scheme & photograph of ETP | Commissioning Date: 2011<br><br>Type: Continuous process |

| S. No. | ETP component | Nos. | Size/capacity in feet | Material of Construction | Whether adequate , If not , give reasons |
|---|---|---|---|---|---|
| (i) | Equalization tank | 01 | Volume 4,500 lt | BW/RCC | Adequate |
| (ii) | Reaction cum settling tank | 01 | 2 m high<br>2.0 m in dia | MS febricated | Adequate |
| (iii) | Treated water collection tank | 01 | 1.3 m high<br>1.50 m in dia | MS fabricated | 3.50 hrs detention time Adequate |
| (iv) | Pressure sand filter | 01 | Dia 0.4m<br>Height 0.60 m | PVC. | Adequate |
| (v) | Activated carbon filter | 01 | Dia 30.4 m<br>Height 0.60 m | PVC. | Adequate |
| (vi) | Filtered water tank | 01 | 2000 lit capacity | PVC. | Adequate |
| (vii) | Filter press | 01 | 600mm x 600 mm x 24 plates | Steel | Adequate |
| (viii) | RO plant | 01 | Average permeate flow 300-500 lph | | Adequate |
| (ix) | Evaporator | 01 | 100 lph capacity<br>800 mm dia x 1500 mm | PVC | Adequate |

**Information provided by the client*

| | |
|---|---|
| 19 | Whether design aspects were taken in to account while evaluating the performance of ETP: Yes |
| 20 | • Whether any modification was suggested to rectify deficiencies improve /upgrade the ETP: Yes<br>• Whether modifications are incorporated: Yes |
| 21 | Whether ETP found operating and wastewater is treated : Yes |



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| | | | | |
|---|---|---|---|---|
| 22 | Whether wastewater measured : Yes, Electromagnetic Flowmeter (At inlet and outlet of ETP)<br>(if yes please enclose details of flow meters type /No locations etc.) photograph attached | | | |
| 23 | Whether all the wastewater generated from the unit is treated? If not , how much % of is being treated: Yes 100% treated | | | |
| 24 | Whether unit is having any Bypass arrangement for discharge of untreated effluent from the premises : No | | | |
| 25 | Whether the entire treated effluent is being reused? If yes mention the quantity of reuse /recycle of treated effluent in various in various usages and provide details. If not. How much % is being reused?: 100% is used in re circulation and recycling purposes. | | | |
| 26 | Whether the unit has proper arrangement /system for handling and disposal of sludge generated from the ETP: Yes | | | |
| 27 | Whether the unit is having adequate and qualified /skilled operators(s) for the proper operation and maintenance of the ETP: Yes (It was suggested to have one more) | | | |
| 28 | Whether proper log book is being maintained for the operation and maintenance of ETP?: Yes | | | |
| 29 | Whether influent (untreated) and effluent (treated) characteristics have been monitored? If yes, then details in the table below) | | | |
| | Date and time of effluent sampling | Whether grab or composite sample | Name & designation of the person who collected sample | Name of the Empanelled laboratory which conducted monitoring /analysis |
| | 05.07.2021<br>2:30 PM | Grab Sampling | P. Gupta | Research Testing and calibration Lab Moradabad.UP |
| 30 | Whether the treated effluent is meeting the prescribed standards: Yes | | | |
| 31 | Date of visit /inspection of the unit /establishment | | 12-11-2021 | |
| 32 | Name and designation of the person conducted visit/inspection of the unit /establishment | | Dr. Sohail Ayub | |
| 33 | Whether existing ETP is adequate to treat the waste water up to its designed capacity (4.0KLD) to meet the prescribed standards: Yes | | | |
| 34 | Advice (if any) given to the unit for the proper operation & maintenance of ETP (separate sheet may be enclosed) Already installed RO unit and Multi evaporator. | | | |
| 35 | Suggestion for best available technology Nil | | | |
| 36 | Remarks (if any): The sizes of the different treatment units were found adequate and as per the laboratory reports the ETP is treating wastewater satisfactorily and the effluent discharge limits of CPCB are achieved. | | | |

**Date of Issue:** 17.11.2021



M/s Usha Steal Process

Proprietor

Name : Dr. Sohail Ayub
Designation : Professor
Name of organization/institute: Dept. of Civil Engg.
Aligarh Muslim University, Aligarh

Dr. Sohail Ayub (Ph.D.)
Professor, Dept. of Civil Engg.
A.M.U., Aligarh



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## Annexure - I

1-Testing Reports

2- Valid Consents

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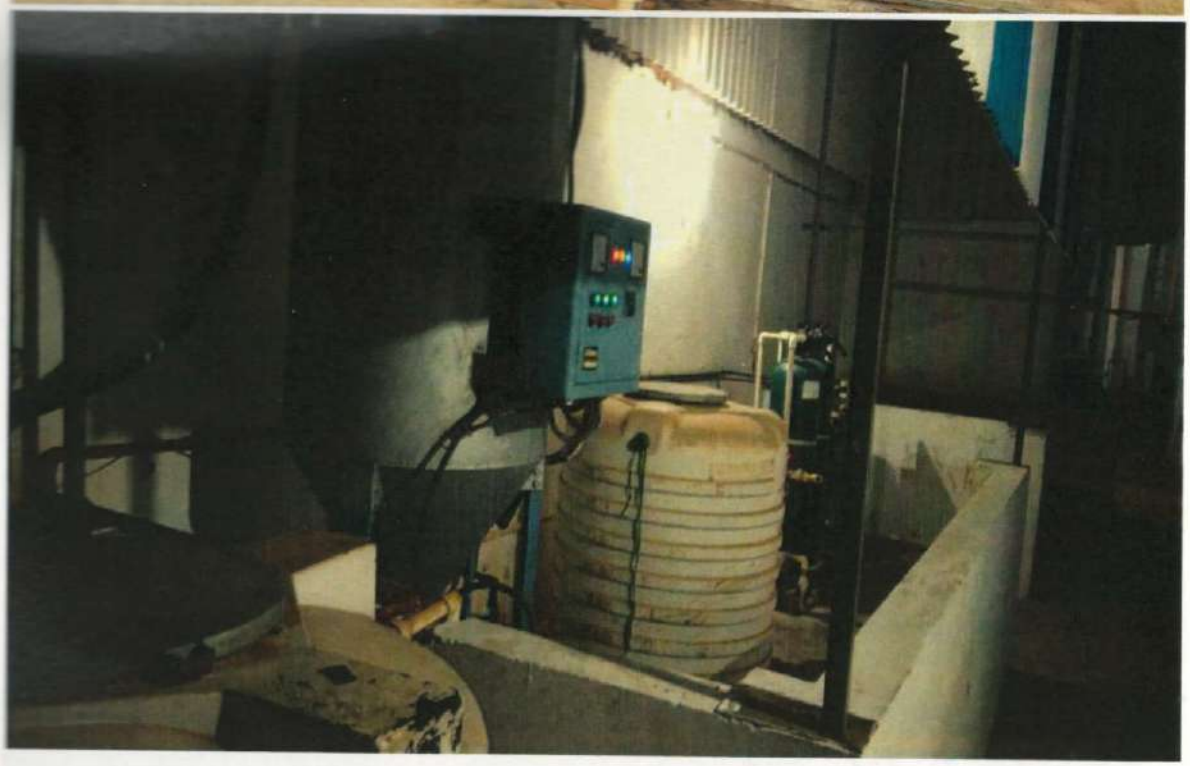
## Annexure - II

## Photographs of ETP





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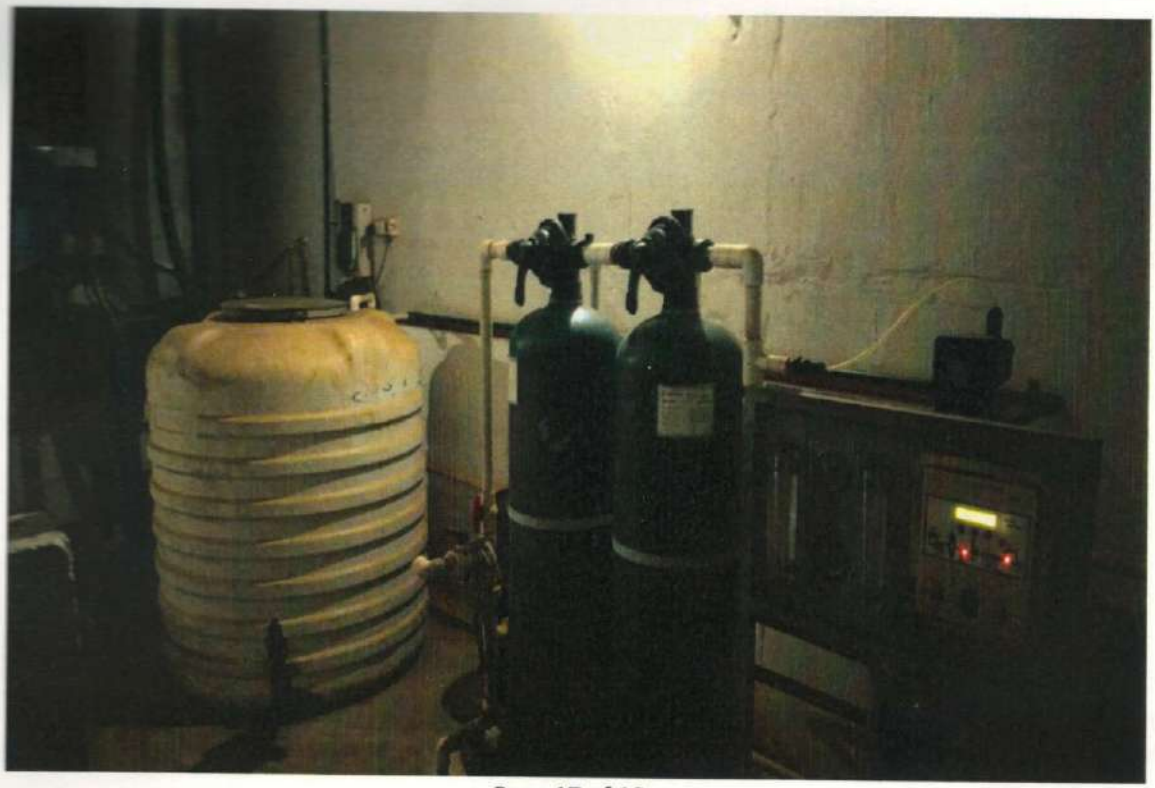



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Annexure - III

# FLOW DIAGRAM OF ETP

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Annexure – 14

# REGIONAL LABORATORY OFFICE MORADABAD
# UTTAR PRADESH POLLUTION CONTROL BOARD

**1-A/I.N.S.-1, Avas Vikas Colony, Buddha Vihar, Delhi Road,Moradabad**

## TEST REPORT: WASTE WATER LABORATORY

**Ref No: 14027676/Moradabad/2021** **Date:22/11/2021**

**1- Name of Industry:** USHA STEEL PROCESS

**2- Address of Industry:** PLOT NO- 22, 23 AND 29, AJEETPUR INDUSTRIAL ESTATE TEHSIL RAMPUR DISTRICT RAMPUR U.P 244901,RAMPUR,244901

**3- District:** Rampur

**4- Description about sampling point:** FINAL OUTLET OF ETP

**5- Type of Sample (Grab/Composite/Integrated):** Grab

**6- Sample Collected By:** Vinod Kumar AEE & Jitendra Nath Tiwari JE

**7- Colour and Odour:** COLOURLESS ODOURLESS

**8- Quantity and Packing:** 2 liter (PLASTIC JERICAN)

**9- Date of Sample Collection:** 10/11/2021

**10- Analyis Indented by:** RO Moradabad

**11- Date of sample receipt in Lab:** 11/11/2021

| Parameter/Method Name | Unit | Results | Standard | Detection Range |
|---|---|---|---|---|
| pH,4500 H B Electronic method | - | 7.6 | | 02-12 |
| Suspended Solids , 2540 D Total Suspended Solids dried at 103-105 0C | mg/l | 48.0 | | 10-20000 mg/l |
| Dissolved Solids, 2540 C Total Dissolved Solids dried at 180 0C | mg/l | 340 | | 10- 50000 mg/l |
| BOD, 3 day 27 0C IS 3025 ( Part 44): 1993 Bio | mg/l | 4.8 | | 1.0 -50000 mg/l |
| COD, 5220 B Open Reflux Method | mg/l | 176 | | 5.0 -100000 mg/l |

Reference- (1)General Standards for discharge of envieronment Pollutants are as pert-A Effluent(Schedule-VI).The eniveronment (Protection) Rules,1986 source: www.cpcb.nic.in/GeneralStandards.pdf. Besides these standards,refer EPA standards for specific purpose

***Remark:*** *NA*

**Analysed by**

[Alok Sharma (JRF)]

**Authorized by**

ANIL KUMAR VISHWAKARMA

Anil Vishwkarma SA

VIKAS MISHRA Digitally signed by VIKAS MISHRA Date: 2021.11.23 10:59:15 +05'30'

**Regional Officer**

Note: 1 The results in the Test Report relate only to the items tested: 2. The report shall not be reproduced-except in full, without the written permission of laboratory. 3. The test report pertains to the sample as received in Lab.

# GROUND WATER DEPARTMENT

(Namami Gange & Rural Water Supply Department)
Ministry of Jal Shakti
Government of Uttar Pradesh

## Form 8 (C)

[See Rule 8(1)]

## AUTHORIZATION/ NO-OBJECTION CERTIFICATE FOR SINKING OF NEW / EXISTING WELL FOR INDUSTRIAL/ COMMERCIAL/ INFRASTRUCTURAL OR BULK USER OF GROUND WATER

**[Under Section 14 of the Uttar Pradesh Ground Water Management and Regulation Act, 2019.]**

AUTHORIZATION/ NO-OBJECTION CERTIFICATE NO: NOC036353

**VALID FROM 29/10/2021 TO 28/10/2026**

**{UIS10(1) of the Uttar Pradesh Ground Water Management and Regulation Act, 2019}**

**Registration No.: 202109000316**

| | | | |
|---|---|---|---|
| Name of the Owner | NITIN KUMAR GUPTA | | |
| Designation<br>पद | DIRECTOR TECHNICAL | **Company Name**<br>**कंपनी का नाम** | SWATI MENTHOL & ALLIED CHEMICALS LTD UNIT I |
| Company Address<br>कंपनी का पता | OPPOSITE AKASHWANI, BAREILLY ROAD RAMPUR UP | **Authorization Letter**<br>**प्राधिकार पत्र** | Download |
| Address of the Applicant | KHASRA NO-165, 169, 4.5 K.M. BAREILLY ROAD, DISTRICT-RAMPUR, U.P. 244901 | **Application Form Serial No.** | RMPR0921NIN0035 |
| Date of Submission | 11/09/2021 | **Specimen Signature** | |

### Location Particulars

| | | | |
|---|---|---|---|
| District | Rampur | **Block** | CHAMRAUAA (URBAN) |
| Plot No./Khasra No. | 165,169 | **Municipality/Corporation** | No |
| Ward No./Holding No. | | | N/A |

### Particular of the Existing Well and Pumping Device

| | | | |
|---|---|---|---|
| Date of Construction/Sinking of the Well | 01/01/2007 | | |
| Type of Well | Tube Well/Boring | **Depth of the Well (In meter)** | 45.00 |
| Purpose of well | Industrial | **Assembly Size(For Tube Well)** | |
| **Strainer Position (For Tube Well)** | | | |
| Type of Pump Used | Submersible | **H.P. of the Pump** | 3.00 |
| Operational Device | Electric Motor | **Rate of Withdrawal ($m^3$/hr.)** | 15.00 |
| **Date of Energization (In Case of Electric Pump)** | | 01/01/2007 | |

| | | | |
|---|---|---|---|
| **...mum Allowable Rate of Withdrawal ($m^3$/hr.):** | 15.00 | **Maximum Allowable Running Hours Per Day:** | 1.00 |
| **Maximum Allowable Annual Extraction of Ground Water:** | | | 1500 |

This No-Objection certificate authorizes the owner applicant (user) to sink a well in the location specified at Sl. (2) for extraction of ground water at a rate not exceeding that as shown at Sl. (3j), for Running Hours per day as shown at Sl. (3k), and for maximum allowable annual extraction of ground water as shown at Sl. (3k) and is valid subject to the observance of the conditions stated overleaf.

## GENERAL CONDITIONS:

- In case of any change of ownership of the proposed well, fresh authorization has to be obtained.
- No change of location, design, rate of withdrawal and pumping device in respect of the proposed well as indicated at SL (2) and (3) of this certificate shall be made without prior permission of the Competent Authority. Any deviation in this regard shall lead to cancellation of this authorization
- For the purpose of measuring and recording the quantity of ground water extracted, every said user shall affix digital water flow meters (conforming to BIS/ IS standards) having telemetry system in the abstraction structure, which record rate and quantum of extraction, at outlet of pumping devices and it shall be presumed that the quantity recorded by the meter has been extracted by the said user, until the contrary is proved. The rate of extraction of ground water from the well as shown in item 3(k) shall not exceed to the recorded rate from water meters situation so demands
- The concerned Authority reserves the right to stop extraction of ground water from the well due to quality hazards or any other reasons, if the
- In case of any change of ownership of the existing well, fresh registration has to be obtained.
- No change of location, design, rate of withdrawal and pumping device in respect of the existing well as indicated at Sl. (2) and (3) of this certificate shall be made without prior permission of the Competent Authority. Any deviation in this regard shall lead to cancellation of this registration
- In case, any of the particulars I information furnished by the applicant in his application for issuance of this registration is found to be incorrect during verification at any subsequent stage , this registration is liable for cancellation.
- The Certificate of Authorization/ NOC shall be valid for a period of five years from the date of issue. The applicant shall have to apply for renewal through a fresh application, at least ninety days prior to expiry of its validity.
- Construction of piezometers and installation of digital water level recorders with telemetry shall be mandatory for user. Depth and zone tapped of piezometer should be commensurate with that of the pumping well. The data, obtained from digital water level recorders shall be made available to this office on monthly basis
- **Guidelines for Installation of Piezometers and their Monitoring**

Piezometer is a borewell /tubewell used only for measuring the water level by lowering the tape/ sounder or automatic water level measuring equipment. It is also used to take water sample for water quality testing when ever needed. General guidelines for installation of piezometers are as follows:

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- The depth of the piezometer should be same as is case of the pumping well from which ground water is being abstracted. If, more than one piezometers are installed the second piezometer should monitor the shallow ground water regime. It will facilitate shallow as well as deeper ground water aquifer monitoring.
- No. of piezometers to be constructed & Type of water level monitoring mechanism shall be as per below table:

| S.No | Quantum of Ground water withdrawal (cum/day) | No.of piezometers required | Monitiring Mechanism | |
|---|---|---|---|---|
| | | | Manual | DWLR with Telemetry |
| 1 | < 10 | 0 | 0 | 0 |
| 2 | 11 - 50 | 1 | 1 | 0 |
| 3 | 50- 500 | 1 | 0 | 1 |
| 4 | > 500 | 2 | 0 | 2 |

- The measuring frequency should be monthly and accuracy of measurement should be up to cm. the reported measurement should be given in meter upto two decimal.
- For measurement of water level sounder or automatic water level recorder (AWLR)/ Digital Automatic water level recorder (DWLR) with telemetry system should be used for accuracy.
- The measurement of water level in piezometer should be taken, only after the pumping from the surrounding tube wells has been stopped for about four to six hours.
- All the details regarding coordinates, reduced level (with respect to mean level), depth, zone taped and assembly lowered should be provided for bringing the piezometer into the Hydrograph Monitoring System for Ground Water Department, Uttar Pradesh, and for its validation.
- The ground water quality has to be monitored twice in a year during pre-monsoon (May/June) and post-monsoon (October/November) periods. Quality may be got analyzed from NABL approved lab. Besides, one sample (1 lt capacity bottle) to the concerned Director, Ground Water Department, Uttar Pradesh, for chemical analysis.
- A Permanent display board should be installed at piezometer/Tube wells site for providing the location, piezometer/ tube well number, depth and zone tapped of piezometer/tube well for standard referencing and identification.

- Any other site specific requirement regarding safety and access for measurement may be taken care of.

Any other condition(s) that may be imposed by the concerned Authority.

- In case, any of the particulars I information furnished by the applicant in his application for issuance of this permit is found to be incorrect during verification at any subsequent stage, this permit is liable for cancellation.
- 
- **SPECIFIC CONDITIONS:**
- **(A) For Industrial User:** No Objection Certificate for ground water extraction by industries shall be granted subject to the following specific conditions:
- i) No Objection Certificate shall be granted only in such cases where local government water supply agencies are not able to supply the desired quantity of water.
- ii) All industries shall be required to adopt latest water efficient technologies so as to reduce dependence on ground water resources.
- iii) All industries abstracting ground water in excess of 100 $m^3$/d shall be required to undertake annual water audit through Confederation of Indian Industries (CII)/ Federation Indian Chamber of Commerce and Industry (FICCI)/ National Productivity Council (NPC) certified auditors and submit audit reports within three months of completion of the same to Ground Water Department Uttar Pradesh. All such industries shall be required to reduce their ground water use by at least 20% over the next five years through appropriate means.
- iv) Construction of observation well(s) (piezometer)(s) within the premises and installation of appropriate water level monitoring mechanism as mentioned in General Condition no.10 shall be mandatory for industries drawing/ proposing to draw more than 10 $m^3$ /day of ground water and. Monitoring of water level shall be done by the project proponent. The piezometer (observation well) shall be constructed at a minimum distance of 50 m from the bore well/production well. Depth and aquifer zone tapped in the piezometer shall be the same as that of the pumping well/ wells. Monthly water level data shall be submitted online to the Ground Water Department, UP.
- v) The proponent shall be required to adopt roof top rain water harvesting/ recharge in the project premises. Industries which are likely to pollute ground water (chemical, pharmaceutical, dyes, pigments, paints, textiles, tannery, pesticides/ insecticides, fertilizers, slaughter house, explosives etc.) shall store the harvested rain water in surface storage tanks for use in the industry.
- vi) Injection of treated/ untreated waste water into aquifer system is strictly prohibited.
- vii) Industries which are likely to cause ground water pollution e.g. Tanning, Slaughter Houses, Dye, Chemical/ Petrochemical, Coal washeries, other hazardous units etc. (as per CPCB list) need to undertake necessary well head protection measures to ensure prevention of ground water pollution.
- 
- (B) **Infrastructural User:** The No Objection Certificate for ground water abstraction will be granted subject to the following specific conditions:
- i) In case of infrastructure projects that require dewatering, proponent shall be required to carry out regular monitoring of dewatering discharge rate (using a digital water flow meter) and submit the data online to Ground Water Department, UP as applicable. Monitoring records and results should be retained by the proponent for two years, for inspection or reporting as required by District Ground Water Management Council.
- ii) Installation of Sewage Treatment Plants (STP) shall be mandatory for new projects, where ground water requirement is more than 20 $m^3$ /day. The water from STP shall be utilized for toilet flushing, car washing, gardening etc

Date :**09/11/2021**

Place:**Rampur**

**This certificate is electronically generated and does not require digital signature**

# GROUND WATER DEPARTMENT

(Namami Gange & Rural Water Supply Department)
Ministry of Jal Shakti
Government of Uttar Pradesh

## Form 8 (C)

[See Rule 8(1)]

## AUTHORIZATION/ NO-OBJECTION CERTIFICATE FOR SINKING OF NEW / EXISTING WELL FOR INDUSTRIAL/ COMMERCIAL/ INFRASTRUCTURAL OR BULK USER OF GROUND WATER

**[Under Section 14 of the Uttar Pradesh Ground Water Management and Regulation Act, 2019.]**

AUTHORIZATION/ NO-OBJECTION CERTIFICATE NO: NOC031067

**VALID FROM 29/10/2021 TO 28/10/2026**

**{UIS10(1) of the Uttar Pradesh Ground Water Management and Regulation Act, 2019}**

**Registration No.: 202109000312**

| | | | |
|---|---|---|---|
| Name of the Owner | NITIN KUMAR GUPTA | | |
| Designation<br>पद | DIRECTOR TECHNICAL | **Company Name**<br>**कंपनी का नाम** | SWATI MENTHOL &ALLIED CHEMICAL LTD UNIT I |
| Company Address<br>कंपनी का पता | OPPOSITE AKASHWANI, BAREILLY ROAD RAMPUR UP | **Authorization Letter**<br>**प्राधिकार पत्र** | Download |
| Address of the Applicant | KHASRA NO-165, 169, 4.5 K.M. BAREILLY ROAD, DISTRICT-RAMPUR, U.P. 244901 | **Application Form Serial No.** | RMPR0921NIN0033 |
| Date of Submission | 11/09/2021 | **Specimen Signature** | |

### Location Particulars

| | | | |
|---|---|---|---|
| **District** | Rampur | **Block** | CHAMRAUAA (URBAN) |
| **Plot No./Khasra No.** | 165,169 | **Municipality/Corporation** | No |
| **Ward No./Holding No.** | | | N/A |

### Particular of the Existing Well and Pumping Device

| | | | |
|---|---|---|---|
| Date of Construction/Sinking of the Well | 01/01/2007 | | |
| Type of Well | Tube Well/Boring | **Depth of the Well (In meter)** | 45.00 |
| Purpose of well | Industrial | **Assembly Size(For Tube Well)** | |
| **Strainer Position (For Tube Well)** | | | |
| Type of Pump Used | Submersible | **H.P. of the Pump** | 3.00 |
| Operational Device | Electric Motor | **Rate of Withdrawal ($m^3$/hr.)** | 15.00 |
| **Date of Energization (In Case of Electric Pump)** | | 01/01/2007 | |

| | | | |
|---|---|---|---|
| ,num Allowable Rate . Withdrawal ($m^3$/hr.): | 15.00 | Maximum Allowable Running Hours Per Day: | 2.00 |
| Maximum Allowable Annual Extraction of Ground Water: | | | 10950 |

This No-Objection certificate authorizes the owner applicant (user) to sink a well in the location specified at Sl. (2) for extraction of ground water at a rate not exceeding that as shown at Sl. (3j), for Running Hours per day as shown at Sl. (3k), and for maximum allowable annual extraction of ground water as shown at Sl. (3k) and is valid subject to the observance of the conditions stated overleaf.

## GENERAL CONDITIONS:

- In case of any change of ownership of the proposed well, fresh authorization has to be obtained.
- No change of location, design, rate of withdrawal and pumping device in respect of the proposed well as indicated at SL (2) and (3) of this certificate shall be made without prior permission of the Competent Authority. Any deviation in this regard shall lead to cancellation of this authorization
- For the purpose of measuring and recording the quantity of ground water extracted, every said user shall affix digital water flow meters (conforming to BIS/ IS standards) having telemetry system in the abstraction structure, which record rate and quantum of extraction, at outlet of pumping devices and it shall be presumed that the quantity recorded by the meter has been extracted by the said user, until the contrary is proved. The rate of extraction of ground water from the well as shown in item 3(k) shall not exceed to the recorded rate from water meters
- The concerned Authority reserves the right to stop extraction of ground water from the well due to quality hazards or any other reasons, if the situation so demands
- In case of any change of ownership of the existing well, fresh registration has to be obtained.
- No change of location, design, rate of withdrawal and pumping device in respect of the existing well as indicated at Sl. (2) and (3) of this certificate shall be made without prior permission of the Competent Authority. Any deviation in this regard shall lead to cancellation of this registration
- In case, any of the particulars I information furnished by the applicant in his application for issuance of this registration is found to be incorrect during verification at any subsequent stage , this registration is liable for cancellation.
- The Certificate of Authorization/ NOC shall be valid for a period of five years from the date of issue. The applicant shall have to apply for renewal through a fresh application, at least ninety days prior to expiry of its validity.
- Construction of piezometers and installation of digital water level recorders with telemetry shall be mandatory for user. Depth and zone tapped of piezometer should be commensurate with that of the pumping well. The data, obtained from digital water level recorders shall be made available to this office on monthly basis
- **Guidelines for Installation of Piezometers and their Monitoring**

Piezometer is a borewell /tubewell used only for measuring the water level by lowering the tape/ sounder or automatic water level measuring equipment. It is also used to take water sample for water quality testing when ever needed. General guidelines for installation of piezometers are as follows:

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| S.No | Quantum of Ground water withdrawal (cum/day) | No.of piezometers required | Monitiring Mechanism | |
|---|---|---|---|---|
| | | | Manual | DWLR with Telemetry |
| 1 | < 10 | 0 | 0 | 0 |
| 2 | 11 - 50 | 1 | 1 | 0 |
| 3 | 50- 500 | 1 | 0 | 1 |
| 4 | > 500 | 2 | 0 | 2 |

- The measuring frequency should be monthly and accuracy of measurement should be up to cm. the reported measurement should be given in meter upto two decimal.
- For measurement of water level sounder or automatic water level recorder (AWLR)/ Digital Automatic water level recorder (DWLR) with telemetry system should be used for accuracy.
- The measurement of water level in piezometer should be taken, only after the pumping from the surrounding tube wells has been stopped for about four to six hours.
- All the details regarding coordinates, reduced level (with respect to mean level), depth, zone taped and assembly lowered should be provided for bringing the piezometer into the Hydrograph Monitoring System for Ground Water Department, Uttar Pradesh, and for its validation.
- The ground water quality has to be monitored twice in a year during pre-monsoon (May/June) and post-monsoon (October/November) periods. Quality may be got analyzed from NABL approved lab. Besides, one sample (1 lt capacity bottle) to the concerned Director, Ground Water Department, Uttar Pradesh, for chemical analysis.
- A Permanent display board should be installed at piezometer/Tube wells site for providing the location, piezometer/ tube well number, depth and zone tapped of piezometer/tube well for standard referencing and identification.

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- **SPECIFIC CONDITIONS:**
- **(A) For Industrial User:** No Objection Certificate for ground water extraction by industries shall be granted subject to the following specific conditions:
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- ii) All industries shall be required to adopt latest water efficient technologies so as to reduce dependence on ground water resources.
- iii) All industries abstracting ground water in excess of 100 $m^3$/d shall be required to undertake annual water audit through Confederation of Indian Industries (CII)/ Federation Indian Chamber of Commerce and Industry (FICCI)/ National Productivity Council (NPC) certified auditors and submit audit reports within three months of completion of the same to Ground Water Department Uttar Pradesh. All such industries shall be required to reduce their ground water use by at least 20% over the next five years through appropriate means.
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- v) The proponent shall be required to adopt roof top rain water harvesting/ recharge in the project premises. Industries which are likely to pollute ground water (chemical, pharmaceutical, dyes, pigments, paints, textiles, tannery, pesticides/ insecticides, fertilizers, slaughter house, explosives etc.) shall store the harvested rain water in surface storage tanks for use in the industry.
- vi) Injection of treated/ untreated waste water into aquifer system is strictly prohibited.
- vii) Industries which are likely to cause ground water pollution e.g. Tanning, Slaughter Houses, Dye, Chemical/ Petrochemical, Coal washeries, other hazardous units etc. (as per CPCB list) need to undertake necessary well head protection measures to ensure prevention of ground water pollution.

- **(B) Infrastructural User:** The No Objection Certificate for ground water abstraction will be granted subject to the following specific conditions:
- i) In case of infrastructure projects that require dewatering, proponent shall be required to carry out regular monitoring of dewatering discharge rate (using a digital water flow meter) and submit the data online to Ground Water Department, UP as applicable. Monitoring records and results should be retained by the proponent for two years, for inspection or reporting as required by District Ground Water Management Council.
- ii) Installation of Sewage Treatment Plants (STP) shall be mandatory for new projects, where ground water requirement is more than 20 $m^3$ /day. The water from STP shall be utilized for toilet flushing, car washing, gardening etc

Date :**09/11/2021**

Place:**Rampur**

**This certificate is electronically generated and does not require digital signature**

# GROUND WATER DEPARTMENT

(Namami Gange & Rural Water Supply Department)
Ministry of Jal Shakti
Government of Uttar Pradesh

**Form 8 (C)**

[See Rule 8(1)]

## AUTHORIZATION/ NO-OBJECTION CERTIFICATE FOR SINKING OF NEW / EXISTING WELL FOR INDUSTRIAL/ COMMERCIAL/ INFRASTRUCTURAL OR BULK USER OF GROUND WATER

**[Under Section 14 of the Uttar Pradesh Ground Water Management and Regulation Act, 2019.]**

AUTHORIZATION/ NO-OBJECTION CERTIFICATE NO: NOC015217

**VALID FROM 29/10/2021 TO 28/10/2026**

**{UIS10(1) of the Uttar Pradesh Ground Water Management and Regulation Act, 2019}**

**Registration No.: 202109000314**

| | | | |
|---|---|---|---|
| Name of the Owner | NITIN KUMAR GUPTA | | |
| Designation<br>पद | DIRECTOR TECHNICAL | **Company Name**<br>**कंपनी का नाम** | SWATI MENTHOL & ALLIED CHEMICALS LTD UNIT I |
| Company Address<br>कंपनी का पता | OPPOSITE AKASHWANI, BAREILLY ROAD RAMPUR UP | **Authorization Letter**<br>**प्राधिकार पत्र** | Download |
| Address of the Applicant | KHASRA NO-165, 169, 4.5 K.M. BAREILLY ROAD, DISTRICT-RAMPUR, U.P. 244901 | **Application Form Serial No.** | RMPR0921NIN0034 |
| Date of Submission | 11/09/2021 | **Specimen Signature** | |

### Location Particulars

| | | | |
|---|---|---|---|
| District | Rampur | **Block** | CHAMRAUAA (URBAN) |
| Plot No./Khasra No. | 165,169 | **Municipality/Corporation** | No |
| Ward No./Holding No. | | | N/A |

### Particular of the Existing Well and Pumping Device

| | | | |
|---|---|---|---|
| Date of Construction/Sinking of the Well | 01/01/2007 | | |
| Type of Well | Tube Well/Boring | **Depth of the Well (In meter)** | 45.00 |
| Purpose of well | Industrial | **Assembly Size(For Tube Well)** | |
| Strainer Position (For Tube Well) | | | |
| Type of Pump Used | Submersible | **H.P. of the Pump** | 3.00 |
| Operational Device | Electric Motor | **Rate of Withdrawal ($m^3$/hr.)** | 15.00 |
| Date of Energization (In Case of Electric Pump) | | 01/01/2007 | |

| | | | |
|---|---|---|---|
| ...m Allowable Rate Withdrawal ($m^3$/hr.): | 15.00 | **Maximum Allowable Running Hours Per Day:** | 2.00 |
| **Maximum Allowable Annual Extraction of Ground Water:** | | | 6000 |

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Date :**09/11/2021**

Place:**Rampur**

**This certificate is electronically generated and does not require digital signature**

# ADEQUACY REPORT OF

# EFFLUENT TREATMENT PLANT

## OF

## SWATI MENTHOL & ALLIED CHEMICALS LTD UNIT-1

## RAMPUR U.P

SUBMITTED

BY

DEPARTMENT OF CIVIL ENGINEERING
FACULTY OF ENGINEERING & TECHNOLOGY
ALIGARH MUSLIM UNIVERSITY ALIGARH
NOVEMBER-2021

## 1.0 INTRODUCTION

**M/s Swati Menthol & Allied Chemicals Ltd unit-1. Rampur, U.P.** A ISO 9001:2008 certified company, they are one of the leading manufacturers and exporters of natural menthol, essential oil, peppermint oil, crude menthol oil, peppermint essential oil and terpene chemicals from India. They have reputation as a noteworthy supplier in global supply chain and can be credited to their technically advanced production facilities, international quality standards, extensive R&D and customer oriented approach.

Swati menthol working objective is to achieve total customer satisfaction. At the same time, they also strive to offer effective and reliable products at most competitive prices within scheduled time. The driving force behind this enthusiastic approach is their quest to serve clients with the most dedicated and professionally. In addition, the industry have a countrywide sales and marketing network in India with a vibrant team of trained and motivated professionals.

The company is promoted by Mr. S. K. Gupta, a Chemical Engineer, who has vast experience in the same industry. He started the first production division i.e. natural menthol manufacturing unit in the year 1977 at Rampur (UP, India). At Swati Menthol & Allied Chemicals Limited, they follow the principles of corporate citizen to grow and sustain its growth. It includes: Dedication for best client service ,Correct market information by avoiding speculation ,Flexibility and competitive pricing and Diligent working with highest ethical standards

**Production Facilities**

They have state-of-the-art infrastructural set-up, which is equipped with modern production equipment. The company has three production divisions viz. Mint division, natural peppermint oil, pine division and essential oil division. They have integrated facilities for production, quality testing, product packaging and storage facilities, which assist them for the timely execution of entire business requirements.

They employ purification through distillation to provide extra shine, clarity and purity to crystals. The crystal size is graded by sieving machine into large, small, medium,

rice and fine before final packaging. Their manufacturing unit is located in Western Uttar Pradesh, which gives us an advantage regarding materials sourcing, business networking, etc.

With the burgeoning desire to achieve higher growth, they welcome technical collaborations, joint ventures and international trading through strategic alliances with MNC and global leaders. They are committed to follow global acceptable quality standards like IP, BP and USP. An ISO 9001:2008 certified company, they carry out all their production as per GMP guidelines. For quality testing, there is an ultra modern laboratory equipped with the latest testing equipment and instruments. To perform analytical research and quality control, following sophisticated instruments are being used: Gas liquid chromatography ,Polarimeter, Melting range unit ,DR range unit ,Ash content unit, Viscometer and Other relevant testing equipment. They are engaged in intense R&D activities, with an aim to develop innovative and improvised products. With ultra-modern R&D center, they ensure constant research, analysis and development. The various aspects of R&D are carried out by highly skilled scientists and researchers.

The unit was visited on November 12, 2021. The different unit operations/processes of ETP were physically verified (photographs attached – Annexure II). At the time of visit, the ETP was found in running condition with all the units operational. Certain instructions were given to the management as well as ETP operators regarding improving the working of the plant.

**2.0 Objective of the present study:**

The aim of the present study is to assess the feasibility to explore possibility of reuse of treated effluent from ETP within industrial process schemes in **Mls. Swati Menthol & Allied Chemicals Limited.** The broad objectives of the work are

- To assess availability and efficacy of cleaner/ advance technology/state of the art technology for implementation of **Zero Liquid Discharge** (ZLD) in **Swati Manthol**.
- To explore and carry out technical assessment of implementation of

'**Zero Liquid Discharge**' scheme (Annexure-II).

**3.0 Methodology:**

The two possible options for zero liquid discharge (ZLD) are:

(i) Close up all process water loops by total recycling inside a process sequence or into adifferent process sequence within the industry.

(ii) Treat the effluent in a stand-alone facility to render it suitable for process reuse.

The scope of the adequacy assessment of ZLD in the **Mls. Swati Menthol & Allied Chemicals Limited** is to analyze the feasibility of steps taken by the industry under both the above options. Following are the three major steps to achieve the above scope of work

(i) Water audit of the unit and preparation of the Water Balance

(ii) To assess water recycling arrangements

(iii) Analysis of ZLD scheme.

Following check list is used as guideline for the work

- Complete process flow sheet showing material flow including water balance of the productionprocess.
- Scheme of Zero liquid discharge along with water and pollution load balance diagram.
- Balance of water and pollution load across various unit operations used for treating processwater for recycling/treatment under ZLD scheme.
- Provision of flow meter and water sampling wherever recycled water is used in the process.
- Balance of water and contaminants across the section where fresh water or recycled water is used.
- Flow meters log records put across the various unit operations used for treating process waterfor recycling/treatment under ZLD scheme.
- Log book record of utility section including fuel consumption.
- Record of solid waste generation and disposal generated from ZLD

scheme.

- Recovery and reject ratio of RO plant if exist
- Log record of RO plant.
- Operation and maintenance record of unit operation used for treating process water for recycling/treatment under ZLD scheme (Annexure II).

**Water Audit:** Water audit includes collection and compilation of water consumption data, process details, and section wise water balance. Documents and information are necessary to implement an audit. Following are the steps for the water audit

- Meeting with Management
- Plant Visit.

Preparation of Process Flow Diagram and complete Water balance of the plant. Available information of the industry was tried to collect as much as possible. The information includes the process flow sheet of different sections of the industry, mass flow rate, and consistencies. Data and detailed flow diagrams provided by the industry helped in achieving the objective of the report.

**Water Recycling Arrangement:** Adequacy of water recycling arrangements is assessed through

- Adequacy of treatment scheme
- Recycling water quality analysis

**Analysis of ZLD scheme:**

- Flow sheet analysis
- Technical feasibility

## 4.0 Manufacturing Process

The different processes involved are mentioned in the process flow diagram (Annexure – III). Normal sequences unit operation include: dementholised oil,

dementholised oil storage, fractional distillation, blending, analysis, filtration and filling and weighting.

## 5.0 WATER AND WASTEWATER: GENERATION AND CHARACTERIZATION

### 5.1 QUANTIFICATION OF WASTEWATER

The sources of effluent include cooling tower for chillers condensers (refrigeration) cooling towers for distillation condensers and floor washing section. The quantity of effluent generated from various sources of the unit has been estimated considering 100% of the total water consumption. The total effluent generated has been estimated for present scenario is run for Maximum 9.0 KLD. Whereas it can handle up to 15.0 KLD.

### 5.2 CHARACTERIZATION OF WASTEWATER

The characteristics of effluent are source specific and differ from source to source. Therefore, the effluent generated is of interest from the standpoint of environmental impact in terms of both effluent volume and contaminant loading. Therefore, the characteristics of effluent include mainly pH, total suspended solids, biochemical oxygen demand, chemical oxygen demand and oil and grease. The current reports of influent and effluent are seen and attached (Annexure –I).

### 5.3 QUANTIFICATION OF WATER

Three bore wells with total capacity of 15 KLD are used to drawn water from underground. The quantity of fresh water consumption from various sources of the unit has been estimated for present scenario found to be 14.5KLD.

### 5.4 CHARACTERIZATION OF WATER

The characteristics of raw water are source specific and differ from source to source. Therefore, the water consumption is of interest from the standpoint of environmental impact in terms of both influent volume and contaminant loading. Therefore, the

characteristics of influent include mainly pH, total suspended solids, biochemical properties, oil and grease. The current reports are seen and attached (Annexure-I).

## 6.0 TREATMENT PROCESS DESCRIPTION

The unit has provided effluent treatment plant (ETP) for the treatment of wastewater prior to discharge and to comply with the requirements of the pollution control board. The designed capacity of ETP to treat the wastewater is 15.0 KLD, However, the estimated effluent generated has been found to be 9.0KLD. The wastewater from different streams is passed through screens and then moved to oil & grease trap then further collected in a collection tank. The wastewater from collection tank is taken to chemical treatment unit. The wastewater from here is taken to Primary tube settler for the separation of suspended particles. From primary tube settler the effluent is pumped to MBBR tank I. The sludge from PTS is taken to D-Mech sludge. The effluent from MBBR is taken to secondary tube settler and further to MBBR Tank II and finally to final tube settler. The effluent from balance tank is further treated to pressure sand filter and activated carbon filter. The sludge from different units is taken to sludge drying beds. Part of the treated effluent is taken to agricultural field / horticulture purposes, cooling tower for re cycling and part is taken for street cleaning/ floor washing and watering of parks etc. Online monitoring system is being installed as per the guidelines of CPCB

## 7.0 TREATMENT PLANT: UNIT OPERATIONS/PROCESSES

(i) Oil and Grease Trap
(ii) Flash mixing tank
(iii) Equalization tank
(iv) Primary tube settler
(v) MBBR tank I
(vi) MBBR tank II
(vii) Pressure sand filter
(viii) Activated carbon filter

## 7.1 SPECIFICATION OF PROCESS UNITS

| S. No. | ETP component | Nos. | Size/capacity in feet | Material of Construction | Whether adequate , If not , give reasons |
|---|---|---|---|---|---|
| (i) | Collection tank | 01 | Length= 8.0 feet, diameter =5.0 feet | MS fabricated | Adequate |
| (ii) | Chemical treatment | 01 | 6.5 x 2.0 x 10 feet | MS febricated | Adequate |
| (iii) | Primary tube settler | 02 | 6.5 x 2.5 x 10 feet | MS fabricated | Adequate |
| (iv) | MBBR Tank 1 | 01 | 6.5 x 4.5 x 10 feet | MS fabricated | Adequate |
| (v) | MBBR tank 2 | 01 | 6.5 x 4.5 x 10 feet | MS fabricated | Adequate |
| (vi) | Final Tube settler | 01 | 6.5 x 2.5 x 10 feet | MS fabricated | Adequate |
| (vii) | Balance tank | 01 | 4.0 x 4.0 x 4.0 feet* | MS fabricated | Adequate |
| (viii) | Pressure sand filter | 01 | Dia 300 mm Height 1200 mm | PVC. | Adequate |
| (ix) | Activated carbon filter | 01 | Dia 300 mm Height 1200 mm | PVC. | Design Adequate |
| (x) | Treated water tank | 01 | Diameter 4.0 SWD = 5.0 | R.C.C. | Design Adequate |
| (xi) | Sludge drying bed | 01 | 5.0 x 3.5 x 1.0 feet | RB | Adequate |

**Information provided by the client*

## 8.0 ANALYSIS OF INFLUENT AND EFFLUENT CHARACTERISTICS

The client has provided recent test report of influent and effluent characteristics (issued on August 05, 2021) having case specific selected parameters. The parameters include pH, Total Suspended Solids, TDS, TS, $BOD_3$, COD, odour, colour, Oil, and Grease. These parameters have been analyzed by Envirochem Research & Tests Lab private limited Lucknow UP. (Annexure -I). The values of

characteristic parameters at the outlet of ETP have been found to be within the permissible limit.

## 6.0 CONCLUSIONS AND RECOMMENDATIONS

(i) The capacity - wise all the unit operations and processes of ETP are seem to be adequate to cater the wastewater generated from the unit.

(ii) The influent and effluent characteristics (as provided by the client) comply with the regulatory norms of discharge standards.

(iii) The treated water is used for cooling tower recycling, Horticulture purposes/ gardening and flushing floor cleaning.

(iv) 100 % wastewater after treatment used within the premises.

(iv) **Mls. Swati Menthol & Allied Chemicals Limited** is not discharging any effluent out of the premises.

(v) Wastewater treatment including zero level discharge schemes is adequately designed and working satisfactorily.

(iv) It has been suggested to arrange the technical training programme for operating personnel on treatment plant operation and maintenance on regular bases to aware of the significance and principles of the operating system.

**Consultant**

**Name** : **Dr. Sohail Ayub**
**Designation** : **Professor**
**Name of organization/institute: Dept. of Civil Engg.**
**Aligarh Muslim University, Aligarh**



Dr. Sohail Ayub (Ph.D.)
Professor, Dept. of Civil Engg.
A.M.U., Aligarh

## SUMMARY SHEET OF FEASIBILITY REPORT FOR ETP

## OF

## MLS. SWATI MENTHOL & ALLIED CHEMICALS LIMITED UNIT-1 RAMPUR, U.P.

Adequacy Report No.: EPES/CED/166/2021 Date of Issue: 18.11.2021

| S. No. | Description | Details |
|---|---|---|
| 1 | Name of unit | **Mls. Swati Menthol & Allied Chemicals Limited Unit -1** . |
| 2 | Address of unit | *Bareilly road, Tehsil Sadar Dist.Rampur, U.P.* |
| 3 | Date of Commissioning/ Commencement of Production | March 1990 |
| 4 | (a) Plot area (in sq meter )<br>(b) Built up area (in sq meter ) | 12997.52<br>9078.82 |
| 5 | Name, Designation & contact No(s) of the In- charge dealing with pollution control matters. | Shri. Nitin Gupta<br>CEO<br>Contact No.: +91-9837055373 |
| 6 | Name, Designation of the person (s) contacted at the site during the visit. | Mr. Sumit Mittal<br>ETP Manager<br>Contact No.: +91-8923929371 |
| 7 | Activity/process | Attached (Annexure – III) |
| 8 | Production capacity | 4200 MTPA |
| 9 | Manufacturing process /Main Activities (in brief, Also Attach Process Flow Diagram)) | As per process flow chart |
| 10 | Main Raw Materials | Mentha oil |
| 11 | Main Products | Mother luquir for peppermint oil |
| 12 | Source of water | Ground water (bore well) |

**Part B: Water Consumption, Waste Water Generation and Treatment**

13 Water consumption, source and waste water generation (in KLD): (please Annex Water Mass Balance chart)

| | | Usage | Quantity, KLD | Source | Water meter installed | Wastewater generation, KLD | Flow meter installed |
|---|---|---|---|---|---|---|---|
| | (a) | Domestic (toilet/Bathroom/ washroom etc. | 3 KLD | Ground Water | Yes | 2KLD | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| | (b) | Cooling towers for distillation condensers | 8 KLD | Ground Water | Yes | 4.5 KLD | Yes |
| | (c) | Cooling towers for chillers condensers (refrigeration) | 4 KLD | Ground Water | Yes | 2.5 KLD | |
| | | **Total** | **15 KLD** | **Ground Water** | **Yes** | **9 KLD** | **Yes** |

| | |
|---|---|
| 14 | Basis of the quantity of water consumption and waste water generation mentioned above: **Estimation/Waste Water Meter Reading** |
| 15 | Wastewater treatment facilities: Effluent Treatment Plant (ETP) |

| S No. | Design capacity (in KLD) | Treatment facility | Design parameter (BOD etc.) | Treatment process(physio-chemical/Biological, mention technology used) | Batch/Continuous process | Sources of waste water leading to ETP | Present average waste water generation KLD | Flow meter at inlet & outlet (yes/No) | Disposal point |
|---|---|---|---|---|---|---|---|---|---|
| 1 | 15 | ETP | BOD-200 - 350 mg/l COD-400-600 mg/l | Physical, Chemical as well as Biological with tertiary treatment | Continuous process | By Pump | 14.5 | Yes | Yes |

| | | |
|---|---|---|
| 16 | Whether all the wastewater generated from the unit /establishment is treated: Yes | |
| 17 | Mode and location of effluent discharge : (please attach location map of disposal clearly indicating the outlets for sampling/effluent discharge )<br>(a) **Treated effluent** : Partly for watering of streets and gardening purposes but majority of treated wastewater is taken for cooling tower re cycling | |
| 18 | Details of the Constituent Units of ETP | Oil and Grease Trap,Flash mixing tank Equalization tank, Primary tube settler MBBR tank I,MBBR tank II ,Pressure sand filter, Activated carbon filter Filter feed tank, Sludge Drying Beds, Air Blowers, Effluent Transfer Pump, Filter Feed Pump, Sludge Transfer Pump |
| | Design Capacity of ETP (in KLD) | 15 |
| | Treatment process (physic-chemical /biological, mention technology used) | 1. *Physico-Chemical Process*<br>Screen Chambers, Oil and Fat Removal, Primary Clarifier |

| | | |
|---|---|---|
| | | 2. *Biological Treatment Process*<br>Tube settlers and MBBR tanks<br><br>4. *Tertiary Treatment*<br>Media Filter, Carbon Filter |
| | Date of commissioning of ETP<br>Whether continuous or batch? if batch , no. of batches?<br>(Enclose schematic diagram/ process flow sheet of treatment scheme & photograph of ETP | Commissioning Date: 1990<br><br>Type: Continuous process |

| S. No. | ETP component | Nos. | Size/capacity in feet | Material of Construction | Whether adequate , If not , give reasons |
|---|---|---|---|---|---|
| (i) | Collection tank | 01 | Length= 8.0 feet, diameter =5.0 feet | MS fabricated | Adequate |
| (ii) | Chemical treatment | 01 | 6.5 x 2.0 x 10 feet | MS febricated | Adequate |
| (iii) | Primary tube settler | 02 | 6.5 x 2.5 x 10 feet | MS fabricated | Adequate |
| (iv) | MBBR Tank 1 | 01 | 6.5 x 4.5 x 10 feet | MS fabricated | Adequate |
| (v) | MBBR tank 2 | 01 | 6.5 x 4.5 x 10 feet | MS fabricated | Adequate |
| (vi) | Final Tube settler | 01 | 6.5 x 2.5 x 10 feet | MS fabricated | Adequate |
| (vii) | Balance tank | 01 | 4.0 x 4.0 x 4.0 feet | MS fabricated | Adequate |
| (viii) | Pressure sand filter | 01 | Dia 300 mm<br>Height 1200 mm | PVC. | Adequate |
| (ix) | Activated carbon filter | 01 | Dia 300 mm<br>Height 1200 mm | PVC. | Design Adequate |
| (x) | Treated water tank | 01 | Diameter 4.0<br>SWD = 5.0 | R.C.C. | Design Adequate |
| (xi) | Sludge drying bed | 01 | 5.0 x 3.5 x 1.0 feet | RB | Adequate |

**Information provided by the client*

| | |
|---|---|
| 19 | Whether design aspects were taken in to account while evaluating the performance of ETP: Yes |
| 20 | • Whether any modification was suggested to rectify deficiencies improve /upgrade the ETP: Yes<br>• Whether modifications are incorporated: Yes |
| 21 | Whether ETP found operating and wastewater is treated : Yes |
| 22 | Whether wastewater measured : Yes, Electromagnetic Flowmeter (At inlet and outlet of ETP)<br>(if yes please enclose details of flow meters type /No locations etc.) photograph attached |
| 23 | Whether all the wastewater generated from the unit is treated? If not , how much % of is being treated: Yes 100% treated |
| 24 | Whether unit is having any Bypass arrangement for discharge of untreated effluent from the premises : No |
| 25 | Whether the entire treated effluent is being reused? If yes mention the quantity of reuse /recycle of treated effluent in various in various usages and provide details. If not. How much % is being reused?: 100% is used in Plantation, floor cleaning and cooling tower. |
| 26 | Whether the unit has proper arrangement /system for handling and disposal of sludge generated from the ETP: Yes |
| 27 | Whether the unit is having adequate and qualified /skilled operators(s) for the proper operation and maintenance of the ETP: Yes (It was suggested to have one more) |
| 28 | Whether proper log book is being maintained for the operation and maintenance of ETP?: Yes |
| 29 | Whether influent (untreated) and effluent (treated) characteristics have been monitored? If yes, then details in the table below) |

| Date and time of effluent sampling | Whether grab or composite sample | Name & designation of the person who collected sample | Name of the Empanelled laboratory which conducted monitoring /analysis |
|---|---|---|---|
| 05.08.2021<br>1PM | Grab Sampling | Ashok kumar | Envirochem Research & Tests Lab private limited Lucknow UP |

| | | |
|---|---|---|
| 30 | Whether the treated effluent is meeting the prescribed standards: Yes | |
| 31 | Date of visit /inspection of the unit /establishment | 12-11-2021 |
| 32 | Name and designation of the person conducted visit/inspection of the unit /establishment | Dr. Sohail Ayub |
| 33 | Whether existing ETP is adequate to treat the waste water up to its designed capacity (15KLD) to meet the prescribed standards: Yes | |
| 34 | Advice (if any) given to the unit for the proper operation & maintenance of ETP (separate sheet may be enclosed) It was advised to install RO unit and Multi evaporators. | |

| | |
|---|---|
| 35 | Suggestion for best available technology Nil |
| 36 | Remarks (if any): The sizes of the different treatment units were found adequate and as per the laboratory reports the ETP is treating wastewater satisfactorily and the effluent discharge limits of CPCB are achieved. |

**Date of Issue:** 18.11.2021

**Name : Dr. Sohail Ayub**
**Designation : Professor**
**Name of organization/institute: Dept. of Civil Engg.**
**Aligarh Muslim University, Aligarh**

Dr. Sohail Ayub (Ph.D.)
Professor, Dept. of Civil Engg.
A.M.U., Aligarh

## Annexure - I

## Current reports

# Envirochem Research & Test Labs Pvt. Ltd.

Specialist in : Environmental Impact Assessment, Environmental Monitoring & Management

NABL Accredated Laboratory Certificate No - TC-7516 ISO/IEC 17025:2005

Approved Environmental Laboratory From MoEF&CC Under E.PAct 1986, Scince 2001 & UPPCB, Lucknow, Since 1995

ISO 14001:2015 (EMS) Cert No. SISINDE05201802 ■ OHSAS18001 : 2017 (OHSS) Cert No SISIN005201802 ■ ISO 9001:2015 (QMS) Cert No. SISINDQ05201805

HIG - 79, Sector - E, Aliganj, Lucknow - 226 024 Ph. : 8318644902, 8840551474 E-mail : etl_2@yahoo.com, ertlm2016@gmail.com


**Report No.22** **11.08.2021**

## EFFLUENT WATER ANALYSIS REPORT

1. Name & Address of Industry : M/s Swati Menthol & Allied Chemicals Ltd. (Unit-1), 4.5 Kms, (Opp. Akashwani) PO Modipur Bareilly Road, Distt. – Rampur -244901 (U.P.)
2. Sampling done by : Mr. Ashok Kumar
3. Date of Sample Collection : 05.08.2021
4. Date of Analysis Complete : 10.08.2021
5. Nature of Sample : **ETP Outlet**

| SL. NO. | PARAMETERS | OBSERVED VALUE | LIMITING VALUE As per EP Act and CPCB guide line |
|---|---|---|---|
| 1. | pH | 7.26 | 5.5 -9.0 |
| 2. | Oil & Grease in mg/l | 1.1 | 10.0 |
| 3. | Total Suspended solids in mg/l | 36.8 | 100.0 |
| 4. | BOD (3 days at $27^0$C) in mg/l | 16.0 | 30.0 |
| 5. | COD in mg/l | 96.0 | 250.0 |

Ankita
**Lab Chemist**

**Manager (Laboratory)**


Note : 1. The above results are related only to the test performed on the sample. Endorsement of product is neither inferred not implied. 2. This report is not to be reproduce wholly or in part and can not be used as an evidence in the court of law and should not be used in any advertising media without our special permission in writting. 3. Sample will be destroyed after fifteen days from the date of reporting. 4. Total liability of our lab is limited to the invoiced amount. 5. Report refers to the sample received by Envirochem Research & Test Labs Pvt. Ltd. unless mentioned otherwise.

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HIG - 79, Sector - E, Aliganj, Lucknow - 226 024 Ph. : 8318644902, 8840551474 E-mail : etl_2@yahoo.com, ertlm2016@gmail.com


Report No.21

11.08.2021

## AMBIENT AIR QUALITY MONITORING REPORT

| | | |
|---|---|---|
| 1. | Name & Address of Industry | M/s Swati Menthol & Allied Chemicals Ltd. (Unit-1), 4.5 Km, Opp. Akashwani PO - Modipur, Bareilly Road Distt. – Rampur -244901 (U.P.) |
| 2. | Date of Monitoring | 04.08.2021 to 05.08.2021 |
| 3. | Monitoring done by | Mr. Ashok Kumar & Rohit Singh |

| S.No. | Parameter | Standard* | Location | METHODS OF MEASUREMENT |
|---|---|---|---|---|
| | | Industrial Area | Nr. Assembly Area | |
| 1 | $PM_{10}$ | 100 µg/m³ | 68.24 | Gravimetric |
| 2 | $PM_{2.5}$ | 60 µg/m³ | 39.82 | Gravimetric |
| 3 | $SO_x$ | 80 µg/m³ | 18.46 | Improved West and Gacke |
| 4 | $NO_x$ | 80 µg/m³ | 21.65 | Modified Jacob & Hochheiser (Na-Arsenic) |
| 5 | Ozone ($O_3$) | 180 µg/m³ | 14.22 | Chemical method |
| 6 | Lead (Pb) | 1.0 µg/m³ | <0.05 | AAS |
| 7 | Carbon Monoxide (CO) | 04 mg/m³ | 0.78 | Detector tube |
| 8 | Ammonia ($NH_3$) | 400 µg/m³ | <0.05 | Indophenols blue method |
| 9 | Benzene ($C_6H_6$) | 05 µg/m³ | <0.05 | GC Analysis |
| 10 | Benzo Pyrene (BaP) | 01 ng/m³ | <0.1 | GC Analysis |
| 11 | Nickel (Ni) | 20 ng/m³ | <0.1 | AAS |
| 12 | Arsenic (As) | 06 ng/m³ | <0.05 | AAS |

Asstt. Technical Officer

Envirochem Research & Test Labs Pvt. Ltd. Lucknow 226024 HIG - 79, Sector-E, Aliganj

Manager (Laboratory)


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HIG - 79, Sector - E, Aliganj, Lucknow - 226 024 Ph. : 8318644902, 8840551474 E-mail : etl_2@yahoo.com, ertlm2016@gmail.com


Report No.26

11.08.2021

## WATER QUALITY REPORT

| | | |
|---|---|---|
| 1. | Name & Address of Industry | M/s Swati Menthol & Allied Chemicals Ltd. (Unit-1), 4.5 Kms, Opp. Akashwani PO - Modipur, Bareilly Road Distt. – Rampur -244901 (U.P.) |
| 2. | Nature of Sample | Drinking Water (Water Cooler) |
| 3. | Sample collected by | Mr. Ashok Kumar |
| 3. | Date of Sample Collection | 05.08.2021 |
| 3. | Date of Analysis completed | 10.08.2021 |

| S.No. | PARAMETERS | UNIT | OBSERVED VALUE | STANDARDS (IS 10500 : 2012) | |
|---|---|---|---|---|---|
| **Physical Parameters** | | | | Desirable Limits | Permissible Limits |
| 1. | Colour, units. | Hazen | <5 | 5 | 15 |
| 2. | Odour | Agreeable | Agreeable | Agreeable | |
| 3. | Temperature | $^{0}C$ | 26.1 | - | - |
| 4. | Turbidity | NTU | 0.06 | 1 | 5 |
| 5. | Conductivity | µmho/cm | 365.0 | - | |
| **Chemical Parameters** | | | | | |
| 6. | pH | - | 7.26 | 6.5 to 8.5 | No Relaxation |
| 7. | Suspended Solid | mg/l | Nil | - | - |
| 8. | Dissolved Solids | mg/l | 269.0 | 500 | 2000 |
| 9. | Total Solids | mg/l | 269.0 | - | - |
| 10 | Alkalinity due to Phenolphthalein (as $CaCO_3$) | mg/l | Nil | - | |
| 11. | Alkalinity due to Methyl Orange (as $CaCO_3$) | mg/l | 156.0 | 200 | 600 |
| 12. | Total hardness (as $CaCO_3$) | mg/l | 64.0 | 200 | 600 |
| 13. | Calcium as $CaCO_3$ | mg/l | 43.2 | - | - |
| 14. | Calcium as $Ca^{++}$ | mg/l | 21.8 | 75 | 200 |
| 15. | Magnesium as $Mg^{++}$ | mg/l | 11.6 | 30 | 100 |
| 16. | Chlorides (as Cl) | mg/l | 18.0 | 250 | 1000 |
| 17. | Sulphate (as $SO_4$) | mg/l | 6.8 | 200 | 400 |
| 18. | Phosphate (as $PO_4$) | mg/l | Nil | - | - |
| 19. | Nitrate (as $NO_3$) | mg/l | 3.98 | 45 | No Relaxation |
| 20 | Iron (Fe) | mg/l | 0.036 | 0.3 | No Relaxation |
| 21 | Copper (as Cu) | mg/l | BDL (<0.005) | 0.05 | 1.5 |



Anita

Envirochem Research & Test Labs Pvt. Ltd. Lucknow

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HIG - 79, Sector - E, Aliganj, Lucknow - 226 024 Ph. : 8318644902, 8840551474 E-mail : etl_2@yahoo.com, ertlm2016@gmail.com


M/s Swati Menthol & Allied Chemicals Ltd., (Unit-1) 4.5 Kms, Bareilly Road, Rampur (UP)



| S.No. | PARAMETERS | UNIT | OBSERVED VALUE | STANDARDS (IS 10500 : 2012) | |
|---|---|---|---|---|---|
| **Chemical Parameters** | | | | Desirable Limits | Permissible Limits |
| 22 | Hexavalent Chromium as $Cr^{+6}$ | mg/l | BDL (<0.005) | 0.05 | No Relaxation |
| 23 | Manganese (as Mn) | mg/l | BDL (<0.05) | 0.1 | 0.3 |
| 24 | Fluoride (as F) | mg/l | BDL (<0.05) | 1.0 | 1.5 |
| 25 | Mercury (as Hg) | mg/l | BDL (<0.0001) | 0.001 | No Relaxation |
| 26 | Cadmium (as Cd) | mg/l | BDL (<0.0001) | 0.003 | No Relaxation |
| 27 | Selenium (as Se) | mg/l | BDL(<0.001) | 0.01 | No Relaxation |
| 28 | Arsenic ( as As) | mg/l | BDL (<0.005) | 0.01 | 0.5 |
| 29 | Cyanide (as CN) | mg/l | BDL (<0.005) | 0.05 | No Relaxation |
| 30 | Lead (as Pb) | mg/l | BDL (<0.005) | 0.01 | No Relaxation |
| 31 | Zinc ( as Zn) | mg/l | 0.01 | 5.0 | 15.0 |
| 32 | Aluminium ( as Al) | mg/l | BDL (<0.005) | 0.03 | 0.2 |
| 33 | Boron (as B) | mg/l | BDL (<0.005) | 0.5 | 1.0 |
| 34 | Phenolic Compounds ($C_6H_5$ OH) | mg/l | BDL(<0.0001) | 0.001 | 0.002 |
| 35 | Anionic Detergents (as MBAS) | mg/l | BDL(<0.005) | 0.2 | 1.0 |
| 36 | Mineral Oil | mg/l | BDL (<0.005) | 0.03 | No Relaxation |
| **Biological Parameters** | | | | | |
| 37 | Total Coliform | MPN/100ml | Absent | Absent | Absent |
| 38 | Fecal Coliform (E.Coli) | MPN/100ml | Absent | Absent | Absent |

- BDL – Below Detection Limit

Note: The water is suitable for drinking purpose with respect to all above tests.

Ankita
Lab Chemist

Envirochem Research & Test Labs Pvt. Ltd. Lucknow 226024 HIG - 79, Sector-E, Aliganj

Manager
(Laboratory)

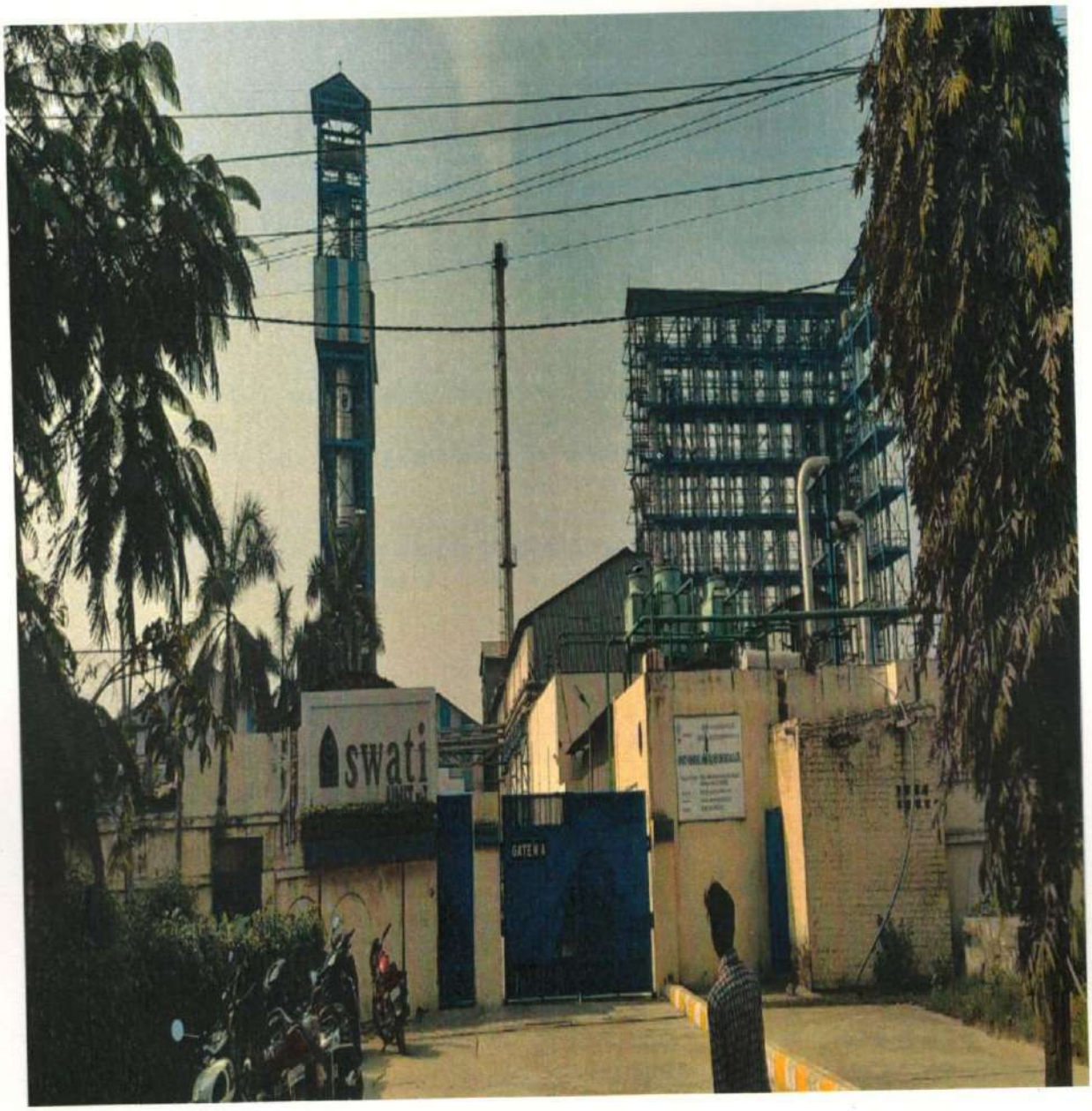
Note : 1. The above results are related only to the test performed on the sample. Endorsement of product is neither inferred not implied. 2. This report is not to be reproduce wholly or in part and can not be used as an evidence in the court of law and should not be used in any advertising media without our special permission in writting. 3. Sample will be destroyed after fifteen days from the date of reporting. 4. Total liability of our lab is limited to the invoiced amount. 5. Report refers to the sample(s) tested by Envirochem Research & Test Labs Pvt. Ltd. unless mentioned otherwise.

## Annexure - II

## Photographs of ETP

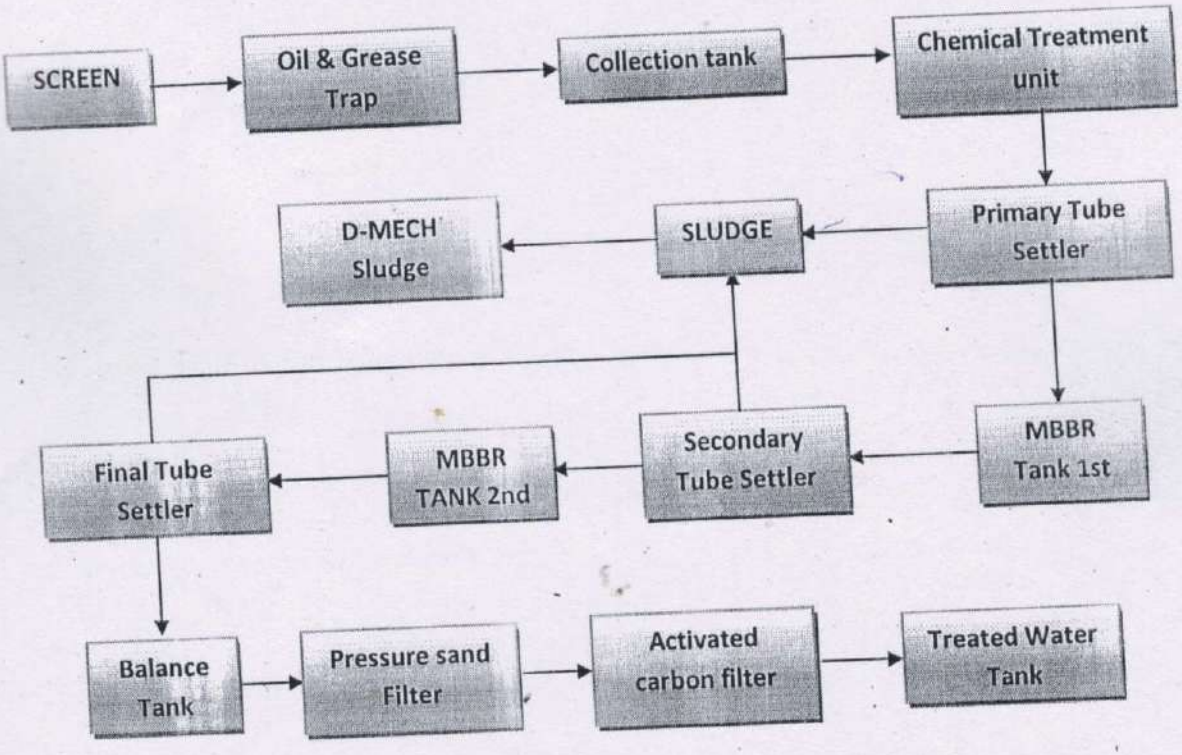
BOREWELL PUMP-1
BOREWELL PUMP-2
BOREWELL PUMP-3
ETP
ETP

ETP
COLLECTION TANK
ETP


swati
GATE NO

Annexure - III

# FLOW DIAGRAM OF ETP


SCREEN
Oil & Grease Trap
Collection tank
Chemical Treatment unit
Primary Tube Settler
SLUDGE
D-MECH Sludge
MBBR Tank 1st
Secondary Tube Settler
MBBR TANK 2nd
Final Tube Settler
Balance Tank
Pressure sand Filter
Activated carbon filter
Treated Water Tank

Annexure – IV

## LAY OUT PLAN

# EXISTING FACTORY BUILDING PLAN FOR
# M/S SWATI MENTHOL & ALLIED CHEMICALS Ltd.(UNIT-1)
# SITUATED AT- BAREILLY ROAD POST OF MODIPUR
# TEHSIL SADAR DISTT- RAMPUR (U.P.)

NORTH -

ARCHITECTS-

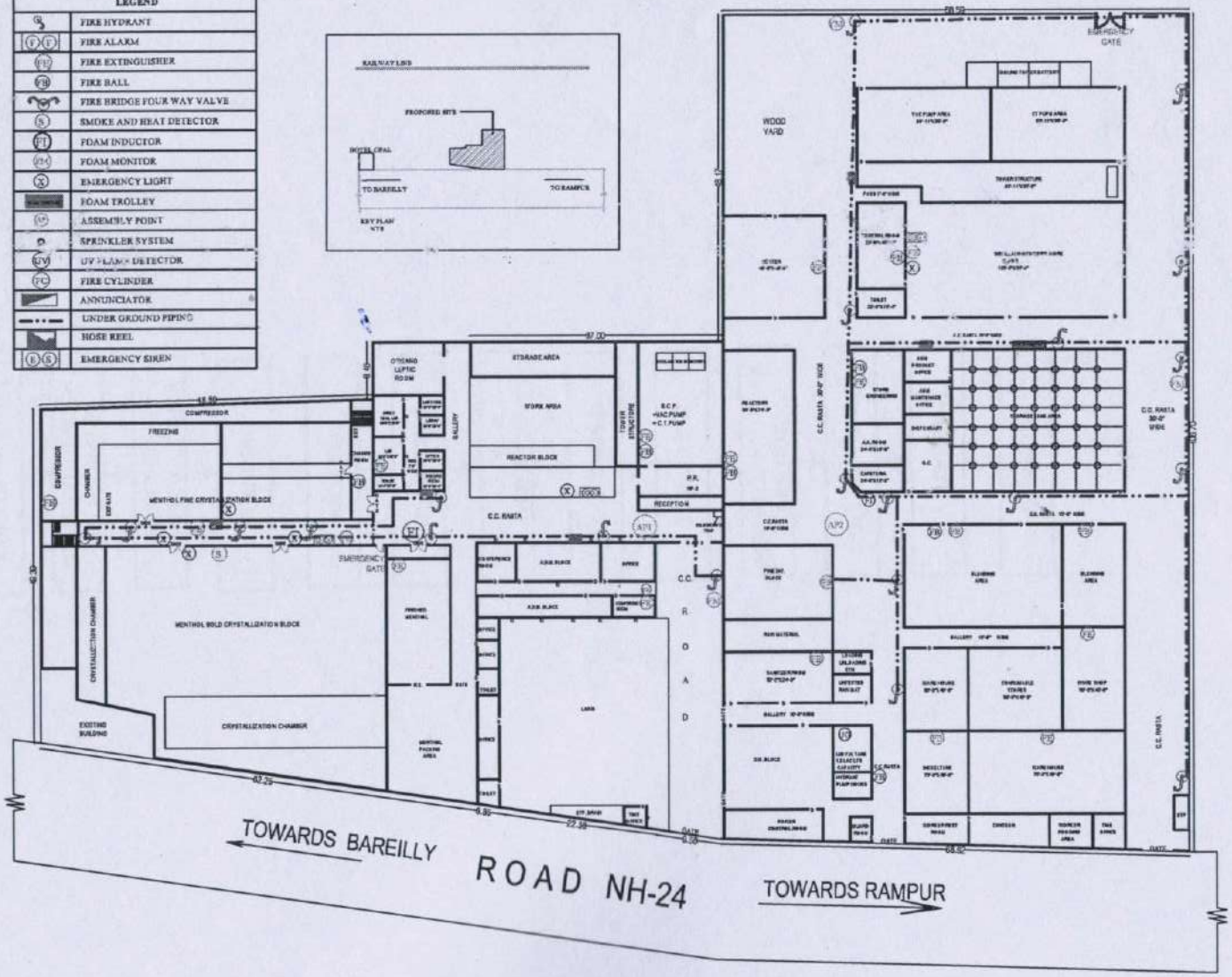
AKRITI
144, Prakash Enclave Kanth Road, Moradabad - 244001
PH: 9458648077, e-mail: sukriti3@gmail.com
ARCHITECTS, PLANNERS, INTERIOR AND EXTERIOR, LANDSCAPE CONSULTANT, VASTU CONSULTANT, ESTIMATION AND VALUATION

CLIENT-

SCHEDULE OF AREA CHART IN SQMT :

| | |
|---|---|
| TOTAL PLOT AREA: | 12997.52 SQ M |
| TOTAL COVERED AREA: | 9078.82 SQ M |
| TOTAL OPEN AREA: | 3918.7 SQ M |
| HEIGHT OF DISTILLATION TOWER STRUCTURE: | 38.1 MT. |
| HEIGHT OF PLANT SHED | 7.62 MT. |

| LEGEND | |
|---|---|
| | FIRE HYDRANT |
| F F | FIRE ALARM |
| FE | FIRE EXTINGUISHER |
| FB | FIRE BALL |
| | FIRE BRIDGE FOUR WAY VALVE |
| S | SMOKE AND HEAT DETECTOR |
| FI | FOAM INDUCTOR |
| FM | FOAM MONITOR |
| X | EMERGENCY LIGHT |
| | FOAM TROLLEY |
| AP | ASSEMBLY POINT |
| | SPRINKLER SYSTEM |
| UV | UV FLAME DETECTOR |
| FC | FIRE CYLINDER |
| | ANNUNCIATOR |
| | UNDER GROUND PIPING |
| | HOSE REEL |
| E S | EMERGENCY SIREN |



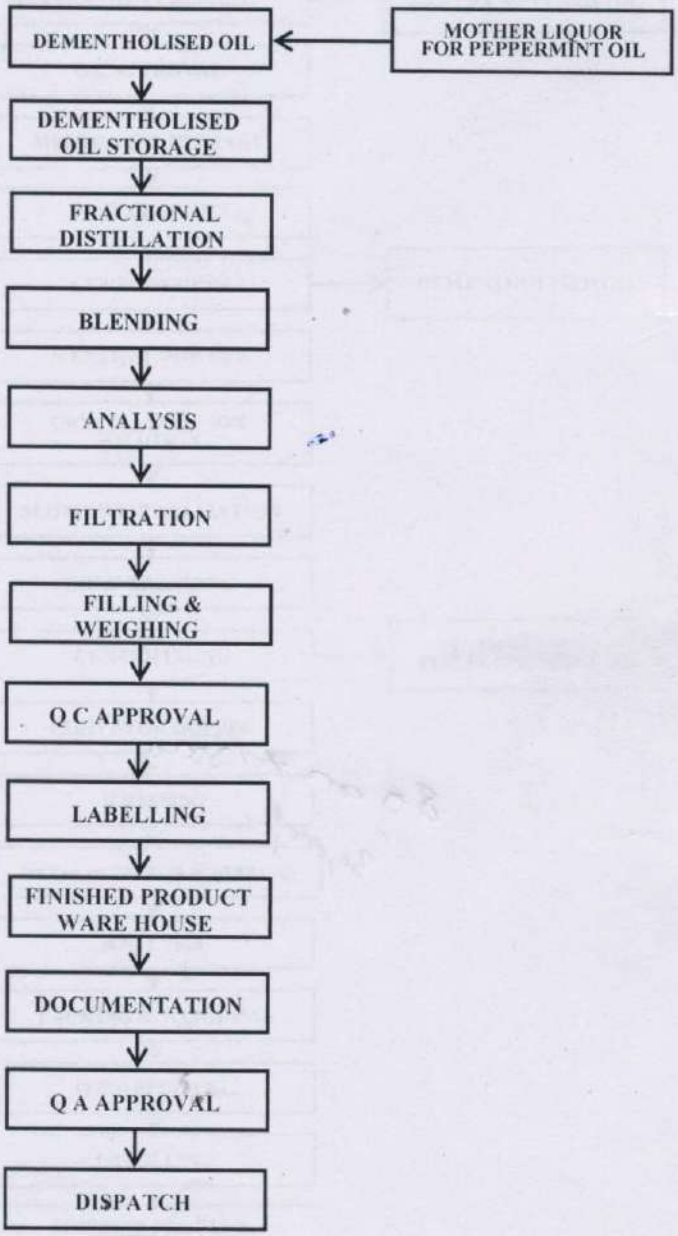

SITE PLAN

461

swati Menthol & Allied Chemicals Ltd. UNIT-ONE

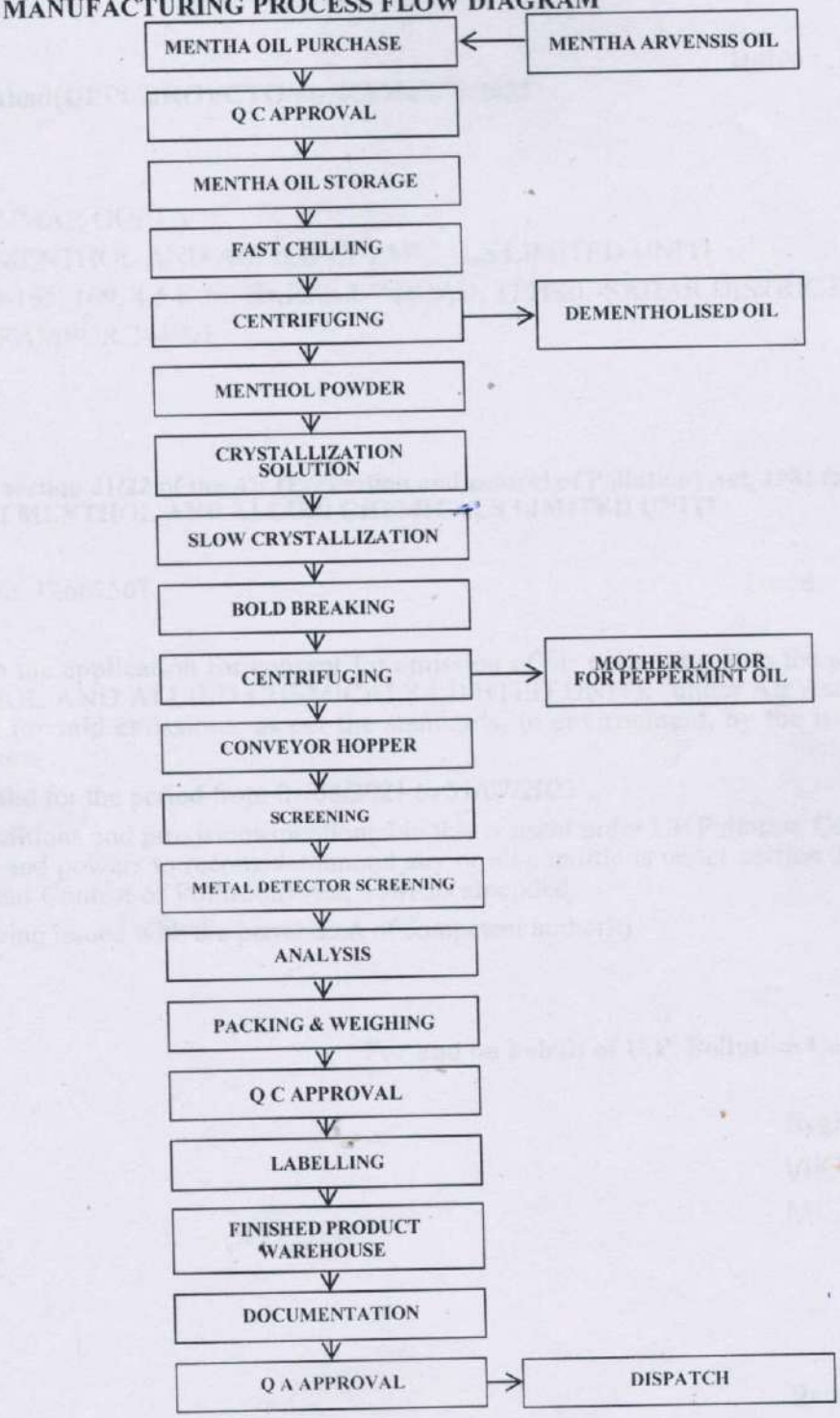
## PEPPERMINT OIL

### MANUFACTURING PROCESS FLOW DIAGRAM



swati Menthol & Allied Chemicals Ltd.

## L-MENTHOL
## MANUFACTURING PROCESS FLOW DIAGRAM



UTTAR PRADESH POLLUTION CONTROL BOARD
Building. No TC-12V Vibhuti Khand, Gomti Nagar, Lucknow-226010
Phone:0522-2720828,2720831, Fax:0522-2720764, Email: info@uppcb.com, Website: www.uppcb.com

## CONSENT ORDER

**Ref No. -**
**130567/UPPCB/Moradabad(UPPCBRO)/CTO/air/RAMPUR/2021**

**Dated : 14/07/2021**

**To ,**

Shri NITIN KUMAR GUPTA
M/s SWATI MENTHOL AND ALLIED CHEMICALS LIMITED UNITI
KHASRA NO-165, 169, 4.5 K.M. BAREILLY ROAD, TEHSIL-SADAR,DISTRICT-RAMPUR, U.P. 244901,RAMPUR,244901
RAMPUR

**Sub : Consent under section 21/22 of the Air (Prevention and control of Pollution) Act, 1981 (as amended) to M/s. SWATI MENTHOL AND ALLIED CHEMICALS LIMITED UNITI**

Reference Application No. 12667567 Dated : 14/07/2021

1. With reference to the application for consent for emission of air pollutants from the plant of M/s SWATI MENTHOL AND ALLIED CHEMICALS LIMITED UNITI. under Air Act 1981. It is being authorised for said emissions, as per the standards, in environment, by the Board as per enclosed conditions .
2. This consent is valid for the period from 01/08/2021 to 31/07/2023 .
3. Inspite of the conditions and provisions mentioned in this consent order UP Pollution Control Board reserves its right and powers to reconsider/amend any or all conditions under section 21 (6) of the Air (Previntion and Controt of Pollution) Act, 1981 as amended.

This consent is being issued with the permission of competent authority .

**For and on behalf of U.P. Pollution Control Board**

**Regional Officer**
VIKAS MISHRA

**Enclosed : As above**
**(condition of consent):**

Copy to:

**Regional Officer**

## U.P. Pollution Control Board

Dated : 14/07/2021

## CONDITIONS OF CONSENT

1. This consent is valid only for the approved production capacity of Mint Products-450 MT/MONTH.
2. This consent is valid only for products and quantity mentioned above. Industry shall obtain prior approval before making any modification in product/ process /fuel/ plant machinery failing which consent would be deemed void.

3(a) The maximum rate of emission of flue gas should not be more than the emission norms for the stacks.

3(b) Air Pollution Source Details.

| Air Pollution Source Details | | | | | |
|---|---|---|---|---|---|
| **S.No** | **Air Polution Source** | **Type of Fuel** | **Stack No.** | **Parameters** | **Height** |
| 1 | DG Set-750 KVA | Diesel | 1 | Particulate Matter | 7.5 meter from Nearest Highest rooftop |
| 2 | DG Set-500 KVA | Diesel | 2 | Particulate Matter | 5 meter from Nearest Highest rooftop |
| 3 | DG Set-100 KVA | Diesel | 3 | Particulate Matter | 2.0 meter from Nearest Highest rooftop |
| 4 | Thermic Fluid Heater- 25 Lakh Kilo Calorie & 30 Lakh Kilo Calorie | Wood,Coal,Biobriquate | 4 | Particulate Matter | 30 meter above Ground Level |

3(c) The emissions by various stacks into the environment should be as per the norms of the Board .

| Emission Quality Details Detail | | | |
|---|---|---|---|
| **S.No** | **Stack No** | **Parameter** | **Standard** |

4. Quantity of other pollutants should also be as per the norms prescribed by the Board/MOEF & CC/or otherwise mandatory .
5. The equipment for air pollution control system and monitoring ,as proposed by the industry and approved by the Board should be installed in their premises itself .
6. The modification or installation in the existing pollution control equipments should be done only by prior approval of Board .
7. The operation of air pollution control system and maintenance be done in such a way that the quantity of pollutants should be in accordance with the standards prescribed by the Board/MoEF & CC/or otherwise mandatory .
8. Unit should do provisions for fugitive emissions chimney/stack as per the norms of the Board/MOEF & CC/or otherwise mandatory .
9. The unit should submit the stack emissions monitoring report within one month from issuance of consent order along with the point wise compliance report of the consent order . Further quarterly monitering report should be submitted .

**The Unit will file the renewal application at least 2 months prior to the expiry of this Order.**

**Specific Conditions:**

VIKAS MISHRA

1. This consent is valid for the production of Mint Products-450 MT/MONTH by using DMO/MENTHA OIL, ALPHA PINENE/GUM TURPENTINE OIL/TURPENTINE OIL/BETA PINENE, CRUDE EUCALYPTUS OIL ,ROSIN ,TERPENE as raw material.
2. This consent is valid for the current products and capacity. In Case of any change in process, capacity enhancement, etc, the No Objection Certificate shall be obtained from the Board.
3. Generated hazardous waste shall be stored temporarily in the factory premises and disposed off through authorized TSDF after obtaining the authorization from the Board.
4. Industry shall submit the latest copy of Audited Balance Sheet/C.A. Certificate (Fixed Assets+ Current Assets - Current Liabilities) so the Consent fee payable by the industry may be verified.
5. The Order issued by Hon'ble Courts/Hon'ble NGT, MoEF&CC, Central Pollution Control Board, U.P. Pollution Control Board, shall be complied with.
6. Industry shall operate and maintain installed APCS (Dust Collector,Wet Scrubber)effectively .The stack of Thermic Fluid Heater shall not be less than 30 m from Ground Level.
7. Source Emission monitoring report and Ambient Air Quality Monitoring report from any EPA recognised/NABL accredited laboratory must be submitted quarterly basis.
8. Noise and emission level from the DG set installed of 100 KVA,500 KVA,750 KVA capacity shall be within the prescribed norms.
9. The unit shall ensure the ambient air quality according to the standards.
10. In case of installation of any new source of air pollution, the unit shall ensure to obtain separate CTE/NOC from the Board.
11. The unit shall develop green belt as per the protocol attached with the UPPCB's office order no. H16405/220/2018/02 dated 16-02-2018 which is available on UPPCB's website. The plantation of saplings should be completed within 04 months time and action taken report shall be submitted to this office. Failing which consent would be revoked without serving any notice to the industry.
12. The industry shall comply with the provisions of, Environment (Protection) Act 1986, Water (Prevention and Control of Pollution) Act, 1974 as amended, Air (Prevention and Control of Pollution) Act, 1981 as amended, Plastic Waste Management Rules 2016, E- Waste (Management) Rules 2016, Solid Waste Management Rules 2016 & Hazardous and other Waste (Management and Transboundary Movement) Rules 2016 (Whichever is applicable).
13. If closure order is issued by CPCB or UPPCB against the unit, then CTO issued earlier will remain suspended during the closure period and after ensuring the compliance and after revocation of closure order, the CTO will automatically be effective from the date of issuance of closure order revocation, with additional conditions mentioned in the closure revocation order.
14. This CTO is Being Issued as per the provisions of the Air (Prevention and control of Pollution) Act 1981.
15. All the necessary NOC's, Permissions, Licenses etc shall be taken from all concerned statutory authorities.

**Issued with the permission of competent authority .**

**For and on behalf of U.P. Pollution Control Board .**

**Regional Officer**

VIKAS MISHRA

Digitally signed by VIKAS MISHRA
DN: c=IN, o=Personal, 2.5.4.20=54d7d02d72608c594c01418a9b3079ad17f8dd282d496e4275c4d67c27e451e46, postalCode=226017, st=Uttar Pradesh, serialNumber=a701d81c087d264428e37dec5b18a664bf7abbd5f5c9784baf205d7b4ab32f2d, cn=VIKAS MISHRA
Date: 2021.07.14 15:04:32 +05'30'

**UTTAR PRADESH POLLUTION CONTROL BOARD**
**Building. No TC-12V Vibhuti Khand, Gomti Nagar, Lucknow-226010**
**Phone:0522-2720828,2720831, Fax:0522-2720764, Email: info@uppcb.com, Website: www.uppcb.com**

## CONSENT ORDER

**Ref No. -**
**130996/UPPCB/Moradabad(UPPCBRO)/CTO/water/RAMPUR/2021**

**Dated : 14/07/2021**

**To ,**

Shri NITIN KUMAR GUPTA
M/s SWATI MENTHOL AND ALLIED CHEMICALS LIMITED UNITI
KHASRA NO-165, 169, 4.5 K.M. BAREILLY ROAD, TEHSIL-SADAR,DISTRICT-RAMPUR, U.P. 244901,RAMPUR,244901
RAMPUR

**Sub : Consent under Section 25/26 of The Water (Prevention and control of Pollution) Act, 1974 (as amended) for discharge of effluent to M/s. SWATI MENTHOL AND ALLIED CHEMICALS LIMITED UNITI**

**Reference Application No :12760624** **Dated :14/07/2021**

1. For disposal of effluent into water body or drain or land under The Water (Prevention and control of Pollution) Act,1974 as amended (here in after referred as the act ) M/s. SWATI MENTHOL AND ALLIED CHEMICALS LIMITED UNITI is hereby authorized by the board for discharge of their industrial effluent generated through ETP for irrigation/river through drain and disposal of domestic effluent through septic tant/soak pit subject to general and special conditions mentioned in the annexure ,in refrence to their foresaid application .
2. This consent is valid for the period from 01/08/2021 to 31/07/2023 .
3. In spite of the conditions and provisions mentioned in this consent order UP Pollution Control Board reserves its right and powers to reconsider/amend any or all conditions under section 27(2) of the Water (Previntion and Controt of Pollution) Act, 1974 as amended .

This consent is being issued with the permission of competent authority .

**For and on behalf of U.P. Pollution Control Board**

**Regional Officer**

VIKAS MISHRA

**Enclosed : As above**
**(condition of consent):**

Copy to:

**Regional Officer**

## U.P. POLLUTION CONTROL BOARD, LUCKNOW

**Annexure to Consent issued to M/s.SWATI MENTHOL AND ALLIED CHEMICALS LIMITED UNITI vide**

Consent Order No. 12760624/ Water Dated : 14/07/2021

### CONDITIONS OF CONSENT

1. This consent is valid only for the approved production capacity of Mint Products-450 MT/MONTH.
2. The quantity of maximum daily effluent discharge should not be more than the following :

| Effluent Discharge Details | | | |
|---|---|---|---|
| **S.No** | **Kind of Effulant** | **Maximum daily discharge,KL/day** | **Treatment facility and discharge point** |
| 1 | Domestic | 3 KLD | Septic Tank |
| 2 | Industrial | 12 KLD | ETP |

3. Arrangement should be made for collection of water used in process and domestic effluent separately in closed water supply system. The treated domestic and industrial effluent if discharged outside the premises, if meets at the end of final discharge point, arrangement should be made for measurement of effluent and for collecting its sample. Except the effluent informed in the application for consent no other effluent should enter in the said arrangements for collection of effluent. It should also be ensured that domestic effluent should not be discharged in storm water drain .

4(a) The domestic effluent should be treated in treatment plant so that the should be in conformity with the following norms dated treated effluent .

| Domestic Effulant | | |
|---|---|---|
| **S.No** | **Parameter** | **Standard** |
| 1 | Total Suspended Solids | 100 mg/l |
| 2 | BOD | 30 mg/l |
| 3 | COD | 250 mg/l |
| 4 | Oil & Grease | 10 mg/l |

4(b). The industrial effluent should be treated in treatment plant so that the treated effluent should be in conformity with the following norms. .

| Industrial Effulant | | |
|---|---|---|
| **S.No** | **Parameter** | **Standard** |
| 1 | Total Suspended Solids | 100 mg/l |
| 2 | BOD | 30 mg/l |
| 3 | COD | 250 mg/l |
| 4 | Oil & Grease | 10 mg/l |

5. Effluent generated in all the processes, bleed water, cooling effluent and the effluent generated from washing of floor and equipments etc should be treated before its disposal with treated industrial effluent so that it should be according to the norms prescribed under The Environment (Protection) Act,1986 or otherwise mandatory .
6. The other pollutant for which norms have not been prescribed, the same should not be more than the norms prescribed for the water used in manufacturing process of the industry .
7. The method for collecting industrial and domestic effluent and its analysis should be as per legal Indian standards and its subsequent amendments/standards prescribed under The Environment (Protection) Act, 1986.
8. The treated domestic and industrial effluent be mixed (as per the provisions of Condition No. 2) and disposed of on one disposal point. This common effluent disposal point should have arrangement for flow meter/V Notch for measuring effluent and its log book be maintained .
9. The Unit will file the renewal application at least 2 months prior to the expiry of this Order.

VIKAS MISHRA

**Specific Conditions:**

1. This consent is valid for the production of Mint Products-450 MT/Month by using DMO/MENTHA OIL, ALPHA PINENE/GUM TURPENTINE OIL/TURPENTINE OIL/BETA PINENE, CRUDE EUCALYPTUS OIL ,ROSIN ,TERPENE as raw material.
2. This consent is valid for the current products and capacity. In Case of any change in process, capacity enhancement, etc., the No Objection Certificate shall be obtained from the Board.
3. Generated hazardous waste shall be stored temporarily in the factory premises and disposed off through authorized TSDF after obtaining the authorization from the Board.
4. Industry shall submit the latest copy of Audited Balance Sheet/C.A. Certificate (Fixed Assets+ Current Assets - Current Liabilities) so the Consent fee payable by the industry may be verified.
5. The Order issued by Hon'ble Courts/Hon'ble NGT, MoEF &CC, Central Pollution Control Board, U.P. Pollution Control Board, shall be complied with.
6. The industry shall ensure to obtain the NOC from UPGWD for ground water abstraction.
7. The industry shall ensure no water logging pertained inside or outside the premises.
8. The industry shall not discharge any type of industrial waste water and the domestic waste water shall be discharge through soak pit/Septic tank. The treated Industrial effluent shall be used in horticulture/reused in process totally.
9. The unit shall develop green belt as per the protocol attached with the UPPCB's office order no. H16405/220/2018/02 dated 16-02-2018 which is available on UPPCB's website. The plantation of saplings should be completed within 04 months time and action taken report shall be submitted to this office. Failing which consent would be revoked without serving any notice to the industry.
10. The industry shall comply with the provisions of the Environment (Protection) Act 1986, Water (Prevention and Control of Pollution) Act, 1974 as amended, Air (Prevention and Control of Pollution) Act, 1981 as amended, Plastic Waste Management Rules 2016, E- Waste (Management) Rules 2016, Solid Waste Management Rules 2016 & Hazardous and other Waste (Management and Transboundary Movement) Rules 2016 (Whichever is applicable).
11. If closure order is issued by CPCB or UPPCB against any defaulting unit, then CTO issued earlier will remain suspended during the closure period and after ensuring the compliance and after revocation of closure order, the CTO will automatically be effective from the date of issuance of closure order revocation, with additional conditions mentioned in the closure revocation order.
12. This CTO is Being Issued as per the provisions of the Water (Prevention and control of Pollution) Act 1974.
13. All the necessary NOC's, Permissions, Licenses etc shall be taken from all concerned statutory authorities.

**Issued with the permission of competent authority .**

**For and on behalf of U.P. Pollution Control Board .**

**Regional Officer**

VIKAS MISHRA

# Ground Water Department

(Namami Gange & Rural Water Supply Department)
Ministry of Jal Shakti
Government of Uttar Pradesh

## Form 8 (E)

[See rules 15(2)]

## (RENEWAL OF AUTHORIZATION/ NO-OBJECTION CERTIFICATE FOR SINKING OF EXISTING WELL FOR INDUSTRIAL/ COMMERCIAL/ INFRASTRUCTURAL OR BULK USER OF GROUND WATER)

## AUTHORIZATION/ NO-OBJECTION CERTIFICATE NO: REG014532

## VALID FROM 02/07/2021 TO 01/07/2026

| **Registration No.: 202106000045** | | | |
|---|---|---|---|
| **Name of the Owner** | RANA VEER | | |
| **Address of the Applicant** | VIIL.- BELWARA , P.O. - MANPUR , DISTT. - MORADABAD | **Application Form Serial No.** | MRBD0621RIN0068 |
| **Date of Submission** | 03/06/2021 | **Specimen Signature** | |
| **Company Name** | RANA SUGARS LIMITED | **Company Address** | Vill.-Belwara, PO-Manpur, District-Moradabad - 244 |
| **Location Particulars** | | | |
| **District** | Moradabad | **Block** | BHAGATPUR TANDA |
| **Plot No./Khasra No.** | 146, 142 mi, 3, 143 etc | **Municipality/Corporation** | No |
| **Ward No./Holding No.** | | | NA |
| **Particular of the Existing Well and Pumping Device** | | | |
| **Date of Construction/Sinking of the Well** | 01/11/2007 | | |
| **Type of Well** | Tube Well/Boring | **Depth of the Well (In meter)** | 58.00 |
| **Purpose of well** | Industrial | **Assembly Size(For Tube Well)** | |
| **Strainer Position (For Tube Well)** | | | |
| **Type of Pump Used** | Submersible | **H.P. of the Pump** | 10.00 |
| **Operational Device** | Electric Motor | **Rate of Withdrawal (m3/hr.)** | 60.00 |
| **Date of Energization (In Case of Electric Pump)** | | 01/11/2007 | |
| **Approx. Strainer Length (For Tube Well)** | 0.00 | **Diameter (For Dug Well)** | 0.00 |
| **Maximum Allowable Rate of Withdrawal ($m^3$/hr.):** | 60.00 | **Maximum Allowable Running Hours Per Day:** | 1.00 |
| **Maximum Allowable Annual Extraction of Ground Water ($m^3$/year):** | | | 21900 |
| **Reason for renewal of N.O.C. एन.ओ.सी. के नवीनीकरण का कारण** | CGWA stop giving NOC and transferred the process to UPGWD. | | |
| **Against Case** | No | | |

This No-Objection certificate authorizes the owner applicant (user) to sink a well in the location specified at SI. (3) for extraction of ground water at a rate not exceeding that as shown at SI. (3j), for Running Hours per day as shown at SI. (3k), and for maximum allowable annual extraction of ground water as shown at SI. (3k) and is valid subject to the observance of the conditions stated overleaf.

**Conditions**

- (1) In case of any change of ownership of the proposed well, fresh authorization has to be obtained.
- (2) No change of location, design, rate of withdrawal and pumping device in respect of the proposed well as indicated at SL (2) and (3) of this certificate shall be made without prior permission of the Competent Authority. Any deviation in this regard shall lead to cancellation of this authorization.
- (3) For the purpose of measuring and recording the quantity of ground water extracted, every said user shall affix digital water flow meters(conforming to BIS/ IS standards) having telemetry system in the abstraction structure, which record rate and quantum of extraction, at outlet of pumping devices and it shall be presumed that the quantity recorded by the meter has been extracted by the said user, until the contrary is proved. The rate of extraction of ground water from the well as shown in item 3(k) shall not exceed to the recorded rate from water meters
- (4) The concerned Authority reserves the right to stop extraction of ground water from the well due to quality hazards or any other reasons, if the situation so demands.
- (5) In case of any change of ownership of the existing well, fresh registration has to be obtained.
- (6) No change of location, design, rate of withdrawal and pumping device in respect of the existing well as indicated at SI. (2) and (3) of this certificate shall be made without prior permission of the Competent Authority. Any deviation in this regard shall lead to cancellation of this registration.
- (7) In case, any of the particulars I information furnished by the applicant in his application for issuance of this registration is found to be incorrect during verification at any subsequent stage, this registration is liable for cancellation.
- (8) The Certificate of Authorization/ NOC shall be valid for a period of five years from the date of issue. The applicant shall have to apply for renewal through a fresh application, at least ninety days prior to expiry of its validity.
- (9) Construction of piezometers and installation of digital water level recorders with telemetry shall be mandatory for user. Depth and zone tapped of piezometer should be commensurate with that of the pumping well. The data, obtained from digital water level recorders shall be made available to this office on monthly basis.
- (10) Guidelines for Installation of Piezometers and their Monitoring
- Piezometer is a borewell /tube well used only for measuring the water level by lowering the tape/ sounder or automatic water level measuring equipment. It is also used to take water sample for water quality testing whenever needed. General guidelines for installation of piezometers are as follows for compliance of NOC:
- • The piezometer is to be installed/constructed at the minimum of 50 m distance from the pumping well through which ground water is being withdrawn. The diameter of the piezometer should be about 4” to 6”.
- • The depth of the piezometer should be same as is case of the pumping well from which ground water is being abstracted. If, more than one piezometer are installed the second piezometer should monitor the shallow ground water regime. It will facilitate shallow as well as deeper ground water aquifer monitoring.
- • No. of piezometers to be constructed & Type of water level monitoring mechanism shall be as per below table:

| S.No | Quantum of Ground water withdrawal (cum/day) | No.of piezometers required | Monitiring Mechanism | |
|---|---|---|---|---|
| | | | Manual | DWLR with Telemetry |
| 1 | < 10 | 0 | 0 | 0 |
| 2 | 11 - 50 | 1 | 1 | 0 |
| 3 | 50- 500 | 1 | 0 | 1 |
| 4 | > 500 | 2 | 0 | 2 |

- • The measuring frequency should be monthly and accuracy of measurement should be up to cm. the reported measurement should be given in meter up to two decimals.
- • For measurement of water level sounder or automatic water level recorder (AWLR)/ Digital Automatic water level recorder (DWLR) with telemetry system should be used for accuracy.
- • The measurement of water level in piezometer should be taken, only after the pumping from the surrounding tube wells has been stopped for about four to six hours.
- • All the details regarding coordinates, reduced level (with respect to mean level), depth, zone taped and assembly lowered should be provided for bringing the piezometer into the Hydrograph Monitoring System for Ground Water Department, Uttar Pradesh, and for its validation.
- • The ground water quality has to be monitored twice in a year during pre-monsoon (May/June) and post-monsoon (October/November) periods. Quality may be got analyzed from NABL approved lab. Besides, one sample (1 lt. capacity bottle) to the concerned Director, Ground Water Department, Uttar Pradesh, for chemical analysis.
- • A Permanent display board should be installed at piezometer/Tube wells site for providing the location, piezometer/ tube well number, depth and zone tapped of piezometer/tube well for standard referencing and identification.
- • Any other site-specific requirement regarding safety and access for measurement may be taken care of.
- (11) Any other condition(s) that may be imposed by the concerned Authority.
- (12) In case, any of the particulars I information furnished by the applicant in his application for issuance of this permit is found to be incorrect during verification at any subsequent stage, this permit is liable for cancellation.
- (13) Any other condition imposed by the concerned Authority
- **SPECIFIC CONDITIONS:**
- (A) **For Industrial User:** No Objection Certificate for ground water extraction by industries shall be granted subject to the following specific conditions:
- i) No Objection Certificate shall be granted only in such cases where local government water supply agencies are not able to supply the desired quantity of water.
- ii) All industries shall be required to adopt latest water efficient technologies so as to reduce dependence on ground water resources.
- iii) All industries abstracting ground water in excess of 100 $m^3$/d shall be required to undertake annual water audit through Confederation of Indian Industries (CII)/ Federation Indian Chamber of Commerce and Industry (FICCI)/ National Productivity Council (NPC) certified auditors and submit audit reports within three months of completion of the same to Ground Water

Department, Uttar Pradesh. All such industries shall be required to reduce their ground water use by at least 20% over the next five years through appropriate means.

- iv) Construction of observation well(s) (piezometer)(s) within the premises and installation of appropriate water level monitoring mechanism as mentioned in General Condition no.10 shall be mandatory for industries drawing/ proposing to draw more than 10 m3/day of ground water and. Monitoring of water level shall be done by the project proponent. The piezometer (observation well) shall be constructed at a minimum distance of 50 m from the bore well/production well. Depth and aquifer zone tapped in the piezometer shall be the same as that of the pumping well/ wells. Monthly water level data shall be submitted online to the Ground Water Department, UP.
- v) The proponent shall be required to adopt roof top rain water harvesting/ recharge in the project premises. Industries which are likely to pollute ground water (chemical, pharmaceutical, dyes, pigments, paints, textiles, tannery, pesticides/ insecticides, fertilizers, slaughter house, explosives etc.) shall store the harvested rain water in surface storage tanks for use in the industry.
- vi) Injection of treated/ untreated waste water into aquifer system is strictly prohibited.
- vii) Industries which are likely to cause ground water pollution e.g. Tanning, Slaughter Houses, Dye, Chemical/ Petrochemical, Coal washeries, other hazardous units etc. (as per CPCB list) need to undertake necessary well head protection measures to ensure prevention of ground water pollution.
- (B) **Infrastructural User:** The No Objection Certificate for ground water abstraction will be granted subject to the following specific conditions:
- i) In case of infrastructure projects that require dewatering, proponent shall be required to carry out regular monitoring of dewatering discharge rate (using a digital water flow meter) and submit the data online to Ground Water Department, UP as applicable. Monitoring records and results should be retained by the proponent for two years, for inspection or reporting as required by District Ground Water Management Council.
- ii) Installation of Sewage Treatment Plants (STP) shall be mandatory for new projects, where ground water requirement is more than 20 m3 /day. The water from STP shall be utilized for toilet flushing, car washing, gardening etc.

Date :**14/07/2021**

Place:**Moradabad**

**This certificate is electronically generated and does not require digital signature**

# Ground Water Department

(Namami Gange & Rural Water Supply Department)
Ministry of Jal Shakti
Government of Uttar Pradesh

## Form 8 (E)

[See rules 15(2)]

## (RENEWAL OF AUTHORIZATION/ NO-OBJECTION CERTIFICATE FOR SINKING OF EXISTING WELL FOR INDUSTRIAL/ COMMERCIAL/ INFRASTRUCTURAL OR BULK USER OF GROUND WATER)

## AUTHORIZATION/ NO-OBJECTION CERTIFICATE NO: REG037275

## VALID FROM 02/07/2021 TO 01/07/2026

| **Registration No.: 202106000044** | | | |
|---|---|---|---|
| **Name of the Owner** | RANA VEER | | |
| **Address of the Applicant** | VIIL.- BELWARA , P.O. - MANPUR , DISTT. - MORADABAD | **Application Form Serial No.** | MRBD0621RIN0067 |
| **Date of Submission** | 03/06/2021 | **Specimen Signature** | |
| **Company Name** | RANA SUGARS LIMITED | **Company Address** | VILL.- BELWARA , P.O.- MANPUR , DISTT.- MORADABAD |
| **Location Particulars** | | | |
| **District** | Moradabad | **Block** | BHAGATPUR TANDA |
| **Plot No./Khasra No.** | 146, 142 mi, 3, 143 etc | **Municipality/Corporation** | No |
| **Ward No./Holding No.** | | | NA |
| **Particular of the Existing Well and Pumping Device** | | | |
| **Date of Construction/Sinking of the Well** | 11/07/2018 | | |
| **Type of Well** | Tube Well/Boring | **Depth of the Well (In meter)** | 58.00 |
| **Purpose of well** | Industrial | **Assembly Size(For Tube Well)** | |
| **Strainer Position (For Tube Well)** | | | |
| **Type of Pump Used** | Submersible | **H.P. of the Pump** | 10.00 |
| **Operational Device** | Electric Motor | **Rate of Withdrawal (m3/hr.)** | 50.00 |
| **Date of Energization (In Case of Electric Pump)** | | 01/05/2019 | |
| **Approx. Strainer Length (For Tube Well)** | 0.00 | **Diameter (For Dug Well)** | 0.00 |
| **Maximum Allowable Rate of Withdrawal ($m^3$/hr.):** | 50.00 | **Maximum Allowable Running Hours Per Day:** | 16.00 |
| **Maximum Allowable Annual Extraction of Ground Water ($m^3$/year):** | | | 288000 |
| **Reason for renewal of N.O.C. एन.ओ.सी. के नवीनीकरण का कारण** | CGWA stop giving NOC and transferred the process to UPGWD. | | |
| **Against Case** | No | | |

This No-Objection certificate authorizes the owner applicant (user) to sink a well in the location specified at SI. (3) for extraction of ground water at a rate not exceeding that as shown at SI. (3j), for Running Hours per day as shown at SI. (3k), and for maximum allowable annual extraction of ground water as shown at SI. (3k) and is valid subject to the observance of the conditions stated overleaf.

**Conditions**

- (1) In case of any change of ownership of the proposed well, fresh authorization has to be obtained.
- (2) No change of location, design, rate of withdrawal and pumping device in respect of the proposed well as indicated at SL (2) and (3) of this certificate shall be made without prior permission of the Competent Authority. Any deviation in this regard shall lead to cancellation of this authorization.
- (3) For the purpose of measuring and recording the quantity of ground water extracted, every said user shall affix digital water flow meters(conforming to BIS/ IS standards) having telemetry system in the abstraction structure, which record rate and quantum of extraction, at outlet of pumping devices and it shall be presumed that the quantity recorded by the meter has been extracted by the said user, until the contrary is proved. The rate of extraction of ground water from the well as shown in item 3(k) shall not exceed to the recorded rate from water meters
- (4) The concerned Authority reserves the right to stop extraction of ground water from the well due to quality hazards or any other reasons, if the situation so demands.
- (5) In case of any change of ownership of the existing well, fresh registration has to be obtained.
- (6) No change of location, design, rate of withdrawal and pumping device in respect of the existing well as indicated at SI. (2) and (3) of this certificate shall be made without prior permission of the Competent Authority. Any deviation in this regard shall lead to cancellation of this registration.
- (7) In case, any of the particulars I information furnished by the applicant in his application for issuance of this registration is found to be incorrect during verification at any subsequent stage, this registration is liable for cancellation.
- (8) The Certificate of Authorization/ NOC shall be valid for a period of five years from the date of issue. The applicant shall have to apply for renewal through a fresh application, at least ninety days prior to expiry of its validity.
- (9) Construction of piezometers and installation of digital water level recorders with telemetry shall be mandatory for user. Depth and zone tapped of piezometer should be commensurate with that of the pumping well. The data, obtained from digital water level recorders shall be made available to this office on monthly basis.
- (10) Guidelines for Installation of Piezometers and their Monitoring
- Piezometer is a borewell /tube well used only for measuring the water level by lowering the tape/ sounder or automatic water level measuring equipment. It is also used to take water sample for water quality testing whenever needed. General guidelines for installation of piezometers are as follows for compliance of NOC:
- • The piezometer is to be installed/constructed at the minimum of 50 m distance from the pumping well through which ground water is being withdrawn. The diameter of the piezometer should be about 4” to 6”.
- • The depth of the piezometer should be same as is case of the pumping well from which ground water is being abstracted. If, more than one piezometer are installed the second piezometer should monitor the shallow ground water regime. It will facilitate shallow as well as deeper ground water aquifer monitoring.
- • No. of piezometers to be constructed & Type of water level monitoring mechanism shall be as per below table:

| S.No | Quantum of Ground water withdrawal (cum/day) | No.of piezometers required | Monitiring Mechanism | |
|---|---|---|---|---|
| | | | Manual | DWLR with Telemetry |
| 1 | < 10 | 0 | 0 | 0 |
| 2 | 11 - 50 | 1 | 1 | 0 |
| 3 | 50- 500 | 1 | 0 | 1 |
| 4 | > 500 | 2 | 0 | 2 |

- • The measuring frequency should be monthly and accuracy of measurement should be up to cm. the reported measurement should be given in meter up to two decimals.
- • For measurement of water level sounder or automatic water level recorder (AWLR)/ Digital Automatic water level recorder (DWLR) with telemetry system should be used for accuracy.
- • The measurement of water level in piezometer should be taken, only after the pumping from the surrounding tube wells has been stopped for about four to six hours.
- • All the details regarding coordinates, reduced level (with respect to mean level), depth, zone taped and assembly lowered should be provided for bringing the piezometer into the Hydrograph Monitoring System for Ground Water Department, Uttar Pradesh, and for its validation.
- • The ground water quality has to be monitored twice in a year during pre-monsoon (May/June) and post-monsoon (October/November) periods. Quality may be got analyzed from NABL approved lab. Besides, one sample (1 lt. capacity bottle) to the concerned Director, Ground Water Department, Uttar Pradesh, for chemical analysis.
- • A Permanent display board should be installed at piezometer/Tube wells site for providing the location, piezometer/ tube well number, depth and zone tapped of piezometer/tube well for standard referencing and identification.
- • Any other site-specific requirement regarding safety and access for measurement may be taken care of.
- (11) Any other condition(s) that may be imposed by the concerned Authority.
- (12) In case, any of the particulars I information furnished by the applicant in his application for issuance of this permit is found to be incorrect during verification at any subsequent stage, this permit is liable for cancellation.
- (13) Any other condition imposed by the concerned Authority
- **SPECIFIC CONDITIONS:**
- (A) **For Industrial User:** No Objection Certificate for ground water extraction by industries shall be granted subject to the following specific conditions:
- i) No Objection Certificate shall be granted only in such cases where local government water supply agencies are not able to supply the desired quantity of water.
- ii) All industries shall be required to adopt latest water efficient technologies so as to reduce dependence on ground water resources.
- iii) All industries abstracting ground water in excess of 100 $m^3$/d shall be required to undertake annual water audit through Confederation of Indian Industries (CII)/ Federation Indian Chamber of Commerce and Industry (FICCI)/ National Productivity Council (NPC) certified auditors and submit audit reports within three months of completion of the same to Ground Water

Department, Uttar Pradesh. All such industries shall be required to reduce their ground water use by at least 20% over the next five years through appropriate means.

- iv) Construction of observation well(s) (piezometer)(s) within the premises and installation of appropriate water level monitoring mechanism as mentioned in General Condition no.10 shall be mandatory for industries drawing/ proposing to draw more than 10 m3/day of ground water and. Monitoring of water level shall be done by the project proponent. The piezometer (observation well) shall be constructed at a minimum distance of 50 m from the bore well/production well. Depth and aquifer zone tapped in the piezometer shall be the same as that of the pumping well/ wells. Monthly water level data shall be submitted online to the Ground Water Department, UP.
- v) The proponent shall be required to adopt roof top rain water harvesting/ recharge in the project premises. Industries which are likely to pollute ground water (chemical, pharmaceutical, dyes, pigments, paints, textiles, tannery, pesticides/ insecticides, fertilizers, slaughter house, explosives etc.) shall store the harvested rain water in surface storage tanks for use in the industry.
- vi) Injection of treated/ untreated waste water into aquifer system is strictly prohibited.
- vii) Industries which are likely to cause ground water pollution e.g. Tanning, Slaughter Houses, Dye, Chemical/ Petrochemical, Coal washeries, other hazardous units etc. (as per CPCB list) need to undertake necessary well head protection measures to ensure prevention of ground water pollution.
- (B) **Infrastructural User:** The No Objection Certificate for ground water abstraction will be granted subject to the following specific conditions:
- i) In case of infrastructure projects that require dewatering, proponent shall be required to carry out regular monitoring of dewatering discharge rate (using a digital water flow meter) and submit the data online to Ground Water Department, UP as applicable. Monitoring records and results should be retained by the proponent for two years, for inspection or reporting as required by District Ground Water Management Council.
- ii) Installation of Sewage Treatment Plants (STP) shall be mandatory for new projects, where ground water requirement is more than 20 m3 /day. The water from STP shall be utilized for toilet flushing, car washing, gardening etc.

Date :**20/07/2021**

Place:**Moradabad**

**This certificate is electronically generated and does not require digital signature**

Annexure- 19

# REGIONAL LABORATORY OFFICE MORADABAD
# UTTAR PRADESH POLLUTION CONTROL BOARD

**1-A/I.N.S.-1, Avas Vikas Colony, Buddha Vihar, Delhi Road,Moradabad**

## TEST REPORT: WASTE WATER LABORATORY

**Ref No: 14043065/Moradabad/2021** **Date:23/11/2021**

1- **Name of Industry:** RANA SUGARS LIMITED

2- **Address of Industry:** VILLAGE-BELWARA, POST-MANPUR, TEHSIL AND DISTRICT-MORADABAD, UP 244001,MORADABAD,244001

3- **District:** Moradabad

4- **Description about sampling point:** Aeration Tank

5- **Type of Sample (Grab/Composite/Integrated):** Grab

6- **Sample Collected By:** Vinod Kumar AEE & Jitendra Nath Tiwari JE

7- **Colour and Odour:** Brownish ODOURLESS

8- **Quantity and Packing:** 2 liter (PLASTIC JERICAN)

9- **Date of Sample Collection:** 12/11/2021

10- **Analyis Indented by:** RO Moradabad

11- **Date of sample receipt in Lab:** 12/11/2021

| Parameter/Method Name | Unit | Results | Standard | Detection Range |
|---|---|---|---|---|
| MLSS, 2540D dried at 103-105'C as method prescribed by CPCB | mg/l | 2820 | - | 10-20000 |

Reference- (1)General Standards for discharge of envieronment Pollutants are as pert-A Effluent(Schedule-VI).The eniveronment (Protection) Rules,1986 source: www.cpcb.nic.in/GeneralStandards.pdf. Besides these standards,refer EPA standards for specific purpose

***Remark:*** *NA*

**Analysed by**

[Alok Sharma (JRF)]

**Authorized by**

ANIL KUMAR VISHWAKARMA Digitally signed by ANIL KUMAR VISHWAKARMA Date: 2021.11.23 10:57:41 +05'30'

Anil Vishwkarma SA

VIKAS MISHRA Digitally signed by VIKAS MISHRA Date: 2021.11.23 10:58:44 +05'30'

**Regional Officer**

Note: 1 The results in the Test Report relate only to the items tested: 2. The report shall not be reproduced-except in full, without the written permission of laboratory. 3. The test report pertains to the sample as received in Lab.

# Ground Water Department

(Namami Gange & Rural Water Supply Department)
Ministry of Jal Shakti
Government of Uttar Pradesh

## Form 8 (E)

[See rules 15(2)]

## (RENEWAL OF AUTHORIZATION/ NO-OBJECTION CERTIFICATE FOR SINKING OF EXISTING WELL FOR INDUSTRIAL/ COMMERCIAL/ INFRASTRUCTURAL OR BULK USER OF GROUND WATER)

## AUTHORIZATION/ NO-OBJECTION CERTIFICATE NO: REG030875

## VALID FROM 02/07/2021 TO 01/07/2026

| **Registration No.: 202106000046** | | | |
|---|---|---|---|
| **Name of the Owner** | RANA VEER | | |
| **Address of the Applicant** | VIIL.- BELWARA , P.O. - MANPUR , DISTT. - MORADABAD | **Application Form Serial No.** | MRBD0621RIN0069 |
| **Date of Submission** | 03/06/2021 | **Specimen Signature** | |
| **Company Name** | RANA SUGARS LIMITED | **Company Address** | Vill.-Belwara, PO-Manpur, District-Moradabad - 244 |
| **Location Particulars** | | | |
| **District** | Moradabad | **Block** | BHAGATPUR TANDA |
| **Plot No./Khasra No.** | 143, 3, 142 mi, 146 etc | **Municipality/Corporation** | No |
| **Ward No./Holding No.** | | | NA |
| **Particular of the Existing Well and Pumping Device** | | | |
| **Date of Construction/Sinking of the Well** | 01/11/2007 | | |
| **Type of Well** | Tube Well/Boring | **Depth of the Well (In meter)** | 91.00 |
| **Purpose of well** | Industrial | **Assembly Size(For Tube Well)** | |
| **Strainer Position (For Tube Well)** | | | |
| **Type of Pump Used** | Submersible | **H.P. of the Pump** | 60.00 |
| **Operational Device** | Electric Motor | **Rate of Withdrawal (m3/hr.)** | 170.00 |
| **Date of Energization (In Case of Electric Pump)** | | 01/11/2007 | |
| **Approx. Strainer Length (For Tube Well)** | 0.00 | **Diameter (For Dug Well)** | 0.00 |
| **Maximum Allowable Rate of Withdrawal ($m^3$/hr.):** | 170.00 | **Maximum Allowable Running Hours Per Day:** | 2.00 |
| **Maximum Allowable Annual Extraction of Ground Water ($m^3$/year):** | | | 68000 |
| **Reason for renewal of N.O.C. एन.ओ.सी. के नवीनीकरण का कारण** | CGWA stop giving NOC and transferred the process to UPGWD. | | |
| **Against Case** | No | | |

This No-Objection certificate authorizes the owner applicant (user) to sink a well in the location specified at SI. (3) for extraction of ground water at a rate not exceeding that as shown at SI. (3j), for Running Hours per day as shown at SI. (3k), and for maximum allowable annual extraction of ground water as shown at SI. (3k) and is valid subject to the observance of the conditions stated overleaf.

**Conditions**

- (1) In case of any change of ownership of the proposed well, fresh authorization has to be obtained.
- (2) No change of location, design, rate of withdrawal and pumping device in respect of the proposed well as indicated at SL (2) and (3) of this certificate shall be made without prior permission of the Competent Authority. Any deviation in this regard shall lead to cancellation of this authorization.
- (3) For the purpose of measuring and recording the quantity of ground water extracted, every said user shall affix digital water flow meters(conforming to BIS/ IS standards) having telemetry system in the abstraction structure, which record rate and quantum of extraction, at outlet of pumping devices and it shall be presumed that the quantity recorded by the meter has been extracted by the said user, until the contrary is proved. The rate of extraction of ground water from the well as shown in item 3(k) shall not exceed to the recorded rate from water meters
- (4) The concerned Authority reserves the right to stop extraction of ground water from the well due to quality hazards or any other reasons, if the situation so demands.
- (5) In case of any change of ownership of the existing well, fresh registration has to be obtained.
- (6) No change of location, design, rate of withdrawal and pumping device in respect of the existing well as indicated at SI. (2) and (3) of this certificate shall be made without prior permission of the Competent Authority. Any deviation in this regard shall lead to cancellation of this registration.
- (7) In case, any of the particulars I information furnished by the applicant in his application for issuance of this registration is found to be incorrect during verification at any subsequent stage, this registration is liable for cancellation.
- (8) The Certificate of Authorization/ NOC shall be valid for a period of five years from the date of issue. The applicant shall have to apply for renewal through a fresh application, at least ninety days prior to expiry of its validity.
- (9) Construction of piezometers and installation of digital water level recorders with telemetry shall be mandatory for user. Depth and zone tapped of piezometer should be commensurate with that of the pumping well. The data, obtained from digital water level recorders shall be made available to this office on monthly basis.
- (10) Guidelines for Installation of Piezometers and their Monitoring
- Piezometer is a borewell /tube well used only for measuring the water level by lowering the tape/ sounder or automatic water level measuring equipment. It is also used to take water sample for water quality testing whenever needed. General guidelines for installation of piezometers are as follows for compliance of NOC:
- • The piezometer is to be installed/constructed at the minimum of 50 m distance from the pumping well through which ground water is being withdrawn. The diameter of the piezometer should be about 4” to 6”.
- • The depth of the piezometer should be same as is case of the pumping well from which ground water is being abstracted. If, more than one piezometer are installed the second piezometer should monitor the shallow ground water regime. It will facilitate shallow as well as deeper ground water aquifer monitoring.
- • No. of piezometers to be constructed & Type of water level monitoring mechanism shall be as per below table:

| S.No | Quantum of Ground water withdrawal (cum/day) | No.of piezometers required | Monitiring Mechanism | |
|---|---|---|---|---|
| | | | Manual | DWLR with Telemetry |
| 1 | < 10 | 0 | 0 | 0 |
| 2 | 11 - 50 | 1 | 1 | 0 |
| 3 | 50- 500 | 1 | 0 | 1 |
| 4 | > 500 | 2 | 0 | 2 |

- • The measuring frequency should be monthly and accuracy of measurement should be up to cm. the reported measurement should be given in meter up to two decimals.
- • For measurement of water level sounder or automatic water level recorder (AWLR)/ Digital Automatic water level recorder (DWLR) with telemetry system should be used for accuracy.
- • The measurement of water level in piezometer should be taken, only after the pumping from the surrounding tube wells has been stopped for about four to six hours.
- • All the details regarding coordinates, reduced level (with respect to mean level), depth, zone taped and assembly lowered should be provided for bringing the piezometer into the Hydrograph Monitoring System for Ground Water Department, Uttar Pradesh, and for its validation.
- • The ground water quality has to be monitored twice in a year during pre-monsoon (May/June) and post-monsoon (October/November) periods. Quality may be got analyzed from NABL approved lab. Besides, one sample (1 lt. capacity bottle) to the concerned Director, Ground Water Department, Uttar Pradesh, for chemical analysis.
- • A Permanent display board should be installed at piezometer/Tube wells site for providing the location, piezometer/ tube well number, depth and zone tapped of piezometer/tube well for standard referencing and identification.
- • Any other site-specific requirement regarding safety and access for measurement may be taken care of.
- (11) Any other condition(s) that may be imposed by the concerned Authority.
- (12) In case, any of the particulars I information furnished by the applicant in his application for issuance of this permit is found to be incorrect during verification at any subsequent stage, this permit is liable for cancellation.
- (13) Any other condition imposed by the concerned Authority
- **SPECIFIC CONDITIONS:**
- (A) **For Industrial User:** No Objection Certificate for ground water extraction by industries shall be granted subject to the following specific conditions:
- i) No Objection Certificate shall be granted only in such cases where local government water supply agencies are not able to supply the desired quantity of water.
- ii) All industries shall be required to adopt latest water efficient technologies so as to reduce dependence on ground water resources.
- iii) All industries abstracting ground water in excess of 100 $m^3$/d shall be required to undertake annual water audit through Confederation of Indian Industries (CII)/ Federation Indian Chamber of Commerce and Industry (FICCI)/ National Productivity Council (NPC) certified auditors and submit audit reports within three months of completion of the same to Ground Water

Department, Uttar Pradesh. All such industries shall be required to reduce their ground water use by at least 20% over the next five years through appropriate means.

- iv) Construction of observation well(s) (piezometer)(s) within the premises and installation of appropriate water level monitoring mechanism as mentioned in General Condition no.10 shall be mandatory for industries drawing/ proposing to draw more than 10 m3/day of ground water and. Monitoring of water level shall be done by the project proponent. The piezometer (observation well) shall be constructed at a minimum distance of 50 m from the bore well/production well. Depth and aquifer zone tapped in the piezometer shall be the same as that of the pumping well/ wells. Monthly water level data shall be submitted online to the Ground Water Department, UP.
- v) The proponent shall be required to adopt roof top rain water harvesting/ recharge in the project premises. Industries which are likely to pollute ground water (chemical, pharmaceutical, dyes, pigments, paints, textiles, tannery, pesticides/ insecticides, fertilizers, slaughter house, explosives etc.) shall store the harvested rain water in surface storage tanks for use in the industry.
- vi) Injection of treated/ untreated waste water into aquifer system is strictly prohibited.
- vii) Industries which are likely to cause ground water pollution e.g. Tanning, Slaughter Houses, Dye, Chemical/ Petrochemical, Coal washeries, other hazardous units etc. (as per CPCB list) need to undertake necessary well head protection measures to ensure prevention of ground water pollution.
- (B) **Infrastructural User:** The No Objection Certificate for ground water abstraction will be granted subject to the following specific conditions:
- i) In case of infrastructure projects that require dewatering, proponent shall be required to carry out regular monitoring of dewatering discharge rate (using a digital water flow meter) and submit the data online to Ground Water Department, UP as applicable. Monitoring records and results should be retained by the proponent for two years, for inspection or reporting as required by District Ground Water Management Council.
- ii) Installation of Sewage Treatment Plants (STP) shall be mandatory for new projects, where ground water requirement is more than 20 m3 /day. The water from STP shall be utilized for toilet flushing, car washing, gardening etc.

Date :**14/07/2021**

Place:**Moradabad**

**This certificate is electronically generated and does not require digital signature**

April to Nov. 2021

Ann. 21

## Upstream Ramganga, Near village Agawanpur

| S.No. | Reported Date | Color (Hazen) | pH | Dissolved Oxygen (mg/L) | BOD (mg/L) | Total Coliform (MPN/100 mL) | COD (mg/L) |
|---|---|---|---|---|---|---|---|
| 1 | 01-04-2021 | 7 | 7.4 | 9.3 | | | |
| 2 | 02-04-2021 | 8 | 7.7 | 9.4 | | | |
| 3 | 03-04-2021 | 7 | 7.4 | 9.5 | | | |
| 4 | 04-04-2021 | 6 | 7.6 | 9.6 | | | |
| 5 | 05-04-2021 | 7 | 7.3 | 9.2 | | | |
| 6 | 06-04-2021 | 6 | 7.2 | 9.1 | 1.6 | 600 | 12 |
| 7 | 07-04-2021 | 7 | 7.5 | 9.2 | | | |
| 8 | 08-04-2021 | 8 | 7.6 | 9.3 | | | |
| 9 | 09-04-2021 | 7 | 7.2 | 9.1 | | | |
| 10 | 10-04-2021 | 7 | 7.8 | 9.3 | | | |
| 11 | 11-04-2021 | 6 | 7.3 | 9.2 | | | |
| 12 | 12-04-2021 | 7 | 7.6 | 9.1 | | | |
| 13 | 13-04-2021 | 6 | 7.7 | 9.0 | 1.8 | 800 | 16 |
| 14 | 14-04-2021 | 7 | 7.7 | 9.2 | | | |
| 15 | 15-04-2021 | 6 | 7.3 | 9.1 | | | |
| 16 | 16-04-2021 | 7 | 7.2 | 9.0 | | | |
| 17 | 17-04-2021 | 8 | 7.5 | 8.6 | | | |
| 18 | 18-04-2021 | 7 | 7.4 | 8.8 | | | |
| 19 | 19-04-2021 | 7 | 7.4 | 8.3 | | | |
| 20 | 20-04-2021 | 6 | 7.3 | 8.0 | 2.0 | 700 | 20 |
| 21 | 21-04-2021 | 7 | 7.4 | 8.1 | | | |
| 22 | 22-04-2021 | 6 | 7.3 | 8.3 | | | |
| 23 | 23-04-2021 | 7 | 7.2 | 8.5 | | | |
| 24 | 24-04-2021 | 7 | 7.5 | 8.4 | | | |
| 25 | 27-04-2021 | 8 | 7.3 | 8.5 | 1.8 | 600 | 16 |
| 26 | 04-05-2021 | 7 | 7.4 | 8.7 | 2.0 | 700 | 16 |
| 27 | 11-05-2021 | 6 | 7.2 | 9.0 | 2.2 | 900 | 16 |
| 28 | 18-05-2021 | 7 | 7.3 | 8.9 | 2.2 | 1000 | 12 |
| 29 | 21-05-2021 | 6 | 7.2 | 9.2 | | | |
| 30 | 25-05-2021 | 7 | 7.4 | 9.0 | 2.0 | 900 | 12 |
| 31 | 28-05-2021 | 6 | 7.2 | 8.8 | | | |
| 32 | 01-06-2021 | 7 | 7.7 | 8.9 | 1.8 | 700 | 12 |
| 33 | 04-06-2021 | 6 | 7.3 | 8.5 | | | |
| 34 | 08-06-2021 | 7 | 7.3 | 8.8 | 1.6 | 900 | 16 |
| 35 | 11-06-2021 | 7 | 7.2 | 8.6 | | | |
| 36 | 15-06-2021 | 8 | 7.3 | 9.0 | 1.4 | 700 | 12 |
| 37 | 18-06-2021 | 7 | 7.2 | 8.8 | | | |
| 38 | 22-06-2021 | 8 | 7.2 | 8.6 | 2.0 | 900 | 16 |
| 39 | 25-06-2021 | 9 | 7.6 | 8.5 | | | |
| 40 | 29-06-2021 | 8 | 7.3 | 8.4 | 2.2 | 700 | 20 |
| 41 | 02-07-2021 | 9 | 7.4 | 8.6 | | | |
| 42 | 06-07-2021 | 8 | 7.8 | 8.2 | 2.0 | 900 | 16 |
| 43 | 09-07-2021 | 7 | 7.2 | 8.4 | | | |
| 44 | 13-07-2021 | 8 | 7.3 | 8.6 | 1.8 | 800 | 12 |
| 45 | 16-07-2021 | 8 | 7.8 | 8.0 | | | |
| 46 | 20-07-2021 | 9 | 7.6 | 8.0 | 2.0 | 900 | 16 |
| 47 | 23-07-2021 | 8 | 7.3 | 8.2 | | | |
| 48 | 27-07-2021 | 9 | 7.2 | 8.4 | 1.8 | 700 | 12 |
| 49 | 30-07-2021 | 8 | 7.2 | 8.0 | | | |
| 50 | 03-08-2021 | 9 | 7.3 | 7.9 | 1.6 | 900 | 20 |
| 51 | 06-08-2021 | 8 | 7.3 | 8.0 | | | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 52 | 10-08-2021 | 8 | 7.1 | 7.6 | 1.8 | 1100 | 24 |
| 53 | 13-08-2021 | 9 | 7.9 | 7.4 | | | |
| 54 | 17-08-2021 | 10 | 7.6 | 7.2 | 20 | 900 | 20 |
| 55 | 20-08-2021 | 9 | 7.5 | 7.3 | | | |
| 56 | 24-08-2021 | 8 | 7.3 | 7.6 | 1.8 | 1100 | 16 |
| 57 | 27-08-2021 | 9 | 7.3 | 7.4 | | | |
| 58 | 31-08-2021 | 8 | 7.6 | 7.6 | 2 | 1300 | 20 |
| 59 | 03-09-2021 | 9 | 7.3 | 7.8 | | | |
| 60 | 07-09-2021 | 8 | 7.5 | 7.6 | 1.8 | 1100 | 16 |
| 61 | 10-09-2021 | 7 | 7.4 | 8.2 | | | |
| 62 | 14-09-2021 | 8 | 7.3 | 8 | 1.6 | 900 | 12 |
| 63 | 17-09-2021 | 7 | 7.5 | 8.4 | | | |
| 64 | 21-09-2021 | 10 | 7.6 | 8.5 | 1.4 | 700 | 12 |
| 65 | 24-09-2021 | 8 | 7.4 | 8.2 | | | |
| 66 | 28-09-2021 | 9 | 7.2 | 8.0 | 2.0 | 900 | 16 |
| 67 | 01-10-2021 | 8 | 7.4 | 8.2 | | | |
| 68 | 05-10-2021 | 8 | 7.5 | 7.9 | 1.8 | 700 | 12 |
| 69 | 08-10-2021 | 8 | 7.3 | 8.6 | | | |
| 70 | 12-10-2021 | 9 | 7.5 | 8.3 | 2.0 | 900 | 16 |
| 71 | 15-10-2021 | 10 | 7.3 | 8.2 | | | |
| 72 | 19-10-2021 | 8 | 7.3 | 8.0 | 2.2 | 1100 | 16 |
| 73 | 22-10-2021 | 9 | 7.5 | 8.1 | | | |
| 74 | 26-10-2021 | 10 | 7.4 | 8.2 | 2 | 900 | 12 |
| 75 | 29-10-2021 | 8 | 7.6 | 8.4 | | | |
| 76 | 02-11-2021 | 9 | 7.3 | 8.2 | 2.2 | 1100 | 16 |
| 77 | 05-11-2021 | 8 | 7.6 | 8.4 | | | |
| 78 | 09-11-2021 | 9 | 7.5 | 8.6 | 2 | 900 | 12 |
| 79 | 11-11-2021 | 8 | 7.3 | 8.4 | | | |
| 80 | 12-11-2021 | 9 | 7.6 | 8.6 | | | |
| 81 | 13-11-2021 | 8 | 7.3 | 8.5 | | | |
| 82 | 14-11-2021 | 9 | 7.4 | 8.4 | | | |
| 83 | 15-11-2021 | 8 | 7.3 | 8.6 | | | |
| 84 | 16-11-2021 | 9 | 7.6 | 8.5 | 2 | 900 | 12 |

## Ramganga Katghar

| S.No. | Reported Date | Color (Hazen) | pH | Dissolved Oxygen (mg/L) | BOD (mg/L) | Total Coliform (MPN/100 mL) | COD (mg/L) |
|---|---|---|---|---|---|---|---|
| 1 | 01-04-2021 | 24 | 7.4 | 4.6 | | | |
| 2 | 02-04-2021 | 22 | 7.5 | 4.5 | | | |
| 3 | 03-04-2021 | 23 | 7.4 | 4.6 | | | |
| 4 | 04-04-2021 | 22 | 7.3 | 4.8 | | | |
| 5 | 05-04-2021 | 23 | 7.2 | 4.6 | | | |
| 6 | 06-04-2021 | 22 | 7.3 | 4.3 | 9.4 | 34000 | 40 |
| 7 | 07-04-2021 | 21 | 7.6 | 4.1 | | | |
| 8 | 08-04-2021 | 22 | 7.5 | 4.2 | | | |
| 9 | 09-04-2021 | 23 | 7.4 | 4.3 | | | |
| 10 | 10-04-2021 | 22 | 7.3 | 4.5 | | | |
| 11 | 11-04-2021 | 24 | 7.5 | 4.3 | | | |
| 12 | 12-04-2021 | 23 | 7.4 | 4.4 | | | |
| 13 | 13-04-2021 | 22 | 7.5 | 4.3 | 9.0 | 33000 | 36 |
| 14 | 14-04-2021 | 21 | 7.2 | 4.5 | | | |
| 15 | 15-04-2021 | 22 | 7.6 | 4.3 | | | |
| 16 | 16-04-2021 | 23 | 7.5 | 4.4 | | | |
| 17 | 17-04-2021 | 22 | 7.8 | 4.1 | | | |
| 18 | 18-04-2021 | 21 | 7.6 | 4.0 | | | |
| 19 | 19-04-2021 | 21 | 7.5 | 4.4 | | | |
| 20 | 20-04-2021 | 20 | 7.8 | 4.0 | 9.2 | 33000 | 40 |
| 21 | 21-04-2021 | 21 | 7.6 | 4.1 | | | |
| 22 | 22-04-2021 | 20 | 7.8 | 3.9 | | | |
| 23 | 23-04-2021 | 21 | 7.6 | 4.1 | | | |
| 24 | 24-04-2021 | 20 | 7.7 | 4.0 | | | |
| 25 | 27-04-2021 | 22 | 7.5 | 3.8 | 9.0 | 33000 | 40 |
| 26 | 04-05-2021 | 21 | 7.6 | 3.7 | 9.2 | 34000 | 40 |
| 27 | 11-05-2021 | 22 | 7.5 | 3.8 | 8.8 | 33000 | 36 |
| 28 | 18-05-2021 | 21 | 7.4 | 3.6 | 9.6 | 34000 | 40 |
| 29 | 21-05-2021 | 20 | 7.6 | 3.8 | | | |
| 30 | 25-05-2021 | 20 | 7.5 | 3.7 | 9.2 | 31000 | 40 |
| 31 | 28-05-2021 | 21 | 7.6 | 3.4 | | | |
| 32 | 01-06-2021 | 21 | 7.6 | 3.9 | 8.8 | 28000 | 36 |
| 33 | 04-06-2021 | 20 | 7.4 | 3.3 | | | |
| 34 | 08-06-2021 | 21 | 7.2 | 3.6 | 9.0 | 28000 | 40 |
| 35 | 11-06-2021 | 22 | 7.5 | 3.4 | | | |
| 36 | 15-06-2021 | 24 | 7.6 | 3.7 | 8.6 | 31000 | 36 |
| 37 | 18-06-2021 | 22 | 7.3 | 3.5 | | | |
| 38 | 22-06-2021 | 23 | 7.6 | 3.2 | 9.0 | 33000 | 40 |
| 39 | 25-06-2021 | 25 | 7.5 | 3.4 | | | |
| 40 | 29-06-2021 | 26 | 7.2 | 3.5 | 8.8 | 31000 | 36 |
| 41 | 02-07-2021 | 24 | 7.5 | 3.4 | | | |
| 42 | 06-07-2021 | 25 | 7.8 | 3.0 | 8.4 | 28000 | 32 |
| 43 | 09-07-2021 | 23 | 7.3 | 3.3 | | | |
| 44 | 13-07-2021 | 24 | 7.2 | 3.4 | 7.8 | 25000 | 28 |
| 45 | 16-07-2021 | 25 | 7.7 | 3.0 | | | |
| 46 | 20-07-2021 | 26 | 7.5 | 3.0 | 8.0 | 27000 | 36 |
| 47 | 23-07-2021 | 25 | 7.3 | 3.2 | | | |
| 48 | 27-07-2021 | 24 | 7.5 | 3.5 | 7.6 | 25000 | 32 |
| 49 | 30-07-2021 | 25 | 7.2 | 3.4 | | | |
| 50 | 03-08-2021 | 25 | 7.4 | 3.3 | 7.8 | 28000 | 36 |
| 51 | 06-08-2021 | 24 | 7.6 | 3.5 | | | |
| 52 | 10-08-2021 | 24 | 7.8 | 3.0 | 8 | 31000 | 40 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 53 | 13-08-2021 | 25 | 7.4 | 3.3 | | | |
| 54 | 17-08-2021 | 26 | 7.5 | 3.4 | 7.8 | 28000 | 36 |
| 55 | 20-08-2021 | 25 | 7.5 | 3.6 | | | |
| 56 | 24-08-2021 | 23 | 7.4 | 3.8 | 7.6 | 25000 | 32 |
| 57 | 27-08-2021 | 26 | 7.3 | 3.5 | | | |
| 58 | 31-08-2021 | 25 | 7.6 | 3.4 | 7.4 | 19000 | 28 |
| 59 | 03-09-2021 | 26 | 7.2 | 3.8 | | | |
| 60 | 07-09-2021 | 24 | 7.6 | 3.6 | 7.2 | 17000 | 24 |
| 61 | 10-09-2021 | 23 | 7.2 | 3.8 | | | |
| 62 | 14-09-2021 | 24 | 7.6 | 3.9 | 7 | 15000 | 20 |
| 63 | 17-09-2021 | 22 | 7.5 | 3.8 | | | |
| 64 | 21-09-2021 | 20 | 7.3 | 4 | 7.6 | 13000 | 32 |
| 65 | 24-09-2021 | 23 | 7.3 | 4.1 | | | |
| 66 | 28-09-2021 | 24 | 7.2 | 4.0 | 7.8 | 15000 | 36 |
| 67 | 01-10-2021 | 25 | 7.6 | 4.1 | | | |
| 68 | 05-10-2021 | 23 | 7.3 | 4.3 | 7.4 | 17000 | 32 |
| 69 | 08-10-2021 | 24 | 7.5 | 4.4 | | | |
| 70 | 12-10-2021 | 23 | 7.6 | 4.2 | 7.2 | 15000 | 36 |
| 71 | 15-10-2021 | 23 | 7.2 | 4.3 | | | |
| 72 | 19-10-2021 | 24 | 7.6 | 4.0 | 7.4 | 17000 | 36 |
| 73 | 22-10-2021 | 22 | 7.2 | 4.2 | | | |
| 74 | 26-10-2021 | 20 | 7.4 | 4.5 | 7.2 | 15000 | 32 |
| 75 | 29-10-2021 | 21 | 7.6 | 4.3 | | | |
| 76 | 02-11-2021 | 23 | 7.5 | 4.1 | 7.4 | 17000 | 40 |
| 77 | 05-11-2021 | 22 | 7.3 | 4.2 | | | |
| 78 | 09-11-2021 | 23 | 7.5 | 4.3 | 7.2 | 15000 | 36 |
| 79 | 11-11-2021 | 22 | 7.4 | 4.5 | | | |
| 80 | 12-11-2021 | 23 | 7.2 | 4.6 | | | |
| 81 | 13-11-2021 | 22 | 7.3 | 4.4 | | | |
| 82 | 14-11-2021 | 21 | 7.6 | 4.2 | | | |
| 83 | 15-11-2021 | 22 | 7.2 | 4.3 | | | |
| 84 | 16-11-2021 | 20 | 7.5 | 4.2 | 7.2 | 17000 | 36 |

## Downstream Ramganga , Shahabad, Rampur

| S.No. | Reported Date | Color (Hazen) | pH | Dissolved Oxygen (mg/L) | BOD (mg/L) | Total Coliform (MPN/100 mL) | COD (mg/L) |
|---|---|---|---|---|---|---|---|
| 1 | 01-04-2021 | 22 | 7.5 | 4.7 | | | |
| 2 | 02-04-2021 | 21 | 7.4 | 4.9 | | | |
| 3 | 03-04-2021 | 22 | 7.6 | 4.8 | | | |
| 4 | 04-04-2021 | 21 | 7.4 | 5.0 | | | |
| 5 | 05-04-2021 | 20 | 7.5 | 5.2 | | | |
| 6 | 06-04-2021 | 21 | 7.6 | 4.9 | 8.6 | 28000 | 36 |
| 7 | 07-04-2021 | 20 | 7.3 | 4.5 | | | |
| 8 | 08-04-2021 | 21 | 7.2 | 4.7 | | | |
| 9 | 09-04-2021 | 20 | 7.5 | 4.5 | | | |
| 10 | 10-04-2021 | 20 | 7.7 | 4.8 | | | |
| 11 | 11-04-2021 | 22 | 7.6 | 4.5 | | | |
| 12 | 12-04-2021 | 21 | 7.3 | 4.6 | | | |
| 13 | 13-04-2021 | 20 | 7.4 | 4.4 | 9.2 | 31000 | 36 |
| 14 | 14-04-2021 | 20 | 7.2 | 4.7 | | | |
| 15 | 15-04-2021 | 21 | 7.4 | 4.2 | | | |
| 16 | 16-04-2021 | 22 | 7.7 | 4.6 | | | |
| 17 | 17-04-2021 | 21 | 7.4 | 4.3 | | | |
| 18 | 18-04-2021 | 20 | 7.5 | 4.4 | | | |
| 19 | 19-04-2021 | 22 | 7.9 | 4.0 | | | |
| 20 | 20-04-2021 | 21 | 7.6 | 3.7 | 9.6 | 34000 | 44 |
| 21 | 21-04-2021 | 20 | 7.4 | 3.8 | | | |
| 22 | 22-04-2021 | 18 | 7.5 | 4.1 | | | |
| 23 | 23-04-2021 | 20 | 7.6 | 4.4 | | | |
| 24 | 24-04-2021 | 19 | 7.6 | 4.2 | | | |
| 25 | 27-04-2021 | 20 | 7.7 | 4.1 | 8.8 | 31000 | 36 |
| 26 | 04-05-2021 | 20 | 7.3 | 4.2 | 8.6 | 33000 | 32 |
| 27 | 11-05-2021 | 21 | 7.4 | 4.4 | 8.4 | 31000 | 36 |
| 28 | 18-05-2021 | 23 | 7.5 | 4.1 | 8.4 | 33000 | 36 |
| 29 | 21-05-2021 | 21 | 7.4 | 4.4 | | | |
| 30 | 25-05-2021 | 22 | 7.6 | 4.2 | 8.0 | 28000 | 36 |
| 31 | 28-05-2021 | 23 | 7.4 | 4.1 | | | |
| 32 | 01-06-2021 | 23 | 7.5 | 4.3 | 7.8 | 25000 | 32 |
| 33 | 04-06-2021 | 21 | 7.1 | 3.8 | | | |
| 34 | 08-06-2021 | 23 | 7.5 | 4.2 | 8.2 | 26000 | 36 |
| 35 | 11-06-2021 | 24 | 7.6 | 4.6 | | | |
| 36 | 15-06-2021 | 26 | 7.2 | 4.7 | 8.0 | 23000 | 32 |
| 37 | 18-06-2021 | 24 | 7.5 | 4.2 | | | |
| 38 | 22-06-2021 | 26 | 7.3 | 4.0 | 8.4 | 25000 | 36 |
| 39 | 25-06-2021 | 27 | 7.3 | 3.8 | | | |
| 40 | 29-06-2021 | 26 | 7.5 | 3.9 | 8.0 | 21000 | 32 |
| 41 | 02-07-2021 | 27 | 7.6 | 3.8 | | | |
| 42 | 06-07-2021 | 28 | 7.2 | 3.4 | 8.0 | 19000 | 36 |
| 43 | 09-07-2021 | 26 | 7.7 | 3.6 | | | |
| 44 | 13-07-2021 | 25 | 7.6 | 3.8 | 7.4 | 19000 | 32 |
| 45 | 16-07-2021 | 26 | 7.4 | 3.6 | | | |
| 46 | 20-07-2021 | 27 | 7.4 | 3.4 | 7.8 | 21000 | 36 |
| 47 | 23-07-2021 | 26 | 7.5 | 3.5 | | | |
| 48 | 27-07-2021 | 25 | 7.3 | 3.8 | 7.4 | 19000 | 32 |

| 49 | 30-07-2021 | 26 | 7.7 | 3.7 | | | |
|---|---|---|---|---|---|---|---|
| 50 | 03-08-2021 | 27 | 7.6 | 3.6 | 7.6 | 21000 | 32 |
| 51 | 06-08-2021 | 26 | 7.2 | 3.8 | | | |
| 52 | 10-08-2021 | 26 | 7.3 | 3.4 | 7.8 | 23000 | 36 |
| 53 | 13-08-2021 | 27 | 7.7 | 3.0 | | | |
| 54 | 17-08-2021 | 28 | 7.2 | 3.2 | 8.0 | 21000 | 40 |
| 55 | 20-08-2021 | 26 | 7.6 | 3.0 | | | |
| 56 | 24-08-2021 | 24 | 7.5 | 3.2 | 8.2 | 23000 | 36 |
| 57 | 27-08-2021 | 25 | 7.2 | 3.3 | | | |
| 58 | 31-08-2021 | 24 | 7.3 | 3.2 | 8 | 21000 | 28 |
| 59 | 03-09-2021 | 25 | 7.7 | 3.3 | | | |
| 60 | 07-09-2021 | 26 | 7.2 | 3 | 8.2 | 15000 | 36 |
| 61 | 10-09-2021 | 25 | 7.6 | 4 | | | |
| 62 | 14-09-2021 | 26 | 7.5 | 4.2 | 8 | 13000 | 32 |
| 63 | 17-09-2021 | 24 | 7.2 | 4.4 | | | |
| 64 | 21-09-2021 | 25 | 7.4 | 4.6 | 7.8 | 11000 | 28 |
| 65 | 24-09-2021 | 25 | 7.2 | 4.8 | | | |
| 66 | 28-09-2021 | 26 | 7.5 | 4.3 | 8.2 | 13000 | 32 |
| 67 | 01-10-2021 | 26 | 7.3 | 4.5 | | | |
| 68 | 05-10-2021 | 24 | 7.4 | 4.5 | 8.0 | 13000 | 28 |
| 69 | 08-10-2021 | 25 | 7.6 | 4.6 | | | |
| 70 | 12-10-2021 | 24 | 7.3 | 4.4 | 8.2 | 11000 | 32 |
| 71 | 15-10-2021 | 25 | 7.7 | 4.6 | | | |
| 72 | 19-10-2021 | 26 | 7.5 | 4.4 | 8.4 | 13000 | 28 |
| 73 | 22-10-2021 | 25 | 7.5 | 4.2 | | | |
| 74 | 26-10-2021 | 25 | 7.4 | 4.6 | 8.6 | 19000 | 36 |
| 75 | 29-10-2021 | 23 | 7.3 | 4.5 | | | |
| 76 | 02-11-2021 | 25 | 7.6 | 4.6 | 8.4 | 21000 | 32 |
| 77 | 05-11-2021 | 24 | 7.4 | 4.5 | | | |
| 78 | 09-11-2021 | 25 | 7.3 | 4.6 | 8.2 | 17000 | 28 |
| 79 | 11-11-2021 | 24 | 7.6 | 4.4 | | | |
| 80 | 12-11-2021 | 25 | 7.5 | 4.3 | | | |
| 81 | 13-11-2021 | 24 | 7.6 | 4.2 | | | |
| 82 | 14-11-2021 | 23 | 7.3 | 4.3 | | | |
| 83 | 15-11-2021 | 25 | 7.6 | 4.5 | | | |
| 84 | 16-11-2021 | 22 | 7.3 | 4.3 | 8.2 | 19000 | 28 |

| Kosi River, Moradabad Rampur Road Bridge | | | | | | | |
|---|---|---|---|---|---|---|---|
| S.No. | Reported Date | Color (Hazen) | pH | Dissolved Oxygen (mg/L) | BOD (mg/L) | Total Coliform (MPN/100 mL) | COD (mg/L) |
| 1 | 01-04-2021 | 9 | 7.5 | 8.4 | | | |
| 2 | 02-04-2021 | 10 | 7.4 | 8.5 | | | |
| 3 | 03-04-2021 | 8 | 7.3 | 8.6 | | | |
| 4 | 04-04-2021 | 8 | 7.4 | 8.8 | | | |
| 5 | 05-04-2021 | 9 | 7.3 | 8.6 | | | |
| 6 | 06-04-2021 | 8 | 7.5 | 8.9 | 2.2 | 17000 | 28 |
| 7 | 07-04-2021 | 9 | 7.3 | 8.8 | | | |
| 8 | 08-04-2021 | 8 | 7.5 | 8.7 | | | |
| 9 | 09-04-2021 | 9 | 7.3 | 8.5 | | | |
| 10 | 10-04-2021 | 8 | 7.2 | 8.7 | | | |
| 11 | 11-04-2021 | 9 | 7.4 | 8.9 | | | |
| 12 | 12-04-2021 | 9 | 7.5 | 8.8 | | | |
| 13 | 13-04-2021 | 8 | 7.6 | 8.9 | 2 | 15000 | 24 |
| 14 | 14-04-2021 | 9 | 7.4 | 8.8 | | | |
| 15 | 15-04-2021 | 10 | 7.6 | 8.7 | | | |
| 16 | 16-04-2021 | 8 | 7.3 | 8.9 | | | |
| 17 | 17-04-2021 | 9 | 7.6 | 8.7 | | | |
| 18 | 18-04-2021 | 8 | 7.3 | 8.6 | | | |
| 19 | 19-04-2021 | 8 | 7.8 | 8.3 | | | |
| 20 | 20-04-2021 | 7 | 7.5 | 8 | 2.2 | 17000 | 24 |
| 21 | 21-04-2021 | 9 | 7.7 | 8.7 | | | |
| 22 | 22-04-2021 | 8 | 7.4 | 8.2 | | | |
| 23 | 23-04-2021 | 10 | 7.5 | 8.4 | | | |
| 24 | 24-04-2021 | 9 | 7.6 | 8.1 | | | |
| 25 | 27-04-2021 | 10 | 7.6 | 8.2 | 2.4 | 15000 | 20 |
| 26 | 04-05-2021 | 9 | 7.5 | 8.4 | 2.6 | 17000 | 24 |
| 27 | 11-05-2021 | 8 | 7.3 | 8.6 | 2.4 | 15000 | 12 |
| 28 | 18-05-2021 | 10 | 7.5 | 8.5 | 2.2 | 17000 | 12 |
| 29 | 21-05-2021 | 9 | 7.4 | 8.8 | | | |
| 30 | 25-05-2021 | 8 | 7.3 | 8.7 | 2 | 15000 | 12 |
| 31 | 28-05-2021 | 9 | 7.6 | 8.5 | | | |
| 32 | 01-06-2021 | 7 | 7.4 | 8.8 | 2.2 | 17000 | 16 |
| 33 | 04-06-2021 | 8 | 7.8 | 8.2 | | | |
| 34 | 08-06-2021 | 7 | 7.6 | 8.4 | 2.4 | 19000 | 20 |
| 35 | 11-06-2021 | 8 | 7.3 | 8.5 | | | |
| 36 | 15-06-2021 | 9 | 7.5 | 8.7 | 2.2 | 17000 | 16 |
| 37 | 18-06-2021 | 8 | 7.3 | 8.6 | | | |
| 38 | 22-06-2021 | 9 | 7.4 | 8.4 | 2.4 | 19000 | 20 |
| 39 | 25-06-2021 | 27 | 7.3 | 8.2 | | | |
| 40 | 29-06-2021 | 9 | 7.3 | 8.0 | 2.6 | 21000 | 24 |
| 41 | 02-07-2021 | 10 | 7.6 | 8.2 | | | |
| 42 | 06-07-2021 | 9 | 7.5 | 8.4 | 2.4 | 19000 | 20 |
| 43 | 09-07-2021 | 8 | 7.3 | 8.6 | | | |
| 44 | 13-07-2021 | 9 | 7.4 | 8.2 | 2.6 | 21000 | 24 |
| 45 | 16-07-2021 | 7 | 7.5 | 8 | | | |
| 46 | 20-07-2021 | 10 | 7.3 | 7.6 | 2.8 | 23000 | 28 |
| 47 | 23-07-2021 | 9 | 7.4 | 7.5 | | | |
| 48 | 27-07-2021 | 10 | 7.4 | 7.6 | 2.6 | 21000 | 24 |
| 49 | 30-07-2021 | 9 | 7.5 | 7.9 | | | |
| 50 | 03-08-2021 | 10 | 7.6 | 7.8 | 2.4 | 19000 | 20 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 51 | 06-08-2021 | 9 | 7.3 | 7.6 | | | |
| 52 | 10-08-2021 | 9 | 7.4 | 7.6 | 2.8 | 21000 | 24 |
| 53 | 13-08-2021 | 10 | 7.5 | 7.2 | | | |
| 54 | 17-08-2021 | 11 | 7.3 | 7.0 | 3.0 | 23000 | 28 |
| 55 | 20-08-2021 | 10 | 7.3 | 6.8 | | | |
| 56 | 24-08-2021 | 9 | 7.4 | 6.9 | 3.2 | 25000 | 24 |
| 57 | 27-08-2021 | 10 | 7.3 | 7.0 | | | |
| 58 | 31-08-2021 | 9 | 7.5 | 7.2 | 3 | 23000 | 20 |
| 59 | 03-09-2021 | 10 | 7.3 | 7 | | | |
| 60 | 07-09-2021 | 9 | 7.2 | 7.2 | 2.8 | 21000 | 16 |
| 61 | 10-09-2021 | 10 | 7.4 | 7.5 | | | |
| 62 | 14-09-2021 | 9 | 7.2 | 7.6 | 2.6 | 19000 | 16 |
| 63 | 17-09-2021 | 10 | 7.2 | 7.8 | | | |
| 64 | 21-09-2021 | 10 | 7.3 | 7.7 | 2.4 | 17000 | 16 |
| 65 | 24-09-2021 | 10 | 7.2 | 7.6 | | | |
| 66 | 28-09-2021 | 11 | 7.5 | 7.5 | 2.8 | 19000 | 20 |
| 67 | 01-10-2021 | 10 | 7.4 | 7.6 | | | |
| 68 | 05-10-2021 | 11 | 7.3 | 7.8 | 2.6 | 17000 | 16 |
| 69 | 08-10-2021 | 10 | 7.3 | 7.6 | | | |
| 70 | 12-10-2021 | 11 | 7.5 | 7.8 | 2.4 | 15000 | 16 |
| 71 | 15-10-2021 | 12 | 7.3 | 7.6 | | | |
| 72 | 19-10-2021 | 10 | 7.3 | 7.5 | 2.8 | 17000 | 20 |
| 73 | 22-10-2021 | 11 | 7.8 | 7.4 | | | |
| 74 | 26-10-2021 | 10 | 7.5 | 7.6 | 2.6 | 15000 | 16 |
| 75 | 29-10-2021 | 11 | 7.6 | 7.3 | | | |
| 76 | 02-11-2021 | 10 | 7.3 | 7.5 | 2.8 | 17000 | 20 |
| 77 | 05-11-2021 | 11 | 7.3 | 7.8 | | | |
| 78 | 09-11-2021 | 10 | 7.2 | 7.9 | 2.6 | 15000 | 16 |
| 79 | 11-11-20211 | 11 | 7.3 | 8 | | | |
| 80 | 12-11-20211 | 10 | 7.5 | 8.2 | | | |
| 81 | 13-11-2011 | 11 | 7.3 | 8 | | | |
| 82 | 14-11-2011 | 10 | 7.5 | 8.2 | | | |
| 83 | 15-11-2011 | 9 | 7.6 | 8 | | | |
| 84 | 16-11-2011 | 10 | 7.3 | 8.2 | 2.4 | 15000 | 16 |

## Dhela River

| S.No. | Reported Date | Color (Hazen) | pH | Dissolved Oxygen (mg/L) | BOD (mg/L) | Total Coliform (MPN/100 mL) | COD (mg/L) |
|---|---|---|---|---|---|---|---|
| 1 | 01-04-2021 | DRY | | | | | |
| 2 | 02-04-2021 | | | | | | |
| 3 | 03-04-2021 | | | | | | |
| 4 | 04-04-2021 | | | | | | |
| 5 | 05-04-2021 | | | | | | |
| 6 | 06-04-2021 | | | | | | |
| 7 | 07-04-2021 | | | | | | |
| 8 | 08-04-2021 | | | | | | |
| 9 | 09-04-2021 | | | | | | |
| 10 | 10-04-2021 | | | | | | |
| 11 | 11-04-2021 | | | | | | |
| 12 | 12-04-2021 | | | | | | |
| 13 | 13-04-2021 | | | | | | |
| 14 | 14-04-2021 | | | | | | |
| 15 | 15-04-2021 | | | | | | |
| 16 | 16-04-2021 | | | | | | |
| 17 | 17-04-2021 | | | | | | |
| 18 | 18-04-2021 | | | | | | |
| 19 | 19-04-2021 | | | | | | |
| 20 | 20-04-2021 | | | | | | |
| 21 | 21-04-2021 | | | | | | |
| 22 | 22-04-2021 | | | | | | |
| 23 | 23-04-2021 | | | | | | |
| 24 | 24-04-2021 | | | | | | |
| 25 | 27-04-2021 | | | | | | |
| 26 | 04-05-2021 | | | | | | |
| 27 | 11-05-2021 | | | | | | |
| 28 | 18-05-2021 | | | | | | |
| 29 | 21-05-2021 | | | | | | |
| 30 | 25-05-2021 | 24 | 7.5 | 3.0 | 9.2 | 31000 | 44 |
| 31 | 28-05-2021 | 23 | 7.4 | 3.2 | | | |
| 32 | 01-06-2021 | 22 | 7.6 | 3.2 | 9.0 | 28000 | 40 |
| 33 | 04-06-2021 | 21 | 7.4 | 2.8 | | | |
| 34 | 08-06-2021 | 20 | 7.3 | 3.1 | 9.2 | 31000 | 44 |
| 35 | 11-06-2021 | 21 | 7.2 | 3.2 | | | |
| 36 | 15-06-2021 | 23 | 7.3 | 3.1 | 8.8 | 28000 | 40 |
| 37 | 18-06-2021 | 21 | 7.2 | 2.8 | | | |
| 38 | 22-06-2021 | 24 | 7.3 | 2.4 | 9.2 | 31000 | 44 |
| 39 | 25-06-2021 | 22 | 7.5 | 2.2 | | | |
| 40 | 29-06-2021 | 23 | 7.6 | 2.4 | 9.6 | 33000 | 48 |
| 41 | 02-07-2021 | 24 | 7.3 | 2.0 | | | |
| 42 | 06-07-2021 | 22 | 7.7 | 1.8 | 9.4 | 31000 | 44 |
| 43 | 09-07-2021 | 21 | 7.5 | 2.2 | | | |
| 44 | 13-07-2021 | 24 | 7.3 | 2.0 | 9.2 | 28000 | 40 |
| 45 | 16-07-2021 | 22 | 7.8 | 1.8 | | | |
| 46 | 20-07-2021 | 25 | 7.7 | 1.4 | 9.6 | 31000 | 44 |
| 47 | 23-07-2021 | 24 | 7.7 | 1.6 | | | |
| 48 | 27-07-2021 | 22 | 7.5 | 1.8 | 9.4 | 28000 | 40 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 49 | 30-07-2021 | 23 | 7.6 | 1.4 | | | |
| 50 | 03-08-2021 | 24 | 7.3 | 1.2 | 9.6 | 31000 | 44 |
| 51 | 06-08-2021 | 22 | 7.5 | 1.4 | | | |
| 52 | 10-08-2021 | 23 | 7.6 | 1.0 | 9.8 | 33000 | 48 |
| 53 | 13-08-2021 | 24 | 7.8 | 0.8 | | | |
| 54 | 17-08-2021 | 25 | 7.5 | 1.0 | 9.6 | 31000 | 44 |
| 55 | 20-08-2021 | 26 | 7.6 | 1.2 | | | |
| 56 | 24-08-2021 | 25 | 7.5 | 1.6 | 9.2 | 28000 | 40 |
| 57 | 27-08-2021 | 26 | 7.2 | 1.2 | | | |
| 58 | 31-08-2021 | 24 | 7.4 | 1.3 | 8.8 | 25000 | 36 |
| 59 | 03-09-2021 | 25 | 7.2 | 1.6 | | | |
| 60 | 07-09-2021 | 21 | 7.5 | 1.9 | 86 | 23000 | 32 |
| 61 | 10-09-2021 | 19 | 7.2 | 2 | | | |
| 62 | 14-09-2021 | 20 | 7.3 | 2.2 | 8.4 | 21000 | 28 |
| 63 | 17-09-2021 | 21 | 7.3 | 2.4 | | | |
| 64 | 21-09-2021 | 20 | 7.4 | 2.6 | 8.2 | 19000 | 32 |
| 65 | 24-09-2021 | 20 | 7.4 | 2.6 | | | |
| 66 | 28-09-2021 | 21 | 7.3 | 2.4 | 8.4 | 21000 | 36 |
| 67 | 01-10-2021 | 22 | 7.5 | 2.0 | | | |
| 68 | 05-10-2021 | 22 | 7.4 | 2.6 | 8.2 | 19000 | 32 |
| 69 | 08-10-2021 | 22 | 7.5 | 2.8 | | | |
| 70 | 12-10-2021 | 22 | 7.3 | 2.6 | 8.4 | 21000 | 36 |
| 71 | 15-10-2021 | 24 | 7.5 | 2.5 | | | |
| 72 | 19-10-2021 | 22 | 7.4 | 2.2 | 8.6 | 23000 | 40 |
| 73 | 22-10-2021 | 23 | 7.6 | 2.6 | | | |
| 74 | 26-10-2021 | 25 | 7.5 | 2.7 | 8.4 | 21000 | 36 |
| 75 | 29-10-2021 | 20 | 7.3 | 2.5 | | | |
| 76 | 02-11-2021 | 21 | 7.5 | 2.7 | 8.6 | 23000 | 36 |
| 77 | 05-11-2021 | 20 | 7.8 | 2.6 | | | |
| 78 | 09-11-2021 | 21 | 7.6 | 2.5 | 8.4 | 21000 | 32 |
| 79 | 11-11-20211 | 20 | 7.2 | 2.3 | | | |
| 80 | 12-11-20211 | 10 | 7.5 | 8.2 | | | |
| 81 | 13-11-2011 | 20 | 7.5 | 2.5 | | | |
| 82 | 14-11-2011 | 10 | 7.5 | 8.2 | | | |
| 83 | 15-11-2011 | 9 | 7.6 | 8 | | | |
| 84 | 16-11-2011 | 10 | 7.3 | 8.2 | 2.4 | 15000 | 16 |

## Bahella River, Moradabad Tanda Road Bridge

| S.No. | Reported Date | Color (Hazen) | pH | Dissolved Oxygen (mg/L) | BOD (mg/L) | Total Coliform (MPN/100 mL) | BOD (mg/L) |
|---|---|---|---|---|---|---|---|
| 1 | 01-04-2021 | 18 | 7.5 | 3.3 | | | |
| 2 | 02-04-2021 | 18 | 7.3 | 3.2 | | | |
| 3 | 03-04-2021 | 17 | 7.5 | 3.3 | | | |
| 4 | 04-04-2021 | 16 | 7.5 | 3.5 | | | |
| 5 | 05-04-2021 | 17 | 7.7 | 3.8 | | | |
| 6 | 06-04-2021 | 19 | 7.7 | 3.6 | 9.0 | 31000 | 48 |
| 7 | 07-04-2021 | 17 | 7.4 | 3.5 | | | |
| 8 | 08-04-2021 | 18 | 7.3 | 3.8 | | | |
| 9 | 09-04-2021 | 17 | 7.9 | 3.4 | | | |
| 10 | 10-04-2021 | 16 | 7.4 | 3.6 | | | |
| 11 | 11-04-2021 | 18 | 7.6 | 3.9 | | | |
| 12 | 12-04-2021 | 17 | 7.5 | 3.8 | | | |
| 13 | 13-04-2021 | 18 | 7.4 | 3.6 | 8.8 | 28000 | 44 |
| 14 | 14-04-2021 | 17 | 7.6 | 3.5 | | | |
| 15 | 15-04-2021 | 18 | 7.5 | 3.4 | | | |
| 16 | 16-04-2021 | 17 | 7.5 | 3.6 | | | |
| 17 | 17-04-2021 | 15 | 7.3 | 3.3 | | | |
| 18 | 18-04-2021 | 17 | 7.5 | 3.2 | | | |
| 19 | 19-04-2021 | 16 | 7.9 | 3.5 | | | |
| 20 | 20-04-2021 | 15 | 8.1 | 3.1 | 9.0 | 31000 | 48 |
| 21 | 21-04-2021 | 17 | 7.8 | 3.0 | | | |
| 22 | 22-04-2021 | 16 | 7.6 | 3.2 | | | |
| 23 | 23-04-2021 | 16 | 7.4 | 3.4 | | | |
| 24 | 24-04-2021 | 17 | 7.5 | 3.2 | | | |
| 25 | 27-04-2021 | 18 | 7.4 | 3.1 | 9.2 | 33000 | 48 |
| 26 | 04-05-2021 | 17 | 7.3 | 3.4 | 8.8 | 31000 | 44 |
| 27 | 11-05-2021 | 16 | 7.6 | 3.3 | 9.0 | 28000 | 40 |
| 28 | 18-05-2021 | 17 | 7.4 | 3.2 | 9.2 | 31000 | 44 |
| 29 | 21-05-2021 | 16 | 7.5 | 3.4 | | | |
| 30 | 25-05-2021 | 18 | 7.4 | 3.4 | 8.8 | 28000 | 40 |
| 31 | 28-05-2021 | 17 | 7.3 | 3.2 | | | |
| 32 | 01-06-2021 | 17 | 7.3 | 3.5 | 8.6 | 26000 | 36 |
| 33 | 04-06-2021 | 18 | 7.6 | 3.0 | | | |
| 34 | 08-06-2021 | 17 | 7.5 | 3.8 | 8.8 | 28000 | 40 |
| 35 | 11-06-2021 | 19 | 7.6 | 3.5 | | | |
| 36 | 15-06-2021 | 17 | 7.5 | 3.6 | 8.4 | 25000 | 36 |
| 37 | 18-06-2021 | 16 | 7.6 | 3.2 | | | |
| 38 | 22-06-2021 | 18 | 7.5 | 2.8 | 8.8 | 26000 | 40 |
| 39 | 25-06-2021 | 19 | 7.2 | 2.6 | | | |
| 40 | 29-06-2021 | 20 | 7.3 | 2.7 | 8.6 | 23000 | 36 |
| 41 | 02-07-2021 | 21 | 7.2 | 2.8 | | | |
| 42 | 06-07-2021 | 20 | 7.1 | 2.4 | 8.2 | 21000 | 32 |
| 43 | 09-07-2021 | 18 | 7.4 | 2.8 | | | |
| 44 | 13-07-2021 | 19 | 7.6 | 2.6 | 8.0 | 23000 | 36 |
| 45 | 16-07-2021 | 18 | 7.6 | 2.2 | | | |
| 46 | 20-07-2021 | 21 | 7.3 | 2.2 | 8.2 | 25000 | 40 |
| 47 | 23-07-2021 | 20 | 7.4 | 2.4 | | | |
| 48 | 27-07-2021 | 21 | 7.4 | 2.5 | 8.0 | 23000 | 36 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 49 | 30-07-2021 | 20 | 7.3 | 2.6 | | | |
| 50 | 03-08-2021 | 21 | 7.2 | 2.3 | 8.2 | 25000 | 40 |
| 51 | 06-08-2021 | 19 | 7.2 | 2.6 | | | |
| 52 | 10-08-2021 | 20 | 7.5 | 2.1 | 3.4 | 27000 | 44 |
| 53 | 13-08-2021 | 21 | 7.7 | 1.8 | | | |
| 54 | 17-08-2021 | 20 | 7.2 | 1.6 | 8.6 | 25000 | 40 |
| 55 | 20-08-2021 | 22 | 7.3 | 1.4 | | | |
| 56 | 24-08-2021 | 21 | 7.5 | 1.8 | 8.8 | 26000 | 36 |
| 57 | 27-08-2021 | 20 | 7.5 | 2.0 | | | |
| 58 | 31-08-2021 | 21 | 7.3 | 1.8 | 8.6 | 23000 | 32 |
| 59 | 03-09-2021 | 22 | 7.5 | 2 | | | |
| 60 | 07-09-2021 | 20 | 7.3 | 2.2 | 8.4 | 19000 | 28 |
| 61 | 10-09-2021 | 17 | 7.5 | 2.8 | | | |
| 62 | 14-09-2021 | 19 | 7.4 | 2.6 | 8.0 | 17000 | 32 |
| 63 | 17-09-2021 | 20 | 7.6 | 2.9 | | | |
| 64 | 21-09-2021 | 20 | 7.5 | 2.8 | 7.8 | 15000 | 36 |
| 65 | 24-09-2021 | 20 | 7.5 | 2.8 | | | |
| 66 | 28-09-2021 | 19 | 7.6 | 2.2 | 8.0 | 17000 | 40 |
| 67 | 01-10-2021 | 17 | 7.3 | 3.0 | | | |
| 68 | 05-10-2021 | 18 | 7.5 | 2.8 | 7.8 | 15000 | 36 |
| 69 | 08-10-2021 | 19 | 7.2 | 3.2 | | | |
| 70 | 12-10-2021 | 17 | 7.4 | 3.0 | 7.6 | 13000 | 32 |
| 71 | 15-10-2021 | 19 | 7.6 | 3.0 | | | |
| 72 | 19-10-2021 | 17 | 7.6 | 2.8 | 7.8 | 15000 | 36 |
| 73 | 22-10-2021 | 18 | 7.5 | 3.1 | | | |
| 74 | 26-10-2021 | 20 | 7.6 | 3.2 | 7.4 | 13000 | 32 |
| 75 | 29-10-2021 | 19 | 7.4 | 3 | | | |
| 76 | 02-11-2021 | 17 | 7.4 | 3.1 | 7.8 | 15000 | 36 |
| 77 | 05-11-2021 | 18 | 7.5 | 3.2 | | | |
| 78 | 09-11-2021 | 17 | 7.3 | 3 | 7.6 | 13000 | 32 |
| 79 | 11-11-2021 | 18 | 7.5 | 3.2 | | | |
| 80 | 12-11-2021 | 19 | 7.6 | 3.3 | | | |
| 81 | 13-11-2021 | 16 | 7.2 | 3.1 | | | |
| 82 | 14-11-2021 | 17 | 7.5 | 3 | | | |
| 83 | 15-11-2021 | 19 | 7.6 | 3.1 | | | |
| 84 | 16-11-2021 | 16 | 7.5 | 3 | 7.6 | 15000 | 32 |

## Gagan River, Moradabad Tanda Road Bridge

| S.No. | Reported Date | Color (Hazen) | pH | Dissolved Oxygen (mg/L) | BOD (mg/L) | Total Coliform (MPN/100 mL) | COD (mg/L) |
|---|---|---|---|---|---|---|---|
| 1 | 01-04-2021 | 10 | 7.6 | 8.9 | | | |
| 2 | 02-04-2021 | 9 | 7.3 | 8.6 | | | |
| 3 | 03-04-2021 | 8 | 7.6 | 8.7 | | | |
| 4 | 04-04-2021 | 9 | 7.3 | 8.5 | | | |
| 5 | 05-04-2021 | 8 | 7.6 | 8.7 | | | |
| 6 | 06-04-2021 | 9 | 7.4 | 8.8 | 2 | 22000 | 20 |
| 7 | 07-04-2021 | 8 | 7.3 | 8.9 | | | |
| 8 | 08-04-2021 | 9 | 7.8 | 9 | | | |
| 9 | 09-04-2021 | 8 | 7.6 | 8.9 | | | |
| 10 | 10-04-2021 | 7 | 7.5 | 9.1 | | | |
| 11 | 11-04-2021 | 8 | 7.3 | 9 | | | |
| 12 | 12-04-2021 | 8 | 7.4 | 8.8 | | | |
| 13 | 13-04-2021 | 8 | 7.6 | 8.9 | 1.8 | 21000 | 20 |
| 14 | 14-04-2021 | 8 | 7.5 | 8.7 | | | |
| 15 | 15-04-2021 | 8 | 7.4 | 8.6 | | | |
| 16 | 16-04-2021 | 9 | 7.4 | 8.8 | | | |
| 17 | 17-04-2021 | 10 | 7.7 | 8.4 | | | |
| 18 | 18-04-2021 | 9 | 7.8 | 8.2 | | | |
| 19 | 19-04-2021 | 9 | 7.2 | 8 | | | |
| 20 | 20-04-2021 | 10 | 7.5 | 7.6 | 2.4 | 23000 | 24 |
| 21 | 21-04-2021 | 9 | 7.7 | 7.5 | | | |
| 22 | 22-04-2021 | 9 | 7.5 | 7.7 | | | |
| 23 | 23-04-2021 | 8 | 7.4 | 7.8 | | | |
| 24 | 24-04-2021 | 10 | 7.6 | 7.7 | | | |
| 25 | 27-04-2021 | 9 | 7.4 | 7.5 | 2.2 | 21000 | 20 |
| 26 | 04-05-2021 | 8 | 7.2 | 7.9 | 2.4 | 28000 | 20 |
| 27 | 11-05-2021 | 9 | 7.5 | 8.2 | 2.6 | 31000 | 20 |
| 28 | 18-05-2021 | 10 | 7.4 | 8 | 2.8 | 33000 | 20 |
| 29 | 21-05-2021 | 9 | 7.6 | 9.4 | | | |
| 30 | 25-05-2021 | 10 | 7.5 | 8.2 | 2.4 | 31000 | 16 |
| 31 | 28-05-2021 | 9 | 7.4 | 8.1 | | | |
| 32 | 01-06-2021 | 10 | 7.6 | 8.4 | 2.2 | 28000 | 12 |
| 33 | 04-06-201 | 9 | 7.2 | 7.8 | | | |
| 34 | 08-06-2021 | 8 | 7.7 | 8.2 | 2.6 | 31000 | 16 |
| 35 | 11-06-2021 | 9 | 7.3 | 8.4 | | | |
| 36 | 15-06-2021 | 8 | 7.4 | 8.6 | 2.4 | 27000 | 16 |
| 37 | 18-06-2021 | 8 | 7.3 | 8.5 | | | |
| 38 | 22-06-2021 | 10 | 7.4 | 8.0 | 2.6 | 28000 | 20 |
| 39 | 25-06-2021 | 10 | 7.3 | 8.2 | | | |
| 40 | 29-06-2021 | 9 | 7.2 | 8.2 | 2.4 | 25000 | 20 |
| 41 | 02-07-2021 | 10 | 7.3 | 8.3 | | | |
| 42 | 06-07-2021 | 9 | 7.5 | 7.9 | 2.6 | 23000 | 24 |
| 43 | 09-07-2021 | 8 | 7.7 | 8.1 | | | |
| 44 | 13-07-2021 | 9 | 7.5 | 8.0 | 2.4 | 21000 | 20 |
| 45 | 16-07-2021 | 10 | 7.9 | 7.4 | | | |
| 46 | 20-07-2021 | 10 | 7.9 | 7.0 | 2.6 | 23000 | 24 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 47 | 23-07-2021 | 11 | 7.8 | 6.8 | | | |
| 48 | 27-07-2021 | 12 | 7.7 | 6.9 | 2.2 | 21000 | 20 |
| 49 | 30-07-2021 | 10 | 7.3 | 7.4 | | | |
| 50 | 03-08-2021 | 9 | 7.5 | 7.6 | 2 | 23000 | 24 |
| 51 | 06-08-2021 | 10 | 7.5 | 6.9 | | | |
| 52 | 10-08-2021 | 9 | 7.3 | 7.2 | 2.4 | 26000 | 28 |
| 53 | 13-08-2021 | 10 | 7.7 | 7.0 | | | |
| 54 | 17-08-2021 | 12 | 7.4 | 6.8 | 2.6 | 23000 | 32 |
| 55 | 20-08-2021 | 11 | 7.2 | 6.4 | | | |
| 56 | 24-08-2021 | 9 | 7.4 | 6.5 | 2.8 | 21000 | 28 |
| 57 | 27-08-2021 | 10 | 7.6 | 6.6 | | | |
| 58 | 31-08-2021 | 9 | 7.2 | 6.8 | 3.2 | 19000 | 28 |
| 59 | 03-09-2021 | 11 | 7.5 | 7.2 | | | |
| 60 | 07-09-2021 | 10 | 7.3 | 7 | 3 | 17000 | 24 |
| 61 | 10-09-2021 | 9 | 7.5 | 8 | | | |
| 62 | 14-09-2021 | 10 | 7.6 | 7.8 | 2.8 | 15000 | 20 |
| 63 | 17-09-2021 | 9 | 7.3 | 7.6 | | | |
| 64 | 21-09-2021 | 10 | 7.5 | 7.8 | 2.6 | 13000 | 16 |
| 65 | 24-09-2021 | 10 | 7.5 | 7.4 | | | |
| 66 | 28-09-2021 | 9 | 7.3 | 7.2 | 2.4 | 15000 | 20 |
| 67 | 01-10-2021 | 10 | 7.5 | 7.8 | | | |
| 68 | 05-10-2021 | 10 | 7.3 | 7.6 | 2.2 | 13000 | 16 |
| 69 | 08-10-2021 | 9 | 7.5 | 7.9 | | | |
| 70 | 12-10-2021 | 10 | 7.7 | 7.5 | 2.4 | 11000 | 20 |
| 71 | 15-10-2021 | 11 | 7.5 | 7.7 | | | |
| 72 | 19-10-2021 | 10 | 7.4 | 7.3 | 2.6 | 13000 | 24 |
| 73 | 22-10-2021 | 12 | 7.3 | 7.2 | | | |
| 74 | 26-10-2021 | 10 | 7.5 | 7.4 | 2.4 | 11000 | 20 |
| 75 | 29-10-2021 | 9 | 7.2 | 7.9 | | | |
| 76 | 02-11-2021 | 10 | 7.4 | 8 | 2.6 | 13000 | 24 |
| 77 | 05-11-2021 | 9 | 7.3 | 8.2 | | | |
| 78 | 09-11-2021 | 10 | 7.4 | 8.3 | 2.4 | 11000 | 20 |
| 79 | 11-11-2021 | 9 | 7.5 | 8.2 | | | |
| 80 | 12-11-2021 | 10 | 7.3 | 8.3 | | | |
| 81 | 13-11-2021 | 10 | 7.6 | 8.2 | | | |
| 82 | 14-11-2021 | 11 | 7.3 | 8.1 | | | |
| 83 | 15-11-2021 | 10 | 7.5 | 8.2 | | | |
| 84 | 16-11-2021 | 11 | 7.6 | 8.3 | 2.4 | 11000 | 20 |

**Regional Office**
**U.P. Pollution Control Board**
**Moradabad**

**Compliance Report of the industries in compliance of the order passed in O.A. No. 361/2017 Tanjeen Fatima Vs MoEF & CC and ors.**

| S.No. | Name of the unit | Recommendations of Joint Committee as per Inspection report based on Inspection dt. 28-29 Oct, 2020 | Compliance Status | Recommendations of Over Sight Committee | Compliance Status |
|---|---|---|---|---|---|
| 1. | **Radico Khaitan Limited,** Bareilly Road, Rampur, Uttar Pradesh - 244901 | 1. The unit shall obtain NOCs from CGWA for withdrawal of groundwater at earliest for all the groundwater abstraction sources, as the CGWA NOCs have already been expired on 02.10.2018.<br>2. The Unit shall ensure storage of concentrated spent wash with total solids 30% in both the lagoons (at Hitachi and Ajeetpur site) for use in bio composting. | 1. The unit has obtained approvals from UPGWD. Annexed as **Annexure 1.**<br>2. Complying. The samples of spent wash were collected from the lagoons at the time of inspection dated 10-11-2021. | 1. At the time of inspection, the floating levelling system was not operational at Ajeetpur site. Although the concentrated spent wash was within the limit marked by UPPCB.<br>2. The total area of two bio-composting yards was 60 acres out of which 25 acres was covered and remaining 35 acres of area was uncovered or open. 49 The requirement of covered bio-compost area to operate at consented capacity of 200 KLPD is 24 acres. | 1. During present inspection dated 10-11-2021 the floating levelling system was operational.<br>2. The required covered area to operate at consented capacity is in compliance of CPCB guidelines. |

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(1)

| S.No. | Name of the unit | Recommendations of Joint Committee as per Inspection report based on Inspection dt. 28-29 Oct, 2020 | Compliance Status | Recommendations of Over Sight Committee | Compliance Status |
|---|---|---|---|---|---|
| | | | The solid concentration found more than 30%. Annexed as **Annexure 2.** | 3. Water logging was observed near the lagoon at Hitachi site. Samples of the same were collected by Joint team. | 3. During inspection dated 10-11-2021, the water logging was not found. |
| | | 3. The unit shall provide proper lined surface in bio compost yard at Hitachi site so that possibility of leaching shall be eliminated. | 3. The Unit has constructed properly lined surface of compost yard, photograph annexed as **Annexure 3.** | 4. At bio-compost yard of Ajeetpur site, it was observed that at leachate collection pit, transfer pump was not provided by the unit. | 4. During inspection dated 10-11-2021, transfer pump was provided by the unit. |
| | | 4. The unit shall take measures to stop contamination of piezometer well at downstream of Hitachi site. | 4. The surface all around the piezometer wells have been repaired by providing | 5. COD was reported from the ground water is a point of concern and probable source of it should be identified. | 5. As per the evaluation report on impacts of ground water vetted by IIT, Roorkee, it has been observed that the ground water is of excellent water quality, there is no sign of ground water pollution, no heavy metals or fecal coliforms are observed and the ground water can be used |

| S.No. | Name of the unit | Recommendations of Joint Committee as per Inspection report based on Inspection dt. 28-29 Oct, 2020 | Compliance Status | Recommendations of Over Sight Committee | Compliance Status |
|---|---|---|---|---|---|
| | | | PCC surface up to 1.0 $m^2$ in addition to the provision of lined surface. Apart from that the unit has replaced the pipes of piezometers with PVC, photograph annexed as **Annexure-4.** | 6. Site:<br>i. Hand-pump of Hitachi Bio-compost Yard: The concentration of Copper and Iron was found beyond the permissible limits.<br>ii. Piezo-metric well u/s of Hitachi Yard: The concentration of COD, Iron, Manganese and lead was found beyond permissible limits.<br>iii. Piezo-metric well d/s of Hitachi Yard: The concentration of COD, TDS, TS, Iron, Manganese, Lead and Colour was found beyond the permissible limits. | directly for drinking.<br>i. Industry has replaced all the pipe lines of GI with HDPE pipe lines.<br>1. ii to v- The surface all around the piezometer wells have been repaired by providing PCC surface. Apart from that the unit has replaced the pipes of piezometers with PVC. As per the evaluation report on impacts of ground water vetted by IIT, Roorkee, it has been observed that the ground water is of excellent water quality, |
| | | 5. The unit shall carry out detail study to identify contamination source of Fe, Mn and Pb of piezometric wells, hand pumps and bore wells and carry out remedial measures. | 5. The unit has carried out detailed study through PHDCCI. As per the report the probable reasons for the | | |

| S.No. | Name of the unit | Recommendations of Joint Committee as per Inspection report based on Inspection dt. 28-29 Oct, 2020 | Compliance Status | Recommendations of Over Sight Committee | Compliance Status |
|---|---|---|---|---|---|
| | | | contamination are leaching of the iron and galvanized pipes. Unit has replaced all the pipe lines of GI with HDPE pipe lines, study report annexed as **Annexure-5A.** The industry has submitted an appraisal report on Impacts of Ground Water Abstraction and Groundwater recharge on Ground Water | iv. Piezo-metric well u/s of Ajeetpur Yard: The concentration of COD, Iron and Manganese was found beyond the permissible limits.<br>v. Piezo-metric well d/s of Ajeetpur Yard: The concentration of COD, Iron, Manganese and Lead was found beyond the permissible limits.<br>vi. Groundwater from the borewell in unit premises: The concentration of Iron and Manganese was found beyond the permissible limits. As per the report the probable reasons for the contamination are | there is no sign of ground water pollution, no heavy metals or fecal coliforms are observed and the ground water can be used directly for drinking.<br>vi. Industry has replaced all the pipe lines of GI with HDPE pipe lines. |

| S.No. | Name of the unit | Recommendations of Joint Committee as per Inspection report based on Inspection dt. 28-29 Oct, 2020 | Compliance Status | Recommendations of Over Sight Committee | Compliance Status |
|---|---|---|---|---|---|
| | | | Scenerio vetted by Department of Civil Engineering, IIT, Roorkee which was prepared byMr. Upendra Srivastava, Accredited Ground Water Proffessional, Lucknow. **Report is annexed as Annexure -5B** | leaching of the iron and galvanised pipes which seems very superficial and a detailed study should be done in this regard. Presence of high concentration of pollutants in the groundwater samples calls for a detailed analysis of soil profile to check the level and source of contamination in the area.<br>7. The analysis of samples drawn from the STP indicates that the industrial waste is rich in Iron, Copper and Manganese. Thus a detailed study is recommended to check the probable relation if any exists between the industrial waste | |

| S.No. | Name of the unit | Recommendations of Joint Committee as per Inspection report based on Inspection dt. 28-29 Oct, 2020 | Compliance Status | Recommendations of Over Sight Committee | Compliance Status |
|---|---|---|---|---|---|
| | | | | and groundwater contamination. The industry is directed to comply with the following recommendations of the joint inspection: | |
| | | | | i. The unit shall obtain NOCs for the drawl of groundwater at earliest. | i. Industry has obtain NOC for the drawl of groundwater. |
| | | | | ii. The unit shall ensure storage of concentrated spent wash with total solids 30% in both the lagoons at Hitachi and Ajeetpur site) for use in bio-composting. | ii. Complying. |
| | | | | iii. The unit shall provide proper lined surface in bio compost yard at Hitachi site so that possibility of leaching | iii. The Unit has constructed properly lined surface of compost yard. |

| S.No. | Name of the unit | Recommendations of Joint Committee as per Inspection report based on Inspection dt. 28-29 Oct, 2020 | Compliance Status | Recommendations of Over Sight Committee | Compliance Status |
|---|---|---|---|---|---|
| | | | | shall be eliminated. | |
| | | | | iv. The unit shall take measures to stop contamination of piezometer well at downstream of Hitachi site. | iv. The surface all around the piezometer wells has been repaired by providing PCC surface up to 1.0 $m^2$ in addition to the provision of lined surface. . Apart from that the unit has replaced the pipes of piezometers with PVC. |
| | | | | v. The unit shall carry out detailed study to identify contamination source of Iron, Manganese and Lead of piezometric wells, hand pumps and bore wells and carry out remedial measures. | vi. Complying. The unit has carried out detailed study through PHDCCI. As per the report the probable reasons for the contamination are leaching of the iron and |

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| S.No. | Name of the unit | Recommendations of Joint Committee as per Inspection report based on Inspection dt. 28-29 Oct, 2020 | Compliance Status | Recommendations of Over Sight Committee | Compliance Status |
|---|---|---|---|---|---|
| | | | | | galvanized pipes. Unit has replaced all the pipe lines of GI with HDPE pipe lines, study report. |
| 2. | **M/s Damya (PJ) Foods, Pvt. Ltd.** Village-ChiknaShahbad Road, Rampur-244901 (UP) | 1. Unit shall install flowmeters on the borewell in the industry premises and maintain logbook for each flowmeter and obtain CGWA NOC for ground water abstraction.<br><br>2. Unit shall install | 1. The unit has installed flow meter on the bore well and maintaining the log book. The unit has applied the NOC before UPGWD and is under consideration, annexed as **Annexure-6.**<br><br>2. Complying. | A detailed groundwater study be done by SGWA as the case may be and any permission to abstract groundwater be incumbent on the result of the study. Unit be directed to minimise their water consumption based on water audit studies. Also they may be asked to explore the possibility of using treated water/ water harvesting /recycling techniques. Water tariffs for ground water as per rules/guidelines be communicated and charges levied immediately. Pending EC on the unit be realised by UPPCB immediately. | Concerned to SGWA. No EC is pending on the unit. |

| S.No. | Name of the unit | Recommendations of Joint Committee as per Inspection report based on Inspection dt. 28-29 Oct, 2020 | Compliance Status | Recommendations of Over Sight Committee | Compliance Status |
|---|---|---|---|---|---|
| | | flowmeter and maintain record for treated effluent reused in horticulture. | Photograph annexed as **Annexure -7**. | | |
| | | 3. Unit shall operate ETP properly to meet the discharge standard. | 3. Complying. The sample was collected from the outlet of ETP at the time of inspection dated 10-11-2021. All the parameters of the effluent found within the prescribed standards. Analysis report of ETP annexed as **Annexure-8.** | | |
| | | 4. Unit shall obtain adequacy report of ETP system from a reputed expert government institutes. | 4. The industry has obtained adequacy report from the Department of Civil Engineering, Aligarh Muslim University, | | |

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| S.No. | Name of the unit | Recommendations of Joint Committee as per Inspection report based on Inspection dt. 28-29 Oct, 2020 | Compliance Status | Recommendations of Over Sight Committee | Compliance Status |
|---|---|---|---|---|---|
| | | | Aligarh, annexed as **Annexure-9.** | | |
| 3. | **M/s Usha Steel Process** D-22, 23 & 29 Ajeetpur Industrial Estate Ajeetpur, Rampur Uttar Pradesh | 1. Unit shall install flowmeters on the borewell and other points of effluent generations, reuse and discharge in the industry premises with logbook for each flowmeter and obtain CGWA-NOC for ground water abstraction. | 1. The unit has installed flow meter (photograph annexed as **Annexure-10**) on the bore well and maintaining the log book. The unit is lying in SSI and the daily consumption of water is less than 10 KLD, hence it is exmpeted for NOC of UPGWD. However the industry has applied for NOC before UPGWD and under process (application is annexed as | A detailed groundwater study be done by SGWA as the case may be and any permission to abstract groundwater be incumbent on the result of the study. Unit be directed to minimise their water consumption based on water audit studies. Also they may be asked to explore the possibility of using treated water/ water harvesting /recycling techniques. Water tariffs for ground water as per rules/guidelines be communicated and charges levied immediately. Pending EC on the unit be realised by UPPCB immediately. | Concerned to SGWA. No EC is pending on the unit. |



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| S.No. | Name of the unit | Recommendations of Joint Committee as per Inspection report based on Inspection dt. 28-29 Oct, 2020 | Compliance Status | Recommendations of Over Sight Committee | Compliance Status |
|---|---|---|---|---|---|
| | | | **Annexure-11).** | | |
| | | 2. Unit shall install flowmeter and maintain record for treated effluent reused in process and amount of water discharged. | 2. Complying. Copy of log book is annexed as **Annexure-12.** | | |
| | | 3. Unit shall obtain adequacy report of ETP system from a reputed expert government institutes. | 3. The industry has obtained adequacy report from the Department of Civil Engineering, Aligarh Muslim University, Aligarh. annexed as **Annexure-13.** | | |
| | | 4. Unit shall operate the ETP properly and ensure that treated effluent shall meet the discharge norms. | 4. Complying. The sample was collected from the outlet of ETP at the time of inspection dated 10-11-2021. All the parameters of the | | |

| S.No. | Name of the unit | Recommendations of Joint Committee as per Inspection report based on Inspection dt. 28-29 Oct, 2020 | Compliance Status | Recommendations of Over Sight Committee | Compliance Status |
|---|---|---|---|---|---|
| | | | effluent found within the prescribed standards, Analysis report is annexed as **Annexure-14.** | | |
| 4. | **M/s Swati Menthol & Allied Chemicals Ltd.** 4.5kms. Bareilly Road Rampur 244901 (U.P.) | 1. The unit shall obtain NOC from CGWA for withdrawal of ground water.<br>2. The unit shall install flowmeter at outlet of ETP.<br>3. The unit shall carry out feasibility study to explore possibility of reuse of treated effluent from ETP within | 1. The unit has obtained the NOC from UPGWD, annexed as **Annexure-15.**<br>2. Complying. Photograph is annexed as **Annexure-16.**<br>3. The unit is reusing the maximum treated effluent. The industry has | A detailed groundwater study be done by SGWA as the case may be and any permission to abstract groundwater be incumbent on the result of the study. Unit be directed to minimise their water consumption based on water audit studies. Also they may be asked to explore the possibility of using treated water/ water harvesting /recycling techniques. Water tariffs for ground water as per rules/guidelines be communicated and charges levied immediately. Pending EC on the unit be realised by UPPCB immediately. | Concerned to SGWA. No EC is pending on the unit. |

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| S.No. | Name of the unit | Recommendations of Joint Committee as per Inspection report based on Inspection dt. 28-29 Oct, 2020 | Compliance Status | Recommendations of Over Sight Committee | Compliance Status |
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| | | industrial premises. | obtained adequacy report from the Department of Civil Engineering, Aligarh Muslim University, Aligarh, annexed as **Annexure-17.** | | |
| 5. | **M/s Rana Sugars Ltd.** Khasra No.318-320, Manpur, Belwara, Distt-Moradabad, Uttar Pradesh- | 1. The unit shall obtain NOC from CGWA for extraction of ground water.<br>2. The unit shall provide a separate area for storage of ETP sludge and shall maintain record of the | 1. The unit has obtained the NOC from UPGWD, annexed as **Annexure-18.**<br>2. Complying. | A detailed groundwater study be done by SGWA as the case may be and any permission to abstract groundwater be incumbent on the result of the study. Unit be directed to minimise their water consumption based on water audit studies. Also they may be asked to explore the possibility of using treated water/ water harvesting /recycling techniques. Water tariffs for | Concerned to SGWA. No EC is pending on the unit. |

| S.No. | Name of the unit | Recommendations of Joint Committee as per Inspection report based on Inspection dt. 28-29 Oct, 2020 | Compliance Status | Recommendations of Over Sight Committee | Compliance Status |
|---|---|---|---|---|---|
| | 244925 | ETP sludge generation and disposal.<br>3. The unit shall maintain record for fly ash generation and its disposal.<br>4. The unit shall improve bio-mass concentration in the aeration tank of ETP.<br>5. The unit shall prepare ETP dosing chemicals solutions; using ETP treated effluent, to save fresh water. | 3. Complying.<br>4. Complying. Analysis report is annexed as **Annexure-19.**<br>5. Complying. | ground water as per rules/guidelines be communicated and charges levied immediately. Pending EC on the unit be realised by UPPCB immediately. | |
| 6. | **M/s Rana Sugars Ltd. (Distillery Unit)** | 1. The unit shall obtain renewal of NOC from CGWA for extraction of ground water. | 1. The unit has obtained the NOC from UPGWD, annexed as **Anx.-20.** | | |

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| S.No. | Name of the unit | Recommendations of Joint Committee as per Inspection report based on Inspection dt. 28-29 Oct, 2020 | Compliance Status | Recommendations of Over Sight Committee | Compliance Status |
|---|---|---|---|---|---|
| | Khasra No.318-320, Manpur, Belwara, Distt-Moradabad, Uttar Pradesh-244925 | 2. The unit shall maintain records of Boiler ash and its disposal / utilization.<br>3. The unit shall install 2 nos piezo-wells near bio-compost yards; as per requirement of SOP for distilleries using molasses. | 2. Complying.<br>3. Complying. | | |

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**River quality monitoring report:**

The latest water quality of rivers are attached **as Annexure-21**.

**Compliance status of the units** :

All the units are complying with the directions given by joint committee and the oversight committee in the above matter.

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Item No. 04 (Court No. 1)

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

(By Video Conferencing)

Execution Application No. 19/2021
IN
Original Application No. 324/2016
(I.A. No. 159/2021)

Shailesh Singh Applicant

Versus

State of U.P. & Ors. Respondent(s)

Date of hearing: 09.12.2021

**CORAM: HON'BLE MR. JUSTICE ADARSH KUMAR GOEL, CHAIRPERSON**
**HON'BLE MR. JUSTICE SUDHIR AGARWAL, JUDICIAL MEMBER**
**HON'BLE DR. NAGIN NANDA, EXPERT MEMBER**

| | |
|---|---|
| Applicant: | Ms. Preeti Singh, Advocate for Applicant in E.A 19/2021 |
| Respondent(s) | Mr. Raj Kumar, Advocate for CPCB.<br>Mr, Pradeep Misra, Advocate for UPPCB<br>Mr. Pinaki Misra, Senior Advocate, Mr, Sanjeev Ralli, Senior Advocate & Ms. Vanita Bhargava, Advocate for Radico Khaitan (R-2). |

**ORDER**

1. This application seeks execution of order dated 18.03.2021 whereby directions were issued for remedial action against pollution by the polluting industrial activities discharging polluted effluents in River Bhella which meets Kosi river in Rampur, which is a tributary of Ramganga, which in turn is a tributary of river Ganga.

2. Before passing the order dated 18.03.2021, the matter was considered for about five years by three orders - dated 20.05.2019, 23.07.2019 and 15.01.2020. The Tribunal found that pollution of river Bhella in Moradabad was acknowledged. One of the polluting industries was M/s Radico Khaitan Limited, impleaded as respondent No. 2 herein.

3. The Tribunal, considering the status of compliance of the polluting industrial units shown from the expert Committee inspection report and the report of Justice Arun Tandon, former Judge of the Allahabad High Court, who was at the relevant time heading the Ganga Pollution Monitoring Committee and of the CPCB dated 06.01.2021 based on inspection of 14 industries in the area, directed:-

> ***"****1to12…xxx……..xxx……xxx*
>
> *13. We have considered the above reports and heard learned counsel for the appearing parties.* ***There is no objection to the report of the Oversight Committee in respect of the units in the State of UP or to the report of the joint Committee filed by the CPCB. We do not see any reason not to accept the same. Accordingly, the said reports are accepted. Action may accordingly be taken by the concerned units and the statutory regulators.***
>
> *14. The industries in the question in the State of UP as well as Uttrakhand may comply with the deficiencies noticed in the reports which may be overseen by a joint Committee of CPCB and the concerned State PCBs. The State PCBs may take necessary further action based on the observations of the joint Committee, which may include coercive measures like recovery of compensation and initiating prosecution, following due process of law.* ***An action taken report may be periodically provided by the State PCBs to the Chairman, CPCB for any further directions for the remedial action****. The State PCBs may recover compensation already assessed by taking suitable coercive measures, including closure. The State PCBs may impose appropriate conditions as part of consent conditions. Since the rivers in questions are finally meeting river Ganga, orders of this Tribunal in OA 200/2014, M.C. Mehta v. Union of India & Ors., wherein vide order dated 18.12.2019, the Tribunal directed the NMCG and concerned States, including Uttarakhand and UP to prevent discharge of industrial effluents in river Ganga and its tributaries by ensuring proper functioning of ETPs/CETPs, are attracted which need compliance. The Ganga matter was last considered on 08.2.2021 in the light of progress report and directions were issued for further remedial action to ensure prevention of pollution of river Ganga and its tributaries and to file a further progress report with the NMCG.* ***Accordingly, the States of UP and Uttrakhand may include the present issue also in its progress report to the NMCG as the issue has bearing on pollution of Ganga.***
>
> *15. With regard to the affidavit filed by Radico Khaitan that it has a report from a private consulting agency, it is made clear that report of such agency cannot be treated as conclusive and needs to be evaluated by the statutory regulators based on ground verification.*

> *16. Learned counsel for the UP State PCB submits that polluted water is being discharged from the Uttarakhand by the industries which is flowing to the State of UP. This may be looked into by the CPCB and based on observations of the CPCB, appropriate remedial action be taken to prevent such pollution by the State of Uttarakhand and its authorities.* ***Regular vigilance may be maintained by the concerned SPCBs and other statutory regulators and impact on water quality of river Kosi, Dhela, Bhela, Ramganga and finally on Ganga may be overseen by CPCB and NMCG also."***

4. According to the execution application, the State PCB, CGWA and other statutory authorities have failed to take necessary steps for enforcement of the order of this Tribunal. Apart from continued discharge of effluents, ground water extraction is taking place illegally. The applicant has impleaded State PCB, Rampur Distillery (Radico Khaitan), UPPCB, CPCB, CGWA and District Magistrate, Ghaziabad.

5. Vide order dated 12.08.2021, Tribunal considered the matter and found it necessary to seek a status report in the matter from the CPCB and the State PCB. The operative part of the order is reproduced below:-

> ***"****7. The averments in the execution application may call for an appropriate response based on verification of facts on the ground.*
>
> *8. Accordingly, to enable the Tribunal to proceed further, the CPCB and State PCB may furnish a status report in the matter with regard to the compliance status of order of this Tribunal dated 18.03.2021. The report may be furnished 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.****"***

6. In pursuance of above, reports have been filed separately by CPCB and UPPCB. Report of CPCB dated 07.12.2021 states that CPCB along with Uttarakhand State PCB and UPPCB carried out monitoring of water quality of the rivers in question. At few stretches water quality was found deteriorated as compared to other stretches. Vide letter dated 02.09.2021, the reports of water quality were forwarded to the concerned State PCBs to take remedial measures. A meeting was also held on 09.11.2021 with the

said PCBs and they were directed to ensure compliance of recommendations of the joint Committee and the Oversight Committee. Uttarakhand State PCB provided compliance report with reference to 7 industries:-

1) M/s Multiwal Pulp and Board Mills (P) Ltd., Bazpur Road, Kashipur, Dist.: U. S. Nagar, Uttarakhand.

2) M/s Multiwal Duplex Pvt. Ltd., Kundeshwari Road, Kashipur, Dist.: U. S. Nagar, Uttarakhand

3) M/s Kashi Vishwanath Textile Mill Ltd. (SPNG Group), 5th Km Stone, Ramnagar Road, Kashipur-244713, Uttarakhand

4) M/s Cheema Papers Ltd, 9 km stone Bazpur Road, Kashipur, Dist. U.S. Nagar, Uttarakhand

5) M/s Banwari Paper Mill Ltd., 4th km stone, Rampur Road, Kashipur, U.S. Nagar, Utarakhand

6) M/s India Glycols Limited (Chemical Unit), A-1, Industrial Area, Bazpur Road, Kashipur, District-U.S. Nagar, Uttarakhand

7) M/s India Glycol Ltd (Distillery Plant), Kashipur, Uttarakhand

7. UP PCB has furnished status report with reference to 6 industries:-

1) M/s Radico Khaitan Ltd, Rampur

2) M/s Damyaa (P.J.) Foods Pvt Ltd, Rampur

3) M/s Usha Steel Process, Ajeetpur

4) M/s Swati Menthol Allied Chemical Ltd, Rampur

5) M/s Rana Sugars Ltd, Moradabad

6) M/s Rana Sugars Ltd (Distillery unit), Moradabad

8. Apart from report of CPCB, UPPCB has filed its separate report dated 03.12.2021 giving the compliance status in conflict with the report of the CPCB with regard to the pollution and extraction of groundwater by the industries. The said report does not mention the details with regard to

extraction of ground water and compliance of consent conditions meant for preventing pollution of rivers in the vicinity.

9. In view of above, we consider it appropriate to require a joint report by a joint Committee of CPCB, UPPCB and Uttarakhand State PCB within two months by email at judicial-ngt@gov.in preferably in the form of searchable PDF/ OCR Support PDF and not in the form of Image PDF which may also be uploaded on the website of CPCB simultaneously for further response of the concerned parties. The joint Committee may also furnish details of ground water extraction, compliance of conditions for preventing pollution of rivers in the vicinity, extent of discharge of pollutants and compensation assessed and recovered in the past and also recommend further remedial action, if necessary.

List for further consideration on 14.03.2022.

A copy of this order be forwarded to the CPCB, UPPCB and Uttarakhand State PCB by e-mail for compliance.

I.A. No. 159/2021 for early hearing will stand disposed of in view of above order.

Adarsh Kumar Goel, CP

Sudhir Agarwal, JM

Dr. Nagin Nanda, EM

December 09, 2021
Execution Application No. 19/2021 in
Original Application No. 324/2016
AVT

Annexure-VII

F. No. B-19123/WQM -II/Legal/NGT-13/CPCB/2020-21 (2811-815 Date: 01.02.2022

Office Memorandum

**Sub.: Minutes of the meeting held on 25.01.2022 to discuss the compliance status of Hon'ble NGT order dt 09.12.2021 in EA No. 19/2021 IN O.A. No. 324/2016 titled 'Shailesh Singh Vs State of UP & Ors.'**

A meeting of officials from Central Pollution Control Board (CPCB), Uttar Pradesh Pollution Control Board (UPPCB) and Uttarakhand Pollution Control Board (UKPCB) in compliance to Hon'ble NGT order dated 09.12.2021 in EA No. 19/2021 IN O.A. No. 324/2016 titled 'Shailesh Singh Vs State of UP & Ors' was convened on 25.01.2022 through video conference at 11:30AM. Minutes of meeting is enclosed for kind information and necessary action.

01/02/22

(Dr. A.K. Vidyarthi)

Director and In-charge WQM-II

Encl. As Above

To

1. Member Secretary, Uttarakhand Pollution Control Board
2. Member Secretary, Utter Pradesh Pollution Control Board,
3. Chief Environmental Officer-7, UPPCB
4. Regional Officer Moradabad, UPPCB
5. Regional Officer Kashipur, UKPCB

केन्द्रीय प्रदूषण नियंत्रण बोर्ड
निर्गत M Singh
दिनांक 01.02.2022

O/C

**Minutes of the meeting held on 25.01.2022 to discuss compliance status of Hon'ble NGT order dt 09.12.2021 in EA No. 19/2021 IN O.A. No. 324/2016 in the matter of Shailesh Singh Vs State of UP & Ors**

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**Background:**

Hon'ble NGT vide its order dated 18.03.2021 in the matter of Shailesh Singh vs. State of Uttar Pradesh & Ors., O.A. No. 324/2016 with Dr. Tanzeen Fatima Vs. Ministry of Environment, Forest & Climate Change & Ors., O.A. no. 361/2017 passed the following judgement:

*".....The industries in the question in the State of UP as well as Uttrakhand may comply with the deficiencies noticed in the reports which may be overseen by a joint Committee of CPCB and the concerned State PCBs. The State PCBs may take necessary further action based on the observations of the joint Committee, which may include coercive measures like recovery of compensation and initiating prosecution, following due process of law. An action taken report may be periodically provided by the State PCBs to the Chairman, CPCB for any further directions for the remedial action*

*16. Learned counsel for the UP State PCB submits that polluted water is being discharged from the Uttarakhand by the industries which is flowing to the State of UP. This may be looked into by the CPCB and based on observations of the CPCB, appropriate remedial action be taken to prevent such pollution by the State of Uttarakhand and its authorities. Regular vigilance may be maintained by the concerned SPCBs and other statutory regulators and impact on water quality of river Kosi, Dhela, Bhela, Ramganga and finally on Ganga may be overseen by CPCB and NMCG also."*

Also, Hon'ble NGT vide its order dated 12.08.2021 in the matter of Shailesh Singh Versus State of U.P. & Ors. in EA No. 19/2021 in OA No. 324/2016, directed the following:

*"Accordingly, to enable the Tribunal to proceed further, the CPCB and State PCB may furnish a status report in the matter with regard to the compliance status of order of this Tribunal dated 18.03.2021."*

CPCB, in this regard, had filed its compliance report dated 07.12.2021 in compliance to the above mentioned NGT order.

Further, the Hon'ble Tribunal on perusal of the CPCB and UPPCB compliance reports directed the following vide its order dated 09.12.2021:

*"....8. Apart from report of CPCB, UPPCB has filed its separate report dated 03.12.2021 giving the compliance status in conflict with the report of the CPCB with regard to the pollution and extraction of groundwater by the industries. The said report does not mention the details with regard to 5 extraction of ground water and compliance of consent conditions meant for preventing pollution of rivers in the vicinity.*

*9. In view of above, we consider it appropriate to require a joint report by a joint Committee of CPCB, UPPCB and Uttarakhand State PCB within two months by email at judicialngt@gov.in preferably in the form of searchable PDF/ OCR Support PDF and not in the form of Image PDF which may also be uploaded on the website of CPCB simultaneously for further response of the concerned parties. The joint Committee may also furnish details of ground water extraction, compliance of conditions for preventing pollution of rivers in the vicinity, extent of discharge of pollutants and compensation assessed and recovered in the past and also recommend further remedial action, if necessary."*

In this regard, a meeting was held on 25.01.2022 with officials from Central Pollution Control Board (CPCB), Uttar Pradesh Pollution Control Board (UPPCB) & Uttarakhand Pollution Control Board (UKPCB) to discuss the compliance status of Hon'ble NGT order dated 09.12.2021 in EA No. 19/2021 IN O.A. No. 324/2016 titled Shailesh Singh Vs State of UP & Ors. The list of participants is enclosed at **Annexure 1**.

At the outset, Divisional Head, WQM-II, CPCB welcomed all the participants. He apprised the officials from UPPCB & UKPCB that the meeting is held to discuss the compliance status of Hon'ble NGT order dt 09.12.2021 in EA No. 19/2021 in OA No. 324/2016. Detailed deliberations were held on the action to be taken in compliance to the NGT order.

**Record Note of Discussion:**

- DH WQM-II briefed the meeting about the background of the NGT matter quoting the above mentioned NGT orders dated 18.03.2021 and 12.08.2021.
- Officials from UPPCB and UKPCB suggested that visits/ inspections may be carried out to verify the compliance of recommendations of joint inspection report/ oversight committee reports by joint team of officials from CPCB, UPPCB and UKPCB.

However, inspections may be planned after the elections which are scheduled for February 10, 2022 in Rampur, U.P. and February 14, 2022 in Uttarakhand since most of the officials are engaged with election duty.

- After detailed deliberations, it was observed that a joint comprehensive report needs to be furnished in compliance to the NGT order in order to avoid conflicts and the following was concluded:
  i. Uttar Pradesh and Uttarakhand SPCBs shall provide the comprehensive report of compliance status of concerned units in tabular format along with photographic evidence to CPCB by 7.02.2022 which may be verified by the joint committee on/after 14.02.2022. The comprehensive report may also include details of ground water extraction, extent of discharge of pollutants and compensation assessed and recovered in the past in compliance to the said NGT order.
  ii. The comprehensive report shall focus mainly on compliance status of units with respect to recommendations of the joint committee as well as the oversight committee.
  iii. Water Quality Monitoring of rivers in the vicinity namely Dhela , Bhela , Kosi and Ramganga may be carried out jointly by CPCB, UKPCB and UPPCB on 02.02.2022.

The meeting ended with vote of thanks to the chair.

**List of Participants** **Annexure-1**

| S.No. | Name of Officer | Organization | Designation | Email-Id |
|---|---|---|---|---|
| 1. | Sh. AK Vidyarthi | CPCB- Delhi | Divisional Head-WQM II | akvidyarthi@gmail.com |
| 2. | Mrs Reena Satavan | CPCB- Delhi | Scientist-D | Reena.hsw@gmail.com |
| 3. | Sh. Vikas Mishra | Regional Office-Moradabad, | Regional Officer | romoradabad@uppcb.in |
| 4. | Sh. Naresh Goswami | Regional Office-Kashipur, | Regional Officer | rokueppcb2018@gmail.com |
| 5. | Sh. Vinod Kumar | Regional Office-Moradabad, | Assistant Environmental Engineer | |
| 6. | Sh. Ankur Kansal | UKPCB | Representative | |
| 7. | Sh. Rajendra Singh Kathait | UKPCB | Representative | rskathait2009@gmail.com |
| 8. | Mrs Shraddha Lonarkar | CPCB- Delhi | RA-III | shraddhalonarkar07@gmail.com |
| 9. | Ms Megha Chauhan | CPCB- Delhi | SRF | Chauhan.megha350@gmail.com |

# Annexure-VIII

**Regional Office**
**U.P. Pollution Control Board**
**Moradabad**

**Compliance Report of the industries in compliance of the order passed in O.A. No. 361/2017 Tanjeen Fatima Vs MoEF & CC and ors.**

| S.No. | Name of the unit | Recommendations of Joint Committee as per Inspection report based on Inspection dt. 28-29 Oct, 2020 | Compliance Status | Recommendations of Over Sight Committee | Compliance Status |
|---|---|---|---|---|---|
| **1.** | **Radico Khaitan Limited,** Bareilly Road, Rampur, Uttar Pradesh - 244901 | 1. The unit shall obtain NOCs from CGWA for withdrawal of groundwater at earliest for all the groundwater abstraction sources, as the CGWA NOCs have already been expired on 02.10.2018.<br>2. The Unit shall ensure storage of concentrated spent wash with total solids 30% in both the lagoons (at Hitachi and Ajeetpur site) for use in bio composting. | 1. The unit has obtained approvals from UPGWD. Annexed as **Annexure 1.**<br>2. Complying. The samples of spent wash were collected from the lagoons at the time of inspection dated 10-11-2021. | 1. At the time of inspection, the floating levelling system was not operational at Ajeetpur site. Although the concentrated spent wash was within the limit marked by UPPCB.<br>2. The total area of two bio-composting yards was 60 acres out of which 25 acres was covered and remaining 35 acres of area was uncovered or open. 49 The requirement of covered bio-compost area to operate at consented capacity of 200 KLPD is 24 acres. | 1. During present inspection dated 10-11-2021 the floating levelling system was operational.<br>2. The required covered area to operate at consented capacity is in compliance of CPCB guidelines. |

| S.No. | Name of the unit | Recommendations of Joint Committee as per Inspection report based on Inspection dt. 28-29 Oct, 2020 | Compliance Status | Recommendations of Over Sight Committee | Compliance Status |
|---|---|---|---|---|---|
| | | | The solid concentration found more than 30%. Annexed as **Annexure 2.** | 3. Water logging was observed near the lagoon at Hitachi site. Samples of the same were collected by Joint team. | 3. During inspection dated 10-11-2021, the water logging was not found. |
| | | 3. The unit shall provide proper lined surface in bio compost yard at Hitachi site so that possibility of leaching shall be eliminated. | 3. The Unit has constructed properly lined surface of compost yard, photograph annexed as **Annexure 3.** | 4. At bio-compost yard of Ajeetpur site, it was observed that at leachate collection pit, transfer pump was not provided by the unit. | 4. During inspection dated 10-11-2021, transfer pump was provided by the unit. |
| | | 4. The unit shall take measures to stop contamination of piezometer well at downstream of Hitachi site. | 4. The surface all around the piezometer wells have been repaired by providing | 5. COD was reported from the ground water is a point of concern and probable source of it should be identified. | 5. As per the evaluation report on impacts of ground water vetted by IIT, Roorkee, it has been observed that the ground water is of excellent water quality, there is no sign of ground water pollution, no heavy metals or fecal coliforms are observed and the ground water can be used |

| S.No. | Name of the unit | Recommendations of Joint Committee as per Inspection report based on Inspection dt. 28-29 Oct, 2020 | Compliance Status | Recommendations of Over Sight Committee | Compliance Status |
|---|---|---|---|---|---|
| | | | PCC surface up to 1.0 $m^2$ in addition to the provision of lined surface. Apart from that the unit has replaced the pipes of piezometers with PVC, photograph annexed as **Annexure-4.** | 6. Site:<br>**i.** Hand-pump of Hitachi Bio-compost Yard: The concentration of Copper and Iron was found beyond the permissible limits.<br>**ii.** Piezo-metric well u/s of Hitachi Yard: The concentration of COD, Iron, Manganese and lead was found beyond permissible limits.<br>**iii.** Piezo-metric well d/s of Hitachi Yard: The concentration of COD, TDS, TS, Iron, Manganese, Lead and Colour was found beyond the permissible limits. | directly for drinking.<br>i. Industry has replaced all the pipe lines of GI with HDPE pipe lines.<br>1. ii to v- The surface all around the piezometer wells have been repaired by providing PCC surface. Apart from that the unit has replaced the pipes of piezometers with PVC. As per the evaluation report on impacts of ground water vetted by IIT, Roorkee, it has been observed that the ground water is of excellent water quality, |
| | | 5. The unit shall carry out detail study to identify contamination source of Fe, Mn and Pb of piezometric wells, hand pumps and bore wells and carry out remedial measures. | 5. The unit has carried out detailed study through PHDCCI. As per the report the probable reasons for the | | |

| S.No. | Name of the unit | Recommendations of Joint Committee as per Inspection report based on Inspection dt. 28-29 Oct, 2020 | Compliance Status | Recommendations of Over Sight Committee | Compliance Status |
|---|---|---|---|---|---|
| | | | contamination are leaching of the iron and galvanized pipes. Unit has replaced all the pipe lines of GI with HDPE pipe lines, study report annexed as **Annexure-5A.** The industry has submitted an appraisal report on Impacts of Ground Water Abstraction and Groundwater recharge on Ground Water | **iv.** Piezo-metric well u/s of Ajeetpur Yard: The concentration of COD, Iron and Manganese was found beyond the permissible limits.<br>**v.** Piezo-metric well d/s of Ajeetpur Yard: The concentration of COD, Iron, Manganese and Lead was found beyond the permissible limits.<br>**vi.** Groundwater from the borewell in unit premises: The concentration of Iron and Manganese was found beyond the permissible limits. As per the report the probable reasons for the contamination are | there is no sign of ground water pollution, no heavy metals or fecal coliforms are observed and the ground water can be used directly for drinking.<br>vi. Industry has replaced all the pipe lines of GI with HDPE pipe lines. |

| S.No. | Name of the unit | Recommendations of Joint Committee as per Inspection report based on Inspection dt. 28-29 Oct, 2020 | Compliance Status | Recommendations of Over Sight Committee | Compliance Status |
|---|---|---|---|---|---|
| | | | Scenerio vetted by Department of Civil Engineering, IIT, Roorkee which was prepared byMr. Upendra Srivastava, Accredited Ground Water Proffessional, Lucknow. **Report is annexed as Annexure -5B** | leaching of the iron and galvanised pipes which seems very superficial and a detailed study should be done in this regard. Presence of high concentration of pollutants in the groundwater samples calls for a detailed analysis of soil profile to check the level and source of contamination in the area.<br>7. The analysis of samples drawn from the STP indicates that the industrial waste is rich in Iron, Copper and Manganese. Thus a detailed study is recommended to check the probable relation if any exists between the industrial waste | |

| S.No. | Name of the unit | Recommendations of Joint Committee as per Inspection report based on Inspection dt. 28-29 Oct, 2020 | Compliance Status | Recommendations of Over Sight Committee | Compliance Status |
|---|---|---|---|---|---|
| | | | | and groundwater contamination. The industry is directed to comply with the following recommendations of the joint inspection: | |
| | | | | **i.** The unit shall obtain NOCs for the drawl of groundwater at earliest. | i. Industry has obtain NOC for the drawl of groundwater. |
| | | | | **ii.** The unit shall ensure storage of concentrated spent wash with total solids 30% in both the lagoons at Hitachi and Ajeetpur site) for use in bio-composting. | ii. Complying. |
| | | | | **iii.** The unit shall provide proper lined surface in bio compost yard at Hitachi site so that possibility of leaching | iii. The Unit has constructed properly lined surface of compost yard. |

| S.No. | Name of the unit | Recommendations of Joint Committee as per Inspection report based on Inspection dt. 28-29 Oct, 2020 | Compliance Status | Recommendations of Over Sight Committee | Compliance Status |
|---|---|---|---|---|---|
| | | | | shall be eliminated.<br>**iv.** The unit shall take measures to stop contamination of piezometer well at downstream of Hitachi site. | iv. The surface all around the piezometer wells has been repaired by providing PCC surface up to 1.0 $m^2$ in addition to the provision of lined surface. . Apart from that the unit has replaced the pipes of piezometers with PVC. |
| | | | | **v.** The unit shall carry out detailed study to identify contamination source of Iron, Manganese and Lead of piezometric wells, hand pumps and bore wells and carry out remedial measures. | vi. Complying. The unit has carried out detailed study through PHDCCI. As per the report the probable reasons for the contamination are leaching of the iron and |

| S.No. | Name of the unit | Recommendations of Joint Committee as per Inspection report based on Inspection dt. 28-29 Oct, 2020 | Compliance Status | Recommendations of Over Sight Committee | Compliance Status |
|---|---|---|---|---|---|
| | | | | | galvanized pipes. Unit has replaced all the pipe lines of GI with HDPE pipe lines, study report. |
| 2. | **M/s Damya (PJ) Foods, Pvt. Ltd.** Village-ChiknaShahbad Road, Rampur-244901 (UP) | 1. Unit shall install flowmeters on the borewell in the industry premises and maintain logbook for each flowmeter and obtain CGWA NOC for ground water abstraction.<br>2. Unit shall install flowmeter and maintain record for treated effluent reused in horticulture.<br>3. Unit shall operate ETP properly to meet the | 1. The unit has installed flow meter on the bore well and maintaining the log book. The unit has obtained the NOC from UPGWD. Copy of NOC is annexed.<br>2. Complying. Photograph annexed as **Annexure -7**.<br>3. Complying. The sample was collected | A detailed groundwater study be done by SGWA as the case may be and any permission to abstract groundwater be incumbent on the result of the study. Unit be directed to minimise their water consumption based on water audit studies. Also they may be asked to explore the possibility of using treated water/ water harvesting /recycling techniques. Water tariffs for ground water as per rules/guidelines be communicated and charges levied immediately. Pending EC on the unit be realised by UPPCB immediately. | Concerned to SGWA. No EC is pending on the unit. |

| S.No. | Name of the unit | Recommendations of Joint Committee as per Inspection report based on Inspection dt. 28-29 Oct, 2020 | Compliance Status | Recommendations of Over Sight Committee | Compliance Status |
|---|---|---|---|---|---|
| | | discharge standard. | from the outlet of ETP at the time of inspection dated 10-11-2021. All the parameters of the effluent found within the prescribed standards. Analysis report of ETP annexed as **Annexure-8.** | | |
| | | 4. Unit shall obtain adequacy report of ETP system from a reputed expert government institutes. | 4. The industry has obtained adequacy report from the Department of Civil Engineering, Aligarh Muslim University, Aligarh, annexed as **Annexure-9.** | | |

| S.No. | Name of the unit | Recommendations of Joint Committee as per Inspection report based on Inspection dt. 28-29 Oct, 2020 | Compliance Status | Recommendations of Over Sight Committee | Compliance Status |
|---|---|---|---|---|---|
| 3. | **M/s Usha Steel Process**<br>D-22, 23 & 29<br>Ajeetpur Industrial Estate<br>Ajeetpur, Rampur<br>Uttar Pradesh | 1. Unit shall install flowmeters on the borewell and other points of effluent generations, reuse and discharge in the industry premises with logbook for each flowmeter and obtain CGWA-NOC for ground water abstraction.<br><br>2. Unit shall install flowmeter and maintain record for treated | 1. The unit has installed flow meter (photograph annexed as **Annexure-10**) on the bore well and maintaining the log book. The unit is lying in SSI and the daily consumption of water is less than 10 KLD, hence it is exmpeted for NOC of UPGWD. However the industry has applied for NOC before UPGWD and under process (application is annexed as **Annexure-11**).<br><br>2. Complying. Copy of log book is | A detailed groundwater study be done by SGWA as the case may be and any permission to abstract groundwater be incumbent on the result of the study. Unit be directed to minimise their water consumption based on water audit studies. Also they may be asked to explore the possibility of using treated water/ water harvesting /recycling techniques. Water tariffs for ground water as per rules/guidelines be communicated and charges levied immediately. Pending EC on the unit be realised by UPPCB immediately. | Concerned to SGWA. No EC is pending on the unit. |

| S.No. | Name of the unit | Recommendations of Joint Committee as per Inspection report based on Inspection dt. 28-29 Oct, 2020 | Compliance Status | Recommendations of Over Sight Committee | Compliance Status |
|---|---|---|---|---|---|
| | | effluent reused in process and amount of water discharged.<br><br>3. Unit shall obtain adequacy report of ETP system from a reputed expert government institutes.<br><br>4. Unit shall operate the ETP properly and ensure that treated effluent shall meet the discharge norms. | annexed as **Annexure-12.**<br><br>3. The industry has obtained adequacy report from the Department of Civil Engineering, Aligarh Muslim University, Aligarh. annexed as **Annexure-13.**<br><br>4. Complying. The sample was collected from the outlet of ETP at the time of inspection dated 10-11-2021. All the parameters of the effluent found within the prescribed standards, Analysis report is annexed as | | |

| S.No. | Name of the unit | Recommendations of Joint Committee as per Inspection report based on Inspection dt. 28-29 Oct, 2020 | Compliance Status | Recommendations of Over Sight Committee | Compliance Status |
|---|---|---|---|---|---|
| | | | **Annexure-14.** | | |
| 4. | **M/s Swati Menthol & Allied Chemicals Ltd**. 4.5kms. Bareilly Road Rampur 244901 (U.P.) | 1. The unit shall obtain NOC from CGWA for withdrawal of ground water.<br>2. The unit shall install flowmeter at outlet of ETP.<br>3. The unit shall carry out feasibility study to explore possibility of reuse of treated effluent from ETP within industrial premises. | 1. The unit has obtained the NOC from UPGWD, annexed as **Annexure-15.**<br>2. Complying. Photograph is annexed as **Annexure-16.**<br>3. The unit is reusing the maximum treated effluent. The industry has obtained adequacy report from the Department of Civil Engineering, Aligarh | A detailed groundwater study be done by SGWA as the case may be and any permission to abstract groundwater be incumbent on the result of the study. Unit be directed to minimise their water consumption based on water audit studies. Also they may be asked to explore the possibility of using treated water/ water harvesting /recycling techniques. Water tariffs for ground water as per rules/guidelines be communicated and charges levied immediately. Pending EC on the unit be realised by UPPCB immediately. | Concerned to SGWA. No EC is pending on the unit. |

| S.No. | Name of the unit | Recommendations of Joint Committee as per Inspection report based on Inspection dt. 28-29 Oct, 2020 | Compliance Status | Recommendations of Over Sight Committee | Compliance Status |
|---|---|---|---|---|---|
| | | | Muslim University, Aligarh, annexed as **Annexure-17.** | | |
| 5. | **M/s Rana Sugars Ltd**. Khasra No.318-320, Manpur, Belwara, Distt-Moradabad, Uttar Pradesh- | 1. The unit shall obtain NOC from CGWA for extraction of ground water.<br>2. The unit shall provide a separate area for storage of ETP sludge and shall maintain record of the | 1. The unit has obtained the NOC from UPGWD, annexed as **Annexure-18.**<br>2. Complying. | A detailed groundwater study be done by SGWA as the case may be and any permission to abstract groundwater be incumbent on the result of the study. Unit be directed to minimise their water consumption based on water audit studies. Also they may be asked to explore the possibility of using treated water/ water harvesting /recycling techniques. Water tariffs for | Concerned to SGWA. No EC is pending on the unit. |

| S.No. | Name of the unit | Recommendations of Joint Committee as per Inspection report based on Inspection dt. 28-29 Oct, 2020 | Compliance Status | Recommendations of Over Sight Committee | Compliance Status |
|---|---|---|---|---|---|
| | 244925 | ETP sludge generation and disposal.<br>3. The unit shall maintain record for fly ash generation and its disposal.<br>4. The unit shall improve bio-mass concentration in the aeration tank of ETP.<br>5. The unit shall prepare ETP dosing chemicals solutions; using ETP treated effluent, to save fresh water. | 3. Complying.<br>4. Complying. Analysis report is annexed as **Annexure-19.**<br>5. Complying. | ground water as per rules/guidelines be communicated and charges levied immediately. Pending EC on the unit be realised by UPPCB immediately. | |
| 6. | **M/s Rana Sugars Ltd. (Distillery Unit)** | 1. The unit shall obtain renewal of NOC from CGWA for extraction of ground water. | 1. The unit has obtained the NOC from UPGWD, annexed as **Anx.-20.** | | |

| S.No. | Name of the unit | Recommendations of Joint Committee as per Inspection report based on Inspection dt. 28-29 Oct, 2020 | Compliance Status | Recommendations of Over Sight Committee | Compliance Status |
|---|---|---|---|---|---|
| | Khasra No.318-320, Manpur, Belwara, Distt-Moradabad, Uttar Pradesh-244925 | 2. The unit shall maintain records of Boiler ash and its disposal / utilization.<br>3. The unit shall install 2 nos piezo-wells near bio-compost yards; as per requirement of SOP for distilleries using molasses. | 2. Complying.<br>3. Complying. | | |

**River quality monitoring report:**

The latest water quality of rivers are attached **as Annexure-21**.

**Compliance status of the units** :

All the units are complying with the directions given by joint committee and the oversight committee in the above matter.

**Compliance status report in context of directions passed by Hon'ble NGT in the matter of OA 361/2017 dated 18.03.2021.**

This Hon'ble National Green Tribunal (NGT) in the manner of O.A. no. 361 of 2017 dated 18.03.2021, inter alia issued following directions: -

*14.The industries in the question in the State of UP as well as Uttarakhand may comply with the deficiencies noticed in the reports which may be overseen by a joint committee of CPCB and the concerned State PCBs. The State PCBs may take necessary further action based on the observations of the Joint Committee, which may include coercive measures like recovery of compensation and initiating prosecution, following due process of law. An action taken report may be periodically provided by the State PCBs to the Chairman, CPCB for any further directions for the remedial action. The State PCBs may recover compensation already assessed by taking suitable coercive measures, including closure….*

In compliance of the orders of the Hon'ble NGT issued on dated 18.03.2021 and letters of CPCB issued time to time, compliance status is as follows:

**A. Compliance of the Industry specific observations of Joint Inspection reports (As received from Regional Officer are as follows: -**

| S.No | Observations in the Joint Inspection reports as narrated under the orders of Hon'ble NGT dated 18.03.2021 | Compliance Status Report |
|---|---|---|
| **1.** | **M/s Multiwal Pulp and Board Mills Pvt.Ltd** | State Board has issued direction dated 15.04.2021 under section 33-A of the Water Act for compliance of the said observations. |
| (a) | The unit was found temporarily closed. As informed by the unit's representative, the unit was non-operational since 28.09.2020. | As per Report of Regional officer, the **unit is not in operation since 28.02.2021.** |
| (b) | The unit shall obtain NOC for withdrawal of groundwater from CGWA. | |

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| (c) | UKPCB should verify the compliance with effluent discharge standards on resumption of manufacturing operations.” | |
| | | |
| **2.** | **M/s Multiwal Duplex Pvt. Ltd., Kashipur** | State Board has issued direction dated 15.04.2021 under section 33-A of the Water Act for compliance of the said observations. |
| (a) | The unit was found temporarily closed. As informed by the unit's representative, the unit is non-operational since 26.10.2020. | Unit was found operational during inspection. |
| (b) | The unit shall obtain NOC for withdrawal of groundwater from CGWA. | Unit has obtained NOC from CGWA for groundwater abstraction which is valid up to 18.07.2024 (for 449 KLD). Copy of the same has already been enclosed as Annexure I with the previous Progress report dated 24.11.2021 |
| (c) | The unit shall install flow meter with totalizer on bore well used for domestic purpose. | As per report from Regional Officer, Flow meter has been installed with totalizer on borewell. |
| (d) | The unit shall restrict its production as per the consented capacity i.e. 900MT/month. | Unit has been directed to restrict its production within the consented capacity. Further unit has applied for CCA for the production capacity of 2100 MT/month along with adequacy report of ETP. |
| (e) | UKPCB should verify the compliance with effluent discharge standards on resumption of manufacturing operations. | Treated effluent sample of ETP outlet was analyzed. The parameters are found within the prescribed standards. Copy of the same has already been enclosed as Annexure II with the previous Progress report dated 24.11.2021 |
| | | |
| **3.** | **M/s Kashi Vishwanath Textile Mill Ltd. (SPNG Group), Kashipur** | State Board has issued direction toShow Cause dated 15.04.2021 under section 33-A of the Water Act for Compliance of said observations. |
| (a) | Non-compliance of ZLD | Process effluent is being treated through |

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| | | ETP followed by RO & domestic effluent is through STP. RO permeate is being reused in process. RO reject & STP outlet is further treated with MEE system & dryer. Finally obtained solid is disposed through TSDF. ZLD conditions are being complied. |
| (b) | The unit is discharging effluent through STP after dilution with freshwater in violation of ZLD. | Such type of dilution & system was not observed during the visit. |
| (c) | It is clearly indicated from the analysis of STP inlet and secondary clarifier outlet that RO reject is discharged into STP and diluted water is mixed into the STP system. It is recommended that appropriate action as deemed fit shall be initiated against the unit by UKPCB. | Sample from STP inlet & outlet was taken & submitted to lab for analysis. Results are within prescribed limit (Copy of the same has already been enclosed as Annexure III with the previous Progress report dated 24.11.2021). RO reject was not found discharging into STP. It was being disposed through MEE system |
| (d) | The unit shall obtain renewal of NOC from CGWA for ground water abstraction. | Unit has obtained NOC from CGWA which is valid up to 25.03.2024 (for 406 KLD). Copy of the same has already been enclosed as Annexure IV with the previous Progress report dated 24.11.2021. |
| | | |
| **4.** | **M/s Cheema Papers Ltd., Kashipur** | State Board has issued direction dated 15.04.2021 under section 33-A of the Water Act for compliance of the said observations. |
| (a) | The unit shall obtain valid NOC from CGWA for ground water withdrawal. | Unit has obtained valid NOC from CGWA for ground water withdrawal which is valid up to 20.08.2024 (for 3440 KLD). Copy of the same has already been enclosed as Annexure V with the previous Progress report dated 24.11.2021. |
| (b) | The unit shall dismantle the outlet of partial treated effluent from collection tank after secondary | Unit has dismantled the outlet of partial treated effluent from collection tank after secondary clarifier of ETP before tertiary |

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| | clarifier of ETP before tertiary treatment. | treatment |
| (c) | The unit shall dismantle the multiple outlets from collection tank of final treated effluent. | The unit has dismantled the multiple outlets from collection tank of final treated effluent |
| (d) | The unit shall stop un-scientific and unsafe dumping (storage) of ETP sludge. A covered shed with platform shall be constructed to store ETP sludge. | Unit has constructed RCC Yard for Storage of ETP Sludge. |
| (e) | The unit shall install V-notch at ETP inlet properly. | The unit has installed V-notch. |
| (f) | The unit shall install flow meter on all water abstraction points. | The unit has installed flow meters on all water abstraction points. |
| (g) | The unit shall increase capacity of sedi-cell (for pulp removal/ recovery). | The performance of existing Sedi-cell has been improved by up grading Fiber Recovery System i.e.,<br>i) Replacing existing pulper with new Hi-con pulper<br>ii) Updating Centi Cleaner System in pulp mill.<br>Installation work of new pulp mill was found in progress during visit. |
| (h) | The unit shall maintain proper ETP logbooks of energy meter and inflow. | Unit has maintained ETP logbooks of energy meter and inflow. |
| (i) | The unit shall maintain environmental laboratory equipment properly. | The unit has maintained environmental laboratory equipment properly. |
| | | |
| **5.** | **M/s Banwari paper Mills Ltd., Kashipur** | State Board has issued direction dated 15.04.2021 under section 33-A of the Water Act for compliance of the said observations. |
| (a) | The Unit shall obtain NOC for withdrawal of ground water from CGWA. | As per Report of Regional officer, the **unit is not in operation since 25.04.2021.** |
| (b) | The Unit shall operate ETP properly and shall comply with the treated effluent quality parameters | |

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| | w.r.t. consented norms. | |
| (c) | The Unit shall restrict maximum production to 1650.0MT/month as per capacity permitted in Consolidated Consent to operate and authorization (CCA). | |
| | | |
| **6.** | **M/s Indian Glycols Ltd (Chemical Unit), Kashpur** | State Board has issued direction dated 15.04.2021 under section 33-A of the Water Act for compliance of the said observations. |
| (a) | The unit shall provide flow meter at inlet point of ETP, inlet and outlet of STP to monitor the wastewater flow. | Flow meters have been installed at inlet points of ETP & STP. |
| (b) | Unit shall provide dewatering system in sludge filter bed in ETP system and filtrate should be taken back to collection tank for further treatment. | Sludge Drying beds and system for collection of filtrate has been established. |
| (c) | The unit shall ensure that, untreated/partially treated effluent/sewage shall not be discharged into storm water drain. | Collection pits with pumping system has been provided to collect & transport the process effluent & sewage for treatment in ETP & STP. |
| (d) | Collection tank of STP shall be repaired and unit shall ensure, no untreated sewage discharge into storm water drain. | Collection tank of STP has been repaired. |
| (e) | The Unit shall improve operation and maintenance of STPs. | Records related to regular operation of STP are maintained. Unit has made annual contract with Plant/ Technology supplier for the operation and maintenance of STPs. Copy of the same has already been enclosed as Annexure VI with the previous Progress report dated 24.11.2021 |
| | | |
| **7.** | **M/s Indian Glycols Ltd (Distillery Unit), Kashipur** | State Board has issued direction dated 15.04.2021 under section 33-A of the Water Act for compliance of the said |

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| | | observations. |
| (a) | The unit shall dismantle/completely fill/level both discarded aeration lagoons as well as discarded clarifiers and rectangular tanks located inside the unit premises near incineration boiler in scientific manner so that there shall not be any water logging. | Unit has dismantled aeration lagoon, clarifier and rectangular tanks located inside the unit premises near incineration boiler & completely filled up with soil. |
| (b) | In compliance to CPCB direction dated 14.03.2019,the unit shall utilize/consume the diluted spent wash stored in lagoon (of 3,50,000$m^3$ cap for 98 KLD stream, located at Dabhora site) in bio-composting before June 30, 2021as per standard operating process and the lagoons may be filled with ash. | Lagoon located at Dabhora site has completely filled up with ash. There is no spent wash found at the site during inspection. Photograph along with report of Regional Office, stating that no spent wash available at site at the end of June 2021. Copy of the report of regional Officer has already been enclosed as Annexure VII with the previous Progress report dated 24.11.2021. |
| (c) | The unit shall comply with CPCB directions dated14.03.2019. | Unit is being operated with ZLD as per the CPCB directions dated 14.03.2019. |
| (d) | As per the analysis result of sample collected from the drain near incineration boiler (being used in ash quenching and coal dust suppression), indicates higher color, BOD, COD and TDS i.e., contaminated water. Hence, the unit shall use the waste water as MEE feed. | At the time of inspection, no liquid discharge was found in the drain near incinerator boiler. |
| (e) | The unit shall obtain valid agreement with cement units to dispose of fly ash/bottom ash, as the existing agreement has been expired inApril-2020. | Unit has made valid agreement with contractor M/s Sunil Kumar Coal Ash Contractor, Bazpur Road, U.S.Nagarfor disposal of Fly Ash/ Bottom Ash & M/s Raghav Associate, Roha, Raigad, Maharashtra for disposal of Slop ash. Copy of the same document has already been enclosed as Annexure VIII with the previous Progress report dated |

| | | |
|---|---|---|
| | | 24.11.2021. |
| (f) | The unit shall install flow meters at outlet of STP at residential colony and inlet and outlet of STP at distillery plant and shall keep/maintain record of treated sewage being utilized for horticulture. | Unit has installed flow meters at outlet of STP at residential colony, inlet & outlet of STP at distillery plant. |
| (g) | Analysis result of sample collected from inlet of STP for distillery plant shows high color, pH, BOD, COD, TDS and TSS, hence mixing of domestic wastewater with seepage of waste water from distillery could not be ruled out. The unit shall ensure that no effluent get mixed with domestic wastewater, shall reach to STP for treatment. | At the time of inspection, inlet & outlet sample of STP for distillery plant was collected. Copy of the analysis report has already been enclosed as Annexure IX with the previous Progress report dated 24.11.2021**.** |

**Note:**

1. During the Magh Mela, 2021, three Units namely-i) M/s Kailashidevi Paper Products Ltd., Kashipur; ii) M/s Vishwanath Paper and Board Pvt. Ltd., Jaspur and iii) M/s Fibermarx Paper Pvt. Ltd., Kashipur were found non-complying w.r.t. to operation and maintenance of ETPs. Closure directions under section 33(A) of the Water (Prevention and Control of Pollution) Act, 1974 were issued to all above three units dated 16.01.2021. After due compliances and submission of an environmental compensation and performance guarantee, said closure orders were revoked.
2. One of the unit namely M/s Kashi Vishwanath Textile Mills Ltd has established Multi Effect Evaporator and achieved Zero Liquid Discharge System to ascertain no pollution in the river Bhela.

3. Unit namely M.s Vishwakarma Pul and Board Mills Ltd, which was agro based paper mill and was discharging colored effluent into river Bhella, is permanently closed.
4. Units namely M/s Sidharth Paper Mills Ltd and M.s Siddheshwari paper Udhyog ltd have shifted from agro-based raw material to waste paper based raw material. These units are discharging treated waste water in to river Dhella.

**B.Water Quality Monitoring of Rivers Dhela, Bahela and Kosi:**

Regular water quality monitoring is being undertaken by the UKPCB in upstream and downstreawm of industrial establishment. Rivers water quality data from month of August, 2020 to October 2021 has already been annexed at Annexure-X with the previous report dated 24.101.2021. **Water quality monitoring data for a period from August 2020 to Jan 2022 is annexed herewith.**

**********

## River Water Quality Data from August-2020 to January-2022

| Name of River | River Dhella | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sampling sites & Location | Dhella upstream (Dhella bridge beljudi) | | | | | | Dhella downstream (Thakurdwara aliganj road kashipur) | | | | | |
| Month | pH | Conductivity( µs/cm) | DO (mg/L) | BOD (mg/L) | COD (mg/L) | TDS (mg/L) | pH | Conductivity( µs/cm) | DO (mg/L) | BOD (mg/L) | COD (mg/L) | TDS (mg/L) |
| Aug-20 | 7.4 | 256 | 6.8 | 5.8 | 22 | 128 | 7.4 | 410 | 3.2 | 16 | 60 | 282 |
| Sep-20 | 8.1 | 170 | 6.6 | 4 | 15 | 126 | 7.3 | 420 | 3.1 | 15.2 | 47 | 280 |
| Oct-20 | 7.5 | 420 | 5 | 7.7 | 26 | 285 | 7.3 | 490 | 1.2 | 16 | 52 | 328 |
| Nov-20 | 7 | 490 | 4.5 | 7.8 | 30 | 328 | 7.2 | 500 | 1.1 | 16 | 80 | 382 |
| Dec-20 | 7.2 | 485 | 3.9 | 6.9 | 29 | 338 | 7.1 | 550 | 1.2 | 15 | 32 | 402 |
| Jan-21 | 7.9 | 410 | 4.8 | 4 | 10 | 255 | 7.3 | 900 | 0.8 | 56 | 180 | 675 |
| Feb-21 | 7.9 | 460 | 8.1 | 5 | 24 | 298 | 7.9 | 920 | 0.2 | 42 | 124 | 602 |
| Mar-21 | DRY | | | | | | 7.8 | 940 | 0.1 | 44 | 132 | 620 |
| Apr-21 | DRY | | | | | | 7.4 | 963 | 0.5 | 39 | 121 | 642 |
| May-21 | 7.2 | 745 | 1.3 | 29 | 101 | 561 | 7.8 | 930 | 0.8 | 34 | 116 | 631 |
| Jun-21 | 7.5 | 756 | 2 | 22 | 98 | 506 | 7.9 | 900 | 1 | 32 | 112 | 616 |
| Jul-21 | 7.4 | 350 | 2.3 | 9.5 | 32 | 228 | 6.9 | 810 | 1 | 28 | 200 | 554 |
| Aug-21 | 7.3 | 397 | 2.9 | 8.7 | 27.5 | 265 | 7.2 | 720 | 2.3 | 22.5 | 182 | 482 |
| Sep-21 | 7.1 | 402 | 3 | 8.4 | 28 | 269 | 7.1 | 716 | 2.5 | 26.4 | 184 | 479 |
| Oct-21 | 7.2 | 350 | 3.4 | 11 | 36.4 | 246 | 6.9 | 820 | 2.1 | 24 | 200 | 560 |
| Nov-21 | 7.4 | 366 | 3.6 | 10.8 | 38 | 245.22 | 7 | 790 | 1.9 | 26.5 | 198 | 529.3 |
| Dec-21 | 7.3 | 370 | 4 | 8 | 32 | 247.9 | 7.2 | 710 | 2.8 | 24 | 192 | 475 |
| Jan-22 | 7.8 | 320 | 5 | 3.3 | 16 | 220 | 7.5 | 630 | 3.2 | 16 | 120 | 433 |

## River Water Quality Data from August-2020 to January-2022

| Name of River | River Kosi | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sampling sites & Location | Kosi upstream (Bajpur bridge sultanpur-patti) | | | | | | Kosi downstream (Dariyal road Kashipur) | | | | | |
| Month | pH | Conductivity(µs/cm) | DO (mg/L) | BOD (mg/L) | COD (mg/L) | TDS (mg/L) | pH | Conductivity (µs/cm) | DO (mg/L) | BOD (mg/L) | COD (mg/L) | TDS (mg/L) |
| Aug-20 | 7.6 | _ | 6.7 | 4.8 | 13 | _ | 7.9 | 390 | 6.7 | 4.8 | 16 | 274 |
| Sep-20 | 7.3 | 290 | 6.1 | 4.5 | 9.5 | 270 | 7.9 | 393 | 6.3 | 4.9 | 17.3 | 270 |
| Oct-20 | 7.1 | 370 | 5.8 | 6.2 | 18 | 237 | 7.9 | 410 | 4.2 | 4 | 20 | 274 |
| Nov-20 | 7 | 350 | 5.5 | 7 | 20 | 210 | 7.8 | 420 | 4.1 | 4.5 | 21 | 314 |
| Dec-20 | 7.1 | 310 | 5.2 | 7.1 | 20 | 250 | 7.3 | 410 | 4.3 | 4.6 | 20 | 304 |
| Jan-21 | 8 | 750 | 4 | 6.2 | 20 | 495 | 7.9 | 750 | 4.6 | 4 | 24 | 503 |
| Feb-21 | 7.8 | 720 | 7.6 | 5.4 | 16 | 468 | 7.9 | 700 | 9.8 | 3 | 16 | 472 |
| Mar-21 | 7.6 | 700 | 7.5 | 5 | 20 | 456 | 7.8 | 640 | 8.8 | 3.2 | 12 | 428 |
| Apr-21 | 7.5 | 673 | 8.1 | 4.1 | 17 | 416 | 7.5 | 632 | 8.5 | 3.5 | 15 | 388 |
| May-21 | 7.1 | 613 | 9.1 | 3.2 | 11 | 321 | 7.2 | 612 | 8.7 | 3.2 | 12 | 323 |
| Jun-21 | 7.6 | 620 | 9 | 3.4 | 14 | 415 | 7.4 | 618 | 9 | 3 | 10 | 414 |
| Jul-21 | 7.5 | 510 | 4.2 | 8 | 40 | 345 | 7.3 | 710 | 4.5 | 6 | 20 | 480 |
| Aug-21 | 7.3 | 478 | 6.6 | 7.9 | 19.2 | 320 | 7.4 | 697 | 6.6 | 4.9 | 14.3 | 466 |
| Sep-21 | 7.4 | 482 | 6.8 | 7.5 | 18.7 | 322 | 7.5 | 688 | 6.8 | 4.6 | 13.8 | 460 |
| Oct-21 | 7.5 | 540 | 5.1 | 7 | 32 | 366 | 7.3 | 600 | 5.2 | 5.5 | 20 | 396 |
| Nov-21 | 7.4 | 489 | 5.3 | 5.1 | 25 | 327.63 | 7.1 | 589 | 6.1 | 5 | 18.5 | 394.63 |
| Dec-21 | 7.3 | 490 | 6.3 | 5 | 20 | 328 | 7.4 | 560 | 5.5 | 4.6 | 16 | 375 |
| Jan-22 | 7.6 | 400 | 6.9 | 3.3 | 10 | 269 | 7.9 | 410 | 7 | 3.1 | 10 | 277 |

## River Water Quality Data from August-2020 to January-2022

| Name of River | River Bahella | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sampling sites & Location | Bahella Upstream (Bahella upstream bridge) | | | | | | Bahella downstream (Bahella river rajpura tanda) | | | | | |
| Month | pH | Conductivity( µs/cm) | DO (mg/L) | BOD (mg/L) | COD (mg/L) | TDS (mg/L) | pH | Conductivity( µs/cm) | DO (mg/L) | BOD (mg/L) | COD (mg/L) | TDS (mg/L) |
| Aug-20 | 7.9 | 326 | 6.9 | 5 | 15 | 166 | 7.4 | 550 | 6.7 | 5.4 | 18 | 270 |
| Sep-20 | 7.3 | 180 | 5.8 | 4 | 10 | 160 | 7.9 | 410 | 3.6 | 9 | 40 | 265 |
| Oct-20 | 7.1 | 260 | 4.6 | 7.2 | 22 | 166 | 6.5 | 400 | 1.8 | 16 | 56 | 270 |
| Nov-20 | 7.1 | 280 | 4.3 | 8 | 25 | 170 | 6.8 | 450 | 1.5 | 17 | 110 | 295 |
| Dec-20 | 7.2 | 265 | 4.1 | 7.9 | 27 | 198 | 6.8 | 500 | 1.6 | 16 | 96 | 365 |
| Jan-21 | 7.9 | 540 | 3 | 6.9 | 30 | 348 | 7 | 730 | 1 | 30 | 150 | 486 |
| Feb-21 | 8 | 240 | 7.5 | 3 | 10 | 172 | 6 | 780 | 1.2 | 26 | 96 | 505 |
| Mar-21 | 7.9 | 280 | 7 | 3.2 | 16 | 186 | 6.8 | 881 | 1 | 28 | 128 | 590 |
| Apr-21 | DRY | | | | | | 6.9 | 761 | 1.1 | 31 | 139 | 543 |
| May-21 | 7.2 | 620 | 1.3 | 20 | 106 | 401 | 6.8 | 711 | 1.2 | 29 | 132 | 523 |
| Jun-21 | 7.4 | 628 | 1.8 | 18 | 94 | 420 | 6.9 | 710 | 1.5 | 28 | 130 | 475 |
| Jul-21 | 7.3 | 280 | 2.3 | 12 | 40 | 195 | 6.6 | 760 | 1.5 | 28 | 240 | 518 |
| Aug-21 | 7.3 | 304 | 2.9 | 11.1 | 39.5 | 203 | 6.9 | 782 | 1.4 | 25 | 190 | 523 |
| Sep-21 | 7.6 | 298 | 3 | 12.4 | 37.2 | 199 | 6.8 | 768 | 1.8 | 26 | 182 | 514 |
| Oct-21 | 7.4 | 310 | 3.2 | 12.5 | 39 | 205 | 6.5 | 780 | 1.4 | 26 | 230 | 528 |
| Nov-21 | 7.3 | 320 | 3.5 | 13.8 | 41 | 214.4 | 6.9 | 722 | 1.9 | 21 | 206 | 483.74 |
| Dec-21 | 7.2 | 300 | 3.8 | 11.4 | 34.2 | 201 | 6.9 | 702 | 2.4 | 16.8 | 170 | 470.3 |
| Jan-22 | 7.7 | 190 | 5.3 | 3.2 | 12 | 127 | 7.7 | 420 | 3.4 | 14 | 100 | 282 |

# Joint Report in compliance to Hon'ble NGT orders dated 18.03.2021, 12.08.2021 & 09.12.2021

**In the matter of**

**Shailesh Singh**

**Versus**

**State of Uttar Pradesh & Ors.**

**In Execution Appeal 19/2021**

**IN**

**Original Application No. 324/2016**

**-Prepared by-**
**The Joint Committee of CPCB, UPPCB & UKPCB**

**Constituted by**

**Hon'ble National Green Tribunal**

**(Order dated 09.12.2021)**

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**1.0 Compliance verification of Industries on 08-09.03.2022 by joint team of officials from CPCB, UPPCB and UKPCB.**

In compliance to the aforesaid direction, a joint team of officials from Central Pollution Control Board, Delhi, Uttar Pradesh Pollution Control Board (UPPCB) and Uttarakhand Pollution Control Board (UKPCB) visited the following industries on 08-09.03.2022:

| S.No. | Name & Address of industry | Date of Inspection |
|---|---|---|
| 1. | M/s Radico Khaitan Limited, Bareilly Road, Rampur, U.P. | 08.03.2022 |
| 2. | M/s Damya (PJ) Foods, Pvt. Ltd. Village- Chikna Shahbad Road, Rampur, U.P. | 08.03.2022 |
| 3. | M/s Usha Steel Process, D-22, 23 & 29, Ajeetpur Industrial Estate, Ajeetpur, Rampur, U.P. | 08.03.2022 |
| 4. | M/s Swati Menthol & Allied Chemicals Ltd. 4.5kms. Bareilly Road Rampur, U.P | 08.03.2022 |
| 5. | M/s Rana Sugars Ltd. Khasra No.318-320, Manpur, Belwara, Distt- Moradabad, U.P. | 09.03.2022 |
| 6. | M/s Rana Sugars Ltd. (Distillery Unit), Khasra No.318-320, Manpur, Belwara, Distt- Moradabad, U.P. | 09.03.2022 |
| 7. | M/s India Glycol Ltd (Distillery Plant), Kashipur, Uttarakhand | 09.03.2022 |
| 8. | M/s India Glycols Limited (Chemical Unit) A-1, Industrial Area, Bazpur Road, Kashipur, District-U.S. Nagar, Uttarakhand | 09.03.2022 |
| 9. | M/s Kashi Vishwanath Textile Mill Ltd, (SPNG Group) 5th Km Stone, Ramnagar Road, Kashipur-244713, Uttarakhand | 08.03.2022 |
| 10. | M/s Vishvakarma Paper & Boards Ltd., 4.5 km, Ramnagar Road, Kashipur, Dist. U. S. Nagar, Uttarakhand | 09.03.2022 |
| 11. | M/s Banwari Paper Mill Ltd., 4th km stone, Rampur Road, Kashipur, U.S. Nagar, Utarakhand | 08.03.2022 |
| 12. | M/s Cheema Papers Ltd, 9 km stone Bazpur Road, Kashipur, Dist. U.S. Nagar, Uttarakhand | 08.03.2022 |
| 13. | M/s Multiwal Duplex Pvt. Ltd., Kundeshwari Road, Kashipur, Dist.: U. S. Nagar, Uttarakhand | 08.03.2022 |
| 14. | M/s Multiwal Pulp and Board Mills (P) Ltd., Bazpur Road, Kashipur, Dist.: U. S. Nagar, Uttarakhand | 09.03.2022 |

**2.0 Compliance Verification of "Recommendations of Joint Committee as per Inspection report based on Inspection dated 28-29 Oct, 2020" by Joint Committee as directed by Hon'ble National Green Tribunal vide order dated 12.08.2021 and 09.12.2021**

<table>
<tr><th>S.No.</th><th>Recommendations of Joint Committee as per Inspection report based on Inspection dt. 28-29 Oct, 2020</th><th>Compliance Verification By Joint Committee as directed by Hon'ble National Green Tribunal vide order dated 12.08.2021 and 09.12.2021</th><th>Compliance status</th></tr>
<tr><td>1.</td><td colspan="3">M/s Radico Khaitan Limited, Bareilly Road, Rampur, Uttar Pradesh -244901</td></tr>
<tr><td></td><td>a. The unit shall obtain NOCs from CGWA for withdrawal of groundwater at earliest for all the groundwater abstraction sources, as the CGWA NOCs have already been expired on 02.10.2018.</td><td>The unit has obtained valid NOC from UPGWD. Details are as follows: (Annexure-1(a), 1(b), 1(c))
<table>
<tr><th>Reg. No.</th><th>Depth (in meter)</th><th>Maximum allowable rate of withdrawal ($m^3$/hr)</th><th>Maximum allowable running hours per day</th><th>Maximum allowable abstraction of groundwater (KLD)</th></tr>
<tr><td>20210800274</td><td>110</td><td>100</td><td>12</td><td>1200</td></tr>
<tr><td>20210800304</td><td>110</td><td>100</td><td>12</td><td>1200</td></tr>
<tr><td>20210800378</td><td>90</td><td>100</td><td>12</td><td>1200</td></tr>
<tr><td colspan="4">Total abstraction</td><td>3600</td></tr>
</table>
As per the logbook data for the month of February 2022, the unit is abstracting approximately 1840 KLD of groundwater as per UPGWD NOC.</td><td>Complying</td></tr>
<tr><td></td><td>b. The Unit shall ensure storage of concentrated spent wash with total solids 30% in both the lagoons (at Hitachi and Ajeetpur site) for use in bio-composting.</td><td>The joint team has collected spent wash samples from the following concentrated spent wash storage lagoons:<br>• Samples collected from spent wash storage lagoon at hitachi site showed solid concentration of 33.3% (>30%) which is in compliance with CPCB direction.<br>• Samples collected from spent wash storage lagoon at Ajeetpur site showed solid concentration of 31.4% (>30%) which is in compliance with CPCB direction.</td><td>Complying</td></tr>
<tr><td></td><td>c. The unit shall provide proper lined surface in bio compost yard at Hitachi site so that possibility of</td><td>It was observed that the unit has constructed proper lined surface in compost yard area and the slope of the compost yard area is towards the surrounding garland drain. (Pic: 1)</td><td>Complying</td></tr>
</table>

| S.No. | Recommendations of Joint Committee as per Inspection report based on Inspection dt. 28-29 Oct, 2020 | Compliance Verification By Joint Committee as directed by Hon'ble National Green Tribunal vide order dated 12.08.2021 and 09.12.2021 | Compliance status |
|---|---|---|---|
| | leaching shall be eliminated. | The joint team has collected samples from piezometer well at upstream (u/s) and downstream (d/s) of Hitachi site and from piezometer at u/s and d/s of Ajeetpur site. Results are as follows:<br><br>▪ Analysis results of samples collected from u/s of Hitachi site showed colour-5 hazen, TDS-484 mg/l, Total solid- 496 mg/l, BOD- BDL, COD- BDL, Fe- 0.22 mg/l, Mn- 0.087 mg//l, Pb- ND which are within permissible limits as per Drinking water BIS IS 10500:2012 Standards.<br>▪ Analysis results of samples collected from d/s of Hitachi site showed colour-5 hazen, TDS-468 mg/l, Total solid- 478 mg/l, BOD- BDL, COD- BDL, Fe- 0.21 mg/l, Mn- 0.083 mg//l, Pb-ND which are within permissible limits as per Drinking water BIS IS 10500:2012 Standards.<br><br>▪ Analysis results of samples collected from u/s of Ajeetpur site showed colour-5 hazen, COD-BDL, Fe- 0.21 mg/l, Mn- 0.087 mg//l, Pb-ND which are within permissible limits as per Drinking water BIS IS 10500:2012 Standards.<br>▪ Analysis results of samples collected from d/s of Ajeetpur site showed colour-5 hazen, COD-BDL, Fe- 0.26 mg/l, Mn- 0.091 mg//l, Pb- ND which are within permissible limits as per Drinking water BIS IS 10500:2012 Standards. | |
| | d. The unit shall take measures to stop contamination of piezometer well at downstream of Hitachi site. | During visit it was observed that the unit has constructed concreted impermeable elevated surface all around the piezometer wells to stop contamination of piezometer well at downstream (Pic: 2) as well as upstream (Pic: 3) of Hitachi site.<br><br>The unit has also replaced galvanized iron pipes with PVC pipes for ground water abstraction.<br><br>The joint team has collected samples from piezometer well at u/s and d/s of Hitachi site. Results are as follows: | Complying |

<table>
<tr><th>S.No.</th><th>Recommendations of Joint Committee as per Inspection report based on Inspection dt. 28-29 Oct, 2020</th><th>Compliance Verification By Joint Committee as directed by Hon'ble National Green Tribunal vide order dated 12.08.2021 and 09.12.2021</th><th>Compliance status</th></tr>
<tr><td></td><td></td><td>▪ Analysis results of samples collected from u/s of Hitachi site showed colour-5 hazen, TDS-484 mg/l, Total solid- 496 mg/l, BOD- BDL, COD- BDL, Fe- 0.22 mg/l, Mn- 0.087 mg//l, Pb- ND which are within permissible limits as per Drinking water BIS IS 10500:2012 Standards.<br><br>▪ Analysis results of samples collected from d/s of Hitachi site showed colour-5 hazen, TDS-468 mg/l, Total solid- 478 mg/l, BOD- BDL, COD- BDL, Fe- 0.21 mg/l, Mn- 0.083 mg//l, Pb-ND which are within permissible limits as per Drinking water BIS IS 10500:2012 Standards.</td><td></td></tr>
<tr><td></td><td>e. The unit shall carry out detail study to identify contamination source of Fe, Mn and Pb of piezometric wells, hand pumps and bore wells and carry out remedial measures.</td><td>The unit has provided the detailed water audit report (As per the guidelines of CGWA, Ministry of Jal Shakti) carried out by PHD Chamber of Commerce and Industry (PHDCCI) in March, 2021. The main objective of the study carried out by PHDCCI was to identify the water uses and water saving opportunities along with demonstration of water conservation.<br><br>As per the above mentioned PHDCCI report, water audit for Radico Khaitan Ltd., Rampur included data collection of raw water, process water, waste & reject water etc. for varying time period i.e. for year 2018-19, 2019-20, 2020-21. Following water consuming areas are mentioned as below:<br><br>
<table>
<tr><th>S.No.</th><th>Water consuming area</th><th>% of water consumption</th></tr>
<tr><td>1.</td><td>Process</td><td>21</td></tr>
<tr><td>2.</td><td>Utility</td><td>11</td></tr>
<tr><td>3.</td><td>DM water</td><td>15</td></tr>
<tr><td>4.</td><td>Soft water</td><td>50</td></tr>
<tr><td>5.</td><td>Gardening</td><td>2</td></tr>
<tr><td>6.</td><td>Domestic</td><td>1</td></tr>
</table>
<br>As per report, water quality test reports such as raw water and treated water from effluent treatment plant were complying with</td><td>Complying</td></tr>
</table>

| S.No. | Recommendations of Joint Committee as per Inspection report based on Inspection dt. 28-29 Oct, 2020 | Compliance Verification By Joint Committee as directed by Hon'ble National Green Tribunal vide order dated 12.08.2021 and 09.12.2021 | Compliance status |
|---|---|---|---|
| | | environmental norms prescribed by Uttar Pradesh Pollution Control Board (UPPCB) vide consent order dated 19.07.2019. (Annexure-2)<br>As per water audit report prepared by PHDCCI to find out the root cause for presence of Fe, Mg & Pb etc. in piezometer well/borewell samples, the basic reasons for the presence of Fe, Mg & Pb are due to use of galvanized Iron and Mild Steel pipes in borewell.<br><br>It is also mentioned that the unit has installed CPU to recycle the water for further utilization in fermentation and cooling towers.<br><br>The unit has submitted evaluation report on "Impacts of Groundwater Abstraction and Groundwater Recharge on Groundwater Scenario for Radico Khaitan Limited, District Rampur, Uttar Pradesh" prepared by Department of Civil Engineering, IIT, Roorkee in November 2021.<br><br>As per the IIT-Roorkee report, samples were collected from bore well 1 and 2 inside the distillery premises and the parameters like pH, Electrical Conductivity, Total Dissolved Solids, Total hardness, Total alkalinity, Sulphate, Chloride, Fluoride, Iron, Manganese, Total coliforms, Faecal coliforms, Total Arsenic, Cadmium, Total chromium, Total copper, Zinc, Nickel, Aluminium, Lead, Molybdenum were analysed.<br><br>Analysis results showed Fe- 0.05 mg/l and 0.04 mg/l against the permissible limit of 0.3 mg/l, Mn- 0.002 mg/l and 0.002 mg/l against the permissible limit of 0.1 mg/l and Pb- 0.003 mg/l and 0.004 mg/l against the permissible limit of 0.01 mg/l which are in compliance to the Drinking water BIS Standards IS 10500:2012.<br><br>There is no sign of groundwater contamination, no heavy metals or faecal coliforms are observed, and the groundwater can be used directly for drinking.<br><br>For remediation purpose, impermeable lined | |

<table>
<tr><th>S.No.</th><th>Recommendations of Joint Committee as per Inspection report based on Inspection dt. 28-29 Oct, 2020</th><th>Compliance Verification By Joint Committee as directed by Hon'ble National Green Tribunal vide order dated 12.08.2021 and 09.12.2021</th><th>Compliance status</th></tr>
<tr><td></td><td></td><td>surface has been constructed surrounding piezometer wells and the unit has replaced the GI pipes of piezometers with PVC pipes. (Pic: 10)</td><td></td></tr>
<tr><td colspan="4">*Surprise inspection of the unit was also carried out by third party agency (TPA) VSI, Pune on 04.03.2022 for compliance verification and as per inspection report, unit was complying which is attached as Annexure-3.</td></tr>
<tr><td>2.</td><td colspan="3">M/s Damya (PJ) Foods, Pvt. Ltd. Village- ChiknaShahbad Road, Rampur- 244901 (UP)</td></tr>
<tr><td></td><td>a. Unit shall install flowmeters on the borewell in the industry premises and maintain logbook for each flowmeter and obtain CGWA NOC for ground water abstraction.</td><td>The unit has installed electromagnetic flow meters at 2 borewells within the industry premises. (Pic 13 & 14).<br><br>
<table>
<tr><th>S.No</th><th>Readings</th></tr>
<tr><td>Borewell-1</td><td>7236 $m^3$</td></tr>
<tr><td>Borewell-2</td><td>5722 $m^3$</td></tr>
</table>
<br>As per the logbook data for the month of February 2022 provided by the unit, it is abstracting approximately 43.34 KLD of groundwater which is under allowable abstraction limit i.e. 48 KLD as per UPGWD NOC.<br><br>The unit has obtained valid NOC from UPGWD. The details are as follows: (Annexure-4(a), 4(b))
<table>
<tr><th>Certificate no.</th><th>Validity</th><th>Depth (in meter)</th><th>Maximum allowable rate of withdrawal</th><th>Maximum allowable running hours per day</th><th>Maximum allowable abstraction of groundwater (KLD)</th></tr>
<tr><td>NOC04 2559</td><td>From 15/12/2021 to 14/12/2026</td><td></td><td>3</td><td>8</td><td>24</td></tr>
<tr><td>NOC03 5878</td><td>From 15/12/2021 to 14/12/2026</td><td></td><td>3</td><td>8</td><td>24</td></tr>
<tr><td colspan="5">Total abstraction</td><td>48</td></tr>
</table></td><td>Complying</td></tr>
<tr><td></td><td>b. Unit shall install flowmeter and maintain record for treated effluent reused in</td><td>The unit has installed flow meters at ETP inlet and outlet. (Pic: 11 & 12)</td><td>Complying</td></tr>
</table>

<table>
<tr><th>S.No.</th><th>Recommendations of Joint Committee as per Inspection report based on Inspection dt. 28-29 Oct, 2020</th><th>Compliance Verification By Joint Committee as directed by Hon'ble National Green Tribunal vide order dated 12.08.2021 and 09.12.2021</th><th>Compliance status</th></tr>
<tr><td></td><td>horticulture.</td><td><table><tr><th>S.No</th><th>Readings</th></tr><tr><td>ETP Inlet</td><td>003785 $m^3$</td></tr><tr><td>ETP Outlet</td><td>02971 $m^3$</td></tr></table><br>The unit is maintaining the record for treated effluent and as per the record from 28.01.2022 to 07.03.2022 the unit is reusing approx. 2.66 KLD of treated wastewater in horticulture.</td><td></td></tr>
<tr><td></td><td>c. Unit shall operate ETP properly to meet the discharge standard.</td><td>The joint team has collected samples from ETP inlet, ETP outlet and aeration tank.<br>▪ The analysis results of ETP inlet showed pH-7.2, TSS- 204 mg/l, TDS- 480 mg/l, BOD-210 mg/l, COD- 720 mg/l.<br>▪ The analysis result of aeration tank showed MLSS value as 1850 mg/l.<br>▪ The analysis result of ETP outlet showed pH-7.0 against the norms of 5.5-8.5, TSS- 42 mg/l against the norms of 100 mg/l, TDS-180 mg/l against the norms of 2100 mg/l, BOD- 22 mg/l against the norms of 30 mg/l, COD- 192 mg/l against the norms of 250 mg/l which were found complying according to the norms prescribed under the Environment (Protection) Act, 1986.</td><td>Complying</td></tr>
<tr><td></td><td>d. Unit shall obtain adequacy report of ETP system from a reputed expert government institutes.</td><td>The unit has installed an ETP of 25 KLD capacity comprising of following ETP sub-units:<br>Collection tank→ Flash mixing tank → Primary settler→ aeration tank →Secondary settler→ Sludge collection tanks → AGF→ MGF → Storage tank<br>The unit has obtained adequacy report of ETP system from Department of Civil Engineering, Faculty of Engineering & Technology, Aligarh Muslim University, Aligarh in November, 2021. As per the report, the sizes of the different treatment units were found adequate to treat the waste water up to its designed capacity i.e. 25 KLD to meet the prescribed standards.</td><td>Complying</td></tr>
<tr><td>3.</td><td colspan="3">M/s Usha Steel Process, D-22, 23 & 29, Ajeetpur Industrial Estate, Ajeetpur, Rampur Uttar Pradesh</td></tr>
<tr><td></td><td>a. Unit shall install flowmeters on the borewell and other points of effluent generations, reuse and</td><td>• The unit has installed flowmeter at ETP outlet and maintaining the logbook. (Pic: 16)<br>• The unit has obtained NOC from UPGWD. Details are as follows: (Annexure-5)</td><td>Complying</td></tr>
</table>

<table>
<tr><th>S.No.</th><th>Recommendations of Joint Committee as per Inspection report based on Inspection dt. 28-29 Oct, 2020</th><th>Compliance Verification By Joint Committee as directed by Hon'ble National Green Tribunal vide order dated 12.08.2021 and 09.12.2021</th><th>Compliance status</th></tr>
<tr><td></td><td>discharge in the industry premises with logbook for each flowmeter and obtain CGWA-NOC for ground water abstraction.</td><td>
<table>
<tr><th>Certificate no.</th><th>Validity up to</th><th>Maximum allowable rate of withdrawal ($m^3/hr$)</th><th>Maximum allowable running hours per day</th><th>Maximum allowable abstraction of groundwater (KLD)</th></tr>
<tr><td>NOC014441</td><td>14.12.2026</td><td>2.00</td><td>1.00</td><td>2.00</td></tr>
<tr><td colspan="4">Total abstraction</td><td>2.00</td></tr>
</table>
The unit has installed the flowmeter at borewell and maintaining the logbook. (Pic 15)<br>
As per the logbook data for the month of February, 2022 the unit is abstracting approximately 1 KLD of groundwater which is under allowable abstraction limit as per UPGWD NOC.<br>
Observed readings of the installed flowmeter at borewell and ETP outlet are as follows:
<table>
<tr><th>S.No</th><th>Location</th><th>Flow-meter Reading</th></tr>
<tr><td>1.</td><td>Borewell</td><td>404.1 $m^3$</td></tr>
<tr><td>2.</td><td>ETP Outlet</td><td>997.2 $m^3$</td></tr>
</table>
</td><td></td></tr>
<tr><td></td><td>b. Unit shall install flowmeter and maintain record for treated effluent reused in process and amount of water discharged.</td><td>At the time of inspection, no discharge was observed from the unit. Treated effluent was stored in storage tank which is further sent for reuse into the process.<br>
The unit has maintained ETP logbooks and as per the data from 01.12.2021 to 07.03.2022 the unit is reusing approximately 2.2 KLD of treated wastewater in process.<br>
The unit has provided the adequacy report of Effluent Treatment Plant carried out by Department of Civil Engineering, Aligarh Muslim University (AMU), Aligarh in November, 2021 and following is stated in the conclusions of adequacy report:<br>
▪ Capacity-wise all the unit operations and processes of ETP are seem to be adequate to cater the wastewater generated from the unit.<br>
▪ The treated water is used for rinsing of M.S. sheets after processing of pickling. The reject water is transferred to RO plant for further treatment.<br>
▪ Condensate from evaporator (capacity-100 lph)</td><td>Complying</td></tr>
</table>

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|---|---|---|---|
| | | is recovered in permeate water collection tank for recycling in process for rinsing purpose. | |
| | c. Unit shall obtain adequacy report of ETP system from a reputed expert government institutes. | The unit has installed an ETP of 4.0 KLD capacity comprising of following ETP sub-units:<br>Equalisation tank → reaction cum settling chamber → treated water collection tank → Multimedia filter → Activated carbon filter → Filter press → Reverse osmosis plant → RO treated water (permeate collection tank) → RO reject water collection tank →Single Stage Evaporator<br>The unit has provided adequacy report of Effluent Treatment Plant carried out by Department of Civil Engineering, Aligarh Muslim University (AMU), Aligarh in November, 2021 and as per adequacy report capacity-wise all the unit operations and processes of ETP are seem to be adequate to cater the wastewater generated from the unit. The designed capacity of ETP to treat the wastewater is 4.0 KLD. | Complying |
| | d. Unit shall operate the ETP properly and ensure that treated effluent shall meet the discharge norms. | ETP treated waste water is recycled through reverse osmosis system installed in the unit. On the basis of logbook from 01.01.2022 to 07.03.2022 average wastewater is 1.44 $m^3$/day.<br>RO permeate is being utilized in process and RO reject is sent to collection tank of ETP for further treatment.<br>The joint team has collected samples from ETP inlet, RO Permeate and ETP outlet.<br>▪ The analysis results of samples collected from ETP inlet showed pH- 2.8, TSS- 130 mg/l, TDS- 3000 mg/l, BOD-16 mg/l, COD-640 mg/l.<br>▪ The analysis results of samples collected from RO Permeate showed pH- 7.1, TSS- 40 mg/l, TDS- 320 mg/l, BOD-4.8 mg/l, COD-144 mg/l.<br>▪ The analysis results of samples collected from ETP outlet showed pH- 7.2 against the norms of 5.5-8.5, TSS- 46 mg/l against the norms of 100 mg/l, TDS- 360 mg/l against the norms of 2100 mg/l, BOD-5.2 mg/l against the norms of 30 mg/l, COD- 168 mg/l against the norms of 250 mg/l which are | Complying |

<table>
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<tr><td></td><td></td><td>found complying according to the norms prescribed under the Environment (Protection) Act, 1986.</td><td></td></tr>
<tr><td>4.</td><td colspan="3">M/s Swati Menthol & Allied Chemicals Ltd. 4.5kms. Bareilly Road Rampur 244901 (U.P.)</td></tr>
<tr><td></td><td>a. The unit shall obtain NOC from CGWA for withdrawal of ground water.</td><td>The unit has obtained NOC (Annexure- 6(a), 6(b), 6(c)) from UPGWD. Details are as follows:
<table>
<tr><th>Certificate no.</th><th>Validity up to</th><th>Depth (in meter)</th><th>Maximum allowable rate of withdrawal ($m^3$/hr)</th><th>Maximum allowable running hours per day</th><th>Maximum allowable abstraction of groundwater (KLD)</th></tr>
<tr><td>NOC031067</td><td>28.10.2026</td><td>45</td><td>15</td><td>2</td><td>30</td></tr>
<tr><td>NOC036353</td><td>28.10.2026</td><td>45</td><td>15</td><td>1</td><td>15</td></tr>
<tr><td>NOC015217</td><td>28.10.2026</td><td>45</td><td>15</td><td>2</td><td>30</td></tr>
<tr><td colspan="5">Total abstraction</td><td>75</td></tr>
</table>
As per the logbook data for the month of February 2022, the unit is abstracting approximately 15.04 KLD of groundwater which is under allowable abstraction limit as per UPGWD NOC.</td><td>Complying</td></tr>
<tr><td></td><td>b. The unit shall install flowmeter at outlet of ETP.</td><td>The unit has installed electromagnetic flow meter at ETP outlet and during the visit, totalizer reading was 04343 $m^3$. (Pic: 17)<br><br>The unit is maintaining the record for treated effluent and as per the record from 01.12.2021 to 07.03.2022 the unit is reusing approx. 8.35 KLD of treated wastewater in horticulture.</td><td>Complying</td></tr>
<tr><td></td><td>c. The unit shall carry out feasibility study to explore possibility of reuse of treated effluent from ETP within industrial premises.</td><td>The unit has provided the adequacy report of Effluent Treatment Plant carried out by Department of Civil Engineering, Aligarh Muslim University (AMU), Aligarh in November, 2021.<br>As per adequacy report, unit has installed an ETP of 15 KLD capacity comprising of following ETP sub-units:</td><td>Complying</td></tr>
</table>

<table>
<tr><th>S.No.</th><th>Recommendations of Joint Committee as per Inspection report based on Inspection dt. 28-29 Oct, 2020</th><th>Compliance Verification By Joint Committee as directed by Hon'ble National Green Tribunal vide order dated 12.08.2021 and 09.12.2021</th><th>Compliance status</th></tr>
<tr><td></td><td></td><td>Oil and Grease Tank → Flash Mixing Tank → Equalization tank → Primary Tube Settler → MBBR Tank I → MBBR Tank II → Pressure Sand Filter → Activated Carbon Filter<br>The following is stated in the conclusions of adequacy report:<br>▪ Capacity-wise all the unit operations and processes of ETP are seem to be adequate to cater the wastewater generated from the unit.<br>▪ The treated water is used for cooling tower recycling, horticulture purposes/gardening and flushing floor cleaning.<br>▪ At the time of inspection, it was observed that the unit has been storing treated water in storage tanks and further the treated water is being used in cooling towers, washing and cleaning and horticulture.<br>▪ The joint team has collected samples from ETP inlet and ETP outlet.<br>▪ The analysis results of samples collected from ETP inlet showed pH- 7.6, TSS- 138 mg/l, TDS- 1210 mg/l, BOD-125 mg/l, COD-600 mg/l.<br>▪ The analysis results of samples collected from ETP outlet showed pH- 7.4 against the norms of 5.5-8.5, TSS- 62 mg/l against the norms of 100 mg/l, TDS- 640 mg/l against the norms of 2100 mg/, BOD-20 mg/l against the norms of 30 mg/l, COD- 184 mg/l against the norms of 250 mg/l which are found complying according to the norms prescribed under the Environment (Protection) Act, 1986.</td><td></td></tr>
<tr><td>5.</td><td colspan="3">M/s Rana Sugars Ltd. (Sugar Unit), Khasra No.318-320, Manpur, Belwara, Distt-Moradabad, Uttar Pradesh-244925</td></tr>
<tr><td></td><td>a. The unit shall obtain NOC from CGWA for extraction of ground water.</td><td>The unit has obtained the NOC from UPGWD which is valid up to 01.07.2026. (Annexure-7(a), 7(b)).
<table>
<tr><th>Certificate no.</th><th>Validity up to</th><th>Depth (in meter)</th><th>Maximum allowable rate of withdrawal</th><th>Maximum allowable running hours per</th><th>Maximum allowable abstraction of groun</th></tr>
</table></td><td>Complying</td></tr>
</table>

<table>
<tr><th>S.No.</th><th>Recommendations of Joint Committee as per Inspection report based on Inspection dt. 28-29 Oct, 2020</th><th>Compliance Verification By Joint Committee as directed by Hon'ble National Green Tribunal vide order dated 12.08.2021 and 09.12.2021</th><th>Compliance status</th></tr>
<tr><td></td><td></td><td>
<table>
<tr><td></td><td></td><td></td><td>(m³/hr)</td><td>day</td><td>dwater (KLD)</td></tr>
<tr><td>REG2021060000045</td><td>01.07.2026</td><td>58</td><td>60</td><td>1</td><td>60</td></tr>
<tr><td>REG2021060000046</td><td>01.07.2026</td><td>91</td><td>170</td><td>2</td><td>340</td></tr>
<tr><td></td><td colspan="4">Total abstraction</td><td>400</td></tr>
</table>
As per the logbook data for the month of February 2022, the unit is abstracting approximately 361 KLD of groundwater which is under allowable abstraction limit as per UPGWD NOC.
</td><td></td></tr>
<tr><td></td><td>b. The unit shall provide a separate area for storage of ETP sludge and shall maintain record of the ETP sludge generation and disposal.</td><td>The unit has provided a separate covered area for storage of ETP sludge and maintains record for ETP sludge generation and disposal.
<table>
<tr><th>Duration</th><th>Sludge quantity (Qtls)</th></tr>
<tr><td>January, 2022</td><td>518</td></tr>
<tr><td>February, 2022</td><td>442</td></tr>
<tr><td>Total</td><td>960</td></tr>
</table>
</td><td>Complying</td></tr>
<tr><td></td><td>c. The unit shall maintain record for fly ash generation and its disposal.</td><td>The unit has maintained record of fly ash generation and its disposal.
<table>
<tr><th>Duration</th><th>Fly ash produced (MT)</th></tr>
<tr><td>January, 2022</td><td>619.71</td></tr>
<tr><td>February, 2022</td><td>564.12</td></tr>
<tr><td>Total</td><td>1183.83</td></tr>
</table>
</td><td>Complying</td></tr>
<tr><td></td><td>d. The unit shall improve bio-mass concentration in the aeration tank of ETP.</td><td>The joint team has collected samples from aeration tank of ETP and analysis result of aeration tank showed MLSS value as 2400 mg/l which indicates presence of biomass near desired level (2500-3000 mg/l).</td><td>Complying</td></tr>
<tr><td></td><td>e. The unit shall prepare ETP dosing chemicals solutions; using ETP treated effluent, to save fresh water.</td><td>The joint team has observed that the unit has made arrangements for using ETP treated effluent for preparation of dosing chemicals to save fresh water.</td><td>Complying</td></tr>
<tr><td colspan="4">*Surprise inspection of the unit was also carried out by third party agency (TPA) VSI, Pune on 18.02.2022 for compliance verification and as per inspection report, unit was complying. Inspection report and action taken by UPPCB is attached as Annexure-8.</td></tr>
</table>

<table>
<tr><th>S.No.</th><th>Recommendations of Joint Committee as per Inspection report based on Inspection dt. 28-29 Oct, 2020</th><th>Compliance Verification By Joint Committee as directed by Hon'ble National Green Tribunal vide order dated 12.08.2021 and 09.12.2021</th><th>Compliance status</th></tr>
<tr><td>6.</td><td colspan="3">M/s Rana Sugars Ltd. (Distillery Unit), Khasra No.318-320, Manpur, Belwara, Distt-Moradabad, Uttar Pradesh-244925</td></tr>
<tr><td></td><td>a. The unit shall obtain renewal of NOC from CGWA for extraction of ground water.</td><td>The unit has obtained the NOC from UPGWD which is valid up to 01.07.2026. (Annexure-9)
<table>
<tr><th>Certificate no.</th><th>Validity up to</th><th>Depth (in meter)</th><th>Maximum allowable rate of withdrawal ($m^3/hr$)</th><th>Maximum allowable running hours per day</th><th>Maximum allowable abstraction of groundwater (KLD)</th></tr>
<tr><td>REG2021 06000044</td><td>01.07 .2026</td><td>58</td><td>50</td><td>16</td><td>800</td></tr>
<tr><td colspan="5">Total abstraction</td><td>800</td></tr>
</table>
As per the logbook data provided for the month of February 2022 the unit is abstracting approximately 331.28 KLD of groundwater which is under allowable abstraction limit as per UPGWD NOC.</td><td>Complying</td></tr>
<tr><td></td><td>b. The unit shall maintain records of Boiler ash and its disposal / utilization.</td><td>The unit has maintained record for fly ash generation and its disposal.
<table>
<tr><th>Duration</th><th>Fly ash produced (MT)</th></tr>
<tr><td>January, 2022</td><td>55.9</td></tr>
<tr><td>February, 2022</td><td>49.0</td></tr>
<tr><td>Total</td><td>104.9</td></tr>
</table></td><td>Complying</td></tr>
<tr><td></td><td>c. The unit shall install 2 nos. piezo-wells near bio-compost yards; as per requirement of SOP for distilleries using molasses.</td><td>The unit has installed 2 nos. of piezo-wells near bio-compost yards. (Pic 9 & 10)</td><td>Complying</td></tr>
<tr><td colspan="4">*Surprise inspection of the unit was also carried out by third party agency (TPA) VSI, Pune on 22.01.2022 for compliance verification and as per inspection report, unit was complying which is attached as Annexure -10.</td></tr>
<tr><td>7.</td><td colspan="3">M/s India Glycol Ltd (Distillery Plant), Kashipur, Uttarakhand</td></tr>
<tr><td></td><td>a. The unit shall dismantle/completely fill/level both discarded aeration lagoons as well as discarded clarifiers and</td><td>➢ The unit has dismantled both aeration lagoons, discarded clarifiers and rectangular tanks located inside the unit premises near incineration boiler. (Pic.23)</td><td>Complying</td></tr>
</table>

<table>
<tr><th>S.No.</th><th>Recommendations of Joint Committee as per Inspection report based on Inspection dt. 28-29 Oct, 2020</th><th>Compliance Verification By Joint Committee as directed by Hon'ble National Green Tribunal vide order dated 12.08.2021 and 09.12.2021</th><th>Compliance status</th></tr>
<tr><td></td><td>rectangular tanks located inside the unit premises near incineration boiler in scientific manner so that there shall not be any water logging.</td><td></td><td></td></tr>
<tr><td></td><td>b. In compliance to CPCB direction dated 14.03.2019, the unit shall utilize/consume the diluted spent wash stored in lagoon (of 3,50,000m$^3$ cap for 98 KLD stream, located at Dabhora site) in bio-composting before June 30, 2021 as per standard operating process and the lagoons may be filled with ash.</td><td>➢ The Unit has completed the emptying and filling of lagoon 1 (of capacity 3,50,000 m3) at Dabhora site on 03.06.2021.</td><td>Complying</td></tr>
<tr><td></td><td colspan="3">c. The unit shall comply with CPCB directions dated 14.03.2019.
<table>
<tr><th>Sl. No.</th><th>CPCB direction dated 14.03.2019</th><th>Observations</th><th>Compliance</th></tr>
<tr><td>1.</td><td>The Unit shall utilize the spent wash stored in isolated lagoons in bio-composting before June 30, 2021 as per standard operating process and the action plan.</td><td>The Unit vide letter dated 25.02.2019 submitted an action plan for utilization of 96,000 m$^3$ {70,000m$^3$ diluted effluent +26000 m$^3$ rain water for 2 years (2019-2021)} through bio-composting by maintaining pressmud to spent wash ratio of 1:2.<br><br>The plan was validated by UPES, Dehradun and VSI, Pune. Additionally, VSI, Pune recommended regular filling of the lagoon with fly ash to reduce accumulation of rain water and stabilize the lagoons.<br><br>The Unit began bio-composting in April 2019 onwards. In each cycle, 12000 m$^3$ of stored spent wash was utilized maintaining press mud to spent wash ratio of 1:2 and cycle duration of 60 days. Simultaneously, lagoon filling with fly ash was undertaken.<br><br>The Unit vide letter dated 09.08.2021 informed that entire accumulated lagoon water + rainwater has been consumed through bio-composting. Final</td><td>Complied</td></tr>
</table></td></tr>
</table>

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|---|---|---|---|
| | | bio-composting cycle ended on 03.06.2021.<br>During joint inspection on 09.03.2022, no spent wash found in the isolated lagoons. **(Pic. 23)** | |
| | 2. The Unit shall dismantle the lagoon after utilization of accumulated spent wash and shall submit the documentary evidence when the lagoon gets emptied. | The Unit has completed the emptying and filling of lagoon 1 (of capacity 3,50,000 $m^3$) at Dabhora site on 03.06.2021.<br>Lagoon 2 (of capacity 1,00,000 $m^3$) at Dabhora site has been converted into rain water harvesting/aqua culture/wetland development) in accordance to permission given by UKPCB vide letter dated 03.01.2020.<br>Lagoon (of capacity 1,00,000 $m^3$) inside Unit premise was found filled/levelled. | Complied |
| | The Unit shall submit the documentary support for procurement of press mud, sale of compost, compost quality on monthly basis to CPCB. | The unit vide letter dated 09.08.2021, informed that 3112 MT ready compost was in stock. | Complied |
| | The Unit shall continue to achieve ZLD and shall restrict the impermeable storage of lagoon of spent wash to 07 days equivalent as per the direction dated 7/12/2015 issued under section 18(1) (b) of Water (Prevention & Control of pollution) Act, 1974. | The unit has dismantled the storage lagoon (of 1,00,000 $m^3$ capacity) associated with the 240 KLD stream and constructed a MS storage tank for storage of concentrated spent wash of capacity 3931 $m^3$ (dia-20.6 mt & height-11.8 mt) equivalent to 07 days concentrated spent wash generation, located inside the unit premises near bio-digesters. | Complied |
| | d. As per the analysis result of sample collected from the drain near incineration boiler (being used in ash quenching and coal dust suppression), indicates higher color, BOD, COD and TDS i.e., contaminated water. Hence, the unit shall | ➢ Drain near incineration boiler was found dry during visit. (**Pic.26**)<br>➢ The drain is connected to a collection tank and fed to MEE. | Complying |

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|---|---|---|---|
| | use the waste water as MEE feed. | | |
| | e. The unit shall obtain valid agreement with cement units to dispose of fly ash/bottom ash, as the existing agreement has been expired in April-2020. | ➢ The Unit has made agreement (valid upto 31.03.2022) with 02 contractors, one for disposal of entire quantity of Fly ash/ Bottom Ash generated and other one for disposal of 60 MT/day of Slop ash. (Refer Annexure – 11(a) & 11(b)).<br>➢ Unit has provided data for the generation and disposal of Fly ash, Cinder ash and Potash rich ash. As per data provided average ash generation for the month of January, 2022 was 593.98 MT/day and for the month of February, 2022 is 416.14 MT/day and the same was disposed of through two contractor. | Complying |
| | f. The unit shall install flow meters at outlet of STP at residential colony and inlet and outlet of STP at distillery plant and shall keep/maintain record of treated sewage being utilized for horticulture. | ➢ The unit has a STP of 40 KLD capacity for the treatment of domestic wastewater generated in residential colony and unit has installed flow meter (**Pic. 27**) at inlet and outlet of STP (reading during visit – 2200 ltr/hr) and as per the logbook provided (01.01.2022–08.03.2022) by unit, 36 KLD of treated sewage is being used for horticulture purposes.<br>➢ The unit has another STP of 10 KLD capacity for the treatment of domestic wastewater generated in distillery section and unit has installed flow meters at inlet (**Pic.28)** (reading during visit – 380 ltr/hr) and outlet (**Pic.29**) (reading during visit – 440 ltr/hr) of STP. As per the logbook provided (01.01.2022 – 08.03.2022) by unit 7.25 KLD treated sewage is being used for horticulture purposes.<br>➢ Both the STPs at residential colony and distillery section are based on FAB (Fluidized Aerobic Bio-rector) technology. | Complying |

<table>
<tr><th>S.No.</th><th>Recommendations of Joint Committee as per Inspection report based on Inspection dt. 28-29 Oct, 2020</th><th>Compliance Verification By Joint Committee as directed by Hon'ble National Green Tribunal vide order dated 12.08.2021 and 09.12.2021</th><th>Compliance status</th></tr>
<tr><td></td><td>g. Analysis result of sample collected from inlet of STP for distillery plant shows high color, pH, BOD, COD, TDS and TSS, hence mixing of domestic wastewater with seepage of waste water from distillery could not be ruled out. The unit shall ensure that no effluent get mixed with domestic wastewater, shall reach to STP for treatment.</td><td>➢ The sampling of inlet and outlet of STP at distillery section was carried out by UKPCB on 14.10.2021. The analysis results are tabulated below:<br><table><tr><th>Parameters</th><th>STP Inlet</th><th>STP Outlet</th></tr><tr><td>Colour</td><td>Turbid</td><td>Colourless</td></tr><tr><td>Odour</td><td>Unpleasant</td><td>Odourless</td></tr><tr><td>pH</td><td>6.15</td><td>7.63</td></tr><tr><td>TSS (mg/L)</td><td>136</td><td>68</td></tr><tr><td>TDS (mg/L)</td><td>1041</td><td>729</td></tr><tr><td>BOD (mg/L)</td><td>110</td><td>26</td></tr><tr><td>COD (mg/L)</td><td>380</td><td>120</td></tr></table>➢ The analysis result does not reflect the mixing of industrial effluent with sewage.<br>➢ Analysis results of sample collected by joint committee on dated 08.03.2022 from STP outlet showed Colour – Colourles; Odour – Odourless; pH- 7.4; TSS – 50 mg/l; BOD – 24 mg/l & COD – 110 mg/l which indicates compliance with the STP outlet norms w.r.t. pH (6.5 to 9.0), TSS (100 mg/L), BOD (30 mg/L) as stipulated by UKPCB vide order UKPCB/HO/Con/I-8/2021/09 dated 07.04.2021. The treated sewage is being used for horticulture purposes within the premises.</td><td>Complying</td></tr>
<tr><td></td><td>*Permission from CGWA for ground water abstraction</td><td>➢ Unit has obtained NOC from CGWA which is valid up to 25.10.2023 (for 2393.63 KLD). (Refer Annexure – 11(c).<br>➢ As per the Borewell logbook provided by the unit for duration Jan-2022 to Mar-2022, unit has abstracted groundwater @ 999.26 KLD which is less than the limit of 2393.63 KLD prescribed in NOC from CGWA.</td><td></td></tr>
<tr><td colspan="4">*Surprise inspection of the unit was also carried out by third party agency (TPA) Vasantdada Sugar Institute (VSI, Pune 05.03.2022 for compliance verification and as per inspection report, unit was found complying. Inspection report and action taken by UKPCB is attached as Annexure-11(d).</td></tr>
<tr><td>8.</td><td colspan="3">M/s India Glycols Limited (Chemical Unit) A-1, Industrial Area, Bazpur Road, Kashipur, District-U.S. Nagar, Uttarakhand</td></tr>
<tr><td></td><td>a. The unit shall provide flow meter at inlet point of ETP, inlet and outlet of STP to monitor the wastewater</td><td>➢ Unit has installed flow meters at ETP inlet and outlet (Pic.30), inlet and outlet of STP (Pic.31 & Pic.32).<br>➢ During visit the flow meter readings was noted</td><td>Complying</td></tr>
</table>

<table>
<tr><th>S.No.</th><th>Recommendations of Joint Committee as per Inspection report based on Inspection dt. 28-29 Oct, 2020</th><th>Compliance Verification By Joint Committee as directed by Hon'ble National Green Tribunal vide order dated 12.08.2021 and 09.12.2021</th><th>Compliance status</th></tr>
<tr><td></td><td>flow.</td><td>as:<table><tr><td>ETP Inlet</td><td>19.1 $m^3$/hr</td></tr><tr><td>ETP outlet</td><td>18.9 $m^3$/hr</td></tr><tr><td>STP Inlet</td><td>300 lt/hr</td></tr><tr><td>STP Outlet</td><td>360 lt/hr</td></tr></table></td><td></td></tr>
<tr><td></td><td>b. Unit shall provide dewatering system in sludge filter bed in ETP system and filtrate should be taken back to collection tank for further treatment.</td><td>➢ Unit has provided 03 nos. of sludge drying beds having total surface area of 61.5 $m^2$ with provision for dewatering and filtrate is taken back to collection tank. (Pic.33)<br>➢ Layout of Sludge Drying Bed is attached at Annexure – 12(a)</td><td>Complying</td></tr>
<tr><td></td><td>c. The unit shall ensure that, untreated/partially treated effluent/sewage shall not be discharged into storm water drain.</td><td>➢ During visit, the storm water drain was found dry and unit has sealed the drain with concrete. (Pic.34)</td><td>Complying</td></tr>
<tr><td></td><td>d. Collection tank of STP shall be repaired and unit shall ensure, no untreated sewage discharge into storm water drain.</td><td>➢ Collection tank of STP has been repaired and discharge of untreated sewage into storm water drain was not observed during visit. (Pic.35)</td><td>Complying</td></tr>
<tr><td></td><td>e. The Unit shall improve operation and maintenance of STPs.</td><td>➢ Unit has a STP of 10 KLD capacity based on Fluidized Aerobic Bio-Reactor (FAB) and is operated on continuous mode.<br>➢ Analysis results of sample collected by joint committee on dated 08.03.2022 from outlet of STP showed Colour – Colourless; Odour – Odourless; pH- 7.6; TSS – 48 mg/l; BOD – 22 mg/l & COD – 105 mg/l which indicates compliance with the STP outlet norms w.r.t. pH (6.5 to 9.0), TSS (100 mg/L), BOD (30 mg/L) as stipulated by UKPCB vide order UKPCB/HO/Con/I-9/2021/06 dated 06.04.2021.<br>➢ As per the logbook provided (01.01.2022 – 08.03.2022), the unit is recycling 7.34 KLD of treated sewage to cooling tower.</td><td>Complying</td></tr>
<tr><td colspan="4">*Surprise inspection of the unit was also carried out by third party agency (TPA), IIT Roorkee on 08.02.2022 for compliance verification and as per inspection report, unit was complying. Inspection report and action taken by UKPCB is attached as Annexure-12 (b).</td></tr>
<tr><td>9.</td><td colspan="3">M/s Kashi Vishwanath Textile Mill Ltd, (SPNG Group) 5th Km Stone, Ramnagar Road, Kashipur-244713, Uttarakhand</td></tr>
<tr><td></td><td>a. Non-compliance of ZLD</td><td>➢ The unit has an ETP of 800 KLD capacity for the treatment of trade effluent of dye house. Unit has also provided another ETP of</td><td>Complying</td></tr>
</table>

<table>
<tr><th>S.No.</th><th>Recommendations of Joint Committee as per Inspection report based on Inspection dt. 28-29 Oct, 2020</th><th>Compliance Verification By Joint Committee as directed by Hon'ble National Green Tribunal vide order dated 12.08.2021 and 09.12.2021</th><th>Compliance status</th></tr>
<tr><td></td><td></td><td>capacity 700 KLD for the treatment of effluent generated from fibre division. The unit has a STP of 50 KLD for the treatment of domestic wastewater.<br>➢ Both the ETPs are based on biological treatment system followed by filtration units (DMF – ACF – 04 stage RO system). RO permeate is recycled to production process area of dye house and fibre section and RO reject from both ETP is fed into MEE system of 40 KLD capacity followed by dryer units (ATFD). (Photo-36, 37, 38, 39, 40 & 41).<br>➢ STP of 50 KLD is based on biological treatment system upto tertiary level. The treated sewage is further taken into aeration tank of ETP of 800 KLD capacity for further treatment.<br>➢ Flow meter readings taken during visit:
<table>
<tr><td></td><td>Instant reading ($m^3$/hr)</td><td>Totalizer reading ($m^3$)</td></tr>
<tr><td>ETP-800 KLD Inlet</td><td>18.39</td><td>368978</td></tr>
<tr><td>ETP-800 KLD RO permeate</td><td>35.55</td><td>361169.19</td></tr>
<tr><td>ETP-800 KLD RO reject</td><td>8.34</td><td>7769.34</td></tr>
<tr><td>STP Inlet</td><td>1.2</td><td>32976.79</td></tr>
<tr><td>STP Outlet</td><td>0.0</td><td>131943.73</td></tr>
<tr><td>ETP-2 Inlet</td><td>0.0</td><td>128647.91</td></tr>
<tr><td>ETP-2 Permeate</td><td>13.1</td><td>39041.39</td></tr>
<tr><td>ETP-2 Reject</td><td colspan="2">Flow meter not approachable</td></tr>
<tr><td>MEE condensate</td><td>0.783</td><td>186.97</td></tr>
</table>
➢ As per the logbooks provided by unit for the period of 01.01.2022 – 07.03.2022, the details of wastewater generation and quantity of treated effluent are as below:
<table>
<tr><td></td><td>Quantity (KLD)</td></tr>
<tr><td>ETP-800KLD Inlet</td><td>410.12</td></tr>
<tr><td>ETP-800KLD RO permeate</td><td>395.17</td></tr>
<tr><td>ETP-800 KLD RO reject</td><td>8.41</td></tr>
<tr><td>STP Inlet</td><td>37.33</td></tr>
<tr><td>STP Outlet</td><td>35.54</td></tr>
<tr><td>ETP-700 KLD Inlet</td><td>313.42</td></tr>
<tr><td>ETP-700KLD Permeate</td><td>299.19</td></tr>
<tr><td>ETP-700KLD Reject</td><td>8.74</td></tr>
</table></td><td></td></tr>
</table>

<table>
<tr><th>S.No.</th><th>Recommendations of Joint Committee as per Inspection report based on Inspection dt. 28-29 Oct, 2020</th><th>Compliance Verification By Joint Committee as directed by Hon'ble National Green Tribunal vide order dated 12.08.2021 and 09.12.2021</th><th>Compliance status</th></tr>
<tr><td></td><td></td><td>➢ As per logbook data of ETP of 800 KL capacity, about 410 KL per day wastewater generated from Dye house and about 35.5 KLD treated sewage is further treated in ETP. RO permeate of about 395 KL is recycled to process area of Dye house, about 8.4 KL of RO reject is treated through MEE and about 42.1 KL as process loss.<br>➢ As per logbook data of ETP of 700 KL capacity, about 313.4 KL per day wastewater generated from Fibre division is treated in ETP. RO permeate of about 299 KL is recycled to process area of Fibre division, about 8.7 KL of RO reject is treated through MEE and about 5.7 KL is process loss.<br>➢ As per previous joint inspection dated 27.10.2020, the characteristics of STP inlet showed possibility of discharge of RO reject into raw sewage. However, during joint inspection on 08.03.2022, the unit was achieving ZLD.</td><td></td></tr>
<tr><td></td><td>b. The unit is discharging effluent through STP after dilution with freshwater in violation of ZLD.</td><td rowspan="2">➢ The sampling of inlet and outlet of STP was carried out by UKPCB on 11.11.2021 (Refer Annexure – 13(a). The analysis results are tabulated below:<br><table><tr><th>Parameters</th><th>STP Inlet</th><th>STP Outlet</th></tr><tr><td>Colour</td><td>Turbid</td><td>Colourless</td></tr><tr><td>Odour</td><td>Unpleasant</td><td>Odourless</td></tr><tr><td>pH</td><td>6.31</td><td>7.38</td></tr><tr><td>TSS (mg/L)</td><td>222</td><td>72</td></tr><tr><td>TDS (mg/L)</td><td>1075</td><td>739</td></tr><tr><td>BOD (mg/L)</td><td>160</td><td>28</td></tr><tr><td>COD (mg/L)</td><td>440</td><td>120</td></tr></table>➢ The analysis result of sample collected by UKPCB on 11.11.2021 from STP inlet and outlet indicates compliance with the STP outlet norms w.r.t. pH (6.5 to 9.0), TSS (100 mg/L), BOD (30 mg/L) as stipulated by UKPCB vide order UKPCB/HO/Con/S-3/2020/416 dated 13.07.2020. (Annexure-13(b).<br>➢ Discharge of effluent and arrangement for dilution with fresh water into STP was not observed during visit.</td><td>Complying</td></tr>
<tr><td></td><td>c. It is clearly indicated from the analysis of STP inlet and secondary clarifier outlet that RO reject is discharged into STP and diluted water is mixed into the STP system. It is recommended that appropriate action as deemed fit shall be initiated against the unit by UKPCB.</td><td>Complying</td></tr>
</table>

| S.No. | Recommendations of Joint Committee as per Inspection report based on Inspection dt. 28-29 Oct, 2020 | Compliance Verification By Joint Committee as directed by Hon'ble National Green Tribunal vide order dated 12.08.2021 and 09.12.2021 | Compliance status |
|---|---|---|---|
| | | ➢ The treated wastewater (approx. 35.54 KLD) from STP is further treated through ETP of 800 KLD.<br>➢ RO reject of 8.4 KLD from ETP of 800 KL and 8.7 KLD from 700 KL capacity is being fed into MEE system followed by ATFD. | |
| | d. The unit shall obtain renewal of NOC from CGWA for ground water abstraction. | ➢ Unit has obtained NOC from CGWA which is valid up to 25.03.2024 (for 406 KLD). (Refer Annexure – 13(c).<br>➢ As per the Borewell logbook provided by the unit for duration Dec-2021 to Mar-2022, unit has abstracted groundwater @ 297.46 KLD which is within the NOC given by CGWA for the withdrawal of 406 KLD. | Complying |
| *Surprise inspection of the unit was also carried out by third party agency (TPA), IIT Delhi on 26.02.2022 for compliance verification and as per inspection report, unit was complying. Inspection report and action taken by UKPCB is attached as Annexure-13(d). | | | |
| 10. | **M/s Banwari Paper Mill Ltd., 4th km stone, Rampur Road, Kashipur, U.S. Nagar, Uttarakhand** | | |
| | a. The Unit shall obtain NOC for withdrawal of ground water from CGWA. | ➢ Unit found closed during visit and no concerned person was available. Unit is not in operation since 25.04.2021. (**Pic.43**) | |
| | b. The Unit shall operate ETP properly and shall comply with the treated effluent quality parameters w.r.t. consented norms. | | |
| | c. The Unit shall restrict maximum production to 1650.0MT/month as per capacity permitted in Consolidated Consent to operate and authorization (CCA). | | |
| *Surprise inspection of the unit was also carried out by third party agency (TPA), CPPRI Saharanpur on 31.12.2021 for compliance verification and unit was found temporary closed during visit. Inspection report and action taken by UKPCB is attached as Annexure-13(e). | | | |
| 11. | **M/s Cheema Papers Ltd, 9 km stone Bazpur Road, Kashipur, Dist. U.S. Nagar, Uttarakhand** | | |
| | a. The unit shall obtain valid NOC from CGWA for ground water withdrawal. | ➢ Unit has obtained NOC from CGWA having validity upto 20.08.2024 (for 3440 KLD). (Refer Annexure – 14(a)).<br>➢ As per the Borewell logbook provided by the unit for duration Jan-2022 to Mar-2022, unit has abstracted groundwater @ 2511.18 KLD which is less than the limit of 3440 KLD | Complying |

<table>
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<tr><td></td><td></td><td>prescribed in NOC from CGWA.</td><td></td></tr>
<tr><td></td><td>b. The unit shall dismantle the outlet of partial treated effluent from collection tank after secondary clarifier of ETP before tertiary treatment.</td><td>➢ The unit has sealed the said outlet point with concrete and during visit single outlet point of discharge was found. (Pic.45)</td><td>Complying</td></tr>
<tr><td></td><td>c. The unit shall dismantle the multiple outlets from collection tank of final treated effluent.</td><td>➢ The unit has sealed the said multiple outlet points with concrete and during visit single outlet point of discharge was found. (Pic.46)</td><td>Complying</td></tr>
<tr><td></td><td>d. The unit shall stop un-scientific and unsafe dumping (storage) of ETP sludge. A covered shed with platform shall be constructed to store ETP sludge</td><td>➢ Unit has provided 02 nos. of mechanical dewatering system for sludge generated from Primary clarifier and secondary clarifier.<br>➢ A covered shed with concrete platform has been provided to store dewatered sludge of the ETP. (Pic.48)</td><td>Complying</td></tr>
<tr><td></td><td>e. The unit shall install V-notch at ETP inlet properly.</td><td>➢ V-notch was found to be properly installed at ETP inlet channel. (Pic.49)<br>➢ Logbook have also been maintained for the same. As per log book data for the month of January and February, 2022, unit is treating about 5200 KL of trade effluent per day and discharge about 2200 KL of treated effluent.</td><td>Complying</td></tr>
<tr><td></td><td>f. The unit shall install flow meter on all water abstraction points.</td><td>➢ Unit has two borewells within the premises having electromagnetic flow meter with totalizer (Fig. 50 & 51). Logbooks have also been maintained.<br>➢ Borewell meter readings taken during visit:
<table>
<tr><td></td><td>Instantaneous reading</td><td>Totalizer reading</td></tr>
<tr><td>Borewell-1</td><td>135.7 $m^3$/hr</td><td>252059.0 $m^3$</td></tr>
<tr><td>Borewell-2</td><td>145.8 $m^3$/hr</td><td>470972.5 $m^3$</td></tr>
</table>
➢ Unit has also installed an electromagnetic flow meter with totalizer at recycling line after the Primary clarifier outlet. (Fig.52)</td><td>Complying</td></tr>
<tr><td></td><td>g. The unit shall increase capacity of sedi-cell (for pulp removal/ recovery)</td><td>➢ Unit has upgraded Fiber Recovery System by:<br>• Replacing existing pulper with new Hi-con pulper<br>• Updating Centi Cleaner System in pulp mill</td><td>Complying</td></tr>
</table>

| S.No. | Recommendations of Joint Committee as per Inspection report based on Inspection dt. 28-29 Oct, 2020 | Compliance Verification By Joint Committee as directed by Hon'ble National Green Tribunal vide order dated 12.08.2021 and 09.12.2021 | Compliance status |
|---|---|---|---|
| | | ➢ Pulp collected from Sedicell is recycled to pulping section in the production process.<br>➢ No pulp washout from Sedicell observed in the Sedicell outlet. (**Pic.53 & 54**) | |
| | h. The unit shall maintain proper ETP logbooks of energy meter and inflow. | ➢ Logbooks have been maintained for ETP inlet and energy meter. As per log book data of ETP, unit is treating about 5200 KL of trade effluent per day and discharging about 2200 KL of treated effluent.<br>➢ As per logbook of daily energy consumption in ETP section for the month of February, 2022, average daily energy consumption is about 405 KWH. | Complying |
| | i. The unit shall maintain environmental laboratory equipment properly. | ➢ Unit has maintained the environmental laboratory equipment properly (**Pic.55**) and daily sample analysis are recorded in logbook. | Complying |
| *Surprise inspection of the unit was also carried out by third party agency (TPA) Central Pulp & Paper Research Institute (CPPRI) Saharanpur on 27.12.2021 for compliance verification and as per inspection report, unit was complying. Inspection report and action taken by UKPCB is attached as Annexure-14 (b). | | | |
| 12. | **M/s Multiwal Duplex Pvt. Ltd., Kundeshwari Road, Kashipur, Dist.: U. S. Nagar, Uttarakhand** | | |
| | a. The unit was found temporarily closed. As informed by the unit's representative, the unit is non-operational since 26.10.2020. | ➢ Unit found operational during joint inspection on 08.03.2022. (**Pic.56**) | |
| | b. The unit shall obtain NOC for withdrawal of groundwater from CGWA. | ➢ Unit has obtained NOC from CGWA which is valid up to 18.07.2024 (for 448.91 KLD). (Refer Annexure – 15(a)<br>➢ As per the Borewell logbook provided by the unit for duration Jan-2022 to Mar-2022, unit has abstracted groundwater @ 322.61 KL per day which is within the limit of NOC from CGWA for abstraction of 448.91 KL ground water per day. | Complying |
| | c. The unit shall install flow meter with totalizer on bore well used for domestic purpose | ➢ Earlier there were two borewell but during joint visit on 08.03.2022, it was observed that one of the borewell has been converted into piezometric-well (**Pic-58**). At present there is only one borewell. (**Pic-57**) to meet the daily fresh water requirement.<br>➢ Unit has installed separate flow meter (having totalizer) on the pipeline carrying freshwater to be used for domestic purposes. (**Pic-59**). | Complying |

<table>
<tr><th>S.No.</th><th>Recommendations of Joint Committee as per Inspection report based on Inspection dt. 28-29 Oct, 2020</th><th>Compliance Verification By Joint Committee as directed by Hon'ble National Green Tribunal vide order dated 12.08.2021 and 09.12.2021</th><th>Compliance status</th></tr>
<tr><td></td><td></td><td>➢ During visit the instantaneous flow was noted as 47.71 $m^3$/hr with totalizer reading as 83522.7 $m^3$ at flow meter installed for the purpose of industrial use of freshwater.</td><td></td></tr>
<tr><td></td><td>d. The unit shall restrict its production as per the consented capacity i.e. 900MT/month.</td><td>➢ Daily production data is recorded in the logbook. Month wise production data is tabulated below:
<table>
<tr><th>Month</th><th>Total Production (MT/month)</th><th>Avg. Production (MT/day)</th></tr>
<tr><td>Jan-22</td><td>899 (for 31 days)</td><td>29.00</td></tr>
<tr><td>Feb-22</td><td>822 (for 28 days)</td><td>29.35</td></tr>
<tr><td>March-22 till 07.03.2022</td><td>199 (for 07 days)</td><td>28.43</td></tr>
</table>
➢ As per above data it is evident that Unit has restricted its production as per the consented capacity i.e. 900 MT/month (i.e. 30 MT per day).</td><td>Complying</td></tr>
<tr><td></td><td>e. UKPCB should verify the compliance with effluent discharge standards on resumption of manufacturing operations.</td><td>➢ UKPCB had verified the compliance status of treated effluent sample of ETP outlet on dated 11.11.2021 after resumption of manufacturing operations by the unit.<br>➢ The analysis result of the sample collected by UKPCB on 11.11.2021 is tabulated below:
<table>
<tr><th>Parameters</th><th>ETP outlet</th><th>Discharge norms</th></tr>
<tr><td>Colour</td><td>Colourless</td><td>Colourless</td></tr>
<tr><td>Odour</td><td>Odourless</td><td>Odourless</td></tr>
<tr><td>pH</td><td>7.57</td><td>6.5 – 8.5</td></tr>
<tr><td>TSS (mg/L)</td><td>64</td><td>100</td></tr>
<tr><td>TDS (mg/L)</td><td>1025</td><td>2100</td></tr>
<tr><td>BOD (mg/L)</td><td>28</td><td>30</td></tr>
<tr><td>COD (mg/L)</td><td>180</td><td>250</td></tr>
</table>
➢ The analysis result of sample collected by UKPCB on 11.11.2021 from ETP inlet and outlet indicates compliance with the ETP discharge norms as stipulated by UKPCB vide order UKPCB/HO/Con/M-11/2019/154 dated</td><td>Complying</td></tr>
</table>

| S.No. | Recommendations of Joint Committee as per Inspection report based on Inspection dt. 28-29 Oct, 2020 | Compliance Verification By Joint Committee as directed by Hon'ble National Green Tribunal vide order dated 12.08.2021 and 09.12.2021 | Compliance status |
|---|---|---|---|
| | | 24.04.2019. (Refer Annexure – 15(b)) | |
| *Surprise inspection of the unit was also carried out by third party agency (TPA) Central Pulp & Paper Research Institute (CPPRI) Saharanpur on 24.12.2021 for compliance verification and as per inspection report, unit was complying. Inspection report and action taken by UKPCB is attached as Annexure-15(c). | | | |
| 13. | **M/s Multiwal Pulp and Board Mills (P) Ltd., Bazpur Road, Kashipur, Dist.: U. S. Nagar, Uttarakhand** | | |
| | a. The unit was found temporarily closed. As informed by the unit's representative, the unit was non-operational since 28.09.2020. | ➢ Unit found closed during joint inspection and no concerned person was available. (**Pic.62**) | |
| | b. The unit shall obtain NOC for withdrawal of groundwater from CGWA. | | |
| | c. UKPCB should verify the compliance with effluent discharge standards on resumption of manufacturing operations." | | |
| *Surprise inspection of the unit was also carried out by third party agency (TPA) Central Pulp & Paper Research Institute (CPPRI) Saharanpur on 31.12.2021 for compliance verification and as per inspection report, unit was found temporary closed. Inspection report and action taken by UKPCB is attached as Annexure-15(d). | | | |

* M/s Vishwakarma Paper & Board Ltd, Ramnagar Road, Kashipur, US Nagar – Unit has been dismantled (**Pic.64**)

**3.0 Compliance Verification of "Recommendations of Over Sight Committee" by Joint Committee as directed by Hon'ble National Green Tribunal vide order dated 12.08.2021 and 09.12.2021**

| S.No. | Recommendations of Over Sight Committee | Verification of compliance status as per joint committee on 08.03.2022-09.03.2022 | Compliance Status |
|---|---|---|---|
| | **M/s Radico Khaitan Limited, Bareilly Road, Rampur, Uttar Pradesh -244901** | | |
| | 1. At the time of inspection, the floating levelling system was not operational at Ajeetpur site. Although the concentrated spent wash was within the limit marked | The floating levelling system was found operational during visit at Ajeetpur site. (Pic: 6) | Complying |

<table>
<tr><th>S.No.</th><th>Recommendations of Over Sight Committee</th><th>Verification of compliance status as per joint committee on 08.03.2022-09.03.2022</th><th>Compliance Status</th></tr>
<tr><td></td><td>by UPPCB.</td><td></td><td></td></tr>
<tr><td></td><td>2. The total area of two bio-composting yards was 60 acres out of which 25 acres was covered and remaining 35 acres of area was uncovered or open. The requirement of covered bio-compost area to operate at consented capacity of 200 KLPD is 24 acres.</td><td>The unit has bio-compost yards located at two different places i.e., Ajeetpur site and Hitachi site. For bio-composting 34 acres area is available at Hitachi site and 26 acres area is available at Ajeetpur site, hence total area available at both sites is 60 acres. Out of 60 acres, 25 acres of area is covered and remaining 35 acres of area is open/uncovered.<br><br>Out of 60 acres' bio-composting area, the unit is having 25 acres covered area for Bio-composting, which is adequate for operation of molasses based distillery unit at restricted production capacity of 125 KLD during monsoon season. However, for operation of molasses based distillery unit during non-monsoon seasons at consented capacity of 200 KLD, the unit has adequate area for bio-composting.</td><td>Complying</td></tr>
<tr><td></td><td>3. Water logging was observed near the lagoon at Hitachi site. Samples of the same were collected by Joint team.</td><td>Water logging near the lagoon at Hitachi site was recovered and presently no water logging observed.</td><td>Complying</td></tr>
<tr><td></td><td>4. At bio-compost yard of Ajeetpur site, it was observed that at leachate collection pit, transfer pump was not provided by the unit.</td><td>The joint committee verified the leachate collection pit, transfer pump at both the bio-compost yard i.e. Ajeetpur site and Hitachi site. (Pic: 4 & 5)</td><td>Complying</td></tr>
<tr><td></td><td>5. COD was reported from the ground water is a point of concern and probable source of it should be identified.</td><td>The joint committee has collected the ground water samples from Piezo-metric well u/s of Hitachi Site, Piezo-metric well d/s of Hitachi Site, Piezo-metric well u/s of Ajeetpur site, Piezo-metric well d/s of Ajeetpur site, Handpump of Hitachi bio-compost yard and Ground water from borewell in unit premise to verify the ground water contamination which were found complying as per Drinking Water Standards (BIS) IS 10500:2012.
<table>
<tr><th>Location Name</th><th>Depth (in ft.)</th><th>Previous sample analysis results of COD</th><th>Current sample analysis results of COD</th></tr>
</table></td><td>Complying</td></tr>
</table>

<table>
<tr><th>S.No.</th><th>Recommendations of Over Sight Committee</th><th>Verification of compliance status as per joint committee on 08.03.2022-09.03.2022</th><th>Compliance Status</th></tr>
<tr><td></td><td></td><td>
<table>
<tr><td>Piezo-metric well u/s of Hitachi Site</td><td>80</td><td>21</td><td>BDL</td></tr>
<tr><td>Piezo-metric well d/s of Hitachi Site</td><td>80</td><td>798</td><td>BDL</td></tr>
<tr><td>Piezo-metric well u/s of Ajeetpur site</td><td>80</td><td>61</td><td>BDL</td></tr>
<tr><td>Piezo-metric well d/s of Ajeetpur site</td><td>80</td><td>40</td><td>BDL</td></tr>
<tr><td>Handpump of Hitachi bio-compost yard</td><td>70-80</td><td>BDL</td><td>BDL</td></tr>
<tr><td>Groundwater from borewell in unit premise</td><td>361</td><td>BDL</td><td>BDL</td></tr>
</table>
</td><td></td></tr>
<tr><td></td><td>6.Site:<br><br>i. Hand-pump of Hitachi Bio-compost Yard: The concentration of Copper and Iron was found beyond the permissible limits.<br><br>ii. Piezo-metric well u/s of Hitachi Yard: The concentration of COD, Iron, Manganese and led was found beyond permissible limits. iii. Piezo-metric well d/s of Hitachi Yard: The concentration of COD, TDS, TS, Iron, Manganese, Lead and Colour was found beyond the permissible limits. iv. Piezo-metric well u/s of Ajeetpur Yard: The concentration of COD, Iron and Manganese was found beyond the permissible limits. v. Piezo-metric well d/s of Ajeetpur Yard: The concentration of COD, Iron, Manganese and Lead was found beyond the permissible limits.<br>vi. Groundwater from the bore-well in unit premises: The concentration</td><td>The committee has verified the following:<br><br>i. Industry has installed 03 bore-wells at the depth of 361 ft. which were found interconnected. ground water samples were collected from the bore-well for physico-chemical analysis.<br><br>ii. to vi. The joint committee has verified total 06 piezometers well installed in bio-compost yard as follows:
<table>
<tr><td>Piezometer no.</td><td>Location/Area</td></tr>
<tr><td>No. 03</td><td>Bio-composting area, Hitachi land</td></tr>
<tr><td>No. 04</td><td>Bio-composting area, Hitachi land (Pic: 7)</td></tr>
<tr><td>No. 05</td><td>Bio-composting area, Hitachi land (Pic: 8)</td></tr>
<tr><td>No. 08</td><td>Bio-composting area, Hitachi land</td></tr>
<tr><td>No. 07</td><td>Bio-composting area, Ajeetpur land</td></tr>
<tr><td>No. 02</td><td>Bio-composting area, Ajeetpur land (Pic: 9)</td></tr>
</table>
The water samples were collected from the piezometer wells for physico-chemical analysis to verify the presence of any water or heavy metal</td><td>Complying</td></tr>
</table>

| S.No. | Recommendations of Over Sight Committee | Verification of compliance status as per joint committee on 08.03.2022-09.03.2022 | Compliance Status |
|---|---|---|---|
| | of Iron and Manganese was found beyond the permissible limits. As per the report the probable reasons for the contamination are leaching of the iron and galvanised pipes which seems very superficial and a detailed study should be done in this regard. Presence of high concentration of pollutants in the groundwater samples calls for a detailed analysis of soil profile to check the level and source of contamination in the area. | contamination which were found complying. Details are at S.No. 1(c).<br><br>The unit has submitted evaluation report on "Impacts of Groundwater Abstraction and Groundwater Recharge on Groundwater Scenario for Radico Khaitan Limited, District Rampur, Uttar Pradesh" prepared by Department of Civil Engineering, IIT, Roorkee in November 2021.<br><br>As per the report, samples were collected from two nos. of borewells i.e. bore well 1 (depth- 110 meter) and 2 (depth - 110 meter) inside the distillery premises and the parameters like pH, Electrical Conductivity, Total Dissolved Solids, Total hardness, Total alkalinity, Sulphate, Chloride, Fluoride, Iron, Manganese, Total coliforms, Faecal coliforms, Total Arsenic, Cadmium, Total chromium, Total copper, Zinc, Nickel, Aluminium, Lead, Molybdenum were analysed.<br><br>Analysis results showed Fe- 0.05 mg/l and 0.04 mg/l against the permissible limit of 0.3 mg/l, Mn- 0.002 mg/l and 0.002 mg/l against the permissible limit of 0.1 mg/l and Pb- 0.003 mg/l and 0.004 mg/l against the permissible limit of 0.01 mg/l which is in compliance to the Drinking water BIS Standards IS 10500:2012.<br><br>Hence, as per the report there is no sign of groundwater contamination, no heavy metals or faecal coliforms are observed, and the groundwater can be used directly for drinking. | |
| | 7. The analysis of samples drawn from the STP indicates that the industrial waste is rich in Iron, Copper and Manganese. Thus a detailed study is recommended to check the probable relation if any exists between the industrial waste and groundwater contamination. The industry is directed to comply with the following recommendations of the joint inspection: | Joint committee has collected the waste water samples from STP installed inside the premises for treatment of sewage generated from residential colony of the industry and following are the analysis results:<br><br>The analysis results of STP inlet showed pH-7.88, TSS-112 mg/l, TDS-940 mg/l, Total solid-1052 mg/l, BOD- 58 mg/l, COD- 256 mg/l, Fe-2.32 mg/l, Cu- ND, MN- ND.<br><br>The analysis results of STP outlet showed pH-7.52, TSS-36 mg/l, TDS-712 mg/l, Total solid- | Complying |

| S.No. | Recommendations of Over Sight Committee | Verification of compliance status as per joint committee on 08.03.2022-09.03.2022 | Compliance Status |
|---|---|---|---|
| | | 748 mg/l, BOD- 11 mg/l, COD- 122 mg/l, Fe- 1.50 mg/l, MN- ND which were complying w.r.t. standards prescribed by Uttar Pradesh Pollution Control Board (UPPCB) vide consent order dated 19.07.2019. | |
| | i. The unit shall obtain NOCs for the drawl of groundwater at earliest. | i. The unit has obtained valid NOC from UPGWD. | |
| | ii. The unit shall ensure storage of concentrated spent wash with total solids 30% in both the lagoons at Hitachi and Ajeetpur site) for use in bio-composting. | ii. Samples collected from spent wash storage lagoon at hitachi site shows solid concentration of 33.3% (>30%) which is in compliance with CPCB direction dated 07.12.2015 u/s 18 (1) b of Water Act, 1974.<br>Samples collected from spent wash storage lagoon at Ajeetpur site shows solid concentration of 31.4% (>30%) which is in compliance with CPCB direction dated 07.12.2015 u/s 18 (1) b of Water Act, 1974. | |
| | iii. The unit shall provide proper lined surface in bio-compost yard at Hitachi site so that possibility of leaching shall be eliminated. | iii. Construction of lined surface in both the bio-compost yard i.e. Ajeetpur site and Hitachi site and garland drain area around the bio-compost yard for collection of leachate was verified by the committee. | |
| | iv. The unit shall take measures to stop contamination of piezometer well at downstream of Hitachi site. | iv. The piezometer wells at Hitachi site were provided lined, PCC surface and the unit has replaced the pipes of piezometers with PVC pipes. | |
| | v. The unit shall carry out detailed study to identify contamination source of Iron, Manganese and Lead of piezometric wells, hand pumps and bore wells and carry out remedial measures. | v. The unit has submitted the PHD Chamber of Commerce and Industry (PHDCCI) report regarding the contamination due to the leaching of the iron and galvanized pipes. As a remedial measure, the unit has replaced all the pipe lines of GI with HDPE pipe lines. Details are at S.No. 1(e). | |
| | **M/s Damya (PJ) Foods, Pvt. Ltd. Village- Chikna Shahbad Road, Rampur- 244901 (UP)** | | |
| | A detailed groundwater study be done by SGWA as the case may be and any permission to abstract groundwater be incumbent on the result of the study. Unit be directed to minimise their water consumption based on water audit studies. Also they may be asked to explore the possibility of using treated water/ water harvesting | The unit has obtained NOC from UPGWD for 2 nos. of borewell which is valid up to **10.02.2024** to withdrawal the ground water. (Refer Annexure 4a, 4b)<br><br>Unit has deposited EC amount of Rs. 2.5 lacs in compliance to the UPPCB direction dated 19.07.2019. | Complying |

| S.No. | Recommendations of Over Sight Committee | Verification of compliance status as per joint committee on 08.03.2022-09.03.2022 | Compliance Status |
|---|---|---|---|
| | /recycling techniques. Water tariffs for ground water as per rules/guidelines be communicated and charges levied immediately. Pending EC on the unit be realised by UPPCB immediately. | The unit has not submitted water audit report. | |
| | **M/s Usha Steel Process, D-22, 23 & 29, Ajeetpur Industrial Estate, Ajeetpur, Rampur, Uttar Pradesh** | | |
| | A detailed groundwater study be done by SGWA as the case may be and any permission to abstract groundwater be incumbent on the result of the study. Unit be directed to minimise their water consumption based on water audit studies. Also they may be asked to explore the possibility of using treated water/ water harvesting /recycling techniques. Water tariffs for ground water as per rules/guidelines be communicated and charges levied immediately. Pending EC on the unit be realised by UPPCB immediately. | The unit has obtained NOC from UPGWD which is valid upto14.12.2026 to withdraw the ground water. (Refer Annexure-5)<br><br>Unit has deposited EC amount of Rs. 2.5 lacs in compliance to the UPPCB direction dated 19.07.2019.<br><br>The unit has not submitted water audit report. | Complying |
| | **M/s Swati Menthol & Allied Chemicals Ltd. 4.5kms. Bareilly Road Rampur 244901 (U.P.)** | | |
| | A detailed groundwater study be done by SGWA as the case may be and any permission to abstract groundwater be incumbent on the result of the study. Unit be directed to minimise their water consumption based on water audit studies. Also they may be asked to explore the possibility of using treated water/ water harvesting /recycling techniques. Water tariffs for ground water as per rules/guidelines be communicated and charges levied immediately. Pending EC on the unit be realised by UPPCB immediately. | The unit has obtained NOC from UPGWD for 03 nos. of bore-well, which is valid up to **28.10.2026** to withdraw the ground water. (Refer Annexure 6a, 6b, 6c)<br><br>UPPCB has not reported about levying of any EC on the unit.<br><br>The unit has not submitted water audit report. | Complying |

**4.0 Environmental Compensation Deposited by Industries**

1. **M/s Radico Khaitan Limited, Bareilly Road, Rampur, Uttar Pradesh -244901**

   - Unit has deposited EC amount of Rs 7.29 crores in compliance to the CPCB direction dated 16.08.2019.

2. **M/s Damya (PJ) Foods, Pvt. Ltd. Village- Chikna Shahbad Road, Rampur- 244901 (U.P.)**

   - Unit has deposited EC amount of Rs. 2.5 lacs in compliance to the UPPCB direction dated 19.07.2019.

3. **M/s Usha Steel Process, D-22, 23 and 29, Ajeetpur Industrial Estate, Ajeetpur, Rampur, Uttar Pradesh**

   - Unit has deposited EC amount of Rs. 2.5 lacs in compliance to the UPPCB direction dated 19.07.2019.

4. **M/s Rana Sugars Ltd., (Distillery Division), Khasra No. 318, 319, 320, Village- Belwara, Post- Manpur, Tehsil & District- Moradabad, Uttar Pradesh**

   - Unit has deposited EC amount of Rs 70.50 lacs in compliance to the CPCB direction dated 08.03.2021.

5. **M/s Rana Sugars Ltd., (Sugar Division), Village- Belwara, Post- Manpur, Tehsil & District- Moradabad, Uttar Pradesh**

   - Unit has deposited EC amount of Rs 11.70 lacs in compliance to the CPCB direction dated 08.03.2021.

6. **M/s Indian Glycol Ltd. (Chemical Division) Bazpur Road, Kashipur, Uttarakhand**

   - Performance Guarantee of Rs. 10.0 lacs submitted by the unit in compliance of UKPCB letter dated 15/04/2021.

7. **M/s Indian Glycol Ltd. (Distillery Division) Bazpur Road, Kashipur, Uttarakhand**

   - Performance Guarantee of Rs. 10.0 lacs submitted by the unit in compliance of UKPCB letter dated 15/04/2021.

8. **M/s Kashi Vishwanath Textile Mill Ltd. (SPNG Group), Kashipur**

   - Unit has deposited EC amount of Rs 12.06 lacs in compliance to the UKPCB direction dated 01.12.2021.

## 5.0 Assessment of water quality of rivers (Ramganga, Kosi, Dhela, Bahela and Gangan) and adjoining drains (Pachhana drain, Dhandi drain and Rampur drain)

In compliance of Hon'ble NGT order dated 09.12.2021 in EA No. 19/2021 in OA 324/2016 titled Shailesh Singh Vs State of UP & Ors, Central Pollution Control Board jointly with State Pollution Control Boards of Uttarakhand and Uttar Pradesh carried out monitoring of rivers (Ramganga, Kosi, Dhela, Bahela and Gangan) and adjoining drains (Pachhana drain, Dhandi drain and Rampur drain) in Kashipur (Uttarakhand) and Moradabad (Uttar Pradesh) during February 2nd – 3rd, 2022.

| S. No. | Monitoring locations | Coordinates | |
|---|---|---|---|
| | | Latitude | Longitude |
| 1. | River Dhela near Beljudi village, Uttarakhand | 29.220271 | 78.945054 |
| 2. | Pachhana drain, Near Videocon Industry, Kashipur (Uttarakhand) | 29.202066 | 78.913602 |
| 3. | Dhandi drain, at Dhandi bridge, Moradabad-Kashipur Road (Uttarakhand) | 29.194892 | 78.887374 |
| 4. | River Dhela d/s Faridnagar, Uttarakhand | 29.176953 | 78.895959 |
| 5. | River Dhela near Bhojpur bridge, Uttar Pradesh | 28.972066 | 78.824380 |
| 6. | River Dhela at d/s Bhojpur Bridge, Uttar Pradesh | 28.932370 | 78.810594 |
| 7. | River Bahela at Ramnagar Road (NH-121), Uttarakhand | 29.278845 | 79.022170 |
| 8. | River Bahela at Lohiya bridge Kashipur-Darhiyal Road, Uttarakhand | 29.147160 | 78.982814 |
| 9. | River Bahela at d/s Tanda town, Moradabad-Tanda bridge, Uttar Pradesh | 28.965497 | 78.933551 |
| 10. | River Kosi at NH-74, Sulthanpur Patti, Kashipur Bazpur Road, Uttar Pradesh | 29.158742 | 79.039550 |
| 11. | River Kosi at Dariyal Road, Kashipur, Uttar Pradesh | 29.052809 | 79.019420 |
| 12. | River Kosi at Rampur-Moradabad Road, Uttar Pradesh | 28.786360 | 78.986083 |
| 13. | Rampur drain b/c to river Kosi at Ajeetpur (Uttar Pradesh) | 28.755710 | 79.021928 |
| 14. | River Ramganga at Agwanpur (Uttar Pradesh) | 28.89436 | 78.744476 |
| 15. | River Ramganga at Katghar (Uttar Pradesh) | 28.823230 | 78.800285 |
| 16. | River Ramganga at Shahbad (Uttar Pradesh) | 28.553650 | 79.047972 |
| 17. | Gangan river at Moradabad-Delhi Road (Uttar Pradesh) | 28.826570 | 78.717903 |

River water quality was assessed for primary water quality criteria notified for outdoor bathing in terms of pH (6.5-8.5), DO (≥ 5 mg/L), Bio-chemical Oxygen Demand (BOD (≤ 3 mg/L) and Faecal Coliform (FC) (≤ 2500 MPN/100 ml).

Water quality of rivers Ramganga (at 03 locations), Kosi (at 03 locations), Dhela (at 04 locations), Bahela (at 03 locations) and Gangan (at 01 location) and 03 drains namely Pachhana drain, Dhandi drain and Rampur drain were monitored. Location map showing monitoring locations on rivers and adjoining drains are shown in **Fig. 1**.

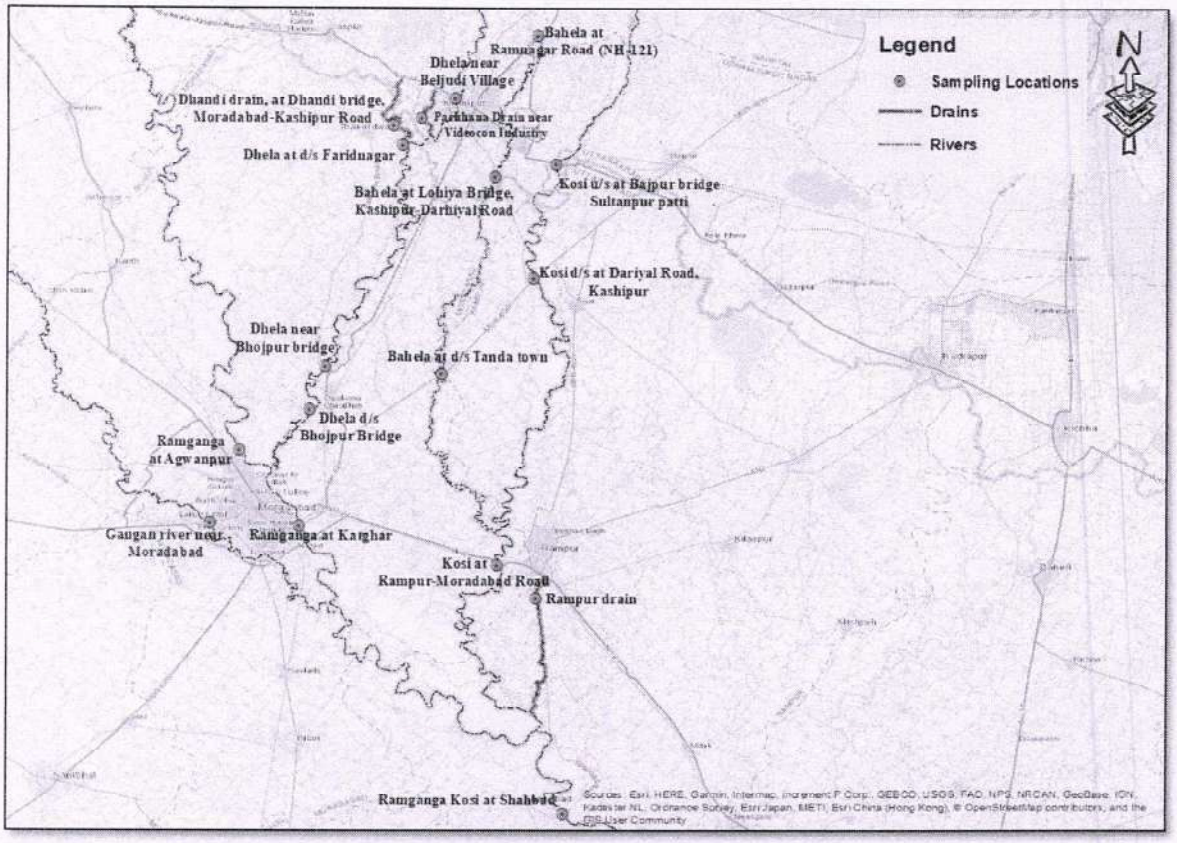


**Fig. 1: Location map showing monitoring locations on rivers and drains**

The water quality of rivers Ramganga, Kosi, Gangan, Dhela and Bahela is as follows:

**River Ramganga**

The Ramganga is a main tributary river of River Ganga. It originates from Chamoli town (Uttarakhand) and flows through the Corbett National Park near Ramnagar of Nainital district from where it descends upon the plains and traverses through Bijnor, Moradabad, Rampur, Bareilly, Budaun, Shahjahanpur and Hardoi districts of Uttar Pradesh and finally merges with river Ganga in district Kannauj (Uttar Pradesh). The river flows approximately 510 km, predominantly in a southerly direction and finally joins river Ganga at Tehra Ghat village, Kannauj.

River Ramganga was monitored at 03 locations at Agwanpur, Katghar and Shahbad. In river Ramganga, DO ranged as 6.61-9.31 mg/l, pH as 7.9-8.2, BOD as 3-6 mg/l, Faecal coliform as 450 – 23 × $10^3$ MPN/100 ml.

**1. River Ramganga at Agwanpur (U.P.)**

Samples were collected on Ramganga bridge on Dilari-Moradabad road (28.89436 N, 78.744476 E). River Dhela meets river Ramganga at d/s of this location. Agricultural activity was observed in the vicinity of the sampling location. Dissolved oxygen in river Ramganga at Agwanpur (U.P.) was found 9.31 mg/l at 14.1° C. River water quality at this location is meeting the bathing criteria w.r.t. pH (8.2), DO (9.31 mg/l), BOD (3 mg/l) and FC (450 MPN/100 ml).

| Photograph |
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| |
| River Ramganga at Agwanpur (U.P.) |

**2. River Ramganga at Katghar (U.P.)**

Samples were collected from river Ramganga at Katghar bridge (28.823230 N, 78.800285 E) after confluence with river Dhela, outlet of 58 MLD STP at Gulab Bari, Moradabad (U.P.) and drains of Moradabad city. Dissolved oxygen in river Ramganga a/c river Dhela at Katghar (U.P.) was 8.1 mg/l at 16.3° C. River water quality at this location is meeting the bathing criteria w.r.t. pH (8.0) and DO (8.1 mg/l) except BOD (06 mg/l) and FC (23000 MPN/100 ml).

| Photograph |
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| |
| River Ramganga at Katghar (U.P.) |

**3. River Ramganga at Shahbad (U.P.)**

Sample of river Ramganga was collected on the bridge on Road MDR 53W (28.553650N, 79.047972E). River Kosi meets river Ramganga at u/s of this location. Agricultural activities were observed near the bank of the river. Dissolved oxygen in river Ramganga at Shahbad was 6.6 mg/l at 15.3° C. River water quality at this location is meeting the bathing criteria w.r.t. pH (7.9), DO (6.6 mg/l) and FC (2000 MPN/100 ml) except BOD (05 mg/l).

**Photograph**

**River Ramganga at Shahbad (U.P.)**

**River Kosi**

River Kosi or Kosila (local name) is one of the major sub-tributary of River Ramganga. It originates from a spring source in the middle Himalayas of Kumaon region, Uttarakhand, India. The river is 240 km long with a catchment area of 3420 $km^2$ starting from Almora District in Uttarakhand. As it traverses through Uttarakhand and Uttar Pradesh, it passes through the districts of Almora, Nainital, Udham Singh Nagar, Rampur and joins River Ramganga in Soopa town (28.634001 N, 79.029054 E), District Rampur, U.P. River Kosi is an important sub-tributary of the Ganga River system that provides water supply for irrigation and public supply. Major water infrastructures along the river are the Ramnagar-Kosi Reservoir in Ramnagar and the Kosi River Dam.

River Kosi was monitored at 03 locations and 01 adjoining drain namely Rampur drain. In river Kosi, DO ranged as 6-7.6 mg/l, pH - 8.0, BOD ranged as 3-4 mg/l, and FC ranged as 780 - 20,000 MPN/100 ml.

**1. River Kosi at NH-74, Sulthanpur Patti, Kashipur Bazpur Road**

Sample collected from river Kosi at NH-74, Sulthanpur Patti, Kashipur Bazpur Road (29.158742N, 79.039550E). Water quality of river Kosi at NH-74, Sulthanpur Patti in Uttar Pradesh was meeting bathing criteria w.r.t. pH (8.0), DO (7.6 mg/l), BOD (3 mg/l) except FC (20,000 MPN/100 ml).

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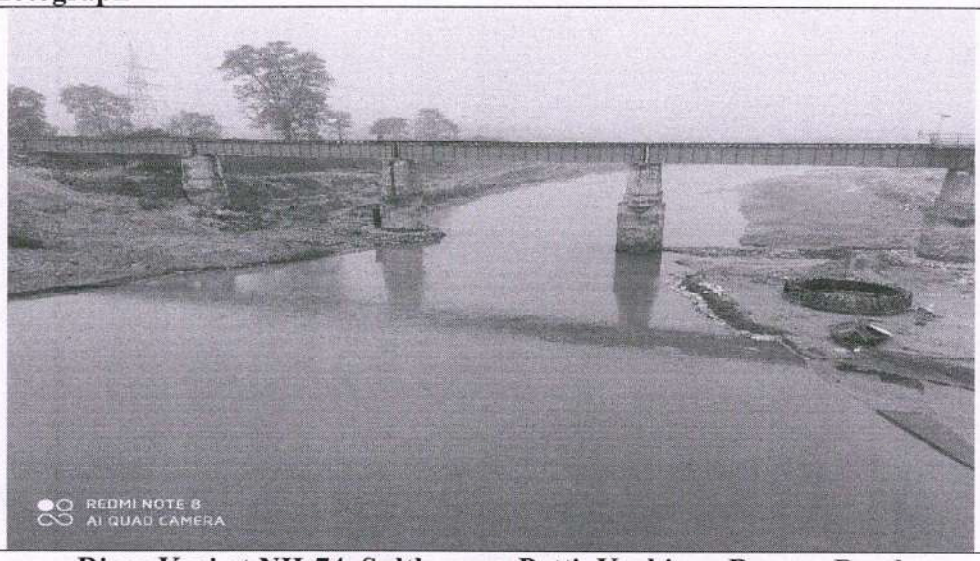
|   |
| River Kosi at NH-74, Sulthanpur Patti, Kashipur Bazpur Road |

**2. River Kosi at Dariyal Road, Kashipur**

Sample collected from river Kosi at Dariyal Road, Kashipur (29.052809N, 79.019420E). Water quality of river Kosi at Dariyal Road in Uttar Pradesh was meeting bathing criteria w.r.t. pH (8.0), DO (6 mg/l) and FC (780 MPN/100 ml) except BOD (4 mg/l).

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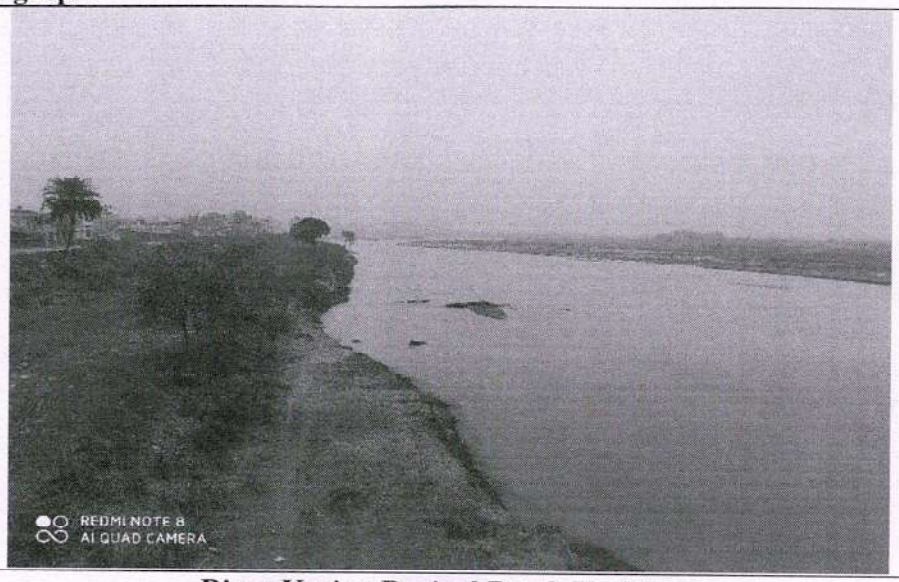
|   |
| River Kosi at Dariyal Road, Kashipur |

### 3. River Kosi at Rampur-Moradabad Road, U.P.

Samples were collected from bridge on Kosi river (28.786360 N, 78.986083 E). Agricultural activity was observed in the vicinity of the sampling location. Rampur drain meets river Kosi after this location. Water quality of river Kosi was meeting bathing water quality criteria w.r.t. pH (8.0) and DO (7.1 mg/l) except BOD (4 mg/l) and FC (7800 MPN/100 ml).

| Photograph |
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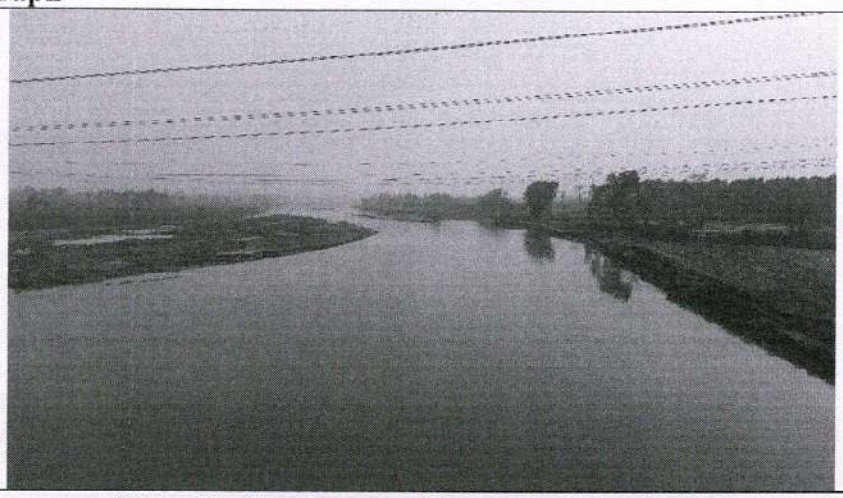
|  |
| River Kosi at Rampur-Moradabad Road, U.P. |

### 4. Rampur drain at Ajeetpur (U.P.)

Rampur drain carried dark grey colored wastewater and solid waste dumping along the drain was observed. Flow in Rampur drain (87.09 MLD) was measured using Ball-Float method as per CPHEEO manual on sewerage and sewage management. Analysis report showed pH-7.0, Conductivity-1567 µmho/cm, Color-119 Hazen, BOD-274 mg/l, COD-575 mg/l, TDS-884 mg/l and FC-$35\times10^6$ MPN/100 ml. Drain carries sewage from Rampur city. Dumping of solid waste along the drain was also observed.

| Photograph |
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| |
| Rampur drain at Ajeetpur (U.P.) |

**River Gangan**

River Gangan is a tributary of river Ramganga which originates near Bijnor district of Uttar Pradesh and meets river Ramganga d/s Moradabad city near Sultanpur village. Water quality of river Gangan was monitored at Moradabad-Delhi Road in Uttar Pradesh, which is approximately 28 Km before confluence with river Ramganga. Water quality of river Gangan was meeting bathing criteria w.r.t. pH (8.3) and DO (8.4 mg/l) except BOD (04 mg/l) and FC (79000 MPN/100 ml).

| **Photograph** |
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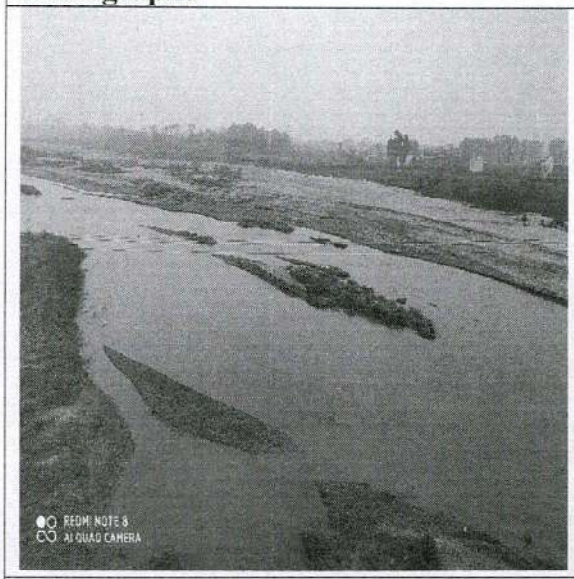
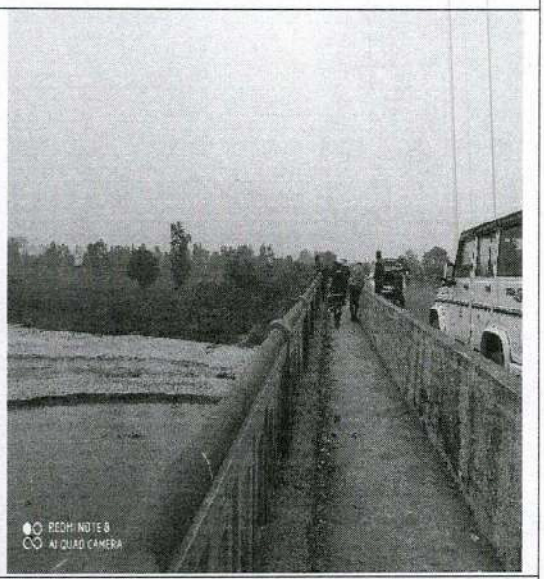
| |
| **Rievr Gangan at Moradabad-Delhi Road** |

**River Dhela**

River Dhela is a tributary of river Ramganga. It originates from north of Kashipur tehsil of Uttarakhand and flows through west of Kashipur city via tehsil Thakurdwara then enters Uttar Pradesh and confluence into River Ramganga near Moradabad city. The River covers an entire length of 110 km. The study area lies between latitude 29.4213 N to 28.87155 N and the longitude 79.00106 E to 78.77732 E.

**1. River Dhela near Beljudi village**

Water sample was collected from river Dhela near Beljudi, upstream of Kashipur (29.220271N, 78.945054E). Sample analysis results showed color-BDL, pH-8.1, DO- 8.8 mg/l, BOD-02 mg/l, COD-08 mg/l and FC-1700 MPN/100 ml. River was meeting bathing criteria w.r.t. pH (8.1), DO (8.8 mg/l), BOD (2 mg/l) and FC (1700 MPN/100 ml) near Beljudi village i.e. b/c with Pachhana drain and Dhandi drain.

| Photographs | |
|---|---|
|  |  |
| **Sampling location at River Dhela near Beljudi** | **Bridge on river Dhela near Beljudi is the landmark of the sampling point.** |

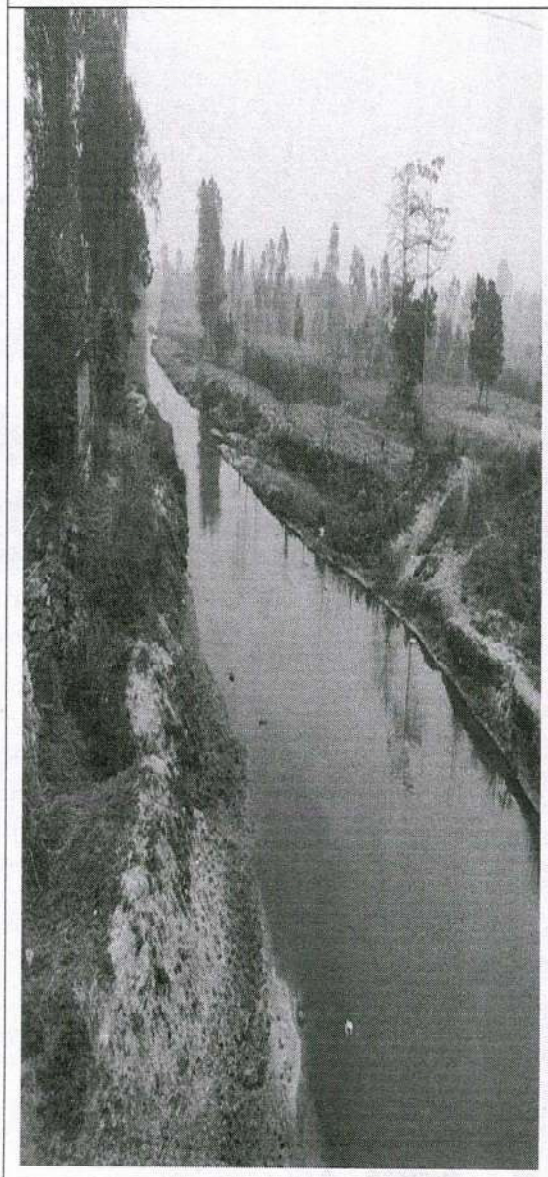
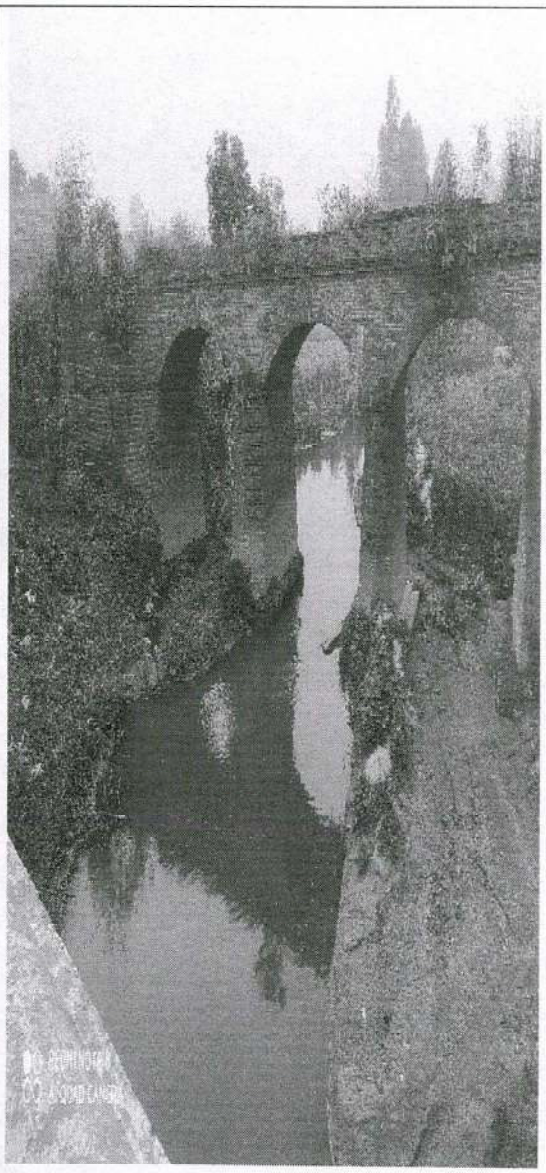
**2. Pachhana drain, near Videocon Industry, Kashipur**

Sample was collected near Videocon Industry (29.202066N, 78.913602E). Flow in Pachhana drain (9.61 MLD) was measured using Ball-Float method as per CPHEEO manual on sewerage and sewage management. Sample analysis results showed color-05 Hazen, pH-6.9, BOD-03 mg/l and COD-11 mg/l, TSS-25 mg/l, TDS-648 mg/l and FC-21000 MPN/100 ml.

| Photograph |
|---|
| |
| **Pachhana drain** |

### 3. Dhandi drain, at Dhandi bridge, Moradabad-Kashipur Road

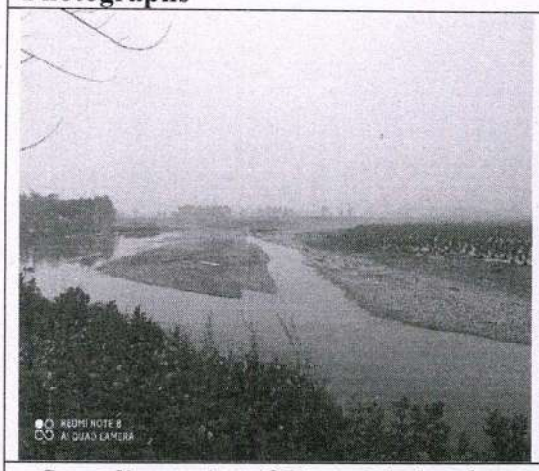
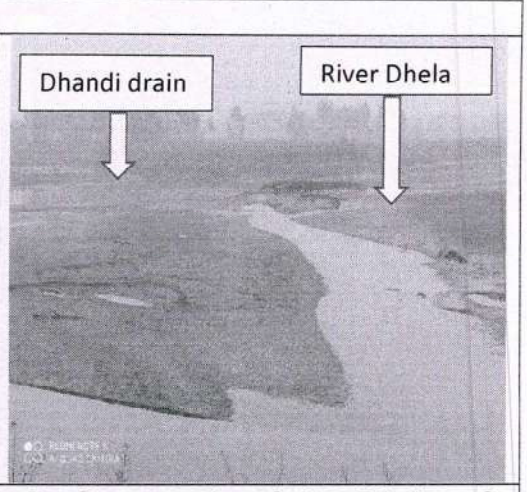
In Dhandi drain, sample was collected from Dhandi bridge on Moradabad-Kashipur road near Gurudwara Nanaksar Dhandipul at Kashipur (29.194892N, 78.887374E). Flow in Dhandi drain (55.83 MLD) was measured using Ball-Float method as per CPHEEO manual on sewerage and sewage management. Sample analysis results showed color-35 Hazen, pH-6.9, BOD-57 mg/l and COD-139 mg/l, TSS-35 mg/l, TDS-352 mg/l and FC-45000 MPN/100 ml.

| **Photographs** | |
|---|---|
|  |  |
| **Dhandi drain (D/s view)** | **Dhandi drain (U/s view)** |

### 4. River Dhela at d/s Faridnagar

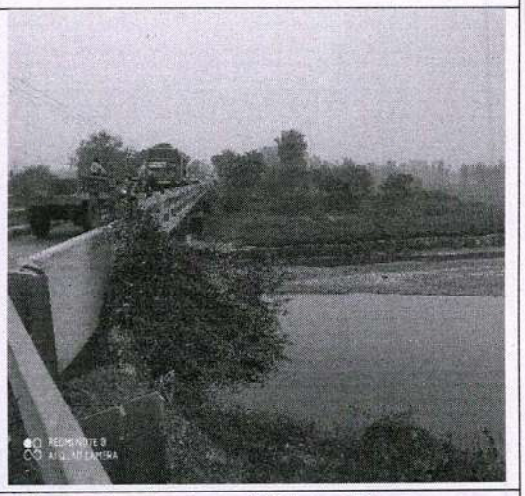
After confluence of Pachhana drain and Dhandi drain with river Dhela and receiving sewage from Faridnagar town, samples of river Dhela were collected at d/s Faridnagar (29.176953N, 78.895959E). Water quality of river Dhela at d/s Faridnagar was not meeting bathing criteria

w.r.t. DO (3.9 mg/l), BOD (15 mg/l), and FC (450000 MPN/100 ml) however pH (7.6) was meeting the bathing criteria.

| Photographs | |
|---|---|
|  |  |
| **Sampling point of River Dhela after confluence of Dhandi drain** | **Confluence point of river Dhela and Dhandi drain** |

**5. River Dhela near Bhojpur bridge**

Sample was collected from river Dhela near Bhojpur bridge, Uttar Pradesh (28.972066N, 78.824380E). Water quality of river Dhela near Bhojpur bridge in Uttar Pradesh was not meeting bathing criteria w.r.t. DO (0.6 mg/l), BOD (17 mg/l) and FC (22000 MPN/100 ml) however pH (7.7) was meeting the bathing criteria.

| Photographs | |
|---|---|
| |  |
| **Sampling point of River Dhela near Bhojpur bridge (D/s view)** | **Sampling point of River Dhela near Bhojpur bridge (U/s view)** |

**6. River Dhela at d/s Bhojpur bridge**

Sampling was carried out at d/s Bhojpur bridge and b/c with river Ramganga near Pipalsana village (28.932370N, 78.810594E). Water quality of river Dhela d/s of Bhojpur bridge in Uttar Pradesh was not meeting bathing criteria w.r.t. DO (0.71 mg/l), BOD (29 mg/l) and FC (110000 MPN/100ml) however pH (8.0) was meeting the bathing criteria.

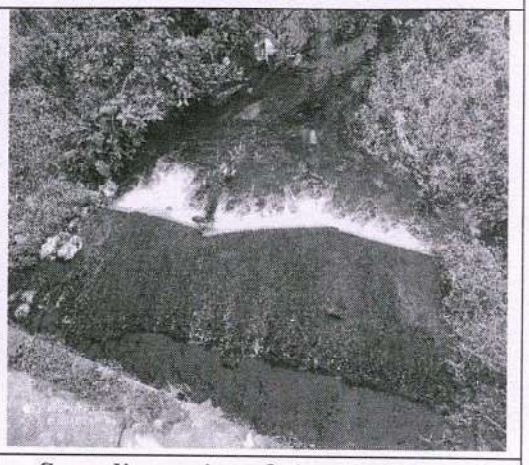
| Photographs |
|---|
| |
| River Dhela D/s Bhojpur bridge |

**River Bahela**

River Bahela is one of the tributaries of River Kosi which is a tributary of River Ramganga. River Bahela originates from forest of Hempur near Tumariya Dam in Udham Singh Nagar District, Uttarakhand and confluences with River Kosi near Khabariya Bhur Mustahkam village, District Rampur, Uttar Pradesh. River Bahela covers a distance of approx. 80 km from its origin to its confluence with River Kosi.

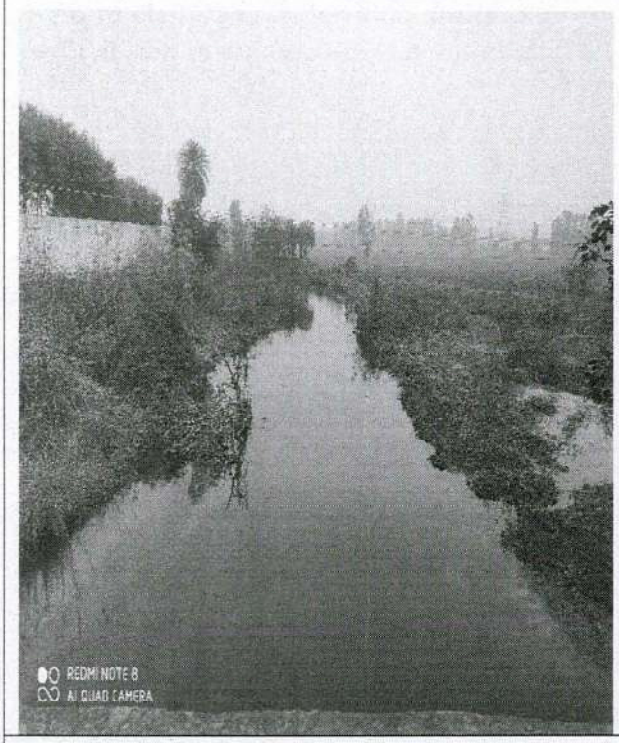
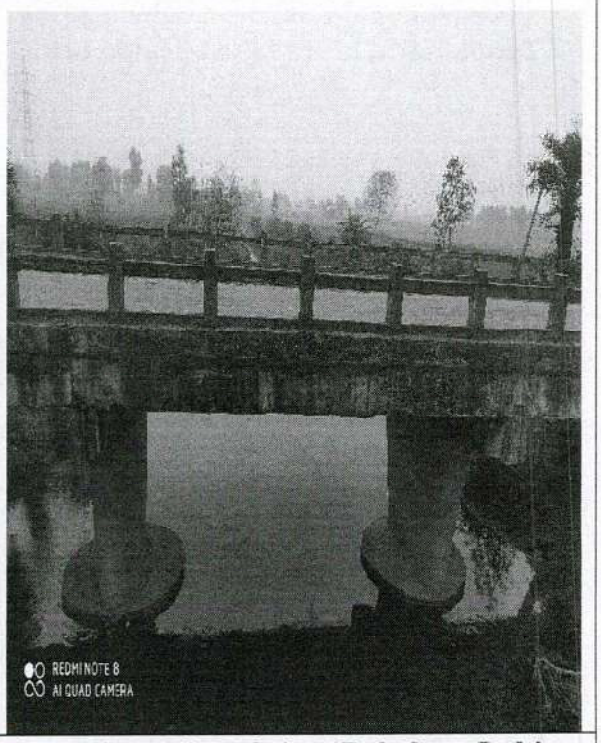
**1. River Bahela at Ramnagar Road (NH-121)**

Sample was collected from river Bahela at Ramnagar road (NH-121), u/s of Kashipur, in Uttarakhand (29.278845N, 79.022170E). Water quality of river Bahela at Ramnagar road (NH-121) in Uttarakhand was meeting bathing criteria w.r.t. pH (7.8), DO (7.8 mg/l) and BOD (2 mg/l) except FC (3400 MPN/100 ml).

| Photographs | |
|---|---|
| |  |
| Sampling point of river Bahela at Ramnagar road (NH-121) (U/s view) | Sampling point of river Bahela at Ramnagar road (NH-121) (D/s view) |

**2. River Bahela at Lohiya bridge, Kashipur-Darhiyal Road**

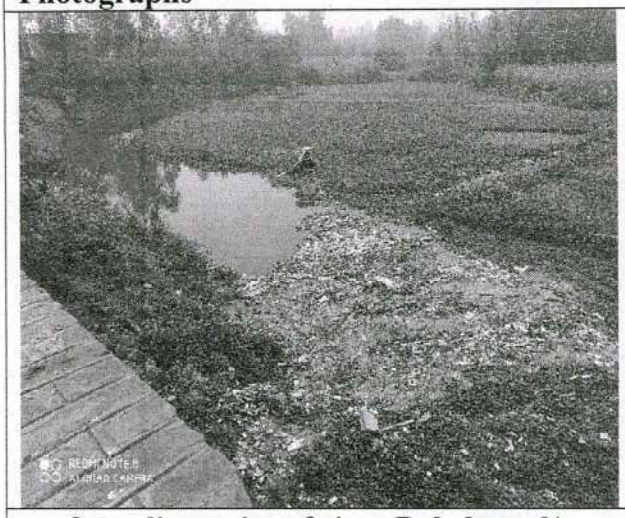
Sample was collected from river Bahela at Lohiya bridge Kashipur-Darhiyal Road, Uttarakhand (29.147160N, 78.982814E). Water quality of river Bahela at Lohiya bridge, u/s of Rajpura Tanda village, was not meeting bathing criteria w.r.t. DO (3.2 mg/l), BOD (5 mg/l) and FC (23000 MPN/100 ml) however pH (7.6) was meeting the bathing criteria. Water quality of river Bahela at Lohiya bridge deteriorated which could be due to sewage from Kashipur city and nearby villages.

| **Photographs** | |
|---|---|
|   |   |
| **Sampling point of river Bahela at Lohiya bridge Kashipur-Darhiyal road (U/s view)** | **Sampling point of river Bahela at Lohiya bridge Kashipur-Darhiyal road (D/s view)** |

**3. River Bahela at d/s Tanda town, Moradabad-Tanda bridge, Uttar Pradesh**

Sample was collected from river Bahela d/s Tanda town in Uttar Pradesh (29.147160 N, 78.982814 E). Water quality of river Bahela at d/s Tanda town was not meeting bathing

criteria w.r.t. DO (0.5 mg/l), BOD (58 mg/l) and FC (200000 MPN/100 ml) however pH (7.5) was meeting the bathing criteria.

| **Photographs** | |
|---|---|
|  | |
| **Sampling point of river Bahela at d/s Tanda town, Moradabad-Tanda bridge (U/s view)** | **Sampling point of river Bahela at d/s Tanda town, Moradabad-Tanda bridge (D/s view)** |

**Conclusions**

- River Ramganga was monitored at 03 locations at Agwanpur, Katghar and Shahbad. Water quality of river Ramganga at Agwanpur, which is upstream of Moradabad, was meeting bathing criteria w.r.t. pH (8.2), DO (9.3 mg/l), BOD (3 mg/l) and FC (450 MPN/100 ml). After approximately 12.5 kms downstream, samples were collected from river Ramganga at Katghar bridge after confluence with river Dhela, outlet of 58 MLD STP at Gulab Bari, Moradabad (U.P.) and drains of Moradabad city. In the stretch from Agwanpur to Katghar, 18 drains meet river Ramganga out of 20 drains carrying wastewater from Moradabad city. CPCB monitored these drains during post-monsoon season in 2021 and found that out of these 18 drains, 01 was found dry, 08 were tapped and 09 were untapped. Flow in these drains ranged as 2.51-43.5 MLD, color as 15-65 Hazen, BOD as 25-254 mg/l and COD as 99-594 mg/l. Solid waste dumping was observed along the drains. The water quality of river Ramganga at Katghar was meeting the bathing criteria w.r.t. pH (8.0) and DO (8.1 mg/l) except BOD (06 mg/l) and FC (23000 MPN/100 ml). Further, river Gangan meets river Ramganga in Moradabad after approximately 14 km. Further downstream, river Kosi also meets river Ramganga after approximately 43 km downstream from the confluence of rivers Gangan and Ramganga. Thereafter, water samples of river Ramganga were collected at Shahbad, Uttar Pradesh which is located approximately 72 km downstream of Katghar in Uttar Pradesh. River water quality at Shahbad (Uttar Pradesh) was meeting the bathing criteria w.r.t. pH (7.9), DO (6.6 mg/l) and FC (2000 MPN/100 ml) except BOD (05 mg/l).
- River Kosi was monitored at 03 locations and 01 adjoining drain namely Rampur drain was also monitored. Water quality of river Kosi at NH-74, Sulthanpur Patti in Uttarakhand

was not meeting bathing criteria w.r.t. FC (20,000 MPN/100 ml). After approximately 18 km downstream, water quality of river Kosi at Dariyal Road, Kashipur was meeting bathing criteria w.r.t. DO (6 mg/l), pH (8.0) and FC (780 MPN/100 ml) however water quality was not meeting bathing criteria w.r.t. BOD (4 mg/l). Thereafter, at approximately 46 km downstream, water samples from river Kosi were collected at Rampur-Moradabad Road, Uttar Pradesh after confluence with river Bahela and water quality of river Kosi was meeting bathing water quality criteria w.r.t. pH (8.0) and DO (7.1 mg/l) except BOD (4 mg/l) and FC (7800 MPN/100 ml) which may be attributed to discharge of sewage from nearby villages and towns. Thereafter, at approximately 33 km downstream, Rampur drain (Flow- 87.09 MLD, BOD-274 mg/l and COD-575 mg/l) meets river Kosi at the left bank. After confluence with Rampur drain, river Kosi meets river Ramganga after approximately 2 km.

- River Dhela being non-perennial is fed by drains carrying effluents from industrial units/clusters and sewage from residential areas. Fresh water in the river is diverted to Tumaria dam from the barrage constructed on the river Dhela at upstream of Kashipur, resulting in lack of natural flow in the river except during the monsoon months. Thereafter, the river mostly carries wastewater received from drains and has less quantity of fresh water. The water quality of river Dhela near Beljudi village, Uttarakhand (downstream of barrage) was meeting bathing criteria w.r.t. pH (8.1), DO (8.8 mg/l), BOD (2 mg/l) and FC (1700 MPN/100 ml). After approximately 6.6 km downstream, Pachhana drain (Flow- 9.61 MLD, BOD-03 mg/l) meets river Dhela. Further, after traversing a distance of approximately 2.3 km, Dhandi drain (Flow- 55.83 MLD, BOD- 57 mg/l) meets river Dhela. After confluence of Pachhana drain and Dhandi drain, water samples from river Dhela were collected at D/s Faridnagar (Uttar Pradesh). It has been observed that the water quality of river Dhela deteriorated at d/s Faridnagar (DO-3.9 mg/l, BOD-15 mg/l, FC-$45\times10^4$ MPN/100 ml). The deterioration in water quality of river Dhela is attributed to discharge of wastewater from Pachhana drain and Dhandi drain & sewage from Kashipur city. After approximately 41 km downstream, water samples of river Dhela were collected near Bhojpur bridge (Uttar Pradesh) and water quality of river Dhela was not meeting bathing criteria w.r.t. DO (0.6 mg/l), BOD (17 mg/l), FC (22000 MPN/100 ml) which may be attributed to discharge of sewage from nearby villages. Further, at approximately 9 km downstream, water samples of river Dhela were collected near Pipalsana village (Uttar Pradesh) and water quality of river Dhela was not meeting bathing criteria w.r.t. DO (0.71 mg/l), BOD (29 mg/l) and FC (110000 MPN/100 ml).
- River Bahela being non-perennial is fed by drains carrying effluents from industrial units/ clusters and sewage from residential areas. Fresh water in the river is diverted from Moteshwar Barrage (29.211038, 78.985787) constructed on river Bahela to Moteshwar Mahadev canal. The river Bahela at d/s of the Barrage carries mostly wastewater received from various drains and have less quantity of fresh water and therefore, the water quality does not meet the bathing water quality criteria at downstream of barrage. Water samples of river Bahela were collected at Ramnagar Road (upstream Kashipur) and water quality was meeting bathing water quality criteria w.r.t. pH (7.8), DO (7.8 mg/l) and BOD (2 mg/l) except FC (3400 MPN/100 ml). After approximately 20 km, water samples were

collected at Lohiya bridge, Kashipur-Dariyal Road. Water quality of river Bahela at Lohiya bridge, u/s of Rajpura Tanda village, was not meeting bathing criteria w.r.t. DO (3.2 mg/l), BOD (5 mg/l) and FC (23000 MPN/100 ml) however pH (7.6) was meeting the bathing criteria. The deteriorated water quality of river Bahela was attributed to discharge of sewage from Kashipur city and nearby villages into river Bahela. After approximately 51 km, water quality of river Bahela at D/s Tanda town was not meeting bathing criteria w.r.t. DO (0.5 mg/l), BOD (58 mg/l) and FC ($20\times10^4$ MPN/100 ml). The deterioration in water quality of river may be attributed to discharge of sewage from Tanda town and nearby villages adjacent to river.

**Action taken for rejuvenation of rivers Bahela, Kosi and Dhela:**

- River Bahela is enlisted as Polluted River Stretch, Priority-I, by River Rejuvenation Committee (RRC) constituted in pursuance of Honorable NGT order in the matter of O.A. No. 673/2018. The RRC recommended the installation of STPs (02 Nos.) and interception and diversion of drains to STPs by Uttarakhand Pey Jal Nigam for sewage management in the catchment of river Bahela.
- River Kosi is enlisted as Polluted River Stretch, Priority-IV, by RRC constituted in pursuance of Honorable NGT order in the matter of O.A. No. 673/2018. The RRC proposed/recommended interception and diversion of drains to proposed 110 KLD STP at Mukundpur for sewage management in the catchment of river Kosi.
- River Dhela is enlisted as Polluted River Stretch, Priority-I, by RRC constituted in pursuance of Hon'ble NGT order in the matter of O.A. No. 673/2018. The RRC recommended two STPs of capacity 18 MLD and 14 MLD at different locations in the stretch of River Dhela to cater sewage load of Kashipur City. Civil work of 18 MLD STP is completed.

*Annexure-16: Analysis results of river water and drain samples*

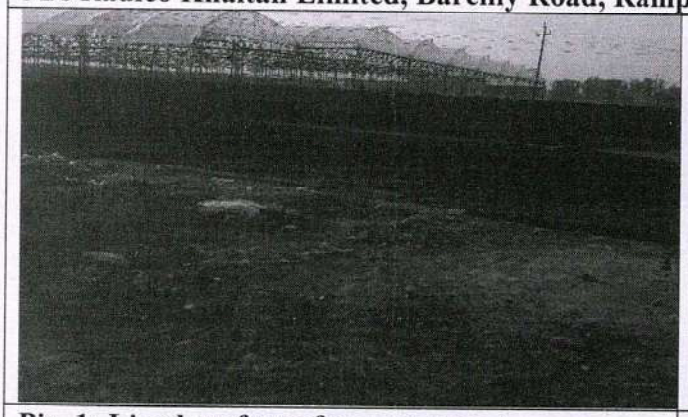
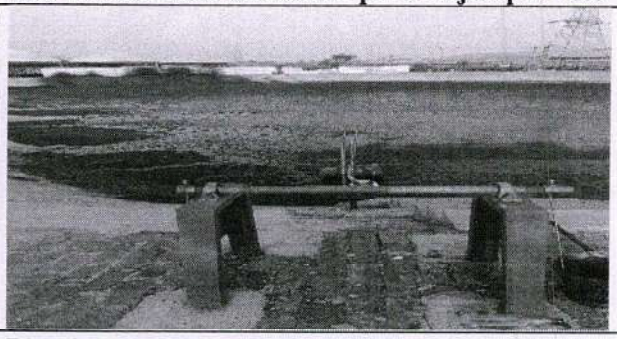
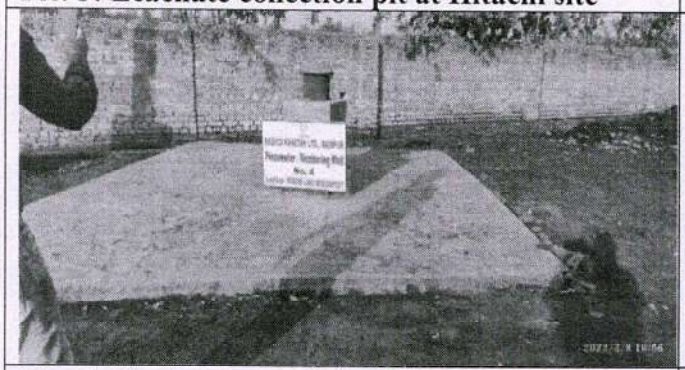
| S. No. | Name of location | Latitude | Longitude | Date of monitoring | Time of monitoring | DO (mg/l) | Temp (°C) | Color | pH | Conductivity | COD | BOD | TSS | TDS | TC | FC |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1. | River Dhela near Beljudi | 29.220271 | 78.945054 | 02.02.2022 | 04:30 PM | 8.8 | 15.5 | BDL | 8.1 | 434 | 8 | 2 | 65 | 258 | 24000 | 1700 |
| 2. | Pachhana drain, Near Suryapratap Pipe Industry, Kashipur | 29.202066 | 78.913602 | 02.02.2022 | 04:45 PM | - | - | 05 | 6.9 | 864 | 11 | 03 | 25 | 648 | 350000 | 21000 |
| 3. | Dhandi drain, at Dhandi bridge, Moradabad-Kashipur Road | 29.194892 | 78.887374 | 02.02.2022 | 05:20 PM | - | - | 35 | 6.9 | 786 | 139 | 57 | 35 | 352 | 1400000 | 45000 |
| 4. | River Dhela d/s Faridnagar (a/c of Dhandi drain) | 29.176953 | 78.895959 | 02.02.2022 | 06:05 PM | 3.9 | 15.5 | BDL | 7.6 | 682 | 38 | 15 | 40 | 424 | 2300000 | 450000 |
| 5. | River Dhela near Bhojpur bridge | 28.972066 | 78.824380 | 02.02.2022 | 12:15 PM | 0.6 | 15.1 | BDL | 7.7 | 817 | 59 | 17 | 45 | 444 | 79000 | 22000 |
| 6. | Dhela d/s Bhojpur Bridge (U.P.) | 28.932370 | 78.810594 | 03.02.2022 | 1.30 PM | 0.7 | 13.2 | BDL | 8.0 | 789 | 75 | 29 | 63 | 460 | 460000 | 110000 |
| 7. | River Bahela at Ramnagar Road (NH-121) | 29.278845 | 79.022170 | 02.02.2022 | 04:00 PM | 7.8 | 15.3 | BDL | 7.8 | 260 | 9 | 2 | 10 | 146 | 35000 | 3400 |
| 8. | River Bahela at Lohiya bridge Kashipur-Darhiyal road, u/s of Rajpura Tanda | 29.147160 | 78.982814 | 02.02.2022 | 02:15 PM | 3.2 | 16.2 | BDL | 7.6 | 540 | 17 | 5 | 23 | 302 | 350000 | 23000 |
| 9. | River Bahela at d/s Tanda, Moradabad-Tanda bridge | 28.965497 | 78.933551 | 02.02.2022 | 01:00 PM | 0.5 | 15.1 | BDL | 7.5 | 615 | 123 | 58 | 41 | 394 | 3300000 | 200000 |

593

| | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 10. | River Kosi at NH-74, Sulthanpur Patti, Kashipur Bazpur Road | 29.158742 | 79.039550 | 02.02.2022 | 03:30 PM | 7.6 | 16.1 | BDL | 8.0 | 483 | 9 | 03 | 50 | 296 | 130000 | 20000 |
| 11. | River Kosi at Dariyal Road, Kashipur | 29.052809 | 79.019420 | 02.02.2022 | 01:30 PM | 6.0 | 15.9 | BDL | 8.0 | 536 | 11 | 04 | 37 | 350 | 13000 | 780 |
| 12. | Rampur drain b/c to river Kosi at Ajeetpur (U.P. | 28.755710 | 79.021928 | 02.02.2022 | 02:30 PM | - | - | 119 | 7.0 | 1567 | 575 | 274 | 269 | 884 | 54000000 | 35000000 |
| 13. | Kosi at Rampur-Moradabad Road, U.P. | 28.786360 | 78.986083 | 02.02.2022 | 03:03 PM | 7.1 | 16.3 | BDL | 8.0 | 516 | 12 | 04 | 74 | 314 | 130000 | 7800 |
| 14. | River Ramganga b/c River Dhela at Agwanpur (U.P.) | 28.894360 | 78.744476 | 03.02.2022 | 02.15 PM | 9.3 | 14.1 | BDL | 8.2 | 468 | 12 | 03 | 57 | 280 | 2300 | 450 |
| 15. | River Ramganga a/c of River Dhela at Katghar (U.P.) | 28.823230 | 78.800285 | 02.02.2022 | 04:37 PM | 8.1 | 16.3 | BDL | 8.0 | 543 | 22 | 06 | 44 | 318 | 49000 | 23000 |
| 16. | River Ramganga a/c of River Kosi at Shahbad (U.P.) | 28.553650 | 79.047972 | 02.02.2022 | 01:15 PM | 6.6 | 15.3 | BDL | 7.9 | 560 | 18 | 05 | 45 | 326 | 13000 | 2000 |
| 17. | Gangan river at Moradabad-Delhi Road (U.P.) | 28.826570 | 78.717903 | 03.02.2022 | 03:00 PM | 8.4 | 14.1 | BDL | 8.3 | 530 | 18 | 04 | 15 | 310 | 79000 | 79000 |

All parameters are expressed in mg/l except pH, Temperature (°C), color (Hazen), conductivity (µmho/cm) and TC/FC (MPN/100 ml)

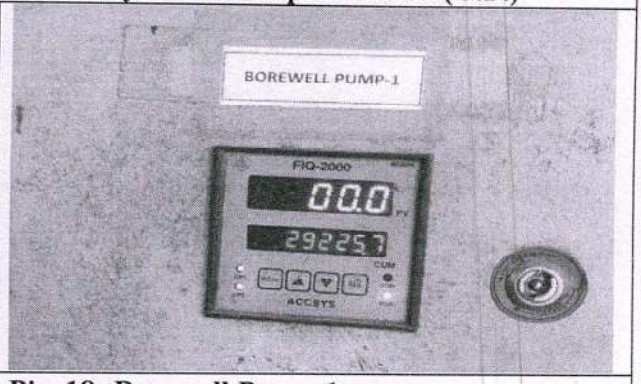
**Photographs**

| M/s Radico Khaitan Limited, Bareilly Road, Rampur, Uttar Pradesh -244901 | |
|---|---|
|  | |
| Pic. 1: Lined surface of compost yard | Pic. 2: D/s of Hitachi site bio-compost |
| | |
| Pic. 3: U/s of Hitachi site bio-compost | Pic. 4: Leachate collection pit at Ajeetpur site |
| |  |
| Pic. 5: Leachate collection pit at Hitachi site | Pic. 6: Floating levelling system |
|  | |
| Pic. 7: Piezometer no.04 at Bio-composting area, Hitachi land | Pic. 8: Piezometer no.05 at Bio-composting area, Hitachi land |

| | |
|---|---|
| | |
| **Pic. 9: Piezometer no.02 at Bio-composting area, Ajeetpur site** | **Pic. 10: Lined, PCC surface at piezometer wells in Hitachi site** |
| **M/s Damya (PJ) Foods, Pvt. Ltd. Village- Chikna Shahbad Road, Rampur- 244901 (UP)** | |
| | |
| **Pic.11 : Flow meter at ETP Inlet** | **Pic.12 : Flow meter at ETP outlet** |
| | |
| **Pic. 13: Borewell No. 1** | **Pic. 14: Borewell No. 2** |
| **M/s Usha Steel Process D-22, 23 & 29 Ajeetpur Industrial Estate Ajeetpur, Rampur U.P.** | |
| | |
| **Pic. 15: Flow meter at Borewell** | **Pic. 16: Flowmeter at ETP outlet** |

M/s Swati Menthol & Allied Chemicals Ltd. 4.5kms. Bareilly Road Rampur 244901 (U.P.)

Pic. 17: Flow meter at ETP outlet




Pic. 18: Borewell Pump 1

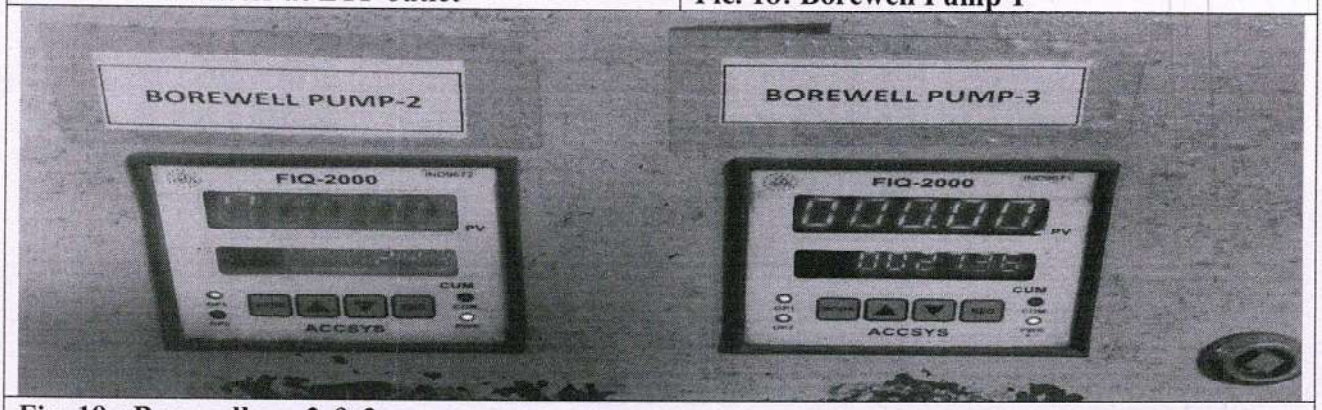
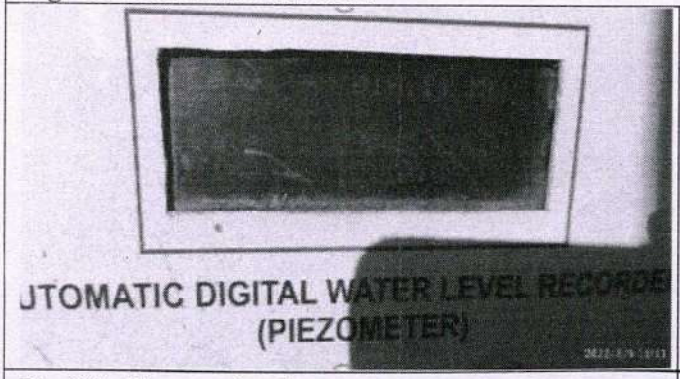


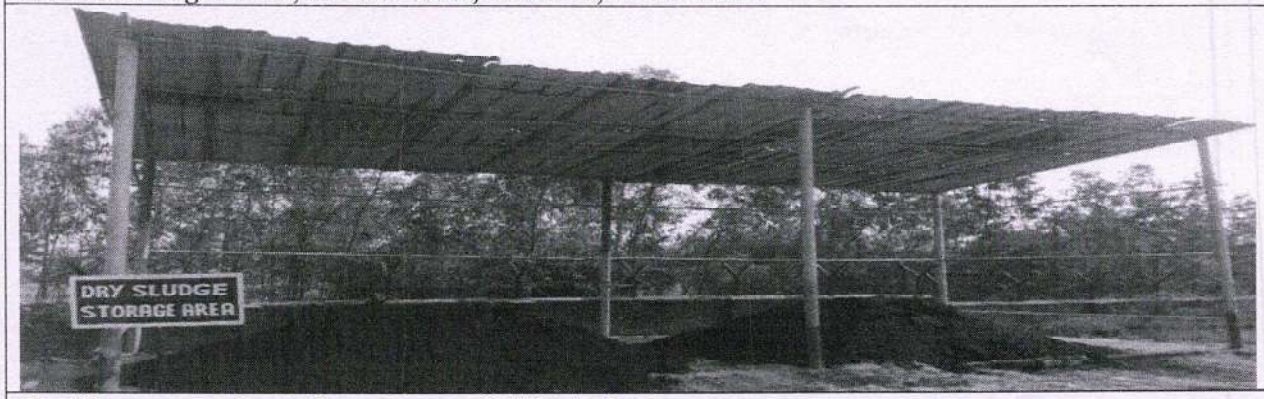

Fig. 19 : Borewell no. 2 & 3




Pic. 20: Piezometer 1

Pic. 21: Piezometer 2

M/s Rana sugar Ltd., Tanda Road, Belwara, Moradabad

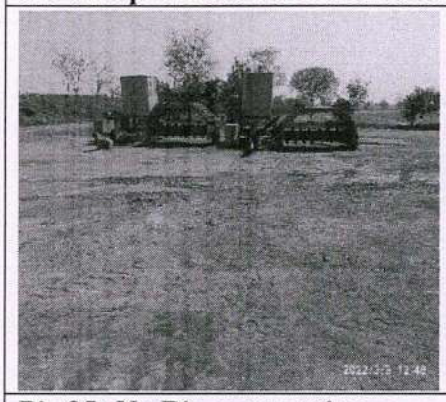



Pic. 22: separate area for storage of ETP sludge

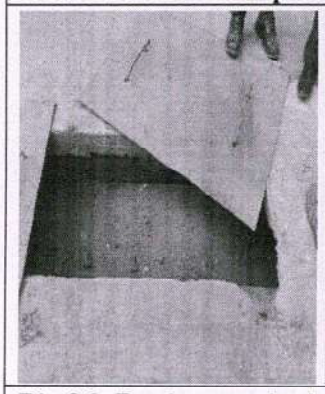
**M/s Indian Glycols Ltd. (Distillery Unit), Kashipur**

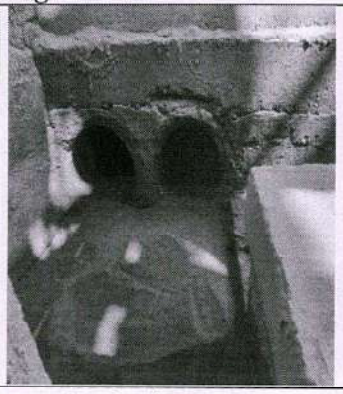
**Pic.23: Dismantled aeration lagoons, discarded clarifiers and rectangular tanks located inside the unit premises near incineration boiler**

**Pic.24: Lagoon located at Dabhora site filled with ash**



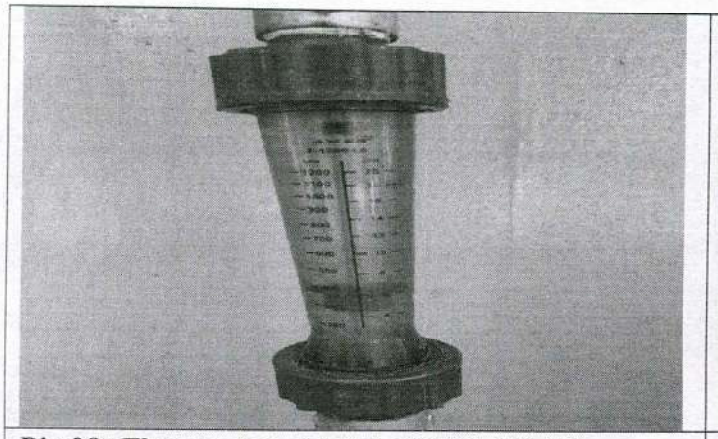
**Pic.25: No Bio-composting**



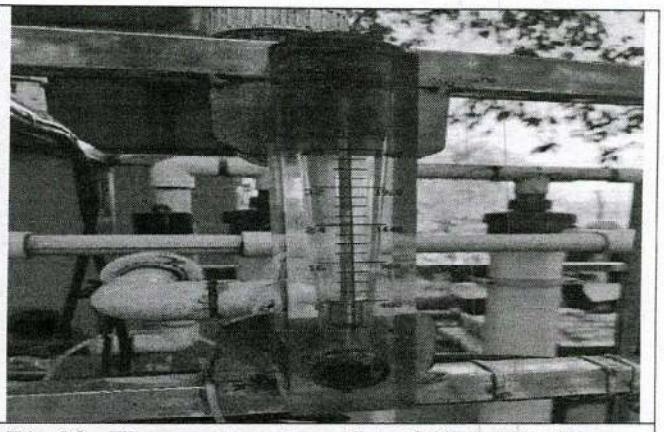


**Pic.26: Drain near incineration boiler**

**Pic.27: Flow meter at outlet of STP at residential colony**

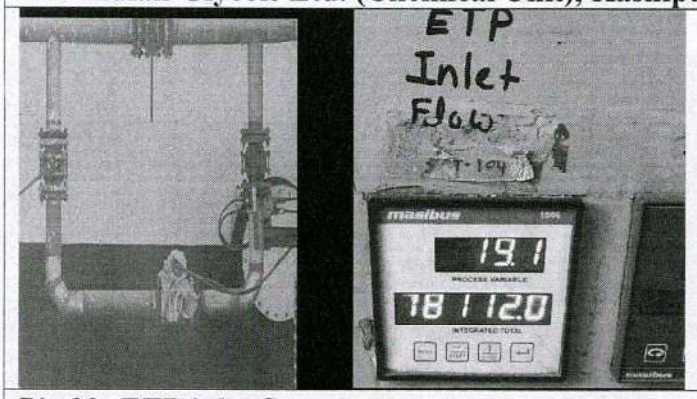


Pic.28: Flow meter at inlet of STP (Distillery unit)

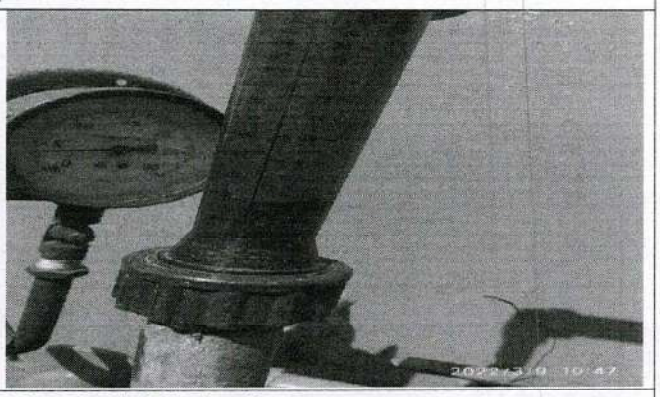


Pic.29: Flow meter at outlet of STP (Distillery unit)

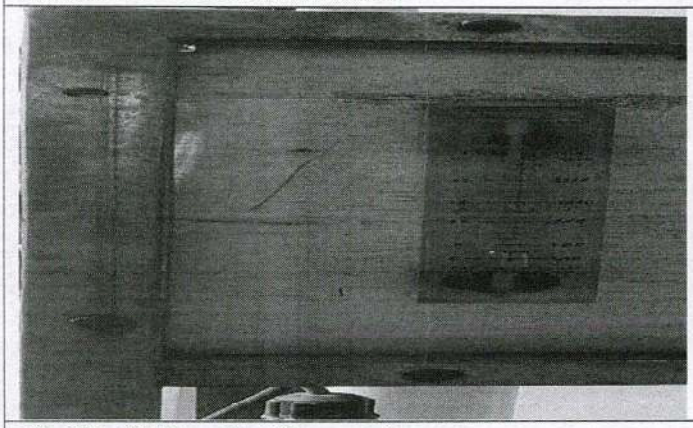
M/s Indian Glycols Ltd. (Chemical Unit), Kashipur



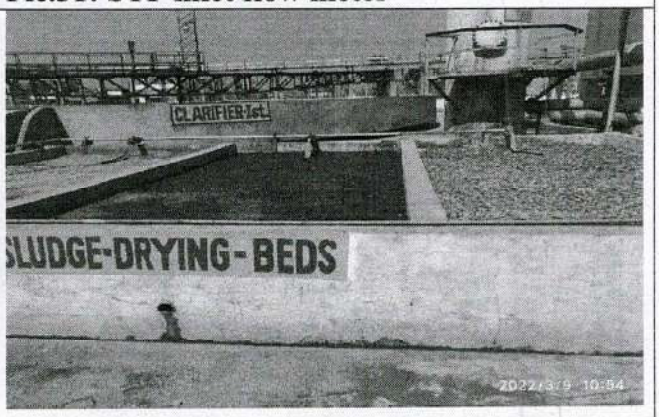

Pic.30: ETP inlet flow meter



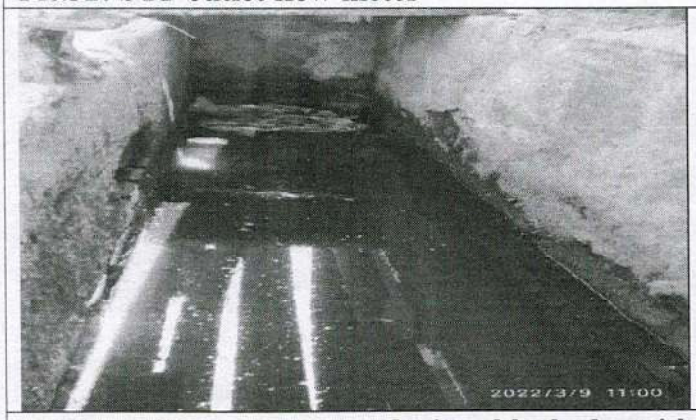
Pic.31: STP inlet flow meter



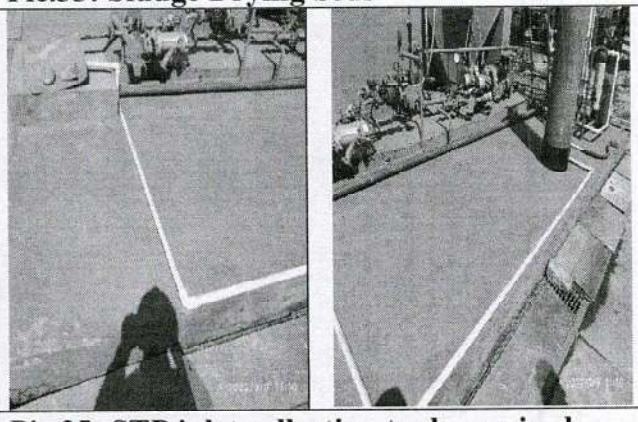
Pic.32: STP outlet flow meter



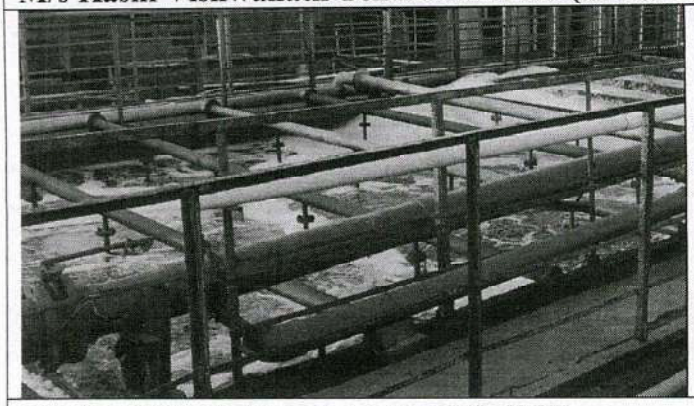
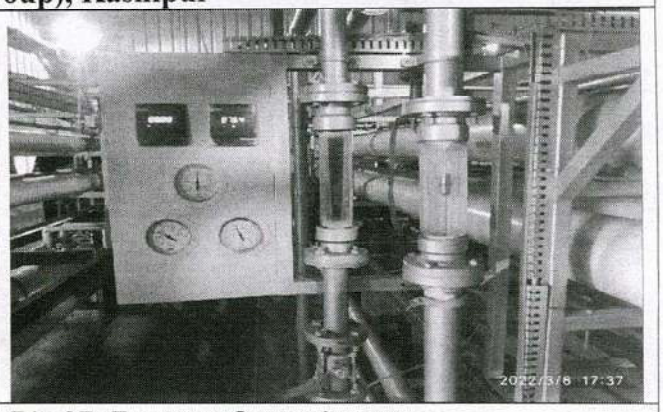
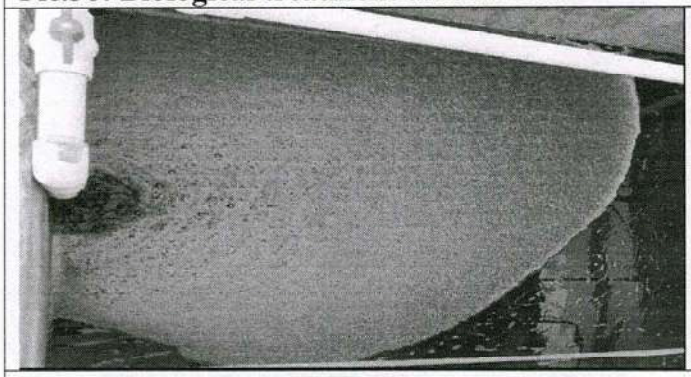
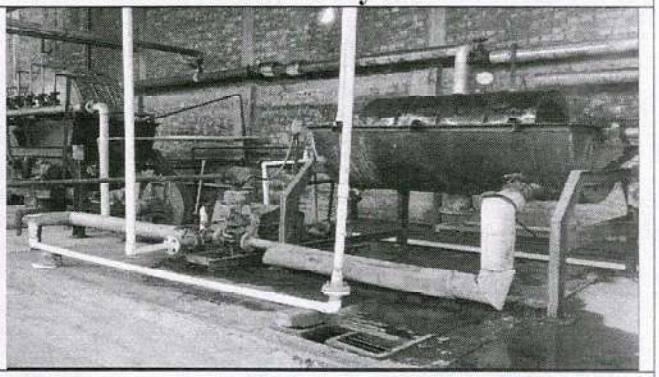
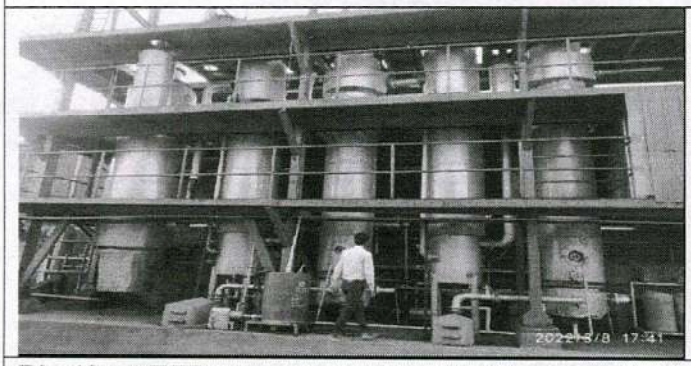
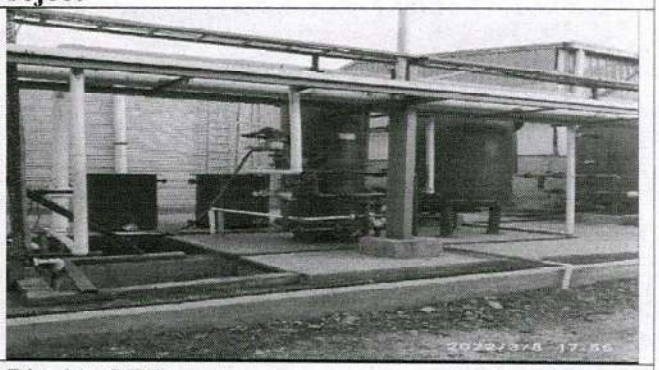
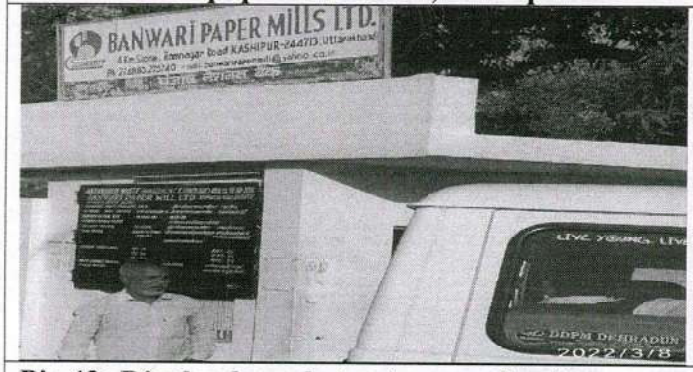
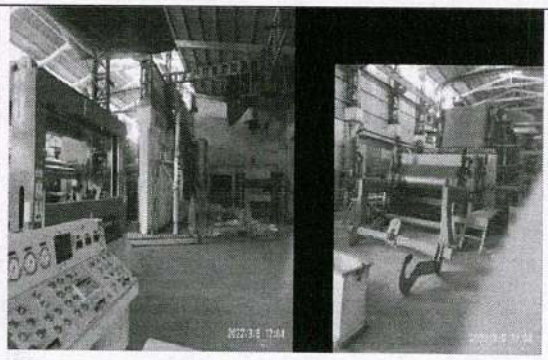

Pic.33: Sludge Drying beds



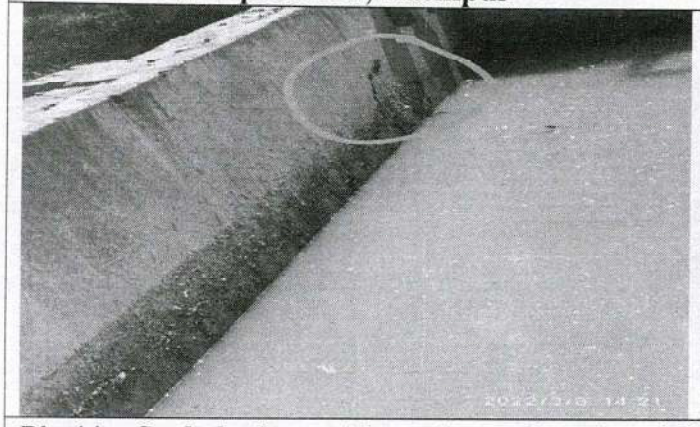

Pic.34: Storm water drain blocked with



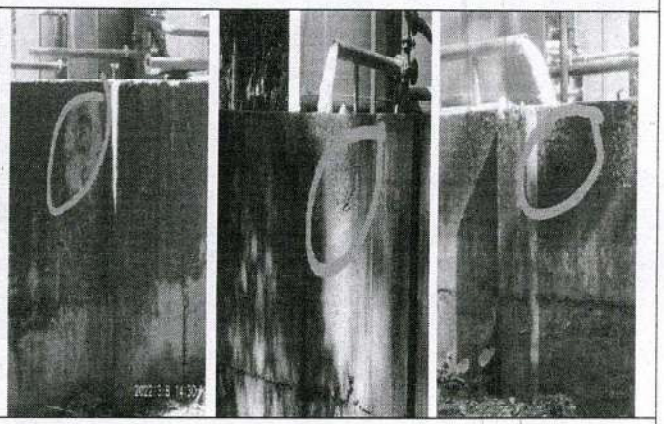
Pic.35: STP inlet collection tank repaired

| | |
|---|---|
| cemented wall | |
| M/s Kashi Vishwanath Textile Mill Ltd. (SPNG Group), Kashipur | |
|  |  |
| Pic.36: Biological treatment unit in ETP | Pic.37: Reverse Osmosis system |
|  |  |
| Pic.38: RO reject collection tank | Pic.39: MEE system for concentration of RO reject |
|  |  |
| Pic.40: ATFD to convert the MEE concentrate into powdered form | Pic.41: STP system |
| M/s Banwari paper Mills Ltd., Kashipur | |
|  |  |
| Pic.42: Display board at entrance of unit | Pic.43: No production, machineries in shut down |

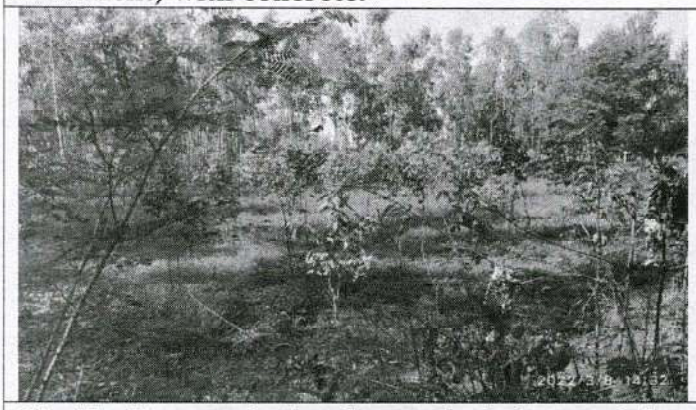
**M/s Cheema Papers Ltd., Kashipur**



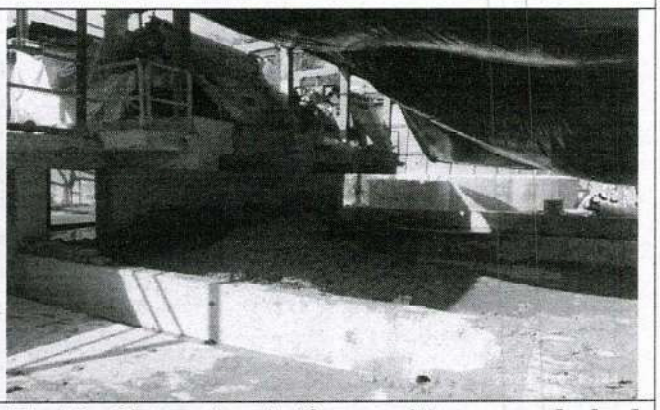
**Pic.44: Sealed the said outlet point (partial treated effluent from collection tank after secondary clarifier of ETP before tertiary treatment) with concrete.**



**Pic.45: Sealed multiple outlet points with concrete.**

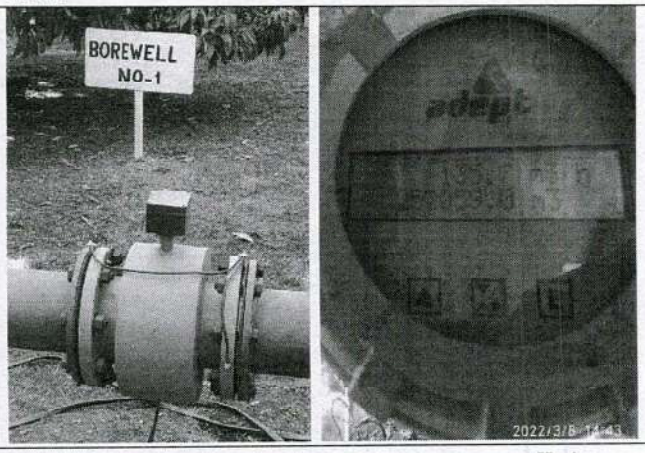


**Pic.47: Removed the dumped sludge and has planted trees at the location where sludge was found to be dumped during earlier visit.**

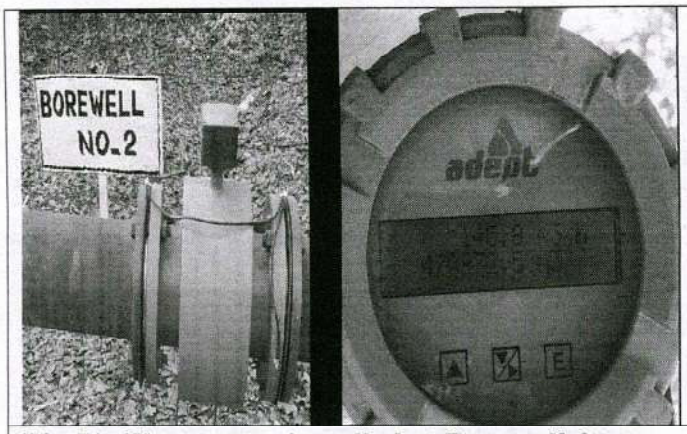


**Pic.48: Concrete platform with covered shed constructed to store dewatered sludge of the ETP**

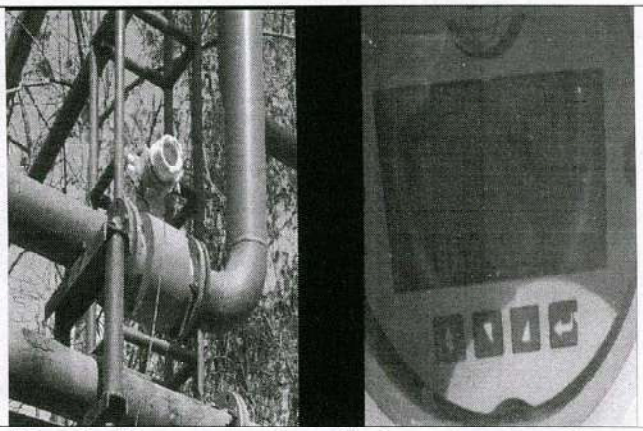
**Pic.49: V-notch installed properly at ETP inlet**




**Pic.50: Flow meter installed at Borewell-1**

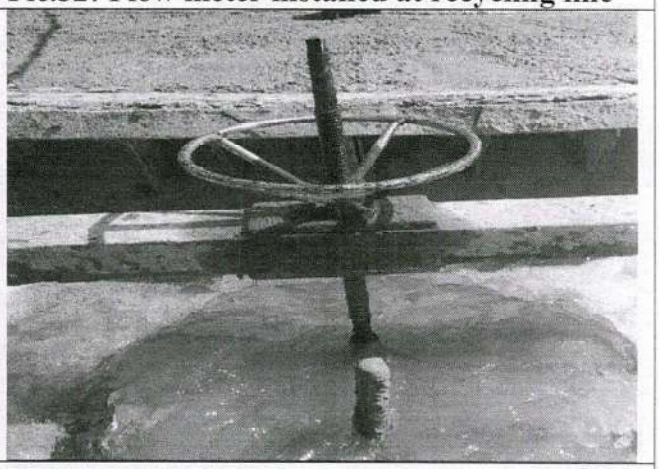



Pic.51: Flow meter installed at Borewell-2

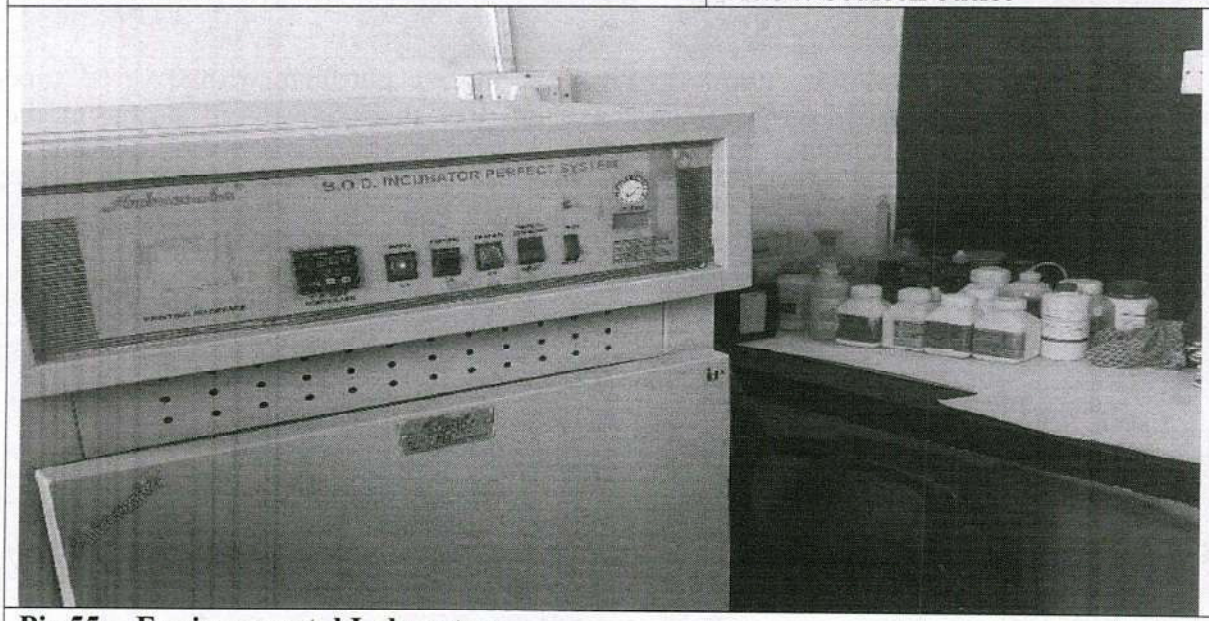


Pic.52: Flow meter installed at recycling line

Pic.53: Sedicell surface



Pic.54: Sedicell outlet

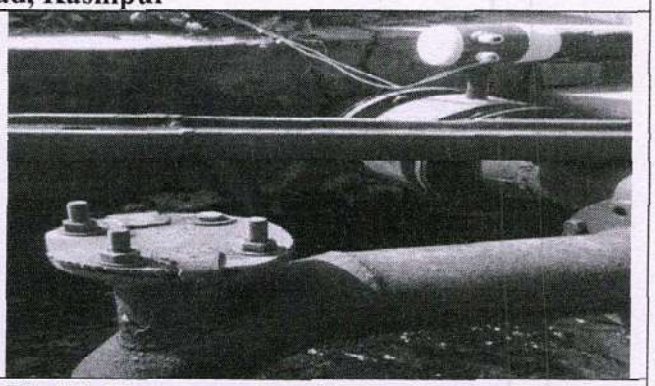



Pic.55a: Environmental Laboratory

Pic.55: Environmental Laboratory

M/s Multiwal Duplex Pvt. Ltd., Kundeshwari Road, Kashipur

Pic.56: Production process found operational

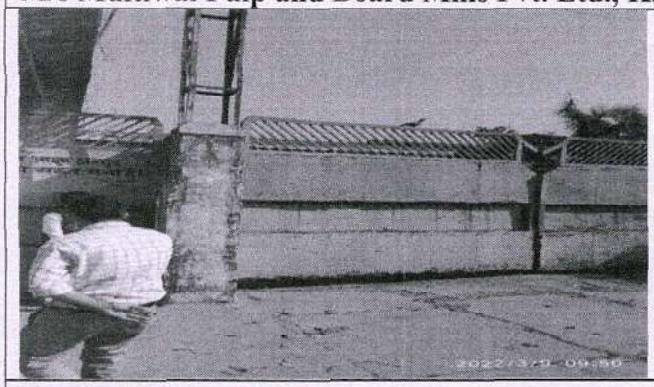


Pic.57: Flow meter installed at Borewell-1

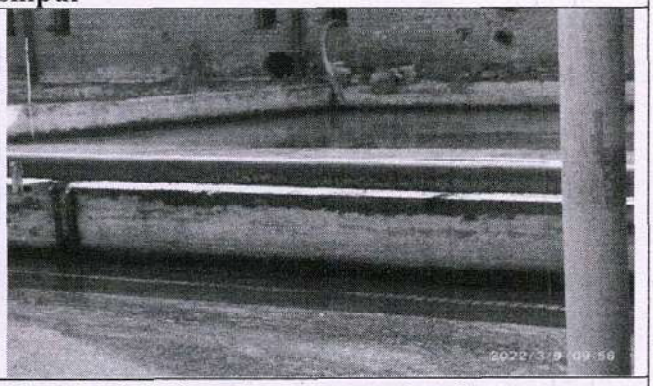
Pic.58: *Borewell-2 converted into piezo well* and piezometer installed

Pic.59: Flow meter installed on the pipeline carrying freshwater for domestic purposes

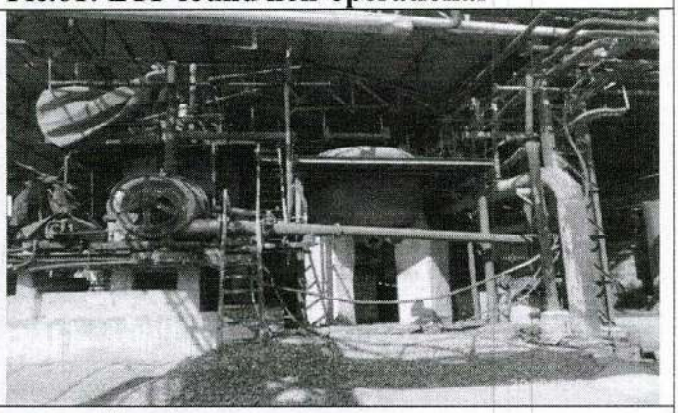
M/s Multiwal Pulp and Board Mills Pvt. Ltd., Kashipur



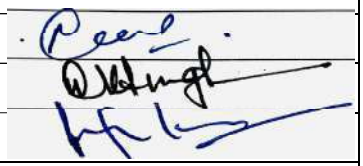
Pic.60: Entry gate of the unit



Pic.61: ETP found non-operational

| Pic.60: Entry gate of the unit | Pic.61: ETP found non-operational |
|---|---|
| |  |
| **Pic.62: Production process machineries found non-operational** | |
| **M/s Vishwakarma Paper & Board Ltd, Ramnagar Road, Kashipur** | |
| | |
| **Pic.63: Entry gate and display board of unit** | **Pic.64: Production units dismantled** |

***Joint team member***

| S. no. | Name of Official | Designation | Signature |
|---|---|---|---|
| **Central Pollution Control Board** | | | |
| 1. | Ms. Reena Satavan | Scientist 'D' |  |
| 2. | Dr. Raj Kishore Singh | Scientist 'D' | |
| 3. | Dr. Pankaj Kumar | Scientist 'D' | |
| **Uttar Pradesh Pollution Control Board (Regional Office, Moradabad)** | | | |
| 1. | Sh. J.N. Tiwari | Junior Engineer | |
| 2. | Sh. Rajeev Gupta | Monitoring Assistant | |
| 3. | Sh. A. K. Shukla | Lab Assistant | |
| 4. | Sh. Asif Ali | Junior Lab Assistant | |
| 5. | Sh. Rajendra Lal | Junior Lab Assistant | |
| **Uttarakhand Pollution Control Board (Regional Office, Kashipur)** | | | |
| 1. | Sh. Naresh Goswami | Regional Officer | |
| 2. | Sh. Sunil Kumar Ariya | AEE | |
| 3. | Sh. Mahendra Singh Rana | Monitoring Assistant | |

Annexure - Ia

# GROUND WATER DEPARTMENT

(Namami Gange & Rural Water Supply Department)
Ministry of Jal Shakti
Government of Uttar Pradesh

## Form 8 (E)

[See rules 15(2)]

## (RENEWAL OF AUTHORIZATION/ NO-OBJECTION CERTIFICATE FOR SINKING OF NEW WELL FOR INDUSTRIAL/ COMMERCIAL/ INFRASTRUCTURAL OR BULK USER OF GROUND WATER)

## VALID UP TO :

**Registration No.: 202108000274**

| | | | |
|---|---|---|---|
| Name of the Owner | KRISHAN PAL SINGH | | |
| Address of the Applicant | Radico Khaitan Limited, Brailley Road, Panwaria, Rampur, U.P.-244901 | Application Form Serial No. | RMPR0821RIN0038 |
| Date of Submission | 09/08/2021 | Specimen Signature | |
| Company Name | RADICO KHAITAN LIMITED GRAIN AND MALT SPIRIT PLANT | Company Address | Bareilly Road, Rampur, U.P. - 244901 |

**Location Particulars**

| | | | |
|---|---|---|---|
| District | Rampur | Block | CHAMRAUAA (URBAN) |
| Plot No./Khasra No. | PLOT NO A 1 INDUSTRIAL AREA RAMPUR | Municipality/Corporation | Yes |
| Ward No./Holding No. | | | N/A |

**Particular of the Existing Well and Pumping Device**

| | | | |
|---|---|---|---|
| Date of Construction/Sinking of the Well | 01/01/1995 | | |
| Type of Well | Tube Well/Boring | Depth of the Well (In meter) | 110.00 |
| Purpose of well | Industrial | Assembly Size(For Tube Well) | |
| Strainer Position (For Tube Well) | | | |
| Type of Pump Used | Submersible | H.P. of the Pump | 41.00 |
| Operational Device | Electric Motor | Rate of Withdrawal (m3/hr.) | 100.00 |
| Date of Energization (In Case of Electric Pump) | | 01/01/1995 | |
| Maximum Allowable Rate of Withdrawal (m3/hr.): | 100.00 | Maximum Allowable Running Hours Per Day: | 12.00 |
| Maximum Allowable Annual Extraction of Ground Water: | | | 438000 |
| Reason for renewal of N.O.C. एन.ओ.सी. के नवीनीकरण का कारण | AS PER GOVERNMENT RULES | | |
| Against Case | | | |

This No-Objection certificate authorizes the owner applicant (user) to sink a well in the location specified at Sl. (3) for extraction of ground water at a rate not exceeding that as shown at Sl. (3j), for running hours 1 day as shown at Sl. (3k), and for maximum allowable annual extraction of ground water as shown at Sl. (3k) and is valid subject to the observance of the conditions stated overleaf.

Conditions

- (1) In case of any change of ownership of the proposed well, fresh authorization has to be obtained.
- (2) No change of location, design, rate of withdrawal and pumping device in respect of the proposed well as indicated at SL (2) and (3) of this certificate shall be made without prior permission of the Competent Authority. Any deviation in this regard shall lead to cancellation of this authorization.
- (3) For the purpose of measuring and recording the quantity of ground water extracted, every said user shall affix digital water flow meters(conforming to BIS/ IS standards) having telemetry system in the abstraction structure, which record rate and quantum of extraction, at

outlet of pumping devices and it shall be presumed that the quantity recorded by the meter has been extracted by the said user, until the contrary is proved. The rate of extraction of ground water from the well as shown in item 3(k) shall not exceed to the recorded rate from water meters

- (4) The concerned Authority reserves the right to stop extraction of ground water from the well due to quality hazards or any other reasons, if the situation so demands.
- (5) In case of any change of ownership of the existing well, fresh registration has to be obtained.
- (6) No change of location, design, rate of withdrawal and pumping device in respect of the existing well as indicated at Sl. (2) and (3) of this certificate shall be made without prior permission of the Competent Authority. Any deviation in this regard shall lead to cancellation of this registration.
- (7) n case, any of the particulars I information furnished by the applicant in his application for issuance of this registration is found to be incorrect during verification at any subsequent stage, this registration is liable for cancellation.
- (8) The Certificate of Authorization/ NOC shall be valid for a period of three years from the date of issue. The applicant shall have to apply for renewal through a fresh application, at least ninety days prior to expiry of its validity.
- (9) Construction of piezometers and installation of digital water level recorders with telemetry shall be mandatory for user. Depth and zone tapped of piezometer should be commensurate with that of the pumping well. The data, obtained from digital water level recorders shall be made available to this office on monthly basis.
- (10) Guidelines for Installation of Piezometers and their Monitoring
- Piezometer is a borewell /tube well used only for measuring the water level by lowering the tape/ sounder or automatic water level measuring equipment. It is also used to take water sample for water quality testing whenever needed. General guidelines for installation of piezometers are as follows for compliance of NOC:
- • The piezometer is to be installed/constructed at the minimum of 50 m distance from the pumping well through which ground water is being withdrawn. The diameter of the piezometer should be about 4" to 6".
- • The depth of the piezometer should be same as is case of the pumping well from which ground water is being abstracted. If, more than one piezometer are installed the second piezometer should monitor the shallow ground water regime. It will facilitate shallow as well as deeper ground water aquifer monitoring.
- • No. of piezometers to be constructed & Type of water level monitoring mechanism shall be as per below table:

| S.No | Quantum of Ground water withdrawal (cum/day) | No.of piezometers required | Monitiring Mechanism | |
|---|---|---|---|---|
| | | | Manual | DWLR with Telemetry |
| 1 | < 10 | 0 | 0 | 0 |
| 2 | 11 - 50 | 1 | 1 | 0 |
| 3 | 50- 500 | 1 | 0 | 1 |
| 4 | > 500 | 2 | 0 | 2 |

- • The measuring frequency should be monthly and accuracy of measurement should be up to cm. the reported measurement should be given in meter up to two decimals.
- • For measurement of water level sounder or automatic water level recorder (AWLR)/ Digital Automatic water level recorder (DWLR) with telemetry system should be used for accuracy.
- • The measurement of water level in piezometer should be taken, only after the pumping from the surrounding tube wells has been stopped for about four to six hours.
- • All the details regarding coordinates, reduced level (with respect to mean level), depth, zone taped and assembly lowered should be provided for bringing the piezometer into the Hydrograph Monitoring System for Ground Water Department, Uttar Pradesh, and for its validation.
- • The ground water quality has to be monitored twice in a year during pre-monsoon (May/June) and post-monsoon (October/November) periods. Quality may be got analyzed from NABL approved lab. Besides, one sample (1 lt. capacity bottle) to the concerned Director, Ground Water Department, Uttar Pradesh, for chemical analysis.
- • A Permanent display board should be installed at piezometer/Tube wells site for providing the location, piezometer/ tube well number, depth and zone tapped of piezometer/tube well for standard referencing and identification.
- • Any other site-specific requirement regarding safety and access for measurement may be taken care off.
- (11) Any other condition(s) that may be imposed by the concerned Authority.
- (12) In case, any of the particulars I information furnished by the applicant in his application for issuance of this permit is found to be incorrect during verification at any subsequent stage, this permit is liable for cancellation.
- **SPECIFIC CONDITIONS:**
- (A) **For Industrial User:** No Objection Certificate for ground water extraction by industries shall be granted subject to the following specific conditions:
- i) No Objection Certificate shall be granted only in such cases where local government water supply agencies are not able to supply the desired quantity of water.
- ii) All industries shall be required to adopt latest water efficient technologies so as to reduce dependence on ground water resources.
- iii) All industries abstracting ground water in excess of 100 m3/d shall be required to undertake annual water audit through Confederation of Indian Industries (CII)/ Federation Indian Chamber of Commerce and Industry (FICCI)/ National Productivity Council (NPC) certified auditors and submit audit reports within three months of completion of the same to CGWA. All such industries shall be required to reduce their ground water use by at least 20% over the next three years through appropriate means.
- iv) Construction of observation well(s) (piezometer)(s) within the premises and installation of appropriate water level monitoring mechanism as mentioned in General Condition no.10 shall be mandatory for industries drawing/ proposing to draw more than 10 m3/day of ground water and. Monitoring of water level shall be done by the project proponent. The piezometer (observation well) shall be constructed at a minimum distance of 15 m from the bore well/production well. Depth and aquifer zone tapped in the piezometer shall be the same as that of the pumping well/ wells. Monthly water level data shall be submitted online to the Ground Water Department, UP.
- v) The proponent shall be required to adopt roof top rain water harvesting/ recharge in the project premises. Industries which are likely to pollute ground water (chemical, pharmaceutical, dyes, pigments, paints, textiles, tannery, pesticides/ insecticides, fertilizers, slaughter house, explosives etc.) shall store the harvested rain water in surface storage tanks for use in the industry.
- vi) Injection of treated/ untreated waste water into aquifer system is strictly prohibited.
- vii) Industries which are likely to cause ground water pollution e.g. Tanning, Slaughter Houses, Dye, Chemical/ Petrochemical, Coal washeries, other hazardous units etc. (as per CPCB list) need to undertake necessary well head protection measures to ensure prevention of ground water pollution.
- (B) **Infrastructural User:** The No Objection Certificate for ground water abstraction will be granted subject to the following specific conditions:
- i) In case of infrastructure projects that require dewatering, proponent shall be required to carry out regular monitoring of dewatering discharge rate (using a digital water flow meter) and submit the data online to Ground Water Department, UP as applicable. Monitoring records and results should be retained by the proponent for two years, for inspection or reporting as required by District Ground Water Management Council.
- ii) Installation of Sewage Treatment Plants (STP) shall be mandatory for new projects, where ground water requirement is more than 20 m3 /day. The water from STP shall be utilized for toilet flushing, car washing, gardening etc.

**This certificate is electronically generated and does not require digital signature**

**GROUND WATER DEPARTMENT**
(Namami Gange & Rural Water Supply Department)
Ministry of Jal Shakti
Government of Uttar Pradesh

# PAYMENT DETAILS

| | |
|---|---|
| **Application No** | RMPR0821RIN0038 |
| **Applicant Name** | KRISHAN PAL SINGH |
| **Payment Status** | Transaction done successfully |
| **Amount** | 2628000.00 |
| **Transaction No / Challan No** | BHV210002210 |
| **Payment Date** | 13/09/2021 3:53:53 PM |

Annexure - I 6

# GROUND WATER DEPARTMENT

(Namami Gange & Rural Water Supply Department)
Ministry of Jal Shakti
Government of Uttar Pradesh

## Form 8 (E)

[See rules 15(2)]

## (RENEWAL OF AUTHORIZATION/ NO-OBJECTION CERTIFICATE FOR SINKING OF NEW WELL FOR INDUSTRIAL/ COMMERCIAL/ INFRASTRUCTURAL OR BULK USER OF GROUND WATER)

## VALID UP TO :

**Registration No.: 202108000304**

| | | | |
|---|---|---|---|
| Name of the Owner | KRISHAN PAL SINGH | | |
| Address of the Applicant | Radico Khaitan Limited, Brailley Road, Panwaria, Rampur, U.P.-244901 | Application Form Serial No. | RMPR0821RIN0037 |
| Date of Submission | 10/08/2021 | Specimen Signature | |
| Company Name | RADICO KHAITAN LIMITED MOLASSES SPIRIT PLANT | Company Address | Bareilly Road, Rampur, U.P. - 244901 |

**Location Particulars**

| | | | |
|---|---|---|---|
| District | Rampur | Block | CHAMRAUAA (URBAN) |
| Plot No./Khasra No. | PLOT NO A 1 INDUSTRIAL AREA RAMPUR | Municipality/Corporation | Yes |
| Ward No./Holding No. | | | 3 |

**Particular of the Existing Well and Pumping Device**

| | | | |
|---|---|---|---|
| Date of Construction/Sinking of the Well | 01/01/1994 | | |
| Type of Well | Tube Well/Boring | Depth of the Well (In meter) | 110.00 |
| Purpose of well | Industrial | Assembly Size(For Tube Well) | |
| Strainer Position (For Tube Well) | | | |
| Type of Pump Used | Submersible | H.P. of the Pump | 41.00 |
| Operational Device | Electric Motor | Rate of Withdrawal (m3/hr.) | 100.00 |
| Date of Energization (In Case of Electric Pump) | | 01/01/1994 | |
| Maximum Allowable Rate of Withdrawal (m3/hr.): | 100.00 | Maximum Allowable Running Hours Per Day: | 12.00 |
| Maximum Allowable Annual Extraction of Ground Water: | | | 438000 |
| Reason for renewal of N.O.C. एन.ओ.सी. के नवीनीकरण का कारण | as per Government agency rules | | |
| Against Case | | | |

This No-Objection certificate authorizes the owner applicant (user) to sink a well in the location specified at Sl. (3) for extraction of ground water at a rate not exceeding that as shown at Sl. (3j), for running hours I day as shown at Sl. (3k), and for maximum allowable annual extraction of ground water as shown at Sl. (3k) and is valid subject to the observance of the conditions stated overleaf.

Conditions

- (1) In case of any change of ownership of the proposed well, fresh authorization has to be obtained.
- (2) No change of location, design, rate of withdrawal and pumping device in respect of the proposed well as indicated at SL (2) and (3) of this certificate shall be made without prior permission of the Competent Authority. Any deviation in this regard shall lead to cancellation of this authorization.
- (3) For the purpose of measuring and recording the quantity of ground water extracted, every said user shall affix digital water flow meters(conforming to BIS/ IS standards) having telemetry system in the abstraction structure, which record rate and quantum of extraction, at outlet of pumping devices and it shall be presumed that the quantity recorded by the meter has been extracted by the said user, until the contrary is proved. The rate of extraction of ground water from the well as shown in item 3(k) shall not exceed to the recorded rate from water meters

- (4) The concerned Authority reserves the right to stop extraction of ground water from the well due to quality hazards or any other reasons, if the situation so demands.
- (5) In case of any change of ownership of the existing well, fresh registration has to be obtained.
- (6) No change of location, design, rate of withdrawal and pumping device in respect of the existing well as indicated at Sl. (2) and (3) of this certificate shall be made without prior permission of the Competent Authority. Any deviation in this regard shall lead to cancellation of this registration
- (7) n case, any of the particulars I information furnished by the applicant in his application for issuance of this registration is found to be incorrect during verification at any subsequent stage, this registration is liable for cancellation.
- (8) The Certificate of Authorization/ NOC shall be valid for a period of three years from the date of issue. The applicant shall have to apply for renewal through a fresh application, at least ninety days prior to expiry of its validity.
- (9) Construction of piezometers and installation of digital water level recorders with telemetry shall be mandatory for user. Depth and zone tapped of piezometer should be commensurate with that of the pumping well. The data, obtained from digital water level recorders shall be made available to this office on monthly basis.
- (10) Gudelines for Installation of Piezometers and their Monitoring
- Piezometer is a borewell /tube well used only for measuring the water level by lowering the tape/ sounder or automatic water level measuring equipment. It is also used to take water sample for water quality testing whenever needed. General guidelines for installation of piezometers are as follows for compliance of NOC:
- • The piezometer is to be installed/constructed at the minimum of 50 m distance from the pumping well through which ground water is being withdrawn. The diameter of the piezometer should be about 4" to 6".
- • The depth of the piezometer should be same as is case of the pumping well from which ground water is being abstracted. If, more than one piezometer are installed the second piezometer should monitor the shallow ground water regime. It will facilitate shallow as well as deeper ground water aquifer monitoring.
- • No. of piezometers to be constructed & Type of water level monitoring mechanism shall be as per below table:

| S.No | Quantum of Ground water withdrawal (cum/day) | No.of piezometers required | Monitiring Mechanism | |
|---|---|---|---|---|
| | | | Manual | DWLR with Telemetry |
| 1 | < 10 | 0 | 0 | 0 |
| 2 | 11 - 50 | 1 | 1 | 0 |
| 3 | 50- 500 | 1 | 0 | 1 |
| 4 | > 500 | 2 | 0 | 2 |

- • The measuring frequency should be monthly and accuracy of measurement should be up to cm. the reported measurement should be given in meter up to two decimals.
- • For measurement of water level sounder or automatic water level recorder (AWLR)/ Digital Automatic water level recorder (DWLR) with telemetry system should be used for accuracy.
- • The measurement of water level in piezometer should be taken, only after the pumping from the surrounding tube wells has been stopped for about four to six hours.
- • All the details regarding coordinates, reduced level (with respect to mean level), depth, zone taped and assembly lowered should be provided for bringing the piezometer into the Hydrograph Monitoring System for Ground Water Department, Uttar Pradesh, and for its validation.
- • The ground water quality has to be monitored twice in a year during pre-monsoon (May/June) and post-monsoon (October/November) periods. Quality may be got analyzed from NABL approved lab. Besides, one sample (1 lt. capacity bottle) to the concerned Director, Ground Water Department, Uttar Pradesh, for chemical analysis.
- • A Permanent display board should be installed at piezometer/Tube wells site for providing the location, piezometer/ tube well number, depth and zone tapped of piezometer/tube well for standard referencing and identification.
- • Any other site-specific requirement regarding safety and access for measurement may be taken care off.
- (11) Any other condition(s) that may be imposed by the concerned Authority.
- (12) In case, any of the particulars I information furnished by the applicant in his application for issuance of this permit is found to be incorrect during verification at any subsequent stage, this permit is liable for cancellation.
- **SPECIFIC CONDITIONS:**
- (A) **For Industrial User:** No Objection Certificate for ground water extraction by industries shall be granted subject to the following specific conditions:
- i) No Objection Certificate shall be granted only in such cases where local government water supply agencies are not able to supply the desired quantity of water.
- ii) All industries shall be required to adopt latest water efficient technologies so as to reduce dependence on ground water resources.
- iii) All industries abstracting ground water in excess of 100 m3/d shall be required to undertake annual water audit through Confederation of Indian Industries (CII)/ Federation Indian Chamber of Commerce and Industry (FICCI)/ National Productivity Council (NPC) certified auditors and submit audit reports within three months of completion of the same to CGWA. All such industries shall be required to reduce their ground water use by at least 20% over the next three years through appropriate means.
- iv) Construction of observation well(s) (piezometer)(s) within the premises and installation of appropriate water level monitoring mechanism as mentioned in General Condition no.10 shall be mandatory for industries drawing/ proposing to draw more than 10 m3/day of ground water and. Monitoring of water level shall be done by the project proponent. The piezometer (observation well) shall be constructed at a minimum distance of 15 m from the bore well/production well. Depth and aquifer zone tapped in the piezometer shall be the same as that of the pumping well/ wells. Monthly water level data shall be submitted online to the Ground Water Department, UP.
- v) The proponent shall be required to adopt roof top rain water harvesting/ recharge in the project premises. Industries which are likely to pollute ground water (chemical, pharmaceutical, dyes, pigments, paints, textiles, tannery, pesticides/ insecticides, fertilizers, slaughter house, explosives etc.) shall store the harvested rain water in surface storage tanks for use in the industry.
- vi) Injection of treated/ untreated waste water into aquifer system is strictly prohibited.
- vii) Industries which are likely to cause ground water pollution e.g. Tanning, Slaughter Houses, Dye, Chemical/ Petrochemical, Coal washeries, other hazardous units etc. (as per CPCB list) need to undertake necessary well head protection measures to ensure prevention of ground water pollution.
- (B) **Infrastructural User:** The No Objection Certificate for ground water abstraction will be granted subject to the following specific conditions:
- i) In case of infrastructure projects that require dewatering, proponent shall be required to carry out regular monitoring of dewatering discharge rate (using a digital water flow meter) and submit the data online to Ground Water Department, UP as applicable. Monitoring records and results should be retained by the proponent for two years, for inspection or reporting as required by District Ground Water Management Council.
- ii) Installation of Sewage Treatment Plants (STP) shall be mandatory for new projects, where ground water requirement is more than 20 m3 /day. The water from STP shall be utilized for toilet flushing, car washing, gardening etc.

**GROUND WATER DEPARTMENT**
(Namami Gange & Rural Water Supply Department)
Ministry of Jal Shakti
Government of Uttar Pradesh

# PAYMENT DETAILS

| | |
|---|---|
| **Application No** | RMPR0821RIN0037 |
| **Applicant Name** | KRISHAN PAL SINGH |
| **Payment Status** | Transaction done successfully |
| **Amount** | 2628000.00 |
| **Transaction No / Challan No** | BHV210002209 |
| **Payment Date** | 13/09/2021 3:42:19 PM |

Annexure – Ec

# GROUND WATER DEPARTMENT

(Namami Gange & Rural Water Supply Department)
Ministry of Jal Shakti
Government of Uttar Pradesh

## Form 8 (E)

[See rules 15(2)]

## (RENEWAL OF AUTHORIZATION/ NO-OBJECTION CERTIFICATE FOR SINKING OF NEW WELL FOR INDUSTRIAL/ COMMERCIAL/ INFRASTRUCTURAL OR BULK USER OF GROUND WATER)

## VALID UP TO :

Registration No.: 202108000378

| | | | |
|---|---|---|---|
| Name of the Owner | KRISHAN PAL SINGH | | |
| Address of the Applicant | Radico Khaitan Limited, Brailley Road, Panwaria, Rampur, U.P.-244901 | Application Form Serial No. | RMPR0821RIN0039 |
| Date of Submission | 12/08/2021 | Specimen Signature | |
| Company Name | RADICO KHAITAN LIMITED BOTTLING PLANT | Company Address | Bareilly Road, Rampur, U.P. - 244901 |

### Location Particulars

| | | | |
|---|---|---|---|
| District | Rampur | Block | CHAMRAUAA (URBAN) |
| Plot No./Khasra No. | PLOT NO A 1 INDUSTRIAL AREA RAMPUR | Municipality/Corporation | Yes |
| Ward No./Holding No. | | | 3 |

### Particular of the Existing Well and Pumping Device

| | | | |
|---|---|---|---|
| Date of Construction/Sinking of the Well | 01/01/2005 | | |
| Type of Well | Tube Well/Boring | Depth of the Well (In meter) | 90.00 |
| Purpose of well | Industrial | Assembly Size(For Tube Well) | |
| Strainer Position (For Tube Well) | | | |
| Type of Pump Used | Submersible | H.P. of the Pump | 41.00 |
| Operational Device | Electric Motor | Rate of Withdrawal (m3/hr.) | 100.00 |
| Date of Energization (In Case of Electric Pump) | | 01/01/2005 | |
| Maximum Allowable Rate of Withdrawal (m3/hr.): | 100.00 | Maximum Allowable Running Hours Per Day: | 12.00 |
| Maximum Allowable Annual Extraction of Ground Water: | | | 438000 |
| Reason for renewal of N.O.C. एन.ओ.सी. के नवीनीकरण का कारण | AS PER GOVERNMENT AGENCY RULES | | |
| Against Case | | | |

This No-Objection certificate authorizes the owner applicant (user) to sink a well in the location specified at SI. (3) for extraction of ground water at a rate not exceeding that as shown at SI. (3j), for running hours I day as shown at SI. (3k), and for maximum allowable annual extraction of ground water as shown at SI. (3k) and is valid subject to the observance of the conditions stated overleaf.

Conditions

- (1) In case of any change of ownership of the proposed well, fresh authorization has to be obtained.
- (2) No change of location, design, rate of withdrawal and pumping device in respect of the proposed well as indicated at SL (2) and (3) of this certificate shall be made without prior permission of the Competent Authority. Any deviation in this regard shall lead to cancellation of this authorization.
- (3) For the purpose of measuring and recording the quantity of ground water extracted, every said user shall affix digital water flow meters(conforming to BIS/ IS standards) having telemetry system in the abstraction structure, which record rate and quantum of extraction, at outlet of pumping devices and it shall be presumed that the quantity recorded by the meter has been extracted by the said user, until the contrary is proved. The rate of extraction of ground water from the well as shown in item 3(k) shall not exceed to the recorded rate from water meters

- (4) The concerned Authority reserves the right to stop extraction of ground water from the well due to quality hazards or any other reasons, if the situation so demands.
- (5) In case of any change of ownership of the existing well, fresh registration has to be obtained.
- (6) No change of location, design, rate of withdrawal and pumping device in respect of the existing well as indicated at Sl. (2) and (3) of this certificate shall be made without prior permission of the Competent Authority. Any deviation in this regard shall lead to cancellation of this registration.
- (7) n case, any of the particulars I information furnished by the applicant in his application for issuance of this registration is found to be incorrect during verification at any subsequent stage, this registration is liable for cancellation.
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- (9) Construction of piezometers and installation of digital water level recorders with telemetry shall be mandatory for user. Depth and zone tapped of piezometer should be commensurate with that of the pumping well. The data, obtained from digital water level recorders shall be made available to this office on monthly basis.
- (10) Guidelines for Installation of Piezometers and their Monitoring
- Piezometer is a borewell /tube well used only for measuring the water level by lowering the tape/ sounder or automatic water level measuring equipment. It is also used to take water sample for water quality testing whenever needed. General guidelines for installation of piezometers are as follows for compliance of NOC:
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- • No. of piezometers to be constructed & Type of water level monitoring mechanism shall be as per below table:

| S.No | Quantum of Ground water withdrawal (cum/day) | No.of piezometers required | Monitiring Mechanism | |
|---|---|---|---|---|
| | | | Manual | DWLR with Telemetry |
| 1 | < 10 | 0 | 0 | 0 |
| 2 | 11 - 50 | 1 | 1 | 0 |
| 3 | 50- 500 | 1 | 0 | 1 |
| 4 | > 500 | 2 | 0 | 2 |

- • The measuring frequency should be monthly and accuracy of measurement should be up to cm. the reported measurement should be given in meter up to two decimals.
- • For measurement of water level sounder or automatic water level recorder (AWLR)/ Digital Automatic water level recorder (DWLR) with telemetry system should be used for accuracy.
- • The measurement of water level in piezometer should be taken, only after the pumping from the surrounding tube wells has been stopped for about four to six hours.
- • All the details regarding coordinates, reduced level (with respect to mean level), depth, zone taped and assembly lowered should be provided for bringing the piezometer into the Hydrograph Monitoring System for Ground Water Department, Uttar Pradesh, and for its validation.
- • The ground water quality has to be monitored twice in a year during pre-monsoon (May/June) and post-monsoon (October/November) periods. Quality may be got analyzed from NABL approved lab. Besides, one sample (1 lt. capacity bottle) to the concerned Director, Ground Water Department, Uttar Pradesh, for chemical analysis.
- • A Permanent display board should be installed at piezometer/Tube wells site for providing the location, piezometer/ tube well number, depth and zone tapped of piezometer/tube well for standard referencing and identification.
- • Any other site-specific requirement regarding safety and access for measurement may be taken care off.
- (11) Any other condition(s) that may be imposed by the concerned Authority.
- (12) In case, any of the particulars I information furnished by the applicant in his application for issuance of this permit is found to be incorrect during verification at any subsequent stage, this permit is liable for cancellation.
- **SPECIFIC CONDITIONS:**
- (A) **For Industrial User:** No Objection Certificate for ground water extraction by industries shall be granted subject to the following specific conditions:
- i) No Objection Certificate shall be granted only in such cases where local government water supply agencies are not able to supply the desired quantity of water.
- ii) All industries shall be required to adopt latest water efficient technologies so as to reduce dependence on ground water resources.
- iii) All industries abstracting ground water in excess of 100 m3/d shall be required to undertake annual water audit through Confederation of Indian Industries (CII)/ Federation Indian Chamber of Commerce and Industry (FICCI)/ National Productivity Council (NPC) certified auditors and submit audit reports within three months of completion of the same to CGWA. All such industries shall be required to reduce their ground water use by at least 20% over the next three years through appropriate means.
- iv) Construction of observation well(s) (piezometer)(s) within the premises and installation of appropriate water level monitoring mechanism as mentioned in General Condition no.10 shall be mandatory for industries drawing/ proposing to draw more than 10 m3/day of ground water and. Monitoring of water level shall be done by the project proponent. The piezometer (observation well) shall be constructed at a minimum distance of 15 m from the bore well/production well. Depth and aquifer zone tapped in the piezometer shall be the same as that of the pumping well/ wells. Monthly water level data shall be submitted online to the Ground Water Department, UP.
- v) The proponent shall be required to adopt roof top rain water harvesting/ recharge in the project premises. Industries which are likely to pollute ground water (chemical, pharmaceutical, dyes, pigments, paints, textiles, tannery, pesticides/ insecticides, fertilizers, slaughter house, explosives etc.) shall store the harvested rain water in surface storage tanks for use in the industry.
- vi) Injection of treated/ untreated waste water into aquifer system is strictly prohibited.
- vii) Industries which are likely to cause ground water pollution e.g. Tanning, Slaughter Houses, Dye, Chemical/ Petrochemical, Coal washeries, other hazardous units etc. (as per CPCB list) need to undertake necessary well head protection measures to ensure prevention of ground water pollution.
- (B) **Infrastructural User:** The No Objection Certificate for ground water abstraction will be granted subject to the following specific conditions:
- i) In case of infrastructure projects that require dewatering, proponent shall be required to carry out regular monitoring of dewatering discharge rate (using a digital water flow meter) and submit the data online to Ground Water Department, UP as applicable. Monitoring records and results should be retained by the proponent for two years, for inspection or reporting as required by District Ground Water Management Council.
- ii) Installation of Sewage Treatment Plants (STP) shall be mandatory for new projects, where ground water requirement is more than 20 m3 /day. The water from STP shall be utilized for toilet flushing, car washing, gardening etc.

**This certificate is electronically generated and does not require digital signature**

GROUND WATER DEPARTMENT
(Namami Gange & Rural Water Supply Department)
Ministry of Jal Shakti
Government of Uttar Pradesh

# PAYMENT DETAILS

| | |
|---|---|
| **Application No** | RMPR0821RIN0039 |
| **Applicant Name** | KRISHAN PAL SINGH |
| **Payment Status** | Transaction done successfully |
| **Amount** | 2628000.00 |
| **Transaction No / Challan No** | BHV210002211 |
| **Payment Date** | 13/09/2021 3:56:40 PM |

Annexure 2

ANNEXURE-II

**U.P. Pollution Control Board**

**CONSENT ORDER**

**Dated : 19/07/2019**

**Ref No. - 51900/UPPCB/Moradabad(UPPCBRO)/CTO/water/RAMPUR/2019**

**To ,**

Shri KRISHAN PAL SINGH
M/s RADICO KHAITAN LIMITED MOLASSES SPIRIT PLANT
BERAILLEY ROAD RAMPUR U.P.,RAMPUR,244901
RAMPUR

**Sub : Consent under Section 25/26 of The Water (Prevention and control of Pollution) Act, 1974 (as amended) for discharge of effluent to M/s. RADICO KHAITAN LIMITED MOLASSES SPIRIT PLANT**

**Reference Application No :4733318** **Dated :19/07/2019**

1. For disposal of effluent into water body or drain or land under The Water (Prevention and control of Pollution) Act,1974 as amended (here in after referred as the act ) M/s. RADICO KHAITAN LIMITED MOLASSES SPIRIT PLANT is hereby authorized by the board for discharge of their industrial effluent generated through ETP for irrigation/river through drain and disposal of domestic effluent through septic tant/soak pit subject to general and special conditions mentioned in the annexure ,in refrence to their foresaid application .
2. This consent is valid for the period from 31/05/2019 to 31/12/2023 .
3. In spite of the conditions and provisions mentioned in this consent order UP Pollution Control Board reserves its right and powers to reconsider/amend any or all conditions under section 27(2) of the Water (Previntion and Controt of Pollution) Act, 1974 as amended .

This consent is being issued with the permission of competent authority .

AMIT CHANDRA
Digitally signed by AMIT CHANDRA
Date: 2019.07.19 13:55:23 +05'30'

**For and on behalf of U.P. Pollution Control Board**

**Chief Environment Officer**

**Enclosed : As above**
**(condition of consent):**

Copy to: Regional Officer Moradabad to ensure the compliance of the conditions imposed in the consent order.

AMIT CHANDRA
Digitally signed by AMIT CHANDRA
Date: 2019.07.19 13:55:42 +05'30'

**Chief Environment Officer**

## U.P. POLLUTION CONTROL BOARD, LUCKNOW

**Annexure to Consent issued to M/s.RADICO KHAITAN LIMITED MOLASSES SPIRIT PLANT vide**

Consent Order No. 4733318/ Water

Dated : 19/07/2019

### CONDITIONS OF CONSENT

1. This consent is valid only for the approved production capacity of 200 KLD of Molasses based Distillery.
2. The quantity of maximum daily effluent discharge should not be more than the following :

| Effluent Discharge Details | | | |
|---|---|---|---|
| **S.No** | **Kind of Effulant** | **Maximum daily discharge,KL/day** | **Treatment facility and discharge point** |
| 1 | Domestic | 100KLD | Septic Tank |
| 2 | Industrial | ZLD | ETP |

3. Arrangement should be made for collection of water used in process and domestic effluent separately in closed water supply system. It should be ensured that domestic effluent should not be discharged in storm water drain.

4(a) The domestic effluent should be treated in treatment plant so that the treated effluent should be in conformity with the following norms.

| Domestic Effulant | | |
|---|---|---|
| **S.No** | **Parameter** | **Standard** |
| 1 | Total Suspended Solids | 100 mg/l |
| 2 | BOD | 30 mg/l |
| 3 | COD | 250 mg/l |
| 4 | Oil & Grease | 10 mg/l |
| 5 | Quantity of Discharge | 100 KLD |

5. The other pollutant for which norms have not been prescribed, the same should not be more than the norms prescribed for the water used in manufacturing process of the industry.
6. The method for collecting industrial and domestic effluent and its analysis should be as per legal Indian standards and its subsequent amendments/standards prescribed under the Environment (Protection) Act, 1986.
7. The industry shall not discharge any trade effluent outside the premises and Zero Liquid Discharge (ZLD) shall be maintained all the time.
8. Molasses shall not be stored in kachcha pits.
9. If UPPCB or CPCB issues closure order against the industry, this consent shall remain suspended for the period till closure order is revoked, after which the consent will be effective again for the remaining period.
10. The unit should be operated in such a way so that there is no adverse impact on public and environment.
11. Unit must maintain on line connectivity of mass flow meters at the inlet and outlet of MEE and web cameras installed at the final outlet, MEE and Bio Compost yard and connected with server of CPCB and UPPCB.
12. The unit shall ensure deployment of qualified staff for self monitoring mechanism on 24 X7 hours basis.
13. Volume of spent wash shall be reduced to 40 % minimum and solid concentration shall be maintained minimum 30% at the outlet of MEE.
14. Unit shall identify recipient drains/rivulets and their upstream & downstream locations in consultation with UPPCB and shall carry out monthly monitoring of identified recipient drains at upstream & downstream location through recognized lab under Environment (Protection) Act, 1986 and shall submit the analysis report on monthly basis by 10th of every month to CPCB and UPPCB.

15. . The storage facility provided for spent wash shall be properly lined and made impermeable and the storage capacity at any stage shall not exceed 07 days equivalent of production in case of incineration boiler and 30 days equivalent of production in case of bio composting.

16. Industry shall submit Environment Statement to this Board as per provision of Environment (Protection) amendment Rule, 1993 for the previous year ending 31st March on or before 30th September every year.

17. Industry shall ensure to send monthly reports regarding spent wash storage and details of spent wash in each lagoon constructed in industry.

**Specific Conditions:**

1.Consent to Operate issued by UPPCB vide letter no. 2313/UPPCB/Moradabad(UPPCBRO)/CTO/Water/Rampur/2017 dated 31.01.2018 valid till 31.12.2019 is hereby revoked.
2.This Consent to Operate Water is valid for operation of Molasses based distillery at 77 KLD production capacity in the light of directions issued by CPCB vide letter no. B-190198/NGRBA(RG)/CPCB /Distillery /21/2017-18 dated 16/17 May 2019. The production capacity of the plant being 200 KLD shall be allowed after permission from CPCB. In future also the production capacity of Molasses based distillery shall be governed by directions of CPCB and UPPCB from time to time.
3. Unit shall comply with the directions issued by CPCB vide letter no. B-190198/NGRBA(RG)/CPCB/Distillery /21/2017-18 dated 16/17 May 2019.
4.The Unit shall restrict production capacity of its molasses based plant not more than 77 KLD till the stored spent wash in lagoons having solid content of 7.9-11.3% is treated through Evaporation-Concentration to achieve 30% solid concentration by using appropriate technology such as MEE or RO & MEE. Only concentrated spent wash with solid concentration of 30 % shall be used for bio-composting with press mud, complying with the conditions specified in the CPCB direction dated 07 -12-2015.
5.The entire stored spent wash (approx. 25000 m3) shall be utilized by 30th June, 2019 under the supervision of UPPCB and the industry shall submit its report to CPCB on weekly basis along with supporting documents.
6.Unit Shall restrict storage capacity to 30 days of spent wash generation.
7.Unit shall identify recipient drains/ rivulets and their u/s & d/s location in consultation with UPPCB and shall carry out monthly monitoring of identified recipient drains at u/s & d/s location through lab recognized under Environment (Protection) Act,1986 and shall submit the analysis report on monthly basis by 10th of every month to CPCB and UPPCB.
8.Unit shall use concentrated spent wash :press mud ratio of 1:1.6 and shall provide documentary proof support for procurement/ availabity of press mud, sale of compost and compost quality on monthly basis by 10th of every month to CPCB and UPPCB.
9.Unit must strictly maintain zero liquid discharge of effluent outside premises into drain/river/water body and on land.
10.Unit shall operate and maintain the Sewage Treatment Plant for the treatment of domestic sewage 100 KLD through STP as per norms and treated sewage shall be reused for irrigation to the maximum.
11.Unit must maintain on line connectivity of flow meter and web camera with server of CPCB and UPPCB.
12.Unit shall comply with the recommendations made in adequacy assessment report prepared by VSI, Pune.
13.Unit shall carry out ground water monitoring of bio-compost yard through laboratory approved by MoEF & CC.
14.Unit shall ensure compliance of NOC by CGWA for ground water conservation.
15.The treated water from condensate polishing unit shall be recycled in the process.
16.No dilution of spentwash at storage lagoon and of sewage at STP is permissible.
17.This Consent order shall automatically become invalid on issuance of Closure Order by C.P.C.B / UPPCB and further on Revoking of Closure order, the Consent order shall become valid.

AMIT CHANDRA
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Date: 2019.07.19 13:56:02 +05'30'

**Issued with the permission of competent authority .**

**For and on behalf of U.P. Pollution Control Board .**

## U.P. POLLUTION CONTROL BOARD, LUCKNOW

**Annexure to Consent issued to M/s.RADICO KHAITAN LIMITED GRAIN AND MALT SPIRIT PLANT vide**

Consent Order No. 4727154/ Water

Dated : 02/05/2019

### CONDITIONS OF CONSENT

1. This consent is valid only for the approved production capacity of production of grain and malt spirit 2497.33 MT per month, and cattle feeder 7500 MT per month .
2. The quantity of maximum daily effluent discharge should not be more than the following :

| Effluent Discharge Details | | | |
|---|---|---|---|
| **S.No** | **Kind of Effulant** | **Maximum daily discharge,KL/day** | **Treatment facility and discharge point** |
| 1 | Industrial | 650 KLD (ZLD) | ETP |

3. Arrangement should be made for collection of water used in process and domestic effluent separately in closed water supply system. It should be ensured that domestic effluent should not be discharged in storm water drain.

4(a) The domestic effluent should be treated in treatment plant so that the treated effluent should be in conformity with the following norms.

| Domestic Effulant | | |
|---|---|---|
| **S.No** | **Parameter** | **Standard** |

5. The other pollutant for which norms have not been prescribed, the same should not be more than the norms prescribed for the water used in manufacturing process of the industry.
6. The method for collecting industrial and domestic effluent and its analysis should be as per legal Indian standards and its subsequent amendments/standards prescribed under the Environment (Protection) Act, 1986.
7. The industry shall not discharge any trade effluent outside the premises and Zero Liquid Discharge (ZLD) shall be maintained all the time.
8. Molasses shall not be stored in kachcha pits.
9. If UPPCB or CPCB issues closure order against the industry, this consent shall remain suspended for the period till closure order is revoked, after which the consent will be effective again for the remaining period.
10. The unit should be operated in such a way so that there is no adverse impact on public and environment.
11. Unit must maintain on line connectivity of mass flow meters at the inlet and outlet of MEE and web cameras installed at the final outlet, MEE and Bio Compost yard and connected with server of CPCB and UPPCB.
12. The unit shall ensure deployment of qualified staff for self monitoring mechanism on 24 X7 hours basis.
13. Volume of spent wash shall be reduced to 40 % minimum and solid concentration shall be maintained minimum 30% at the outlet of MEE.
14. Unit shall identify recipient drains/rivulets and their upstream & downstream locations in consultation with UPPCB and shall carry out monthly monitoring of identified recipient drains at upstream & downstream location through recognized lab under Environment (Protection) Act, 1986 and shall submit the analysis report on monthly basis by 10th of every month to CPCB and UPPCB.
15. The storage facility provided for spent wash shall be properly lined and made impermeable and the storage capacity at any stage shall not exceed 07 days equivalent of production in case of incineration boiler and 30 days equivalent of production in case of bio composting.
16. Industry shall submit Environment Statement to this Board as per provision of Environment (Protection) amendment Rule, 1993 for the previous year ending 31st March on or before 30th September every year.

17. Industry shall ensure to send monthly reports regarding spent wash storage and details of spent wash in each lagoon constructed in industry.

**Specific Conditions:**

1. This consent is valid for production of Grain and Malt spirit 2497.33 MT per month, and cattle fodder 7500 MT per month.
2. Industrial Effluent generated 650 KLD shall be concentrated to 75 percent in Multi Effect Evaporator and shall be used as cattle feed. Unit must strictly maintain zero liquid discharge of effluent outside premises into drain/river/water body and on land.
3. Unit shall identify recipient drains/ rivulets and their u/s & d/s location in consultation with UPPCB and shall carry out monthly monitoring of identified recipient drains at u/s & d/s location through lab recognized under Environment (Protection) Act,1986 and shall submit the analysis report on monthly basis by 10th of every month to CPCB and UPPCB.
4. Unit must install flow meter and web camera with in 01 month and shall ensure on line connectivity of flow meter and web camera with server of CPCB and UPPCB.
5. Unit shall develop Green Belt in minimum 33 percent area of Industrial Premises as per the provisions laid down in office order no. H16405/220/2018/02 dated 16-02-2018 of U.P. Pollution Control Board. The copy of said office order is available on the website of U.P. Pollution Control Board www.uppcb.com.
6. Unit shall comply to the conditions imposed in the NOC isuued by CGWA for ground water extraction.
7. The overall noise levels in and around area shall be kept well within the standards by providing noise control measures including acoustic hoods, silencers, enclosures etc, on all sources of noise generation. The ambient noise level shall confirm to the standards under the Environment (Protection) Act 1986.
8. Unit shall make temporary storage facility for storage of hazardous waste in the premises before it will send to TSDF as per the provisions of Hazardous and Other Waste (Management and Transboundary Movement)Rules 2016
9. Unit shall comply the provisions of Hazardous and Other Waste (Management and Transboundary Movement)Rules 2016 and shall obtain authorization for disposal of hazardous waste.
10. Unit shall comply the provisions of Water (Prevention and Control of Pollution) Act 1974 as Amended and Environment (Protection) Act 1986, and direction issued by Hon'ble National Green Tribunal, New Delhi in Order dated 13.07.2017 in OA no. 200/2014, M.C. Mehta v/s Union of India.
11. Unit shall submit ground water quality monitoring report done by MoEF & CC approved laboratory in every 3 months.
12. This Consent order shall automatically become invalid on issuance of Closure Order by C.P.C.B / UPPCB and further on Revoking of Closure order, the Consent order shall become valid.

AMIT CHANDRA
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Date: 2019.05.02 18:17:16 +05'30'

**Issued with the permission of competent authority .**

**For and on behalf of U.P. Pollution Control Board .**

**Chief Environment Officer**

ANNEXURE - XX

**U.P. Pollution Control Board**

**CONSENT ORDER**

**Ref No. -**
**51889/UPPCB/Moradabad(UPPCBRO)/CTO/water/RAMPUR/2019**

**Dated : 02/05/2019**

**To ,**

Shri KRISHAN PAL SINGH
M/s RADICO KHAITAN LIMITED BOTTLING PLANT
PLOT NO A-1, RADICO KHAITAN LIMITED, BERAILLEY, RAMPUR,U.P.-244901,RAMPUR,244901
RAMPUR

**Sub : Consent under Section 25/26 of The Water (Prevention and control of Pollution) Act, 1974 (as amended) for discharge of effluent to M/s. RADICO KHAITAN LIMITED BOTTLING PLANT**

**Reference Application No :4731523** **Dated :02/05/2019**

1. For disposal of effluent into water body or drain or land under The Water (Prevention and control of Pollution) Act,1974 as amended (here in after referred as the act ) M/s. RADICO KHAITAN LIMITED BOTTLING PLANT is hereby authorized by the board for discharge of their industrial effluent generated through ETP for irrigation/river through drain and disposal of domestic effluent through septic tant/soak pit subject to general and special conditions mentioned in the annexure ,in refrence to their foresaid application .
2. This consent is valid for the period from 31/03/2019 to 31/12/2023 .
3. In spite of the conditions and provisions mentioned in this consent order UP Pollution Control Board reserves its right and powers to reconsider/amend any or all conditions under section 27(2) of the Water (Previntion and Controt of Pollution) Act, 1974 as amended .

This consent is being issued with the permission of competent authority .

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**For and on behalf of U.P. Pollution Control Board**

**Chief Environment Officer**

**Enclosed : As above**
**(condition of consent):**

Copy to: Regional Officer UPPCB Moradabad for information and to ensure the compliance of the conditions imposed in the consent order.

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Date: 2019.05.02 18:22:21 +05'30'

**Chief Environment Officer**

1. This consent is valid for bottling of Spirit 6133.33 MT/Month.
2. Effluent generated from bottle washing 40 KLD shall be treated through Dual Media Filter and Activated Carbon Filter and reused in bottle washing. Unit shall strictly maintain zero liquid discharge of effluent outside premises into drain/river/water body and on land.
3. Unit shall identify recipient drains/ rivulets and their u/s & d/s location in consultation with UPPCB and shall carry out monthly monitoring of identified recipient drains at u/s & d/s location through lab recognized under Environment (Protection) Act,1986 and shall submit the analysis report on monthly basis by 10th of every month to CPCB and UPPCB.
4. Unit must install flow meter and web camera with in 01 month and shall ensure on line connectivity of flow meter and web camera with server of CPCB and UPPCB.
5. Unit shall develop Green Belt in minimum 33 percent area of Industrial Premises as per the provisions laid down in office order no. H16405/220/2018/02 dated 16-02-2018 of U.P. Pollution Control Board. The copy of said office order is available on the website of U.P. Pollution Control Board www.uppcb.com.
6. Unit shall comply to the conditions imposed in the NOC isuued by CGWA for ground water extraction.
7. The overall noise levels in and around area shall be kept well within the standards by providing noise control measures including acoustic hoods, silencers, enclosures etc, on all sources of noise generation. The ambient noise level shall confirm to the standards under the Environment (Protection) Act 1986.
8. Unit shall make temporary storage facility for storage of hazardous waste in the premises before it will send to TSDF as per the provisions of Hazardous and Other Waste (Management and Transboundary Movement)Rules 2016
9. Unit shall comply the provisions of Hazardous and Other Waste (Management and Transboundary Movement)Rules 2016 and shall obtain authorization for disposal of hazardous waste.
10. Unit shall comply the provisions of Water (Prevention and Control of Pollution) Act 1974 as Amended and Environment (Protection) Act 1986, and direction issued by Hon'ble National Green Tribunal, New Delhi in Order dated 13.07.2017 in OA no. 200/2014, M.C. Mehta v/s Union of India.
11. Unit shall develop Green Belt in minimum 33 percent area of Industrial Premises as per the provisions laid down in office order no. H16405/220/2018/02 dated 16-02-2018 of U.P. Pollution Control Board. The copy of said office order is available on the website of U.P. Pollution Control Board www.uppcb.com.
12. Unit shall submit ground water quality monitoring report done by MoEF & CC approved laboratory in every 3 months.
13. This Consent order shall automatically become invalid on issuance of Closure Order by C.P.C.B / UPPCB and further on Revoking of Closure order, the Consent order shall become valid

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Date: 2019.05.02 18:22:36 +05'30'

**Issued with the permission of competent authority .**

**For and on behalf of U.P. Pollution Control Board .**

**Chief Environment Officer**

# INDUSTRY INSPECTION REPORT (DISTILLERY-MOLASSES BASED)

**Date of Inspection: 04/03/2022**

## 1. General Information

| | | | |
|---|---|---|---|
| 1. | Unit Code | 511 | |
| 2. | a) Name and Address of the unit | Radico Khaitan Ltd, Bareilly Road, Rampur-244901 (UP) | |
| | b) Coordinates (Latitude & Longitude) in Decimal | 28.7739918<br><br>79.0347959 | |
| | c) Name of the recipient drain | ZLD Distillery unit, Nearest drain- Rampur city municipal drain | |
| | d) Mode to reach River Ganga (Name of drain → Name of Sub-tributary→ Name of Tributary → River Ganga) | Rampur Municipal Drain → Kosi River → Ramganga → Ganga River | |
| 3. | Operational Status (Operational/Non-Operational) * | Operational | |
| 4. | Name of Occupier/Contact Person | Designation | Contact No & e- mail |
| | 1. Mr. K P. Singh | Director Operation | Contact No. 9837025736<br>Email -singhkp@radico.co.in |
| | 2. Mr. Devendra Singh | Sr. Vice President | Contact No. 9837471443<br>Email- singhd@radico.co.in |
| 5. | Type of Distillery unit | A. Molasses based distillery<br>B. Grain based distillery<br>C. Brewery unit<br>D. Bottling unit | Yes<br>Yes<br>Yes/No<br>Yes |

***** Note: If non-operational, specify the reason and attach respective document i.e., CPCB/SPCB closure direction

### A. MOLASSES BASED DISTILLERY

| | | | | |
|---|---|---|---|---|
| 1. | Year of Commissioning | 1943 | | |
| 2. | Standalone/Connected with sugar unit | Standalone | | |
| 3. | Status of consents and authorization* | | Yes/No/Expired/Applied | Validity Date |
| | | Environmental Clearance (EC) | NA | NA |
| | | Air Consent | Yes<br>Ref. No. 51907/UPPCB/Moradabad | Valid from 31/05/2019 to |

| | | | | |
|---|---|---|---|---|
| | | | (UPPCBRO)/CTO/air/RAMPUR/2019 dated 19/07/2019 ***Refer Annexure-I*** | 31/12/2023 |
| | | Water Consent | Yes Ref. No. 51900/UPPCB/Moradabad (UPPCBRO)/CTO/water/RAMPUR/2019 dated 19/07/2019 ***Refer Annexure-II*** | Valid from 31/05/2019 to 31/12/2023 |
| | | Haz. Waste Authorization | Yes Ref. No. 178/UPPCB/Moradabad (UPPCBRO)/HWM/RAMPUR/2017 dated 04/04/2018 ***Refer Annexure-III*** | Valid from 04/04/2018 to 31/03/2023 |
| | | CGWA NOC | Yes Registration No. 202108000274/304/378 ***Refer Annexure-IV*** | --- |

***Attach copy of EC, consents and CGWA NOC, if valid.**
**If unit has applied for renewal, then submit copy of application.**

## 2. Fresh water consumption details

| | | | |
|---|---|---|---|
| 1. | Water Supply Source | Borewell | |
| 2. | River | NA | |
| | Flow meter with totalizer installed at line carrying freshwater (Yes/No) | NA | |
| | Instantaneous Reading ($m^3$/hr) | NA | |
| | Totalizer Reading ($m^3$) | NA | |
| 3. | Borewell/Tubewell | | |
| | No. of Borewell/Tubewell as per CGWA NOC | 03 Nos. | |
| | Actual no. of Borewell found on site | 03 Nos. | |
| | Permitted withdrawal quantity | 1314000 $m^3$/annum | |
| | Actual withdrawal quantity (Average of last three months) | 1840.46 KLD (Average of month Feb. 2022) ***Refer Annexure-VII*** | |
| | No. of Borewell having flow meter with totalizer installed | 03 Nos. | |
| | Instantaneous Reading* ($m^3$/hr) | NA | |
| | Totalizer Reading during visit* ($m^3$) | Initial | BW 1 – 1147356 $M^3$<br>BW 2 – 841861 $M^3$<br>BW 3 – 892042 $M^3$ |
| | | Final | BW 1 – 1148255 $M^3$<br>BW 2 – 842845 $M^3$<br>BW 3 – 892042 $M^3$<br>(Bore well reading for all plants including Molasses, Grain and malt Based and |

| | | | |
|---|---|---|---|
| | | | bottling) |
| 4. | Type of flow meter installed: mechanical/digital/electromagnetic etc. | Electromagnetic | |
| | Calibration details | Yes, ***Refer Annexure-VI*** | |
| | Log Book Maintained (Yes/No) | Yes, ***Refer Annexure-VII*** | |

| | | | | |
|---|---|---|---|---|
| 5. | Fresh water consumption | | | |
| | | **Production process** | **Domestic** | **Others** |
| | Freshwater consumption (KL) (Average of last three months) | 1780.0 KLD | 60.0 KLD | NA |
| | Overall (In KLD & KL/MT of product) | 7.18 | 0.242 | NA |
| | | (Including Molasses, Grain and Malt spirit plant and IMFL & CL bottling) | | |
| | On the previous day of visit (KLD) | 1820.0 KLD | 63.0 KLD | NA |

***If more than one water source, then take reading separately**

## 3. Manufacturing Process & Spent Wash (SW) Management System

| | | | |
|---|---|---|---|
| 1. | Manufacturing Process (Provide line diagram) | Molasses handling→ Fermentation→ Distillation with MSDH→ Final product (RS/ENA/AA) | |
| | Type of Fermentation technology adopted | Fed-batch fermentation | |
| | Type of Distillation technology adopted | MPR distillation with MSDH technology | |
| | Integrated MEE with Distillation (Yes/No) | Yes | |
| 2. | Spent Wash Management Technology | Bio-digester ■<br>RO ■<br>MEE ■ | Bio-composting ■<br>Incinerator □<br>CPU ■ |
| | Spent Wash Management Sequence | 1) Raw spent wash from process → IMEE → Anaerobic Bio-digesters → BMSW R O Plant → BMSW SMEE → Bio-composting activity with partly covered facility for rainy season.<br>2) Low Stength effluent (Spent lees+MEE condensate+Utility blowdown) → Concentional CPU →Ultrafiltration → RO Plant → Treated water recycled for process & non-process applications. | |
| 3. | Licensed capacity of Distillery (KLPD) | 200 KLPD As per consent | |
| | Installed capacity | 200 KLPD | |
| | Present Production in | 143.18 KLPD (Average of month Feb. 2022) | |

| | | |
|---|---|---|
| | KLPD | ***Refer Annexure-VIII*** |
| | No of operating days/year | 350 |
| | Products Manufacture | RS/ENA/Absolute alcohol/Ethanol (KLD) |
| | RS (01 month) | --- |
| | ENA (01 month) | 4009117.2 BL (From 01st Feb. 2022 to 28th Feb. 2022) |
| | Absolute Alcohol/Ethanol (01 month) | --- |
| 4. | Type of Molasses/ Cane Syrup used | C-heavy molasses |
| | Molasses (in Qtls)/ Cane Syrup per KL of alcohol production | 39.87 Qtls. C-Heavy molasses per KL of alcohol production. |

## 4. Waste water generation

| Sr. No. | Stream/section | Quantity, KLD | Disposal/Utilization Point |
|---|---|---|---|
| 1. | Spent wash | 1430.0 | IMEE/ Biodigester /BMSW RO/ BMSW SMEE/ Biocomposting |
| 2. | Spent lees | 215.0 | CPU/RO |
| 3. | Fermenter washing | 20.0 | CPU/RO/MEE |
| 4. | Process condensate (MEE condensate) | IMEE – 556.0<br>SMEE – 485.0 | CPU/RO |
| 5. | Floor washing | 10.0 | CPU/RO/ MEE |
| 6. | Cooling tower blow down | 30.0 | CPU/RO |
| 7. | Boiler blow down | 25.0 | CPU/RO |
| 8. | DM plant reject | 30.0 | CPU/RO |
| 9. | Others viz. CPU RO reject etc. | 134.0 | SMEE |
| 10. | Spent wash generation (KL/KL of production) | 9.98 | |
| 11. | Quantity of other effluent generation (KL/KL of production) | 2.09 | |
| 12. | Total quantity of spent wash feed into Bio-digester/RO/MEE(KLPD) | 1460.0 | IMEE/Biodigester |
| 13. | Total quantity of other effluent feed into CPU(KLPD) | 1341.0 | CPU |

## 5. Process Emission/ Solid Disposal

| Sr. No. | Stream/section | Quantity, KLD | Disposal |
|---|---|---|---|
| 1. | Fermenter $CO_2$ disposal | 95.0 TPD | $CO_2$ plant |
| 2. | Fermenter sludge disposal | 42.0 KLD | Utilized in biocomposting |

| | | | |
|---|---|---|---|
| | | | process as filler material |

**1. Integrated Multi Effect Evaporator (IMEE) (RSW based)**

| | | | |
|---|---|---|---|
| 1. | Setting cum cooling tank before MEE (Yes / No) | Yes | |
| | Capacity of settling tank before MEE (m3) | 30 $m^3$ | |
| 2. | Year of installation/establishment & commissioning of MEE plant | 2013 | |
| 3. | Type of technology of MEE. | Falling film multi effect | |
| | Number of Effects with their HTA and MOC. Number of stand-by bodies and degasser provided. | 3 no's, MOC-SS-316 & no stand by bodies. VLS provided | |
| | Designed feed capacity and evaporation rate of MEE (M3/day). | 1700 TPD | |
| | Evaporation rate of MEE | 33 % | |
| 4. | Acceptable level of solids | 12 - 18.6 % | |
| 5. | Log Book supporting MEE plant performance. | Yes | |
| 6. | Mass Flow meter with totalizer installed at inlet of MEE (Yes / No) | Yes | |
| | Mass Flow meter with totalizer installed at outlet of MEE, MEE Concentrate (Yes / No) | Yes | |
| | Mass Flow meter with totalizer installed at outlet of MEE, MEE Condensate (Yes / No) | No | |
| | | Initial * | Final |
| 7. | Mass flow meter reading with totalizer at inlet of MEE. | 2929122 | 2930755 |
| | Mass flow meter reading with totalizer with outlet of MEE, MEE Concentrate | 2288586 | 2289620 |
| | Mass flow meter reading with totalizer with outlet of MEE, MEE Condensate | N.A. | N.A. |
| 8. | Mass flow meter with totalizer connected with CPCB/SPCB server at time of inspection (Yes/No) | Yes | |

- Provide one day reading

## 6.1. IMEE (RSW) Operational details

| | | | | |
|---|---|---|---|---|
| 1. | MEE feed rate (actual) | Lit/hr | 60811.0 | Sp. Gr.- 1.064 |
| 2. | Feed rate @ Sp.Gr.(Approximate) | Kg/hr | 64703.0 | |
| 3. | Solid content in feed/brix | % degree | 16.35 % | |
| 4. | Water evaporation rate (Min.) | Kg/hr | 23150.0 | |
| 5. | Concentrate Generation | Kg/hr | 41578.0 | |
| 6. | Solid content in concentrate Generation /brix | % degree Brix | 26.40 % | |
| 7. | Operation hour and whether it is operating continuously | Hr / day-week-month | Continuously | |
| 8. | MEE Feed Characteristics: | pH<br>TSS | 4.68<br>56800 mg/l | |

| | | | |
|---|---|---|---|
| | | TDS<br>BOD &<br>COD | 98520 mg/l<br>39600 mg/l<br>159200 mg/l |
| 9. | Frequency of CIP (cleaning in process) | Hr/ day or week or month | Once in a month |
| 10. | Quantity of CIP effluent | $M^3$/hr | 20 m3/ CIP |
| 11. | Quantity of process condensate | $M^3$/hr | 23.15 |
| 12. | Whether MEE achieving design efficiency | Yes / No | Yes |
| 13. | Utilisation of MEE condensate | | After treatment through CPU utilising in cooling towers make up & fermentation dilution |
| 14. | Utilisation of MEE concentrate | | Feed to Bio-digester |
| 15. | Utilization of blow down (cooling tower & boiler) | | After treatment through CPU utilising in cooling towers make up & fermentation dilution |

## 6.2. IMEE output Characteristics

| Sr No. | Particulars | Conc. spent wash | Process Condensate |
|---|---|---|---|
| 1. | Quantity, M3/day | 904.00 | 556.0 |
| 2. | PH | 4.65 | NA |
| 3. | Temperature, degree C | 65-70 | 5.12 |
| 4. | COD, ppm | 178800 | 1560 |
| 5. | Total solids, % | 26.40 | 0.228 |
| 6. | Ammonical Nitrogen (as N), ppm | 345 (Ammonia) | NA |

## 6. Bio-Methanation Plant/Bio-digester – Yes

| | | |
|---|---|---|
| 1. | Setting cum cooling tank before bio-digester (Yes/No) | Yes |
| | Capacity of Setting cum cooling tank before bio-digester ($m^3$) | 200 |
| 2. | Year of installation/establishment & commissioning of the digester | 1987-88 |
| 3. | No. of Digester: | 06 |
| | Capacity of Digester: | Total - 39000 M3 |
| | Type of Technology (CSTR/UASB/ Thermophilic/ Hybrid) | (CSTR) Continuous Stirred Tank Reactor |
| 4. | Hydraulic Retention Time on Design basis (in days) (15-24 days) | 26 days |
| | Organic Loading Rate (kg/$m^3$/day) | 5.00 kg/$M^3$ /Day |
| | Volume ($m^3$) | Total 39000 |
| 5. | No. of days of operation of digesters (days/annum) | Throughout the year |
| | Total biogas generated ($m^3$/annum) and bagasse/ coal | 31780327 $NM^3$ Bio Gas |

| | | |
|---|---|---|
| | saved | generated from April 2020 to Feb 2021 |
| | Maintaining Log Book records supporting biogas plant performance (Yes /No) | Yes |
| 6. | Quantity of Sludge generation from bio-digester (KLD) | 8 KLD |
| | Method of disposal/ utilization of sludge | Bio-Composting |

| Date of Observation: | **04.3.2022** | |
|---|---|---|
| | **Design parameters** | **Actual Feed Values** |
| Feed rate, $m^3$ /Day | 2100 TPD | 905.0 KLD |
| ºBrix (Inlet/Outlet) | 20 to 25 % | Inlet 26.40%<br>Outlet 14.53% |
| pH (Inlet/Outlet) | 3.5 to 4.5 | Inlet 4.65<br>Outlet 7.95 |
| COD, mg/l (Inlet/Outlet) | Inlet 1,30,000<br>Outlet 42,000 | Inlet 178800<br>Outlet 61200 |
| BOD, mg/l (Inlet/Outlet) | Inlet 60,000<br>Outlet 5,000 | inlet 67200<br>Outlet 15300 |
| COD reduction % | 60 % | 62.41 % |
| BOD reduction % | 85 % | 77.23 % |
| Biogas generation, $Nm^3$/kg of COD consumed | 0.5 | 0.5 |
| Biogas generation, $m^3$/day | -- | 50486 $Nm^3$ /Day |

## 7. RO plant (for bio-methanated spent wash treatment)– Yes

| | | |
|---|---|---|
| 1. | Setting cum cooling tank before RO (Yes/No) | Yes |
| | Capacity of Setting tank before RO ($m^3$) | 1680 M3/Day |
| 2. | Year of installation/establishment & commissioning of RO plant | 2005 |
| 3. | Details of pre-treatment | TSS Removal Plant Comprising of Lamella clarifiers, Series of clarifiers, Settling Tank and DAF (Diffused Air floatation) |
| 4. | Type of technology of membrane filtration. | Combination of disc tube & spiral High pressure types membranes |
| | Number of membranes per module & number of modules. | 184 membranes / modules, 820-disc type modules, 144 spiral type modules |
| 5. | Designed feed capacity of RO ($m^3$/day) | 1680 M3/Day |
| | Acceptable level in the feed. | T.S.S. Max. – 3500- 4500 PPM |
| 6. | No of days of operations (days/annum) | 365 |
| | Maintaining Log Book supporting RO plant | Yes |

| | | |
|---|---|---|
| | performance (Yes/No) | |
| 7. | Further treatment/disposal point of Permeate/Reject | Permeate is going to CPU Plant for further treatment And Reject is going to SMEE (BMSW) Evaporator |
| | Date of change of Membrane | About 40% Membrane changed every year |
| | Mode of Disposal of changed Membrane | Returned to vendor |
| 8. | Utilization of RO permeate (taken again in RO/used on process) | Permeate is going to CPU Plant for further treatment |
| 9. | Utilization of RO reject | Reject is going to SMEE (BMSW) Evaporator |
| 10. | Whether RO achieving designed parameters | Yes |
| 11. | Whether RO operated continuously | Continuous operated |

## 7.1. RO plant Performance

| **Particulars** | **Inlet (Feed)** | | **Reject** | | **Permeate** | |
|---|---|---|---|---|---|---|
| | **Initial reading $m^3$/day** | **Final reading $m^3$/day** | **Initial reading $m^3$/day** | **Final reading $m^3$/day** | **Initial reading $m^3$/day** | **Final reading $m^3$/day** |
| **Quantity, $m^3$/day** | RO 1 - 556 $M^3$/day<br>RO 2 - 446 $M^3$/day<br>RO 3 - 638 $M^3$/day | | RO 1 - 203 $M^3$/day<br>RO 2 - 162 $M^3$/day<br>RO 3 - 104 $M^3$/day | | RO 1 - 353 $M^3$/day<br>RO 2 - 284 $M^3$/day<br>RO 3 - 534 $M^3$/day | |
| | **Inlet (Feed)** | | **Reject** | | **Permeate** | |
| **Recovery, %** | RO 1 – 63.48% | | RO 2 – 63.67% | | RO 3 – 83.69% | |
| **Colour** | 690 | | 450 | | 140 | |
| **pH** | 8.13 | | 7.04 | | 6.93 | |
| **Conductivity, ms** | NA | | NA | | NA | |
| **BOD, ppm** | 19500 | | 13865 | | 352 | |
| **COD, ppm** | 78000 | | 73780 | | 1460 | |
| **Total solids, %** | 8.24 | | 7.39 | | 0.167 | |
| **Total dissolved solids, %** | 5.98 | | 4.21 | | 0.158 | |
| **Total suspended solids, %** | 2.35 | | 3.18 | | 0.0071 | |

## 8. Multiple Effective Evaporator (SMEE)

| | | |
|---|---|---|
| 1. | Setting cum cooling tank before MEE (Yes/No) | Yes |
| | Capacity of Setting tank before MEE ($m^3$) | 30 $m^3$ |
| 2. | Year of installation/establishment & commissioning of MEE plant | 2018 |

| | | | |
|---|---|---|---|
| 3. | Number of Effects with their HTA and MOC. (Mention number of stand-by bodies and degasser provided, if any) | Combination of Falling film and forced circulation type | |
| | Type of technology of MEE | 6 Nos.(5W+1S) FF + FC Effects with VLS MOC-SS-316 & provided | |
| | Designed capacity of MEE($m^3$/day) | 840 M3/Day | |
| | Evaporation rate of MEE (%) | 60% | |
| 4. | Acceptable level of suspended solids, dissolved solids etc. in the feed. | 14-18 % | |
| 5. | Maintaining Log Book supporting MEE plant performance (Yes/No) | Yes | |
| 6. | Mass flow meter with totalizer installed at inlet of MEE (Yes/No) | Yes | |
| | Mass flow meter with totalizer installed at outlet of MEE, MEE concentrate (Yes/No) | Yes | |
| | Mass flow meter with totalizer installed at outlet of MEE, MEE condensate (Yes/No) | No (Magnetic flow meter is installed) | |
| | | Initial* | Final |
| 7. | Mass flow meter reading with totalizer at inlet of MEE | | |
| | Mass flow meter reading with totalizer with outlet of MEE, MEE concentrate | | |
| | Mass flow meter reading with totalizer with outlet of MEE, MEE condensate | NA | NA |
| 8. | Mass flow meter with totalizer connected with CPCB/SPCB server at time of inspection (Yes/No) | Yes | |

*Provide for one day.

## 8.1. MEE operational details

| | | | | |
|---|---|---|---|---|
| 1. | MEE feed rate (actual) | Lit/hr | 25582.0 | Sp. Gr.- 1.030 |
| 2. | Feed rate @ Sp. Gr. (Approx.) | Kg/hr | 26349.0 | |
| 3. | Solid content in feed/brix | %/ degree | 6.24 | |
| 4. | Water evaporation rate (Minimum) | Kg/hr | 20218.0 | |
| 5. | Concentrate Generation | Kg/hr | 6008.0 | |
| 6. | Solid content in concentrate Generation/brix | %/degree | 29.76 | |
| 7. | Operation hour and whether it is operating continuously | Hr/day-or week or month | Continuously | |
| 8. | MEE Feed Characteristics | pH<br>TSS<br>TDS<br>BOD & | 7.03<br>20400 mg/l<br>42000 mg/l<br>16820 mg/l | |

| | | | |
|---|---|---|---|
| | | COD | 67820 mg/l |
| 9. | Frequency of CIP (Cleaning In Process) | Hr/day or week or month | Once in a month |
| 10. | Quantity of CIP effluent | $m^3$/hr | 15.0 |
| 11. | Mode of treatment/disposal of CIP effluent | MEE | |
| 12. | Quantity of process condensate | $m^3$/hr | 20.21 |
| 13. | Whether MEE achieving design efficiency. (Yes/No) | Yes | |
| 14. | Utilisation of MEE condensate | After treatment through CPU utilising in cooling towers make up & fermentation dilution | |
| 15. | Utilisation of MEE concentrate | Utilized in Biocomposting process | |
| 16. | Utilization of blow down (cooling tower & boiler) | After treatment through CPU utilising in cooling towers make up & fermentation dilution | |

## 8.2. MEE output Characteristics

| Sr. No. | Particulars | Conc. spent wash | Process Condensate |
|---|---|---|---|
| 1. | Quantity, $m^3$/day | 127.0 | 485.0 |
| 2. | pH | 7.46 | 8.47 |
| 3. | Temperature, ºC | 74 | 49 |
| 4. | COD, ppm | 232000 | 1650 |
| 5. | Total solids, % | 29.76 | 0.38 |
| 6. | Ammonical Nitrogen (as N), ppm | 232.4 (Ammonia) | 8.5 (Ammonia) |

## 9. CPU (Condensate Polishing Unit) – Yes

| | | | |
|---|---|---|---|
| 1. | Year of installation/establishment & commissioning of CPU | CPU plant installed in 2015 and upgraded in 2019 | |
| 2. | Name of Plant/Technology supplier | M/s. Paques India Pvt Ltd | |
| 3. | Type of technology of CPU plant: Conventional /RO/Striper/Photo-oxidation/In house technology etc. (Mention details of unit processes with flow diagram) | Equalization, Buffering, Anaerobic digestion, Aerobic digestion, clarification, MGF, ACF, followed by U V treatment. | |
| 4. | Design capacity of CPU unit ($m^3$/day) | 2000 M3/day (common CPU plant for all three units Molasses, Grain & Malt, Bottling) | |
| 5. | Actual capacity of CPU unit ($m^3$/day) | 2000 M3/day (common CPU plant for all three units Molasses, Grain & Malt, Bottling) | |
| 6. | Sources of effluent coming into CPU | Source | Quantity ($m^3$/day) |
| | | 1. MEE condensate | 1041.0 |
| | | 2. Spent Lees | 215.0 |
| | | 3. Utility blowdown | 55.0 |

| | | | |
|---|---|---|---|
| | | 4. DM Plant Reject | 30.0 |
| 7. | Total quantity feed to CPU per day (KLPD) | 1341.0 | |
| 8. | Quantity of treated effluent from CPU utilized per day (KLPD) | 1207.0 | |
| 9. | Recovery (%) and characteristics of treated water and its further utilization details | 90% | |
| 10. | Is there any reject generated from CPU (Yes/No) | Yes | |
| 11. | Disposal point of reject from CPU (If yes) | Feed to SMEE | |
| 12. | Total fresh water consumption after reuse of treated low strength effluents. | 1840.46 KLD<br>(Including Molasses, Grain and Malt spirit plant and IMFL & CL bottling) | |
| 13. | Log Book records supporting CPU performance (Yes/No) | Yes<br>***Refer Annexure-XIV*** | |

## 9.1 CPU performance

| **Particulars** | **Mixed Influent** | **Treated Effluent** |
|---|---|---|
| Quantity, $m^3$/day | 1341.0 | 1207.0 |
| Colour | 350 | 160 |
| pH | 8.48 | 7.25 |
| Temperature, ºC | 55 | 32 |
| BOD, ppm | 345 | 56 |
| COD, ppm | 1490 | 244 |
| Total solids, % | 0.195 | 0.048 |
| Total dissolved solids, % | 0.170 | 0.036 |
| Total suspended solids, % | 0.0082 | 0.0072 |
| Volatile acids, ppm | 820 | ND |
| Total Alkalinity, ppm | 1200 | 196 |

## 10. Lagoon

| | Actual Capacity of Lagoons | Yes/No | Number | Dimensions (L×B×H) | Storage Capacity ($m^3$) | Approximate Volume found stored during Inspection ($m^3$) |
|---|---|---|---|---|---|---|
| 1. | a. MEE Concentrate (for bio-composting) | Yes | 02 | -- | 25000 $m^3$ Each | Approx. 35 % Filled |
| | b. MEE Concentrate (for Incineration) | NA | NA | NA | NA | NA |

| | | | | | | |
|---|---|---|---|---|---|---|
| | c. Any Other (Details of Lagoon (if any) provided for storage of any other spent wash i.e., RAW/BMSW may be provided | NA | NA | NA | NA | NA |
| 2. | a. PTZ 360 cameras provided at Lagoon area<br>b. Operating satisfactorily<br>c. Connectivity to SPCB/CPCB | Yes<br>Yes<br>Yes | 02 | Details of Camera:<br>1 No. for Lagoon & biocomposting yard at Ajitpur site<br>User ID and Password for connectivity:<br>Username: CCTV / Password: radico@1234<br>1 No. for Lagoon & biocomposting yard HITACHI land site<br>User ID and Password for connectivity:<br>Username: CCTV / Password: radico@123 | | |

## 11. Bio-composting - Yes

- **Bio-compost yard Details-Impervious bio-compost yard (PCC-1:3:6 or RCC-1:2:4 or brick on edge) with construction details.**

- **Whether the unit maintaining log Book supporting bio-compost plant operations (Yes/No):**

| | | |
|---|---|---|
| 1. | Total Area for Bio-composting (acres) | About 58 Acres |
| 2. | Break-up of Total area: | |
| | Active Area for Bio-composting (out of total area) (acres) | 48 Acres |
| | Covered Active Area(acres) | 25 Acres |
| | Un-Covered Active Area(acres) | 33 Acres |
| | Storage Area: | |
| | Area for press mud Storage (Excluding active area) (acres) | 5 Acres |
| | Area for press mud Storage (Covered/Un-covered) | Covered |
| | Area for Ready Bio-compost storage (Excluding active area) (acres) | 5 Acres |
| | Area for Ready Bio-compost storage (Covered/Un-covered) | Covered |
| 3. | Period for one bio-compost cycle (60 days or 45 days) | 60 Days |
| 4. | Total no. of cycles per annum (4 or 5) | 4 cycles /year |
| 5. | Quantity of press mud procured/purchased (Last 06 months) | 13221 MT in month of Jan.2022 |
| 6. | Quantity of press mud used per bio-compost cycle | 7000 MT |
| 7. | Quantity of filler material i.e., yeast | 12 TPD Boiler ash + |

| | | | |
|---|---|---|---|
| | sludge or boiler ash etc. (other than press mud) used per bio-compost cycle | 15 TPD Fermentation sludge | |
| 8. | Quantity of concentrated spent wash used per bio-compost cycle | 11027 MT in month of Jan. 2022 | |
| 9. | Ratio of press mud to spent wash maintaining | 1:1.58 | |
| 10. | Quantity of finished compost prepared and sold per Annum | 3300 MT | |
| 11. | Finished bio-compost sold in loose or bag packing? | 1470 MT sold in month of Jan. 2022 | |
| 12. | Finished compost packing facility (Yes/No) | Yes | |
| 13. | Bio-compost analysis report | | |
| 14. | Details of windrows | | |
| | Number | 144 | |
| | Length | 60 to 200 | |
| | Height | 1.5 | |
| | Width of stacking | 2.5 to 3.0 | |
| | Space between the two windrows | 5.0 Meters | |
| 15. | Equipment's (nos.)<br>Aero-tillers<br>JCB<br>Tractor<br>Loaders | Aero-tillers – 6 Nos.<br>JCB - 4 Nos.<br>Tractor – 6 Nos.<br>Loaders – 5 Nos.<br>Dumper – 2 Nos. | |
| 16. | Details of registration required from agriculture department, as per new notification of Compost | Manufacturing licence no. – 1462/fertilizer/F.C.O.-1/F-587/2018-19 (validity – Whole Time.)<br>Sale Licence no. – JDA FERTILIZER/47/RMU/1 (validity – till 14.11.2024) | |
| 17. | Arrangement for rainy season and details regarding closure of operations for 03 months during monsoon | 25 Acre covered area for Biocomposting for rainy season | |
| 18. | Details of PTZ cameras provided and connectivity. | PTZ Camera provided<br>1.Biocomposting area<br>2.Operating satisfactory | (Yes/No)<br>02 nos.<br>Yes |
| 19. | Number of Bore well around compost yard. | NA | |
| 20. | Number of Piezometric wells available around the compost. | 13 | |
| 21. | Number of Piezometric wells shall be present around the bio-compost yard as per SOP for molasses-based distillery | 13 | |

## 12. Incineration Boiler– No

| | | |
|---|---|---|
| 1. | Year of installation/establishment & commissioning of Incineration boiler | NA |
| 2. | Type of boiler | NA |
| 3. | Capacity of Boiler | NA |
| 4. | Design details | NA |
| | Ratio of Slop and subsidiary fuel | NA |
| | Feed rates of Slop and subsidiary fuel considered | NA |
| 5. | Boiler/Technology Supplier details | NA |
| 6. | Boiler Performance details | NA |
| | Actual Slop and subsidiary fuel ratio achieved | NA |
| | No of working days per annum | NA |
| | Type of subsidiary fuel used with consumption/day | NA |
| 7. | Other Details | NA |
| | Shut down days-cleaning period required | NA |
| | Steam generation (MT/hr) | NA |
| | Steam pressure & temperature | NA |
| 8. | Emission control system or Air Pollution Control Device (APCD) installed (Yes/No) | NA |
| | Name of installed Emission control system/APCD | NA |
| | Stack Height | NA |
| | Stack monitored (Yes/No) | NA |
| 9. | Ash details: | NA |
| | Quantity of ash generated, MT/day (Bottom Ash + Ash collected in APCD) | NA |
| | Characteristics of generated Ash | NA |
| | Method of disposal of Ash(Bottom Ash + Ash collected in APCD) | NA |
| 10. | Whether the unit maintaining log Book supporting incineration boiler performance (Yes/No) | NA |
| 11. | On-line emission (stack) monitoring system installed (Yes/No) | NA |
| 12. | On-line emission (stack) monitoring system connected to CPCB/SPCB server at time of inspection? (Yes/No) | NA |

## 13. Sample Collection Points

| Sr. No. | Sampling Points | (Yes/No) |
|---|---|---|
| 1. | Raw spent wash (feed to Bio-digester/ IMEE) | Yes |
| 2. | Feed to MEE (Multi effect evaporator) | Yes |
| 3. | MEE condensate | Yes |
| 4. | MEE concentrate | Yes |
| 5. | Spent wash stored in the lagoon (from all the lagoons) | Yes |

| | | |
|---|---|---|
| 6. | CPU inlet | Yes |
| 7. | Aeration tank of CPU | Yes |
| 8. | CPU treated condensate | Yes |
| 9. | STP inlet | Yes |
| 10. | STP outlet | Yes |
| 11. | Drain within or outside the premises | No |
| 12. | Bypass (if any) | No |
| 13. | Groundwater (Samples should be collected from hand pumps or borewells) | Yes |

**Note:** ***Refer Annexure-XVI for analysis report with Form-I***

**Parameters to be analyzed for samples collected from locations1 to 7: pH, BOD, COD, TS, TSS, TDS**

**Parameters to be analyzed for sample collected from location no. 8& 12: pH, BOD, COD, TS, TSS, TDS, Colour**

**Ground water Analysis Report: Year of Dug: 1994 / 1995 / 2005 Depth (m) 110 & 90 M**

4 Quality of Groundwater is compared with Bureau of Indian Standard (BIS) drinking water — specification (Second Revision) IS 10500: 2012.

| Parameter → / Location ↓ | pH | Colour (PCU) | Total Alkalinity | Total Hardness | COD | TDS | $Cl^-$ | $F^-$ | $NO_3$ | $SO_4$ |
|---|---|---|---|---|---|---|---|---|---|---|
| Standard values | 6.5-8.5 | 15 | 600 | 600 | - | 2000 | 1000 | 1.5 | 45 | 400 |
| BW - 1 | 7.12 | BDL | 66.0 | 74.0 | ND | 302.0 | 78.9 | ND | 1.2 | 12.4 |
| BW - 2 | 7.18 | BDL | 82.0 | 88.0 | ND | 407.0 | 82.9 | ND | 1.5 | 12.4 |
| BW – 3 | 7.18 | BDL | 92.0 | 100.0 | ND | 491.0 | 98.9 | ND | 1.7 | 8.5 |

Quality of Groundwater is compared with Bureau of Indian Standard (BIS) drinking water — specification (Second Revision) IS 10500: 2012. (Heavy Metal)

| Parameter → | As | Cd | Cr | Cu | Fe | Pb | Mn | Hg | Ni | Zn | Sb | Co | Se | V |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Permissible linits | 0.05 | 0.003 | 0.05 | 1.5 | 0.3 | 0.01 | 0.3 | 0.001 | 0.02 | 15 | - | - | 0.01 | - |
| BW - 1 | ND | ND | ND | ND | 0.09 | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| BW – 2 | ND | ND | ND | ND | 0.13 | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| BW – 3 | ND | ND | ND | ND | 0.15 | ND | ND | ND | ND | ND | ND | ND | ND | ND |

***Refer Annexure-XVI for analysis report with Form-I***

**Sewage management section**

| | | |
|---|---|---|
| 42 | Quantity of sewage generated (KLD) | 100 KLD |
| 43 | STP status | Installed (Yes/No) : Yes<br>Operational (Yes/No) : Yes |
| 44 | Flow meter/ v-notch installed at inlet of STP | Yes/No: Yes<br>Type: mechanical |

| | | |
|---|---|---|
| | | Calibration details: No<br>Instantaneous Reading: NA…$m^3$/hr<br>Totalizer Reading: ……NA…….. $m^3$<br>Logbook maintained: Yes,<br>***Refer Annexure-XXIX***<br>(If yes, last three months logbook data should be collected) |
| 45 | Flow meter/ v-notch installed at outlet of STP | Yes/No : Yes<br>Type: mechanical<br>Calibration details: No<br>Instantaneous Reading:…NA…$m^3$/hr<br>Totalizer Reading: ……NA….. $m^3$<br>Logbook maintained: Yes<br>***Refer Annexure-XXIX***<br>(If yes, last three months logbook data should be collected) |
| 46 | Quantity of treated sewage (KLD) (to be calculated from STP inlet logbook) | 107.85 KLD |
| 47 | Quantity of recycled treated sewage (KLD) (Total of last three months) | In production: NA<br>Others: For gardening use |
| 48 | Quantity of treated sewage discharged (KLD) (to be calculated from ETP outlet logbook)- | 107.78 KLD |
| 49 | Mode of discharge | Surface pipeline |
| 50 | Discharge in | On land |

51 **Characteristics of Sewage**

| Parameter | STP inlet | STP outlet | Discharge Norms (as per consent) | Compliance Status |
|---|---|---|---|---|
| pH | 7.68 | 7.28 | NA | NA |
| BOD (mg/l) | 87.0 | 25.0 | 30 | Compliance |
| COD (mg/l) | 380.0 | 192.0 | 250 | Compliance |
| TSS (mg/l) | 102.0 | 74.0 | 100 | Compliance |
| TDS (mg/l) | 698.0 | 560.0 | NA | NA |
| Colour (PCU) | 310 | 110 | NA | NA |

✪ ***Observations:***

1. During the day of inspection 200 KLPD Molasses Based Distillery, 100 KLPD Grain Based Distillery ,8 KLPD Malt spirit plant found operational.
2. Avg production of last three months of Molasses based distillery is 140 KLPD, Grain Bases distillery is 100 KLPD and Malt spirit plant is 3.00 KLPD
3. Unit has obtained valid Air, water Consents for 200 KLPD Molasses based distillery plant,

100 KLPD Gran based distillery plant, 8 KLPD Malt spirit plant.

4. Unit has 3 borewells in the distillery premises, unit has installed flowmeters on each borewell and maintaining logbooks for the same.
5. Industry has obtained valid NOC for Ground water extraction.
6. For molasses-based distillery unit has adopted ZLD system as Raw Spent wash - Integrated Multi Effect Evaporation (IMEE) – Biodigester – BMSW RO plant – Standalone Multi Effect Evaporation (SMEE)- Biocomposting
7. For grain-based distillery unit has adopted ZLD system as Raw Spent wash – Decantation – Integrated Multi Effect Evaporation (IMEE)- DWGS (Wet cake sold as cattle feed.
8. The above ZLD system was in operation during the day of inspection.
9. For treatment of IMEE, SMEE process condensate, cooling tower & boiler blowdown, the distillery has installed combined CPU (conventional) plant having capacity of 2000 M3/Day. CPU is found operational at the time inspection visit.
10. Unit has installed high brix Bio-digester (24 brix)
11. For treatment of biomethanated spentwash molasses-based distillery unit has installed RO plant having capacity of 1680 M3/Day.
12. Green belt area is provided by the unit in the premises of distillery unit & biocompost yard.
13. Leachate collection sump with gutters is observed at Biocompost yard. (Covered - 28 Acres and uncovered- 30 Acres)
14. PTZ online camera is installed at the Lagoon site and Biocompost area.
15. Total 13 no's Piezometer are available in the biocompost yard & relevant online monitoring data is provided by distillery unit.
16. Mass flow meters are installed at IMEE & SMEE inlet & outlet, calibrated and connected with online connectivity to UPPCB/CPCB server and records are maintained by the unit.
17. Calibration certificate of spent wash (Grain & Molasses based) inlet and outlet mass flowmeters and molasses & flour weighing system are provided by the unit
18. Conc. biomethanated spent wash storage lagoons (Nos.2) are available and observed about 30% & 35% actual filled capacity during visit.
19. Unit has installed 02 nos. boilers out of which one is biogas fired having capacity of 26 TPH & another is rice husk fired boiler having capacity of 30 TPH high pressure boiler with 2.0 MW & 2.25 MW TG set respectively for captive steam & power generation and consumption in molasses & grain-based distillery.
20. Total 6 Nos of Thermophilic biodigesters are found operational & 1 digester is under maintenance found during inspection visit.
21. Biogas generated from biodigester is being utilized in biogas generator also to produce 2.4

MW power directly from biogas & at the time of inspection 01 biogas generator is found operational.

22. Biogas generated from biodigester of CPU is used in biogas generator for power generation
23. Online monitoring system for stack emission is available and connected to the CPCB and UPPCB server and relevant data is provided by the unit.
24. 04 nos. handpumps are found in biocomposting yard.
25. It was observed that unit is maintaining biocomposting as per CBCB guidelines. Unit is bagging the ready biocompost.
26. Centrifuge decantation system is provided at Grain based distillery for separation of the DWGS (wet cake) & sold as cattle feed to contracted parties.
27. ESP is installed as air pollution control system for 30 TPH boiler installed in premises of grain-based distillery.
28. Fermented yeast sludge, ETP sludge & boiler ash is being utilized for production of biocompost as a filler material.
29. Industry has installed 100 KLD STP for treatment of domestic sewage and V Notch is available for measurement of flow whereas magnetic flow meters are not available at inlet and outlet and found operational at the day of inspection.
30. Treated water and sludge generated from STP is being utilized for Gardening in the premises of unit.
31. Tree plantation and gardening is well developed in the area of Biodigester, CPU and spentwash lagoon.
32. Rain water harvesting & recharge ponds are provided by the unit in nearby villages viz. Dinpur, Hariyal, Punjab Nagar, Ballu ki Madhaiyya, Chikna Milakh, etc. & relevant data is provided by the distillery unit.

✪ ***Recommendations/Suggestion:***

1. Unit shall maintain proper housekeeping in fermentation, Evaporation plant area.
2. Unit shall implement pipeline colour coding in the operational as well as ETP area. It is also recommended that unit should make an arrangement of overhead pipe line for Conc. BMSW spent wash carrying to bio compost area.
3. It is also recommended that unit shall maintain unit wise or section wise fresh water consumption, waste water generation and treated water recycled in the process and undergo water audit of the manufacturing activities.
4. Improve housekeeping in bio-methanatation area. It is also suggested that unit should remove all the not in use pipe lines for the plant as well as ETP area.

✪ ***Compliance Status (Complied/ Non-Complied/ Closed): Complied***

| Inspection team details: | | | | |
|---|---|---|---|---|
| **Sr. No.** | **Technical institute officials** | **Designation** | **Organisation** | **Signature with date** |
| 1. | Mr. Avinash Deshmukh | Scientist | VSI, Pune | Deshmukh 19/04/2022 |
| 2. | Mr. Shivaraj Patil | Technical Officer | VSI, Pune | 19/04/2022 |
| **Sr. No.** | **SPCB/SMCG officials** | **Designation** | **Organisation** | **Signature with date** |
| 1. | Mr. J. N. Tiwari | JEE - UPPCB | UPPCB- Region Moradabad | For Dry report *Refer Annexure-XXXIII* |

## 14. ANNEXURES

- **Name and contact details of the vendor who has supplied and commissioned the on-line monitoring system.** ***Refer Annexure-XXVII***
- **Problems faced in maintaining the continuity of on-line monitoring system.**
- **Green belt surrounding bio-compost yard (Photographs).**
- **Whether the recipient drains/rivulets and their u/s & d/s locations in consultation with concerned State Pollution Control Board (SPCB), for monthly monitoring to ensure ZLD has been identified? (Yes/No).**
- **Material and mass balance of your total distillery plant operations including ETPs showing ZLD.** ***Refer Annexure-IX***
- **Also indicate how your distillery unit is achieving steam and power balance.** ***Refer Annexure-IX***
- **Environment Management Cell-Mo Ms and necessary documents.** ***Refer Annexure-XXX***
- **EC, Consent to Operate, Directions received and related documents.** ***Refer Annexure-I, II, III & IV***
- **Water conservation measures taken report (rain water harvesting etc.). Yes**

**Photographs of the industry:**

| Molasses storage tank | Fermentation section |
|---|---|
| | |
| **Distillation & MEE section** | **MEE Feed flow meter** |
| | |
| **MEE Outlet flow meter** | **Bio-digester** |

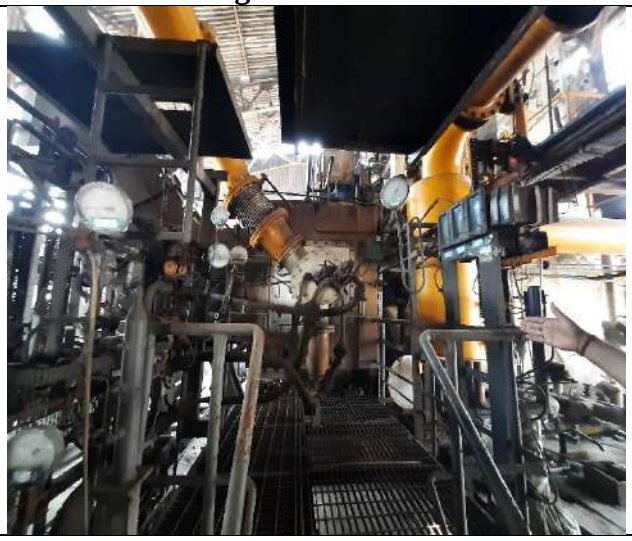
| | |
|---|---|
| | |
| **BM Spent wash RO Plant** | **CPU – Equalization Tank** |
| | |
| **CPU – Anaerobic Digester** | **CPU - Clarifier** |
| | |
| **Piezometer in compost yard** | **Conc. BM Spent wash Lagoon** |

**Aero tilling in compost yard**

**Covered Bio-compost Yard**

**Biogas fired Boiler**

**STP (Sewage Treatment Plant)**



Annexure- 4a

GROUND WATER DEPARTMENT
(Namami Gange & Rural Water Supply Department)
Ministry of Jal Shakti
Government of Uttar Pradesh

**Form 8 (C)**

[See Rule 8(1)]

# AUTHORIZATION/ NO-OBJECTION CERTIFICATE FOR SINKING OF NEW / EXISTING WELL FOR INDUSTRIAL/ COMMERCIAL/ INFRASTRUCTURAL OR BULK USER OF GROUND WATER

**[Under Section 14 of the Uttar Pradesh Ground Water Management and Regulation Act, 2019.]**

AUTHORIZATION/ NO-OBJECTION CERTIFICATE NO: NOC042559

**VALID FROM 15/12/2021 TO 14/12/2026**

**{UIS10(1) of the Uttar Pradesh Ground Water Management and Regulation Act, 2019}**

| **Registration No.: 202111000486** | | | |
|---|---|---|---|
| **Name of the Owner** | AMIT JAIN | | |
| **Designation**<br>**पद** | MANAGING DIRECTOR | **Company Name**<br>**कंपनी का नाम** | DAMYAA (PJ) FOODS PRIVATE LIMITED |
| **Company Address**<br>**कंपनी का पता** | Khasra No. 334, Village-Chikna, Shahbad Road, Ramp | **Authorization Letter**<br>**प्राधिकार पत्र** | Download |
| **Address of the Applicant** | JAINA ESTATE, CRPF ROAD | **Application Form Serial No.** | RMPR1121NIN0044 |
| **Date of Submission** | 27/11/2021 | **Specimen Signature** | |
| **Location Particulars** | | | |
| **District** | Rampur | **Block** | CHAMRAUAA (URBAN) |
| **Plot No./Khasra No.** | KHASRA NO. 334 | **Municipality/Corporation** | No |
| **Ward No./Holding No.** | | | NA |
| **Particular of the Existing Well and Pumping Device** | | | |
| **Date of Construction/Sinking of the Well** | 14/10/2013 | | |
| **Type of Well** | Tube Well/Boring | **Depth of the Well (In meter)** | 70.00 |
| **Purpose of well** | Industrial | **Assembly Size(For Tube Well)** | |
| **Strainer Position (For Tube Well)** | | | |
| **Type of Pump Used** | Submersible | **H.P. of the Pump** | 1.50 |

| | | | |
|---|---|---|---|
| **Operational Device** | Electric Motor | **Rate of Withdrawal ($m^3$/hr.)** | 3.00 |
| **Date of Energization (In Case of Electric Pump)** | | 14/10/2013 | |
| **Maximum Allowable Rate of Withdrawal ($m^3$/hr.):** | 3.00 | **Maximum Allowable Running Hours Per Day:** | 8.00 |
| **Maximum Allowable Annual Extraction of Ground Water:** | | | 7200 |

This No-Objection certificate authorizes the owner applicant (user) to sink a well in the location specified at SI. (2) for extraction of ground water at a rate not exceeding that as shown at SI. (3j), for Running Hours per day as shown at SI. (3k), and for maximum allowable annual extraction of ground water as shown at SI. (3k) and is valid subject to the observance of the conditions stated overleaf.

## GENERAL CONDITIONS:

- In case of any change of ownership of the proposed well, fresh authorization has to be obtained.
- No change of location, design, rate of withdrawal and pumping device in respect of the proposed well as indicated at SL (2) and (3) of this certificate shall be made without prior permission of the Competent Authority. Any deviation in this regard shall lead to cancellation of this authorization
- For the purpose of measuring and recording the quantity of ground water extracted, every said user shall affix digital water flow meters (conforming to BIS/ IS standards) having telemetry system in the abstraction structure, which record rate and quantum of extraction, at outlet of pumping devices and it shall be presumed that the quantity recorded by the meter has been extracted by the said user, until the contrary is proved. The rate of extraction of ground water from the well as shown in item 3(k) shall not exceed to the recorded rate from water meters
- The concerned Authority reserves the right to stop extraction of ground water from the well due to quality hazards or any other reasons, if the situation so demands
- In case of any change of ownership of the existing well, fresh registration has to be obtained.
- No change of location, design, rate of withdrawal and pumping device in respect of the existing well as indicated at SI. (2) and (3) of this certificate shall be made without prior permission of the Competent Authority. Any deviation in this regard shall lead to cancellation of this registration
- In case, any of the particulars I information furnished by the applicant in his application for issuance of this registration is found to be incorrect during verification at any subsequent stage , this registration is liable for cancellation.
- The Certificate of Authorization/ NOC shall be valid for a period of five years from the date of issue. The applicant shall have to apply for renewal through a fresh application, at least ninety days prior to expiry of its validity.
- Construction of piezometers and installation of digital water level recorders with telemetry shall be mandatory for user. Depth and zone tapped of piezometer should be commensurate with that of the pumping well. The data, obtained from digital water level recorders shall be made available to this office on monthly basis
- **Guidelines for Installation of Piezometers and their Monitoring**

  Piezometer is a borewell /tubewell used only for measuring the water level by lowering the tape/ sounder or automatic water level measuring equipment. It is also used to take water sample for water quality testing when ever needed. General guidelines for installation of piezometers are as follows:

  - The piezometer is to be installed/constructed at the minimum of 50 m distance from the pumping well through which ground water is being withdrawn. The diameter of the piezometer should be about 4” to 6”.
  - The depth of the piezometer should be same as is case of the pumping well from which ground water is being abstracted. If, more than one piezometers are installed the second piezometer should monitor the shallow ground water regime. It will facilitate shallow as well as deeper ground water aquifer monitoring.
  - No. of piezometers to be constructed & Type of water level monitoring mechanism shall be as per below table:

| S.No | Quantum of Ground water withdrawal (cum/day) | No.of piezometers required | Monitiring Mechanism | |
|---|---|---|---|---|
| | | | Manual | DWLR with Telemetry |
| 1 | < 10 | 0 | 0 | 0 |
| 2 | 11 - 50 | 1 | 1 | 0 |
| 3 | 50- 500 | 1 | 0 | 1 |
| 4 | > 500 | 2 | 0 | 2 |

  - The measuring frequency should be monthly and accuracy of measurement should be up to cm. the reported measurement should be given in meter upto two decimal.
  - For measurement of water level sounder or automatic water level recorder (AWLR)/ Digital Automatic water level recorder (DWLR) with telemetry system should be used for accuracy.

- The measurement of water level in piezometer should be taken, only after the pumping from the surrounding tube wells has been stopped for about four to six hours.
- All the details regarding coordinates, reduced level (with respect to mean level), depth, zone taped and assembly lowered should be provided for bringing the piezometer into the Hydrograph Monitoring System for Ground Water Department, Uttar Pradesh, and for its validation.
- The ground water quality has to be monitored twice in a year during pre-monsoon (May/June) and post-monsoon (October/November) periods. Quality may be got analyzed from NABL approved lab. Besides, one sample (1 lt capacity bottle) to the concerned Director, Ground Water Department, Uttar Pradesh, for chemical analysis.
- A Permanent display board should be installed at piezometer/Tube wells site for providing the location, piezometer/ tube well number, depth and zone tapped of piezometer/tube well for standard referencing and identification.
- Any other site specific requirement regarding safety and access for measurement may be taken care of.

- Any other condition(s) that may be imposed by the concerned Authority.
- In case, any of the particulars I information furnished by the applicant in his application for issuance of this permit is found to be incorrect during verification at any subsequent stage, this permit is liable for cancellation.
-
- **SPECIFIC CONDITIONS:**
- **(A) For Industrial User:** No Objection Certificate for ground water extraction by industries shall be granted subject to the following specific conditions:
- i) No Objection Certificate shall be granted only in such cases where local government water supply agencies are not able to supply the desired quantity of water.
- ii) All industries shall be required to adopt latest water efficient technologies so as to reduce dependence on ground water resources.
- iii) All industries abstracting ground water in excess of 100 $m^3$/d shall be required to undertake annual water audit through Confederation of Indian Industries (CII)/ Federation Indian Chamber of Commerce and Industry (FICCI)/ National Productivity Council (NPC) certified auditors and submit audit reports within three months of completion of the same to Ground Water Department Uttar Pradesh. All such industries shall be required to reduce their ground water use by at least 20% over the next five years through appropriate means.
- iv) Construction of observation well(s) (piezometer)(s) within the premises and installation of appropriate water level monitoring mechanism as mentioned in General Condition no.10 shall be mandatory for industries drawing/ proposing to draw more than 10 $m^3$ /day of ground water and. Monitoring of water level shall be done by the project proponent. The piezometer (observation well) shall be constructed at a minimum distance of 50 m from the bore well/production well. Depth and aquifer zone tapped in the piezometer shall be the same as that of the pumping well/ wells. Monthly water level data shall be submitted online to the Ground Water Department, UP.
- v) The proponent shall be required to adopt roof top rain water harvesting/ recharge in the project premises. Industries which are likely to pollute ground water (chemical, pharmaceutical, dyes, pigments, paints, textiles, tannery, pesticides/ insecticides, fertilizers, slaughter house, explosives etc.) shall store the harvested rain water in surface storage tanks for use in the industry.
- vi) Injection of treated/ untreated waste water into aquifer system is strictly prohibited.
- vii) Industries which are likely to cause ground water pollution e.g. Tanning, Slaughter Houses, Dye, Chemical/ Petrochemical, Coal washeries, other hazardous units etc. (as per CPCB list) need to undertake necessary well head protection measures to ensure prevention of ground water pollution.
-
- **(B) Infrastructural User:** The No Objection Certificate for ground water abstraction will be granted subject to the following specific conditions:
- i) In case of infrastructure projects that require dewatering, proponent shall be required to carry out regular monitoring of dewatering discharge rate (using a digital water flow meter) and submit the data online to Ground Water Department, UP as applicable. Monitoring records and results should be retained by the proponent for two years, for inspection or reporting as required by District Ground Water Management Council.
- ii) Installation of Sewage Treatment Plants (STP) shall be mandatory for new projects, where ground water requirement is more than 20 $m^3$ /day. The water from STP shall be utilized for toilet flushing, car washing, gardening etc

Date :**18/12/2021**

Place:**Rampur**

## This certificate is electronically generated and does not require digital signature

Annexure- 4b

GROUND WATER DEPARTMENT
(Namami Gange & Rural Water Supply Department)
Ministry of Jal Shakti
Government of Uttar Pradesh

**Form 8 (C)**

[See Rule 8(1)]

# AUTHORIZATION/ NO-OBJECTION CERTIFICATE FOR SINKING OF NEW / EXISTING WELL FOR INDUSTRIAL/ COMMERCIAL/ INFRASTRUCTURAL OR BULK USER OF GROUND WATER

**[Under Section 14 of the Uttar Pradesh Ground Water Management and Regulation Act, 2019.]**

AUTHORIZATION/ NO-OBJECTION CERTIFICATE NO: NOC035878

**VALID FROM 15/12/2021 TO 14/12/2026**

**{UIS10(1) of the Uttar Pradesh Ground Water Management and Regulation Act, 2019}**

| **Registration No.: 202111000484** | | | |
|---|---|---|---|
| **Name of the Owner** | AMIT JAIN | | |
| **Designation**<br>**पद** | MANAGING DIRECTOR | **Company Name**<br>**कंपनी का नाम** | DAMYAA (PJ) FOODS PRIVATE LIMITED |
| **Company Address**<br>**कंपनी का पता** | Khasra No. 334, Village-Chikna, Shahbad Road, Ramp | **Authorization Letter**<br>**प्राधिकार पत्र** | Download |
| **Address of the Applicant** | JAINA ESTATE, CRPF ROAD | **Application Form Serial No.** | RMPR1121NIN0043 |
| **Date of Submission** | 27/11/2021 | **Specimen Signature** | |
| **Location Particulars** | | | |
| **District** | Rampur | **Block** | CHAMRAUAA (URBAN) |
| **Plot No./Khasra No.** | KHASRA NO. 334 | **Municipality/Corporation** | No |
| **Ward No./Holding No.** | | | NA |
| **Particular of the Existing Well and Pumping Device** | | | |
| **Date of Construction/Sinking of the Well** | 14/10/2013 | | |
| **Type of Well** | Tube Well/Boring | **Depth of the Well (In meter)** | 70.00 |
| **Purpose of well** | Industrial | **Assembly Size(For Tube Well)** | |
| **Strainer Position (For Tube Well)** | | | |
| **Type of Pump Used** | Submersible | **H.P. of the Pump** | 1.50 |

| | | | |
|---|---|---|---|
| **Operational Device** | Electric Motor | **Rate of Withdrawal ($m^3$/hr.)** | 3.00 |
| **Date of Energization (In Case of Electric Pump)** | | 14/10/2013 | |
| **Maximum Allowable Rate of Withdrawal ($m^3$/hr.):** | 3.00 | **Maximum Allowable Running Hours Per Day:** | 8.00 |
| **Maximum Allowable Annual Extraction of Ground Water:** | | | 7200 |

This No-Objection certificate authorizes the owner applicant (user) to sink a well in the location specified at SI. (2) for extraction of ground water at a rate not exceeding that as shown at SI. (3j), for Running Hours per day as shown at SI. (3k), and for maximum allowable annual extraction of ground water as shown at SI. (3k) and is valid subject to the observance of the conditions stated overleaf.

## GENERAL CONDITIONS:

- In case of any change of ownership of the proposed well, fresh authorization has to be obtained.
- No change of location, design, rate of withdrawal and pumping device in respect of the proposed well as indicated at SL (2) and (3) of this certificate shall be made without prior permission of the Competent Authority. Any deviation in this regard shall lead to cancellation of this authorization
- For the purpose of measuring and recording the quantity of ground water extracted, every said user shall affix digital water flow meters (conforming to BIS/ IS standards) having telemetry system in the abstraction structure, which record rate and quantum of extraction, at outlet of pumping devices and it shall be presumed that the quantity recorded by the meter has been extracted by the said user, until the contrary is proved. The rate of extraction of ground water from the well as shown in item 3(k) shall not exceed to the recorded rate from water meters
- The concerned Authority reserves the right to stop extraction of ground water from the well due to quality hazards or any other reasons, if the situation so demands
- In case of any change of ownership of the existing well, fresh registration has to be obtained.
- No change of location, design, rate of withdrawal and pumping device in respect of the existing well as indicated at SI. (2) and (3) of this certificate shall be made without prior permission of the Competent Authority. Any deviation in this regard shall lead to cancellation of this registration
- In case, any of the particulars I information furnished by the applicant in his application for issuance of this registration is found to be incorrect during verification at any subsequent stage , this registration is liable for cancellation.
- The Certificate of Authorization/ NOC shall be valid for a period of five years from the date of issue. The applicant shall have to apply for renewal through a fresh application, at least ninety days prior to expiry of its validity.
- Construction of piezometers and installation of digital water level recorders with telemetry shall be mandatory for user. Depth and zone tapped of piezometer should be commensurate with that of the pumping well. The data, obtained from digital water level recorders shall be made available to this office on monthly basis
- **Guidelines for Installation of Piezometers and their Monitoring**

  Piezometer is a borewell /tubewell used only for measuring the water level by lowering the tape/ sounder or automatic water level measuring equipment. It is also used to take water sample for water quality testing when ever needed. General guidelines for installation of piezometers are as follows:

  - The piezometer is to be installed/constructed at the minimum of 50 m distance from the pumping well through which ground water is being withdrawn. The diameter of the piezometer should be about 4” to 6”.
  - The depth of the piezometer should be same as is case of the pumping well from which ground water is being abstracted. If, more than one piezometers are installed the second piezometer should monitor the shallow ground water regime. It will facilitate shallow as well as deeper ground water aquifer monitoring.
  - No. of piezometers to be constructed & Type of water level monitoring mechanism shall be as per below table:

| S.No | Quantum of Ground water withdrawal (cum/day) | No.of piezometers required | Monitiring Mechanism | |
|---|---|---|---|---|
| | | | Manual | DWLR with Telemetry |
| 1 | < 10 | 0 | 0 | 0 |
| 2 | 11 - 50 | 1 | 1 | 0 |
| 3 | 50- 500 | 1 | 0 | 1 |
| 4 | > 500 | 2 | 0 | 2 |

  - The measuring frequency should be monthly and accuracy of measurement should be up to cm. the reported measurement should be given in meter upto two decimal.
  - For measurement of water level sounder or automatic water level recorder (AWLR)/ Digital Automatic water level recorder (DWLR) with telemetry system should be used for accuracy.

- The measurement of water level in piezometer should be taken, only after the pumping from the surrounding tube wells has been stopped for about four to six hours.
- All the details regarding coordinates, reduced level (with respect to mean level), depth, zone taped and assembly lowered should be provided for bringing the piezometer into the Hydrograph Monitoring System for Ground Water Department, Uttar Pradesh, and for its validation.
- The ground water quality has to be monitored twice in a year during pre-monsoon (May/June) and post-monsoon (October/November) periods. Quality may be got analyzed from NABL approved lab. Besides, one sample (1 lt capacity bottle) to the concerned Director, Ground Water Department, Uttar Pradesh, for chemical analysis.
- A Permanent display board should be installed at piezometer/Tube wells site for providing the location, piezometer/ tube well number, depth and zone tapped of piezometer/tube well for standard referencing and identification.
- Any other site specific requirement regarding safety and access for measurement may be taken care of.

- Any other condition(s) that may be imposed by the concerned Authority.
- In case, any of the particulars I information furnished by the applicant in his application for issuance of this permit is found to be incorrect during verification at any subsequent stage, this permit is liable for cancellation.
-
- **SPECIFIC CONDITIONS:**
- **(A) For Industrial User:** No Objection Certificate for ground water extraction by industries shall be granted subject to the following specific conditions:
- i) No Objection Certificate shall be granted only in such cases where local government water supply agencies are not able to supply the desired quantity of water.
- ii) All industries shall be required to adopt latest water efficient technologies so as to reduce dependence on ground water resources.
- iii) All industries abstracting ground water in excess of 100 $m^3$/d shall be required to undertake annual water audit through Confederation of Indian Industries (CII)/ Federation Indian Chamber of Commerce and Industry (FICCI)/ National Productivity Council (NPC) certified auditors and submit audit reports within three months of completion of the same to Ground Water Department Uttar Pradesh. All such industries shall be required to reduce their ground water use by at least 20% over the next five years through appropriate means.
- iv) Construction of observation well(s) (piezometer)(s) within the premises and installation of appropriate water level monitoring mechanism as mentioned in General Condition no.10 shall be mandatory for industries drawing/ proposing to draw more than 10 $m^3$ /day of ground water and. Monitoring of water level shall be done by the project proponent. The piezometer (observation well) shall be constructed at a minimum distance of 50 m from the bore well/production well. Depth and aquifer zone tapped in the piezometer shall be the same as that of the pumping well/ wells. Monthly water level data shall be submitted online to the Ground Water Department, UP.
- v) The proponent shall be required to adopt roof top rain water harvesting/ recharge in the project premises. Industries which are likely to pollute ground water (chemical, pharmaceutical, dyes, pigments, paints, textiles, tannery, pesticides/ insecticides, fertilizers, slaughter house, explosives etc.) shall store the harvested rain water in surface storage tanks for use in the industry.
- vi) Injection of treated/ untreated waste water into aquifer system is strictly prohibited.
- vii) Industries which are likely to cause ground water pollution e.g. Tanning, Slaughter Houses, Dye, Chemical/ Petrochemical, Coal washeries, other hazardous units etc. (as per CPCB list) need to undertake necessary well head protection measures to ensure prevention of ground water pollution.
-
- **(B) Infrastructural User:** The No Objection Certificate for ground water abstraction will be granted subject to the following specific conditions:
- i) In case of infrastructure projects that require dewatering, proponent shall be required to carry out regular monitoring of dewatering discharge rate (using a digital water flow meter) and submit the data online to Ground Water Department, UP as applicable. Monitoring records and results should be retained by the proponent for two years, for inspection or reporting as required by District Ground Water Management Council.
- ii) Installation of Sewage Treatment Plants (STP) shall be mandatory for new projects, where ground water requirement is more than 20 $m^3$ /day. The water from STP shall be utilized for toilet flushing, car washing, gardening etc

Date :**18/12/2021**

Place:**Rampur**

## This certificate is electronically generated and does not require digital signature

Annexure-5

2/23/22 2:10 PM

**Annexure 5**

# GROUND WATER DEPARTMENT

(Namami Gange & Rural Water Supply Department)

Ministry of Jal Shakti

Government of Uttar Pradesh

## Form 8 (C)

## AUTHORIZATION/ NO-OBJECTION CERTIFICATE FOR SINKING OF NEW / EXISTING WELL FOR INDUSTRIAL/ COMMERCIAL/ INFRASTRUCTURAL OR BULK USER OF GROUND WATER

[Under Section 14 of the Uttar Pradesh Ground Water Management and Regulation Act, 2019.]

**AUTHORIZATION/ NO-OBJECTION CERTIFICATE NO: NOC014441**

**VALID FROM 15/12/2021 TO 14/12/2026**

| | | | |
|---|---|---|---|
| Name of the Applicant | USHA GUPTA | | |
| dress of the Applicant: | D-22,23,29 AJEETPUR INDUSTRIAL ESTATE TEHSIL RAMPUR DISTRICT RAMPUR U.P 244901 | | |
| Company Name: | USHA STEEL PROCESS | Company Address | AJEET INDUSTRIAL AREA RAMPUR 244901 |
| Serial No. of Application Form | RMPR1121NIN0042 | Date of Submission | 13/11/2021 |
| Specimen Signature of the User: | | | |

### Location particulars:

| | | | |
|---|---|---|---|
| District | Rampur | Block | CHAMRAUAA (URBAN) |
| Plot No. | D- 22, 23, 29 | | |
| Municipality/Corporation | No | Ward No. | N/A |
| Holding No. | | | N/A |
| Rate of Withdrawal ($m^3$/hr.) | 2.00 | Date of Energization (In Case of Electric Pump) | 01/01/2012 |

### ticular of the Existing Well and Pumping Device

| | | | |
|---|---|---|---|
| Type of the Well | Others | Purpose of the Well | Industrial |
| Diameter (For Dug Well) | 0.00 | Type of Pump to be Used: | Submersible |
| H.P. of the Pump: | 2.00 | Operational Device | Electric Motor |
| Maximum Allowable Rate of Withdrawal ($m^3$/hr.): | 2.00 | Maximum Allowable Running Hours Per Day: | 1.00 |
| Maximum Allowable Annual Extraction of Ground Water: | | | 730 |

This No-Objection certificate authorizes the owner applicant (user) to sink a well in the location specified at Sl. (2) for extraction of ground water at a rate not exceeding that as shown at Sl. (3j), for Running Hours per day as shown at Sl. (3k), and for maximum allowable annual extraction of ground water as shown at Sl. (3k) and is valid subject to the observance of the conditions stated overleaf.

### GENERAL CONDITIONS:

- In case of any change of ownership of the proposed well, fresh authorization has to be obtained.

- No change of location, design, rate of withdrawal and pumping device in respect of the proposed well as indicated at SL (2) and (3) of this certificate shall be made without prior permission of the Competent Authority. Any deviation in this regard shall lead to cancellation of this authorization
- For the purpose of measuring and recording the quantity of ground water extracted, every said user shall affix digital water flow meters (conforming to BIS/ IS standards) having telemetry system in the abstraction structure, which record rate and quantum of extraction, at outlet of pumping devices and it shall be presumed that the quantity recorded by the meter has been extracted by the said user, until the contrary is proved. The rate of extraction of ground water from the well as shown in item 3(k) shall not exceed to the recorded rate from water meters
- The concerned Authority reserves the right to stop extraction of ground water from the well due to quality hazards or any other reasons, if the situation so demands
- In case of any change of ownership of the existing well, fresh registration has to be obtained.
- No change of location, design, rate of withdrawal and pumping device in respect of the existing well as indicated at SI. (2) and (3) of this certificate shall be made without prior permission of the Competent Authority. Any deviation in this regard shall lead to cancellation of this registration
- In case, any of the particulars I information furnished by the applicant in his application for issuance of this registration is found to be incorrect during verification at any subsequent stage , this registration is liable for cancellation.
- The Certificate of Authorization/ NOC shall be valid for a period of five years from the date of issue. The applicant shall have to apply for renewal through a fresh application, at least ninety days prior to expiry of its validity.
- Construction of piezometers and installation of digital water level recorders with telemetry shall be mandatory for user. Depth and zone tapped of piezometer should be commensurate with that of the pumping well. The data, obtained from digital water level recorders shall be made available to this office on monthly basis
- **Guidelines for Installation of Piezometers and their Monitoring**

Piezometer is a borewell /tubewell used only for measuring the water level by lowering the tape/ sounder or automatic water level measuring equipment. It is also used to take water sample for water quality testing when ever needed. General guidelines for installation of piezometers are as follows:

  - The piezometer is to be installed/constructed at the minimum of 50 m distance from the pumping well through which ground water is being withdrawn. The diameter of the piezometer should be about 4" to 6".
  - The depth of the piezometer should be same as is case of the pumping well from which ground water is being abstracted. If, more than one piezometers are installed the second piezometer should monitor the shallow ground water regime. It will facilitate shallow as well as deeper ground water aquifer monitoring.
  - No. of piezometers to be constructed & Type of water level monitoring mechanism shall be as per below table:

| S.No | Quantum of Ground water withdrawal (cum/day) | No.of piezometers required | Monitiring Mechanism | |
|---|---|---|---|---|
| | | | Manual | DWLR with Telemetry |
| 1 | < 10 | 0 | 0 | 0 |
| 2 | 11 - 50 | 1 | 1 | 0 |
| 3 | 50- 500 | 1 | 0 | 1 |
| 4 | > 500 | 2 | 0 | 2 |

  - The measuring frequency should be monthly and accuracy of measurement should be up to cm. the reported measurement should be given in meter upto two decimal.
  - For measurement of water level sounder or automatic water level recorder (AWLR)/ Digital Automatic water level recorder (DWLR) with telemetry system should be used for accuracy.
  - The measurement of water level in piezometer should be taken, only after the pumping from the surrounding tube wells has been stopped for about four to six hours.
  - All the details regarding coordinates, reduced level (with respect to mean level), depth, zone taped and assembly lowered should be provided for bringing the piezometer into the Hydrograph Monitoring System for Ground Water Department, Uttar Pradesh, and for its validation.
  - The ground water quality has to be monitored twice in a year during pre-monsoon (May/June) and post-monsoon (October/November) periods. Quality may be got analyzed from NABL approved lab. Besides, one sample (1 lt capacity bottle) to the concerned Director, Ground Water Department, Uttar Pradesh, for chemical analysis.
  - A Permanent display board should be installed at piezometer/Tube wells site for providing the location, piezometer/ tube well number, depth and zone tapped of piezometer/tube well for standard referencing and identification.
  - Any other site specific requirement regarding safety and access for measurement may be taken care of.
- Any other condition(s) that may be imposed by the concerned Authority.
- In case, any of the particulars I information furnished by the applicant in his application for issuance of this permit is found to be incorrect during verification at any subsequent stage, this permit is liable for cancellation.

**SPECIFIC CONDITIONS:**

- **(A) For Industrial User:** No Objection Certificate for ground water extraction by industries shall be granted subject to the following specific conditions:
- i) No Objection Certificate shall be granted only in such cases where local government water supply agencies are not able to supply the desired quantity of water.
- ii) All industries shall be required to adopt latest water efficient technologies so as to reduce dependence on ground water resources.
- iii) All industries abstracting ground water in excess of 100 $m^3$/d shall be required to undertake annual water audit through Confederation of Indian Industries (CII)/ Federation Indian Chamber of Commerce and Industry (FICCI)/ National Productivity Council (NPC) certified auditors and submit audit reports within three months of completion of the same to Ground Water Department Uttar Pradesh. All such industries shall be required to reduce their ground water use by at least 20% over the next five years through appropriate means.
- iv) Construction of observation well(s) (piezometer)(s) within the premises and installation of appropriate water level monitoring mechanism as mentioned in General Condition no.10 shall be mandatory for industries drawing/ proposing to draw more than 10 $m^3$ /day of ground water and. Monitoring of water level shall be done by the project proponent. The piezometer (observation well) shall be constructed at a minimum distance of 50 m from the bore well/production well. Depth and aquifer zone tapped in the piezometer shall be the same as that of the pumping well/ wells. Monthly water level data shall be submitted online to the Ground Water Department, UP.
- v) The proponent shall be required to adopt roof top rain water harvesting/ recharge in the project premises. Industries which are likely to pollute ground water (chemical, pharmaceutical, dyes, pigments, paints, textiles, tannery, pesticides/ insecticides, fertilizers, slaughter house, explosives etc.) shall store the harvested rain water in surface storage tanks for use in the industry.
- vi) Injection of treated/ untreated waste water into aquifer system is strictly prohibited.
- **vii)** Industries which are likely to cause ground water pollution e.g. Tanning, Slaughter Houses, Dye, Chemical/ Petrochemical, Coal washeries, other hazardous units etc. (as per CPCB list) need to undertake necessary well head protection measures to ensure prevention of ground water pollution.

- **(B) Infrastructural User:** The No Objection Certificate for ground water abstraction will be granted subject to the following specific conditions:
- i) In case of infrastructure projects that require dewatering, proponent shall be required to carry out regular monitoring of dewatering discharge rate (using a digital water flow meter) and submit the data online to Ground Water Department, UP as applicable. Monitoring records and results should be retained by the proponent for two years, for inspection or reporting as required by District Ground Water Management Council.
- ii) Installation of Sewage Treatment Plants (STP) shall be mandatory for new projects, where ground water requirement is more than 20 $m^3$ /day. The water from STP shall be utilized for toilet flushing, car washing, gardening etc

Date :**22/02/2022**

Place:**Rampur**

**This certificate is electronically generated and does not require digital signature**

Annexure-6a

# GROUND WATER DEPARTMENT

(Namami Gange & Rural Water Supply Department)
Ministry of Jal Shakti
Government of Uttar Pradesh

**Annexure 6a**

## Form 8 (C)

[See Rule 8(1)]

## AUTHORIZATION/ NO-OBJECTION CERTIFICATE FOR SINKING OF NEW / EXISTING WELL FOR INDUSTRIAL/ COMMERCIAL/ INFRASTRUCTURAL OR BULK USER OF GROUND WATER

**[Under Section 14 of the Uttar Pradesh Ground Water Management and Regulation Act, 2019.]**

AUTHORIZATION/ NO-OBJECTION CERTIFICATE NO: NOC031067

**VALID FROM 29/10/2021 TO 28/10/2026**

**{UIS10(1) of the Uttar Pradesh Ground Water Management and Regulation Act, 2019}**

Registration No.: 202109000312

| | | | |
|---|---|---|---|
| Name of the Owner | NITIN KUMAR GUPTA | | |
| Designation पद | DIRECTOR TECHNICAL | **Company Name कंपनी का नाम** | SWATI MENTHOL &ALLIED CHEMICAL LTD UNIT I |
| Company Address कंपनी का पता | OPPOSITE AKASHWANI, BAREILLY ROAD RAMPUR UP | **Authorization Letter प्राधिकार पत्र** | Download |
| Address of the Applicant | KHASRA NO-165, 169, 4.5 K.M. BAREILLY ROAD, DISTRICT-RAMPUR, U P, 244901 | **Application Form Serial No.** | RMPR0921NIN0033 |
| Date of Submission | 11/09/2021 | **Specimen Signature** | |

### Location Particulars

| | | | |
|---|---|---|---|
| District | Rampur | **Block** | CHAMRAUAA (URBAN) |
| Plot No./Khasra No. | 165,169 | **Municipality/Corporation** | No |
| Ward No./Holding No. | | | N/A |

### Particular of the Existing Well and Pumping Device

| | | | |
|---|---|---|---|
| Date of Construction/Sinking of the Well | 01/01/2007 | | |
| Type of Well | Tube Well/Boring | **Depth of the Well (In meter)** | 45.00 |
| Purpose of well | Industrial | **Assembly Size(For Tube Well)** | |

Strainer Position (For Tube Well)

| | | | |
|---|---|---|---|
| Type of Pump Used | Submersible | **H.P. of the Pump** | 3.00 |
| Operational Device | Electric Motor | **Rate of Withdrawal ($m^3$/hr.)** | 15.00 |
| Date of Energization (In Case of Electric Pump) | | 01/01/2007 | |

num Allowable Rate of Withdrawal ($m^3$/hr.): 15.00

Maximum Allowable Running Hours Per Day: 2.00

Maximum Allowable Annual Extraction of Ground Water: 10950

This No-Objection certificate authorizes the owner applicant (user) to sink a well in the location specified at Sl. (2) for extraction of ground water at a rate not exceeding that as shown at Sl. (3j), for Running Hours per day as shown at Sl. (3k), and for maximum allowable annual extraction of ground water as shown at Sl..(3k) and is valid subject to the observance of the conditions stated overleaf.

## GENERAL CONDITIONS:

- In case of any change of ownership of the proposed well, fresh authorization has to be obtained.
- No change of location, design, rate of withdrawal and pumping device in respect of the proposed well as indicated at SL (2) and (3) of this certificate shall be made without prior permission of the Competent Authority. Any deviation in this regard shall lead to cancellation of this authorization
- For the purpose of measuring and recording the quantity of ground water extracted, every said user shall affix digital water flow meters (conforming to BIS/ IS standards) having telemetry system in the abstraction structure, which record rate and quantum of extraction, at outlet of pumping devices and it shall be presumed that the quantity recorded by the meter has been extracted by the said user, until the contrary is proved. The rate of extraction of ground water from the well as shown in item 3(k) shall not exceed to the recorded rate from water meters
- The concerned Authority reserves the right to stop extraction of ground water from the well due to quality hazards or any other reasons, if the situation so demands
- In case of any change of ownership of the existing well, fresh registration has to be obtained.
- No change of location, design, rate of withdrawal and pumping device in respect of the existing well as indicated at Sl. (2) and (3) of this certificate shall be made without prior permission of the Competent Authority. Any deviation in this regard shall lead to cancellation of this registration
- In case, any of the particulars I information furnished by the applicant in his application for issuance of this registration is found to be incorrect during verification at any subsequent stage , this registration is liable for cancellation.
- The Certificate of Authorization/ NOC shall be valid for a period of five years from the date of issue. The applicant shall have to apply for renewal through a fresh application, at least ninety days prior to expiry of its validity.
- Construction of piezometers and installation of digital water level recorders with telemetry shall be mandatory for user. Depth and zone tapped of piezometer should be commensurate with that of the pumping well. The data, obtained from digital water level recorders shall be made available to this office on monthly basis
- Guidelines for Installation of Piezometers and their Monitoring

Piezometer is a borewell /tubewell used only for measuring the water level by lowering the tape/ sounder or automatic water level measuring equipment. It is also used to take water sample for water quality testing when ever needed. General guidelines for installation of piezometers are as follows.

- The piezometer is to be installed/constructed at the minimum of 50 m distance from the pumping well through which ground water is being withdrawn. The diameter of the piezometer should be about 4" to 6".
- The depth of the piezometer should be same as is case of the pumping well from which ground water is being abstracted. If, more than one piezometers are installed the second piezometer should monitor the shallow ground water regime. It will facilitate shallow as well as deeper ground water aquifer monitoring.
- No. of piezometers to be constructed & Type of water level monitoring mechanism shall be as per below table:

| S.No | Quantum of Ground water withdrawal (cum/day) | No.of piezometers required | Monitiring Mechanism | |
|---|---|---|---|---|
| | | | Manual | DWLR with Telemetry |
| 1 | < 10 | 0 | 0 | 0 |
| 2 | 11 - 50 | 1 | 1 | 0 |
| 3 | 50- 500 | 1 | 0 | 1 |
| 4 | > 500 | 2 | 0 | 2 |

- The measuring frequency should be monthly and accuracy of measurement should be up to cm. the reported measurement should be given in meter upto two decimal.
- For measurement of water level sounder or automatic water level recorder (AWLR)/ Digital Automatic water level recorder (DWLR) with telemetry system should be used for accuracy.
- The measurement of water level in piezometer should be taken, only after the pumping from the surrounding tube wells has been stopped for about four to six hours.
- All the details regarding coordinates, reduced level (with respect to mean level), depth, zone taped and assembly lowered should be provided for bringing the piezometer into the Hydrograph Monitoring System for Ground Water Department, Uttar Pradesh, and for its validation.
- The ground water quality has to be monitored twice in a year during pre-monsoon (May/June) and post-monsoon (October/November) periods. Quality may be got analyzed from NABL approved lab. Besides, one sample (1 lt capacity bottle) to the concerned Director, Ground Water Department, Uttar Pradesh, for chemical analysis.
- A Permanent display board should be installed at piezometer/Tube wells site for providing the location, piezometer/ tube well number, depth and zone tapped of piezometer/tube well for standard referencing and identification.

- Any other site specific requirement regarding safety and access for measurement may be taken care of.

Any other condition(s) that may be imposed by the concerned Authority.

- In case, any of the particulars I information furnished by the applicant in his application for issuance of this permit is found to be incorrect during verification at any subsequent stage, this permit is liable for cancellation.

- SPECIFIC CONDITIONS:
- (A) **For Industrial User:** No Objection Certificate for ground water extraction by industries shall be granted subject to the following specific conditions:
- i) No Objection Certificate shall be granted only in such cases where local government water supply agencies are not able to supply the desired quantity of water.
- ii) All industries shall be required to adopt latest water efficient technologies so as to reduce dependence on ground water resources.
- iii) All industries abstracting ground water in excess of 100 $m^3$/d shall be required to undertake annual water audit through Confederation of Indian Industries (CII)/ Federation Indian Chamber of Commerce and Industry (FICCI)/ National Productivity Council (NPC) certified auditors and submit audit reports within three months of completion of the same to Ground Water Department Uttar Pradesh. All such industries shall be required to reduce their ground water use by at least 20% over the next five years through appropriate means.
- Construction of observation well(s) (piezometer)(s) within the premises and installation of appropriate water level monitoring mechanism as mentioned in General Condition no.10 shall be mandatory for industries drawing/ proposing to draw more than 10 $m^3$ /day of ground water and Monitoring of water level shall be done by the project proponent. The piezometer (observation well) shall be constructed at a minimum distance of 50 m from the bore well/production well. Depth and aquifer zone tapped in the piezometer shall be the same as that of the pumping well/ wells. Monthly water level data shall be submitted online to the Ground Water Department, UP.
- The proponent shall be required to adopt roof top rain water harvesting/ recharge in the project premises. Industries which are likely to pollute ground water (chemical, pharmaceutical, dyes, pigments, paints, textiles, tannery, pesticides/ insecticides, fertilizers, slaughter house, explosives etc.) shall store the harvested rain water in surface storage tanks for use in the industry.
- Injection of treated/ untreated waste water into aquifer system is strictly prohibited.
- Industries which are likely to cause ground water pollution e.g. Tanning, Slaughter Houses, Dye, Chemical/ Petrochemical, Coal Washeries, other hazardous units etc. (as per CPCB list) need to undertake necessary well head protection measures to ensure prevention of ground water pollution.

- (B) **Infrastructural User:** The No Objection Certificate for ground water abstraction will be granted subject to the following specific conditions:
- In case of infrastructure projects that require dewatering, proponent shall be required to carry out regular monitoring of dewatering discharge rate (using a digital water flow meter) and submit the data online to Ground Water Department, UP as applicable. Monitoring records and results should be retained by the proponent for two years, for inspection or reporting as required by District Ground Water Management Council.
- Installation of Sewage Treatment Plants (STP) shall be mandatory for new projects, where ground water requirement is more than 20 $m^3$ /day. The water from STP shall be utilized for toilet flushing, car washing, gardening etc

Date: 09/11/2021

Place: Rampur

**This certificate is electronically generated and does not require digital signature**

Annexure-6b

# GROUND WATER DEPARTMENT

(Namami Gange & Rural Water Supply Department)
Ministry of Jal Shakti
Government of Uttar Pradesh

**Annexure 6b**

## Form 8 (C)

[See Rule 8(1)]

## AUTHORIZATION/ NO-OBJECTION CERTIFICATE FOR SINKING OF NEW / EXISTING WELL FOR INDUSTRIAL/ COMMERCIAL/ INFRASTRUCTURAL OR BULK USER OF GROUND WATER

**[Under Section 14 of the Uttar Pradesh Ground Water Management and Regulation Act, 2019.]**

AUTHORIZATION/ NO-OBJECTION CERTIFICATE NO: NOC036353

**VALID FROM 29/10/2021 TO 28/10/2026**

**{UIS10(1) of the Uttar Pradesh Ground Water Management and Regulation Act, 2019}**

Registration No.: 202109000316

| | | | |
|---|---|---|---|
| Name of the Owner | NITIN KUMAR GUPTA | | |
| Designation पद | DIRECTOR TECHNICAL | **Company Name कंपनी का नाम** | SWATI MENTHOL & ALLIED CHEMICALS LTD UNIT I |
| Company Address कंपनी का पता | OPPOSITE AKASHWANI, BAREILLY ROAD RAMPUR UP | **Authorization Letter प्राधिकार पत्र** | Download |
| Address of the Applicant | KHASRA NO-165, 169, 4.5 K.M. BAREILLY ROAD, DISTRICT-RAMPUR. U.P. 244901 | **Application Form Serial No.** | RMPR0921NIN0035 |
| Date of Submission | 11/09/2021 | **Specimen Signature** | |

### Location Particulars

| | | | |
|---|---|---|---|
| District | Rampur | **Block** | CHAMRAUAA (URBAN) |
| Plot No./Khasra No. | 165,169 | **Municipality/Corporation** | No |
| Ward No./Holding No. | | | N/A |

### Particular of the Existing Well and Pumping Device

| | | | |
|---|---|---|---|
| Date of Construction/Sinking of the Well | 01/01/2007 | | |
| Type of Well | Tube Well/Boring | **Depth of the Well (In meter)** | 45.00 |
| Purpose of well | Industrial | **Assembly Size(For Tube Well)** | |

Strainer Position (For Tube Well)

| | | | |
|---|---|---|---|
| Type of Pump Used | Submersible | **H.P. of the Pump** | 3.00 |
| Operational Device | Electric Motor | **Rate of Withdrawal ($m^3$/hr.)** | 15.00 |

Date of Energization (In Case of Electric Pump) 01/01/2007

| | | | |
|---|---|---|---|
| ...mum Allowable Rate of Withdrawal ($m^3$/hr.): | 15.00 | **Maximum Allowable Running Hours Per Day:** | 1.00 |

**Maximum Allowable Annual Extraction of Ground Water:** 1500

This No-Objection certificate authorizes the owner applicant (user) to sink a well in the location specified at Sl. (2) for extraction of ground water at a rate not exceeding that as shown at Sl. (3j), for Running Hours per day as shown at Sl. (3k), and for maximum allowable annual extraction of ground water as shown at Sl. (3k) and is valid subject to the observance of the conditions stated overleaf.

## GENERAL CONDITIONS:

- In case of any change of ownership of the proposed well, fresh authorization has to be obtained.
- No change of location, design, rate of withdrawal and pumping device in respect of the proposed well as indicated at SL (2) and (3) of this certificate shall be made without prior permission of the Competent Authority. Any deviation in this regard shall lead to cancellation of this authorization
- For the purpose of measuring and recording the quantity of ground water extracted, every said user shall affix digital water flow meters (conforming to BIS/ IS standards) having telemetry system in the abstraction structure, which record rate and quantum of extraction, at outlet of pumping devices and it shall be presumed that the quantity recorded by the meter has been extracted by the said user, until the contrary is proved. The rate of extraction of ground water from the well as shown in item 3(k) shall not exceed to the recorded rate from water meters
- The concerned Authority reserves the right to stop extraction of ground water from the well due to quality hazards or any other reasons, if the situation so demands
- In case of any change of ownership of the existing well, fresh registration has to be obtained.
- No change of location, design, rate of withdrawal and pumping device in respect of the existing well as indicated at Sl. (2) and (3) of this certificate shall be made without prior permission of the Competent Authority. Any deviation in this regard shall lead to cancellation of this registration
- In case, any of the particulars I information furnished by the applicant in his application for issuance of this registration is found to be incorrect during verification at any subsequent stage , this registration is liable for cancellation.
- The Certificate of Authorization/ NOC shall be valid for a period of five years from the date of issue. The applicant shall have to apply for renewal through a fresh application, at least ninety days prior to expiry of its validity.
- Construction of piezometers and installation of digital water level recorders with telemetry shall be mandatory for user. Depth and zone tapped of piezometer should be commensurate with that of the pumping well. The data, obtained from digital water level recorders shall be made available to this office on monthly basis
- **Guidelines for Installation of Piezometers and their Monitoring**

Piezometer is a borewell /tubewell used only for measuring the water level by lowering the tape/ sounder or automatic water level measuring equipment. it is also used to take water sample for water quality testing when ever needed. General guidelines for installation of piezometers are as follows:

- The piezometer is to be installed/constructed at the minimum of 50 m distance from the pumping well through which ground water is being withdrawn. The diameter of the piezometer should be about 4" to 6".
- The depth of the piezometer should be same as is case of the pumping well from which ground water is being abstracted. If, more than one piezometers are installed the second piezometer should monitor the shallow ground water regime. It will facilitate shallow as well as deeper ground water aquifer monitoring.
- No. of piezometers to be constructed & Type of water level monitoring mechanism shall be as per below table:

| S.No | Quanum of Ground water withdrawal (cum/day) | No.of piezometers required | Monitiring Mechanism | |
|---|---|---|---|---|
| | | | Manual | DWLR with Telemetry |
| 1 | < 10 | 0 | 0 | 0 |
| 2 | 11 - 50 | 1 | 1 | 0 |
| 3 | 50- 500 | 1 | 0 | 1 |
| 4 | > 500 | 2 | 0 | 2 |

- The measuring frequency should be monthly and accuracy of measurement should be up to cm. the reported measurement should be given in meter upto two decimal.
- For measurement of water level sounder or automatic water level recorder (AWLR)/ Digital Automatic water level recorder (DWLR) with telemetry system should be used for accuracy.
- The measurement of water level in piezometer should be taken, only after the pumping from the surrounding tube wells has been stopped for about four to six hours.
- All the details regarding coordinates, reduced level (with respect to mean level), depth, zone taped and assembly lowered should be provided for bringing the piezometer into the Hydrograph Monitoring System for Ground Water Department, Uttar Pradesh, and for its validation.
- The ground water quality has to be monitored twice in a year during pre-monsoon (May/June) and post-monsoon (October/November) periods. Quality may be got analyzed from NABL approved lab. Besides, one sample (1 lt capacity bottle) to the concerned Director, Ground Water Department, Uttar Pradesh, for chemical anaiysis.
- A Permanent display board should be installed at piezometer/Tube wells site for providing the location, piezometer/ tube well number, depth and zone tapped of piezometer/tube well for standard referencing and identification.

- Any other site specific requirement regarding safety and access for measurement may be taken care of.

Any other condition(s) that may be imposed by the concerned Authority.

- In case, any of the particulars I information furnished by the applicant in his application for issuance of this permit is found to be incorrect during verification at any subsequent stage, this permit is liable for cancellation.

SPECIFIC CONDITIONS:

(A) **For Industrial User:** No Objection Certificate for ground water extraction by industries shall be granted subject to the following specific conditions:

i) No Objection Certificate shall be granted only in such cases where local government water supply agencies are not able to supply the desired quantity of water.

ii) All industries shall be required to adopt latest water efficient technologies so as to reduce dependence on ground water resources.

iii) All industries abstracting ground water in excess of 100 $m^3$/d shall be required to undertake annual water audit through Confederation of Indian Industries (CII)/ Federation Indian Chamber of Commerce and Industry (FICCI)/ National Productivity Council (NPC) certified auditors and submit audit reports within three months of completion of the same to Ground Water Department Uttar Pradesh. All such industries shall be required to reduce their ground water use by at least 20% over the next five years through appropriate means.

iv) Construction of observation well(s) (piezometer)(s) within the premises and installation of appropriate water level monitoring mechanism as mentioned in General Condition no.10 shall be mandatory for industries drawing/ proposing to draw more than 10 $m^3$ /day of ground water and. Monitoring of water level shall be done by the project proponent. The piezometer (observation well) shall be constructed at a minimum distance of 50 m from the bore well/production well. Depth and aquifer zone tapped in the piezometer shall be the same as that of the pumping well/ wells. Monthly water level data shall be submitted online to the Ground Water Department, UP.

v) The proponent shall be required to adopt roof top rain water harvesting/ recharge in the project premises. Industries which are likely to pollute ground water (chemical, pharmaceutical, dyes, pigments, paints, textiles, tannery, pesticides/ insecticides, fertilizers, slaughter house, explosives etc.) shall store the harvested rain water in surface storage tanks for use in the industry.

vi) Injection of treated/ untreated waste water into aquifer system is strictly prohibited.

vii) Industries which are likely to cause ground water pollution e.g. Tanning, Slaughter Houses, Dye, Chemical/ Petrochemical, Coal washeries, other hazardous units etc. (as per CPCB list) need to undertake necessary well head protection measures to ensure prevention of ground water pollution.

(B) **Infrastructural User:** The No Objection Certificate for ground water abstraction will be granted subject to the following specific conditions:

i) In case of infrastructure projects that require dewatering, proponent shall be required to carry out regular monitoring of dewatering discharge rate (using a digital water flow meter) and submit the data online to Ground Water Department, UP as applicable. Monitoring records and results should be retained by the proponent for two years, for inspection or reporting as required by District Ground Water Management Council.

ii) Installation of Sewage Treatment Plants (STP) shall be mandatory for new projects, where ground water requirement is more than 20 $m^3$ /day. The water from STP shall be utilized for toilet flushing, car washing, gardening etc

Date: 09/11/2021

Place: Rampur

**This certificate is electronically generated and does not require digital signature**

Annexure-6c

# GROUND WATER DEPARTMENT

(Namami Gange & Rural Water Supply Department)
Ministry of Jal Shakti
Government of Uttar Pradesh

**Annexure 6c**

## Form 8 (C)

[See Rule 8(1)]

## AUTHORIZATION/ NO-OBJECTION CERTIFICATE FOR SINKING OF NEW / EXISTING WELL FOR INDUSTRIAL/ COMMERCIAL/ INFRASTRUCTURAL OR BULK USER OF GROUND WATER

**[Under Section 14 of the Uttar Pradesh Ground Water Management and Regulation Act, 2019.]**

AUTHORIZATION/ NO-OBJECTION CERTIFICATE NO: NOC015217

**VALID FROM 29/10/2021 TO 28/10/2026**

**{UiS10(1) of the Uttar Pradesh Ground Water Management and Regulation Act, 2019}**

**Registration No.: 202109000314**

| | | | |
|---|---|---|---|
| Name of the Owner | NITIN KUMAR GUPTA | | |
| Designation पद | DIRECTOR TECHNICAL | **Company Name कंपनी का नाम** | SWATI MENTHOL & ALLIED CHEMICALS LTD UNIT I |
| Company Address कंपनी का पता | OPPOSITE AKASHWANI, BAREILLY ROAD RAMPUR UP | **Authorization Letter प्राधिकार पत्र** | Download |
| Address of the Applicant | KHASRA NO-165, 169, 4.5 K.M. BAREILLY ROAD, DISTRICT-RAMPUR, U.P. 244901 | **Application Form Serial No.** | RMPR0921NIN0034 |
| Date of Submission | 11/09/2021 | **Specimen Signature** | |

### Location Particulars

| | | | |
|---|---|---|---|
| District | Rampur | **Block** | CHAMRAUAA (URBAN) |
| Plot No./Khasra No. | 165,169 | **Municipality/Corporation** | No |
| Ward No./Holding No. | | | N/A |

### Particular of the Existing Well and Pumping Device

| | | | |
|---|---|---|---|
| Date of Construction/Sinking of the Well | 01/01/2007 | | |
| Type of Well | Tube Well/Boring | **Depth of the Well (In meter)** | 45.00 |
| Purpose of well | Industrial | **Assembly Size(For Tube Well)** | |

Strainer Position (For Tube Well)

| | | | |
|---|---|---|---|
| Type of Pump Used | Submersible | **H.P. of the Pump** | 3.00 |
| Operational Device | Electric Motor | **Rate of Withdrawal ($m^3$/hr.)** | 15.00 |

Date of Energization (In Case of Electric Pump) 01/01/2007

| | | | |
|---|---|---|---|
| ximum Allowable Rate of Withdrawal ($m^3$/hr.): | 15.00 | Maximum Allowable Running Hours Per Day: | 2.00 |
| Maximum Allowable Annual Extraction of Ground Water: | | | 6000 |

This No-Objection certificate authorizes the owner applicant (user) to sink a well in the location specified at Sl. (2) for extraction of ground water at a rate not exceeding that as shown at Sl. (3j), for Running Hours per day as shown at Sl. (3k), and for maximum allowable annual extraction of ground water as shown at Sl. (3k) and is valid subject to the observance of the conditions stated overleaf.

## GENERAL CONDITIONS:

- In case of any change of ownership of the proposed well, fresh authorization has to be obtained.
- No change of location, design, rate of withdrawal and pumping device in respect of the proposed well as indicated at SL (2) and (3) of this certificate shall be made without prior permission of the Competent Authority. Any deviation in this regard shall lead to cancellation of this authorization
- For the purpose of measuring and recording the quantity of ground water extracted, every said user shall affix digital water flow meters (conforming to BIS/ IS standards) having telemetry system in the abstraction structure, which record rate and quantum of extraction, at outlet of pumping devices and it shall be presumed that the quantity recorded by the meter has been extracted by the said user, until the contrary is proved. The rate of extraction of ground water from the well as shown in item 3(k) shall not exceed to the recorded rate from water meters
- The concerned Authority reserves the right to stop extraction of ground water from the well due to quality hazards or any other reasons, if the situation so demands
- In case of any change of ownership of the existing well, fresh registration has to be obtained.
- No change of location, design, rate of withdrawal and pumping device in respect of the existing well as indicated at Sl. (2) and (3) of this certificate shall be made without prior permission of the Competent Authority. Any deviation in this regard shall lead to cancellation of this registration
- In case, any of the particulars I information furnished by the applicant in his application for issuance of this registration is found to be incorrect during verification at any subsequent stage , this registration is liable for cancellation.
- The Certificate of Authorization/ NOC shall be valid for a period of five years from the date of issue. The applicant shall have to apply for renewal through a fresh application, at least ninety days prior to expiry of its validity.
- Construction of piezometers and installation of digital water level recorders with telemetry shall be mandatory for user. Depth and zone tapped of piezometer should be commensurate with that of the pumping well. The data, obtained from digital water level recorders shall be made available to this office on monthly basis
- **Guidelines for Installation of Piezometers and their Monitoring**

Piezometer is a borewell /tubewell used only for measuring the water level by lowering the tape/ sounder or automatic water level measuring equipment. It is also used to take water sample for water quality testing when ever needed. General guidelines for installation of piezometers are as follows:

- The piezometer is to be installed/constructed at the minimum of 50 m distance from the pumping well through which ground water is being withdrawn. The diameter of the piezometer should be about 4" to 6".
- The depth of the piezometer should be same as is case of the pumping well from which ground water is being abstracted. If, more than one piezometers are installed the second piezometer should monitor the shallow ground water regime. It will facilitate shallow as well as deeper ground water aquifer monitoring.
- No. of piezometers to be constructed & Type of water level monitoring mechanism shall be as per below table:

| S.No | Quantum of Ground water withdrawal (cum/day) | No.of piezometers required | Monitiring Mechanism | |
|---|---|---|---|---|
| | | | Manual | DWLR with Telemetry |
| 1 | < 10 | 0 | 0 | 0 |
| 2 | 11 - 50 | 1 | 1 | 0 |
| 3 | 50- 500 | 1 | 0 | 1 |
| 4 | > 500 | 2 | 0 | 2 |

- The measuring frequency should be monthly and accuracy of measurement should be up to cm. the reported measurement should be given in meter upto two decimal
- For measurement of water level sounder or automatic water level recorder (AWLR)/ Digital Automatic water level recorder (DWLR) with telemetry system should be used for accuracy.
- The measurement of water level in piezometer should be taken, only after the pumping from the surrounding tube wells has been stopped for about four to six hours.
- All the details regarding coordinates, reduced level (with respect to mean level), depth, zone taped and assembly lowered should be provided for bringing the piezometer into the Hydrograph Monitoring System for Ground Water Department, Uttar Pradesh, and for its validation.
- The ground water quality has to be monitored twice in a year during pre-monsoon (May/June) and post-monsoon (October/November) periods. Quality may be got analyzed from NABL approved lab. Besides, one sample (1 lt capacity bottle) to the concerned Director, Ground Water Department, Uttar Pradesh, for chemical analysis.
- A Permanent display board should be installed at piezometer/Tube wells site for providing the location, piezometer/ tube well number, depth and zone tapped of piezometer/tube well for standard referencing and identification.

Sugar
Annexure-7b

GROUND WATER DEPARTMENT
(Namami Gange & Rural Water Supply Department)
Ministry of Jal Shakti
Government of Uttar Pradesh

**Annexure 7b**

## Form 8 (E)

[See rules 15(2)]

## (RENEWAL OF AUTHORIZATION/ NO-OBJECTION CERTIFICATE FOR SINKING OF NEW WELL FOR INDUSTRIAL/ COMMERCIAL/ INFRASTRUCTURAL OR BULK USER OF GROUND WATER)

## VALID UP TO : 01/07/2026

**Registration No.: 202106000046**

| | | | |
|---|---|---|---|
| **Name of the Owner** | RANA VEER | | |
| **Address of the Applicant** | VIIL.- BELWARA , P.O. - MANPUR , DISTT. - MORADABAD | **Application Form Serial No.** | MRBD0621RIN0069 |
| **Date of Submission** | 03/06/2021 | | |
| **Company Name** | RANA SUGARS LIMITED | **Specimen Signature** | |
| | | **Company Address** | Vill.-Belwara, PO-Manpur, District-Moradabad - 244 |

### Location Particulars

| | | | |
|---|---|---|---|
| **District** | Moradabad | | |
| **Plot No./Khasra No.** | 143, 3, 142 mi, 146 etc | **Block** | BHAGATPUR TANDA |
| **Ward No./Holding No.** | | **Municipality/Corporation** | No |
| | | | NA |

### Particular of the Existing Well and Pumping Device

| | | | |
|---|---|---|---|
| **Date of Construction/Sinking of the Well** | 01/11/2007 | | |
| **Type of Well** | Tube Well/Boring | | |
| **Purpose of well** | Industrial | **Depth of the Well (In meter)** | 91.00 |
| **Strainer Position (For Tube Well)** | | **Assembly Size(For Tube Well)** | |
| **Type of Pump Used** | Submersible | | |
| **Operational Device** | Electric Motor | **H.P. of the Pump** | 60.00 |
| **Date of Energization (In Case of Electric Pump)** | | **Rate of Withdrawal (m3/hr.)** | 170.00 |
| **Maximum Allowable Rate of Withdrawal (m3/hr.):** | 170.00 | 01/11/2007 | |
| | | **Maximum Allowable Running Hours Per Day:** | 2.00 |
| **Maximum Allowable Annual Extraction of Ground Water:** | | | 68000 |
| **Reason for renewal of N.O.C. एन.ओ.सी. के नवीनीकरण का कारण** | CGWA stop giving NOC and transferred the process to UPGWD. | | |
| **Against Case** | | | |

This No-Objection certificate authorizes the owner applicant (user) to sink a well in the location specified at Sl. (3) for extraction of ground water at a rate not exceeding that as shown at Sl. (3j), for running hours I day as shown at Sl. (3k), and for maximum allowable annual extraction of ground water as shown at Sl. (3k) and is valid subject to the observance of the conditions stated overleaf.

**Conditions**

- (1) In case of any change of ownership of the proposed well, fresh authorization has to be obtained.
- (2) No change of location, design, rate of withdrawal and pumping device in respect of the proposed well as indicated at SL (2) and (3) of this certificate shall be made without prior permission of the Competent Authority. Any deviation in this regard shall lead to cancellation of this authorization.

- (3) For the purpose of measuring and recording the quantity of ground water extracted, every said user shall affix digital water flow meters(conforming to BIS/ IS standards) having telemetry system in the abstraction structure, which record rate and quantum of extraction, at outlet of pumping devices and it shall be presumed that the quantity recorded by the meter has been extracted by the said user, until the contrary is proved. The rate of extraction of ground water from the well as shown in item 3(k) shall not exceed to the recorded rate from water meters
- (4) The concerned Authority reserves the right to stop extraction of ground water from the well due to quality hazards or any other reasons, if the situation so demands.
- (5) In case of any change of ownership of the existing well, fresh registration has to be obtained.
- (6) No change of location, design, rate of withdrawal and pumping device in respect of the existing well as indicated at Sl. (2) and (3) of this certificate shall be made without prior permission of the Competent Authority. Any deviation in this regard shall lead to cancellation of this registration.
- (7) n case, any of the particulars I information furnished by the applicant in his application for issuance of this registration is found to be incorrect during verification at any subsequent stage, this registration is liable for cancellation.
- (8) The Certificate of Authorization/ NOC shall be valid for a period of three years from the date of issue. The applicant shall have to apply for renewal through a fresh application, at least ninety days prior to expiry of its validity.
- (9) Construction of piezometers and installation of digital water level recorders with telemetry shall be mandatory for user. Depth and zone tapped of piezometer should be commensurate with that of the pumping well. The data, obtained from digital water level recorders shall be made available to this office on monthly basis.
- (10) Guidelines for Installation of Piezometers and their Monitoring
- Piezometer is a borewell /tube well used only for measuring the water level by lowering the tape/ sounder or automatic water level measuring equipment. It is also used to take water sample for water quality testing whenever needed. General guidelines for installation of piezometers are as follows for compliance of NOC:
- • The piezometer is to be installed/constructed at the minimum of 50 m distance from the pumping well through which ground water is being withdrawn. The diameter of the piezometer should be about 4" to 6".
- • The depth of the piezometer should be same as is case of the pumping well from which ground water is being abstracted. If, more than one piezometer are installed the second piezometer should monitor the shallow ground water regime. It will facilitate shallow as well as deeper ground water aquifer monitoring.
- • No. of piezometers to be constructed & Type of water level monitoring mechanism shall be as per below table:

| S.No | Quantum of Ground water withdrawal (cum/day) | No.of piezometers required | Monitiring Mechanism | |
|---|---|---|---|---|
| | | | Manual | DWLR with Telemetry |
| 1 | < 10 | 0 | 0 | 0 |
| 2 | 11 - 50 | 1 | 1 | 0 |
| 3 | 50- 500 | 1 | 0 | 1 |
| 4 | > 500 | 2 | 0 | 2 |

- • The measuring frequency should be monthly and accuracy of measurement should be up to cm. the reported measurement should be given in meter up to two decimals.
- • For measurement of water level sounder or automatic water level recorder (AWLR)/ Digital Automatic water level recorder (DWLR) with telemetry system should be used for accuracy.
- • The measurement of water level in piezometer should be taken, only after the pumping from the surrounding tube wells has been stopped for about four to six hours.
- • All the details regarding coordinates, reduced level (with respect to mean level), depth, zone taped and assembly lowered should be provided for bringing the piezometer into the Hydrograph Monitoring System for Ground Water Department, Uttar Pradesh, and for its validation.
- • The ground water quality has to be monitored twice in a year during pre-monsoon (May/June) and post-monsoon (October/November) periods. Quality may be got analyzed from NABL approved lab. Besides, one sample (1 lt. capacity bottle) to the concerned Director, Ground Water Department, Uttar Pradesh, for chemical analysis.
- • A Permanent display board should be installed at piezometer/Tube wells site for providing the location, piezometer/ tube well number, depth and zone tapped of piezometer/tube well for standard referencing and identification.
- • Any other site-specific requirement regarding safety and access for measurement may be taken care off.
- (11) Any other condition(s) that may be imposed by the concerned Authority.
- (12) In case, any of the particulars I information furnished by the applicant in his application for issuance of this permit is found to be incorrect during verification at any subsequent stage, this permit is liable for cancellation.
- **SPECIFIC CONDITIONS:**
- (A) **For Industrial User:** No Objection Certificate for ground water extraction by industries shall be granted subject to the following specific conditions:
- i) No Objection Certificate shall be granted only in such cases where local government water supply agencies are not able to supply the desired quantity of water.
- ii) All industries shall be required to adopt latest water efficient technologies so as to reduce dependence on ground water resources.
- iii) All industries abstracting ground water in excess of 100 m3/d shall be required to undertake annual water audit through Confederation of Indian Industries (CII)/ Federation Indian Chamber of Commerce and Industry (FICCI)/ National Productivity Council (NPC) certified auditors and submit audit reports within three months of completion of the same to CGWA. All such industries shall be required to reduce their ground water use by at least 20% over the next three years through appropriate means.
- iv) Construction of observation well(s) (piezometer)(s) within the premises and installation of appropriate water level monitoring mechanism as mentioned in General Condition no.10 shall be mandatory for industries drawing/ proposing to draw more than 10 m3/day of ground water and. Monitoring of water level shall be done by the project proponent. The piezometer (observation well) shall be

constructed at a minimum distance of 15 m from the bore well/production well. Depth and aquifer zone tapped in the piezometer shall be the same as that of the pumping well/ wells. Monthly water level data shall be submitted online to the Ground Water Department, UP.

- v) The proponent shall be required to adopt roof top rain water harvesting/ recharge in the project premises. Industries which are likely to pollute ground water (chemical, pharmaceutical, dyes, pigments, paints, textiles, tannery, pesticides/ insecticides, fertilizers, slaughter house, explosives etc.) shall store the harvested rain water in surface storage tanks for use in the industry.
- vi) Injection of treated/ untreated waste water into aquifer system is strictly prohibited.
- vii) Industries which are likely to cause ground water pollution e.g. Tanning, Slaughter Houses, Dye, Chemical/ Petrochemical, Coal washeries, other hazardous units etc. (as per CPCB list) need to undertake necessary well head protection measures to ensure prevention of ground water pollution.
- (B) **Infrastructural User:** The No Objection Certificate for ground water abstraction will be granted subject to the following specific conditions:
- i) In case of infrastructure projects that require dewatering, proponent shall be required to carry out regular monitoring of dewatering discharge rate (using a digital water flow meter) and submit the data online to Ground Water Department, UP as applicable. Monitoring records and results should be retained by the proponent for two years, for inspection or reporting as required by District Ground Water Management Council.
- ii) Installation of Sewage Treatment Plants (STP) shall be mandatory for new projects, where ground water requirement is more than 20 m3 /day. The water from STP shall be utilized for toilet flushing, car washing, gardening etc.

**This certificate is electronically generated and does not require digital signature**

Annexure- 7a

# GROUND WATER DEPARTMENT

(Namami Gange & Rural Water Supply Department)
Ministry of Jal Shakti
Government of Uttar Pradesh

**Annexure 7a**

## Form 8 (E)

[See rules 15(2)]

## (RENEWAL OF AUTHORIZATION/ NO-OBJECTION CERTIFICATE FOR SINKING OF NEW WELL FOR INDUSTRIAL/ COMMERCIAL/ INFRASTRUCTURAL OR BULK USER OF GROUND WATER)

## VALID UP TO : 01/07/2026

**Registration No.: 202106000045**

| | | | |
|---|---|---|---|
| **Name of the Owner** | RANA VEER | | |
| **Address of the Applicant** | VIIL.- BELWARA , P.O. - MANPUR , DISTT. - MORADABAD | **Application Form Serial No.** | MRBD0621RIN0068 |
| **Date of Submission** | 03/06/2021 | **Specimen Signature** | |
| **Company Name** | RANA SUGARS LIMITED | **Company Address** | Vill.-Belwara, PO-Manpur, District-Moradabad - 244 |

### Location Particulars

| | | | |
|---|---|---|---|
| **District** | Moradabad | **Block** | BHAGATPUR TANDA |
| **Plot No./Khasra No.** | 146, 142 mi, 3, 143 etc | **Municipality/Corporation** | No |
| **Ward No./Holding No.** | | | NA |

### Particular of the Existing Well and Pumping Device

| | | | |
|---|---|---|---|
| **Date of Construction/Sinking of the Well** | 01/11/2007 | | |
| **Type of Well** | Tube Well/Boring | **Depth of the Well (In meter)** | 58.00 |
| **Purpose of well** | Industrial | **Assembly Size(For Tube Well)** | |
| **Strainer Position (For Tube Well)** | | | |
| **Type of Pump Used** | Submersible | **H.P. of the Pump** | 10.00 |
| **Operational Device** | Electric Motor | **Rate of Withdrawal (m3/hr.)** | 60.00 |
| **Date of Energization (In Case of Electric Pump)** | | 01/11/2007 | |
| **Maximum Allowable Rate of Withdrawal (m3/hr.):** | 60.00 | **Maximum Allowable Running Hours Per Day:** | 1.00 |
| **Maximum Allowable Annual Extraction of Ground Water:** | | | 21900 |
| **Reason for renewal of N.O.C.** एन.ओ.सी. के नवीनीकरण का कारण | CGWA stop giving NOC and transferred the process to UPGWD. | | |
| **Against Case** | | | |

This No-Objection certificate authorizes the owner applicant (user) to sink a well in the location specified at Sl. (3) for extraction of ground water at a rate not exceeding that as shown at Sl. (3j), for running hours I day as shown at Sl. (3k), and for maximum allowable annual extraction of ground water as shown at Sl. (3k) and is valid subject to the observance of the conditions stated overleaf.

**Conditions**

- (1) In case of any change of ownership of the proposed well, fresh authorization has to be obtained.
- (2) No change of location, design, rate of withdrawal and pumping device in respect of the proposed well as indicated at SL (2) and (3) of this certificate shall be made without prior permission of the Competent Authority. Any deviation in this regard shall lead to cancellation of this authorization.

- (3) For the purpose of measuring and recording the quantity of ground water extracted, every said user shall affix digital water flow meters(conforming to BIS/ IS standards) having telemetry system in the abstraction structure, which record rate and quantum of extraction, at outlet of pumping devices and it shall be presumed that the quantity recorded by the meter has been extracted by the said user, until the contrary is proved. The rate of extraction of ground water from the well as shown in item 3(k) shall not exceed to the recorded rate from water meters
- (4) The concerned Authority reserves the right to stop extraction of ground water from the well due to quality hazards or any other reasons, if the situation so demands.
- (5) In case of any change of ownership of the existing well, fresh registration has to be obtained.
- (6) No change of location, design, rate of withdrawal and pumping device in respect of the existing well as indicated at Sl. (2) and (3) of this certificate shall be made without prior permission of the Competent Authority. Any deviation in this regard shall lead to cancellation of this registration.
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- • The depth of the piezometer should be same as is case of the pumping well from which ground water is being abstracted. If, more than one piezometer are installed the second piezometer should monitor the shallow ground water regime. It will facilitate shallow as well as deeper ground water aquifer monitoring.
- • No. of piezometers to be constructed & Type of water level monitoring mechanism shall be as per below table:

| S.No | Quantum of Ground water withdrawal (cum/day) | No.of piezometers required | Monitiring Mechanism | |
|---|---|---|---|---|
| | | | Manual | DWLR with Telemetry |
| 1 | < 10 | 0 | 0 | 0 |
| 2 | 11 - 50 | 1 | 1 | 0 |
| 3 | 50- 500 | 1 | 0 | 1 |
| 4 | > 500 | 2 | 0 | 2 |

- • The measuring frequency should be monthly and accuracy of measurement should be up to cm. the reported measurement should be given in meter up to two decimals.
- • For measurement of water level sounder or automatic water level recorder (AWLR)/ Digital Automatic water level recorder (DWLR) with telemetry system should be used for accuracy.
- • The measurement of water level in piezometer should be taken, only after the pumping from the surrounding tube wells has been stopped for about four to six hours.
- • All the details regarding coordinates, reduced level (with respect to mean level), depth, zone taped and assembly lowered should be provided for bringing the piezometer into the Hydrograph Monitoring System for Ground Water Department, Uttar Pradesh, and for its validation.
- • The ground water quality has to be monitored twice in a year during pre-monsoon (May/June) and post-monsoon (October/November) periods. Quality may be got analyzed from NABL approved lab. Besides, one sample (1 lt. capacity bottle) to the concerned Director, Ground Water Department, Uttar Pradesh, for chemical analysis.
- • A Permanent display board should be installed at piezometer/Tube wells site for providing the location, piezometer/ tube well number, depth and zone tapped of piezometer/tube well for standard referencing and identification.
- • Any other site-specific requirement regarding safety and access for measurement may be taken care off.
- (11) Any other condition(s) that may be imposed by the concerned Authority.
- (12) In case, any of the particulars I information furnished by the applicant in his application for issuance of this permit is found to be incorrect during verification at any subsequent stage, this permit is liable for cancellation.
- **SPECIFIC CONDITIONS:**
- (A) **For Industrial User:** No Objection Certificate for ground water extraction by industries shall be granted subject to the following specific conditions:
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- ii) All industries shall be required to adopt latest water efficient technologies so as to reduce dependence on ground water resources.
- iii) All industries abstracting ground water in excess of 100 m3/d shall be required to undertake annual water audit through Confederation of Indian Industries (CII)/ Federation Indian Chamber of Commerce and Industry (FICCI)/ National Productivity Council (NPC) certified auditors and submit audit reports within three months of completion of the same to CGWA. All such industries shall be required to reduce their ground water use by at least 20% over the next three years through appropriate means.
- iv) Construction of observation well(s) (piezometer)(s) within the premises and installation of appropriate water level monitoring mechanism as mentioned in General Condition no.10 shall be mandatory for industries drawing/ proposing to draw more than 10 m3/day of ground water and. Monitoring of water level shall be done by the project proponent. The piezometer (observation well) shall be

constructed at a minimum distance of 15 m from the bore well/production well. Depth and aquifer zone tapped in the piezometer shall be the same as that of the pumping well/ wells. Monthly water level data shall be submitted online to the Ground Water Department, UP.

- v) The proponent shall be required to adopt roof top rain water harvesting/ recharge in the project premises. Industries which are likely to pollute ground water (chemical, pharmaceutical, dyes, pigments, paints, textiles, tannery, pesticides/ insecticides, fertilizers, slaughter house, explosives etc.) shall store the harvested rain water in surface storage tanks for use in the industry.
- vi) Injection of treated/ untreated waste water into aquifer system is strictly prohibited.
- vii) Industries which are likely to cause ground water pollution e.g. Tanning, Slaughter Houses, Dye, Chemical/ Petrochemical, Coal washeries, other hazardous units etc. (as per CPCB list) need to undertake necessary well head protection measures to ensure prevention of ground water pollution.
- (B) **Infrastructural User:** The No Objection Certificate for ground water abstraction will be granted subject to the following specific conditions:
- i) In case of infrastructure projects that require dewatering, proponent shall be required to carry out regular monitoring of dewatering discharge rate (using a digital water flow meter) and submit the data online to Ground Water Department, UP as applicable. Monitoring records and results should be retained by the proponent for two years, for inspection or reporting as required by District Ground Water Management Council.
- ii) Installation of Sewage Treatment Plants (STP) shall be mandatory for new projects, where ground water requirement is more than 20 m3 /day. The water from STP shall be utilized for toilet flushing, car washing, gardening etc.

**This certificate is electronically generated and does not require digital signature**

**INSPECTION REPORT OF SUGAR MILLS DURING CRUSHING SEASON (2021-2022) TO VERIFY THE STATUS OF IMPLEMENTATION OF CHARTER FOR WATER CONSERVATION AND COMPLIANCE VERIFICATION OF DISCHARGE STANDARDS**

---

**1. GENERAL INFORMATION** **Date of Inspection: 18 Feb 2022**

| | | | |
|---|---|---|---|
| **1** | **Unit code** | 516 | |
| **2** | **Name of the unit with complete postal address** | M/s. Rana Sugars Limited Vill-Belwara Post - Manpur& Distt. - Moradabad-244925(UP) | |
| **3** | **Name of Contact person** | **Designation** | **Contact No & E- mail** |
| | Mr. Uttam Singh | G. M. (Production) | 8077239149<br>uttamkumars506@gmail.com |
| | Mr. Sanjay Singh | Dy Manager (Q.C.) | 9634090007<br>sugar.sanjay2013@gmail.com |
| **4** | **Spatial Co-ordinates**<br>**Latitude and longitude (in Decimal format only)** | **Latitude:** 28.9276852<br><br>**Longitude:** 78.8702882 | |
| **5** | **Year of commissioning** | 2006 | |
| **6** | **Standalone/ integrated (with co-generation)**<br>**Sugar/ sugar refinery** | Integrated with Cogeneration | |
| **7** | **Co-generation capacity, MW** | 27.1 MW | |
| **8** | **License capacity of sugar Mill (TCD)** | 6500 TCD | |
| **9** | **Average actual crush rate (TCD)** | 5364 TCD- (including stoppages)<br>4870 TCD- (Previous day)<br>DMR copy attached as annexure-I | |
| **10** | **Attached Distillery capacity, KLPD** | Attached 80 KLPD distillery unit | |
| **11** | **Quantity of Juice/Syrup/BH diversion to distillery, MT/day** | 375 MT/day | |
| **12** | **Consent status& its Validity with date**<br>(Expired/Applied for renewal/First time applied/Never applied)<br>a. Air Consent<br><br>b. Water consent<br><br>**c.** Hazardous Waste Authorization | Applied for renewal on 23/12/2021 earlier consent expired on 31/12/2021<br>Copy of CTO renewal application & expired consent attached as annexure-II, III, IV | |
| **13** | **NOC from CGWA & its Validity with date**<br>(Expired/Applied for renewal/First time applied/Never applied) | Valid ground water NOC from Ground water Department U.P.<br>1) Registration No.: 202106000045 valid up to 01/07/2026 | |

| | | |
|---|---|---|
| | | 2) Registration No.: 202106000046 valid up to 01/07/2026<br>Copy of NOC attached as annexure- V |

**2. OPERATIONAL STATUS**

| S. No. | Particulars | | |
|---|---|---|---|
| 1 | **Start period of crushing season** | **7/11/2021** | |
| 2 | **No. of operational days at the time of inspection** | **103** | |
| 3 | **Operational status during visit (operational/ closed/ temporary closed/ permanent closed)** | **Operational** | |
| 4 | **Sources of fresh water** | | |
| | a. Bore well/Tube well/ Any other & its No's | Borewell (2 No.) | |
| | b. Flow meter Installation at wells (Yes/No) | Yes | |
| | c. Reading of Flow Meter during visit | 1) Borewell No.1: 346605.7<br>2) Borewell No.2: 493993.92 | |
| | d. Any Logbook maintained (Yes/No), if yes, attach. | Yes (logbook attached as annexure- IX) | |
| | e. Quantity of water withdrawal (KLD) | 239.85 KLD- Average 220 KLD- (Previous day) | |
| 5 | **Fresh water consumption (KLD)- Average** | | |
| | a. Sugar plant: (Process plant)<br>i. Cleaning washing and machinery cooling make-up<br>ii. Spray pond/PCT make-up<br>iii. Any other, such as Cleaning and human requirements including lab requirements | No separate flowmeter installed for sugar plant consumption; industry not uses raw water from borewell for sugar plant | |
| | Total Sugar unit (Utility Section) | - | |
| | b. Co-generation/Boiler section:<br>i. WTP –boiler make-up, regeneration, backwash, reject etc.<br>ii. Cooling tower make-up<br>iii. Wet Scrubber make-up (NA)<br>iii. Any other, such as ash quenching | 219.85 | |
| | Total co-generation unit | 219.85 | |
| | Total Industrial | 219.85 | |
| | c. Residential etc. | 20 | |
| | d. Total fresh water Consumption (KLD) | 239.85 | |
| | e. Log book maintained (Yes/ No) If any, details to be collected | Yes | |
| 6 | **Specific water consumption, L/t of cane** | 44.71 | |
| 7 | **Details of Hot & Cold-water recycling system (Yes/No.)** | **Number** | **Capacity** |
| | a. Details of Hot water UGR. | No | - |
| | b. Cold water UGR and cooling towers | 1 | 1764 |

| | | | |
|---|---|---|---|
| | c. **Hot water**- Location of flow meter & its Installation **(Yes/No)-** | **Flow meter reading** | **Quantity of water (KLD)** |
| | 1. Imbibition water at mills **(Yes)** | 246644 | 2371 |
| | 2. Filter cake wash water at rotary vacuum filter **(Yes)** | 40977.4 | 394 |
| | 3. Sugar melting, pan boiling, molasses conditioning **(Yes)** | 33816 (Sugar melting)<br>14209 (Pan boiling) | 325<br>137 |
| | 4. Wash water at Centrifugal **(Yes)** | 18320 | 176 |
| | 5. Wet Scrubber make-up **(No)** | - | - |
| | 6. Boiler make-up in case of low-pressure boiler (No) | - | - |
| | d. **Cold water** -Location of flow meter & its Installation. | | |
| | 1. Power turbine cooling **(Yes)** | 26092.9 | 251 |
| | 2. Mills, fibrizer bearing, pumps cooling **(Yes)** | 60378.3 | 580 |
| | 3. Wet scrubber make-up **(No)** | - | - |
| | 4. Cooling tower of co-generation make-up **(Yes)** | 59861 | 303 |
| | 5. $SO_2$ gas cooling **(Yes)** | 30921.6 | 297 |
| | 6. B and C massecuite cooling **(Yes) (B cooling only)** | 1555.7 | 15 |
| | 7. Final molasses cooling **(Yes)** | 50.0 | 0.5 |
| | 8. Others **(Yes/No)** | - | - |
| **8** | **Waste water (Influent) generation (KLD)** | | |
| | a. Process cooling tower /spray pond over flow (for double sulphitation) (SRS Outlet) | 428 | |
| | b. Mills, boiling house, D.M./ R.O. Plant boilers etc. | 450.82 | |
| | c. Soda/Acid boiling water (Hazardous) | | |
| | d. Co-generation | - | |
| | e. Brine solution reject after regeneration. (For refine sugar) | - | |
| | f. IER wash water generation. | - | |
| | g. Brine reject from brine recovery system | - | |
| | h. Reject acid after regeneration of IER column. | - | |
| | **h. Common / total influent generation.** | **878.82** | |
| **9** | **Waste water (Effluent) discharge, KLD** | 866.54 | |
| **10** | **Specific effluent discharge, L/t of cane** | 161.54 | |
| **11** | **Treated effluent used from lagoon for irrigation, KLD** | 866.54 | |
| **12** | **Spray pond /PCT overflow** | **Flow meter reading** | **Quantity of water (KLD)** |
| | a. Flow meter Installation **(Yes/No)** | 46937.0 | 428 |
| | b. Provision of separate spray pond overflow treatment (**Yes/No)** | No | |
| | c. Brief description of spray pond over flow treatment process (mention technology as per charter)<br>1. Separate treatment of spray pond overflow through micro settlers followed by secondary aerobic treatment. | Combined treatment of entire effluent using anaerobic filters followed by secondary aerobic treatment | |

| | | | |
|---|---|---|---|
| | 2. Combined treatment of entire effluent through micro settlers after removal of Oil & grease followed by secondary aerobic treatment.<br>3. Spray pond overflow treatment using anaerobic filters followed by secondary aerobic treatment.<br>4. Combined treatment of entire effluent using anaerobic filters followed by secondary aerobic treatment. | | |
| **13** | **Details of tube cleaning method adopted (chemical/ hydrojet/ any other appropriate method if any), provide details** | Chemical and Mechanical | |
| **14** | **Availability of Hazardous tank to collect wash water generated during chemical/Mechanical cleaning of evaporator tubes. (Yes/No), if Yes give Details.** | Yes (32 m3 capacity) | |
| **15** | Condensate polishing system adopted by the factory (for boilers >45 kg/cm$^2$ steam pressure) (Yes/No) | No | |
| | If yes, then provide the details of condensate polishing system | - | |
| | Quantity of excess condensate used as fresh water, KLD | - | |
| **16** | **Construction of small pits with smooth inner surface with ceramic tiles in the centrifugal section. (Yes/No), give details** | No | |
| **17** | **Mixing arrangement in equalization tank (Yes/No)** | Yes | |
| **18** | **Type of aeration in aeration tank**<br>**Diffused/ surface/ any other** | Diffused | |
| **19** | **Tertiary treatment (Yes/No), give Details** | Yes (MGF and ACF) | |
| **20** | **Schematic diagram of ETP (flow chart to be collected)** | **Attached as annexure- VII** | |
| **21** | **Rain water harvesting system adopted (Yes/No)** | No (Implementation In process) | |
| **22** | **Treatment capacity of ETP (KLD)** | 1300 | |
| | **Unit with sizes/capacity** | **Retention Time/Contact Time (Mentioned in CPCB charter)** | **As per Industry** |
| | 1. Bar screen Chamber, (Installed in effluent channel) | 30 minutes | - |
| | 2. Oil & grease tank, 5.5x3x2m = 33 m3 | 45 minutes | 54 min |
| | 3. Equalization tank with aeration, 24x10.5x2m = 504 m3 | 6 hrs | 13.7 hrs |
| | 4. Primary Clarifier, 10 m dia x 3 m= 235.5 m3 | 5-6 hrs | 6.4 hrs |
| | 5. Anaerobic filter 24.6x12.6x4.5m= 1395 | - | 38 hrs |
| | 6. Aeration tank- 24 x24x 3.15m =1814 m3 | 24-28 hrs | 49.5 hrs |
| | 7. Secondary Clarifier- 12 m dia x 3 m= 339 m3 | 7-8 hrs | 9.25 hrs |
| | 8. Sand/multi grade filter, 2 m dia x 2.5m ht<br>Design basis: Surface loading rate- 12 m3/m2/Hr | - | Adequate |
| | 9. Activated carbon filter, 2M dia x 2.5 m ht<br>Design basis: Surface loading rate- 12 m3/m2/Hr | - | Adequate |

| | | | |
|---|---|---|---|
| | 10. Sludge drying bed, 17. m x 14 m= 238 m2 | - | Adequate |
| | 11. Centrifuge | - | |
| **23** | **Any further treatment after ETP (Yes/No)** | No | |
| **24** | **Brief processing details (flow chart)** | - | |
| **25** | **ETP Analysis (Performance Parameters)** | | |
| **26** | **As per Record-Logbook** | | |

**27**

| **Sample Analysis** | **Effluent flow rate ($m^3$/hr.)** | **Sulphur / Sulphate (mg/L)** | **pH** | **COD (mg/L)** | **BOD (mg/L)** | **TSS (mg/L)** | **TDS (mg/L)** | **O & G** | **MLSS (mg/L)** |
|---|---|---|---|---|---|---|---|---|---|
| ETP Inlet | 35.79 | - | 8.50 | 1520 | 510 | 360 | - | - | - |
| ETP Outlet | 38.24 | - | 7.32 | 100 | 10.8 | 13.2 | - | - | - |
| Aeration tank | - | - | 7.52 | - | - | - | - | - | 3560 |
| SRS Inlet | - | - | - | - | - | - | - | - | - |
| SRS outlet | - | - | - | - | - | - | - | - | - |
| Lagoon | - | - | - | - | - | - | - | - | - |

**28** **As per sample taken during the visit: Analysis report attached as annexure- XIV**

**29**

| **Sample Analysis** | **Effluent flow rate ($m^3$/hr.)** | **Sulphur/ Sulphate (mg/L)** | **pH** | **COD (mg/L)** | **BOD (mg/L)** | **TSS (mg/L)** | **TDS (mg/L)** | **O & G** | **MLSS/ MLVSS (mg/L)** |
|---|---|---|---|---|---|---|---|---|---|
| ETP Inlet | 21.63 | 448.6 | 6.78 | 2740 | 685 | 317 | 3209 | 19.2 | - |
| ETP Outlet | 21.32 | 89.3 | 7.3 | 226 | 24 | 41 | 1415 | 3.2 | - |
| Aeration tank | - | - | - | - | - | - | - | - | 2990/1994 |
| SRS Inlet | 18.22 | 411.7 | 5.62 | 3280 | 820 | 256 | 2398 | - | - |
| SRS Outlet | Anaerobic treatment system provided in existing ETP for spray pond overflow | | | | | | | | |
| Lagoon | - | 89.9 | 7.13 | 220 | 23 | 47 | 1337 | 3.6 | - |
| OCEMS | 34.45 | - | 6.88 | 110.3 | 14.2 | 8.384 | - | - | - |

**Additional parameters for GPIs located in Yamuna main stem states;**

| S.No. | Parameters | ETP Inlet (mg/L) | ETP Outlet (mg/L) |
|---|---|---|---|
| 1 | Ammonia | - | - |

| | | | |
|---|---|---|---|
| 2 | Ammonium Nitrate | - | - |
| 3 | Phosphate | - | - |
| 4 | Surfactant (MBAS assay) | - | - |

**30** **Number of Piezometric wells available in the unit premises: Two (attached as XIX)**

**31** **Groundwater Analysis Report-** Quality of Groundwater is compared with Bureau of Indian Standard (BIS) DRINKING WATER — SPECIFICATION (Second Revision) IS 10500: 2012.

| **Year of Dug** | **Depth (meter)** | **Colour** | **pH** | **Total Alkalinity** | **Total Hardness** | **COD** | **TDS** | **$Cl^-$** | **$F^-$** | **$NO_3$** | **$SO_4$** |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Permissible Limit | | 15 | 6.5-8.5 | 600 | 600 | - | 2000 | 1000 | 1.5 | 45 | 400 |
| Tested results Borewell-1 | | BDL | 7.06 | 48 | 74 | ND | 336 | 79.9 | ND | 1.5 | 9.3 |
| Borewell-2 | | BDL | 7.2 | 40 | 58 | ND | 243 | 66.9 | ND | 1.1 | 8.9 |

**Groundwater Analysis Report-** Quality of Groundwater is compared with Bureau of Indian Standard (BIS) DRINKING WATER — SPECIFICATION (Second Revision) IS 10500: 2012.

| **Sample** | Parameters (all values are in mg/l) | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | **As** | **Cd** | **Cr** | **Cu** | **Fe** | **Pb** | **Mn** | **Hg** | **Ni** | **Zn** | **Sb** | **Co** | **Se** | **V** |
| Permissible Limit | 0.05 | 0.003 | 0.05 | 1.5 | 0.3 | 0.01 | 0.3 | 0.001 | 0.02 | 15 | - | - | 0.01 | - |
| **BW-1** | ND | ND | ND | ND | 0.12 | ND | ND | ND | ND | ND | ND | ND | ND | - |
| **BW-2** | ND | ND | ND | ND | 0.08 | ND | ND | ND | ND | ND | ND | ND | ND | - |

**32** **Recipient Drain's Analysis Report-** Quality of discharged effluent (for all parameters as notified under Environment (Protection) Rules, 1986.

| Sampling location | Parameters (all values are in mg/L except Clour & pH) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | **Colour** | **pH** | **BOD** | **COD** | **TSS** | **TDS** | **$Cl^-$** | **$NO_3$** | **$NH_3$-N** |
| Up Stream | NA | | | | | | | | |
| Down Stream | NA | | | | | | | | |

**Additional parameters for recipient drains in Yamuna main stem states;**

| S.No. | Parameters | Upstream (mg/L) | Downstream (mg/L) |
|---|---|---|---|
| 1 | Ammonia | - | - |
| 2 | Ammonium Nitrate | - | - |
| 3 | Phosphate | - | - |
| 4 | Surfactant (MBAS assay) | - | - |

**Status (Comply/Non-comply): NA**

**33** **Storage of treated Effluent**

| | | |
|---|---|---|
| | a. No. & size of lagoons | One (48x45x5.5m = 10026 $m^3$) |
| | b. Retention time | 11.41 days |
| | c. Lagoon type- permeable/impermeable | Impermeable |
| **34** | **Sludge Handling Process (Yes/No), gives details.** | |
| | **a.** Sludge Digestion Method | - |
| | **b.** Sludge Drying Process | Yes |
| | **c.** Final Disposal of Sludge | Use for landfilling in own premises |
| | **d.** Whether mechanical sludge handling system installed (yes/ No) | No |
| **35** | **Any Hazardous Substances (Yes/No), if yes, give details. (Quantity & way of Disposal)** | Yes (Capacity 32 m3) |
| **36** | **Manpower employed for ETP operation & maintenance.** | Environment Manager- No<br>ETP incharge /Lab Chemist- 01<br>Operator- 3<br>Helper- 4 |
| **37** | **Details of irrigation system & treated effluent used quantity** | |
| | 1. Own land area for irrigation (Yes/No), | Yes |
| | 2. Farmer land area and their agreement. (Yes/No), | No |
| | 3. Net effluent generation left for Irrigation (KLD) | 866.54 |
| | 4. Flow meter to measure amount of water used for irrigation. | Flowmeter available at ETP outlet (all effluent uses for irrigation purpose) |
| | 5. Distance of land Area from the Unit (Km) | 0.1 |
| | 6. Total Available Area (Hectare) | 42 |
| | 7. Soil Texture of land (Sandy, Sandy loam, Loam, Clay loam, Clay) | Sandy loam |
| | 8. Crop area under effluent application | Eucalyptus and sugarcane |
| **38** | **Cleaning mechanism at Mills and factory floor** | Cleaning with water |
| **39** | **Color coding of pipelines for water distribution network (Yes/No)** | **No (Partially implemented)** |
| **40** | **Mode of disposal (route to reach Ganga)** | Treated water used for irrigation purpose |

**Sewage management section**

| | | |
|---|---|---|
| 41 | Quantity of sewage generated (KLD) | 15 KLPD |
| 42 | STP status | Installed (Yes/No) : No<br>Operational (Yes/No) : NA |
| 43 | Flow meter/ v-notch installed at inlet of STP | NA |

| | | | |
|---|---|---|---|
| 44 | Flow meter/ v-notch installed at outlet of STP | NA | |
| 45 | Quantity of treated sewage (KLD) (to be calculated from STP inlet logbook) | No logbook maintained | |
| 46 | Quantity of recycled treated sewage (KLD) (Total of last three months) | In production | Others |
| | | - | - |
| 47 | Quantity of treated sewage discharged (KLD) (to be calculated from ETP outlet logbook)- | - | |
| 48 | Mode of discharge | Soak pit | |
| 49 | Discharge in | Land | |

50 **Characteristics of Sewage**

| Parameter | STP inlet | STP outlet | Discharge Norms (as per consent) | Compliance Status |
|---|---|---|---|---|
| pH | - | - | - | - |
| BOD (mg/l) | - | - | - | - |
| COD (mg/l) | - | - | - | - |
| TSS (mg/l) | - | - | - | - |
| TDS (mg/l) | - | - | - | - |
| Colour (PCU) | - | - | - | - |

| | | |
|---|---|---|
| **51** | **Overall Compliance Status: Complying/non-complying** | **Complying** |

## 3. OBSERVATIONS

1. Installed crushing capacity is 6500 TCD (Avg. 5364 TCD) integrated with cogeneration of 27.1 MW also attached 80 KLPD distillery in premises
2. Industry have applied for CTO under Air act 1981, Water act 1974 and HW authorization
3. Industry has unable to produce CTO of cogeneration unit
4. Industry has three borewells in premises out of which two used for sugar and cogeneration unit and one for distillery unit
5. Industry has installed 1300 KLD ETP to treat combine process and spray pond overflow effluent
6. Average daily effluent generation as per flow meters and logbook: 866.54 KLD
7. Industry has 120 TPH capacity boiler to generate power 27.4 MW and steam attached to RCC stack 62 m and ESP used as APCE
8. Industry has partially implemented the charter points
9. Mill uses excess condensate after cooling in 150 + 100 M3 capacity colling tower and

send to UGR for reuse

10. Mill has added anaerobic treatment in existing ETP as SRS treatment system for spray pond overflow water
11. Implementation of rainwater harvesting from rooftop of sugar godowns is in process
12. Two groundwater recharge pit installation near sugar godown in process
13. Two piezometers installed in premises to monitor groundwater as per CGWA guidelines
14. No any by-pass observed during visit
15. Treated water uses for irrigation purpose in eucalyptus plantation adjoining area of sugar unit
16. Industry has 15 days storage lagoon for treated effluent
17. OCEMS installed as per CPCB guidelines and connectivity has established with CPCB/SPCB servers
18. Partially color coding implemented for pipelines
19. Sewage disposed through soak pit
20. Hazardous waste storage area provided near ETP plant

**4. RECOMMENDATIONS:**

**(Shall specifically indicate compliance w.r.t. observations made in above sections-3 of observations along with additional recommendations if any)**

1. During inspection rooftop rainwater harvesting and groundwater recharge structure installation was in progress, it is recommended to don't install groundwater recharge structure in industry premises, only rainwater harvesting practice could be adapted
2. Industry should implement color coding for pipelines
3. It is recommended to recirculate treated effluent in plant to reduce freshwater consumption
4. Industry should install flowmeters to measure quantity used for irrigation purposes from treated water lagoon
5. Industry should carryout soil analysis of treated effluent irrigated land
6. Treated effluent lagoon samples also be tested in laboratory on regular basis
7. Industry should take CTO for power generation unit under Air act 1981, Water act 1974
8. Industry should properly dispose of industrial solid waste/scraped material stored at open area in premises
9. It is recommended to carryout performance audit/inspection of ETP by third party during season
10. Industry should maintain logbook for disposal of Hazardous waste

**5. INSPECTION TEAM**

| S. No. | Technical institute officials | Designation | Organisation | Signature with date |
|---|---|---|---|---|
| 1 | Dr. Vivek Patil | Scientific Officer | VSI, Pune | Mar 09, 2022 |
| 2 | Mr. Vikram Deshmukh | Research Assistant | VSI, Pune | 09/03/2022 |

**ANNEXURES:**

| | |
|---|---|
| 1 | Daily manufacturing report (DMR): Attached as annexure-I |
| 2 | Photocopy of data recorded on log books of fresh water abstraction and consumption: attached as annexure- IX |
| 3 | Recorded laboratory Analysis Report of ETP operational Parameters carried out by the factory.: attached as annexure- XV |
| 4 | ETP analysis report carried out as per sample taken during the visit.: attached as annexure- XIV |
| 5 | ETP performance report, if analysis is carried out by external laboratory.: attached as annexure- XVI |
| 6 | OCEMS recorded data e.g., flow rate, pH, COD, BOD, TSS etc. sent on CPCB server during the visit.: attached as annexure- XII |
| 7 | Spray pond over flow treatment process details: attached as annexure- VII |
| 8 | Process details- material balance and flow diagram: attached as annexure- VI |
| 9 | ETP details with flow diagram.: attached as annexure- VII |
| 10 | Status of consents & authorization from CPCB/ SPCB: attached as annexure- II-IV |
| 11 | NOC from CGWA: attached as annexure- V |
| 12 | Calibration Certificate of Flow meters and OCEMS: attached as annexure- XVII & XVIII |
| 13 | Form No. 1: attached as annexure- XIII |

**Photographs**

| **Photo 1: ETP Inlet Flow Meter** | **Photo 2: ETP Outlet Flow Meter** |
|---|---|
| | |
| **Photo 3: Oil & Grease Separation Tank** | **Photo 4: Anaerobic Tank** |
| | |

| Photo 5: Primary Clarifier | Photo 6: Aeration Tank |
|---|---|
| | |
| **Photo 7: Secondary Clarifier** | **Photo 8: Sludge Drying Bed** |
| | |
| **Photo 9: Tertiary Treatment** | **Photo 10: Treated Water Lagoon** |
| | |
| **Photo 11: Spray Pond Overflow** | **Photo 12: APCE - ESP** |
| | |

| Photo 13: Environmental Laboratory | Photo 14: OCEMS Display |
|---|---|
| | |
| **Photo 15: Flowmeter- Tube well 1** | **Photo 16: Flowmeter- Tube well 2** |
| | |
| **Photo 17: Rooftop Rainwater collection system** | **Photo 18: Cane Unloading Area** |
| | |

4746 /EA-7/प्रक-390/22 25-4-22

सेवा में,

मै0 राणा शुगर्स लि0 (शुगर यूनिट),
ग्राम–बेलवारा, पोस्ट–मानपुर
जिला–मुरादाबाद।

**विषयः–केन्द्रीय प्रदूषण नियंत्रण बोर्ड, दिल्ली द्वारा जारी निर्देशों के कम में थर्ड पार्टी वी0एस0आई0, पूणे द्वारा किये गये निरीक्षण दिनांक 18.02.2022 में थर्ड पार्टी द्वारा की गयी संस्तुतियों के अनुपालन के संबंध में।**

महोदय,

कृपया केन्द्रीय प्रदूषण नियंत्रण बोर्ड, दिल्ली द्वारा जारी निर्देशों के कम में मै0 राणा शुगर्स लि0 (शुगर यूनिट), ग्राम–बेलवारा, पोस्ट–मानपुर, जिला–मुरादाबाद का निरीक्षण थर्ड पार्टी वी0एस0आई0, पूणे द्वारा दिनांक 18.02.2022 को किया गया।

उक्त निरीक्षण रिपोर्ट में पाया गया कि उद्योग में स्थापित शुद्धिकरण संयंत्र संचालित है तथा ई0टी0पी0 का रखरखाव संतोषजनक पाया गया। उक्त निरीक्षण दिनांक 18.02.2022 की रिपोर्ट में निम्न संस्तुतियॉ की गयी हैं –

**Recommendations:-**

1- During inspection rooftop rainwater harvesting and groundwater recharge structure installation was in progress, it is recommended to don't install groundwater recharge structure in industry premises, only rainwater harvesting practice could be adapted.
2- Industry should implement color coding for pipelines.
3- It is recommended to recirculate treated effluent in plant to reduce freshwater consumption.
4- Industry should install flowmeters to measure quantity used for irrigation purposes from treated water lagoon.
5- Industry should carryout soil analysis of treated effluent irrigated land.
6- Treated effluent lagoon samples also be tested in laboratory on regular basis.
7- Industry should take CTO for power generation unit under Air act 1981, Water act 1974.
8- Industry should properly dispose of industrial solid waste/scraped material stored at open area in premises.
9- It is recommended to carry out performance audit/inspection of ETP by third party during season.
10- Industry should maintain logbook for disposal of Hazardous waste.

आपको निर्देशित किया जाता है कि थर्ड पार्टी वी0एस0आई0, पूणे द्वारा की गयी उक्त संस्तुतियों का अनुपालन सुनिश्चित करते हुए अनुपालन आख्या 15 दिन के अन्दर बोर्ड मुख्यालय प्रेषित करना सुनिश्चित करें।

भवदीय

(जी0सी0 आर्या)
पर्यावरण अभियन्ता, वृत्त–7

प्रतिलिपिः–

1. श्री ए0के0 विद्यार्थी, एडिशनल डायरेक्टर–डी0एच0 डब्लूक्यूएम–II, केन्द्रीय प्रदूषण नियंत्रण बोर्ड, परिवेश भवन, पूर्वी अर्जुन नगर, नई दिल्ली को सूचनार्थ प्रेषित।
2. क्षेत्रीय अधिकारी, उ0प्र0 प्रदूषण नियंत्रण बोर्ड, मुरादाबाद को इस निर्देश के साथ कि उक्त निर्देशों के कम उद्योग का निरीक्षण करते हुए ससमय निरीक्षण आख्या स्पष्ट संस्तुति सहित बोर्ड मुख्यालय प्रेषित करना सुनिश्चित करें।

पर्यावरण अभियन्ता, वृत्त–7

o/c

Annexure-9

# GROUND WATER DEPARTMENT

(Namami Gange & Rural Water Supply Department)
Ministry of Jal Shakti
Government of Uttar Pradesh

**Annexure 9**

## Form 8 (E)

[See rules 15(2)]

## (RENEWAL OF AUTHORIZATION/ NO-OBJECTION CERTIFICATE FOR SINKING OF NEW WELL FOR INDUSTRIAL/ COMMERCIAL/ INFRASTRUCTURAL OR BULK USER OF GROUND WATER)

## VALID UP TO : 01/07/2026

**Registration No.: 202106000044**

| | | | |
|---|---|---|---|
| **Name of the Owner** | RANA VEER | | |
| **Address of the Applicant** | VIIL.- BELWARA , P.O. - MANPUR , DISTT. - MORADABAD | **Application Form Serial No.** | MRBD0621RIN0067 |
| **Date of Submission** | 03/06/2021 | **Specimen Signature** | |
| **Company Name** | RANA SUGARS LIMITED | **Company Address** | VILL.- BELWARA , P.O.- MANPUR , DISTT.- MORADABAD |

### Location Particulars

| | | | |
|---|---|---|---|
| **District** | Moradabad | **Block** | BHAGATPUR TANDA |
| **Plot No./Khasra No.** | 146, 142 mi, 3, 143 etc | **Municipality/Corporation** | No |
| **Ward No./Holding No.** | | | NA |

### Particular of the Existing Well and Pumping Device

| | | | |
|---|---|---|---|
| **Date of Construction/Sinking of the Well** | 11/07/2018 | | |
| **Type of Well** | Tube Well/Boring | **Depth of the Well (In meter)** | 58.00 |
| **Purpose of well** | Industrial | **Assembly Size(For Tube Well)** | |
| **Strainer Position (For Tube Well)** | | | |
| **Type of Pump Used** | Submersible | **H.P. of the Pump** | 10.00 |
| **Operational Device** | Electric Motor | **Rate of Withdrawal (m3/hr.)** | 50.00 |
| **Date of Energization (In Case of Electric Pump)** | | 01/05/2019 | |
| **Maximum Allowable Rate of Withdrawal (m3/hr.):** | 50.00 | **Maximum Allowable Running Hours Per Day:** | 16.00 |
| **Maximum Allowable Annual Extraction of Ground Water:** | | | 288000 |
| **Reason for renewal of N.O.C. एन.ओ.सी. के नवीनीकरण का कारण** | CGWA stop giving NOC and transferred the process to UPGWD. | | |
| **Against Case** | | | |

This No-Objection certificate authorizes the owner applicant (user) to sink a well in the location specified at Sl. (3) for extraction of ground water at a rate not exceeding that as shown at Sl. (3j), for running hours I day as shown at Sl. (3k), and for maximum allowable annual extraction of ground water as shown at Sl. (3k) and is valid subject to the observance of the conditions stated overleaf.

**Conditions**

- (1) In case of any change of ownership of the proposed well, fresh authorization has to be obtained.
- (2) No change of location, design, rate of withdrawal and pumping device in respect of the proposed well as indicated at SL (2) and (3) of this certificate shall be made without prior permission of the Competent Authority. Any deviation in this regard shall lead to cancellation

of this authorization.

- (3) For the purpose of measuring and recording the quantity of ground water extracted, every said user shall affix digital water flow meters(conforming to BIS/ IS standards) having telemetry system in the abstraction structure, which record rate and quantum of extraction, at outlet of pumping devices and it shall be presumed that the quantity recorded by the meter has been extracted by the said user, until the contrary is proved. The rate of extraction of ground water from the well as shown in item 3(k) shall not exceed to the recorded rate from water meters
- (4) The concerned Authority reserves the right to stop extraction of ground water from the well due to quality hazards or any other reasons, if the situation so demands.
- (5) In case of any change of ownership of the existing well, fresh registration has to be obtained.
- (6) No change of location, design, rate of withdrawal and pumping device in respect of the existing well as indicated at Sl. (2) and (3) of this certificate shall be made without prior permission of the Competent Authority. Any deviation in this regard shall lead to cancellation of this registration.
- (7) n case, any of the particulars I information furnished by the applicant in his application for issuance of this registration is found to be incorrect during verification at any subsequent stage, this registration is liable for cancellation.
- (8) The Certificate of Authorization/ NOC shall be valid for a period of three years from the date of issue. The applicant shall have to apply for renewal through a fresh application, at least ninety days prior to expiry of its validity.
- (9) Construction of piezometers and installation of digital water level recorders with telemetry shall be mandatory for user. Depth and zone tapped of piezometer should be commensurate with that of the pumping well. The data, obtained from digital water level recorders shall be made available to this office on monthly basis.
- (10) Guidelines for Installation of Piezometers and their Monitoring
- Piezometer is a borewell /tube well used only for measuring the water level by lowering the tape/ sounder or automatic water level measuring equipment. It is also used to take water sample for water quality testing whenever needed. General guidelines for installation of piezometers are as follows for compliance of NOC:
- • The piezometer is to be installed/constructed at the minimum of 50 m distance from the pumping well through which ground water is being withdrawn. The diameter of the piezometer should be about 4" to 6".
- • The depth of the piezometer should be same as is case of the pumping well from which ground water is being abstracted. If, more than one piezometer are installed the second piezometer should monitor the shallow ground water regime. It will facilitate shallow as well as deeper ground water aquifer monitoring.
- • No. of piezometers to be constructed & Type of water level monitoring mechanism shall be as per below table:

| S.No | Quantum of Ground water withdrawal (cum/day) | No.of piezometers required | Monitiring Mechanism | |
|---|---|---|---|---|
| | | | Manual | DWLR with Telemetry |
| 1 | < 10 | 0 | 0 | 0 |
| 2 | 11 - 50 | 1 | 1 | 0 |
| 3 | 50- 500 | 1 | 0 | 1 |
| 4 | > 500 | 2 | 0 | 2 |

- • The measuring frequency should be monthly and accuracy of measurement should be up to cm. the reported measurement should be given in meter up to two decimals.
- • For measurement of water level sounder or automatic water level recorder (AWLR)/ Digital Automatic water level recorder (DWLR) with telemetry system should be used for accuracy.
- • The measurement of water level in piezometer should be taken, only after the pumping from the surrounding tube wells has been stopped for about four to six hours.
- • All the details regarding coordinates, reduced level (with respect to mean level), depth, zone taped and assembly lowered should be provided for bringing the piezometer into the Hydrograph Monitoring System for Ground Water Department, Uttar Pradesh, and for its validation.
- • The ground water quality has to be monitored twice in a year during pre-monsoon (May/June) and post-monsoon (October/November) periods. Quality may be got analyzed from NABL approved lab. Besides, one sample (1 lt. capacity bottle) to the concerned Director, Ground Water Department, Uttar Pradesh, for chemical analysis.
- • A Permanent display board should be installed at piezometer/Tube wells site for providing the location, piezometer/ tube well number, depth and zone tapped of piezometer/tube well for standard referencing and identification.
- • Any other site-specific requirement regarding safety and access for measurement may be taken care off.
- (11) Any other condition(s) that may be imposed by the concerned Authority.
- (12) In case, any of the particulars I information furnished by the applicant in his application for issuance of this permit is found to be incorrect during verification at any subsequent stage, this permit is liable for cancellation.
- **SPECIFIC CONDITIONS:**
- (A) **For Industrial User:** No Objection Certificate for ground water extraction by industries shall be granted subject to the following specific conditions:
- i) No Objection Certificate shall be granted only in such cases where local government water supply agencies are not able to supply the desired quantity of water.
- ii) All industries shall be required to adopt latest water efficient technologies so as to reduce dependence on ground water resources.
- iii) All industries abstracting ground water in excess of 100 m3/d shall be required to undertake annual water audit through Confederation of Indian Industries (CII)/ Federation Indian Chamber of Commerce and Industry (FICCI)/ National Productivity Council (NPC) certified auditors and submit audit reports within three months of completion of the same to CGWA. All such industries shall be required to reduce their ground water use by at least 20% over the next three years through appropriate means.
- iv) Construction of observation well(s) (piezometer)(s) within the premises and installation of appropriate water level monitoring mechanism as mentioned in General Condition no.10 shall be mandatory for industries drawing/ proposing to draw more than 10 m3/day of ground water and. Monitoring of water level shall be done by the project proponent. The piezometer (observation well) shall be

constructed at a minimum distance of 15 m from the bore well/production well. Depth and aquifer zone tapped in the piezometer shall be the same as that of the pumping well/ wells. Monthly water level data shall be submitted online to the Ground Water Department, UP.

- v) The proponent shall be required to adopt roof top rain water harvesting/ recharge in the project premises. Industries which are likely to pollute ground water (chemical, pharmaceutical, dyes, pigments, paints, textiles, tannery, pesticides/ insecticides, fertilizers, slaughter house, explosives etc.) shall store the harvested rain water in surface storage tanks for use in the industry.
- vi) Injection of treated/ untreated waste water into aquifer system is strictly prohibited.
- vii) Industries which are likely to cause ground water pollution e.g. Tanning, Slaughter Houses, Dye, Chemical/ Petrochemical, Coal washeries, other hazardous units etc. (as per CPCB list) need to undertake necessary well head protection measures to ensure prevention of ground water pollution.
- (B) **Infrastructural User:** The No Objection Certificate for ground water abstraction will be granted subject to the following specific conditions:
- i) In case of infrastructure projects that require dewatering, proponent shall be required to carry out regular monitoring of dewatering discharge rate (using a digital water flow meter) and submit the data online to Ground Water Department, UP as applicable. Monitoring records and results should be retained by the proponent for two years, for inspection or reporting as required by District Ground Water Management Council.
- ii) Installation of Sewage Treatment Plants (STP) shall be mandatory for new projects, where ground water requirement is more than 20 m3 /day. The water from STP shall be utilized for toilet flushing, car washing, gardening etc.

**This certificate is electronically generated and does not require digital signature**

# INDUSTRY INSPECTION REPORT (DISTILLERY-MOLASSES BASED)

**Date of Inspection: 22/01/2022**

## 1. General Information

| | | | |
|---|---|---|---|
| 1. | Unit Code | 1134 | |
| 2. | a) Name and Address of the unit | Rana Sugar Ltd. (Distillery Unit), Village. Belwara, Manpur, Distt. Moradabad. (U.P.) | |
| | b) Coordinates (Latitude & Longitude) in Decimal | Latitude: 28.9237041<br><br>Longitude: 78.8699344 | |
| | c) Name of the recipient drain | ZLD Unit | |
| | d) Mode to reach River Ganga (Name of drain → Name of Sub-tributary→ Name of Tributary → River Ganga) | Sharayu River is about 5.0 Km away from distillery premises<br>Dehlla River is about 12.0 Km away from distillery premises | |
| 3. | Operational Status (Operational/Non-Operational) * | Operational | |
| 4. | Name of Occupier/Contact Person | Designation | Contact No & e- mail |
| | 1. Mr. Ajay Majithia | Vice President | Contact No: 9815900950<br>e- mail ajaymajithia@ranagroup.com |
| 5. | Type of Distillery unit | A. Molasses based distillery<br>B. Grain based distillery<br>C. Brewery unit<br>D. Bottling unit | Yes<br>Yes/No<br>Yes/No<br>Yes/No |

***** Note: If non-operational, specify the reason and attach respective document i.e., CPCB/SPCB closure direction

### A. MOLASSES BASED DISTILLERY

| | | | | |
|---|---|---|---|---|
| 1. | Year of Commissioning | 2019 | | |
| 2. | Standalone/Connected with sugar unit | Connected with sugar unit | | |
| 3. | Status of consents and authorization* | | Yes/No/Expired/Applied | Validity Date |
| | | Environmental Clearance (EC) | Yes<br>F. No. J-11011/22/2015-IA-II(I)<br>***Refer Annexure-I*** | --- |

| | | | | |
|---|---|---|---|---|
| | | Air Consent | Ref. No. 144863/UPPCB/Moradabad (UPPCBRO)/CTO/Air/MORADABAD/2021 ***Refer Annexure-II*** | 01/01/2022 to 31/12/2023 |
| | | Water Consent | Ref. No. 144889/UPPCB/Moradabad (UPPCBRO)/CTO/Water/MORADABAD/2021 ***Refer Annexure-III*** | 01/01/2022 to 31/12/2023 |
| | | Haz. Waste Authorization | Ref. No. 9087/UPPCB/Moradabad (UPPCBRO)/HWM/MORADABAD/2019 ***Refer Annexure-IV*** | 03/02/2020 to 02/02/2025 |
| | | CGWA NOC | Registration No. 202106000044 ***Refer Annexure-XII*** | 03/06/2021 to 02/06/2026 |

***Attach copy of EC, consents and CGWA NOC, if valid.**
**If unit has applied for renewal, then submit copy of application.**

## 2. Fresh water consumption details

| | | | |
|---|---|---|---|
| 1. | Water Supply Source | River/Borewell/Tubewell | |
| 2. | River | NA | |
| | Flow meter with totalizer installed at line carrying freshwater (Yes/No) | NA | |
| | Instantaneous Reading ($m^3$/hr) | NA | |
| | Totalizer Reading ($m^3$) | NA | |
| 3. | Borewell/Tubewell | | |
| | No. of Borewell/Tubewell as per CGWA NOC | 1 No. | |
| | Actual no. of Borewell found on site | 1 No. | |
| | Permitted withdrawal quantity | Not provided | |
| | Actual withdrawal quantity (Average of last three months) | 332 m3/day (Average of month December 2021) | |
| | No. of Borewell having flow meter with totalizer installed | 1 No. | |
| | Instantaneous Reading* ($m^3$/hr) | NA | |
| | Totalizer Reading during visit* ($m^3$) | Initial | 212129 |
| | | Final | 212456 |
| 4. | Type of flow meter installed: mechanical/digital/electromagnetic etc. | Electromagnetic | |
| | Calibration details | Not provided | |
| | Log Book Maintained (Yes/No) | Yes, ***Refer Annexure-V*** | |

| 5. | Fresh water consumption | | | |
|---|---|---|---|---|
| | | Production process | Domestic | Others |
| | Freshwater consumption (KL) (Average of last three months) | 471.0 KLD | 4.0 KLD | NA |
| | Overall (In KLD & KL/MT of product) | 5.34 | 0.045 | NA |
| | On the previous day of visit (KLD) | 595.0 KLD | 3.0 KLD | NA |

***If more than one water source, then take reading separately**

## 3. Manufacturing Process & Spent Wash (SW) Management System

| | | | |
|---|---|---|---|
| 1. | Manufacturing Process (Provide line diagram) | Molasses handling→ Fermentation→ Distillation with MSDH→ Final product (RS/ENA/AA) | |
| | Type of Fermentation technology adopted | Fed-batch fermentation | |
| | Type of Distillation technology adopted | MPR distillation with MSDH technology | |
| | Integrated MEE with Distillation (Yes/No) | Yes | |
| 2. | Spent Wash Management Technology | Bio-digester ☐<br>RO ☐<br>MEE ■ | Bio-composting ■<br>Incinerator ☐<br>CPU ■ |
| | Spent Wash Management Sequence | Raw spentwash from process →MEE→ Lagoon→ Bio-composting → Bagged compost given to member farmers | |
| 3. | Licensed capacity of Distillery (KLPD) | 80 KLPD | |
| | Installed capacity | 80 KLPD | |
| | Present Production in KLPD | 80.03 KLPD (Avg. of month December 2021) | |
| | No of operating days/year | 270 | |
| | Products Manufacture | Absolute Alcohol/Ethanol (KLD) | |
| | RS (01 month) | --- | |
| | ENA (01 month) | ---- | |
| | Absolute Alcohol/Ethanol (01 month) | 2481203.0 BL (Production of month December 2021) | |
| 4. | Type of Molasses/ Cane Syrup used | C-heavy molasses/B-heavy molasses/ Cane Syrup | |
| | Molasses (in Qtls)/ Cane Syrup per KL of alcohol production | 31.95 Qtls. B-Heavy molasses per KL of alcohol production. | |

## 4. Waste water generation

| Sr. No. | Stream/section | Quantity, KLD | Disposal/Utilization Point |
|---|---|---|---|
| 1. | Spent wash | 572.0 KLD | MEE |
| 2. | Spent lees | 120.0 KLD | CPU/RO |
| 3. | Fermenter washing | 20.0 KLD | CPU/RO/MEE |
| 4. | Process condensate (MEE condensate) | 327.0 KLD | CPU/RO |
| 5. | Floor washing | 10.0 KLD | CPU/RO/ MEE |
| 6. | Cooling tower blow down | 20.0 KLD | CPU/RO |
| 7. | Boiler blow down | 20.0 KLD | CPU/RO |
| 8. | DM plant reject | 20.0 KLD | CPU/RO |
| 9. | Others viz. CPU RO reject etc. | 50.0 KLD | MEE |
| 10. | Spent wash generation (KL/KL of production) | 7.15 | ---------- |
| 11. | Quantity of other effluent generation (KL/KL of production) | 2.50 | ---------- |
| 12. | Total quantity of spent wash feed into MEE (KLPD) | 572.0 KLD | MEE |
| 13. | Total quantity of other effluent feed into CPU(KLPD) | 507.0 KLD | CPU |

## 5. Process Emission/ Solid Disposal

| Sr. No. | Stream/section | Quantity, KLD | Disposal |
|---|---|---|---|
| 1. | Fermenter $CO_2$ disposal | 52 TPD | Atmosphere |
| 2. | Fermenter sludge disposal | 15.0 KLD | Utilized in bio composting |

## 6. Bio-Methanation Plant/Bio-digester – No

| | | |
|---|---|---|
| 1. | Setting cum cooling tank before bio-digester (Yes/No) | NA |
| | Capacity of Setting cum cooling tank before bio-digester ($m^3$) | NA |
| 2. | Year of installation/establishment & commissioning of the digester | NA |
| 3. | No. of Digester: | NA |
| | Capacity of Digester: | NA |

| | | |
|---|---|---|
| | Type of Technology (CSTR/UASB/ Thermophilic/ Hybrid) | NA |
| 4. | Hydraulic Retention Time on Design basis (in days) (15-24 days) | NA |
| | Organic Loading Rate (kg/$m^3$/day) | NA |
| | Volume ($m^3$) | NA |
| 5. | No. of days of operation of digesters (days/annum) | NA |
| | Total biogas generated ($m^3$/annum) and bagasse/ coal saved | NA |
| | Maintaining Log Book records supporting biogas plant performance (Yes /No) | NA |
| 6. | Quantity of Sludge generation from bio-digester (KLD) | NA |
| | Method of disposal/ utilization of sludge | NA |

| Date of Observation: | NA | |
|---|---|---|
| | Design Parameters | Actual feed Values |
| Feed rate, $m^3$ /Day | NA | NA |
| ºBrix (Inlet/Outlet) | NA | NA |
| pH (Inlet/Outlet) | NA | NA |
| COD, mg/l (Inlet/Outlet) | NA | NA |
| BOD, mg/l (Inlet/Outlet) | NA | NA |
| COD reduction % | 60 | NA |
| BOD reduction % | 85 | NA |
| Biogas generation, $Nm^3$/kg of COD consumed | 0.5 | NA |
| Biogas generation, $m^3$/day | NA | NA |

## 7. RO plant (for bio-methanated spent wash treatment)– No

| | | |
|---|---|---|
| 1. | Setting cum cooling tank before RO (Yes/No) | NA |
| | Capacity of Setting tank before RO ($m^3$) | NA |
| 2. | Year of installation/establishment & commissioning of RO plant | NA |
| 3. | Details of pre-treatment | NA |
| 4. | Type of technology of membrane filtration. | NA |
| | Number of membranes per module & number of modules. | NA |
| 5. | Designed feed capacity of RO ($m^3$/day) | NA |
| | Acceptable level in the feed. | Suspended solids: Dissolved solids:<br>Other membrane affecting components: |
| 6. | No of days of operations (days/annum) | NA |

| | | |
|---|---|---|
| | Maintaining Log Book supporting RO plant performance (Yes/No) | NA |
| 7. | Further treatment/disposal point of Permeate/Reject | NA |
| | Date of change of Membrane | NA |
| | Mode of Disposal of changed Membrane | NA |
| 8. | Utilization of RO permeate (taken again in RO/used on process) | NA |
| 9. | Utilization of RO reject | NA |
| 10. | Whether RO achieving designed parameters | NA |
| 11. | Whether RO operated continuously | NA |

## 7.1. RO plant Performance

| **Particulars** | **Inlet (Feed)** | | **Reject** | | **Permeate** | |
|---|---|---|---|---|---|---|
| | **Initial reading $m^3$/day** | **Final reading $m^3$/day** | **Initial reading $m^3$/day** | **Final reading $m^3$/day** | **Initial reading $m^3$/day** | **Final reading $m^3$/day** |
| **Quantity, $m^3$/day** | NA | NA | NA | NA | NA | NA |
| | **Inlet (Feed)** | | **Reject** | | **Permeate** | |
| **Recovery, %** | NA | NA | NA | NA | NA | NA |
| **Colour** | NA | NA | NA | NA | NA | NA |
| **pH** | NA | NA | NA | NA | NA | NA |
| **Conductivity, ms** | NA | NA | NA | NA | NA | NA |
| **BOD, ppm** | NA | NA | NA | NA | NA | NA |
| **COD, ppm** | NA | NA | NA | NA | NA | NA |
| **Total solids, %** | NA | NA | NA | NA | NA | NA |
| **Total dissolved solids, %** | NA | NA | NA | NA | NA | NA |
| **Total suspended solids, %** | NA | NA | NA | NA | NA | NA |

## 8. Multiple Effective Evaporator (MEE)

| | | |
|---|---|---|
| 1. | Setting cum cooling tank before MEE (Yes/No) | No |
| | Capacity of Setting tank before MEE ($m^3$) | NA |
| 2. | Year of installation/establishment & commissioning of MEE plant | 2019-20 |
| 3. | Number of Effects with their HTA and MOC.<br>(Mention number of stand-by bodies and degasser provided, if any) | Type – Falling Film<br>MOC-SS (304)<br>HTA-2700 M2<br>No. Of Effects -9 nos. |
| | Type of technology of MEE | Type – Falling Film<br>MOC-SS (304) |

| | | | |
|---|---|---|---|
| | | HTA-2700 M2<br>No. Of Effects -9 nos. | |
| | Designed capacity of MEE($m^3$/day) | 800 $M^3$/Day | |
| | Evaporation rate of MEE (%) | 60% | |
| 4. | Acceptable level of suspended solids, dissolved solids etc. in the feed. | 12% | |
| 5. | Maintaining Log Book supporting MEE plant performance (Yes/No) | Yes<br>***Refer Annexure-VIII*** | |
| 6. | Mass flow meter with totalizer installed at inlet of MEE (Yes/No) | Yes | |
| | Mass flow meter with totalizer installed at outlet of MEE, MEE concentrate (Yes/No) | Yes | |
| | Mass flow meter with totalizer installed at outlet of MEE, MEE condensate (Yes/No) | No | |
| | | Initial* | Final |
| 7. | Mass flow meter reading with totalizer at inlet of MEE | 204781 | 205231 |
| | Mass flow meter reading with totalizer with outlet of MEE, MEE concentrate | 81543 | 81722 |
| | Mass flow meter reading with totalizer with outlet of MEE, MEE condensate | 231336 | 231607 |
| 8. | Mass flow meter with totalizer connected with CPCB/SPCB server at time of inspection (Yes/No) | Yes | |

*Provide for one day.

## 8.1. MEE operational details

| | | | | |
|---|---|---|---|---|
| 1. | MEE feed rate (actual) | Lit/hr | 23833.0 | Sp. Gr.- 1.054 |
| 2. | Feed rate @ Sp. Gr. (Approximate) | Kg/hr | 25120.0 | |
| 3. | Solid content in feed/brix | %/ degree | 13.62 | |
| 4. | Water evaporation rate (Minimum) | Kg/hr | 13603.0 | |
| 5. | Concentrate Generation | Kg/hr | 11519.0 | |
| 6. | Solid content in concentrate Generation/brix | %/degree | 31.73 | |
| 7. | Operation hour and whether it is operating continuously | Hr/day-or week or month | Continuously | |
| 8. | MEE Feed Characteristics | pH<br>TSS<br>TDS<br>BOD &<br>COD | 4.56<br>48910 mg/l<br>86110 mg/l<br>27500 mg/l<br>118000 mg/l | |
| 9. | Frequency of CIP (Cleaning in Process) | Hr/day or week or month | Once in a month | |
| 10. | Quantity of CIP effluent | $m^3$/hr | 15 | |

| | | | |
|---|---|---|---|
| 11. | Mode of treatment/disposal of CIP effluent | MEE | |
| 12. | Quantity of process condensate | $m^3$/hr | 13.60 |
| 13. | Whether MEE achieving design efficiency. (Yes/No) | Yes | |
| 14. | Utilisation of MEE condensate | Treated in two stage RO bases CPU and recycle in cooling tower makeup and molasses dilution | |
| 15. | Utilisation of MEE concentrate | Utilized in production of bio-composting | |
| 16. | Utilization of blow down (cooling tower & boiler) | Treated in two stage RO CPU and recycle in cooling tower makeup and molasses dilution | |

## 8.2. MEE output Characteristics

| Sr. No. | Particulars | Conc. spent wash | Process Condensate |
|---|---|---|---|
| 1. | Quantity, $m^3$/day | 245.0 | 327.0 |
| 2. | pH | 4.61 | 4.02 |
| 3. | Temperature, ºC | 75 | 49 |
| 4. | COD, ppm | 212000 | 780 |
| 5. | Total solids, % | 31.73 | 0.034 |
| 6. | Ammonical Nitrogen (as N), ppm | 280 ppm (Ammonia) | 15 ppm (Ammonia) |

## 9. CPU (Condensate Polishing Unit) – Yes

| | | | |
|---|---|---|---|
| 1. | Year of installation/establishment & commissioning of CPU | 2019 | |
| 2. | Name of Plant/Technology supplier | Membrane India | |
| 3. | Type of technology of CPU plant: Conventional /RO/Striper/Photo-oxidation/In house technology etc. (Mention details of unit processes with flow diagram) | Two stage Reverse Osmosis plant | |
| 4. | Design capacity of CPU unit ($m^3$/day) | 720 $m^3$/day | |
| 5. | Actual capacity of CPU unit ($m^3$/day) | 720 $m^3$/day | |
| 6. | Sources of effluent coming into CPU | Source | Quantity ($m^3$/day) |
| | | 1. MEE condensate | 327.00 |
| | | 2.Cooling tower Blowdown | 9.00 |
| 7. | Total quantity feed to CPU per day (KLPD) | 336.00 | |
| 8. | Quantity of treated effluent from CPU utilized per day (KLPD) | 238.56 | |

| | | |
|---|---|---|
| 9. | Recovery (%) and characteristics of treated water and its further utilization details | Recovery-71 %, pH-6.5, Color- Transparent Utilization-To cooling tower. ***Refer Annexure-XIII*** |
| 10. | Is there any reject generated from CPU (Yes/No) | Yes (RO Reject) |
| 11. | Disposal point of reject from CPU (If yes) | To Evaporation plant |
| 12. | Total fresh water consumption after reuse of treated low strength effluents. | 471 $m^3$/day |
| 13. | Log Book records supporting CPU performance (Yes/No) | Yes ***Refer Annexure-XIII*** |

## 9.1 CPU performance

| Particulars | Mixed Influent | Treated Effluent |
|---|---|---|
| Quantity, $m^3$/day | 336 | 238 |
| Colour | 90 | 40 |
| pH | 5.44 | 7.15 |
| Temperature, ºC | 38 | 34 |
| BOD, ppm | 240 | 72 |
| COD, ppm | 1040 | 220 |
| Total solids, % | 0.069 | 0.0050 |
| Total dissolved solids, % | 0.0517 | 0.0037 |
| Total suspended solids, % | 0.003 | 0.0008 |
| Volatile acids, ppm | 272.7 | ND |
| Total Alkalinity, ppm | 164 | 80 |

## 10. Lagoon

| 1. | Actual Capacity of Lagoons | Yes/No | Number | Dimensions (L×B×H) | Storage Capacity ($m^3$) | Approximate Volume found stored during Inspection ($m^3$) |
|---|---|---|---|---|---|---|
| | a. MEE Concentrate (for bio-composting) | Yes | One | 122*43*3.5 | 18361 m3 | 1200 $m^3$ |
| | b. MEE Concentrate (for Incineration) | No | --- | --- | --- | --- |
| | c. Any Other (Details of Lagoon (if any) | --- | --- | --- | --- | --- |

| | | | | | | |
|---|---|---|---|---|---|---|
| | provided for storage of any other spent wash i.e., RAW/BMSW may be provided | | | | | |
| 2. | a. PTZ 360 cameras provided at Lagoon area<br>b. Operating satisfactorily<br>c. Connectivity to SPCB/CPCB | Yes<br>Yes<br>Yes | | Details of Camera:<br>User ID and Password for connectivity: ez.glensserver.com<br>User-RSL<br>PW-Rana@321User ID and Password for connectivity: Yes<br>***Refer Annexure-X*** | | |

## 11. Bio-composting

- **Bio-compost yard Details-Impervious bio-compost yard (PCC-1:3:6 or RCC-1:2:4 or brick on edge) with construction details.**
    - **Total bio-compost yard of 19 acres is available out of which uncovered area is 7.0 acres & covered area is 12.0 acres**

- **Whether the unit maintaining log Book supporting bio-compost plant operations (Yes/No): Yes, *Refer Annexure-IX***

| | | |
|---|---|---|
| 1. | Total Area for Bio-composting (acres) | 19 |
| 2. | Break-up of Total area: | |
| | Active Area for Bio-composting (out of total area) (acres) | 19000 acres |
| | Covered Active Area(acres) | 12.00 acres |
| | Un-Covered Active Area(acres) | 7.00 acres |
| | Storage Area: | |
| | Area for press mud Storage (Excluding active area) (acres) | From Sugar mill |
| | Area for press mud Storage (Covered/Un-covered) | From Sugar mill |
| | Area for Ready Bio-compost storage (Excluding active area) (acres) | Direct Loading |
| | Area for Ready Bio-compost storage (Covered/Un-covered) | Direct Loading |
| 3. | Period for one bio-compost cycle (60 days or 45 days) | Yes |
| 4. | Total no. of cycles per annum (4 or 5) | 45 days |
| 5. | Quantity of press mud procured/purchased (Last 06 months) | 48000 MT |
| 6. | Quantity of press mud used per bio-compost cycle | 170-180 |

| | | | |
|---|---|---|---|
| 7. | Quantity of filler material i.e., yeast sludge or boiler ash etc. (other than press mud) used per bio-compost cycle | --- | |
| 8. | Quantity of concentrated spent wash used per bio-compost cycle | Average No of days of spraying SW in cycle: 35 Days<br>Avg. SW quantity sprayed in a Day: 200 $m^3$/day | |
| 9. | Ratio of press mud to spent wash maintaining | 1:1.6 | |
| 10. | Quantity of finished compost prepared and sold per Annum | 18049 | |
| 11. | Finished bio-compost sold in loose or bag packing? | Sold in loose | |
| 12. | Finished compost packing facility (Yes/No) | No | |
| 13. | Bio-compost analysis report | Refer Annexure- XI | |
| 14. | Details of windrows | | |
| | Number | 95 mtr. | |
| | Length | Yard 1-67 mtr., Yard 2- 80 mtr., Yard 3-200 mtr. | |
| | Height | 1.5 mtr. | |
| | Width of stacking | 3 mtr. | |
| | Space between the two windrows | 3 mtr. | |
| 15. | Equipment's (nos.)<br>Aero-tillers<br>JCB<br>Tractor<br>Loaders | 2 Nos. Aero-tillers,<br>2 Nos of JCB,<br>2 Nos Tractors<br>No | |
| 16. | Details of registration required from agriculture department, as per new notification of Compost | Not provided | |
| 17. | Arrangement for rainy season and details regarding closure of operations for 03 months during monsoon | Covered Bio-compost yard is available | |
| 18. | Details of PTZ cameras provided and connectivity. | PTZ 360 Camera provided.<br>1. Bio-compost area<br>2. Operating satisfactorily | (Yes/No)<br>Yes<br>Yes |
| 19. | Number of Bore well around compost yard. | 2 No | |
| 20. | Number of Piezometric wells available around the compost. | 2 No. | |
| 21. | Number of Piezometric wells shall be present around the bio-compost yard as per SOP for molasses-based distillery | Yes, total 2 No. piezometer well available | |

## 12. Incineration Boiler– Yes

| | | |
|---|---|---|
| 1. | Year of installation/establishment & commissioning of Incineration boiler | NA |
| 2. | Type of boiler | NA |
| 3. | Capacity of Boiler | NA |
| 4. | Design details | NA |
| | Ratio of Slop and subsidiary fuel | NA |
| | Feed rates of Slop and subsidiary fuel considered | NA |
| 5. | Boiler/Technology Supplier details | NA |
| 6. | Boiler Performance details | NA |
| | Actual Slop and subsidiary fuel ratio achieved | NA |
| | No of working days per annum | NA |
| | Type of subsidiary fuel used with consumption/day | NA |
| 7. | Other Details | NA |
| | Shut down days-cleaning period required | NA |
| | Steam generation (MT/hr) | NA |
| | Steam pressure & temperature | NA |
| 8. | Emission control system or Air Pollution Control Device (APCD) installed (Yes/No) | NA |
| | Name of installed Emission control system/APCD | NA |
| | Stack Height | NA |
| | Stack monitored (Yes/No) | NA |
| 9. | Ash details: | NA |
| | Quantity of ash generated, MT/day (Bottom Ash + Ash collected in APCD) | NA |
| | Characteristics of generated Ash | NA |
| | Method of disposal of Ash (Bottom Ash + Ash collected in APCD) | NA |
| 10. | Whether the unit maintaining log Book supporting incineration boiler performance (Yes/No) | NA |
| 11. | On-line emission (stack) monitoring system installed (Yes/No) | NA |
| 12. | On-line emission (stack) monitoring system connected to CPCB/SPCB server at time of inspection? (Yes/No) | NA |

## 13. Sample Collection Points

| Sr. No. | Sampling Points | (Yes/No) |
|---|---|---|
| **1.** | Raw spent wash (feed to Bio-digester/ IMEE) | Yes |
| **2.** | Feed to MEE (Multi effect evaporator) | Yes |
| **3.** | MEE condensate | Yes |
| **4.** | MEE concentrate | Yes |
| **5.** | Spent wash stored in the lagoon (from all the lagoons) | Yes |

| | | |
|---|---|---|
| **6.** | CPU inlet | Yes |
| **7.** | Aeration tank of CPU | No |
| **8.** | CPU treated condensate | Yes |
| **9.** | STP inlet | No |
| **10.** | STP outlet | No |
| **11.** | Drain within or outside the premises | Yes |
| **12.** | Bypass (if any) | No |
| **13.** | Groundwater (Samples should be collected from hand pumps or borewells) | Yes |

**Refer Annexure-XI for analysis report and Form-1**

**Parameters to be analyzed for samples collected from locations1 to 7: pH, BOD, COD, TS, TSS, TDS**

**Parameters to be analyzed for sample collected from location no. 8& 12: pH, BOD, COD, TS, TSS, TDS, Colour**

**Ground water Analysis Report: Year of Dug: 2018, Depth (m) 58 M**

41 Quality of Groundwater is compared with Bureau of Indian Standard (BIS) drinking water — specification (Second Revision) IS 10500: 2012.

| Parameter → / Location ↓ | pH | Colour (PCU) | Total Alkalinity | Total Hardness | COD | TDS | $Cl^-$ | $F^-$ | $NO_3$ | $SO_4$ |
|---|---|---|---|---|---|---|---|---|---|---|
| Standard values | 6.5-8.5 | 15 | 600 | 600 | - | 2000 | 1000 | 1.5 | 45 | 400 |
| Value | 7.14 | BDL | 58 | 126 | ND | 392 | 145.9 | ND | 2.9 | 18.6 |

Quality of Groundwater is compared with Bureau of Indian Standard (BIS) drinking water — specification (Second Revision) IS 10500: 2012. (Heavy Metal)

| Parameter → | As | Cd | Cr | Cu | Fe | Pb | Mn | Hg | Ni | Zn | Sb | Co | Se | V |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Permissible linits | 0.05 | 0.003 | 0.05 | 1.5 | 0.3 | 0.01 | 0.3 | 0.001 | 0.02 | 15 | - | - | 0.01 | - |
| Tested Values | ND | ND | ND | ND | 0.24 | ND | ND | ND | ND | ND | ND | ND | ND | ND |

**Refer Annexure-XI for analysis report and Form-1**

**Sewage management section**

| | | |
|---|---|---|
| 42 | Quantity of sewage generated (KLD) | 20 |
| 43 | STP status | Installed (Yes/No): Yes<br>Operational (Yes/No): Yes |
| 44 | Flow meter/ v-notch installed at inlet of STP | Yes/No: Yes<br>Type: mechanical/digital/electromagnetic etc.<br>Calibration details: mechanical<br>Instantaneous Reading: NA $m^3$/hr<br>Totalizer Reading: 394. 33 $m^3$<br>Logbook maintained: No (if yes, last three months logbook data should be collected) |

<table>
<tr><td>45</td><td>Flow meter/ v-notch installed at outlet of STP</td><td colspan="2">Yes<br>Type: mechanical<br>Calibration details: Not provided<br>Instantaneous Reading: NA $m^3$/hr<br>Totalizer Reading: 347 $m^3$<br>Logbook maintained: No (if yes, last three months logbook data should be collected)</td></tr>
<tr><td>46</td><td>Quantity of treated sewage (KLD) (To be calculated from STP inlet logbook)</td><td colspan="2">Logbook not maintained</td></tr>
<tr><td rowspan="2">47</td><td rowspan="2">Quantity of recycled treated sewage (KLD) (Total of last three months)</td><td>In production</td><td>Others</td></tr>
<tr><td>NA</td><td>NA</td></tr>
<tr><td>48</td><td>Quantity of treated sewage discharged (KLD)<br>(To be calculated from ETP outlet logbook)-</td><td colspan="2">Logbook not maintained</td></tr>
<tr><td>49</td><td>Mode of discharge</td><td colspan="2">Surface pipeline</td></tr>
<tr><td>50</td><td>Discharge in</td><td colspan="2">land</td></tr>
<tr><td>51</td><td colspan="3">Characteristics of Sewage
<table>
<tr><th>Parameter</th><th>STP inlet</th><th>STP outlet</th><th>Discharge Norms (As per consent)</th><th>Compliance Status</th></tr>
<tr><td>pH</td><td>NA</td><td>NA</td><td>NA</td><td>NA</td></tr>
<tr><td>BOD (mg/l)</td><td>NA</td><td>NA</td><td>NA</td><td>NA</td></tr>
<tr><td>COD (mg/l)</td><td>NA</td><td>NA</td><td>NA</td><td>NA</td></tr>
<tr><td>TSS (mg/l)</td><td>NA</td><td>NA</td><td>NA</td><td>NA</td></tr>
<tr><td>TDS (mg/l)</td><td>NA</td><td>NA</td><td>NA</td><td>NA</td></tr>
<tr><td>Colour (PCU)</td><td>NA</td><td>NA</td><td>NA</td><td>NA</td></tr>
</table></td></tr>
</table>

✪ ***Observations:***

1. The installed distillery capacity is 80 KLPD having facility for production of only RS to Fuel Ethanol.
2. Unit has obtained CTO for 110 KLPD on B-heavy/syrup under NIPL.
3. The distillery unit is operational during the day of inspection along with its installed ETP system for achieving zero liquid discharge (ZLD) of spent wash being produced during alcohol production.
4. The installed distillery plant is based on fed batch type fermentation system and MPR distillation.

5. During the day of visit distillery plant is operational at 79 KLD for ethanol production using B-Heavy molasses as a feedstock. The distillery unit is attached with sugar mill having capacity of 5000 TCD.
6. Unit has obtained CTO for enhanced distillery capacity operation 110 KLPD from SPCB under NIPL.
7. Unit has obtained NOC from CGWA for two tubes well. However, only one tube well is found in the distillery premises same is being used for abstracting ground water to meet process water requirement.
8. The magnetic type flow meter with totalizer is installed on that tube well and unit is maintaining the logbook for the same.
9. The alcohol concentration in fermented wash is observed @ 12.00 to 12.50 % (v/v).
10. Unit have installed integrated MEE (FF-9) followed by bio-composting and achieving ZLD of spent wash.
11. Unit is installing incineration boiler having capacity of 52 TPH. The commissioning of this boiler is completed up to about 75-80% and unit will switch over from bio-composting to incineration may be in April-2022. Currently, distillery unit is adopting MEE followed by bio-composting route for achieving ZLD of SW.
12. Covered bio-compost yard of total 12 Acre including ready bio-compost storage yard was in used during the day of inspection.
13. The mass flow meter with totalizer is installed at analyzer bottom and same is being used as MEE feed. The raw spent wash is fed to MEE having design capacity of 2950 m3/day.
14. Distillery unit has installed mass flow meter with totalizer at MEE feed, Conc. spent being produced through MEE for measurement of conc. spent wash being fed to MEE plant and for measurement of Conc. spent wash produced through MEE respectively. Both these flow meters are connected to SPCB/CPCB online server.
15. Distillery unit has total one lagoon which is backside of distillery premises. The capacity of this lagoon is 19200 $m^3$. This lagoon is used for storage of Conc. spent wash. During the day of inspection, its lagoon is filled with Conc. Spent wash up to about 45-50%. From this lagoon conc. spent wash is transferred through pump to Bio-compost yard.
16. Unit has installed mass flow meter at conc. spent wash being transferred to compost yard and same is connected to SPCB/CPCB online server.
17. The sample is collected from this lagoon.
18. Two PTZ 360° camera is installed from this one camera is covering lagoon and second camara is covering bio-compost yard and these both cameras are connected to SPCB/CPCB online server.

**19.** For the measurement of process condensate in MEE plant, unit has installed digital type magnetic flow meter with totalizer.

**20.** Unit has installed RO based CPU for treatment of process waste such as process condensate, spent lees from the rectifier as well as non-process waste streams such as cooling water blowdown, waste wash water, water treatment plant wastewater and boiler blow down.

**21.** This process condensate treatment unit is having installed capacity of 720 $M^3$/day. Magnetic type flow meter with totalizer is installed at inlet and outlet CPU and two stage RO based CPU plant. Unit has not installed flow meter for measurement of reject generation from RO. Reject is being fed to MEE plant (82 m3/day).

**22.** The distillery unit is maintaining all the ETP logbooks such as MEE, CPU and bio-compost and conventional boiler ash disposal.

**23.** The distillery unit has installed conventional boiler having capacity of 25 TPH boiler (sugar cane bagasse fired boiler) with ESP as APCD and provide 72 M high chimney at boiler flue gas outlet. The required quantity of steam for process application is produced through the same boiler.

**24.** The online stack monitoring system installed for 25 TPH boiler is connected to State and Central Pollution Control Board servers and were working satisfactorily during our visit.

**25.** To fulfill process power requirements, unit is consuming power from sugar Co-gen plant. Unit has installed one DG set having capacity of 1200 KWh and provided stack at its outlet.

**26.** Distillery unit has installed total 04 piezometers. Out of that (02) are installed in the distillery premises and other (02) piezometers are installed in bio-compost yard to monitor ground water level. All piezometers are connected to SPCB/CPCB online server.

**27.** Unit has not installed $CO_2$ plant.

**28.** Unit has installed STP having capacity of 20 $M^3$/day.

**29.** Unit has adopted rain water harvesting system (rain water harvesting pond) in the distillery/bio-compost yard premises.

**30.** Unit has constructed HWM storage room and keeping all HW in the lock and key. Unit is recycling the plastic waste through authorized agency.

**31.** Boiler ash disposal is also doing through authorized agency and maintaining records in logbook.

**32.** Unit has not provided scraped yard in the distillery premises; scrape material is laying on the open ground.

**33.** Unit has not installed section wise separate energy meter in distillery unit or ETP.

**34.** Housekeeping in boiler and main gate is very poor. There are no roads and it was observed that rain water and low strength effluent is laying in this area.

| |
|---|
| 35. Unit has not installed OCMS at CPU outlet. |
| ✪ *Recommendations/Suggestion:* |
| 1. Unit should keep recording proper logbook for evaporation and CPU unit.<br>2. Unit should improve housekeeping in fermentation house.<br>3. Unit should maintain logbooks for STP. |
| ✪ *Compliance Status (Complied/ Non-Complied/ Closed): Complied* |

**Inspection team details:**

| Sr. No. | Technical institute officials | Designation | Organisation | Signature with date |
|---|---|---|---|---|
| 1 | Avinash B. Deshmukh | Scientist, Dept. of Alcohol Tech. & Biofuels | VSI, Pune | Deshmukh 29/03/2022 |
| 2 | Dr. R. V. Burase | Technical Officer, Dept. of Alcohol Tech. & Biofuels | VSI, Pune | for, 29/03/2022 |

## 14. ANNEXURES

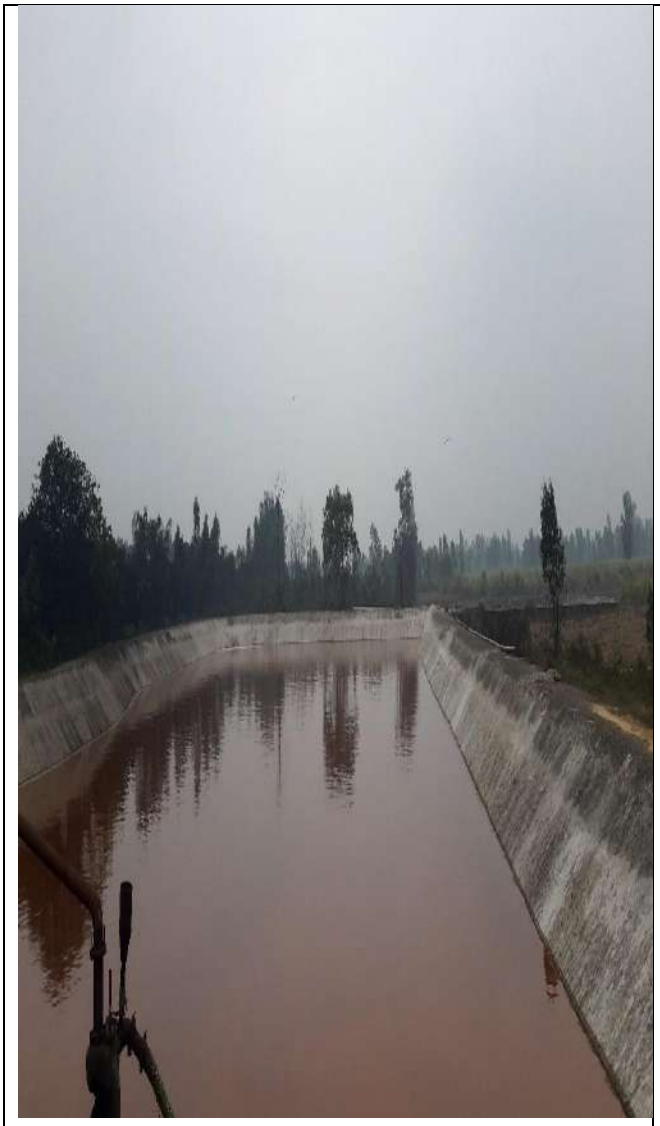
- **Name and contact details of the vendor who has supplied and commissioned the on-line monitoring system. Refer Annexure- XIII**
- **Problems faced in maintaining the continuity of on-line monitoring system. - No**
- **Green belt surrounding bio-compost yard (Photographs). - Yes**
- **Whether the recipient drains/rivulets and their u/s & d/s locations in consultation with concerned State Pollution Control Board (SPCB), for monthly monitoring to ensure ZLD has been identified? (Yes/No). Yes**
- **Material and mass balance of your total distillery plant operations including ETPs showing ZLD. Refer Annexure- XIV**
- **Also indicate how your distillery unit is achieving steam and power balance. Refer Annexure-XIV**
- **Environment Management Cell-Mo Ms and necessary documents. -Not provided**
- **EC, Consent to Operate, Directions received and related documents. - Refer Annexure-I, II and III.**
- **Water conservation measures taken report (rain water harvesting etc.). -Yes**

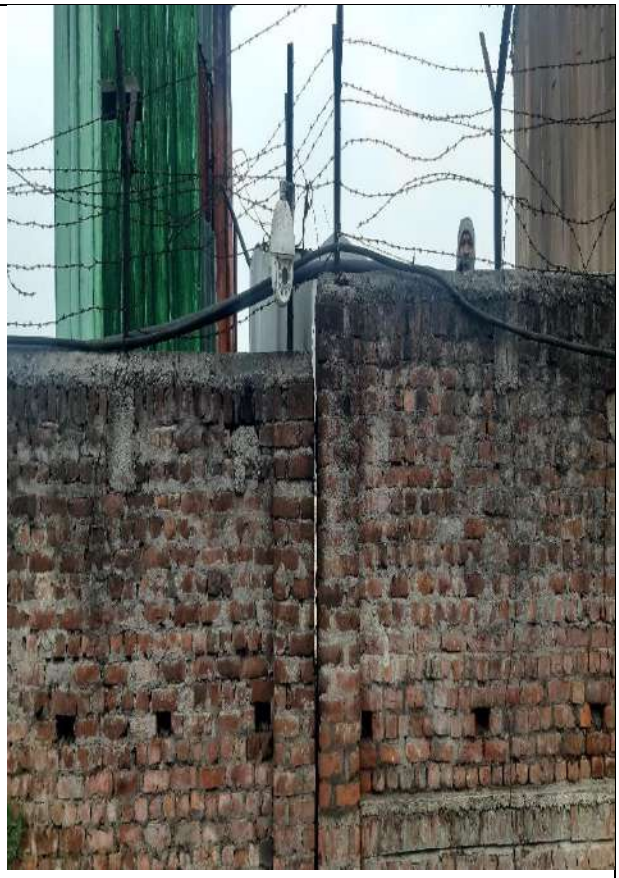
## Plant Photographs

| Fermentation House | Borewell Flow meter |
| --- | --- |
| | |
| **Distillation Plant** | **MEE Mass flowmeter** |

| | |
|---|---|
| | |
| **STP plant** | **RO-Based CPU** |
| | |
| **Flow meter at STP** | **Covered Bio-compost** |

| | |
|---|---|
| | |
| **Ready Bio-compost** | **STP** |
| | |
| **Spent wasah storage Lagoon** | **MWM storage Room** |

| | |
|---|---|
|  | |
| **Online Piezo Meter** | **On line camera covering Soent wash storage lagoon** |

| | |
|---|---|
| |  |
| **Material Stock Yard** | **Rain water harwesting Pit** |
| | |

**Gardening in the plant premises**

**Annexure 11a**

Annexure – II G

# INDIA NON JUDICIAL

## Government of Uttarakhand

### e-Stamp

सत्यमेव जयते

| | | |
|---|---|---|
| Certificate No. | : | IN-UK258909532690047 |
| Certificate Issued Date | : | 04-Jun-2021 10:58 AM |
| Account Reference | : | NONACC (SV)/ uk1238004/ KASHIPUR/ UK-UN |
| Unique Doc. Reference | : | SUBIN-UKUK12380045555394878000T |
| Purchased by | : | INDIA GLYCOLS LIMITED |
| Description of Document | : | Article Miscellaneous |
| Property Description | : | N A |
| Consideration Price (Rs.) | : | 0 (Zero) |
| First Party | : | INDIA GLYCOLS LIMITED |
| Second Party | : | NA |
| Stamp Duty Paid By | : | INDIA GLYCOLS LIMITED |
| Stamp Duty Amount(Rs.) | : | 100 (One Hundred only) |

Please write or type below this line

INDIA GLYCOLS LIMITED * KASHIPUR *

RAGHAV ASSOCIATES

Statutory Alert:

1. The authenticity of this Stamp certificate should be verified at 'www.shcilestamp.com' or using e-Stamp Mobile App of Stock Holding. Any discrepancy in the details on this Certificate and as available on the website / Mobile App renders it invalid.
2. The onus of checking the legitimacy is on the users of the certificate
3. In case of any discrepancy please inform the Competent Authority.

This Agreement for supply of slop ash is entered on 04th day of June, 2021 ("**Commencement Date – 1st April 2021**") between

1. **M/s. INDIA GLYCOLS LIMITED**, having its registered office at A-1, industrial area, Bazpur road, Kashipur Distt. Udham Singh Nagar, Uttarakhand - 244713 ((hereinafter referred to as the "**Seller**" or "IGL" which expression shall unless excluded by or repugnant to the context shall be deemed to include its successors in business and assignees ) as the "**FIRST PARTY** ;

AND

2. **M/s Raghav Associates**, a proprietor ship company registered under Companies Act, 1956 and having its registered office at Shop no 5, Dabir Park Roha Murud Road Tal Roha Distt Raigad - 402109, Maharashtra (hereinafter referred to as the 'Buyer" or as "**RA**" which expression shall unless excluded or repugnant to the context shall be deemed to include its successors in business and assignees) as the " **SECOND PARTY**"

IGL and RA shall be collectively referred to as the "Parties, and individually as the "Party".

## RECITALS

I.) WHEREAS "IGL" has slop fire boilers /power plant for steam generation at its works at Kashipur. The generation of steam by slop fire boilers leads to the generation of residue, commonly known slop ash.

II.) IGL is engaged inter alia in the business of sale of slop ash, being generated through its power plant and process boilers in the Kashipur complex.

III.) IGL also developed facility for storage, loading and distribution of slop ash (hereinafter referred as the "**Facility**")

IV.) AND WHEREAS "RA" is engaged into business of manufacturing and or marketing of various grades of fertilizers and micronutrients and providing farm advisory services, and "RA" has approached IGL, and being desirous and interested in lifting/utilizing the slop ash of "IGL" for long term & to use the said slop ash in the manufacturing of fertilizers at its fertilizers manufacturing unit located in Roha (Raighad) or any other grinding units and has accordingly approached the "IGL" for permitting same, which has been accepted by "IGL", to allow "RA" to collect and transport the slop ash from Kashipur.

V.) AND WHEREAS both parties have also agreed to enter into an agreement on mutually agreed terms and conditions in token thereof.

**NOW THEREFORE IN CONSIDERATION OF THE MUTUAL COVENANTS, UNDERTAKINGS AND PROMISES SET FORTH HEREIN, THE PARTIES AGREE TO AS FOLLOWS:**

INDIA GLYCOLS LIMITED KASHIPUR

RAGHAV ASSOCIATES

**AGREEMENT**

**BETWEEN**

**INDIA GLYCOLS LIMITED (IGL)**

**AND**

**RAGHAV ASSOCIATES (RA)**
**ROHA, RAIGAD MAHARASHTRA, INDIA**

**For**

**SUPPLY OF SLOP ASH**

**From**

**INDIA GLYCOLS LIMITED (IGL)**
**A-1, INDUSTRIAL AREA, BAZPUR ROAD,**
**KASHIPUR DISTT. UDHAM SINGH NAGAR,**
**UTTARAKHAND - 244713**

**Dated: Wednesday, 04 JUNE, 2021**

INDIA GLYCOLS LIMITED * KASHIPUR *

RAGHAV ASSOCIATES

## ARTICLE 4
## ANNUAL CONTRACTED QUANTITY

**4.1.** Subject to the other terms and conditions of this Agreement and availability of adequate quantity of slop ash, RA has desired to take away contracted quantity of entire slop ash generated (Potash Grade) i.e 60 MT Per day.

4.1.1. IGL agrees to allocate slop ash to RA on priority based on indicative lifting plan submitted by RA on fortnightly basis.

4.1.2. Out of the Annual Contractual Quantity as per Article 4.1 above, RA shall lift slop ash regularly.

4.1.3. The Parties shall have the option to enhance/ reduce the Annual Contracted Quantity, subject to availability and mutual written consent of the Parties.

## ARTICLE 5
## COMMERCIAL TERMS

**5.1.** **Price:** In consideration of RA agreeing to take away annual contracted quantity of slop ash per annum as agreed hereinabove, IGL hereby agrees to supply the agreed annual contracted quantity of slop ash to RA at price of Rs.50 per ton. In case of, if any, all statutory taxes, duties, levies etc., shall be payable by RA at actual.

**5.2** **Commodity/Product & Specifications:** The "slop ash" required by the RA is slop ash as would be generated from power and process boilers from "IGL". IGL will be dedicating their boilers i.e. slop fire boilers for delivering entire slop ash quantity generated to RA.

**5.3** **Quality:** The indicative quality of slop ash to be minimum 20% potash. IGL has state of the art QC lab to analyze potash content. However, in case of differences in potash results given by IGL lab and RA lab, joint analysis to be conducted at RA lab or at IGL lab.

**5.4** **Lifting Commitment:** RA will ensure the regular lifting of Slop ash from the ash silos, so that no point of time IGL's boilers and plant operations are affected. Total slop ash generated (potash grade) at IGL is approx. 60 MT/day. In this RA has to arrange lifting of entire qty. of potash grade ash generated at IGL. IGL shall charge cost of slop ash for entire qty. generated (potash grade only) in case RA is not able to lift the committed qty. and IGL has to dispose off the same then IGL shall not return advance money deposited (mention in S.No 13).

**5.5** The clause 5.4 shall not be applicable during specific period of route closure due to Kawar yatra/ Kumbh snan etc. and also during annual maintenance shut/unforeseen breakdown at RA's plant. RA shall inform IGL about such planned shut downs and route related stoppages with duration of stoppage well in advance i.e. minimum four working days before so that IGL may organize alternative arrangement for slop ash lifting. It also covers in the same manner for any preventive / sudden plant shutdown taking place at IGL and affecting slop ash generation quantity.

INDIA GLYCOLS LIMITED * KASHIPUR *

RAGHAV ASSOCIATES

## ARTICLE 1
## *DEFINITIONS AND INTERPRETATIONS*

**1.1.** The following terms when used in capitalized manner in this Agreement shall have meaning as specified below:

1.1.1. **"Agreement"** shall mean this agreement for supply of slop ash and all agreements between the Parties supplemental to or in amendment or confirmation of this Agreement.

1.1.2. **"Business Day"** means a working day at IGL - Kashipur other than a Sunday and a holiday declared by IGL including any holiday declared subsequently after publication of it list of holidays applicable to IGL - Kashipur.

1.1.3. **"Annual Contracted Quantity (ACQ)"** means yearly minimum slop ash quantity, which shall be made available at the Delivery Point (as defined below) by IGL and to be lifted and transported by RA, during the term of this Agreement.

1.1.4. **"Commencement date"** shall mean date following the Effective Date when RA starts lifting and transportation of slop ash from the Delivery Point.

1.1.5. **"Effective Date"** shall mean the date of signing of the Agreement by both the Parties.

1.1.6. **"Delivery Point"** shall mean the nozzles / outlets below the slop ash silos situated at plant premises. (To load slop ash into ~~bulkers /~~ closed body trucks placed by RA or ~~bulkers /~~ closed body trucks placed by authorized transporters of RA).

## ARTICLE 2
## SCOPE AND PURPOSE

**2.1.** IGL offers to supply the Annual Contracted Quantity (as defined at Article 4 below) of slop ash, to be generated from its facility to RA /associates of RA for its captive consumption or any other allied business.

**2.2** RA shall arrange for onward transportation of slop ash from Delivery Point to its own plant/ its subsidiary plant at its own cost and subject to the compliance of applicable law.

## ARTICLE 3
## TERM

**3.1.** The Agreement shall come into effective on the Effective Date i.e. 04th June '2021, and will remain valid for a period of 01 (One) years, unless terminated in accordance with Article 8 mentioned herein below. At the end of the Term, this Agreement can be renewed on fresh terms and conditions including Price consideration as may be mutually agreed upon by both RA and IGL.

INDIA GLYCOLS LIMITED KASHIPUR

RAGHAV ASSOCIATES

## ARTICLE 8
## TERMINATION

**8.1.** **Termination:** Either party can terminate the contract by giving 2 months' notice. However notwithstanding anything hereinabove contained, in the event of IGL or RA being adjudicated insolvent, or being a company resolved or ordered to be wound up, then in such event, the order shall automatically stand terminated and in event of breach, default or violation of any of the terms hereof by IGL or RA for any reason whatsoever, both parties shall be at liberty to terminate this order forthwith and without prejudice to all other rights and claims of other party under this order or otherwise in law against the contract / order and either party shall not be entitled to any claim for loss, compensation or damages arising out of any such early termination.

## MISCELLANEOUS

**9 Contract Coordination**

IGL and RA shall appoint its authorized representative to co-ordinate all the issues related to this Agreement.

**10 Arbitration**

In the event of any Dispute or differences arising out of relation to under or in respect of this contract the parties, hereto, the same shall be referred at written request of either party to a sole arbitrator to be appointed jointly by the Chief Executive Officer of India Glycols Ltd., Kashipur, Uttarakhand and competent authority of RA, Roha Dist. (raigad) in accordance with Arbitration and Conciliation Act, 1996 and the Rules, if any, made there under and any statutory modification or reenactment thereof.

Any arbitration award made in such arbitration proceeding shall be final and binding on both the parties.

**11 Governing Law and Jurisdiction**

This contract shall be in all respects be deemed and constructed in conformity with Indian Laws and will be subjected to jurisdiction of Uttarakhand Courts only.

**12 Notices**

All notices, requests, demands and other communications which are required or may be given pursuant to the terms of this Agreement shall be addressed as follows:

**If to RA**

To,
Alok Malani
Raghav Associates
shop no 5,dabir park,
tal-roha,
dist-raigad-402109

**If to IGL**

To,
Executive Director
IGL, A-1, Industrial Area,
Bazpur Road, Kashipur
Distt. Udham Singh Nagar,
Uttarakhand - 244713

INDIA GLYCOLS LIMITED * KASHIPUR *

RAGHAV ASSOCIATES

## ARTICLE 6
## OBLIGATION OF THE PARTIES

**6.1.** **Loading:** Loading of the slop ash shall be arranged by IGL from the silo into the bulkers, close body trucks/trailers as provided by the Transporters authorized by the RA.

The parties hereby agree that the slop ash shall be loaded by supplier at the delivery point where RA shall place its bulkers / closed body trucks to collect slop ash at its own cost, supplier shall bear all cost for loading on the bulkers/close body trucks.

**6.2** **Transportation**: The authorized transporter/Truck drivers/ helpers etc. of RA will have to adhere to all the safety norms as laid down by IGL from time to time. RA shall ensure safety of all its personal deputed for loading and taking away the slop ash from Kashipur in accordance with this Agreement.

**6.3** The parties hereby understand and agree that IGL responsibility for any duty, obligation or liability of, either created under this Agreement shall be limited to the loading of the slop ash to the bulkers / closed body trucks placed by RA at the delivery point and RA shall be solely responsible for any duty, obligation, responsibility or liability of such slop ash once the bulker / closed body trucks etc. are loaded at the Delivery Point

**6.4** The unit of measurement of each consignment of the slop ash shall be KG / metric tonnes. The quantity of slop ash will be measured at IGL's weighbridge available within the facility shall be final and binding on RA.

**6.5** RA shall be responsible to obtain, renew and keep in force all consent, permissions, licenses and approvals as applicable under the Applicable law to handle, off take, transport, and store and or use the slop ash throughout the Term including any extension thereof.

**6.6** All measures would be taken by RA as per notifications issued by the State Pollution Control Board and/or the Ministry of Environment & Forests, Government of India, to avoid pollution while transportation of slop ash within the premises of the facility and during the transit time.

**6.7** The responsibility of the materials and equipment brought by RA will remain with RA and any claim of whatsoever nature due to any loss or otherwise will not be entertained under this Agreement.

## ARTICLE 7
## CONFIDENTIALITY

**7.1.** Each of the Parties undertakes that it will not, during and for a period of 01 (One) years after the termination of this Agreement, make any announcement or disclosure in respect of the subject matter of this Agreement or the terms and conditions thereof or of any document executed or delivered pursuant hereto, unless the other Party shall have given their respective prior written consent to such announcement or disclosure and the contents thereof.

INDIA GLYCOLS LIMITED * KASHIPUR *

RAGHAV ASSOCIATES

Notice if delivered by hand shall be deemed to have been received on the date of delivery and if sent be registered post, shall be deemed to have been received upon the production of the postal receipt of payment for the registered post.

**12.1 Entire Agreement**

This Agreement constitutes the entire agreement and understanding between the parties and supersedes all prior agreements, contract and or understanding of the Parties, whether oral and written, with respect to such subject matter, if any.

**13 Advance Money Deposit**

RA shall submit advance money deposit of Rs. 50000.00 (Fifty Thousand Only) in favor of IGL which will be effective during the tenure of agreement period. Advance money can be en-cashed by IGL on breach of specified conditions as stipulated agreement and such specified conditions should be agreed by RA & IGL.

At any point of time, RA will maintain minimum Rs. 25000.00 (Twenty Five Thousand Only) clear balance with IGL towards regular slop ash lifting for ensuring uninterrupted deliveries from IGL. This will apart from funds remitted by RA for slop ash lifting.

**14 Force Majeure**

The agreement is subject to force majeure conditions i.e. if, at time during subsistence of the agreement, the parties here to the agreement, because of Force Majeure, which shall mean natural disasters, earth quakes, floods, fire, explosion, accidents, epidemics, quarantine restrictions or any other act of public enmity including but not restricted to any business compulsion or shutdown /breakdown of plant operation, block of passage, revolution, riots, civil commotion, ware, hostility, sabotage, quarantine restrictions, Act of God and act of Government and/or restrictions directly affecting the lifting of slop ash, epidemics, strikes, embargoes, save those specifically stated herein, it will not amount to non-fulfillment of the obligations under this agreement and the parties shall have no right to claim damages from each other and then the date of fulfillment of obligations shall be postponed during the time when such circumstances are operative. The party claiming Force Majeure shall notify the other party within seven working days after claiming party has notice thereof. The other party indemnify that NO CLAIM will be made in case of non/short supply or non/short lifting due to any unforeseen & non-intentional causes/circumstances.

**15 Amendment**

That this agreement can be amended or altered at any time with mutual consent of both the parties in writing by executing supplementary agreement.

That the parties hereby declare that they have requisite authority to enter into the present Memorandum of Understanding on behalf of their company.

INDIA GLYCOLS LIMITED * KASHIPUR *

RAGHAV ASSOCIATES

**Execution Page:**

**IN WITNESS WHEREOF** the Parties hereto have set and subscribed their hand on the day and the year first herein above mentioned:

**For INDIA GLYCOLS LIMITED (IGL)**

Signed and delivered by the

Signature: _____

Name: Dr Ashutosh Gautam

Designation: HOD (Environment)

**For RAGHAV ASSOCIATES (RA)**

Signed and delivered by the

Signature: _____

Name: Pallav Malani

Designation: Proprietor

**Annexure 11b**

Annexure-11 b

Annexure-05

# INDIA GLYCOLS LIMITED

Works & Registered Office : A-1, Industrial Area, Bazpur Road, Kashipur - 244713, Distt. Udham Singh Nagar (Uttarakhand)
Phone : +91 5947 269000 / 269500, Fax : +91 5947 275315, 269535
Website : www.indiaglycols.com

**IGL/ACCTS/ASH/2020-22** **Dated: 01/04/2020**

M/S Sunil Kumar
(Coal Ash Contractor),
Bazpur road
**KASHIPUR – 244713(U.K.)**

Kind Attn. : **Mr. Sunil Kumar (Mobile No. 9837074562)**

Dear Sir,

Re: Disposal of Fly Ash/ Bed Material, slop ash

This has reference to your offer and subsequent discussions regarding the subjected matter. We are pleased to award you the contract for disposal of fly ash, bed material fly Ash from our factory in construction activities, Cement Units, in agriculture activity, or as a soil conditioner on the following terms and conditions.

**VALIDITY**

This contract will be valid for a period of two year starting **from 01.04.2020 to 31.03.2022** and the same may be extended for further period as per mutual agreement on the same terms and conditions.

**SCOPE OF WORK**

a) To lift/ disposal of entire quantity of Fly Ash, bed material/ slop waste ash on continuous basis round the clock means 24 hours in a day as per instructions issued by our officials & that ash will be disposed accordingly without any pollution hazard. All the loaded vehicles should be properly covered with the hard cloth/ plastic sheet.

b) You shall keep deployment of sufficient no's of tractor with trolley, dumper and trucks round the clock on 24 x 7 bases in running conditions which includes all the things required such as drivers, Unloading laborers, supervisors, repair and maintenance, diesel etc. Unloading and transportation of above from our factory premises at your own cost.

c) Lifting/ disposal of the above outside the factory premises on regular uninterrupted basis and disposed the same it at a distance of at least 3KMs away or Cement Units. All responsibility whatsoever, for such disposal/ dumping will be yours.

d) Fly ash shall be used either in construction activities, Cement Units, in agriculture activity, or as a soil conditioner and its compliance will be your sole responsibility.

e) Lifting/ disposal of above ashes may be interchanged by any of contractor on month to month / fortnightly / daily basis by us without any objection from your end.

f) Ash should be fully filled up to the neck/ brimful capacity of the trolley/dumper in proper conditions without any spillage in the IGL premises. If the ash found less filled as cited above, then in this case our security will send back the vehicle to refill the ash as required.

g) Ash should be lifted only in big size of trolley/ dumper. Our security/ authorized persons have the right to check their random weighment, if less ash found in any vehicles, then IGL will take penal action as deemed fit without any challenge by you. All the vehicles should be covered properly by tarpaulins after ash filled to avoid any spillage en-route.

You shall keep sufficient vehicles for supply to Cement Units and with your land filled space at outside locations, all times to avoid ash lifting related any mishap/ problem during festivals/ rainy/ storms and bad weather conditions. Please keep & advise to your team accordingly.

**BILLING**

For deployment the above, IGL shall pay disposal charges at the rate of Rs. 30/- per MT for inside IGL campus, Rs. 60/- per MT for Dabhora /outside IGL campus at your own arrangements of the vehicles. In case any problem in weighment due to any reason IGL will pay Rs. 300/- per vehicle for inside IGL campus and Rs. 600/- for Dabhora and outside IGL campus for soil enrichment at your own. For Ash Supply to Cement units amount will be charged from you depending on the distance Rs. 200/- PMT (+) (-) 20%. Disposal charges are to be calculated on the basis of no of round/ trip reported by the security Deptt on daily basis. All statutory applicable taxes/ duties, at present or in future shall be your responsibility to comply and deposit. In case you failed to pay the statutory dues same shall be debited to your account for recovery for recovery and deposition by IGL.

a) The prices are EX- Factory IGL, Kashipur that is IGL Gate-6.

**PAYMENT**

Payment will be made through cheque within one month from the date of receipt of verified bill from our boiler department.

**SECURITY DEPSOSITS**

You shall deposit Rs.25,000/- by way as interest free security with us, which will be refunded after satisfactory completion of contract period.

**OBLIGATION**

Works & Registered Office : A-1, Industrial Area, Bazpur Road, Kashipur - 244713, Distt. Udham Singh Nagar (Uttarakhand)
Phone : +91 5947 269000 / 269500, Fax : +91 5947 275315, 269535
Website : www.indiaglycols.com

a) You will be liable for observation / implementation / compliance's of the statutory nature or requirement under Labour, Factory, Civil, pollutions, consumer forums, medicals or any mishaps, which occurs at the time of lifting/ disposal of any above type of ash and Criminal laws etc, whatsoever is applicable to you and your workers as a contractor. All the responsibility of any kind/ manner for disposal of ash will be yours.

b) In case the company has to pay any amount on your behalf for any reasons towards penalties, dues on your part arising out of this contract, the same shall be recovered from you.

**GRIEVANCES**

a) The Company's policy prohibits its employees from accepting bribes, obligatory gifts & hospitality etc. (the favours) from any Vendors/Contractors of the Company directly or indirectly. However, during the currency of this arrangement/agreement, if any Vendor/Party/Contractors comes across any event wherein any official of India Glycols Limited seeks any favor whether financial and/ or non-financial from Vendor/Party/Contractors, such incident should be immediately reported to the following official of the Company:-

Mr. Sudhir Agarwal, (Executive Director)
E-mail ID: grievances.ksp@indiaglycols.com
India Glycols Limited,
A-1, Industrial Area,
Bazpur Road,
Kashipur, Distt. Udham Singh Nagar,
Uttarakhand-244713

b) Similarly if any vendor/contractor/ party is found offering any favour, bribe, gift, hospitality etc. to any official of the Company, same shall be treated as breach of this contract and accordingly action will be taken against the contractor/ vendor/ party.

**COMPLIANCE/OBLIGATIONS: MANAGEMENT SYSTEMS.**

That the vendor/ contractor/ party shall comply with all Compliances/ requirements/ obligations under SA 8000 -2014, IMS and other related audits in operation and future additions/amendments. Company shall have the right to enquire into and decide all complaints on such matters.

**PENALTY**

a) If any time, the above ashes/ material are not removed to our entire satisfaction, we reserve the right to **get the same removed through any other agency by paying additional cost over and above the disposal charges payable to you, then in this case 100% cost of additional disposal charges shall be debited to your account.** In case of breach of any of the terms and conditions of this contract we shall realize from you the losses that we suffered due to your failure in carrying out this contract.

**TERMINATION**

Works & Registered Office : A-1, Industrial Area, Bazpur Road, Kashipur - 244713, Distt. Udham Singh Nagar (Uttarakhand)
Phone : +91 5947 269000 / 269500, Fax : +91 5947 275315, 269535
Website : www.indiaglycols.com

Either party can terminate this contract at any time by giving 60 days notice in advance.

**GENERAL**

You shall submit documentary proof of any statutory registration/ compliances required by you; as and when required by us.

This contract is being issued to you in duplicate; please sign one copy of the same as acknowledgement for our records.

Thanking You,

Yours Faithfully,

For India Glycols Limited

Authorised Signatory

UN Conditionally Accepted

Sunil Kumar

for **SUNIL KUMAR**

Annexure 11c

Annexure - II C

भारत सरकार
जल शक्ति मंत्रालय
जल संसाधन, नदी विकास
और गंगा संरक्षण विभाग
केन्द्रीय भूमि जल प्राधिकरण
Government of India
Ministry of Jal Shakti
Department of Water Resources,
River Development & Ganga Rejuvenation
Central Ground Water Authority

# (भूजल निकासी हेतु अनापत्ति प्रमाण पत्र)

# NO OBJECTION CERTIFICATE (NOC) FOR GROUND WATER ABSTRACTION

| | | | |
|---|---|---|---|
| Project Name: | M/s India Glycols Ltd (Ethanol Plant) | | |
| Project Address: | A1, Industrial Area, Bazpur Road, Kashipur, Udham Singh Nagar, Uttarakhand | | |
| Village: | Kashipur (MB) | Block: | Kashipur |
| District: | Udam Singh Nagar | State: | Uttarakhand |
| Pin Code: | 244713 | | |
| Communication Address: | M/s India Glycols Ltd (Ethanol Plant), Plot No. A1, Industrial Area, Bazpur Road, Kashipur, Udham Singh Nagar, Uttarakhand - 244713 | | |
| Address of CGWB Regional Office : | Central Ground Water Board Uttarakhand Region, 419-A, Kanwali Road, Baluwala , Near Urja Bhawan, Dehradun, Uttarakhand – 248001. | | |

| | | | | | |
|---|---|---|---|---|---|
| 1. | **NOC No.:** | CGWA/NOC/IND/REN/1/2020/5750 | | | |
| 2. | Application No.: | 21-4/81/UT/IND/2008 | 3. | Category: (GWRE 2017) | Semi critical |
| 4. | Project Status: | Existing Project | 5. | NOC Type: | 1st Renewal |
| 6. | **Valid from:** | 26/10/2020 | 7. | **Valid up to:** | 25/10/2023 |

8. Ground Water Abstraction Permitted:

| Fresh Water | | Saline Water | | Dewatering | | Total | |
|---|---|---|---|---|---|---|---|
| m³/day | m³/year | m³/day | m³/year | m³/day | m³/year | m³/day | m³/year |
| 2393.63 | 788453.18 | | | | | 2393.63 | 788453.18 |

9. Details of ground water abstraction /Dewatering structures

| | Total Existing No.:3 | | | | | Total Proposed No.:0 | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | DW | DCB | BW | TW | MP | DW | DCB | BW | TW | MP |
| Abstraction Structure* | 0 | 0 | 0 | 3 | 0 | 0 | 0 | 0 | 0 | 0 |

*DW- Dug Well; DCB-Dug-cum-Bore Well; BW-Bore Well; TW-Tube Well; MP-Mine Pit

10. Ground Water Abstraction/Restoration Charges paid (Rs.): 5913397.00

11.

| Number of Piezometers(Observation wells) to be constructed/ monitored & Monitoring mechanism. | No. of Piezometers | Monitoring Mechanism | | |
|---|---|---|---|---|
| | | Manual | DWLR** | DWLR With Telemetry |
| **DWLR - Digital Water Level Recorder | 2 | 0 | 1 | 1 |

**(Compliance Conditions given overleaf)**
**This is an auto generated document & need not to be signed.**

18/11, जामनगर हाउस, मानसिंह रोड, नई दिल्ली - 110011 / 18/11, Jamnagar House, Mansingh Road, New Delhi-110011
Phone: (011) 23383561 Fax: 23382051, 23386743
Website: cgwa-noc.gov.in

पानी बचाये – जीवन बचाये
SAVE WATER - SAVE LIFE

**Validity of this NOC shall be subject to compliance of the following conditions:**

**Mandatory conditions:**

1) Installation of digital water flow meter (conforming to BIS/ IS standards) having telemetry system in the abstraction structure(s) shall be mandatory for all users seeking No Objection Certificate and intimation regarding their installation shall be communicated to the CGWA within 30 days of grant of No Objection Certificate through the web-portal.

2) Proponents shall mandatorily get water flow meter calibrated from an authorized agency once in a year.

3) Construction of purpose-built observation wells (piezometers) for ground water level monitoring shall be mandatory as per Section 14 of Guidelines . Water level data shall be made available to CGWA through web portal. Detailed guidelines for construction of piezometers are given in Annexure-II.

4) Proponents shall monitor quality of ground water from the abstraction structure(s) once in a year. Water samples from bore wells/ tube wells / dug wells shall be collected during April/May every year and analysed in NABL accredited laboratories for basic parameters (cations and anions), heavy metals, pesticides/ organic compounds etc. Water quality data shall be made available to CGWA through the web portal.

5) In case of mining projects, additional key wells shall be established in consultation with the Regional Director, CGWB for ground water level monitoring four (4) times a year (January, May, August and November) in core as well as buffer zones of the mine.

6) In case of mining project the firm shall submit water quality report of mine discharge/ seepage from Govt. approved/ NABL accredited lab.

7) The firm shall report compliance of the NOC conditions online in the website (www.cgwa-noc.gov.in) within one year from the date of issue of this NOC.

8) The firm shall submit the water audit report in case of water requirement is in excess of 100 m3/day through certified auditors within three months of completion of the same to CGWA.

9) Application for renewal can be submitted online from 90 days before the expiry of NOC. Ground water withdrawal, if any, after expiry of NOC shall be illegal & liable for legal action as per provisions of Environment (Protection) Act, 1986.

10) This NOC is subject to prevailing Central/State Government rules/laws/norms or Court orders related to construction of tube well/ground water abstraction structure / recharge or conservation structure/discharge of effluents or any such matter as applicable.

11) **Firm shall submit Water Audit Report prepared by certified auditors by 31/12/2020.**

**General conditions:**

11) No additional ground water abstraction and/or de-watering structures shall be constructed for this purpose without prior approval of the Central Ground Water Authority (CGWA).

12) The proponent shall seek prior permission from CGWA for any increase in quantum of groundwater abstraction (more than that permitted in NOC for specific period).

13) Proponents shall install roof top rain water harvesting in the premise as per the existing building bye laws in the premise.

14) The project proponent shall take all necessary measures to prevent contamination of ground water in the premises failing which the firm shall be responsible for any consequences arising thereupon.

15) In case of industries that are likely to contaminate the ground water, no recharge measures shall be taken up by the firm inside the plant premises. The runoff generated from the rooftop shall be stored and put to beneficial use by the firm.

16) Wherever feasible, requirement of water for greenbelt (horticulture) shall be met from recycled / treated waste water.

17) Wherever the NOC is for abstraction of saline water and the existing wells (s) is /are yielding fresh water, the same shall be sealed and new tubewell(s) tapping saline water zone shall be constructed within 3 months of the issuance of NOC. The firm shall also ensure safe disposal of saline residue, if any.

18) Unexpected variations in inflow of ground water into the mine pit, if any, shall be reported to the concerned Regional Director, Central Ground Water Board.

19) In case of violation of any NOC conditions, the applicant shall be liable to pay the penalties as per Section 16 of Guidelines.

20) This NOC does not absolve the proponents of their obligation / requirement to obtain other statutory and administrative clearances from appropriate authorities.

21) The issue of this NOC does not imply that other statutory / administrative clearances shall be granted to the project by the concerned authorities. Such authorities would consider the project on merits and take decisions independently of the NOC.

22) In case of change of ownership, new owner of the industry will have to apply for incorporation of necessary changes in the No Objection Certificate with documentary proof within 60 days of taking over possession of the premises.

23) This NOC is being issued without any prejudice to the directions of the Hon'ble NGT/court orders in cases related to ground water or any other related matters.

**(Non-compliance of the conditions mentioned above is likely to result in the cancellation of NOC and legal action against the proponent.)**

# INDUSTRY INSPECTION REPORT (DISTILLERY-MOLASSES BASED)

**Date of Inspection: 05/03/2022**

## 1. General Information

| | | | |
|---|---|---|---|
| 1. | Unit Code | 624 | |
| 2. | a) Name and Address of the unit | India Glycol Ltd, (Distillery Unit) Bazpur road, Kashipur, Distt. U.S. Nagar. (Uttarakhand State) | |
| | b) Coordinates (Latitude & Longitude) in Decimal | Latitude: 29.1794492<br><br>Longitude :79.0081695 | |
| | c) Name of the recipient drain | ZLD unit<br>River Koshi is 3.5 Km from distillery unit | |
| | d) Mode to reach River Ganga (Name of drain → Name of Sub-tributary→ Name of Tributary → River Ganga) | Koshi River → Ramganga River → River Ganga | |
| 3. | Operational Status (Operational/Non-Operational) * | Operational | |
| 4. | Name of Occupier/Contact Person | Designation | Contact No & e- mail |
| | 1. Mr. Sunit Kapila | AGM - Distillery | Contact No. 9690022680,<br>Email - sunit.kapila@indiaglycols.com |
| 5. | Type of Distillery unit | A. Molasses based distillery<br>B. Grain based distillery<br>C. Brewery unit<br>D. Bottling unit | Yes<br>Yes/No<br>Yes/No<br>Yes |

***** Note: If non-operational, specify the reason and attach respective document i.e., CPCB/SPCB closure direction

### A. MOLASSES BASED DISTILLERY

| | | | | |
|---|---|---|---|---|
| 1. | Year of Commissioning | 1989 | | |
| 2. | Standalone/Connected with sugar unit | Standalone | | |
| 3. | Status of consents and authorization* | | Yes/No/Expired/Applied | Validity Date |
| | | Environmental Clearance (EC) | Yes<br>No. J-11011/219/2003-IA. II(I) dated, 11/07/2006<br>***Refer Annexure-I*** | --- |
| | | Air Consent | Ref. No. UKPCB/HO/Con/Con-I- | |

| | | | | |
|---|---|---|---|---|
| | | | 8/2021/09 dated 07/04/2021 ***Refer Annexure-II*** | Valid up to 31/03/2022 |
| | | Water Consent | Ref. No. UKPCB/HO/Con/Con-I-8/2021/09 dated 07/04/2021 ***Refer Annexure-II*** | Valid up to 31/03/2022 |
| | | Haz. Waste Authorization | Ref. No. UKPCB/HO/Con/Con-I-8/2021/09 dated 07/04/2021 ***Refer Annexure-II*** | Valid up to 31/03/2022 |
| | | CGWA NOC | NOC No. CGWA/NOC/IND/REN/1/2020/5750 ***Refer Annexure-III*** | Valid from 26/10/2021 to 25/10/2026 |

***Attach copy of EC, consents and CGWA NOC, if valid.**
**If unit has applied for renewal, then submit copy of application.**

## 2. Fresh water consumption details

| | | | |
|---|---|---|---|
| 1. | Water Supply Source | Borewell | |
| 2. | River | NA | |
| | Flow meter with totalizer installed at line carrying freshwater (Yes/No) | NA | |
| | Actual withdrawal quantity (Average of last three months) | NA | |
| | Instantaneous Reading ($m^3$/hr) | NA | |
| | Totalizer Reading ($m^3$) | Initial | NA |
| | | Final | NA |
| 3. | Borewell/Tubewell | | |
| | No. of Borewell/Tubewell as per CGWA NOC | 03 Nos. | |
| | Actual no. of Borewell found on site | 03 Nos. | |
| | Permitted withdrawal quantity | 2393.63 $m^3$/day or 788453.18 $m^3$/day | |
| | Actual withdrawal quantity (Average of last three months) | 1001.46 $m^3$/day (Average of month Feb. 2022) | |
| | No. of Borewell having flow meter with totalizer installed | 03 | |
| | Instantaneous Reading* ($m^3$/hr) | NA | |
| | Totalizer Reading during visit* ($m^3$) | Initial | BW 1 – 240910 $m^3$<br>BW 2 – 211213 $m^3$<br>BW 3 – 916726 $m^3$ |
| | | Final | BW 1 – 241252 $m^3$<br>BW 2 – 211477 $m^3$ |

| | | | | |
|---|---|---|---|---|
| | | | | BW 3 – 917164 $m^3$ |
| 4. | Type of flow meter installed: mechanical/digital/electromagnetic etc. | | Electromagnetic | |
| | Calibration details | | ***Refer Annexure-IV*** | |
| | Log Book Maintained (Yes/No) | | Yes, ***Refer Annexure-V*** | |
| 5. | Fresh water consumption | | | |
| | | Production process | Domestic | Others |
| | Freshwater consumption (KL) (Average of last three months) | 996.0 KLD | 5.0 KLD | NA |
| | Overall (In KLD & KL/MT of product) | 8.98 | 0.045 | NA |
| | On the previous day of visit (KLD) | 1040.0 KLD | 4.0 KLD | NA |

***If more than one water source, then take reading separately**

## 3. Manufacturing Process & Spent Wash (SW) Management System

| | | | |
|---|---|---|---|
| 1. | Manufacturing Process (Provide line diagram) | Molasses handling→ Fermentation→ Distillation with MSDH→ Final product (RS/ENA/AA) | |
| | Type of Fermentation technology adopted | Fed-batch fermentation | |
| | Type of Distillation technology adopted | MPR distillation with MSDH technology | |
| | Integrated MEE with Distillation (Yes/No) | Yes | |
| 2. | Spent Wash Management Technology | Bio-digester ■<br>RO □<br>MEE ■ | Bio-composting □<br>Incinerator ■<br>CPU (Aeration + Chemical) ■ |
| | Spent Wash Management Sequence | 1) Raw Spent wash (10 %)– Biomethanation -Standalone MEE – Conc. S.W. Storage tank – Incineration Boiler<br>2) Raw Spent wash (90 %) – Standalone MEE – Conc. S.W. Storage tank – Incineration Boiler<br>3) Process condensate – Conventional + Chemical – Treated water recycled in fermentation and cooling tower make-up | |
| 3. | Licensed capacity of Distillery (KLPD) | 425 KLPD (as per EC)<br>240 KLPD as per CTO | |
| | Installed capacity | 325 KLPD | |

| | | |
|---|---|---|
| | Present Production in KLPD | 110.82 KLPD (Avg. of month Feb. 2022)<br>***Refer Annexure-VI*** |
| | No of operating days/year | 365 |
| | Products Manufacture | RS/ENA/Absolute alcohol/Ethanol (KLD) |
| | RS (01 month) | --- |
| | ENA (01 month) | 3102969.1 BL (From 01st Feb. 2022 to 28th Feb. 2022) |
| | Absolute Alcohol/Ethanol (01 month) | --- |
| 4. | Type of Molasses/ Cane Syrup used | C-Heavy molasses |
| | Molasses (in Qtls)/ Cane Syrup per KL of alcohol production | 38.57 Qtls. C-Heavy molasses per KL of alcohol production. |

## 4. Waste water generation

| Sr. No. | Stream/section | Quantity, KLD | Disposal/Utilization Point |
|---|---|---|---|
| 1. | Spent wash | 852.0 | Bio-digester / MEE |
| 2. | Spent lees | 166.0 | CPU |
| 3. | Fermenter washing | 15.0 | CPU/RO/MEE |
| 4. | Process condensate (MEE condensate) | 627.0 | CPU/RO |
| 5. | Floor washing | 10.0 | CPU/RO/ MEE |
| 6. | Cooling tower blow down | 15.0 | CPU/RO |
| 7. | Boiler blow down | 15.0 | CPU/RO |
| 8. | DM plant reject | 15.0 | CPU/RO |
| 9. | Others viz. CPU RO reject etc. | 15.0 | Overall losses |
| 10. | Spent wash generation (KL/KL of production) | 7.68 | |
| 11. | Quantity of other effluent generation (KL/KL of production) | 1.90 | |
| 12. | Total quantity of spent wash feed into Bio-digester/RO/MEE(KLPD) | 122.0<br><br>755.0 | Bio-digester / MEE<br><br>MEE |
| 13. | Total quantity of other effluent feed into CPU(KLPD) | 838.0 | CPU |

## 5. Process Emission/ Solid Disposal

| Sr. No. | Stream/section | Quantity, KLD | Disposal |
|---|---|---|---|
| 1. | Fermenter $CO_2$ disposal | 70 TPD | $CO_2$ plant |
| 2. | Fermenter sludge disposal | 23.0 KLD | Incinerate in slop fired boiler |

## 6. Bio-Methanation Plant/Bio-digester – Yes

| | | |
|---|---|---|
| 1. | Setting cum cooling tank before bio-digester (Yes/No) | Yes |
| | Capacity of Setting cum cooling tank before bio-digester ($m^3$) | 50 $m^3$ |
| 2. | Year of installation/establishment & commissioning of the digester | 1989 |
| 3. | No. of Digester: | 02 Nos.<br>1. Biological Conditioning & Control Reactor (BCCR)<br>2. Methane Up-flow Reactor (MUR) |
| | Capacity of Digester: | BCCR 4000 m3<br>MUR -7725 m3<br>Total volume – 11725 m3 |
| | Type of Technology (CSTR/UASB/ Thermophilic/ Hybrid) | CSTR |
| 4. | Hydraulic Retention Time on Design basis (In days) (15-24 days) | NA |
| | Organic Loading Rate ($kg/m^3/day$) | NA |
| | Volume ($m^3$) | 11725 m |
| 5. | No. of days of operation of digesters (days/annum) | 365 |
| | Total biogas generated ($m^3$/annum) and bagasse/ coal saved | 5400-5500 $Nm^3$ / Day<br>Utilized in MEG plant as ballast gas |
| | Maintaining Log Book records supporting biogas plant performance (Yes /No) | Yes |
| 6. | Quantity of Sludge generation from bio-digester (KLD) | Recycle |
| | Method of disposal/ utilization of sludge | Recycle in digesters |

| Date of Observation: | 05/03/2022 | |
|---|---|---|
| | **Design Parameters** | **Actual feed Values** |
| Feed rate, $m^3$ /Day | 10 $m^3$/hr | 5 $m^3$/hr |
| °Brix (Inlet/Outlet) | Inlet – 12.0<br>Outlet – 6.0 | Inlet – 14.0<br>Outlet – 9.0 |
| pH (Inlet/Outlet) | Inlet – 4.0 – 4.5<br>Outlet – 7.0 – 7.5 | Inlet – 4.64<br>Outlet – 7.52 |
| COD, mg/l (Inlet/Outlet) | Inlet – 110000 -145000<br>Outlet – 45000 - 50000 | Inlet - 128000<br>Outlet - 48200 |
| BOD, mg/l (Inlet/Outlet) | Inlet – 40000 - 55000<br>Outlet – 4000 - 4500 | Inlet - 42500<br>Outlet - 7650 |
| COD reduction % | 65-70 % | 65-70 % |
| BOD reduction % | 85-90 % | 80-85 % |
| Biogas generation, $Nm^3$/kg of COD consumed | 0.45-0.5 | 0.45-0.5 |

| | | |
|---|---|---|
| Biogas generation, $m^3$/day | 8580 - 12180 $Nm^3$ / Day | 4992 $Nm^3$ / Day |

## 7. RO plant (for bio-methanated spent wash treatment)– No

| | | |
|---|---|---|
| 1. | Setting cum cooling tank before RO (Yes/No) | NA |
| | Capacity of Setting tank before RO ($m^3$) | NA |
| 2. | Year of installation/establishment & commissioning of RO plant | NA |
| 3. | Details of pre-treatment | NA |
| 4. | Type of technology of membrane filtration. | NA |
| | Number of membranes per module & number of modules. | NA |
| 5. | Designed feed capacity of RO ($m^3$/day) | NA |
| | Acceptable level in the feed. | Suspended solids: Dissolved solids:<br>Other membrane affecting components: |
| 6. | No of days of operations (days/annum) | NA |
| | Maintaining Log Book supporting RO plant performance (Yes/No) | NA |
| 7. | Further treatment/disposal point of Permeate/Reject | NA |
| | Date of change of Membrane | NA |
| | Mode of Disposal of changed Membrane | NA |
| 8. | Utilization of RO permeate (taken again in RO/used on process) | NA |
| 9. | Utilization of RO reject | NA |
| 10. | Whether RO achieving designed parameters | NA |
| 11. | Whether RO operated continuously | NA |

## 7.1. RO plant Performance

| **Particulars** | **Inlet (Feed)** | | **Reject** | | **Permeate** | |
|---|---|---|---|---|---|---|
| | **Initial reading $m^3$/day** | **Final reading $m^3$/day** | **Initial reading $m^3$/day** | **Final reading $m^3$/day** | **Initial reading $m^3$/day** | **Final reading $m^3$/day** |
| **Quantity, $m^3$/day** | NA | NA | NA | NA | NA | NA |
| | **Inlet (Feed)** | | **Reject** | | **Permeate** | |
| **Recovery, %** | NA | NA | NA | NA | NA | NA |
| **Colour** | NA | NA | NA | NA | NA | NA |
| **pH** | NA | NA | NA | NA | NA | NA |
| **Conductivity, ms** | NA | NA | NA | NA | NA | NA |
| **BOD, ppm** | NA | NA | NA | NA | NA | NA |
| **COD, ppm** | NA | NA | NA | NA | NA | NA |

| | | | | | | |
|---|---|---|---|---|---|---|
| **Total solids, %** | NA | NA | NA | NA | NA | NA |
| **Total dissolved solids, %** | NA | NA | NA | NA | NA | NA |
| **Total suspended solids, %** | NA | NA | NA | NA | NA | NA |

## 8. Multiple Effective Evaporator (MEE)

| | | | |
|---|---|---|---|
| 1. | Setting cum cooling tank before MEE (Yes/No) | Yes | |
| | Capacity of Setting tank before MEE ($m^3$) | 360 $M^3$ | |
| 2. | Year of installation/establishment & commissioning of MEE plant | 2006 upgraded in 2010 | |
| 3. | Number of Effects with their HTA and MOC.<br>(Mention number of stand-by bodies and degasser provided, if any) | 5 Nos Effects<br>3 Falling film and 2 forced circulation effects and 2 Standby<br>(5-W & 2-S) TVR is installed | |
| | Type of technology of MEE | 5 Nos Effects<br>3 Falling film and 2 forced circulation effects and 2 Standby<br>(5-W & 2-S) TVR is installed | |
| | Designed capacity of MEE($m^3$/day) | 2160 $m^3$/day | |
| | Evaporation rate of MEE (%) | 80 % | |
| 4. | Acceptable level of suspended solids, dissolved solids etc. in the feed. | 12 % (w/w) | |
| 5. | Maintaining Log Book supporting MEE plant performance (Yes/No) | Yes<br>***Refer Annexure-IX*** | |
| 6. | Mass flow meter with totalizer installed at inlet of MEE (Yes/No) | Yes | |
| | Mass flow meter with totalizer installed at outlet of MEE, MEE concentrate (Yes/No) | Yes | |
| | Mass flow meter with totalizer installed at outlet of MEE, MEE condensate (Yes/No) | No | |
| | | Initial* | Final |
| 7. | Mass flow meter reading with totalizer at inlet of MEE | 86863.8 | 87070.8 |
| | Mass flow meter reading with totalizer with outlet of MEE, MEE concentrate | 374178.7 | 374207.7 |
| | Mass flow meter reading with totalizer with outlet of MEE, MEE condensate | 98855 | 98874 |
| 8. | Mass flow meter with totalizer connected with CPCB/SPCB server at time of inspection (Yes/No) | Yes | |

*Provide for one day.

## 8.1. MEE operational details

| | | | | |
|---|---|---|---|---|
| 1. | MEE feed rate (actual) | Lit/hr | 36541.0 | Sp. Gr.- 1.060 |
| 2. | Feed rate @ Sp. Gr. (Approximate) | Kg/hr | 38733.0 | |
| 3. | Solid content in feed/brix | %/ degree | 14.85 | |
| 4. | Water evaporation rate (Minimum) | Kg/hr | 26,142.00 | |
| 5. | Concentrate Generation | Kg/hr | 12562.0 | |
| 6. | Solid content in concentrate Generation/brix | %/degree | 52.18 | |
| 7. | Operation hour and whether it is operating continuously | Hr/day-or week or month | Continuously | |
| 8. | MEE Feed Characteristics | pH<br>TSS<br>TDS<br>BOD &<br>COD | 4.78<br>63830 mg/l<br>84720 mg/l<br>44500 mg/l<br>134000 mg/l | |
| 9. | Frequency of CIP (Cleaning In Process) | Hr/day or week or month | Once in a month | |
| 10. | Quantity of CIP effluent | $m^3$/hr | 20 | |
| 11. | Mode of treatment/disposal of CIP effluent | MEE | | |
| 12. | Quantity of process condensate | $m^3$/hr | 26.14 | |
| 13. | Whether MEE achieving design efficiency. (Yes/No) | Yes | | |
| 14. | Utilisation of MEE condensate | Treated in CPU and recycle in cooling tower makeup and molasses dilution | | |
| 15. | Utilisation of MEE concentrate | Incinerate in slop fired boiler. | | |
| 16. | Utilization of blow down (cooling tower & boiler) | Treated in CPU and recycle in cooling tower makeup and molasses dilution | | |

## 8.2. MEE output Characteristics

| Sr. No. | Particulars | Conc. spent wash | Process Condensate |
|---|---|---|---|
| 1. | Quantity, $m^3$/day | 250.0 | 627.0 |
| 2. | pH | 5.3 | 4.8 |
| 3. | Temperature, ºC | 74 | 48 |
| 4. | COD, ppm | 412000 | 1490 |
| 5. | Total solids, % | 52.18 | 0.032 |
| 6. | Ammonical Nitrogen (as N), ppm | 156 ppm (Ammonia) | ND |

## 9. CPU (Condensate Polishing Unit) – Yes

| | | | |
|---|---|---|---|
| 1. | Year of installation/establishment & commissioning of CPU | 2016 | |
| 2. | Name of Plant/Technology supplier | In – House & NALCO<br>(Aeration & Chemical treatment) | |
| 3. | Type of technology of CPU plant: Conventional /RO/Striper/Photo-oxidation/In house technology etc.<br>(Mention details of unit processes with flow diagram) | IGL is utilizing MEE condensate, spent lees & utility blowdown after aeration & chemical treatment in their own in-house developed technology upto the level by which is can be utilized as source of molasses dilution and as make-up water in cooling tower<br>IGL also adopt chemical treatment supplied by NALCO for treatment of MEE condensate & spent lees & same being utilized in cooling tower as make-up after treatment.<br>***Refer Annexure-XV*** | |
| 4. | Design capacity of CPU unit ($m^3$/day) | 2200 KLD (As informed by unit authorities) | |
| 5. | Actual capacity of CPU unit ($m^3$/day) | 1000 KLD | |
| 6. | Sources of effluent coming into CPU | Source | Values |
| | | 1. MEE condensate | 627.0 |
| | | 2. Spent lees | 166.0 |
| | | 3. Cooling tower & Boiler blow down | 30.0 |
| | | 4. DM plant reject water | 15.0 |
| 7. | Total quantity feed to CPU per day (KLPD) | 838 $m^3$/day | |
| 8. | Quantity of treated effluent from CPU utilized per day (KLPD) | 823 $m^3$/day | |
| 9. | Recovery (%) and characteristics of treated water and its further utilization details | 98 %<br>Treated effluent recycled in Fermentation for dilution & for cooling tower make up. | |
| 10. | Is there any reject generated from CPU (Yes/No) | Overall losses 15.0 KLD | |
| 11. | Disposal point of reject from CPU (If yes) | NA | |
| 12. | Total fresh water consumption after reuse of treated low strength effluents. | 1001.46 $m^3$/day | |
| 13. | Log Book records supporting CPU performance (Yes/No) | No | |

## 9.1 CPU performance

| Particulars | Mixed Influent | Treated Effluent |
|---|---|---|
| Quantity, $m^3$/day | 838.0 | 823.0 |
| Colour | 12 | 6 |
| pH | 4.81 | 7.18 |
| Temperature, ºC | 55 | 32 |
| BOD, ppm | 355 | 26 |
| COD, ppm | 1496 | 186 |
| Total solids, % | 0.034 | 0.019 |
| Total dissolved solids, % | 0.029 | 0.017 |
| Total suspended solids, % | 0.0052 | 0.0008 |
| Volatile acids, PPM | ND | ND |
| Total Alkalinity, PPM | 200 | 50 |

## 10. Lagoon

| | | | | | | |
|---|---|---|---|---|---|---|
| 1. | Actual Capacity of Lagoons | Yes/No | Number | Dimensions (L×B×H) | Storage Capacity ($m^3$) | Approximate Volume found stored during Inspection ($m^3$) |
| | a. MEE Concentrate (for bio-composting) | NA | NA | NA | NA | NA |
| | b. MEE Concentrate (for Incineration) | Yes | 01 | Dia. – 20.6 M<br>Height -12 M | 4000 | NA |
| | c. Any Other (Details of Lagoon (if any) provided for storage of any other spent wash i.e., RAW/BMSW may be provided | --- | --- | --- | --- | --- |
| 2. | a. PTZ 360 cameras provided at Lagoon area<br>b. Operating satisfactorily<br>c. Connectivity to SPCB/CPCB | Yes<br>Yes<br>Yes | | Details of Camera:<br>***Refer Annexure-XI***<br><br>User ID and Password for connectivity:<br>***Refer Annexure-XI*** | | |

## 11. Bio-composting - No

- **Bio-compost yard Details-Impervious bio-compost yard (PCC-1:3:6 or RCC-1:2:4 or brick on edge) with construction details.**

- **Whether the unit maintaining log Book supporting bio-compost plant operations (Yes/No): No**

| | | |
|---|---|---|
| 1. | Total Area for Bio-composting (acres) | NA |
| 2. | Break-up of Total area: | |
| | Active Area for Bio-composting (out of total area) (acres) | NA |
| | Covered Active Area(acres) | NA |
| | Un-Covered Active Area(acres) | NA |
| | Storage Area: | |
| | Area for press mud Storage (Excluding active area) (acres) | NA |
| | Area for press mud Storage (Covered/Un-covered) | NA |
| | Area for Ready Bio-compost storage (Excluding active area) (acres) | NA |
| | Area for Ready Bio-compost storage (Covered/Un-covered) | NA |
| 3. | Period for one bio-compost cycle (60 days or 45 days) | NA |
| 4. | Total no. of cycles per annum (4 or 5) | NA |
| 5. | Quantity of press mud procured/purchased (Last 06 months) | NA |
| 6. | Quantity of press mud used per bio-compost cycle | NA |
| 7. | Quantity of filler material i.e., yeast sludge or boiler ash etc. (other than press mud) used per bio-compost cycle | NA |
| 8. | Quantity of concentrated spent wash used per bio-compost cycle | Average No of days of spraying SW in cycle: NA<br>Avg. SW quantity sprayed in a Day: NA |
| 9. | Ratio of press mud to spent wash maintaining | NA |
| 10. | Quantity of finished compost prepared and sold per Annum | NA |
| 11. | Finished bio-compost sold in loose or bag packing? | NA |
| 12. | Finished compost packing facility (Yes/No) | NA |
| 13. | Bio-compost analysis report | NA |
| 14. | Details of windrows | NA |
| | Number | NA |

| | | | |
|---|---|---|---|
| | Length | NA | |
| | Height | NA | |
| | Width of stacking | NA | |
| | Space between the two windrows | NA | |
| 15. | Equipment's (nos.)<br>Aero-tillers<br>JCB<br>Tractor<br>Loaders | NA | |
| 16. | Details of registration required from agriculture department, as per new notification of Compost | NA | |
| 17. | Arrangement for rainy season and details regarding closure of operations for 03 months during monsoon | NA | |
| 18. | Details of PTZ cameras provided and connectivity. | PTZ 360 Camera provided.<br>1. Bio-compost area<br>2. Operating satisfactorily | (Yes/No)<br>No |
| 19. | Number of Bore well around compost yard. | NA | |
| 20. | Number of Piezometric wells available around the compost. | NA | |
| 21. | Number of Piezometric wells shall be present around the bio-compost yard as per SOP for molasses-based distillery | NA | |

## 12. Incineration Boiler– Yes

| | | |
|---|---|---|
| 1. | Year of installation/establishment & commissioning of Incineration boiler | December 2011 |
| 2. | Type of boiler | Slop fired boiler |
| 3. | Capacity of Boiler | 2 Nos 50 TPH each |
| 4. | Design details | Available |
| | Ratio of Slop and subsidiary fuel | 70:30<br>(30% Coal and 70 % slope) |
| | Feed rates of Slop and subsidiary fuel considered | Slope – 12.5 TPH and Coal – 5.0 TPH |
| 5. | Boiler/Technology Supplier details | Make: Cheema Boiler |
| 6. | Boiler Performance details | Available |
| | Actual Slop and subsidiary fuel ratio achieved | (62 % Slop and 38 % Coal) |
| | No of working days per annum | 365 |
| | Type of subsidiary fuel used with consumption/day | Coal – 120 TPD |
| 7. | Other Details | Not Available |
| | Shut down days-cleaning period required | After every 180 days as per design |

| | | |
|---|---|---|
| | Steam generation (MT/hr) | 36 TPH |
| | Steam pressure & temperature | 42 Kg/Cm$^2$ Temperature 400 (+-10) Degree centigrade |
| 8. | Emission control system or Air Pollution Control Device (APCD) installed (Yes/No) | Yes |
| | Name of installed Emission control system/APCD | ESP |
| | Stack Height | 100 Meter |
| | Stack monitored (Yes/No) | Stack emission monitoring device is installed and connected to CPCB and UKPCB server |
| 9. | Ash details: | Available |
| | Quantity of ash generated, MT/day (Bottom Ash + Ash collected in APCD) | 1046.24 MT |
| | Characteristics of generated Ash | NA |
| | Method of disposal of Ash (Bottom Ash + Ash collected in APCD) | ESP: Potash grade Ash is sold to contracted parties (M/s. Raghav Associates, Roha, Dist. Raigad (M.S.)<br>***Refer Annexure-XII***<br>Furnace Ash: Land filling |
| 10. | Whether the unit maintaining log Book supporting incineration boiler performance (Yes/No) | Yes<br>***Refer Annexure-X*** |
| 11. | On-line emission (stack) monitoring system installed (Yes/No) | Yes<br>***Refer Annexure-XI*** |
| 12. | On-line emission (stack) monitoring system connected to CPCB/SPCB server at time of inspection? (Yes/No) | Stack monitoring is installed and connected to CPCB and UKPCB server |

## 13. Sample Collection Points

| Sr. No. | Sampling Points | (Yes/No) |
|---|---|---|
| **1.** | Raw spent wash (feed to Bio-digester/ IMEE) | Yes |
| **2.** | Biodigester overflow | Yes |
| **3.** | Feed to MEE (Multi effect evaporator) | Yes |
| **4.** | MEE condensate | Yes |
| **5.** | MEE concentrate | Yes |
| **6.** | Spent wash stored in the storage tank | Yes |
| **7.** | CPU inlet | Yes |
| **8.** | Aeration tank of CPU | Yes |
| **9.** | CPU treated condensate | Yes |
| **10.** | STP inlet | Yes |
| **11.** | STP outlet | Yes |
| **12.** | Drain within or outside the premises | No |
| **13.** | Bypass (if any) | No |

| | | |
|---|---|---|
| **14.** | Groundwater (Samples should be collected from hand pumps or borewells) | Yes |

**Note:** ***Refer Annexure-XVII for analysis report along with Form-I***

**Parameters to be analyzed for samples collected from locations1 to 7: pH, BOD, COD, TS, TSS, TDS**

**Parameters to be analyzed for sample collected from location no. 8& 12: pH, BOD, COD, TS, TSS, TDS, Colour**

**Ground water Analysis Report: Year of Dug: NA Depth (m) NA M**

41 Quality of Groundwater is compared with Bureau of Indian Standard (BIS) drinking water — specification (Second Revision) IS 10500: 2012.

| Parameter → / Location ↓ | pH | Colour (PCU) | Total Alkalinity | Total Hardness | COD | TDS | $Cl^-$ | $F^-$ | $NO_3$ | $SO_4$ |
|---|---|---|---|---|---|---|---|---|---|---|
| Standard values | 6.5-8.5 | 15 | 600 | 600 | - | 2000 | 1000 | 1.5 | 45 | 400 |
| BW-1 | 7.51 | BDL | 38.0 | 52.0 | ND | 181.0 | 72.9 | ND | 1.11 | 13.2 |
| BW-2 | 7.38 | BDL | 42.0 | 56.0 | ND | 193.0 | 76.9 | ND | 1.15 | 14.0 |
| BW-3 | 7.54 | BDL | 36.0 | 52.0 | ND | 182.0 | 71.9 | ND | 1.1 | 13.2 |

Quality of Groundwater is compared with Bureau of Indian Standard (BIS) drinking water — specification (Second Revision) IS 10500: 2012. (Heavy Metal)

| Parameter → / As | Cd | Cr | Cu | Fe | Pb | Mn | Hg | Ni | Zn | Sb | Co | Se | V |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Permissible linits | 0.05 | 0.003 | 0.05 | 1.5 | 0.3 | 0.01 | 0.3 | 0.001 | 0.02 | 15 | - | - | 0.01 | - |
| BW-1 | ND | ND | ND | ND | 0.08 | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| BW-2 | ND | ND | ND | ND | 0.10 | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| BW-3 | ND | ND | ND | ND | 0.08 | ND | ND | ND | ND | ND | ND | ND | ND | ND |

***Refer Annexure-XVII for analysis report along with Form-I***

**Sewage management section**

| | | |
|---|---|---|
| 42 | Quantity of sewage generated (KLD) | 10 KLD |
| 43 | STP status | Installed (Yes/No) : Yes<br>Operational (Yes/No) : Yes |
| 44 | Flow meter/ v-notch installed at inlet of STP | Yes/No: Yes<br>Type: mechanical<br>Calibration details: No<br>Instantaneous Reading:……NA…$m^3$/hr<br>Totalizer Reading: ……NA.. $m^3$<br>Logbook maintained: Yes/No (if yes, last three months logbook data should be collected) |
| 45 | Flow meter/ v-notch installed at outlet of STP | Yes/No Yes<br>Type: mechanical<br>Calibration details: No<br>Instantaneous Reading: …NA……$m^3$/hr<br>Totalizer Reading: ……NA….. $m^3$ |

| | | | |
|---|---|---|---|
| | | Logbook maintained: No<br>(if yes, last three months logbook data should be collected) | |
| 46 | Quantity of treated sewage (KLD) (to be calculated from STP inlet logbook) | NA | |
| 47 | Quantity of recycled treated sewage (KLD) (Total of last three months) | In production | Others |
| | | NA | NA |
| 48 | Quantity of treated sewage discharged (KLD)<br>(To be calculated from ETP outlet logbook)- | NA | |
| 49 | Mode of discharge | Surface pipeline | |
| 50 | Discharge in | On land (For gardening purpose) | |

51 **Characteristics of Sewage**

| Parameter | STP inlet | STP outlet | Discharge Norms (As per consent) | Compliance Status |
|---|---|---|---|---|
| pH | 6.9 | 8.66 | 6.5 to 9.0 | Compliance |
| BOD (mg/l) | 90.0 | 27.0 | Not more than 30 | Compliance |
| COD (mg/l) | 366.0 | 220 | NA | NA |
| TSS (mg/l) | 106.0 | 44.0 | Not more than 100 | Compliance |
| TDS (mg/l) | 432.0 | 374.0 | NA | NA |
| Colour (PCU) | 90.0 | 45.0 | NA | NA |

✪ ***Observations:***

1. During the day of inspection distillery plant found operational on the C-Hy molasses as feedstock and engaged in production of RS/ENA at 110 KLPD.
2. Unit has adopted the Fed-batch fermentation, MPR distillation with MSDH technology to achieve production of RS/ENA/Absolute Alcohol (100 KLPD installed capacity).
3. Unit has adopted SMEE (3FF+ 2FC) followed by 2 Nos. of 50 TPH slope fired Incineration boiler to achieve ZLD of spent wash produced during distillery operation.
4. Unit has installed conventional type (only Aeration & Chemical treatment) system as CPU for treatment of process condensate and spent lees generated from distillery unit.
5. Approx. 240 M3/day of raw spent wash is being used in bio-methanation unit, produced biomethane gas is being utilized in MEG (Mono Ethylene Glycol) unit as a ballast gas.
6. Bio-compost activity is discontinued from June 2021 and same has been informed to SPSB/ CPCB. Old lagoons (03 having capacity 7.1 Lakhs Lit. From these three lagoons First lagoons of having storage capacity 1.5 Ltr, second lagoon storage capacity 4.5 Litre. & Third lagoon storage capacity 1.0 Ltr). Lagoon 1 and 2 has been demolished and filled with soil and boiler ash and third lagoon has been converted into wet land feeling/ rain water harvesting with the permission of SPCB.

7. Calibration certificate for molasses weighing system, mass flow meter for SMEE feed & outlet as well as Tube well discharge line is provided by the distillery unit.
8. 80 TPD CO2 recovery plant is installed & found operational at the time of inspection visit.
9. 7-day con. Spent wash storage tank having capacity 3931 m3 is constructed in bio-gas plant area.
10. Housekeeping found well maintained in distillation unit, SMEE plant, incineration Boiler. However, in fermentation house housekeeping is not maintained and found damaged at multiple locations.
11. Unit has installed 2 nos. TG sets having capacities of 12 MW (Extraction cum condensing) & 8.5 MW (back pressure) turbines respectively for captive power generation in distillery & nearby chemical plants.
12. Unit has installed ESP on both the boilers as air pollution control system at incineration boiler.
13. Unit has provided, Online monitoring device is installed for stack emission and online connected with CPCB and UKPCB server.
14. Online monitoring device is installed at SMEE inlet and outlet mass flowmeter and it is connected to CPCB and UKPCB server, concern online monitoring details are provided by the distillery unit.
15. Fermentation yeast sludge & some amount of ash generated from boiler is provided to cane growers (farmers) as soil conditioner & relevant document is provided by distillery unit.
16. 02 Nos. piezometers are found installed in distillery premises and concern data is provided by the distillery unit.
17. Total 03 No. of tube-well is found in distillery premises which is the source of fresh water consumption.
18. Green belt area is developed and maintained in the unit.
19. Rainwater recharge ponds are provided by the distillery unit in nearby adopted villages are provided and relevant details are provided by distillery unit.
20. 10 KLD common STP plant is installed and it is being utilized for the treatment of domestic sewage generated from distillery and nearby chemical plant units.

- ***Recommendations/Suggestion:***

1. Unit shall discontinue inhouse made CPU and install adequate capacity of CPU for treatment of process condensate and spent lees generated during distillery operation.
2. It is also recommended that unit shall treat utility waste water through CPU and treated water is being used for process and non-process applications.
3. The unit shall stop storage of the sludge in open (Near MEE plant) area to avoid further dilution with rain water and shall use the sludge for bio-composting.
4. The unit shall set up proper and separate storm water channel and process effluent channel in to the unit premises to avoid mixing of process effluent with rain water.
5. All existing meters should be periodically calibrated and records to be maintained.
6. Unit should remove all the PVC piping from the plant premises.
7. All domestic waste water generated from plant should be accounted and should be sent to STP and metering at STP inlet is to be done. It is recommended to increase the capacity of install STP.
8. The unit shall maintain date wise record of quantity and category of hazardous waste disposed
9. Unit shall improve housekeeping in fermentation house.

- ***Compliance Status (Complied/ Non-Complied/ Closed): Complied***

**Inspection team details:**

| Sr. No. | Technical institute officials | Designation | Organisation | Signature with date |
|---|---|---|---|---|
| 1 | Mr. Avinash Deshmukh | Scientist | VSI, Pune | Deshmukh 17/04/2022 |
| 2 | Mr. Shivaraj Patil | Technical Officer | VSI, Pune | Patil 17/04/2022 |
| **Sr. No.** | **SPCB/SMCG officials** | **Designation** | **Organisation** | **Signature with date** |
| 1 | Mr. Naresh Goswami | Regional Officer, UKPCB | UKPCB Region U.S. Nagar | |



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## 15. ANNEXURES

- **Name and contact details of the vendor who has supplied and commissioned the on-line monitoring system.** ***Refer Annexure-XI***

- **Problems faced in maintaining the continuity of on-line monitoring system.**

- **Green belt surrounding bio-compost yard (Photographs).**

- **Whether the recipient drains/rivulets and their u/s & d/s locations in consultation with concerned State Pollution Control Board (SPCB), for monthly monitoring to ensure ZLD has been identified? (Yes/No).**

- **Material and mass balance of your total distillery plant operations including ETPs showing ZLD.** ***Refer Annexure-VII***

- **Also indicate how your distillery unit is achieving steam and power balance.**

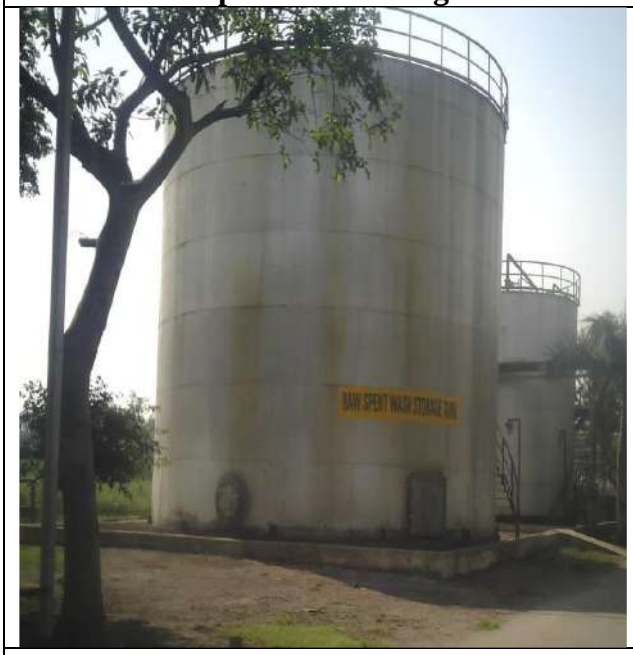
- **Environment Management Cell-Mo Ms and necessary documents.** ***Refer Annexure-XIV***

- **EC, Consent to Operate, Directions received and related documents.** ***Refer Annexure-I, II***

- **Water conservation measures taken report (rain water harvesting etc).**

**Photographs of the industry:**

| **Fermentation section** | **Borewell for fresh water consumption** |
|---|---|
| | |
| **Process Cooling Towers** | **Borewell Flow meter** |

| | |
|---|---|
| | |
| **MEE Feed Flow meter** | **MEE Outlet Flow meter** |
| | |
| **Conc. Spent wash storage tank** | **Incineration Boiler** |
|  | |
| **Boiler – ESP & Ash disposal** | **Boiler – Ash Handling system** |

| | |
|---|---|
| | |
| **STP (Sewage Treatment Plant)** | **Rain water harvesting pond** |
| | |

**HEAD OFFICE**
**Uttarakhand Pollution Control Board**
"Gaura Devi Paryavaran Bhawan"
46-B, IT Park, Sahastradhara Road, Dehradun (Uttarakhand)
Web: www.ueppcb.uk.gov.in. E-mail: msukpcb@yahoo.com

Ref: UEPPCB/HO/Gen-TPI-18/2022/ 234 Date: 24.04 2022

**SPEED POST**

To,

**M/s India Glycol Ltd. (Distillery Unit),**
**Bazpur road, Kashipur,**
**U.S.Nagar,(Uttarakhand).**

**Sub: Third Party Inspection of Grossly Polluting Industries (GPIs) - reg.**

**Sir,**

Please refer to the Third Party Inspection of the Unit i.e. **M/s India Glycol Ltd. (Distillery Unit),** located at Bazpur road, Kashipur (Uttarakhand), and carried out by the Vasant Dada Sugar Institute, Pune on dated 05.03.2022. As per inspection report, following recommendations/suggestions are made by Third Party Institution:

1. Unit shall discontinue in-house made CPU and install adequate capacity of CPU for treatment of process condensate and spent lees generated during distillery operation.
2. It is also recommended that unit shall treat utility waste water through CPU and treated water is being used for process and non-process applications.
3. The unit shall stop storage of the sludge in open (Near MEE plant) area to avoid further dilution with rain water and shall use the sludge for bio-composting.
4. The unit shall set up proper and separate storm water channel and process effluent channel in to the unit premises to avoid mixing of process effluent with rain water.
5. All existing meters should be periodically calibrated and records to be maintained.
6. Unit should remove all the PVC piping from the plant premises.
7. All domestic waste water generated from plant should be accounted and should be sent to STP and metering at STP inlet is to be done. It is recommended to increase the capacity of install STP.
8. The unit shall maintain date wise record of quantity and category of hazardous waste disposed.
9. Unit shall improve housekeeping in fermentation house.

In this regard, you are directed to ensure compliance of above recommendations/suggestions and also submit the compliance report alongwith time bound action plan in the Regional Office, Kashipur, District US Nagar and this office on priority basis.

This issued with approval of Member Secretary.

**Sincerely,**

**(Dr. Ankur Kansal)**
**Environment Engineer**

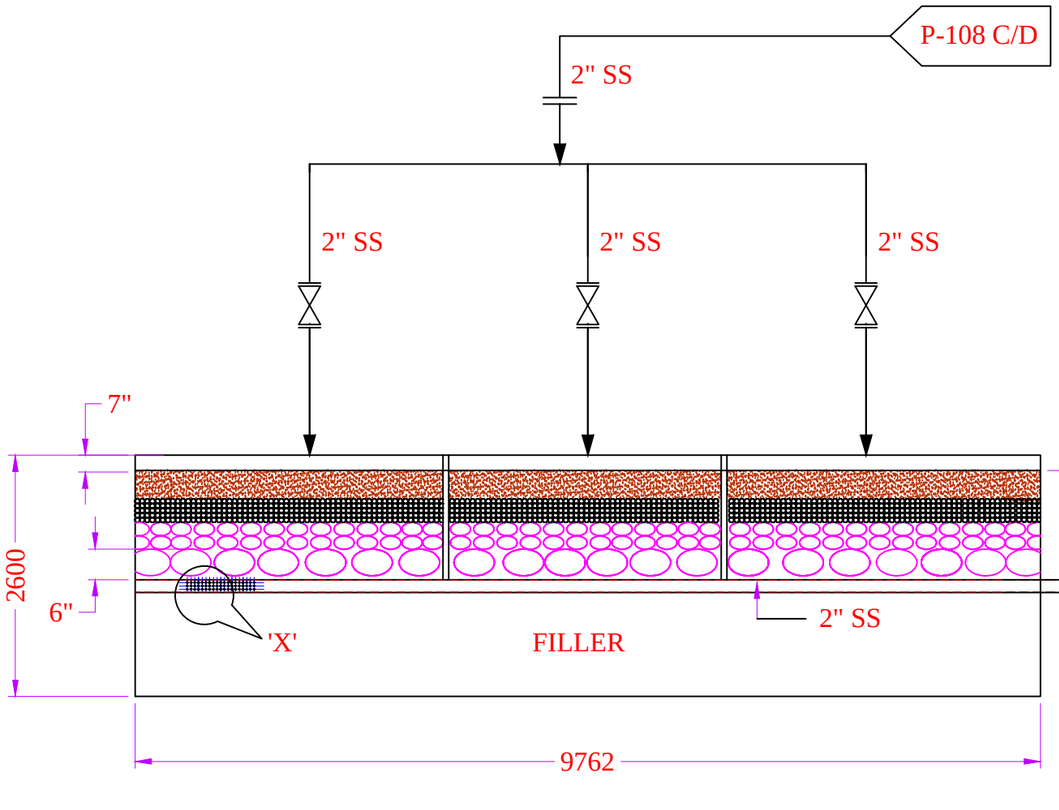
Copy to:

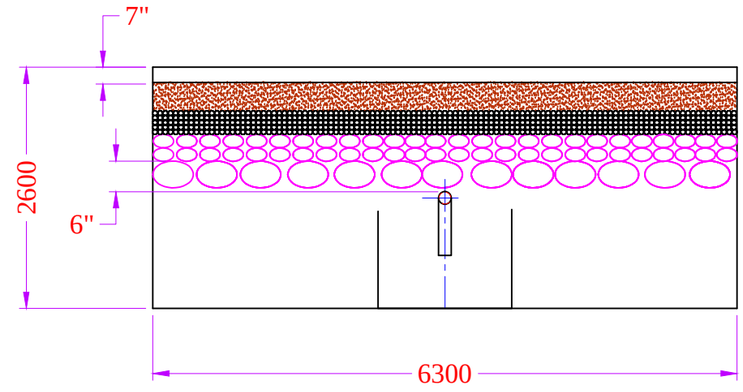
1. **Member Secretary**, Uttarakhand Pollution Control Board, Dehradun for kind information please.
2. **Regional Officer**, Uttarakhand Pollution Control Board, Kashipur, District U.S.Nagar for necessary follow up action please.

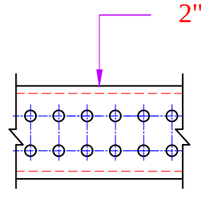
**Environment Engineer**

LEGEND:-

- BIG PEBBLE — 6"
- SMALL PEBBLE — 6"
- COARSE SAND — 6"
- FINE SAND — 6"




PERFORATION DETAIL OF PIPE 'X'
PERFORATED HOLE Ø=6 MM

LENGTH = 9762 MM
WIDTH = 6300 MM
DEPTH = 609 MM (24")
SURFACE AREA OF DRYING BED = 61.5 $M^2$

| REV. NO | REVISION DESCRIPTION | DRAWN | CHK. | APPROVED | DATE |
|---|---|---|---|---|---|
| 01 | | | | | |

INDIA GLYCOLS LIMITED
KASHIPUR (UTTARANCHAL) INDIA

ALL DIMENSIONS ARE IN MM UNLESS OTHERWISE STATED.

PLANT:-BIOGAS (CHEMICAL PLANT ETP)

TITLE:-SLUDGE DRYING BED SYSTEM

DRAWN BY S.K. DATE 10.09.21 CHECKED BY M.F. DATE 10.09.21
APPROVED BY _____ DATE 10.09.21 SCALE – REV. 0
DWG.No.

# CHECKLIST

**Y-645**: **India Glycols Ltd. Plot No. A-1, Ind. Area, Bazpur Road, Kashipur**

| Sl. No. | Contents |
|---|---|
| 1. | Inspection Report |
| 2. | Analysis Report |
| 3. | Consolidated Data Sheet |
| 4. | Air Consent, Water Consent and Hazardous Waste Authorization |
| 5. | NOC from CGWA |
| 6. | Manufacturing Process Flowchart and Production Details |
| 7. | ETP Process Flow Diagram and WQMS Data |
| 8. | Bore-well/Tube-well Log-Book |
| 9. | ETP and Energy Meter Log-book |
| 10. | External Test Reports |
| 11. | Form – 1 |
| 12. | Form – 4 |
| 13. | Form - 10 |
| 14. | Photos |

**CENTRAL POLLUTION CONTROL BOARD**
**Water Quality Management-II**
**INDUSTRY INSPECTION FORMAT (CHEMICAL)**

**General section** **Date of inspection:** 08/02/2022

| | | |
|---|---|---|
| 1. | Unit code | Y-645 |
| 2. | Name of the unit with complete postal address: | India Glycols Ltd. Plot No. A-1, Ind. Area, Bazpur Road, Kashipur |
| 3. | Spatial Co-ordinates (Latitude & longitude) in Decimal format only | N 29.1795639<br>E 79.0070561 |
| 4. | Name of Contact person with designation<br>Phone & Email: | Mr. Sudhir Agarwal (Executive Director)<br>9690003312<br>s.agarwal@indiaglycols.com |
| 5. | Year of commissioning | 1987-1988 |
| 6. | Name of SPCBs Regional Office | R.O. Kashipur |
| 7. | Industry Operational status | **Operational** |

**Consent section**
(Attach valid copies, or if expired then attach recent expired copies along with copy of application)

| | | |
|---|---|---|
| 8. | **Air consent**<br>(Validity with date/Expired/Applied for renewal/First time applied/Never applied ) | Valid Till **31/03/2022**<br>Attached as **Annexure 2.1** |
| 9. | **Water consent**<br>(Validity with date /Expired/Applied for renewal/First time applied/Never applied) | \<br>Valid Till **31/03/2022**<br>Attached as **Annexure 2.1** |
| 10. | **Hazardous waste authorization**<br>(Validity with date /Expired/Applied for renewal/First time applied/Never applied ) | Valid Till **31/03/2022**<br>Attached as **Annexure 2.1** |
| 11. | **NOC from CGWA/other authorized body**<br>(Validity with date /Expired/Applied for renewal/First time applied/Never applied) | Valid Till **25/10/2023**<br>Attached as **Annexure 2.2** |

**Production section**

| | | |
|---|---|---|
| 12. | Mention no. of operational days in last three months<br>(to be used for calculation purposes in subsequent sections) | **74** Days |
| 13. | Name and quantity of Raw materials used<br>(in MT total of last three months) | Ethyl Alcohol- **350** MTD |
| 14. | Name of Final Products<br>(separately mention name and quantity of byproducts also, if any) | **MEG**, **DEG**, **TEG**/**HG**/ **GE** &<br>**GEA**, **EG** |
| 15. | Consented production capacity(TPD) | **767.22** MTD |
| 16. | Installed production capacity (TPD) | **767.22** MTD |
| 17. | Production on previous day of inspection (TPD) | **320** MTD |
| 18. | Production (in MT for last three months) | **23680** MT |
| | Overall Production (in TPD) | **320** |
| | On the day of visit (in TPD) | **320** |
| 19. | Process details (with Material Balance & Flow diagram):<br><br>Attached as **Annexure 3.1** | |

**Water section**

| | | |
|---|---|---|
| 20. | *Source of freshwater* | |
| | River | **River Water Not Used**<br>Specify whether flow meter with totalizer installed at line carrying freshwater (Yes/No): Not Available<br>Instantaneous Reading: Not Available<br>Totalizer Reading: Not Available<br>Logbook maintained: Not Available |
| | Borewell | No. of Borewell as per CGWA NOC: **05**<br>Permitted withdrawal quantity: **3056** KLD<br>Actual withdrawal quantity: **426.818** KLD<br>(average of last three months)<br>Actual no. of borewell found on site: **05**<br>No. of Borewell having flow meter with totalizer installed: **05**<br><br>Instantaneous Reading: (1) **97.289** $m^3$/hr (mention these values for all borewell with flow meter)<br>(2) **79.172** $m^3$/hr, (3) **31.937** $m^3$/hr,<br>(4) Not Available (5) 1**32.04** $m^3$/hr<br>Totalizer Reading during visit: (1) **385859** $m^3$, (2) **1005680** $m^3$, (3) **288915** $m^3$<br>(4) **453221** $m^3$ (5) **450018** $m^3$<br>Type: **Electromagnetic**<br>Calibration details: Not Available<br>Logbook maintained: **Yes**<br>Logbook attached as **Attached 4.1** |

| ***Fresh water consumption*** | | | | |
|---|---|---|---|---|
| 21. | Freshwater consumption (KL) (Total of last three months) | Production process | Domestic | Others |
| | | **426.818** KLD (Average for the month December and January) | | - |
| | Overall in KLD & KL/MT of product | **1.333** KL/ MT | | - |
| | On the previous day of visit (KLD) | Not Available | | - |

**Effluent management section**

| | | | |
|---|---|---|---|
| 22. | Sources of effluent generation | Name & Quantity generated in KLD<br>Chemical Plant: **443** | |
| 23. | Flow meters at sources of effluent generation | Yes/No: **Yes**<br>Type: **Electromagnetic**<br>Calibration details: Not Available<br>Meter readings: **65108.6** $m^3$<br>Logbook maintained: **Yes**<br>Logbook Attached as **Annexure 4.2** | |
| 24. | ETP status | Installed (Yes/No) : **Yes**<br>Operational (Yes/No) : **Yes** | |
| 25. | Flow meter/ v-notch installed at ETP inlet | Yes/No: **Yes**<br>Type: **Electromagnetic**<br>Calibration details: Not Available<br>Instantaneous Reading: **20.2** $m^3$/hr<br>Totalizer Reading: **65108.6** $m^3$<br>Logbook maintained: **Yes**<br>Logbook Attached as **Annexure 4.2** | |
| 26. | Flow meter/ v-notch installed at ETP outlet | Yes/No: **Yes**<br>Type: **Electromagnetic**<br>Calibration details: Not Available<br>Instantaneous Reading: **20.0** $m^3$/hr<br>Totalizer Reading: **79775.8** $m^3$<br>Logbook maintained: **Yes**<br>Logbook Attached as **Annexure 4.2** | |
| 27. | Effluent generation quantity (KL) (to be calculated from ETP inlet logbook)- Total of last three months | **456.33** KLD<br>(Average of 3 Days in the month of February) | |
| | Overall in KLD & KL/MT of product | **1.426** KL/ MT | |
| | On the day of visit | **480** KLD | |
| 30 | Recycled water consumption (KL) (Total of last three months) | In production | Others |
| | Overall in KLD & KL/MT of product | Not Available | |
| | On the previous day of visit (KLD) | | |
| 31 | Effluent discharge quantity (KL) (to be calculated from ETP outlet logbook)- Total of last three months | **448.33** KLD<br>(Average of 3 Days in the month of February) | |

| | | |
|---|---|---|
| | Overall in KLD & KL/MT of product | **1.401** KL/ MT |
| | On the previous day of visit | Not Available |
| 32 | Mode of discharge | Open Channel |
| 33 | a. No. of consented outlets<br>b. Actual no. of outlets observed during visit | Not Available<br>**01** |
| 34 | Discharge in | Industrial Drain leading to Bahela River |
| 35 | Route to reach river Ganga | Bahela ⇨ Koshi ⇨ Ramganga ⇨ Ganga |

36 **ZLD status**:

a. Whether consent specifies that unit is ZLD: Yes/No: **No**

b. Mode of achieving ZLD: Not Available
- Complete recycling in production process (Yes/No): Not Available
- Reused for irrigation within premises (Yes/No): Not Available

c. In case of ZLD mention availability of flow meters (with flow rate and totalizer reading during visit) at all recirculation lines (Y/N): Not Available

Type of flow meter: mechanical/digital/electromagnetic etc.
Calibration details: Not Available

37 Effluent characteristics

| Parameter | ETP inlet | ETP outlet | Norms as per consent | Compliance w.r.t. consent |
|---|---|---|---|---|
| pH | 5.87 | 7.88 | 6.0 - 8.5 | **Compliance** |
| Oil & Grease | 4.8 | <3 | 10 | **Compliance** |
| Suspended Solids | 38 | <5 | 100 | **Compliance** |
| Hexavalent Chromium | Not Available | | | |
| Total Chromium | | | | |
| Manganese | | | | |
| Nickel | | | | |
| Copper | | | | |
| Zinc | | | | |
| Cadmium | | | | |
| Lead | | | | |
| Mercury | | | | |
| Cyanide | | | | |

MLSS (mg/l): **1997** ; MLVSS (mg/l): Not Available

**Additional parameters for GPIs located in Yamuna main stem states;**

| S.No. | Parameters | ETP Inlet (mg/L) | ETP Outlet (mg/L) |
|---|---|---|---|
| 1 | Ammonia | Not Available | |
| 2 | Ammonium Nitrate | | |
| 3 | Phosphate | | |
| 4 | Surfactant (MBAS assay) | BDL | BDL |

| | | |
|---|---|---|
| 38 | BOD Load (on the basis of inlet quality & flow): | **141.46** Kg/day |
| 39 | BOD Load (on the basis of discharge quality & flow): | **<2.24** Kg/day |

**Ground water Analysis Report: Year of Dug:** Not Available **Depth (m):** Not Available

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 40 | Quality of Groundwater is compared with Bureau of Indian Standard (BIS) drinking water — specification (Second Revision) IS 10500: 2012. | | | | | | | | | | |
| | Parameter → / Location ↓ | pH | Colour (PCU) | Total Alkalinity | Total Hardness | COD | TDS | $Cl^-$ | $F^-$ | $NO_3$ | $SO_4$ |
| | Standard values | 6.5-8.5 | 15 | 600 | 600 | - | 2000 | 1000 | 1.5 | 45 | 400 |
| | Value | **7.65** | **26** | - | - | **8** | **301** | **10** | - | **0.16** | - |

| | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Quality of Groundwater is compared with Bureau of Indian Standard (BIS) drinking water — specification (Second Revision) IS 10500: 2012. (Heavy Metal) | | | | | | | | | | | | | |
| | Parameter → | As | Cd | Cr | Cu | Fe | Pb | Mn | Hg | Ni | Zn | Sb | Co | Se | V |
| | Permissible linits | 0.05 | 0.003 | 0.05 | 1.5 | 0.3 | 0.01 | 0.3 | 0.001 | 0.02 | 15 | - | - | 0.01 | - |
| | Tested Values | Not Applicable | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | |

**Recipient drain & Bypass**

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 41 | *Recipient drain characteristics (mention name of the drain also)* | | | | | | |
| | Parameter → / Location ↓ | pH | Colour (PCU) | BOD (mg/l) | COD (mg/l) | TSS (mg/l) | TDS (mg/l) | SAR |
| | Upstream | 7.21 | 26 | 12 | 96 | 24 | 390 | - |
| | Downstream | 7.25 | 18 | 10 | 64 | 19 | 367 | - |
| 42 | By-pass (if any): Yes/ No<br>If, by-pass found: Description of location and characteristics of wastewater | | | | | | | |
| | Parameter → | pH | Colour (PCU) | BOD (mg/l) | COD (mg/l) | TSS (mg/l) | TDS (mg/l) | SAR |
| | Values | **No Evident By-pass was Observed** | | | | | | |

**Additional parameters for recipient drains in Yamuna main stem states;**

| S.No. | Parameters | Upstream (mg/L) | Downstream (mg/L) |
|---|---|---|---|
| 1 | Ammonia | Not Available | |
| 2 | Ammonium Nitrate | | |
| 3 | Phosphate | | |
| 4 | Surfactant (MBAS assay) | | |

**ETP section**

<table>
<tr><td>43</td><td colspan="5">Installed capacity (KLD): 540 ; Utilized capacity (KLD): 540</td></tr>
<tr><td rowspan="10">44</td><td colspan="5">Effluent treatment technology: Physico-chemical/ Biological: ASP followed by MGF/ACF</td></tr>
<tr><td>ETP unit</td><td>Dimension (LxWxH)</td><td>Capacity (m3)</td><td>Retention time (Hr.)</td><td>Adequate/Inadequate</td></tr>
<tr><td>Bar screen chamber</td><td>-</td><td>-</td><td>-</td><td rowspan="7">Attached As Annexure 3.2</td></tr>
<tr><td>Equalization tank</td><td>L- 6.42,<br>W- 10.18,<br>D- 1.95</td><td>127.40</td><td>0.24 days</td></tr>
<tr><td>Primary clarifier</td><td>SWD- 3.0 m<br>Dia-20.02 m</td><td>1887.0</td><td>-</td></tr>
<tr><td>Aeration tank</td><td>-</td><td>900.00</td><td>1.48 days</td></tr>
<tr><td>Secondary clarifier</td><td>-</td><td>-</td><td>-</td></tr>
<tr><td>Polishing Tank (if available)</td><td>-</td><td>-</td><td>-</td></tr>
<tr><td>Tertiary treatment units DMF/PSF/ACF</td><td>MGF & ACF- Dia-3200 mm<br>Bed Depth-1200 mm</td><td>-</td><td>-</td></tr>
<tr><td rowspan="3">45</td><td>Type of aerators in aeration tank</td><td colspan="2">Surface/Diffused<br>Side mounted submerged</td><td colspan="2" rowspan="2">Details: Fuchs (Wall mounted)-02 Nos.</td></tr>
<tr><td>Rate of aeration</td><td colspan="2">O2 maintained -3.0 ppm</td></tr>
<tr><td>Provision for sludge recirculation</td><td colspan="3">Yes</td></tr>
<tr><td>46</td><td>Type of clarifier (Conventional/ Lamella clarifier/ Tube settler)</td><td colspan="3">Primary clarifier: Conventional</td></tr>
<tr><td rowspan="2">47</td><td colspan="4">Fiber Separation unit:</td></tr>
<tr><td>Sedicell/Krofta/DAF</td><td colspan="3">Not Available</td></tr>
<tr><td rowspan="6">48</td><td colspan="4">Sludge management: Yes</td></tr>
<tr><td colspan="2">Sludge drying beds</td><td colspan="2">03</td></tr>
<tr><td colspan="2">Centrifuge/ Sludge press</td><td colspan="2">Not Available</td></tr>
<tr><td colspan="2">Quantity of sludge generated (kg/day) (average of last three months)</td><td colspan="2">14.850 MT (For the month of December in 2021)</td></tr>
<tr><td colspan="2">On the day of visit (kg/day)</td><td colspan="2">Not Available</td></tr>
<tr><td colspan="2">Mode of sludge disposal</td><td colspan="2">K. Nandini Refineries</td></tr>
<tr><td>49</td><td colspan="2">Name of chemical consumed at ETP along with quantity (kg/day)</td><td colspan="2">Lime, Alum, Poly Electrolyte</td></tr>
<tr><td rowspan="2">50</td><td colspan="2">Availability of Environmental Lab</td><td colspan="2">Yes/No: Yes (NABL Accredited)</td></tr>
<tr><td colspan="2">ETP Lab details: (give details of instruments available in lab of the unit with photographic evidence)</td><td colspan="2">Well Equipped Laboratory</td></tr>
<tr><td>51</td><td colspan="2">Staff engaged at ETP (Nos.)</td><td colspan="2">ETP Manager: 01<br>Chemist: 04<br>Operator/Helper: 08</td></tr>
<tr><td rowspan="2">52</td><td colspan="2">Total electric Consumption (KWh/day) (average of last three months)</td><td colspan="2">960 KWH/ Day<br>(As Per Industry)</td></tr>
<tr><td colspan="2">Separate Energy meter installed for ETP<br>Meter reading at the time of visit (KWh)</td><td colspan="2">Yes/No: Yes<br><br>77363 KWh</td></tr>
</table>

| | | |
|---|---|---|
| | Electric Consumption at ETP (KWh/day) (average of last three months) | **966.736** KWh<br>(Average for the month of November, December and January)<br>Logbook Attached as **Annexure 4.2** |

**Sewage management section**

| | | | |
|---|---|---|---|
| 53 | Quantity of sewage generated (KLD) | **34.20** KLD (As Per Industry) | |
| 54 | STP status | Installed (Yes/No) : **Yes**<br>Operational (Yes/No) : **Yes** | |
| 55 | Flow meter/ v-notch installed at inlet of STP | Yes/No: **Yes** (As Per Industry)<br>Type: mechanical/digital/electromagnetic etc.<br>Calibration details: Not Available<br>Instantaneous Reading: Not Available<br>Totalizer Reading: Not Available<br>Logbook maintained: Not Available | |
| 56 | Flow meter/ v-notch installed at outlet of STP | Yes/No: **Yes** (As Per Industry)<br>Type: mechanical/digital/electromagnetic etc.<br>Calibration details: Not Available<br>Instantaneous Reading: Not Available<br>Totalizer Reading: Not Available<br>Logbook maintained: Not Available | |
| 57 | Quantity of treated sewage (KLD) (to be calculated from STP inlet logbook) | **34.0** KLD (As Per Industry) | |
| 58 | Quantity of recycled treated sewage (KLD) (Total of last three months) | In production | Others |
| | | -- | **Green belt irrigation purpose** |
| 59 | Quantity of treated sewage discharged (KLD) (to be calculated from ETP outlet logbook)- | **Green belt irrigation purpose**<br>(As Per Industry) | |
| 60 | Mode of discharge | Not Available | |
| 61 | Discharge in | Not Available | |

62 **Characteristics of Sewage**

| Parameter | STP inlet | STP outlet | Discharge Norms (as per consent) | Compliance Status |
|---|---|---|---|---|
| pH | Not Available | | | |
| BOD (mg/l) | | | | |
| COD (mg/l) | | | | |
| TSS (mg/l) | | | | |
| TDS (mg/l) | | | | |
| Colour (PCU) | | | | |

***Air Pollution – Emission Sources & Control***

| | | | | | |
|---|---|---|---|---|---|
| 63 | Sources of air pollution | Chimney Details (In Meters) | APC Equipment | Emission Quality (Third party test report to be collected) | |
| | Boiler (**07**) | **45** (04), **80**, **68**, **100** | ESP, Dust Collector, Bag Filter | Standard | |
| | Details of D.G Set (**04**) | | Capacity | Exhaust pipe | Emission standards |
| | | | **3** MW (02) and **4** MW (02) | **45** meters | Retrofitted Emission Control System |

**Hazardous waste section**

| 64 | | Name of HW generated | Category | Authorised Quantity | Quantity Generated | Source of generation | HW Disposal | Copy of agreement with recyclers /TSDF |
|---|---|---|---|---|---|---|---|---|
| | a. | Spent Solvents | I – 20.2 | 320.0 MTA | -- | Chemical Plant | Authorized Recyclers | Documents From Authorized Vendor Not Provided |
| | b. | Any Process or distillation residue | I – 36.1 | 350.0 MT | -- | | -- | |
| | c. | Spent Catalyst and molecular sieves | I – 1.6 | 103.0 MT | 52.73 MT | | -- | |
| | d. | Used or Spent Oil | I – 5.1 | 100.0 MTA | 35.60 MT | | -- | |
| | e. | Empty barrels/containers /liners contaminated with hazardous chemicals/wastes | I – 33.1 | 5000 Nos. | -- | | -- | |
| | f. | Sludge & Filters contaminated with Oil | I – 3.3 | 150.0 MTA | -- | | -- | |
| | g. | Spent Ion exchange resin containing toxic metals | I – 35.2 | 50.0 MTA | -- | | -- | |
| | h. | Oil & Grease Skimming | I – 35.4 | 20.0 MTA | -- | | -- | |
| | i. | Contaminated Cotton rags or other cleaning materials | I – 33.2 | 50.0 MTA | -- | | TSDF | |
| | j. | Wastes or Residues containing Oil | I – 5.2 | 350.0 MTA | 30.77 MT | | Authorized Recyclers | |
| | k. | Exhaust Air or Gas cleaning Residue | I – 35.1 | 150.0 MTA | -- | | Secure Landfillable | |
| Form-4 and 10 to be collected:<br>Attached as **Annexure 6.1** and **6.2** | | | | | | | | |

**Fuel/power consumption**

| 65 | Type of fuel used | **Coal** |
|---|---|---|
| 66 | Fuel consumption (mention units) | **480** MTD Average |
| | On the day of visit | Not Available |

**OCEMS and other details**

| | | |
|---|---|---|
| 67 | Installation Status of<br>(1) OCEMS<br><br>(2) Web Camera<br><br>(3) Flow meter<br><br>Connected with CPCB/SPCB Server:<br><br><br><br><br>(4) Frequency of calibration<br><br>(5) Last date of calibration<br><br>(6) Next due date of calibration<br><br>(7) Techniques | <br>**Yes**<br><br>No<br><br>**Yes**<br><br>Yes/No: **Yes**<br>URL: http://xylemcpcb.com<br>User ID: iglmegplant<br>Password: igl#2megplant1<br><br>Half Yearly<br><br>15 Sep 2021<br><br>March 2022<br><br>Inline/ On-line: Not Available |
| 68 | Values shown in OCEMS at the time of sampling | Flow ($m^3$/hr): 20.0<br>pH: : 7.52<br>TSS (mg/L): 10.0<br>BOD (mg/L): 8.9<br>COD (mg/L): 43 |
| 69 | Specific observations:<br><br>Display Board at main Gate: Yes/No: Yes<br>Housekeeping practices: Yes<br>I. Plant and ETP Operational at the time of Inspection.<br>II. Housekeeping is good.<br>III. Hazardous waste agreement not provided. | |
| 70 | Specific recommendations/suggestions:<br>1. Equal and homogeneous mixing in aeration tank is to be maintained<br>2. Hazardous waste Agreement to be procured.<br>3. Manufacturing Unit and ETP in good condition, as maintained always.<br>**4. All parameters of treated Effluent falls within the permitted limit of discharge norms. Thus, can be considered Complying.**<br>5. **Overall COMPLIANCE.** | |
| 71 | **Overall Compliance Status: Complying** | |

Photographs: Attached as **Annexure 7**

1. Prof. C.B. Majumder Professor IIT Roorkee

2. Mr. Sunil Arya AEE, UKPCB, Kashipur

3. Dr. Ashutosh Gautam Head - Environment IGL, Kashipur

Photos

Annexure 7

OCEMS

ETP Energy Meter

ETP Inlet Flowmeter

ETP Outlet Flowmeter

Sludge Drying Beds

Sample collection

ETP Unit

**HEAD OFFICE**
**Uttarakhand Pollution Control Board**
"Gaura Devi Paryavaran Bhawan"
46-B, IT Park, Sahastradhara Road, Dehradun (Uttarakhand)
Web: www.ueppcb.uk.gov.in. E-mail: msukpcb@yahoo.com

Ref: UEPPCB/HO/~~Gen-TPI-18/2022/~~ GPI-TPI-60/1820 Date: 23 03 2022

**SPEED POST**

To,

**M/s India Glycol Ltd. (MEG Unit),**
**Bazpur road, Kashipur,**
**U.S.Nagar,(Uttarakhand).**

**Sub: Third Party Inspection of Grossly Polluting Industries (GPIs)- reg.**

**Sir,**

Please refer to the Third Party Inspection of the Unit i.e. **M/s India Glycol Ltd. (MEG Unit),** located at Bazpur road, Kashipur (Uttarakhand), carried out by the Central Pulp and Paper Research Institute (CPPRI), Saharanpur on dated 08.02.2022. As per inspection report, following recommendations/suggestions are made by Third Party Institution:

1. Equal and homogeneous mixing in aeration tank is to be maintained.
2. The Unit shall provide Hazardous Waste Agreement to the Board's Offices.

In this regard, you are directed to ensure compliance of above recommendations/suggestions and also submit the compliance report in the Regional Office, Kashipur, District US Nagar and this office on priority basis.

This issued with approval of Member Secretary.

**Sincerely,**

**(Dr. Ankur Kansal)**
**Environment Engineer**

Copy to:

1. **Member Secretary**, Uttarakhand Pollution Control Board, Dehradun for kind information please.
2. **Regional Officer**, Uttarakhand Pollution Control Board, Kashipur, District U.S.Nagar for necessary follow up action please.

**Environment Engineer**

Annexure- 13a

Regional Office

**Uttarakhand Pollution Control Board**

**Avas Vikas Colony**

**Haldwani**

## Analysis Report on Industrial Effluent

| | |
|---|---|
| Report No | TE/KSP/46&47/2021-22 |
| Name of Industry | M/s Kashi Vishwanath Textile Mill Ltd<br>Plot no. 82,83,64.122,124,48/1 &48/2<br>5th Km Stone Ramnagar road Kashipur<br>District-U.S Nagar (Uttrakhand) |
| Sample Collected by | Sh.Naresh Goswami RO<br>Sh. Sunil Kumar Arya AEE |
| Date of Collection of Sample | 11.11.2021 |
| Date of completion of analysis | 20.11.2021 |
| Sampling point | 1.STP Inlet<br>2.STP Outlet |

| Parameters | Values | | Test Method | General Standards for sewage and Industrial effluent discharge in to stream |
|---|---|---|---|---|
| | 1 | 2 | | |
| Colour | Turbid | Colourless | Visual | Colourless as far as practicable |
| Odour | Unpleaser | Odourless | Sensory | Odourless as far as practicable |
| pH | 6.31 | 7.38 | Electrometric | 6.5 - 8.5 |
| Total Suspended Solids (mg/L) | 222 | 72 | Filtration | 100 Max. |
| Total Dissolved Solids (mg/L) | 1075 | 739 | Electrometric | |
| Total Solids (mg/L) | 1297 | 811 | By calculation | |
| BOD(mg/L) | 160 | 28 | BOD 3days | 30 Max. |
| COD (mg/L) | 440 | 120 | Dichromate reflux method | 250 Max. |

Scientific Assistant

Asstt. Scientific Officer

Regional Officer

**Annexure-1: Air, Water, and Hazardous consent**

UKPCB

**HEAD OFFICE**
**Uttarakhand Pollution Control Board**
**"Gaura Devi Paryavaran Bhawan"**
**46B, IT Park, Sahastradhara Road, Dehra Dun (Uttarakhand)**

UKPCB/HO/Con/S-3/2021/ 296 Date : 06.12.2021
REGD. POST

To,

M/s Kashi Vishwanath Textile Mill Pvt. Ltd.,
5th Km Stone, Ramnagar Road,
Distt- Udham Singh Nagar.

Consolidated Consent to Operate and Authorisation hereinafter referred to as the CCA (Consolidated Consent & authorization) (Renewal) 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 under "Rule-6(2)" of the "Hazardous and Other Wastes (Management and Transboundary Movement) Rules, 2016" notified under "Environment (Protection) Act, 1986" as applicable (to be referred hereinafter as Water Act, Air Act and HW Rules respectively).

| | |
|---|---|
| CAF ID - 3058 | Application no. 1131808 |
| CCA (Renewal) | |
| Date :- 01.04.2021 | |

CCA is hereby granted to **M/s Kashi Vishwanath Textile Mill Pvt. Ltd.** located at 5th Km Stone, Ramnagar Road, Distt- Udham Singh Nagar subject to the provisions of the Water Act, Air Act and Hazardous and Other Wastes (Management and Transboundary Movement) Rules, 2016 and the orders that may be made further and subject to following terms and conditions :-

1. This CCA is granted for the period upto **31.03.2023** and valid for manufacturing of following products with **Capital Investment/Net Assets Values Rs.** :-

| S. No. | Last CCA | | Present CCA (Renewal) | |
|---|---|---|---|---|
| | Product | Quantity (Per Month) | Product | Quantity (Per Month) |
| 1. | Synthetic Polyster Yarn/P.V dyed Yarn | 968 MT | Synthetic Polyster Yarn/P.V dyed Yarn | 968 MT |
| 2. | Recycled Polyster Fiber | 2000 MT | Recycled Polyster Fiber | 2000 MT |

2. **Specific Conditions under Water Act :-**

(i) **The daily quantity of effluent discharge (KLD) :-**

| | Last CCA | Present CCA (Renewal) |
|---|---|---|
| Trade Effluent | 550 (100% re-use in manufacturing process) | 550 (100% re-use in manufacturing process) |
| Sewage | 45 | 45 |

(ii) **Trade Effluent Treatment and Disposal:-** The applicant shall operate **Effluent Treatment Plant** (550KLD capacity)consisting of primary/secondary and tertiary treatment as is required with reference to influent quantity and quality.

*In case of stoppage of functioning of ETP, production has to be stopped immediately and this* ***Board*** *has to be intimated by fax/phone/email with a report in this regard to be dispatched immediately.*

(iii) The treated effluent shall be recycled to achieve Zero Discharge. Quality of the treated effluent shall meet to the following general and specific standards as prescribed under **Environment (Protection) Rules, 1986** and applicable to the unit from time-to-time:-

| | | | |
|---|---|---|---|
| 1 | pH | Between | 6.5 to 9.0 |
| 2 | Total Suspended solids | Not to exceed | 100mg/l |
| 3 | BOD (3 days 27°C) | Not to exceed | 30 mg/l |
| 4 | COD | Not to exceed | 250 mg/l |
| 5. | TDS | Not to exceed | 2100 mg/l |
| 6. | SAR | Not to exceed | 26 mg/l |
| 7. | Colour | Not to exceed | 150 PCU |
| 8. | Oil & Grease | Not to exceed | 10 mg/l |
| 9. | Total Chromium | Not to exceed | 2.0 mg/l |
| 10. | Sulphide | Not to exceed | 2.0 mg/l |
| 11. | Phenolic Compound | Not to exceed | 1.0 mg/l |
| 12. | Ammonical Nitrogen | Not to exceed | 1.0 mg/l |

(iv) **Sewage Treatment and Disposal**:- The applicant shall provide comprehensive STP (45KLD) as is required with reference to influent quantity and quality.

*In case of stoppage of functioning of STP, production has to be stopped immediately and this **Board** has to be intimated by fax/phone/email with a report in this regard to be dispatched immediately.*

(v) The treated sewage shall be reuse in gardening etc. Quality of the treated effluent shall meet to the following standards :-

| S.No. | Parameters | Standards |
|---|---|---|
| 1 | pH | 6.5 to 9.0 |
| 2 | BOD (mg/L) | Not more than 30 |
| 3 | TSS (mg/L) | Not more than 100 |
| 4 | Fecal Coliform (MPN/100ml) | Less than 1000 |

3. **Conditions under Air Act :-**

(i) The applicant shall use following fuel and install a comprehensive control system consisting of control equipment as is required with reference to generation of emissions and operate and maintain the same continuously so as to achieve the level of pollutants to the following standards :-

| S. No | Stack attached with | Stack height (Mt) | Type of Fuel | Fuel Quantity | Emission/ Noise Control Equipment | Emission standards not to exceed |
|---|---|---|---|---|---|---|
| 1. | Boiler (8TPH) × 1 nos. | 30 | Agro Waste | 2Ton | Dust Collector | PM-800mg/NM$^3$ |
| 2. | D.G set (1250 KVA) × 5 nos. | 15 | HSD | 350 Ltr/day | Acoustic Enclosure & Stack | - |
| 3. | D.G set (810 KVA) × 3 nos. | 30 | HSD | 400Ltr/day | Natural Draft, Acoustic Enclosure & Stack | - |
| 4. | Fuel Heater (Thermic) 30 Lac Kcl/hr | 30 | Wood | 104 MT/hr | Dust Collector | - |
| 5. | Boiler (6TPH) | 30 | Agro Waste | 2 Ton/hr | Dust Collector | - |

*In case of stoppage of functioning of air pollution control equipment, production has to be stopped immediately and this **Board** has to be intimated by fax/phone/email with a report in this regard to be dispatched immediately.*

(ii) Noise from the D.G. Set and other source(s) should be controlled by providing an acoustic enclosure as is required for meeting the ambient noise standards for night and day time as

prescribed for respective areas/zones (Industrial, Commercial, Residential, Silence) which are as follows :-

| Standards for Noise level in db(A) Leq | Industrial Area | | Commercial Area | | Residential Area | | Silence Zone | |
|---|---|---|---|---|---|---|---|---|
| | Day time | Night time | Day time | Night time | Day time | Night time | Day time | Night time |
| | 75 | 70 | 65 | 55 | 55 | 45 | 50 | 40 |

Day time : from 6.00 a.m. to 10.00 p.m., Night time: from 10.00 p.m. to 6.00 a.m.

4. **Conditions under Hazardous and Other Wastes (Management and Transboundary Movement) Rules, 2016 :-**

(i) The **Factory Manager of M/s Kashi Vishwanath Textile Mill Pvt. Ltd., Ramnagar Road, Distt- Udham Singh Nagar** is hereby granted an authorization to operate a facility for collection and storage of Hazardous wastes.

(ii) The authorization is granted to operate a facility for generation, collection and storage of hazardous wastes within factory premises for following category of wastes :-

| S.No. | Category (Schedule-I & Schedule-II) | Quantity of Waste for which authorization is being issued (MTA) | Mode of Disposal |
|---|---|---|---|
| 1. | Schedule I-33.1 | 2.5 | Recyclable |
| 2. | Schedule I-5.1 | 0.2 | Recyclable |
| 3. | Schedule I-35.3 | 2.5 | Secure Land Fill |

(iii) The authorization shall be in force **for the period upto 31.03.2023.**

(iv) The authorization is subject to the conditions stated below and such conditions as may be specified in the rules for the time being in force under Environment (Protection) Act, 1986.

**Terms and conditions of authorization :-**

(i) The authorization shall comply with the provisions of the **Environment (Protection) Act,** 1986, and the rules made there under.

(ii) The authorization and its renewal shall be produced for inspection at the request of an officer authorized by the SPCB/PCC.

(iii) The person authorized shall not rent, lend, sell, transfer or otherwise transport the hazardous wastes without obtaining prior permission of the SPCB/PCC.

(iv) Any unauthorized changes in personnel, equipment as working conditions as mentioned in the application by the person authorized shall constitute a breach of his authorization.

(v) It is the duty of the authorized person to take prior permission of the SPCB/PCC to close down the facility.

(vi) An application for the renewal of an authorization shall be made as laid down under these rules.

(vii) The unit shall comply with any other conditions specified in the guidelines issued by the MoEF&CC or CPCB/SPCB from time to time.

5. This CCA is valid for mixing, carding, drawing, spinning & dyeing processes only.

6. **Compulsory documents to be submitted by the Industry/Unit :-**

(i) Annual return in **Form-4** and **Waste Disposal Manifest** in **Form-10** under **Hazardous and Other Wastes (Management and Transboundary Movement) Rules, 2016** and **Third Party Audit Report.**

(ii) Environment Statement in **Form-V of Environment (Protection) Rules, 1986.**

(iii) **Quarterly compliance report of the CCA, photograph of ETP/APCs/Waste Storage Area.**

7. Unit has to apply for renewal of CCA well in advance of 60 days of expiry of this CCA.

8. Competent Authority reserves the right to change/modify/add any time any condition of this CCA.

9. Unit has to comply with the other general conditions as annexed herewith. Non compliance of any provision of this CCA and provisions of the **Water Act, Air Act** and **Hazardous and Other Wastes (Management and Transboundary Movement) Rules, 2016** will results in legal action under the aforesaid **Acts and Rules.**

Member Secretary

Copy to: **Regional Officer, Uttarakhand Pollution Control Board, Kashipur, Distt- Udham Singh Nagar** for information and compliance of the same.

Chief Environment Officer

**Annexure**

**Specific Conditions:**

1. The applicant shall submit audited balance sheet of the unit at the end of each financial year so that fee submitted by the applicant could be assessed.
2. The applicant shall provide ports in the chimney/stack and facilities such as ladder, platform etc. as per requirement for monitoring the air emissions and the same shall be open for inspection and use at all times by the Board's staff. The chimney/stack attached to various sources of emission shall be designated by numbers such as S-1, S-2 etc. and these shall be painted/ displayed to facilitate identification.
3. The industry shall ensure interlocking of air pollution control devices and production processes.
4. Solid wastes generated from the industry has to be disposed in manner so that contamination of surface water bodies/ground water/soil etc. does not take place.
5. The industry shall take adequate measures to control of noise from its own source so as to comply with the standards as may be applicable.
6. The applicant shall develop three rows of green belt on the premises with plant species as suggested by the **Central Pollution Control Board.**
7. The industry shall strictly adhere with the specific and general conditions issued with CCA order. Any violation of stipulated conditions may attract legal action under the provisions of **Water Act, Air Act** and **Environment (Protection) Act** and **Rules** made thereunder.
8. The industry shall ensure **all safety measures** and shall undertake **periodical assessment** by the competent authority.
9. Unit shall ensure manifest system in **Form-10** of **Hazardous and Other Wastes (Management and Transboundary Movement) Rules, 2016** while disposing hazardous waste.
10. Hazardous waste should not be stored beyond a period of 90 days.
11. The industry situated nearby the River Ganga and its tributaries shall ensure the treatment facilities and disposal arrangement in such a way so that no waste water is discharged in water stream or water bodies.
12. The unit shall strictly comply with the provisions of Water, Air & E (P) Acts and Rules/Notifications made there under.

**General Conditions**

1. The applicant shall get analyse the samples of effluent/emission/hazardous wastes at least once in a three month from the laboratory recognized by the MoEF&CC and shall report to the UKPCB.
2. The applicant shall however, not without the prior consent of the **Board** bring into use any new or altered outlet for the discharge of effluent or gases emission or sewage waste from the unit.
3. Treated waste water and domestic waste water shall be disposed jointly at one disposal point. The applicant shall provide discharge measurement equipment at final disposal point.
4. The applicant shall strictly comply with conditions of this CCA and submit compliance report of stipulated conditions within 30 days of receipt of this CCA. If, at any point of time, it is found that the industry is not complying with stipulated conditions or any further direction/instruction issued by the Board, legal action shall be initiated against the applicant.
5. The applicant shall maintain good house keeping. All valves/pipes/sewer/drains etc. must be leak-proof.

UKPCB

6. The industry shall provide uninterrupted entry to the STP's/ETP's inlet and outlet points, Air Pollution Control equipment and stack for smooth sampling/monitoring of efficiency of pollution control measures.
7. The industry shall provide "Inspection Book" at the time of inspection to the Board's officials.
8. Whenever due to any accident or other unforeseen act or event, such emission occurs or is apprehended to occur in excess of standards laid down, such information shall be reported to the Board's offices and all other concerned offices. In case of failure of pollution control equipment, the production process connected to it shall be stopped with immediate effect.
9. The industry shall operate in a manner so that all emissions be emitted through designated chimney/stack only.
10. In case of any damage to the agriculture productivity, human habitation etc. by the operation of industry, it shall be imperative to stop production in the industry with immediate effect and such information shall be reported to Board's offices. The industry shall be liable to pay compensation also in such cases as decided by the Competent Authority.
11. The applicant shall apply before the 60 days of expiry of CCA or any change in production types/ production capacity/manufacturing process/capacity enhancement etc. or any change in effluent discharge point or emission point.
12. The Board reserves the right to revoke/add/modify any stipulated condition issued along with CCA, as may be necessary.
13. The person authorized shall not rent, lend, sell, transfer or otherwise transport the hazardous waste without obtaining prior permission of the Board.
14. Any unauthorized change in personnel, equipment as working condition as mentioned in the application by the person authorized shall constitute a breach of his authorization.
15. It is the duty of the authorized person to take prior permission of the Board to close down the facility.
16. The authorization is valid for temporary storage of Hazardous Waste within premises only.
17. The authorized agency shall ensure that on-line data with regard to quantity and nature of hazardous chemicals being used in the plant as well as air emission and waste generated within premises is displayed on Display Board of size 6x4 feet outside the main factory gate within premises.
18. It is duty of the authorized person to take prior permission of this Board to close and cleanup the facility for treatment, storage and disposal of hazardous waste.
19. The applicant shall maintain record of hazardous waste in Form-3 and shall submit annual return in Form-4 on or before the 30th day of June following to the financial year to which that return relates.
20. In no case any hazardous waste shall be disposed off on land, in any drain, or into any water stream. All spillage must also be safely collected and stored.
21. Before the hazardous waste is stored or dumped in the facility, applicant must conduct a detailed physical and chemical analysis of hazardous waste sample and report to the Board.
22. Dried hazardous sludge from the process in the plant shall be stored in double lined HDPE pit constructed with R.C.C. or such material which does not react with the waste contained in it.
23. The storage area should be fenced properly and Sign/Notice Board indicating 'Danger' and 'Hazardous' shall be displayed at appropriate position both in Hindi and English.
24. The industry shall store non-ferrous metal waste, used oil/spent oil waste in sealed drums placed on impervious floor under covered shed. Hazardous waste if required shall be sold only to Registered Recyclers/Re-processors.
25. In case of any transportation of hazardous waste, the details in Form-10 of the Hazardous and Other Wastes (Management and Transboundary Movement) Rules, 2016 shall be submitted to the Board.

6/24

Chief Environment Officer

Annexure – 13 C

**Annexure 13 c**

भारत सरकार
जल शक्ति मंत्रालय
जल संसाधन, नदी विकास
और गंगा संरक्षण विभाग
केन्द्रीय भूमि जल प्राधिकरण
Government of India
Ministry of Jal Shakti
Department of Water Resources,
River Development & Ganga Rejuvenation
Central Ground Water Authority

## (भूजल निकासी हेतु अनापत्ति प्रमाण पत्र)
## NO OBJECTION CERTIFICATE (NOC) FOR GROUND WATER ABSTRACTION

| | | | |
|---|---|---|---|
| Project Name: | Kashi Vishwanath Textile Mill Pvt Ltd | | |
| Project Address: | 5th Km Stone, Ramnagar Road,kharmasi, Kashipur | | |
| Village: | Kharmasi | Block: | Kashipur |
| District: | Udam Singh Nagar | State: | Uttarakhand |
| Pin Code: | | | |
| Communication Address: | 5th Km Stone, Ramnagar Road, Kharmasi, Kashipur, Kashipur, Udam Singh Nagar, Uttarakhand - 244713 | | |
| Address of CGWB Regional Office : | Central Ground Water Board Uttarakhand Region, 419-a, Kanwali Road, Baluwala , Near Urja Bhawan, Dehradun, Dehradun, Uttarakhand - 248001 | | |

| | | | | | |
|---|---|---|---|---|---|
| 1. | **NOC No.:** | CGWA/NOC/IND/ORIG/2021/13282 | | | |
| 2. | Application No.: | 21-4/673/UT/IND/2017 | 3. | Category: (GWRE 2020) | Semi Critical |
| 4. | Project Status: | Existing Project | 5. | NOC Type: | New |
| 6. | **Valid from:** | 26/03/2021 | 7. | **Valid up to:** | 25/03/2024 |

8. Ground Water Abstraction Permitted:

| Fresh Water | | Saline Water | | Dewatering | | Total | |
|---|---|---|---|---|---|---|---|
| m³/day | m³/year | m³/day | m³/year | m³/day | m³/year | m³/day | m³/year |
| 406.00 | 129920.00 | | | | | | |

9. Details of ground water abstraction /Dewatering structures

| | Total Existing No.:1 | | | | | | Total Proposed No.:0 | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | DW | DCB | BW | TW | MP | MPu | DW | DCB | BW | TW | MP | MPu |
| Abstraction Structure* | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

*DW- Dug Well; DCB-Dug-cum-Bore Well; BW-Bore Well; TW-Tube Well; MP-Mine Pit;MPu-Mine Pumps

| | | |
|---|---|---|
| 10. | Ground Water Abstraction/Restoration Charges paid (Rs.): | 1169280.00 |

| | | | | | |
|---|---|---|---|---|---|
| 11. | Number of Piezometers(Observation wells) to be constructed/ monitored & Monitoring mechanism. | No. of Piezometers | Monitoring Mechanism | | |
| | | | Manual | DWLR** | DWLR With Telemetry |
| | **DWLR - Digital Water Level Recorder | 1 | 0 | 1 | 0 |

**(Compliance Conditions given overleaf)**

This is an auto generated document & need not to be signed.

18/11, जामनगर हाउस, मानसिंह रोड, नई दिल्ली - 110011 / 18/11, Jamnagar House, Mansingh Road, New Delhi-110011
Phone: (011) 23383561 Fax: 23382051, 23386743
Website: cgwa-noc.gov.in

**Validity of this NOC shall be subject to compliance of the following conditions:**

**Mandatory conditions:**

1) Installation of tamper proof digital water flow meter with telemetry on all the abstraction structure(s) shall be mandatory for all users seeking No Objection Certificate and intimation regarding their installation shall be communicated to the CGWA within 30 days of grant of No Objection Certificate.

2) Proponents shall mandatorily get water flow meter calibrated from an authorized agency once in a year.

3) Construction of purpose-built observation wells (piezometers) for ground water level monitoring shall be mandatory as per Section 14 of Guidelines. Water level data shall be made available to CGWA through web portal. Detailed guidelines for construction of piezometers are given in Annexure-II of the guidelines.

4) Proponents shall monitor quality of ground water from the abstraction structure(s) once in a year. Water samples from bore wells/ tube wells / dug wells shall be collected during April/May every year and analysed in NABL accredited laboratories for basic parameters (cations and anions), heavy metals, pesticides/ organic compounds etc. Water quality data shall be made available to CGWA through the web portal.

5) In case of mining projects, additional key wells shall be established in consultation with the Regional Director, CGWB for ground water level monitoring four (4) times a year (January, May, August and November) in core as well as buffer zones of the mine.

6) In case of mining project the firm shall submit water quality report of mine discharge/ seepage from Govt. approved/ NABL accredited lab.

7) The firm shall report compliance of the NOC conditions online in the website (www.cgwa-noc.gov.in) within one year from the date of issue of this NOC.

8) Industries abstracting ground water in excess of 100 m 3 /d shall undertake annual water audit through certified auditors and submit audit reports within three months of completion of the same to CGWA. All such industries shall be required to reduce their ground water use by at least 20% over the next three years through appropriate means.

9) Application for renewal can be submitted online from 90 days before the expiry of NOC. Ground water withdrawal, if any, after expiry of NOC shall be illegal & liable for legal action as per provisions of Environment (Protection) Act, 1986.

10) This NOC is subject to prevailing Central/State Government rules/laws/norms or Court orders related to construction of tube well/ground water abstraction structure / recharge or conservation structure/discharge of effluents or any such matter as applicable.

**General conditions:**

11) No additional ground water abstraction and/or de-watering structures shall be constructed for this purpose without prior approval of the Central Ground Water Authority (CGWA).

12) The proponent shall seek prior permission from CGWA for any increase in quantum of groundwater abstraction (more than that permitted in NOC for specific period).

13) Proponents shall install roof top rain water harvesting in the premise as per the existing building bye laws in the premise.

14) The project proponent shall take all necessary measures to prevent contamination of ground water in the premises failing which the firm shall be responsible for any consequences arising thereupon.

15) In case of industries that are likely to contaminate the ground water, no recharge measures shall be taken up by the firm inside the plant premises. The runoff generated from the rooftop shall be stored and put to beneficial use by the firm.

16) Wherever feasible, requirement of water for greenbelt (horticulture) shall be met from recycled / treated waste water.

17) Wherever the NOC is for abstraction of saline water and the existing wells (s) is /are yielding fresh water, the same shall be sealed and new tubewell(s) tapping saline water zone shall be constructed within 3 months of the issuance of NOC. The firm shall also ensure safe disposal of saline residue, if any.

18) Unexpected variations in inflow of ground water into the mine pit, if any, shall be reported to the concerned Regional Director, Central Ground Water Board.

19) In case of violation of any NOC conditions, the applicant shall be liable to pay the penalties as per Section 16 of Guidelines.

20) This NOC does not absolve the proponents of their obligation / requirement to obtain other statutory and administrative clearances from appropriate authorities.

21) The issue of this NOC does not imply that other statutory / administrative clearances shall be granted to the project by the concerned authorities. Such authorities would consider the project on merits and take decisions independently of the NOC.

22) In case of change of ownership, new owner of the industry will have to apply for incorporation of necessary changes in the No Objection Certificate with documentary proof within 60 days of taking over possession of the premises.

23) This NOC is being issued without any prejudice to the directions of the Hon'ble NGT/court orders in cases related to ground water or any other related matters.

24) Proponents, who have installed/constructed artificial recharge structures in compliance of the NOC granted to them previously and have availed rebate of upto 50% (fifty percent) in the ground water abstraction charges/ground water restoration charges, shall continue to regularly maintain artificial recharge structures.

25) Industries which are likely to cause ground water pollution e.g. Tanning, Slaughter Houses, Dye, Chemical/ Petrochemical, Coal washeries, pharmaceutical, other hazardous units etc. (as per CPCB list) need to undertake necessary well head protection measures to ensure prevention of ground water pollution as per Annexure III of the guidelines.

26) In case of new infrastructure projects having ground water abstraction of more than 20 m3/day, the firm/entity shall ensure implementation of dual water supply system in the projects.

27) In case of infrastructure projects, paved/parking area must be covered with interlocking/perforated tiles or other suitable measures to ensure groundwater infiltration/harvesting.

28) In case of coal and other base metal mining projects, the project proponent shall use the advance dewatering technology (by construction of series of dewatering abstraction structures) to avoid contamination of surface water.

29) The NOC issued is conditional subject to the conditions mentioned in the Public notice dated 27.01.2021 failing which penalty/EC/cancellation of NOC shall be imposed as the case may be.
30) This NOC is issued subject to the clearance of Expert Appraisal Committee (EAC) (if applicable).

**(Non-compliance of the conditions mentioned above is likely to result in the cancellation of NOC and legal action against the proponent.)**

CENTRAL GROUND WATER AUTHORITY

Annexure – 13 b

UKPCB

HEAD OFFICE
Uttarakhand Pollution Control Board
"Gaura Devi Paryavaran Bhawan"
46B, IT Park, Sahastradhara Road, Dehra Dun (Uttarakhand)
Web : www.ueppcb.uk.gov.in. E-mail : msukpcb@yahoo.com

UKPCB/HO/Con/S-3/2021/ 1296

Date : 06.12.2021
REGD. POST

To,

M/s Kashi Vishwanath Textile Mill Pvt. Ltd.,
5th Km Stone, Ramnagar Road,
Distt- Udham Singh Nagar.

**Consolidated Consent to Operate and Authorisation hereinafter referred to as the CCA (Consolidated Consent & authorization) (Renewal) 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 under "Rule-6(2)" of the "Hazardous and Other Wastes (Management and Transboundary Movement) Rules, 2016" notified under "Environment (Protection) Act, 1986" as applicable (to be referred hereinafter as Water Act, Air Act and HW Rules respectively).**

| | |
|---|---|
| CAF ID - 3058<br>CCA (Renewal)<br>Date :- 01.04.2021 | Application no. 1131808 |

CCA is hereby granted to **M/s Kashi Vishwanath Textile Mill Pvt. Ltd.** located at 5th Km Stone, Ramnagar Road, Distt- Udham Singh Nagar subject to the provisions of the Water Act, Air Act and Hazardous and Other Wastes (Management and Transboundary Movement) Rules, 2016 and the orders that may be made further and subject to following terms and conditions :-

1. This CCA is granted for the period upto **31.03.2023** and valid for manufacturing of following products with Capital Investment/Net Assets Values Rs. :-

| S. No. | Last CCA | | Present CCA (Renewal) | |
|---|---|---|---|---|
| | Product | Quantity (Per Month) | Product | Quantity (Per Month) |
| 1. | Synthetic Polyster Yarn/P.V dyed Yarn | 968 MT | Synthetic Polyster Yarn/P.V dyed Yarn | 968 MT |
| 2. | Recycled Polyster Fiber | 2000 MT | Recycled Polyster Fiber | 2000 MT |

2. **Specific Conditions under Water Act :-**

(i) **The daily quantity of effluent discharge (KLD) :-**

| | Last CCA | Present CCA (Renewal) |
|---|---|---|
| Trade Effluent | 550 (100% re-use in manufacturing process) | 550 (100% re-use in manufacturing process) |
| Sewage | 45 | 45 |

(ii) **Trade Effluent Treatment and Disposal:-** The applicant shall operate **Effluent Treatment Plant** (550KLD capacity)consisting of **primary/secondary** and **tertiary** treatment as is required with reference to influent quantity and quality.

*In case of stoppage of functioning of ETP, production has to be stopped immediately and this Board has to be intimated by fax/phone/email with a report in this regard to be dispatched immediately.*

(iii) The treated effluent shall be recycled to achieve Zero Discharge. Quality of the treated effluent shall meet to the following general and specific standards as prescribed under **Environment (Protection) Rules, 1986** and applicable to the unit from time-to-time:-

| | | | |
|---|---|---|---|
| 1 | pH | Between | 6.5 to 9.0 |
| 2 | Total Suspended solids | Not to exceed | 100mg/l |
| 3 | BOD (3 days 27°C) | Not to exceed | 30 mg/l |
| 4 | COD | Not to exceed | 250 mg/l |
| 5. | TDS | Not to exceed | 2100 mg/l |
| 6. | SAR | Not to exceed | 26 mg/l |
| 7. | Colour | Not to exceed | 150 PCU |
| 8. | Oil & Grease | Not to exceed | 10 mg/l |
| 9. | Total Chromium | Not to exceed | 2.0 mg/l |
| 10. | Sulphide | Not to exceed | 2.0 mg/l |
| 11. | Phenolic Compound | Not to exceed | 1.0 mg/l |
| 12. | Ammonical Nitrogen | Not to exceed | 1.0 mg/l |

(iv) **Sewage Treatment and Disposal:-** The applicant shall provide comprehensive STP (45KLD) as is required with reference to influent quantity and quality.

*In case of stoppage of functioning of STP, production has to be stopped immediately and this Board has to be intimated by fax/phone/email with a report in this regard to be dispatched immediately.*

(v) The treated sewage shall be reuse in gardening etc. Quality of the treated effluent shall meet to the following standards :-

| S.No. | Parameters | Standards |
|---|---|---|
| 1 | pH | 6.5 to 9.0 |
| 2 | BOD (mg/L) | Not more than 30 |
| 3 | TSS (mg/L) | Not more than 100 |
| 4 | Fecal Coliform (MPN/100ml) | Less than 1000 |

3. **Conditions under Air Act :-**

(i) The applicant shall use following fuel and install a comprehensive control system consisting of control equipment as is required with reference to generation of emissions and operate and maintain the same continuously so as to achieve the level of pollutants to the following standards :-

| S. No | Stack attached with | Stack height (Mt) | Type of Fuel | Fuel Quantity | Emission/ Noise Control Equipment | Emission standards not to exceed |
|---|---|---|---|---|---|---|
| 1. | Boiler (8TPH) × 1 nos. | 30 | Agro Waste | 2Ton | Dust Collector | PM-800mg/NM$^3$ |
| 2. | D.G set (1250 KVA) × 5 nos. | 15 | HSD | 350 Ltr/day | Acoustic Enclosure & Stack | - |
| 3. | D.G set (810 KVA) × 3 nos. | 30 | HSD | 400Ltr/day | Natural Draft, Acoustic Enclosure & Stack | - |
| 4. | Fuel Heater (Thermic) 30 Lac Kcl/hr | 30 | Wood | 104 MT/hr | Dust Collector | - |
| 5. | Boiler (6TPH) | 30 | Agro Waste | 2 Ton/hr | Dust Collector | - |

*In case of stoppage of functioning of air pollution control equipment, production has to be stopped immediately and this Board has to be intimated by fax/phone/email with a report in this regard to be dispatched immediately.*

(ii) Noise from the D.G. Set and other source(s) should be controlled by providing an acoustic enclosure as is required for meeting the ambient noise standards for night and day time as

prescribed for respective areas/zones (Industrial, Commercial, Residential, Silence) which are as follows :-

| Standards for Noise level in db(A) Leq | Industrial Area | | Commercial Area | | Residential Area | | Silence Zone | |
|---|---|---|---|---|---|---|---|---|
| | Day time | Night time | Day time | Night time | Day time | Night time | Day time | Night time |
| | 75 | 70 | 65 | 55 | 55 | 45 | 50 | 40 |

Day time : from 6.00 a.m. to 10.00 p.m., Night time: from 10.00 p.m. to 6.00 a.m.

4. **Conditions under Hazardous and Other Wastes (Management and Transboundary Movement) Rules, 2016 :-**

(i) The **Factory Manager of M/s Kashi Vishwanath Textile Mill Pvt. Ltd., Ramnagar Road, Distt- Udham Singh Nagar** is hereby granted an authorization to operate a facility for collection and storage of Hazardous wastes.

(ii) The authorization is granted to operate a facility for generation, collection and storage of hazardous wastes within factory premises for following category of wastes :-

| S.No. | Category (Schedule-I & Schedule-II) | Quantity of Waste for which authorization is being issued (MTA) | Mode of Disposal |
|---|---|---|---|
| 1. | Schedule I-33.1 | 2.5 | Recyclable |
| 2. | Schedule I-5.1 | 0.2 | Recyclable |
| 3. | Schedule I-35.3 | 2.5 | Secure Land Fill |

(iii) The authorization shall be in force **for the period upto 31.03.2023.**

(iv) The authorization is subject to the conditions stated below and such conditions as may be specified in the rules for the time being in force under Environment (Protection) Act, 1986.

**Terms and conditions of authorization :-**

(i) The authorization shall comply with the provisions of the **Environment (Protection) Act,** 1986, and the rules made there under.

(ii) The authorization and its renewal shall be produced for inspection at the request of an officer authorized by the SPCB/PCC.

(iii) The person authorized shall not rent, lend, sell, transfer or otherwise transport the hazardous wastes without obtaining prior permission of the SPCB/PCC.

(iv) Any unauthorized changes in personnel, equipment as working conditions as mentioned in the application by the person authorized shall constitute a breach of his authorization.

(v) It is the duty of the authorized person to take prior permission of the SPCB/PCC to close down the facility.

(vi) An application for the renewal of an authorization shall be made as laid down under these rules.

(vii) The unit shall comply with any other conditions specified in the guidelines issued by the MoEF&CC or CPCB/SPCB from time to time.

5. This CCA is valid for mixing, carding, drawing, spinning & dyeing processes only.

6. **Compulsory documents to be submitted by the Industry/Unit :-**

(i) Annual return in **Form-4** and **Waste Disposal Manifest** in **Form-10** under **Hazardous and Other Wastes (Management and Transboundary Movement) Rules, 2016** and **Third Party Audit Report.**

(ii) Environment Statement in **Form-V of Environment (Protection) Rules, 1986.**

(iii) Quarterly **compliance report of the CCA, photograph of ETP/APCs/Waste Storage Area.**

7. Unit has to apply for renewal of CCA well in advance of 60 days of expiry of this CCA.

8. Competent Authority reserves the right to change/modify/add any time any condition of this CCA.

9. Unit has to comply with the other general conditions as annexed herewith. Non compliance of any provision of this CCA and provisions of the **Water Act, Air Act** and **Hazardous and Other Wastes (Management and Transboundary Movement) Rules, 2016** will results in legal action under the aforesaid **Acts and Rules.**

**Member Secretary**

Copy to: **Regional Officer, Uttarakhand Pollution Control Board, Kashipur, Distt- Udham Singh Nagar** for information and compliance of the same.

**Chief Environment Officer**

**Annexure**

**Specific Conditions:**

1. The applicant shall submit audited balance sheet of the unit at the end of each financial year so that fee submitted by the applicant could be assessed.
2. The applicant shall provide ports in the chimney/stack and facilities such as ladder, platform etc. as per requirement for monitoring the air emissions and the same shall be open for inspection and use at all times by the Board's staff. The chimney/stack attached to various sources of emission shall be designated by numbers such as S-1, S-2 etc. and these shall be painted/ displayed to facilitate identification.
3. The industry shall ensure interlocking of air pollution control devices and production processes.
4. Solid wastes generated from the industry has to be disposed in manner so that contamination of surface water bodies/ground water/soil etc. does not take place.
5. The industry shall take adequate measures to control of noise from its own source so as to comply with the standards as may be applicable.
6. The applicant shall develop three rows of green belt on the premises with plant species as suggested by the **Central Pollution Control Board.**
7. The industry shall strictly adhere with the specific and general conditions issued with CCA order. Any violation of stipulated conditions may attract legal action under the provisions of **Water Act, Air Act** and **Environment (Protection) Act** and Rules made thereunder.
8. The industry shall ensure all safety measures and shall undertake periodical assessment by the competent authority.
9. Unit shall ensure manifest system in **Form-10** of **Hazardous and Other Wastes (Management and Transboundary Movement) Rules, 2016** while disposing hazardous waste.
10. Hazardous waste should not be stored beyond a period of 90 days.
11. The industry situated nearby the River Ganga and its tributaries shall ensure the treatment facilities and disposal arrangement in such a way so that no waste water is discharged in water stream or water bodies.
12. The unit shall strictly comply with the provisions of Water, Air & E (P) Acts and Rules/Notifications made there under.

**General Conditions**

1. The applicant shall get analyse the samples of effluent/emission/hazardous wastes at least once in a three month from the laboratory recognized by the MoEF&CC and shall report to the UKPCB.
2. The applicant shall however, not without the prior consent of the **Board** bring into use any new or altered outlet for the discharge of effluent or gases emission or sewage waste from the unit.
3. Treated waste water and domestic waste water shall be disposed jointly at one disposal point. The applicant shall provide discharge measurement equipment at final disposal point.
4. The applicant shall strictly comply with conditions of this CCA and submit compliance report of stipulated conditions within 30 days of receipt of this CCA. If, at any point of time, it is found that the industry is not complying with stipulated conditions or any further direction/instruction issued by the **Board**, legal action shall be initiated against the applicant.
5. The applicant shall maintain good house keeping. All valves/pipes/sewer/drains etc. must be leak-proof.

6. The industry shall provide uninterrupted entry to the STP's/ETP's inlet and outlet points, Air Pollution Control equipment and stack for smooth sampling/monitoring of efficiency of pollution control measures.
7. The industry shall provide "Inspection Book" at the time of inspection to the Board's officials.
8. Whenever due to any accident or other unforeseen act or event, such emission occurs or is apprehended to occur in excess of standards laid down, such information shall be reported to the Board's offices and all other concerned offices. In case of failure of pollution control equipment, the production process connected to it shall be stopped with immediate effect.
9. The industry shall operate in a manner so that all emissions be emitted through designated chimney/stack only.
10. In case of any damage to the agriculture productivity, human habitation etc. by the operation of industry, it shall be imperative to stop production in the industry with immediate effect and such information shall be reported to Board's offices. The industry shall be liable to pay compensation also in such cases as decided by the Competent Authority.
11. The applicant shall apply before the 60 days of expiry of CCA or any change in production types/ production capacity/manufacturing process/capacity enhancement etc. or any change in effluent discharge point or emission point.
12. The Board reserves the right to revoke/add/modify any stipulated condition issued along with CCA, as may be necessary.
13. The person authorized shall not rent, lend, sell, transfer or otherwise transport the hazardous waste without obtaining prior permission of the **Board.**
14. Any unauthorized change in personnel, equipment as working condition as mentioned in the application by the person authorized shall constitute a breach of his authorization.
15. It is the duty of the authorized person to take prior permission of the **Board** to close down the facility.
16. The authorization is valid for temporary storage of Hazardous Waste within premises only.
17. The authorized agency shall ensure that on-line data with regard to quantity and nature of hazardous chemicals being used in the plant as well as air emission and waste generated within premises is displayed on Display Board of size 6x4 feet outside the main factory gate within premises.
18. It is duty of the authorized person to take prior permission of this Board to close and cleanup the facility for treatment, storage and disposal of hazardous waste.
19. The applicant shall maintain record of hazardous waste in **Form-3** and shall submit annual return in **Form-4** on or before the 30th day of June following to the financial year to which that return relates.
20. In no case any hazardous waste shall be disposed off on land, in any drain, or into any water stream. All spillage must also be safely collected and stored.
21. Before the hazardous waste is stored or dumped in the facility, applicant must conduct a detailed physical and chemical analysis of hazardous waste sample and report to the Board.
22. Dried hazardous sludge from the process in the plant shall be stored in double lined HDPE pit constructed with R.C.C. or such material which does not react with the waste contained in it.
23. The storage area should be fenced properly and Sign/Notice Board indicating 'Danger' and 'Hazardous' shall be displayed at appropriate position both in Hindi and English.
24. The industry shall store non-ferrous metal waste, used oil/spent oil waste in sealed drums placed on impervious floor under covered shed. Hazardous waste if required shall be sold only to Registered Recyclers/Re-processors.
25. In case of any transportation of hazardous waste, the details in Form-10 of the Hazardous and Other Wastes (Management and Transboundary Movement) Rules, 2016 shall be submitted to the Board.

6/12/24

Chief Environment Officer

**CENTRAL POLLUTION CONTROL BOARD**
**Water Quality Management-II**
**INDUSTRY INSPECTION FORMAT (Textile)**

**General section** **Date of inspection: 26.03.2022**

| | | |
|---|---|---|
| 1. | Unit code | 631 |
| 2. | Name of the unit with complete postal address: | Kashi Vishwanath Textile Mill (P) Ltd.<br>VILL- Ram Nagar Road, TAL-KASHIPUR, - 244713 Dis- U.S. Nagar |
| 3. | Spatial Co-ordinates (Latitude & longitude) in Decimal format only | 29.2437177;<br>78.9890917 |
| 4. | Name of Contact person with designation<br>Phone & Email: | Surendra Gupta<br>Gm Engineers<br>9927976002<br>Textile@spnggroup.com |
| 5. | Year of commissioning | 2013 |
| 6. | Name of SPCBs Regional Office | UKSPCB |
| 7. | Industry Operational status | Operational |

**sConsent section**
(Attach valid copies, or if expired then attach recent expired copies along with copy of application)

| | | |
|---|---|---|
| 8. | **Air consent**<br>(Validity with date/Expired/Applied for renewal/First time applied/Never applied ) | Valid till 31/03/2022<br>Attached as **Annexure-1** |
| 9. | **Water consent**<br>(Validity with date /Expired/Applied for renewal/First time applied/Never applied) | Valid till 31/03/2022<br>Attached as **Annexure-1** |
| 10. | **Hazardous waste authorization**<br>(Validity with date /Expired/Applied for renewal/First time applied/Never applied ) | Valid till 31/03/2022<br>Attached as **Annexure-1** |
| 11. | **NOC from CGWA/other authorized body**<br>(Validity with date /Expired/Applied for renewal/First time applied/Never applied) | Valid till 25/03/2025<br>Attached as **Annexure-2** |

**Production section**

| | | |
|---|---|---|
| 12. | Mention no. of operational days in last three months (to be used for calculation purposes in subsequent sections) | 86 |
| 13. | Operation schedule | 24 hours/day |
| 14. | Type of industry (Process category e.g., Raw Wool, Scoured Wool, Polyester, acrylic, Woven, Raw Silk, Processed Silk, Knit, Canvas, Carpet, Woven Cotton, Blend PC, Blend PV, 100% Poly etc.) | Synthetic Polyester yarn |
| 15. | Names of Raw Materials (Substrate- Cotton/ Wool/ Silk /Other) (in kg) (in the last three months) | Acrylic fiber, Polyester fiber, Viscos fiber. (No information about 3 months of data,10 days raw material data) attached as **Annexure-3** |
| 16. | Product (s) and Capacity- (Separately mention of each product)<br>a) As per consent (kg/day) (If consent is given in length or in no. of pieces write in kg/day in bracket also as per piece weight or GSM):<br>b) Production details in last 3 months (kg/day)<br>c) Actual production during the inspection (Average of last 10 days production). (kg/day)<br>d) If production in number per day or piece per day, then mentioned grams per square meter (GSM)<br>Piece weight (Kgs) (PW):<br>Piece length (meters) (PL):<br>Fabric width (inches) (FW):<br>(GSM=PW x 39.37x1000/PL x FW) | <br>Synthetic fiber yarn- 968 MT<br>Recycled fiber-2000 MT<br>**No information**<br>205151.4Kg<br>205.151 Tonne<br>Or 20.51 T/day<br>Attached as **Annexure-3**<br>**NA** |
| 17. | Installed production capacity (converted to kg/day) | 968 MT and 2000 MT; 32.26 MT/day and 66 MT/day |
| 18. | Process details (with Material Balance & Flow diagram): | Process flow diagram attached as **Annexure-4** |
| 19. | Name, No. and capacity of each process machine | Not provided |
| 20. | List and quantity of chemicals used (kg/day) (if liquid chemical is used, concentration (in wt./v or v/v)). | NA |
| 21. | Type, name and quantity of dye used per day. | Disperse Dyes |
| 22. | Feedback from Local residents (about the pollution status of the industry inspected) | No negative feedback found |

**Water section**

| | | |
|---|---|---|
| 23. | *Source of freshwater* | |
| | River | NA |
| | Borewell | No. of Borewell as per CGWA NOC: 01 No's<br>Permitted withdrawal quantity: 406 $m^3$/day |

| | | | | |
|---|---|---|---|---|
| | | Actual withdrawal quantity: 24895 KL or 289.47 KLD<br>(Average of last three months)<br>Actual no. of bore well found on site: 01 No's<br>No. of Borewell-having flow meter with totalizer installed: 01<br>Instantaneous Reading: 12.5 $m^3$/hrs.<br>Totalizer Reading during a visit: 154250.549 $m^3$<br>Type: Electromagnetic flowmeter<br>Calibration details: attached as **Annexure-5**<br>**(Not clearly visible seems old copy)**<br>Logbook maintained: Yes<br>Logbook attached as **Annexure-6** | | |
| | Other piped sources (Municipal supply etc.) | Not applicable | | |
| | Supply of water from tankers (Batch supply) | Not applicable | | |
| ***Fresh water consumption*** | | | | |
| 24. | Freshwater consumption (KL)<br>(Total of last three months) | Production process | Domestic | Others |
| | | 24895 KL | | |
| | Overall in KLD & KL/MT of product | 289.4 KLD 14.5 KL/MT | | |
| | On the day of visit (KL) | 65 KL | | |

**Effluent management section**

| | | |
|---|---|---|
| 25. | Sources of effluent generation | No |
| 26. | Flow meters at sources of effluent generation | No |
| 27. | ETP status | Installed (Yes/No) : Yes<br>Operational (Yes/No) : Yes |
| 28. | Flowmeter/ v-notch installed at ETP inlet | Yes (Flowmeter installed)<br>Type: Electromagnetic<br>Calibration details: **Annexure-5 (Not clearly visible seems old copy)**<br>Instantaneous Reading: 37.026 $m^3$/hr<br>Totalizer Reading: 375509.5382 $m^3$<br>Logbook maintained: Yes<br>Logbook attached as **Annexure-7**<br>**(which is not clearly visible)** |
| 29. | Flow meter/ v-notch installed at ETP outlet (**RO Permeate**) | Yes (Flow meter installed)<br>Type: Electromagnetic<br>Calibration details:<br>Instantaneous Reading: 1.599$m^3$/hr<br>Totalizer Reading: 367355 $m^3$<br>Logbook maintained: Yes<br>Logbook attached as **Annexure-7** |

| | | |
|---|---|---|
| | | **(Which is not clearly visible)** |
| 30. | Flow meter installed at treated water recirculation line (s) **(R.O Feed)** | Yes<br>Type: Electromagnetic.<br>Calibration details:<br>Instantaneous Reading:21.881 $m^3$/hr<br>Totalizer Reading: 406887.7212$m^3$<br>Logbook maintained: Yes<br>Logbook attached as **Annexure-7**<br>**(which is not clearly visible)** |
| 31. | Effluent generation quantity (KL)<br>(to be calculated from ETP inlet logbook)-Total of last three months | The logbook is not visible so calculation not possible. |
| | Overall in KLD & KL/MT of product (26.12.2021 to 25.03.2021) | NA |
| | On the day of visit (KL) | NA |
| 32. | Recycled water consumption (KL) (Total of last three months) (RO Permeate) (26.12.2021 to 25.03.2021) | In production / Others<br>Logbook is not visible so calculation not be possible. |
| | Overall in KLD & KL/MT of product | NA |
| | On the day of visit (KL) | NA / NA |
| 33. | Effluent discharge quantity (KL)<br>(to be calculated from ETP outlet logbook)- Total of last three months | **NA (**Zero Liquid Discharge Plant) |
| | Overall, in KLD & KL/MT of product | N.A |
| | On the day of visit (KL) | NA |
| 34. | Mode of discharge | Not applicable |
| 35. | a. No. of consented outlets<br>b. Actual no. of outlets observed during visit | Zero Liquid Discharge Plant |
| 36. | Discharge in | NA |
| 37. | Route to reach river Ganga and approximate distance of confluence point of River Ganga | Not applicable |
| 38. | Whether any By-pass / multiple Outlets of Effluent observed | No |
| 39. | **ZLD status**:<br>a. Whether consent specifies that unit is ZLD: Yes<br>b. Mode of achieving ZLD:<br>• Complete recycling in production process: Yes<br>• Reused for irrigation within premises; No<br>c. In case of ZLD mention availability of flow meters (with flow rate and totalizer reading during visit) at all recirculation lines (Y/N): Yes | |

40. Effluent characteristics

| **Parameter** | **ETP inlet (Annexure-8A** | **ETP RO feed (Annexure-8B1)** | **(RO permeate Annexure-8B2)** | **ETP Ro reject (Annexure-8C)** | **Norms as per consent** | **Compliance w.r.t. consent** |
|---|---|---|---|---|---|---|
| pH | 6.85 | 6.38 | **6.33** | 7.43 | ZLD | Comply |
| BOD (mg/l) | 710 | 145 | **24.8** | 2600 | ZLD | Comply |
| COD (mg/l) | 2390 | 494 | **95.6** | 18 | ZLD | Comply |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| | TSS (mg/l) | 128 | 84 | **16** | 680 | ZLD | Comply |
| | TDS (mg/l) | 1374 | 2280 | **246** | 194 | ZLD | Comply |
| | Oil & Grease (mg/l) | 9.8 | 6.6 | **4.1** | - | ZLD | Comply |
| | Colour (PCU) | 88 | 68 | **12** | 128 | ZLD | Comply |
| | For industries discharging into Yamuna or its tributaries | | | | | | |
| | $NH_3$-N | 2.8 | 5.2 | 5.42 | | ZLD | Comply |
| | $NH_4NO_3$ | 4.3 | 3.6 | 1.6 | | ZLD | Comply |
| | $PO_4^{3-}$ | 2.34 | 1.12 | 1.02 | | ZLD | Comply |
| | Total Cr | 0.028 | 0.022 | 0.028 | | ZLD | Comply |
| | Sulphide | - | - | - | | ZLD | Comply |
| | $SO_4^{-2}$ | 120 | 248.4 | 18.6 | | ZLD | Comply |
| | SAR | 4.8 | 3.9 | 3.5 | | ZLD | Comply |
| | Phenolic compound | ND | ND | ND | | ZLD | Comply |
| | Surfactants (MBAS Assay) | 1.28 | 0.92 | 0.88 | | ZLD | Comply |
| | MLSS (mg/l): . 680mg/l; MLVSS (mg/l): 492mg/l **Annexure-8D (SBR)** | | | | | | |
| 41. | Influent BOD Load (on the basis of inlet quality & flow): | | | | | No discharge ZLD unit | |
| 42. | Discharge BOD Load (on the basis of discharge quality & flow): | | | | | No discharge ZLD unit | |

| **Parameter** | **STP inlet (Annexure-8F** | **STP outlet (Annexure-8G)** | **Norms as per consent** | **Compliance w.r.t. consent** |
|---|---|---|---|---|
| pH | 6.73 | 4.76 | ZLD | Comply |
| BOD (mg/l) | 142.8 | 56.5 | ZLD | Comply |
| COD (mg/l) | 478.3 | 202 | ZLD | Comply |
| TSS (mg/l) | 28 | 22 | ZLD | Comply |
| TDS (mg/l) | 859 | 788 | ZLD | Comply |
| Oil & Grease (mg/l) | 7.4 | 3.6 | ZLD | Comply |
| Colour (PCU) | 44 | 24 | ZLD | Comply |
| For industries discharging into Yamuna or its tributaries | | | | |
| $NH_3$-N | 0.11 | 1.32 | ZLD | Comply |
| $NH_4NO_3$ | 4.8 | 2.88 | ZLD | Comply |
| $PO_4^{3-}$ | 1.42 | 0.38 | ZLD | Comply |
| Total Cr | 0.021 | 0.027 | ZLD | Comply |
| $SO_4^{-2}$ | 58.6 | 68.6 | ZLD | Comply |
| SAR | 4.2 | 3.6 | ZLD | Comply |
| Phenolic compound | ND | ND | ZLD | Comply |
| Surfactants (MBAS Assay) | 1.12 | 0.98 | ZLD | Comply |
| MLSS (mg/l): . 160 mg/l; MLVSS (mg/l): 94 mg/l **Annexure-8H** | | | | |

**Ground water Analysis Report: Year of Dug: ……. Depth (m)……**

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | Quality of Groundwater is compared with Bureau of Indian Standard (BIS) drinking water — specification (Second Revision) IS 10500: 2012. | | | | | | | | | | |
| | Parameter → / Location ↓ | pH | Colour (PCU) | Total Alkalinity | Total Hardness | COD | TDS | $Cl^-$ | $F^-$ | $NO_3$ | $SO_4$ |
| | Standard values | 6.5-8.5 | 15 | 600 | 600 | - | 2000 | 1000 | 1.5 | 45 | 400 |
| | Tested Values | 7.51 | 2 | 68.9 | 184.5 | 28.6 | 303 | 19.7 | 0.01 | 1.2 | 24.8 |

| | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Quality of Groundwater is compared with Bureau of Indian Standard (BIS) drinking water — specification (Second Revision) IS 10500: 2012. (Heavy Metal) | | | | | | | | | | | | | |
| | Parameter → | As | Cd | Cr | Cu | Fe | Pb | Mn | Hg | Ni | Zn | Sb | Co | Se | V |
| | Permissible linits | 0.05 | 0.003 | 0.05 | 1.5 | 1.0 | 0.01 | 0.1 | 0.001 | 0.02 | 5 | - | - | 0.01 | - |
| | Tested Values | ND | ND | ND | ND | 0.31 | 0.006 | 0.028 | ND | 0.40 | 2.1 | ND | ND | ND | ND |
| | **Annexure-8E** | | | | | | | | | | | | | | |

**Recipient drain & Bypass:**

| 32. | *Recipient drain characteristics (mention name of the drain also)* | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Parameter → / Location ↓ | pH | Colour (PCU) | BOD (mg/l) | COD (mg/l) | TSS (mg/l) | TDS (mg/l) | $Cl^-$ (mg/l) | $NO_3$ (mg/l) | $NH_3$-N (mg/l) |
| | Upstream | Unit is ZLD | | | | | | | | |
| | Downstream | | | | | | | | | |
| 33. | By-pass (if any): NO | | | | | | | | | |

**ETP section**

| | | | | | |
|---|---|---|---|---|---|
| 34. | ETP status: Operational **Water balance report** attached as **Annexure-9** | | | | |
| 35. | Installed capacity (KLD): 800 KLD; Utilized capacity KLD): 500 KLD | | | | |
| 36. | Effluent treatment technology: Biological (Copy of adequacy report is to be collected) | | | | |
| | ETP unit | Dimension (LxWxH) | Capacity (m3) | Retention time (Hr.) | Adequate/Inadequate |
| | Bar screen chamber | 2 X1.5 X2 | 6 $M^3$ | NA | ETP Adequacy report attached as **Annexure-10** |
| | Equalization tank | 6 X 10 X6.5 | 390 $M^3$ | 11.1 Hrs | |
| | Primary clarifier | | | | |
| | Aeration tank/ other advance oxidation technology eg. Ozonation | (10 X 8 X 6.5 ) 2 nos. | 520 $M^3$ X2 Nos. | 16 Hrs | |
| | Secondary clarifier | | | | |
| | Tertiary Filtration system | MGF+ ACF+ WAC+ Degasser Tower | 40 $M^3$ | | |
| | Advance Tertiary treatment units like UF, RO & MEE | MMTR +1st RO+3rt RO+4th RO + MEE | | | |
| | ET | | | | |
| | **If Other type of treatment scheme, then give details** | | | | |
| 37. | Type of aerators in aeration tank | Surface/Diffused | Nos. | Details: Biological tank work on SBR System | |
| | Rate of aeration (Blower capacity) | 355 .m3/hr. X 8 No's | | | |
| | Provision for sludge recirculation | Yes | | | |
| 38. | Type of clarifier (Conventional/ Lamella clarifier/ Tube settler) | Primary clarifier: Conventional<br>Secondary clarifier: Conventional | | | |
| 39. | Sludge management: | | | | |
| | Sludge drying beds | Total No……. | | Dimensional details (LxWxH) | |
| | Centrifuge/ Sludge press/ decanter/screw press | Nos.1 nos | | Feed rate - 2 (m3/hr.) capacity | |
| | Quantity of sludge generated (kg/day) (average of last three months) | Attached as **Annexure-11** | | | |
| | On the day of visit (kg/day) | | | | |
| | Mode of sludge disposal | Bharat Oil & waste management Ltd. (Roorkee) | | | |
| 40. | Name of chemical consumed at ETP along with quantity (kg/day) | Chemical consumption logbook attached as **Annexure-12** | | | |
| 41. | Availability of Environmental Lab | Yes | | | |
| | ETP Lab details:<br>(give details of instruments available in lab of the unit with photographic evidence) | 1. Spectrophotometer<br>2. COD Digester<br>3. Turbidity Meter<br>4. pH meter | | | |

| | | |
|---|---|---|
| | | 5. TDS Meter<br>6. DO Meter<br>7. Hot Oven<br>8. Muffle Furnace<br>9. COD Machine<br>10. Desiccator<br>11. Magnetic stirrer with Hot Plate<br>12. BOD Incubator<br>13. Laboratory Distillation Plant<br>14. Weight Balance<br>15. Conductivity Meter |
| | Details of parameter analysed<br>Analysis frequency<br>(daily/weekly/monthly) | Not provided by the unit. |
| 42. | Staff engaged at ETP (Nos.) | ETP Manager: 01 No.<br><br>Chemist: 02 Nos.<br><br>Operator/Helper: 12 Nos. |
| 43. | Total electric Consumption<br>(KWh/day)<br>(average of last three months) | |
| | Separate Energy meter installed for ETP<br><br>Meter reading at the time of visit (KWh)<br><br>Electric Consumption at ETP (KWh/day) (average of last three months) | Yes<br><br>814919Kwh<br><br>Data is not clearly visible in logbook attached as **Annexure-7** |

**Hazardous waste section**

| 44. | Name of HW generated | | Category | Authorised Quantity | Quantity Generated | Source of generation | HW Disposal | Copy of agreement with recyclers /TSDF |
|---|---|---|---|---|---|---|---|---|
| | a. | ETP Sludge | 35.3 | As per consent | As per logbook | ETP | Agreement with Bharat Oil & Waste Management & Certificate Attached as **Annexure-13 & 13A** | |
| | b. | Waste Oil | 5.1 | As per consent | 200 Kg. | Plant Machine | | |
| | c. | Empty Container | 33.1 | As per consent | 110 Kg. | Used Material | | |
| **Form-4 and 10 to be collected -** Form-4 and Form-10 attached as **Annexure-14 & 14A** | | | | | | | | |

**Fuel/power consumption**

| | | | |
|---|---|---|---|
| 45. | Type of fuel used | Agro waste & HSD | |
| 46. | Fuel consumption (mention units) | Boiler -1140 Ton/ month | HSD -1079 ltr in February 2022 |
| | On the day of visit | 38 ton/day | Nil |

***Air Pollution – Emission Sources & Control***

| | | | | | |
|---|---|---|---|---|---|
| 47. | Sources of air pollution | Chimney Details | APC Equipment-Cyclone Dust collector | Emission Quality (Third party test report to be collected) – Enclose the Annexure -16 | |
| | Boiler 8 TPH | 30 meter | Dual single cyclone dust collector | Third party stack emission report attached as **Annexure-15** | |
| | Boiler 6 TPH | 30 Meter | Dual single cyclone dust collector | | |
| | Thermic fuel | | | | |
| | Details of D.G Set | | Capacity | Exhaust pipe- | Emission standards |
| | | | 1250 KVA 3Nos run only power fail | 15m | |
| | | | Capacity 810KVA 3Nos Run only power fail | | |

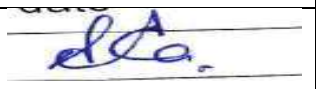
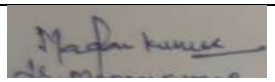
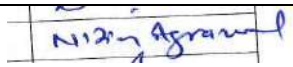
**OCEMS and other details**

| | | |
|---|---|---|
| 48. | Installation Status of<br>(1)OCEMS | <br>No |
| | (2)Web Camera | Yes |
| | (3)Flow meter | Yes |
| | Connected with CPCB/SPCB Server: | Yes<br>User ID :kashi<br>Password :kashi@321 |
| | (4) Frequency of calibration | Yearly |
| | (5) Last date of calibration | 29.12.2021 |
| | (6) Next due date of calibration | 28.12.2022 |
| | (7) Techniques | Inline/ On-line |

| | | |
|---|---|---|
| 49. | Values shown in OCEMS at the time of sampling | Flow ($m^3$/hr): NA<br>pH: : NA<br>TSS (mg/L): NA<br>BOD (mg/L): NA<br>COD (mg/L): NA |
| 50. | Letter for intent giving their voluntary participation and commitment for implementation of the charter submitted (Yes/ No)<br>Unit is under ZLD | |
| 51. | Self-assessment report and action plan along with PERT chart submitted (Yes/No)<br>No | |
| 52. | Specific observations:<br><br>**General observation:**<br>• On the day of visit unit was found operational.<br>• ETP was found operational.<br>• Industry is running on ZLD scheme.<br>• Samples of ETP inlet, ETP outlet (RO feed), RO Permeate, and RO reject were collected for analyses.<br>• Industry was using RO permeate in-process and RO reject was sent to MEE.<br>• The Housekeeping of the unit was good.<br><br>**Observation based on Legal Aspects and Technical Aspects**<br><br>**Legal Aspects:**<br>• Industry is complying for having valid Air, Water consent and Hazardous Waste Authorization.<br>• As the industry is running on ZLD basis and no discharge was found outside of premises, further all the parameters of final treated effluent through RO were found in limits as mentioned in consent issued by State Pollution board., hence the industry is complying for discharge norms.<br><br>**Technical Aspect:**<br>• NOC for groundwater extraction is valid.<br>• Flow meter installed at ETP inlet, Ro Feed, Ro permeates and Ro reject.<br>• Separate energy meter was available at ETP and logbook maintained.<br>• Chemical consumption logbook was also maintained.<br>• Stack emission report provided by the unit.<br>• Form 4 and Form 10 were also available and attached<br>• OCEMS not installed in the unit. | |
| 53. | Specific recommendations/suggestions: | |

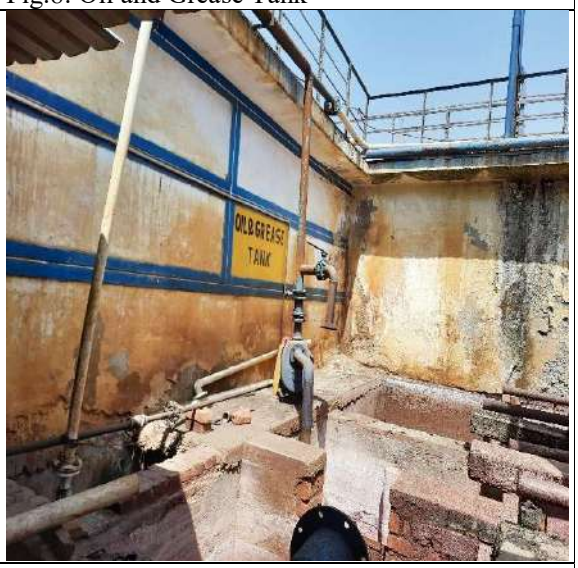
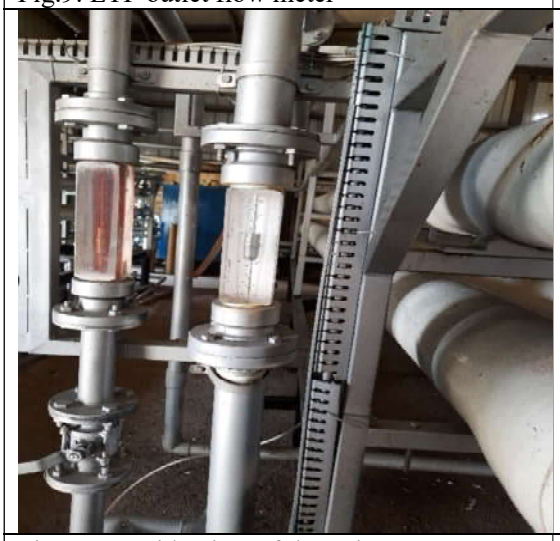
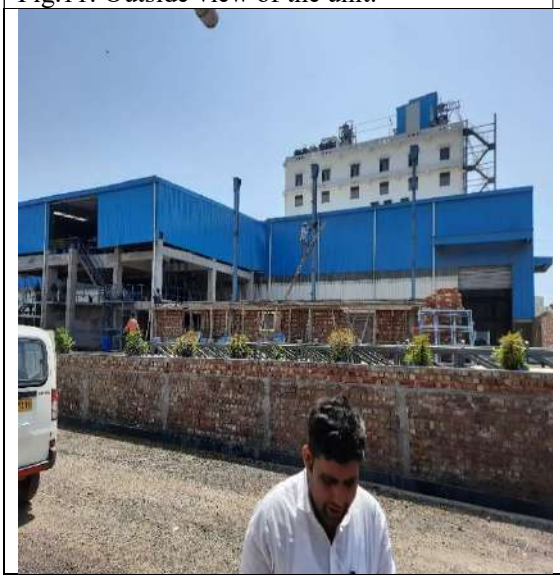
- Industry is complying for having valid Air, Water consent and Hazardous Waste Authorization
- As the industry is running on ZLD basis and all the treated effluent parameters are within the permissible limit as per consent. Hence, the industry is complying w.r.t. discharge norms.

| | | |
|---|---|---|
| 54. | Date of report submission | 22.04.2022 |
| 55. | **Inspection team (Technical Institutes, SPCB & SPMG) details:** | |

| S.No. | Name | Designation | Organisation | Signature with date |
|---|---|---|---|---|
| 1 | Dr Suresh Panwar | Advisor | IIT Delhi |  |
| 2 | Dr Madan Kumar | PDF | IIT Delhi |  |
| 3 | Er. Nitin Agarwal | Research Scholar | IIT Delhi |  |
| 4 | Er. S.K Arya | AEE SPCB, UK | UKSPCB | |

**Photographs**

| | |
|---|---|
| Fig.1: Process machine | Fig.2: Process Area |
| | |
| Fig.3: ETP (MEE) | Fig.4: ETP inlet section |
| | |
| Fig.5: SBR Biological | Fig.6: SBR Another View |
| | |

| Fig.7: Sand Filter | Fig.8: Oil and Grease Tank |
| --- | --- |
| |  |
| Fig.9: ETP outlet flow meter | Fig.10: Ro unit |
|  | |
| Fig.11: Outside view of the unit. | Fig.12: ETP energy meter |
|  | |

| Fig.13: ETP outlet meter (STP) | Fig.14: Borewell meter |
|---|---|
| | |
| Fig .15: ETP Inlet flow meter | Fig.16: RO Permeate meter |
| | |
| Fig 17: RO Feed meter | Fig 18: RO Reject meter |
| | |

| Fig.19: D.G Set | Fig.20: Inspection team |
| --- | --- |
| | |

**HEAD OFFICE**
**Uttarakhand Pollution Control Board**
'Gaura Devi Paryavaran Bhawan'
46-B, IT Park, Sahastradhara Road, Dehradun (Uttarakhand)
Web. www.ukppcb.uk.gov.in, E-mail. mseukpcb@yahoo.com

Ref. UEPPCB/HO/Gen-TPI-44/2022/ 541 Date 27/04/2022

**SPEED POST**

To,

**M/s Kashi Vishwanath Textile Mill (P) Limited,**
**Vill-Ramnagar Road, Kashipur.**
**US Nagar (Uttarakhand).**

**Sub: Third Party Inspection of Grossly Polluting Industries (GPIs) - reg.**

**Sir,**

Please refer to the Third Party Inspection of the Unit i.e. **M/s Kashi Vishwanath Textile Mill (P) Limited** located at Village Ramnagar Road, Kashipur, US Nagar (Uttarakhand), carried out by the Indian Institute of Technology, Delhi (IIT Delhi), Delhi on dated 26.03.2022. As per inspection report, following recommendations/suggestions are made by Third Party Institution:

1. The unit shall provide OCMS as per the direction of the Board. In case of ZLD, the unit shall provide surveillance system with industrial grade IP (Internet protocol) camera having pen Tilt Zoom (PTZ) with facility for data streaming and transmission to SPCBS and CPCB.
2. The Unit shall ensure operation and maintaience of ETP & STP appropriately in order to meet prescribed outlet discharge norms, all the time. Treated water shall be reuse in manufacturing process and ZLD shall maintain scrupulously.

In this regard, you are directed to ensure compliance of above recommendations/suggestions and also submit the compliance report in the Regional Office, Kashipur, District US Nagar and this office on priority basis.

This issued with approval of Member Secretary.

**Sincerely,**

**(Dr. Ankur Kansal)**
**Environment Engineer**

Copy to:

1. **Member Secretary**, Uttarakhand Pollution Control Board, Dehradun for kind information please.
2. **Regional Officer**, Uttarakhand Pollution Control Board Kashipur, District US Nagar r for necessary follow up action please.

**Environment Engineer**

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**Annexure 14a**

Annexure-14 A
14 a

भारत सरकार
जल शक्ति मंत्रालय
जल संसाधन, नदी विकास
और गंगा संरक्षण विभाग
केन्द्रीय भूमि जल प्राधिकरण
Government of India
Ministry of Jal Shakti
Department of Water Resources,
River Development & Ganga Rejuvenation
Central Ground Water Authority

## (भूजल निकासी हेतु अनापत्ति प्रमाण पत्र)
## NO OBJECTION CERTIFICATE (NOC) FOR GROUND WATER ABSTRACTION

| | | | |
|---|---|---|---|
| Project Name: | Cheema Papers Ltd. | | |
| Project Address: | 9th K.m.stone, Bazpur Road, Kashipur | | |
| Town: | Kashipur (mb) | Block: | Kashipur |
| District: | Udam Singh Nagar | State: | Uttarakhand |
| Pin Code: | | | |
| Communication Address: | Cheema Papers Ltd., 9th K.m. Stone, Bazpur Road, Kashipur, Kashipur, Udam Singh Nagar, Uttarakhand - 244713 | | |
| Address of CGWB Regional Office : | Central Ground Water Board Uttarakhand Region, 419-a, Kanwali Road, Baluwala , Near Urja Bhawan, Dehradun, Dehradun, Uttarakhand - 248001 | | |

| | | | |
|---|---|---|---|
| 1. **NOC No.:** | CGWA/NOC/IND/ORIG/2021/13164 | | |
| 2. Application No.: | 21-4/528/UT/IND/2017 | 3. Category: (GWRE 2020) | Semi Critical |
| 4. Project Status: | Existing Project | 5. NOC Type: | New |
| 6. Valid from: | 21/08/2021 | 7. Valid up to: | 20/08/2024 |

8. Ground Water Abstraction Permitted:

| Fresh Water | | Saline Water | | Dewatering | | Total | |
|---|---|---|---|---|---|---|---|
| m³/day | m³/year | m³/day | m³/year | m³/day | m³/year | m³/day | m³/year |
| 3440.00 | 1100800.00 | | | | | | |

9. Details of ground water abstraction /Dewatering structures

| | Total Existing No.:2 | | | | | | Total Proposed No.:0 | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | DW | DCB | BW | TW | MP | MPu | DW | DCB | BW | TW | MP | MPu |
| Abstraction Structure* | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

*DW- Dug Well; DCB-Dug-cum-Bore Well; BW-Bore Well; TW-Tube Well; MP-Mine Pit;MPu-Mine Pumps

10. Ground Water Abstraction/Restoration Charges paid (Rs.): 5504000.00

11. Number of Piezometers(Observation wells) to be constructed/ monitored & Monitoring mechanism.

| | No. of Piezometers | Monitoring Mechanism | | |
|---|---|---|---|---|
| | | Manual | DWLR** | DWLR With Telemetry |
| **DWLR - Digital Water Level Recorder | 2 | 0 | 1 | 1 |

**(Compliance Conditions given overleaf)**

This is an auto generated document & need not to be signed.

18/11, जामनगर हाउस, मानसिंह रोड, नई दिल्ली - 110011 / 18/11, Jamnagar House, Mansingh Road, New Delhi-110011
Phone: (011) 23383561 Fax: 23382051, 23386743
Website: cgwa-noc.gov.in

पानी बचाये – जीवन बचाये
SAVE WATER - SAVE LIFE

**CENTRAL POLLUTION CONTROL BOARD**
**Water Quality Management-II**
**INDUSTRY INSPECTION FORMAT (PULP & PAPER)**

**General Section** **Date of inspection: 27.12.2021**

| | | |
|---|---|---|
| 1. | Unit code | **615** |
| 2. | Name of the unit with complete postal address: | **CHEEMA PAPERS LIMITED**<br>**9th Km. Stone, Bazpur Road , Kashipur**<br>**Distt: U.S. Nagar, Uttarakhand** |
| 3. | Spatial Co-ordinates (Latitude & longitude) in Decimal format only | Latitude: **29.167206**<br>Longitude: **79.147300** |
| 4. | Name of Contact person with designation<br>Phone & Email: | **Mr S. S. Tripathi , Manager Environment**<br>**(M) 9927077199**<br>**Email : cheema_kashipur@yahoo.in** |
| 5. | Year of commissioning | **1990** |
| 6. | Name of SPCBs Regional Office | **Regional Office, Kashipur- Uttrakhand Pollution Control Board** |
| 7. | Industry Operational Status | **Operational** |

**Consent Section**
(Attach valid copies, or if expired then attach recent expired copies along with copy of application)

| | | |
|---|---|---|
| 8. | **Air consent**<br>(Validity with date/Expired/Applied for renewal/First time applied/Never applied ) | **Consolidated Consent No. 38524**<br>**Valid up to 31.3.2023**<br>**(Annexure –I)** |
| 9. | **Water consent**<br>(Validity with date /Expired/Applied for renewal/First time applied/Never applied) | |
| 10. | **Hazardous waste authorization**<br>(Validity with date /Expired/Applied for renewal/First time applied/Never applied ) | |
| 11. | **NOC from CGWA/other authorized body**<br>(Validity with date /Expired/Applied for renewal/First time applied/Never applied) | **Valid up to 20.08.2024**<br>**Applied for Renewal of NOC**<br>**( Annexure– II)** |

**Production Section**

| | | |
|---|---|---|
| 12. | Mention no. of operational days in last three months<br>(to be used for calculation purposes in subsequent sections) | **84/91 Days** |
| 13. | Name and quantity of Raw materials used<br>(in MT total of last three months) | **Waste Paper**<br>**17362.781 MT** |
| 14. | Name of Final Products<br>(separately mention name and quantity of byproducts also, if any) | **Coated Duplex Board, MG Kraft and MG Poster** |
| 15. | Whether Bleaching performed in production (Yes/No),<br>Name of bleaching chemical used | **No** |
| 16. | Category as per charter | **C1** |

| | | |
|---|---|---|
| 17. | Consented production capacity(TPD) | **230** |
| 18. | Installed production capacity (TPD) | **230** |
| 19. | Production on previous day of inspection (TPD) | **186.15** |
| 20. | Production (total of last three months, MT) | **16329.56** |
| | Production (average of last three months, TPD) | **179.44** |
| | Process details with flow diagram<br>**Process Flow Sheet enclosed as Annexure –III** | |

**Water Section**

| | | |
|---|---|---|
| 21. | ***Source of freshwater*** | |
| | River | **Not Applicable** |
| | Borewell | No. of Bore well as per CGWA NOC: **02**<br>Permitted withdrawal quantity: **3440 KLD**<br>Actual withdrawal quantity: **2200 KLD**<br>(average of last three months)<br>Actual no. of bore well found on site: **02**<br>No. of Bore well having flow meter with totalizer installed: **02** |

| Borewell | Type of Flow meter * | Instantaneous Reading $m^3/hr$ | Totalizer Reading $m^3$ |
|---|---|---|---|
| **Borewell No. 1** | ***Electromagnetic*** | **130** | **147077** |
| **Borewell No. 2** | ***Electromagnetic*** | **138** | **396474** |

**Mechanical/Digital/Electromagnetic etc*

Calibration (Yes /No) : **No**
Logbook maintained: **Yes**
Copy of logbook for last 03 months is enclosed as **Annexure-IV.**

| | | | | |
|---|---|---|---|---|
| 22. | **Freshwater Consumption** | Production process | Domestic | Others |
| | Total of last three months (87 days), in KL | **191408** | **--** | **--** |
| | Avg. of last three months (87 days) in, KLD | **2200** | **--** | **--** |
| | KL/MT of product | **11.82** | **--** | **--** |
| | On the previous day of visit (KLD) | **~ as above** | | |

**Effluent Management Section**

| | | |
|---|---|---|
| 23. | Sources of effluent generation | **Mill Effluent** |
| 24. | Flow meters at sources of effluent generation | **Not Available** |
| 25. | ETP status | **Installed & Operational** |
| 26. | Flow meter/ V-notch installed at ETP inlet | Yes/No: **Yes**<br>Type: **V-Notch**<br>Calibration details: **Not Applicable**<br>Instantaneous Reading:**200 $m^3/hr$**<br>Totalizer Reading: **Not Available**<br>Logbook maintained: **Yes**<br>**Copy of logbook for last 03 months is enclosed as Annexure-V.** |
| 27. | Flow meter/ V-notch installed at ETP outlet | Yes/No: **Yes**<br>Type: **Ultrasonic**<br>Calibration (Yes/No): **Yes**<br>Instantaneous Reading: **75 $m^3/hr$**<br>Totalizer Reading: **Not Applicable** |

| | | | | | | |
|---|---|---|---|---|---|---|
| | | Logbook maintained: **Yes**<br>**Copy of logbook for last 03 months is enclosed as Annexure-VI.** | | | | |
| 28. | **Effluent Generation Quantity (to be calculated from ETP inlet logbook)** | | | | | |
| | Total of last three months, KL | **446815** | | | | |
| | Avg. of last three months in, KLD | **5136** | | | | |
| | KL/MT of product | **27.61** | | | | |
| | On the previous day of visit, KLD | ~ as above | | | | |
| 29. | **Recycled Back Water/Treated Effluent from ETP** | | | | | |
| | | **In production** | **Others** | | | |
| | Total of last three months, KL | **262429 (87 days)** | -- | | | |
| | Avg. of last three months in, KLD | **3016** | -- | | | |
| | KL/MT of product | **16.2** | -- | | | |
| | On the previous day of visit, KLD | ~ as above | | | | |
| 30. | **Effluent Discharge Quantity (to be calculated from ETP outlet logbook)** | | | | | |
| | Total of last three months, KL | **184386 (87 days)** | | | | |
| | Avg. of last three months in, KLD | **2119** | | | | |
| | KL/MT of product | **11.3** | | | | |
| | On the previous day of visit, KLD | ~ as above | | | | |
| 31. | Mode of discharge | **Open Channel** | | | | |
| 32. | a. No. of consented outlets<br>b. Actual no. of outlets observed during visit | **01**<br>**01** | | | | |
| 33. | Discharge in | **Nala** | | | | |
| 34. | Route to reach river Ganga | **Koshi River to Ganga River** | | | | |
| 35. | ZLD Status**:** | **Not Applicable** | | | | |
| 36. | **Effluent Characteristics** | | | | | |

| Parameter | ETP Inlet ( PC Outlet) | ETP Outlet | | | | |
|---|---|---|---|---|---|---|
| | | Value | Norms as per consent | Norms as per charter | Compliance w.r.t. consent | Compliance w.r.t. charter |
| pH | 6.63 | 7.32 | 5.5 to 9.0 | 6.5-8.5 | Yes | Yes |
| TSS (mg/l) | 67 | 28 | 100 | <30 | Yes | -- |
| TDS (mg/l) | 2255 | 1851 | --- | <1,600 | -- | -- |
| COD (mg/l) | 953 | 141 | 250 | <150 | Yes | Yes |
| BOD (mg/l) | 510 | 14 | 30 | <20 | Yes | Yes |
| Colour (PCU) | 255 | 126 | -- | <150 | -- | Yes |
| AOX (mg/l) | x | 0.9 | -- | -- | -- | -- |
| SAR | x | 0.73 | -- | <8.0 | -- | Yes |

| | | |
|---|---|---|
| | **Aeration Tank Sample**<br>MLSS (mg/l): 3,842 MLVSS (mg/l): 1,752 | |
| 37. | BOD Load (on the basis of inlet quality & flow): | 2,619 kg/day |
| 38. | BOD Load (on the basis of discharge quality & flow): | 29.7 kg/day |
| 39. | Black Liquor Management (to be filled wherever relevant)- **Not Applicable** | |

**Ground water Analysis Report: Year of Dug: ……. Depth (m)……**

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 40. | Quality of Groundwater is compared with Bureau of Indian Standard (BIS) drinking water — specification (Second Revision) IS 10500: 2012. | | | | | | | | | | |
| | Parameter → / Location ↓ | pH | Colour (PCU) | Total Alkalinity, mg/l | Total Hardness mg/l | COD mg/l | TDS mg/l | $Cl^-$ mg/l | $F^-$ mg/l | $NO_3$ mg/l | $SO_4$ mg/l |
| | Standard values | 6.5-8.5 | 15 | 600 | 600 | - | 2000 | 1000 | 1.5 | 45 | 400 |
| | Value | 7.4 | < 5 | 145 | 170 | BDL | 275 | 88 | .32 | 0.36 | 21 |

Quality of Groundwater is compared with Bureau of Indian Standard (BIS) drinking water — specification (Second Revision) IS 10500: 2012. (Heavy Metal)

| Parameter → | As | Cd | Cr | Cu | Fe | Pb | Mn | Hg | Ni | Zn | Sb | Co | Se | V |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Unit, mg/l | | | | | | | | | | | | | |
| Permissible linits | 0.05 | 0.003 | 0.05 | 1.5 | 0.3 | 0.01 | 0.3 | 0.001 | 0.02 | 15 | - | - | 0.01 | - |
| Tested Values | BDL | BDL | BDL | 0.40 | 0.08 | BDL | BDL | BDL | BDL | 10 | - | - | - | - |

**Recipient Drain & Bypass**

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 41. | *Recipient drain characteristics (mention name of the drain also)* | | | | | | | |
| | Parameter → / Location ↓ | pH | TSS (mg/l) | TDS (mg/l) | COD (mg/l) | BOD (mg/l) | Colour (PCU) | SAR |
| | Upstream | 7.19 | 1361 | 847 | 368 | 196 | 46 | 1.1 |
| | Downstream | 7.2 | 1290 | 1382 | 215 | 128 | 86 | 0.96 |
| 42. | By-pass (if any): Yes/ No<br>If, by-pass found: Description of location and characteristics of wastewater | | | | | | | |
| | Parameter → | pH | Colour (PCU) | BOD (mg/l) | COD (mg/l) | TSS (mg/l) | TDS (mg/l) | SAR |
| | Values | No by-pass observed at the time of mill visit | | | | | | |

**ETP Section**

| | | | | | |
|---|---|---|---|---|---|
| 43. | Installed capacity (KLD=4000) ; Utilized capacity (KLD =2500) | | | | |
| 44. | Effluent treatment technology: Biological and Physico-chemical (ETP dimensions attached) | | | | |
| | ETP unit | Dimension in m | Capacity ($m^3$) | Retention time (Hr.) | Adequate/ Inadequate |
| | Equalization Tank with diffused aerators | Available | 1,000 | 4 | Adequate |
| | Sedicell | Available | 211 $m^3$/hr | 1 | Adequate in combination of Sedicell |
| | Primary Clarifier | Available | 794 | 4 | |
| | Aeration Tank<br>Volume of Waste Water – 4860 $m^3$/day (including recirculation)<br>Effluent flow- 202 $m^3$/hr<br>BOD Load – 63 kg /hr | Available | 5,502 | 35 | Adequate to treat the existing BOD load |

| | | | | | |
|---|---|---|---|---|---|
| | Secondary Clarifier | Available | 794 | 5.4 | Adequate |
| | Tertiary treatment system (For reuse of effluent into process and discharge):<br>Dual Media Filter (06) | Available | 50 $m^3$/hr each | -- | Adequate |
| | Treated water tank | Available | -- | --- | Adequate |
| 45. | Type of aerators in aeration tank | Surface | Diffused | Jet Aerator | Other |
| | No of Aerator / Blower (please indicate operational & standby ) | 06 | -- | -- | -- |
| | Capacity of Aerator (in HP) / Blower (in $m^3$/hr_ | 25 | -- | -- | -- |
| | Provision for sludge recirculation | Yes/No: **Yes** | | | |
| 46. | Type of clarifier (Conventional/ Lamella clarifier/ Tube settler) | Primary clarifier: **Conventional**<br><br>Secondary clarifier: **Conventional** | | | |
| 47. | Fiber Separation Unit | | | | |
| | Sedicell/Krofta/DAF | Sedicell | | | |
| 48. | **Sludge Management:** | | | | |
| | Sludge drying beds No. & Capacity, $m^3$ | --- | | | |
| | Decanter / Centrifuge/ Sludge Press/ Drum Filter (Type & Capacity, tons dry solids per day) | Sludge press and Centrifuge | | | |
| | Quantity of ETP sludge generated (kg/day) (average of last three months) | 20,000 | | | |
| | On the previous day of visit (kg/day) | 20,000 | | | |
| | Mode of sludge disposal | Board making unit | | | |
| 49. | Name of chemical consumed at ETP along with quantity (kg/day)<br>Average last three months | Urea: 100<br>DAP: 56<br>Polymer= 7 | | | |
| 50. | Availability of Environmental Lab | Yes/No | | | |
| | ETP Lab details:<br>(give details of instruments available in lab of the unit with photographic evidence) | pH meter, COD reactor, BOD incubator, TSS assembly , Oven | | | |
| 51. | Staff engaged at ETP (Nos.) | ETP Manager : 01<br>Chemist : 01<br>Operator: 03<br>Helper : 06 | | | |
| 52. | Total electric Consumption (KWh/day) (average of last three months) | 106 | | | |
| | Separate Energy meter installed for ETP<br><br>Meter reading at the time of visit (KWh)<br><br>Electric Consumption at ETP (KWh/day) (average of last three months) | Yes/No: **Yes**<br><br>146800<br><br>100 | | | |

**Air Pollution – Emission Sources & Control**

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 53. | Sources of air pollution | Chimney Details | APC Equipment | | Emission Quality (Third party test report to be collected) | | | |
| | Boiler 1 22 TPH | **H: 52 m Dia: 3.2** | **ESP** | | Data not available | | | |
| | Boiler 2 10 TPH | **H: 35 m Dia: 2.5** | **Multi Cyclone** | | | | | |
| | Details of D.G Set | | Capacity | | Exhaust pipe | | Emission standards | |
| | | | | | | | | |

**Hazardous waste section**

| 54. | Name of HW generated | | Category | Authorised Quantity | Quantity Generated | Source of generation | HW Disposal | Copy of agreement with recyclers /TSDF |
|---|---|---|---|---|---|---|---|---|
| | | Used oil | 5.1 | 0.010 MTA | 0.010 MTA | Process | Used in open gears | --- |
| Form-4 and 10 to be collected | | | | | | | | |

**Fuel/Power Consumption**

| | | |
|---|---|---|
| | Type of fuel used | Rice husk & Wood chips |
| | Fuel consumption (mention units) | 74 TPD and 20 TPD |
| | On the previous day of visit | ~ as above |

**OCEMS and other details**

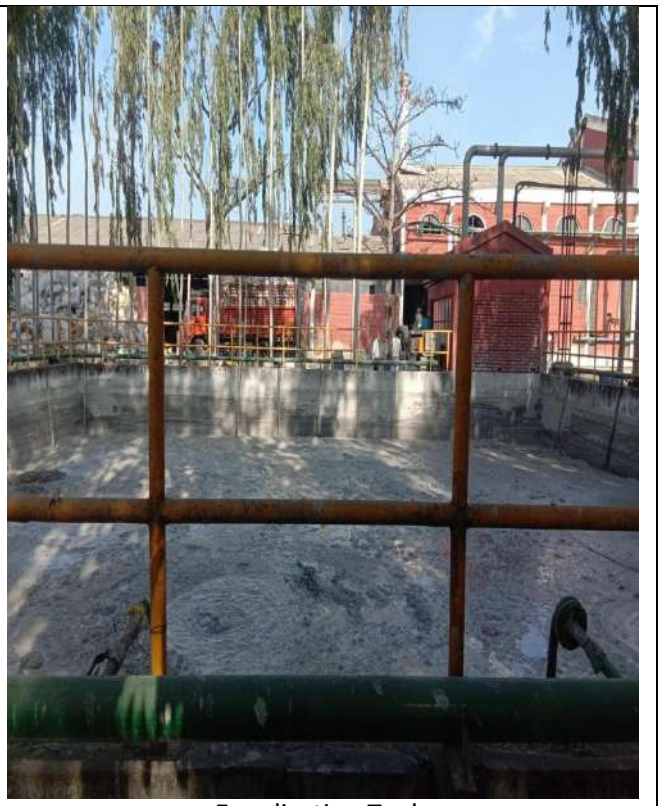
| | | |
|---|---|---|
| 55. | Installation Status of<br>(1) OCEMS<br>(2)Web Camera<br>(3)Flow meter<br>Connected with CPCB/SPCB Server:<br>(4) Frequency of calibration<br>(5) Last date of calibration<br>(6) Next due date of calibration | <br>Yes/No: **Yes**<br>Yes/No: **Yes**<br>Yes/No: **Yes**<br>Yes/No: **Yes**<br>Annual<br>05.12.2021<br>04.12.2022 |
| 56. | Values shown in OCEMS at the time of sampling | Flow ($m^3$/hr) : 73.2<br>pH : 7.55<br>TSS (mg/) : 13.3<br>BOD (mg/L) : 12.8<br>COD (mg/L) : 109.1 |
| 57. | Specific observations:<br>• **Mill and ETP were found operational at time of visit.**<br>• **OCEMS was operational at the time of visit and connected to CPCB/SPCB server.**<br>• **The mill has an average fresh water consumption (11.82 $m^3$ / t paper) and consequently waste water discharge (11.3 $m^3$/t paper).** | |

| | |
|---|---|
| | • **Flow meters are available at each bore well to monitor the fresh water consumption on regular basis.**<br>• **Separate energy meter is available at ETP to monitor power consumption on regular basis.**<br>• **The mill has full fledged ETP including primary treatment (sedimentation), Secondary Treatment (Activated Sludge Process) and Tertiary Treatment (Multi Grade Sand Filters) to treat the mill effluent.**<br>• **As per design specifications provided by the mill the ETP units are adequate to handle and treat the existing effluent volume to meet stipulated discharge norms.**<br>• **MLSS level in the aeration tank has been found satisfactory.**<br>• **ETP lab facility is available at the mill for analysis of pollution parameters pH, TSS, TDS, COD, BOD etc.**<br>• **The ground water quality with respect to analysed parameters has been found under the permissible limits prescribed under BIS standard IS 10500: 2012.**<br>• **The analysis results of upstream and downstream of the recipient drain indicate low pollution load.**<br>• **Based on the analysis, the mill is achieving environmental compliance with respect to consent norms** |
| 58. | Specific recommendations/suggestions:<br><br>• **The mill is advised to get the OCEMS Calibrated regularly.**<br>• **The mill is advised to maintain a log book of the volume of back water recycled daily.**<br>• **The mill is required to maintain a log book of generation and disposal of used Oil and ETP sludge.** |
| 59. | Date of report submission: **19.01.2022** |
| 60. | Inspection team details: |

| S.No. | Name | Designation | Organisation | Signature with date |
|---|---|---|---|---|
| 1 | Dr. S. [illegible] | Sc E-II | CPCRI SRS | |
| 2 | Dr S. Bhowmik | Sc B. | —do— | |
| 3 | Mr. M. [illegible] | R.O. | CBDCB Kochi | |
| | | | | |
| | | | | |

## 61. Photographs

Paper Machine



Equalization Tank

ETP Inlet Drain with V- Notch

Sedicell

Primary Clarifier

Aeration Tank

Secondary Clarifier

Tertiary Treatment

ETP Outlet

ETP sludge press

ETP energy meter

OCEMS Display

Bore well -1

Borewell-2

Inspection Team

**Documents attached with the report:**

1. Copy of latest Air, Water & Hazardous Waste Consent. If consent expired copy of submission of letter or renewal of consent received by Pollution Board ***Annexure-I***
2. Copy of NOC from Central Ground Water Authority. If applied , provide copy of the application ***Annexure-II***
3. Process details with flow diagram -***Annexure-III***
4. Log book of fresh water consumption (in KLD) for last 3 months ***Annexure-IV***
5. Log book of effluent Generated (in KLD) for last 3 months ***Annexure-V***
6. Log book of treated effluent discharged (in KLD) for last 3 months ***Annexure-VI***
7. Logbook of power consumption at ETP for last 3 months ***Annexure-VII***
8. Log book of effluent testing for three months Annexure ***Annexure-VIII***
9. ETP Design Specifications with Flow Diagram ***Annexure-*** **IX**
10. Forms-1 i.e. Notice of intention to have sample analyzed ***Annexure- X***
11. Data for Raw material used and paper production for last three month ***Annexure-XI***
12. Calibration details (date of calibration, Due date of Next calibration etc.) of OCEMS ***Annexure- XII***
13. Plastic waste sold to recyclers ***Annexure- XIII***

HEAD OFFICE
**Uttarakhand Pollution Control Board**
"Gaura Devi Paryavaran Bhawan"
46-B, IT Park, Sahastradhara Road, Dehradun (Uttarakhand)
Web: www.ueppcb.uk.gov.in. E-mail: msukpcb@yahoo.com

Ref: UEPPCB/HO/GPI (TPI) - 19/2022/ 1554 January 29, 2022

**SPEED POST**

To,

**M/s Cheema Papers Limited**
**9th Km Stone, Bazpur Road**
**Kashipur, Distt. U.S. Nagar**
**Uttarakhand.**

**Sub:** Third Party Inspection of Grossly Polluting Industries (GPIs)- reg.

**Sir,**

Please refer to the Third Party Inspection of the Unit i.e. **M/s Cheema Papers Limited** located at 9th Km Stone, Bazpur Road, Kashipur, Distt. U.S. Nagar, Uttarakhand, carried out by the CPPRI, SRE on dated 27.12.2021. As per inspection report, following recommendations/suggestions are made by Third Party Institution:

1. OCEMS must be calibrated regularly.
2. Maintain a log book of the volume of back water recycled daily.
3. Maintain a log book of generation and disposal of used oil and ETP sludge.

In this regard, you are directed to ensure compliance of above prescribed recommendations/suggestions and rectify discrepancies at the earliest compliance report to be submitted to the Regional Office, Kashipur, District- U.S. Nagar and this office on priority basis.

(Dr. Ankur Kansal)
**Environment Engineer**

Copy to:

1. **Member Secretary,** Uttarakhand Pollution Control Board, Dehradun for your kind information please.
2. **Regional Officer**, Uttarakhand Pollution Control Board, Kashipur, District- U.S. Nagar for necessary follow up action.

**Environment Engineer**

OC

Annexure - 15a

**Annexure 15a**

भारत सरकार
जल शक्ति मंत्रालय
जल संसाधन, नदी विकास
और गंगा संरक्षण विभाग
केन्द्रीय भूमि जल प्राधिकरण
Government of India
Ministry of Jal Shakti
Department of Water Resources,
River Development & Ganga Rejuvenation
Central Ground Water Authority

## (भूजल निकासी हेतु अनापत्ति प्रमाण पत्र)
## NO OBJECTION CERTIFICATE (NOC) FOR GROUND WATER ABSTRACTION

| | | | |
|---|---|---|---|
| Project Name: | Multiwal Duplex Private Limited | | |
| Project Address: | Village Gangapur Gosain, Kundeshwari Road, Kashipur | | |
| Town: | Kashipur (mb) | Block: | Kashipur |
| District: | Udam Singh Nagar | State: | Uttarakhand |
| Pin Code: | | | |
| Communication Address: | Village Gangapur Gosain, Kundeshwari Road, Kashipur, Kashipur, Udam Singh Nagar, Uttarakhand - 244713 | | |
| Address of CGWB Regional Office : | Central Ground Water Board Uttarakhand Region, 419-a, Kanwali Road, Baluwala , Near Urja Bhawan, Dehradun, Dehradun, Uttarakhand - 248001 | | |

| | | | | | |
|---|---|---|---|---|---|
| 1. | **NOC No.:** | CGWA/NOC/IND/ORIG/2021/12875 | | | |
| 2. | Application No.: | 21-4/246/UT/IND/2017 | 3. | Category: (GWRE 2017) | Semi Critical |
| 4. | Project Status: | Existing Project | 5. | NOC Type: | New |
| 6. | **Valid from:** | 19/07/2021 | 7. | **Valid up to:** | 18/07/2024 |

8. Ground Water Abstraction Permitted:

| Fresh Water | | Saline Water | | Dewatering | | Total | |
|---|---|---|---|---|---|---|---|
| m³/day | m³/year | m³/day | m³/year | m³/day | m³/year | m³/day | m³/year |
| 448.91 | 135140.40 | | | | | | |

9. Details of ground water abstraction /Dewatering structures

| | Total Existing No.:1 | | | | | | Total Proposed No.:0 | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | DW | DCB | BW | TW | MP | MPu | DW | DCB | BW | TW | MP | MPu |
| Abstraction Structure* | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

*DW- Dug Well; DCB-Dug-cum-Bore Well; BW-Bore Well; TW-Tube Well; MP-Mine Pit;MPu-Mine Pumps

10. Ground Water Abstraction/Restoration Charges paid (Rs.): 405421.00

11. Number of Piezometers(Observation wells) to be constructed/ monitored & Monitoring mechanism.

| No. of Piezometers | Monitoring Mechanism | | |
|---|---|---|---|
| | Manual | DWLR** | DWLR With Telemetry |
| 1 | 0 | 1 | 0 |

**DWLR - Digital Water Level Recorder

**(Compliance Conditions given overleaf)**

This is an auto generated document & need not to be signed.

18/11, जामनगर हाउस, मानसिंह रोड, नई दिल्ली - 110011 / 18/11, Jamnagar House, Mansingh Road, New Delhi-110011
Phone: (011) 23383561 Fax: 23382051, 23386743
Website: cgwa-noc.gov.in

पानी बचाये – जीवन बचाये
SAVE WATER - SAVE LIFE

For Multiwal Duplex (P) Ltd.
Auth. Signatory

Annexure-15b

UEPPCB

**HEAD OFFICE**

**Uttarakhand Environment Protection and Pollution Control Board**

**29/20, Nemi Road, Dalanwala, Dehra Dun (Uttarakhand)**

Phone : 0135-2658086, Fax : 2718092. Web : www.ueppcb.uk.gov.in. E-mail : msukpcb@yahoo.com

UEPPCB/HO/Con/M-11/2019/ 154 Date: ~~.08.2018~~ 24.4.2019

REGD. POST

To,

M/s Multiwal Duplex Pvt Ltd.,
Village-Gangapur Gosain,
Kundeshwari Road, Tehsil-Kashipur,
Distt-U.S.Nagar.

Provisional Consolidated Consent to Operate and Authorization hereinafter referred to as the CCA (Consolidated Consent & authorization) (Renewal) 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 under "Rule-6(2)" of the "Hazardous and Other Waste (Management and Transboundary Movement) Rules, 2016" notified under "Environment (Protection) Act, 1986" as applicable (to be referred hereinafter as Water Act, Air Act and HW Rules respectively).

| | |
|---|---|
| PCB ID - 14885 | Inward ID - 238261 |
| CCA (Re Apply) | |
| Consent No. 38562/ | Date : 30.03.2018 |

Provisional CCA is hereby granted to M/s Multiwal Duplex Pvt Ltd., located at Village-Gangapur Gosain, Kundeshwari Road, Tehsil-Kashipur, Distt-U.S.Nagar subject to the provisions of the Water Act, Air Act and Hazardous & Other Wastes Rules, 2016 and the orders that may be made further and subject to following terms and conditions :-

1. This Provisional CCA is granted for a period from up to 31.03.2019 and valid for manufacturing of following products with **Capital Investment / Net Assets Values ₹ 83.61Crs** :-

| S. No. | Last CCA | | Present CCA (Re Apply) | |
|---|---|---|---|---|
| | Product | Quantity (Per Month) | Product | Quantity (Per Month) |
| 1 | Duplex Board | 900 MT | Duplex Board | 900 MT |

2. **Specific Conditions under Water Act:-**

(i) The daily quantity of effluent discharge (KLD):-

| | Last CCA | Present CCA (Re Apply) |
|---|---|---|
| Trade Effluent | 300 | 300 |
| Sewage | 10 | 10 |

(ii) **Trade Effluent Treatment and Disposal:** The applicant shall operate **Effluent Treatment Plant** consisting of **primary, secondary** and **tertiary** treatment as is required with reference to influent quantity and quality.

*In case of stoppage of functioning of ETP, production has to be **stopped immediately** and this **Board** has to be intimated by fax/phone/email with a report in this regard to be dispatched immediately.*

(iii) The treated effluent shall be recycled to the maximum extent and remaining treated effluent shall be disposed in nearly drain leading to river Bahella. Quality of the treated effluent shall meet to the following general and specific standards as prescribed under **Environment (Protection) Rules, 1986** and applicable to the unit from time-to-time:-



For Multiwal Duplex (P) Ltd.

Auth. Signatory

| | | | |
|---|---|---|---|
| 1 | pH | Between | 7.0 to 8.5 |
| 2 | Suspended solids | Not to exceed | 500mg/l |
| 3 | BOD (3 days 270C) | Not to exceed | 30 mg/l |
| 4 | COD | Not to exceed | 350 mg/l |
| 5 | AOX | Not to exceed | 1.0Kg/Ton of product. |

(iv) **Sewage Treatment and Disposal:** The applicant shall provide comprehensive Septic Tanks/Soak Pits as is required with reference to influent quantity and quality.

3. **Conditions under Air Act:-**

(i) The applicant shall use following fuel and install a comprehensive control system consisting of control equipment as is required with reference to generation of emissions and operate and maintain the same continuously so as to achieve the level of pollutants to the following standards :

| S. No | Stack attached with | Stack height (Mt) | Type of Fuel | Fuel Quantity | Emission Control Equipment | Emission standards not to exceed |
|---|---|---|---|---|---|---|
| 1 | Boiler (8ton/hr) x 1 | 40 | Agro Waste | 20ton/day | Dust Collector, Multi Cyclone Dust Collector & Wet Scrubber | PM-800mg/NM$^2$ |
| 2 | DG Set (625KVA) x 2 | 7 | HSD | 90ltr/hr | Acoustic Enclosure | - |

*In case of stoppage of functioning of air pollution control equipment, production has to be* ***stopped immediately*** *and this* ***Board*** *has to be intimated by fax/phone/email with a report in this regard to be dispatched immediately.*

(ii) Noise from the D.G. Set and other source(s) should be controlled by providing an acoustic enclosure as is required for meeting the ambient noise standards for night and day time as prescribed for respective areas/zones (Industrial, Commercial, Residential, Silence) which are as follows :-

| Standards for Noise level in db(A) Leq | Industrial Area | | Commercial Area | | Residential Area | | Silence Zone | |
|---|---|---|---|---|---|---|---|---|
| | Day time | Night time | Day time | Night time | Day time | Night time | Day time | Night time |
| | 75 | 70 | 65 | 55 | 55 | 45 | 50 | 40 |

Day time: from 6.00 a.m. to 10.00 p.m., Night time: from 10.00 p.m. to 6.00 a.m.

4. **Conditions under Hazardous & Other Wastes Rules-2016:**

(i) Number of authorization and date of issue : ----------

(ii) The **Factory Manager** of **M/s Multiwal Duplex Pvt. Ltd., Kashipur, U.S.Nagar** is hereby granted an authorization to operate a facility for collection and storage of Hazardous wastes.

(iii) The authorization is granted to operate a facility for generation, collection and storage of hazardous wastes within factory premises for following category of wastes :-

| S.No. | Category (Schedule-I & Schedule-II) | Quantity of Waste for which authorization is being issued (MTA) | Mode of Disposal |
|---|---|---|---|
| 1. | Schedule I - 5.1 | 1.0 | Recyclable |

(iv) The authorization shall be in force for a period from up to 31.03.2019.

(v) The authorization is subject to the conditions stated below and the such conditions as may be specified in the rules for the time being in force under **Environment (Protection) Act, 1986.**

**Terms and conditions of authorization:-**

(i) The authorization shall comply with the provisions of the **Environment (Protection) Act, 1986,** and the rules made there under.
(ii) The authorization and its renewal shall be produced for inspection at the request of an officer authorized by the SPCB/PCC.
(iii) The person authorized shall not rent, lend, sell, transfer or otherwise transport the hazardous wastes without obtaining prior permission of the SPCB/PCC.
(iv) Any unauthorized changes in personnel, equipment as working conditions as mentioned in the application by the person authorized shall constitute a breach of his authorization.
(v) It is the duty of the authorized person to take prior permission of the SPCB/PCC to close down the facility.
(vi) An application for the renewal of an authorization shall be made as laid down under these rules.
(vii) The unit shall comply with any other conditions specified in the guidelines issued by the MoEF or CPCB/SPCB from time to time.

5. This CCA is valid for manufacturing of Duplex Board by using Waste Paper as a raw material only.

6. **Compulsory documents to be submitted by the Industry/Unit:-**

(i) Annual return in **Form-4** and **Waste Disposal Manifest** in **Form-10** under **Hazardous & Other Wastes Rules** and **Third Party Audit Report.**
(ii) Environment Statement in **Form-V** of **Environment (Protection) Rules, 1986.**
(iii) Quarterly **compliance report of the CCA, photograph of ETP/APCs/Waste Storage Area.**

7. Unit has to apply for renewal of CCA well in advance of 60 days of expiry of this CCA.
8. Competent Authority reserves the right to change/modify/add any time any condition of this CCA.
9. Unit has to comply with the other general conditions as annexed herewith. Non compliance of any provision of this CCA and provisions of the **Water Act, Air Act** and **Hazardous Rules & Other Wastes Rules** will results in legal action under the aforesaid **Acts and Rules.**
10. **This CCA shall be operative subject to the directions of the Hon'ble National Green Tribunal.**

**Member Secretary**

Copy to: - **Regional Officer, Uttarakhand Environment Protection and Pollution Control Board, Kashipur** for information and compliance of the same.

**Chief Environment Officer**

Multiwal Duplex Pvt Ltd

:: Pollution Control Board ::

# Uttarakhand Environment Protection & Pollution Control Board

Industry : Multiwal Duplex Pvt Ltd,-,Vill- Gangapur Gosain, Kundeshwari Road Kashipur ,Kashipur,USN,KKP,--- R

14885 A/W/H CTE Val CCA Val Last CTE Det Last CCA Det AWH-Rejd RCN Dt

Large ✓ ✓ / ✓ 31/03/20 CTE-Inw Det 0/ / CCA-Inw Det 243310/C REJ/C

CtE ◉ CCA CCA-Re Apply

LINK ID: 243310~COW~REJ~AWH-Rejected---1

| | |
|---|---|
| Application Date : | 28/09/2019 Delete This Application |
| Sector of the Industry : | Pulp & Paper (waste paper based without bleaching process to manufac |
| Catg / Scale of the Industry : | Red Large 1 Yrs. Validity |
| Net Asset Value (Crores) | 76.98 Prv. 76.98 Crores |
| Air/Water/Hazrdous : | ✓ / ✓ / ✓ |
| View PDFs Files : | Select |
| NOC-CCA Fees : | 100000 Hazd Fees : 20000 Total Fees: 120000 Calculate Update |

For Rental Premises & Mining Cases, U can EDIT Fees after clicking on CALCULATE

Net Asset Value = Fix Asset + Current Asset - Current Liablity

DGSet/Local Authority Fees

| More Than | To (Crs) | Fees |
|---|---|---|
| 0 | 0.1 | 10000 |
| 0.1 | 0.5 | 15000 |
| 0.5 | 1 | 25000 |
| 1 | 5 | 50000 |
| 5 | 50 | 75000 |
| 50 | 100 | 100000 |
| 100 | 300 | 150000 |
| 300 | 600 | 250000 |
| 600 | 1000 | 400000 |
| 1000 | 5000 | 500000 |
| 5000 | 10000 | 750000 |
| 10000 | 50000 | 1000000 |

**Precise Details of REJECTED Application (100 to 1000 Chrs)**

cca re-apply

Any relevant information to be mentioned in the A/W/H/NOC Form WOW

For Multiwal Duplex (P) Ltd.

Auth. Signatory

UEPPCB

**HEAD OFFICE**

**Uttarakhand Environment Protection and Pollution Control Board**
**29/20, Nemi Road, Dalanwala, Dehra Dun (Uttarakhand)**

Phone : 0135-2658086, Fax : 2718092, Web : www.ueppcb.uk.gov.in, E-mail : msukpcb@yahoo.com

UEPPCB/HO/Con/M-11/2019/ 154 Date: ~~.08.2018~~ 24.4.2019

**REGD. POST**

To,

**M/s Multiwal Duplex Pvt Ltd.,**
**Village-Gangapur Gosain,**
**Kundeshwari Road, Tehsil-Kashipur,**
**Distt-U.S.Nagar.**

**Provisional Consolidated Consent to Operate and Authorization hereinafter referred to as the CCA (Consolidated Consent & authorization) (Renewal) 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 under "Rule-6(2)" of the "Hazardous and Other Waste (Management and Transboundary Movement) Rules, 2016" notified under "Environment (Protection) Act, 1986" as applicable** (to be referred hereinafter as **Water Act, Air Act** and **HW Rules** respectively).

| | |
|---|---|
| PCB ID - 14885 | Inward ID - 238261 |
| CCA (Re Apply) | |
| Consent No. 38562/ | Date : 30.03.2018 |

Provisional CCA is hereby granted to **M/s Multiwal Duplex Pvt Ltd.,** located at **Village-Gangapur Gosain, Kundeshwari Road, Tehsil-Kashipur, Distt-U.S.Nagar** subject to the provisions of the **Water Act, Air Act** and **Hazardous & Other Wastes Rules, 2016** and the orders that may be made further and subject to following terms and conditions :-

1. This Provisional CCA is granted for a period from up to 31.03.2019 and valid for manufacturing of following products with **Capital Investment / Net Assets Values ₹ 83.61Crs** :-

| S. No. | Last CCA | | Present CCA (Re Apply) | |
|---|---|---|---|---|
| | Product | Quantity (Per Month) | Product | Quantity (Per Month) |
| 1 | Duplex Board | 900 MT | Duplex Board | 900 MT |

2. **Specific Conditions under Water Act:-**

(i) **The daily quantity of effluent discharge (KLD):-**

| | Last CCA | Present CCA (Re Apply) |
|---|---|---|
| Trade Effluent | 300 | 300 |
| Sewage | 10 | 10 |

(ii) **Trade Effluent Treatment and Disposal:** The applicant shall operate **Effluent Treatment Plant** consisting of **primary, secondary** and **tertiary** treatment as is required with reference to influent quantity and quality.

*In case of stoppage of functioning of ETP, production has to be* ***stopped immediately*** *and this* ***Board*** *has to be intimated by fax/phone/email with a report in this regard to be dispatched immediately.*

(iii) The treated effluent shall be recycled to the maximum extent and remaining treated effluent shall be disposed in nearly drain leading to river Bahella. Quality of the treated effluent shall meet to the following general and specific standards as prescribed under **Environment (Protection) Rules, 1986** and applicable to the unit from time-to-time:-



For Multiwal Duplex (P) Ltd.

Auth. Signatory

| | | | |
|---|---|---|---|
| 1 | pH | Between | 7.0 to 8.5 |
| 2 | Suspended solids | Not to exceed | 500mg/l |
| 3 | BOD (3 days 270C) | Not to exceed | 30 mg/l |
| 4 | COD | Not to exceed | 350 mg/l |
| 5 | AOX | Not to exceed | 1.0Kg/Ton of product. |

(iv) **Sewage Treatment and Disposal:** The applicant shall provide comprehensive Septic Tanks/Soak Pits as is required with reference to influent quantity and quality.

3. **Conditions under Air Act:-**

(i) The applicant shall use following fuel and install a comprehensive control system consisting of control equipment as is required with reference to generation of emissions and operate and maintain the same continuously so as to achieve the level of pollutants to the following standards :

| S. No | Stack attached with | Stack height (Mt) | Type of Fuel | Fuel Quantity | Emission Control Equipment | Emission standards not to exceed |
|---|---|---|---|---|---|---|
| 1 | Boiler (8ton/hr) x 1 | 40 | Agro Waste | 20ton/day | Dust Collector, Multi Cyclone Dust Collector & Wet Scrubber | PM-800mg/NM$^2$ |
| 2 | DG Set (625KVA) x 2 | 7 | HSD | 90ltr/hr | Acoustic Enclosure | - |

*In case of stoppage of functioning of air pollution control equipment, production has to be* ***stopped immediately*** *and this* ***Board*** *has to be intimated by fax/phone/email with a report in this regard to be dispatched immediately.*

(ii) Noise from the D.G. Set and other source(s) should be controlled by providing an acoustic enclosure as is required for meeting the ambient noise standards for night and day time as prescribed for respective areas/zones (Industrial, Commercial, Residential, Silence) which are as follows :-

| Standards for Noise level in db(A) Leq | Industrial Area | | Commercial Area | | Residential Area | | Silence Zone | |
|---|---|---|---|---|---|---|---|---|
| | Day time | Night time | Day time | Night time | Day time | Night time | Day time | Night time |
| | 75 | 70 | 65 | 55 | 55 | 45 | 50 | 40 |

Day time: from 6.00 a.m. to 10.00 p.m., Night time: from 10.00 p.m. to 6.00 a.m.

4. **Conditions under Hazardous & Other Wastes Rules-2016:**

(i) Number of authorization and date of issue : ----------

(ii) The **Factory Manager of M/s Multiwal Duplex Pvt. Ltd., Kashipur, U.S.Nagar** is hereby granted an authorization to operate a facility for collection and storage of Hazardous wastes.

(iii) The authorization is granted to operate a facility for generation, collection and storage of hazardous wastes within factory premises for following category of wastes :-

| S.No. | Category (Schedule-I & Schedule-II) | Quantity of Waste for which authorization is being issued (MTA) | Mode of Disposal |
|---|---|---|---|
| 1. | Schedule I - 5.1 | 1.0 | Recyclable |

(iv) The authorization shall be in force for a period from up to 31.03.2019.

(v) The authorization is subject to the conditions stated below and the such conditions as may be specified in the rules for the time being in force under **Environment (Protection) Act, 1986.**

**Terms and conditions of authorization:-**

(i) The authorization shall comply with the provisions of the **Environment (Protection) Act, 1986,** and the rules made there under.
(ii) The authorization and its renewal shall be produced for inspection at the request of an officer authorized by the SPCB/PCC.
(iii) The person authorized shall not rent, lend, sell, transfer or otherwise transport the hazardous wastes without obtaining prior permission of the SPCB/PCC.
(iv) Any unauthorized changes in personnel, equipment as working conditions as mentioned in the application by the person authorized shall constitute a breach of his authorization.
(v) It is the duty of the authorized person to take prior permission of the SPCB/PCC to close down the facility.
(vi) An application for the renewal of an authorization shall be made as laid down under these rules.
(vii) The unit shall comply with any other conditions specified in the guidelines issued by the MoEF or CPCB/SPCB from time to time.

5. This CCA is valid for manufacturing of Duplex Board by using Waste Paper as a raw material only.

6. **Compulsory documents to be submitted by the Industry/Unit:-**

(i) Annual return in **Form-4** and **Waste Disposal Manifest** in **Form-10** under **Hazardous & Other Wastes Rules** and **Third Party Audit Report.**
(ii) Environment Statement in **Form-V** of **Environment (Protection) Rules, 1986.**
(iii) Quarterly **compliance report of the CCA, photograph of ETP/APCs/Waste Storage** Area.

7. Unit has to apply for renewal of CCA well in advance of 60 days of expiry of this CCA.
8. Competent Authority reserves the right to change/modify/add any time any condition of this CCA.
9. Unit has to comply with the other general conditions as annexed herewith. Non compliance of any provision of this CCA and provisions of the **Water Act, Air Act** and **Hazardous Rules & Other Wastes Rules** will results in legal action under the aforesaid **Acts and Rules.**
10. **This CCA shall be operative subject to the directions of the Hon'ble National Green Tribunal.**

**Member Secretary**

Copy to: - **Regional Officer, Uttarakhand Environment Protection and Pollution Control Board, Kashipur** for information and compliance of the same.

**Chief Environment Officer**

**CENTRAL POLLUTION CONTROL BOARD**
**Water Quality Management-II**
**INDUSTRY INSPECTION FORMAT (PULP & PAPER)**

**General Section** **Date of inspection: 24.12.2021**

| | | |
|---|---|---|
| 1. | Unit code | **614** |
| 2. | Name of the unit with complete postal address: | **Multiwal Duplex Private Limited**<br>**Village: Gangapur Gosain**<br>**Kundeshwari Road**<br>**Kashipur-244713**<br>**U.S. Nagar (Uttrakhand)** |
| 3. | Spatial Co-ordinates (Latitude & longitude) in Decimal format only | **Latitude: 29.2172596**<br>**Longitude: 78.994392** |
| 4. | Name of Contact person with designation<br>Phone & Email: | **Mr. Abdul Sabir**<br>**Factory Manager**<br>**Mobile: 9917034500**<br>**Email: multiwalhr@gmail.com** |
| 5. | Year of commissioning | **2002** |
| 6. | Name of SPCBs Regional Office | **Regional Office, Kashipur- Uttrakhand Pollution Control Board** |
| 7. | Industry Operational Status | **Operational** |

**Consent Section**
(Attach valid copies, or if expired then attach recent expired copies along with copy of application)

| | | |
|---|---|---|
| 8. | **Air consent**<br>(Validity with date/Expired/Applied for renewal/First time applied/Never applied ) | **Applied for Renewal and Fee is Deposited till 31.03.2022 (Annexure –I)** |
| 9. | **Water consent**<br>(Validity with date /Expired/Applied for renewal/First time applied/Never applied) | |
| 10. | **Hazardous waste authorization**<br>(Validity with date /Expired/Applied for renewal/First time applied/Never applied ) | |
| 11. | **NOC from CGWA/other authorized body**<br>(Validity with date /Expired/Applied for renewal/First time applied/Never applied) | **Valid up to 18.07.2024 (Annexure– II)** |

**Production Section**

| | | |
|---|---|---|
| 12. | Mention no. of operational days in last three months<br>(to be used for calculation purposes in subsequent sections) | **88 Days** |
| 13. | Name and quantity of Raw materials used<br>(in MT total of last three months) | **Waste Paper**<br>**5890 MT** |
| 14. | Name of Final Products<br>(separately mention name and quantity of byproducts also, if any) | **Duplex Board** |
| 15. | Whether Bleaching performed in production (Yes/No),<br>Name of bleaching chemical used | **No** |
| 16. | Category as per charter | **C1** |
| 17. | Consented production capacity(TPD) | **30 TPD** |
| 18. | Installed production capacity (TPD) | **70 TPD** |
| 19. | Production (total of last three months, MT) | **5773 MT** |
| | Production (average of last three months, TPD) | **65.6 TPD** |
| | **Production (average of last 27 days, TPD)** | **29.8 TPD** |
| 20. | Production on the day of visit (TPD) | **31 TPD** |
| 21. | **Process details with flow diagram**<br><br>The mill has hicon pulper for waste paper processing. The waste paper pulp is subjected to cleaning and screening through a combination of poire, high density cleaner, turbo screen, cenrticleaners, slotted screen followed by pulp thickening by deckener thickener and refining by refiners. The refined pulp is mixed with chemicals & additives to achieve desired product specifications. The pulp stock after passing through centricleaners and pressure screen is sent to paper machine for production of duplex board.<br><br>**Process Flow Sheet enclosed as Annexure –III** | |

**Water Section**

<table>
<tr><td>22.</td><td colspan="2">Source of freshwater</td></tr>
<tr><td></td><td>River</td><td>Not Applicable</td></tr>
<tr><td></td><td>Borewell</td><td>No. of tube well as per CGWA NOC: 01<br>Permitted withdrawal quantity: 448.91 m$^3$/day<br>Actual withdrawal quantity: 305 KLD<br>(average of last 27 days)<br>Actual no. of tube well found on site: 01<br>No. of tube well having flow meter with totalizer installed: 01<br><br>
<table>
<tr><td>Tube Well</td><td>Type of Flow meter *</td><td>Instantaneous Reading m$^3$/hr</td><td>Totalizer Reading m$^3$</td></tr>
<tr><td>Tube well No. 1</td><td>Electromagnetic</td><td>42.31</td><td>59456.8</td></tr>
</table>
*Mechanical/Digital/Electromagnetic etc<br>Calibration (Yes /No): No<br>Logbook maintained: Yes<br>Copy of logbook for last 03 months is enclosed as Annexure-IV.</td></tr>
</table>

| | | | | |
|---|---|---|---|---|
| 23. | **Freshwater Consumption** | Production process | Domestic | Others |
| | Total of last three months, in KL | **56946 KL** | **--** | **--** |
| | Avg. of last three months in, KLD | **647 KLD** | **--** | **--** |
| | **Avg. of last 27 days in, KLD** | **305 KL** | | |
| | KL/MT of product | **10.2 KL/MT** | **--** | **--** |
| | On the day of visit (KLD) | **306 KLD** | **--** | **--** |

**Effluent Management Section**

| | | | |
|---|---|---|---|
| 24. | Sources of effluent generation | **Mill Effluent** | |
| 25. | Flow meters at sources of effluent generation | **Not Available** | |
| 26. | ETP status | **Installed & Operational** | |
| 27. | Flow meter/ V-notch installed at ETP inlet | Yes/No: **Yes**<br>Type: **Ultrasonic**<br>Calibration details: **Not Available**<br>Instantaneous Reading: **13.211 $m^3$/hr**<br>Totalizer Reading: **114200 $m^3$**<br>Logbook maintained: **Yes** | |
| 28. | Flow meter/ V-notch installed at ETP outlet | Yes/No: **Yes**<br>Type: **Ultrasonic/Digital**<br>Calibration (Yes/No): **Yes**<br>Instantaneous Reading: **67.7 $m^3$/hr**<br>Totalizer Reading: **Not Available**<br>Logbook maintained: **Yes** | |
| 29. | **Effluent Generation Quantity (to be calculated from ETP inlet logbook)**<br>**Copy of logbook for last 03 months is enclosed as Annexure-V** | | |
| | Total of last three months, KL | **93108 KL** | |
| | Avg. of last three months in, KLD | **1058 KLD** | |
| | KL/MT of product | **16.1 KL/MT** | |
| | On the day of visit, KLD | **1855 KLD** | |
| 30. | **Recycled Back Water/Treated Effluent from ETP**<br>**Copy of logbook for last 03 months is enclosed as Annexure-V** | | |
| | | **In production** | **Others** |
| | Total of last three months, KL | **83577 KL** | -- |
| | Avg. of last three months in, KLD | **950 KLD** | -- |
| | KL/MT of product | **14.5 KL/MT** | -- |
| | On the day of visit, KLD | **1630 KLD** | -- |
| 31. | **Effluent Discharge Quantity (to be calculated from ETP outlet logbook)**<br>**Copy of logbook for last 03 months is enclosed as Annexure-VI** | | |
| | Total of last three months, KL | **8717 KL** | |
| | Avg. of last 27 days, KLD | **205 KLD** | |
| | KL/MT of product | **6.9 KL/MT** | |

| | | |
|---|---|---|
| | On the day of visit, KLD | **210 KLD** |
| 32. | Mode of discharge | **Open Channel** |
| 33. | a. No. of consented outlets<br>b. Actual no. of outlets observed during visit | **01**<br>**01** |
| 34. | Discharge in | **Bahella Drain** |
| 35. | Route to reach river Ganga | **Koshi River- Ram Ganga River to Ganga River** |
| 36. | ZLD Status**: Not Applicable** | |
| 37. | **Effluent Characteristics** | |

| Parameter | ETP Inlet ( PC Outlet) | ETP Outlet | | | | |
|---|---|---|---|---|---|---|
| | | Value | Norms as per consent | Norms as per charter | Compliance w.r.t. consent | Compliance w.r.t. charter |
| pH | 6.47 | **7.39** | 7.0 8.5 | 6.5 8.5 | **Compliance** | Compliance |
| TSS (mg/l) | 125 | **37** | < 500 | < 30 | **Compliance** | -- |
| TDS (mg/l) | 2360 | **1815** | -- | < 1600 | -- | -- |
| COD (mg/l) | 1378 | **129** | < 350 | < 150 | **Compliance** | Compliance |
| BOD (mg/l) | 860 | **28** | < 30 | < 20 | **Compliance** | -- |
| Colour (PCU) | 280 | **135** | -- | < 150 | -- | Compliance |
| AOX (mg/l) | -- | **0.85** | 1 kg/t product | -- | **Compliance** | -- |
| SAR | -- | **1.4** | -- | < 8 | -- | Compliance |

**Aeration Tank Sample**
MLSS (mg/l): **2573** MLVSS (mg/l): **1576**

| | | |
|---|---|---|
| 38. | BOD Load (on the basis of inlet quality & flow): | **516 kg/day** |
| 39. | BOD Load (on the basis of discharge quality & flow): | **5.74 kg/day** |
| 40. | Black Liquor Management (to be filled wherever relevant)- **Not Applicable** | |

**Ground water Analysis Report: Year of Dug: ……. Depth (m)……**

41. Quality of Groundwater is compared with Bureau of Indian Standard (BIS) drinking water — specification (Second Revision) IS 10500: 2012.

| Parameter → / Location ↓ | pH | Colour (PCU) | Total Alkalinity, mg/l | Total Hardness mg/l | COD mg/l | TDS mg/l | $Cl^-$ mg/l | $F^-$ mg/l | $NO_3$ mg/l | $SO_4$ mg/l |
|---|---|---|---|---|---|---|---|---|---|---|
| Standard values | 6.5-8.5 | 15 | 600 | 600 | - | 2000 | 1000 | 1.5 | 45 | 400 |
| Value | **7.92** | **Nil** | **285.3** | **216.5** | **Nil** | **269.6** | **6.1** | **--** | **0.11** | **23.2** |

Quality of Groundwater is compared with Bureau of Indian Standard (BIS) drinking water — specification (Second Revision) IS 10500: 2012. (Heavy Metal)

| Parameter → | As | Cd | Cr | Cu | Fe | Pb | Mn | Hg | Ni | Zn | Sb | Co | Se | V |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Unit, mg/l | | | | | | | | | | | | | |
| Permissible linits | 0.05 | 0.003 | 0.05 | 1.5 | 0.3 | 0.01 | 0.3 | 0.001 | 0.02 | 15 | - | - | 0.01 | - |
| Tested Values | **ND** | **0.0011** | **ND** | **0.018** | **0.073** | **ND** | **0.003** | **ND** | **ND** | **0.94** | **--** | **--** | **0.0003** | **--** |

**Recipient Drain & Bypass**

| 42. | *Recipient drain characteristics (mention name of the drain also)* | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | Parameter → / Location ↓ | pH | TSS (mg/l) | TDS (mg/l) | COD (mg/l) | BOD (mg/l) | Color (PCU) | SAR |
| | Upstream | **6.93** | **147** | **560** | **118** | **210** | **115** | **2.98** |
| | Downstream | **7.14** | **139** | **810** | **124** | **43** | **125** | **1.86** |
| 43. | By-pass (if any): **No**<br>If, by-pass found: Description of location and characteristics of wastewater | | | | | | | |
| | Parameter → | pH | TSS (mg/l) | TDS (mg/l) | COD (mg/l) | BOD (mg/l) | Color (PCU) | SAR |
| | Values | | | | | | | |

**ETP Section**

| 44. | Installed capacity (KLD):…… ; Utilized capacity (KLD):……<br>**ETP Layout is enclosed as Annexure-VII** | | | | |
|---|---|---|---|---|---|
| 45. | Effluent treatment technology: Physico-chemical/ Biological | | | | |
| | ETP unit | Dimension in m | Capacity ($m^3$) | Retention time (Hr.) | Adequate/ Inadequate |
| | **Equalization tank** | **12 m x 3 m x 3m** | **108 $m^3$** | **1.4** | **Adequate** |
| | **Hill Screens** | **3.8 m x 2.6 m** | **--** | | |
| | **Sedicell** | **--** | **80 $m^3$/hr** | **--** | **Adequate** |
| | **Primary Clarifier**<br>**Avg. Flow:**<br>**77 $m^3$/hr** | **Dia : 15 m**<br>**SWD: 3.6 m** | **636 $m^3$** | **8.3** | **Adequate** |
| | **Aeration tank**<br>**Avg. Flow:**<br>**25 $m^3$/hr**<br>**Recirculation:**<br>**15 $m^3$/hr** | **21m x 19m x 3.2m** | **1277 $m^3$** | **31.9** | **Adequate** |
| | **Secondary Clarifier** | **Dia : 16 m**<br>**SWD: 3.5 m** | **706 $m^3$** | **17.6** | **Adequate** |
| | **Tertiary treatment units** | **Pressure Sand Filter**<br>**Dual Media Filter** | **80 $m^3$/hr**<br>**80 $m^3$/hr** | -- | **Adequate** |
| | **Sludge Beds (2)** | **15 m x 5 m x 1m each** | **150 $m^3$** | -- | **Adequate** |
| | **Sludge Press** | **--** | **8 tonne dry solids per day** | -- | |
| 46. | Type of aeration system in Aeration Tank | **Diffused Aeration System** | | | |
| | No of Aerator / Blower | **Air Blowers- 2 x 50 HP (2 x 2000 $m^3$/hr air discharge)**<br>**No. of diffusers in Aeration Tank: 200** | | | |
| | Provision for sludge recirculation | Yes/No: **Yes** | | | |
| 47. | Type of clarifier (Conventional/ Lamella clarifier/ Tube settler) | Primary clarifier: **Conventional**<br>Secondary clarifier: **Conventional** | | | |

| | | |
|---|---|---|
| 48. | Fiber Separation Unit | |
| | Sedicell/Krofta/DAF | **Hill Screens & Sedicell** |
| 49. | **Sludge Management:** | |
| | Sludge drying beds No. & Capacity, $m^3$ | **02 Nos., Capacity: 150 $m^3$** |
| | Decanter / Centrifuge/ Sludge Press/ Drum Filter (Type & Capacity, tons dry solids per day) | **Sludge Filter Press**<br>**Capacity: 8 tonne dry solids/day** |
| | Quantity of ETP sludge generated (kg/day) (average of last three months) | **994 kg/day** |
| | On the previous day of visit (kg/day) | **~ 700 kg/day** |
| | Mode of sludge disposal | **Sold to sundry board manufacturer** |
| 50. | Name of chemical consumed at ETP along with quantity (kg/day)<br>Average last three months | **Urea : 10 kg/day**<br>**DAP : 5 kg/day**<br>**Polymer at Sedicell : 5 kg/day** |
| 51. | Availability of Environmental Lab | Yes/No: **Yes** |
| | ETP Lab details:<br>(give details of instruments available in lab of the unit with photographic evidence) | - **pH Meter**<br>- **TSS Assembly**<br>- **COD digester**<br>- **BOD incubator**<br>- **Weighing balance,**<br>- **Oven**<br>- **Muffle furnace etc.** |
| 52. | Staff engaged at ETP (Nos.) | ETP Manager: **1**<br>Chemist: **3**<br>Operator: **4**<br>Helper:**3** |
| 53. | Total electric Consumption (KWh/day) (average of last three months) | **29930 kWh/day** |
| | Separate Energy meter installed for ETP<br>Meter reading at the time of visit (KWh)<br>Electric Consumption at ETP (KWh/day) (average of last three months) | Yes/No: **Yes**<br>**32959.8 kWh**<br>**25 x 80= 2000 kWh/day (Annexure-VIII)** |

**Air Pollution – Emission Sources & Control**

| 54. | Sources of air pollution | Chimney Details | APC Equipment | Emission Quality **Stack monitoring system & calibration report is enclosed as Annexure-IX** | | | |
|---|---|---|---|---|---|---|---|
| | | | | **PM, $mg/Nm^3$** | **$NO_x$, $mg/Nm^3$** | **$SO_2$, $mg/Nm^3$** | **CO, $mg/Nm^3$** |
| | **Steam Boiler- 8 TPH** | **H: 40 m Dia: 3 m** | **Multi Cyclone Dust Collector and Wet Scrubber** | **308.3** | **--** | **--** | **--** |
| | **D.G Set - 2 x 625 KVA** | **H: 7 m** | **Acoustic Enclosure** | -- | -- | -- | -- |

**Hazardous waste section**

| 55. | Name of HW generated | | Category | Authorized Quantity | Quantity Generated | Source of generation | HW Disposal | Copy of agreement with recyclers /TSDF |
|---|---|---|---|---|---|---|---|---|
| | a. | **Used Oil** | **Schedule-I- 5.1** | **1.0 MTA** | **600 Litre (April 2019 to July 2020)** | **DG Set** | **Sold to authorized recycler** | **Form 4 & Form 10 are enclosed as Annexure X** |
| | b. | **Plastic Waste** | **--** | **--** | **28.29 Tonnes (Jan – Nov 2021)** | **Waste Paper** | **Disposed by authorized recycler** | **Copy of disposal agreement is enclosed as Annexure-XI** |
| Form-4 and 10 to be collected | | | | | | | | |

**Fuel/Power Consumption**

| 56. | Type of fuel used | **Multi fuel** |
|---|---|---|
| | Fuel consumption of last 3 months | **3626 MT** |
| | On the day of visit | **23 MT** |

**OCEMS and other details**

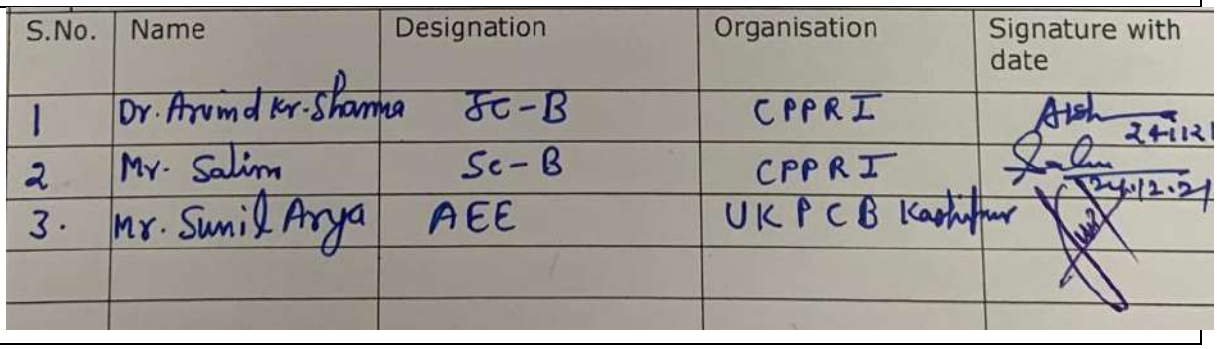
| 57. | Installation Status of<br>(1) OCEMS<br>(2)Web Camera<br>(3)Flow meter<br>Connected with CPCB/SPCB Server:<br>(4) Frequency of calibration<br>(5) Last date of calibration<br>(6) Next due date of calibration | <br>Yes/No: **Yes**<br>Yes/No: **Yes**<br>Yes/No: **Yes**<br>Yes/No: **Yes**<br>**Annual**<br>**29.07.2021**<br>**28.07.2022**<br>**(Annexure-XIII)** |
|---|---|---|

| | | |
|---|---|---|
| 58. | Values shown in OCEMS at the time of sampling | Flow ($m^3$/hr) : **8.3**<br>pH : **7.73**<br>TSS (mg/) : **17.2**<br>BOD (mg/L) : **19.0**<br>COD (mg/L) : **72.4** |

59. **Specific observations:**

- Mill and ETP were found operational at time of the visit.
- OCEMS was operational at the time of mill visit.
- **Consolidated consent** to operate under the Water (Prevention & Control of Pollution) Act, 1974 and the Air (Prevention & Control of Pollution) Act, 1981 and **authorization** under Hazardous and Other Waste (Management & Transboundary) Rules 2016 notified under Environment (Protection) Act 1986 is **applied for renewal** and fee is deposited till March 2022.
- **NOC** for ground water abstraction from CGWA is valid.
- The mill has an average fresh water consumption **(10.2 $m^3$/t product)** and consequently waste water discharge **(6.9 $m^3$/t product).**
- Flow meter is available at tube well to monitor the fresh water consumption on regular basis.
- Separate energy meter is available at ETP to monitor power consumption on regular basis.
- The mill has full fledged ETP including primary treatment (sedimentation), Secondary Treatment (Activated Sludge Process) and Tertiary Treatment (Multi Grade Filters) to treat the mill effluent.
- As per design specifications provided by the mill the existing ETP appears to be adequate to treat the present effluent volume and BOD load to meet the stipulated discharge norms.
- MLSS level in the aeration tank has been found satisfactory.
- ETP lab facility is available at the mill for analysis of pollution parameters pH, TSS, TDS, COD, BOD etc.
- The ground water quality with respect to analyzed parameters has been found under the permissible limits prescribed under BIS standard IS 10500: 2012.
- The analysis results of upstream and downstream of the recipient drain indicate **marginal increase in pollution load** with respect to some parameters.
- Results indicated in OCEMS at the time of visit are comparatively different with laboratory analyzed values with respect to **TSS, COD & BOD**.
- Based on the analysis, the mill is achieving environmental **compliance** with respect to **consent norms**.

| | | |
|---|---|---|
| 60. | **Specific recommendations/suggestions:**<br>• The mill is advised to get the flow meters at ETP inlet line, recycling line and tube well calibrated.<br>• The mill is required to maintain a log book of generation and disposal ETP sludge | |
| 61. | Date of report submission | **04.02.2022** |
| 62. | Inspection team details: | |



| S.No. | Name | Designation | Organisation | Signature with date |
|---|---|---|---|---|
| 1 | Dr. Arvind Kr. Sharma | Sc-B | CPPRI | 24.12.21 |
| 2 | Mr. Salim | Sc-B | CPPRI | 24.12.21 |
| 3. | Mr. Sunil Arya | AEE | UKPCB Kashipur | |

## 63. Photographs- Multiwal Duplex Private Limited

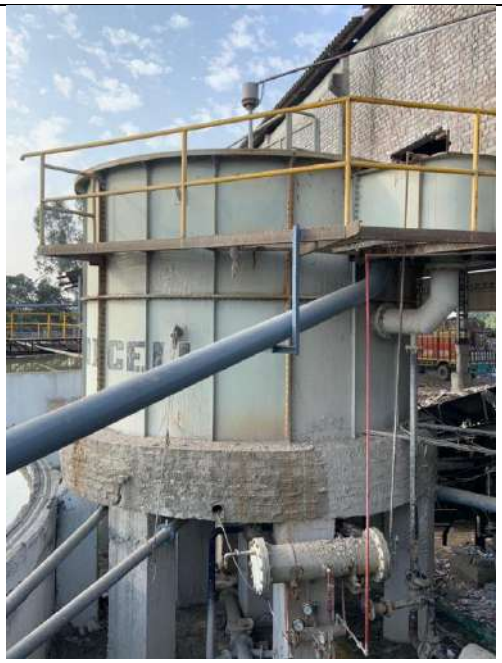
Entrance Gate

Paper Machine

ETP Inlet Drain with Flowmeter

Equalization Tank

**Hill Screen**



**Sedicell**

Primary Clarifier

Aeration Tank

Secondary Clarifier

Tertiary Treatment (PSF & DMF)

ETP Outlet

Recipient Drain

ETP Outlet Flow meter

OCEMS Display

Flow Meter at Recycling Line

ETP Energy Meter

Web camera at ETP

Flow Meter at Bore Well

APC (Multicyclones)

APC (Wet Scrubber)

Sludge Dewatering Machine

ETP Laboratory

Inspection Team

**Documents attached with the report:**

1. Copy of latest Air, Water & Hazardous Waste Consent. If applied, provide copy of the application ***Annexure-I***
2. Copy of NOC from Central Ground Water Authority. If applied, provide copy of the application ***Annexure-II***
3. Attested process details with flow diagram ***Annexure-III***
4. Attested log book of fresh water consumption (in KLD) for last 3 months ***Annexure-IV***
5. Attested log book of effluent generation (in KLD) for last 3 months ***Annexure-V***
6. Attested log book of recycled backwater/treated effluent (in KLD) for last 3 months ***Annexure-V***
7. Attested log book of effluent discharge quantity (in KLD) for last 3 months ***Annexure-VI***
8. Attested ETP flow diagram with design specifications ***Annexure-* VII**

*9.* Attested log book of ETP sludge generation for last 3 month ***Not maintained***

*10.* Attested logbook of ETP power consumption for last 3 months ***Annexure-VIII***

*11.* Air emission quality third party test report ***Annexure-IX***

*12.* Form 4 and last 4 copies of Form 10, if hazardous waste sold to recyclers ***Annexure-X***

*13.* Copy of agreement with authorized recycler for disposal of hazardous waste (plastic waste etc.) ***Annexure-XI***

14. Calibration details (date of calibration, due date of next calibration etc.) of flow meter at Bore well/ETP Inlet / Outlet, OCEMS, Recycling line etc. ***Annexure-XII***

15. Attested data for raw material used, paper production, and fuel consumption for last three month ***Annexure-XIII***

*16.* Forms-1 i.e. Notice of intention to have sample analyzed ***Annexure-XIV***

17. Attested water & material balance report ***Not Available***

HEAD OFFICE
**Uttarakhand Pollution Control Board**
"Gaura Devi Paryavaran Bhawan"
46-B, IT Park, Sahastradhara Road, Dehradun (Uttarakhand)
Web: www.ueppcb.uk.gov.in. E-mail: msukpcb@yahoo.com

Ref: UEPPCB/HO/Gen-TPI-18/2022/1713 Date: 22.02.2022

**SPEED POST**

To,

**M/s Multiwal Duplex Private Limited,**
**Village Ganeshpur Gusain**
**Kundeshwari Road, Kashipur,**
**Distt. US Nagar (Uttarakhand)**

**Sub: Third Party Inspection of Grossly Polluting Industries (GPIs)- reg.**

**Sir,**

Please refer to the Third Party Inspection of the Unit i.e. **M/s Multiwal Duplex Private Limited** located at Village Ganeshpur Gusain, Kundeshwari Road, Kashipur, Distt. US Nagar (Uttarakhand), carried out by the Central Pulp and Paper Research Institute (CPPRI), Saharanpur on dated 24.12.2021. As per inspection report, following recommendations/suggestions are made by Third Party Institution:

1. The mill is advised to get the flow meters at ETP inlet line, recycling line and tube well calibrated.
2. The mill is required to maintain a log book of generation and disposal of ETP sludge.

In this regard, you are directed to ensure compliance of above recommendations/suggestions and also submit the compliance report in the Regional Office, Kashipur, District US Nagar and this office on priority basis.

This issued with approval of Member Secretary of the Board.

**Sincerely,**

**(Dr. Ankur Kansal)**
**Environment Engineer**

Copy to:

1. **Member Secretary**, Uttarakhand Pollution Control Board, Dehradun for kind information please.
2. **Regional Officer**, Uttarakhand Pollution Control Board, Kashipur, District US Nagar for necessary follow up action please.

**Environment Engineer**

**CENTRAL POLLUTION CONTROL BOARD**
**Water Quality Management-II**
**INDUSTRY INSPECTION FORMAT (PULP & PAPER)**

**General section** **Date of inspection:31.12.2021**

| | | |
|---|---|---|
| 1. | Unit code | **612** |
| 2. | Name of the unit with complete postal address: | **Banwari Paper Mills Ltd., 4 km Stone, Ramnagar Road, Kashipur, US Nagar** |
| 3. | Spatial Co-ordinates (Latitude & longitude) in Decimal format only | **29.2355962**<br>**78.9805369** |
| 4. | Name of Contact person with designation<br>Phone & Email: | **Mr. Sanjeev Sharma**<br>**Manager HR & Administration**<br>**9927085071 banwaripapermill@yahoo.co.in** |
| 5. | Year of commissioning | **Information Not Available as the mill is closed since 25.4.2021** |
| 6. | Name of SPCBs Regional Office | **Uttarakhand Pollution Control Board (UKPCB)** |
| 7. | Industry Operational status | **Self closed since April 2021**<br><br>If non-operational:<br>a. Self- closed then collect copy of unit shut down letter duly certified by regional officer of concerned SPCB- **Attached as Annexure -1**<br>b. Closure notice by CPCB or SPCB then collect copy of notice and copy of unit shut down letter duly certified by regional officer of concerned SPCB.<br>c. Any other reason, then specify and attach supporting documents |

**Consent section**
(Attach valid copies, or if expired then attach recent expired copies along with copy of application)

| | | |
|---|---|---|
| 8. | **Air consent**<br>(Validity with date/Expired/Applied for renewal/First time applied/Never applied ) | **Data Not Available as the mill is closed since 25.4.2021** |
| 9. | **Water consent**<br>(Validity with date /Expired/Applied for renewal/First time applied/Never applied) | |
| 10. | **Hazardous waste authorization**<br>(Validity with date /Expired/Applied for renewal/First time applied/Never applied ) | |
| 11. | **NOC from CGWA/other authorized body**<br>(Validity with date /Expired/Applied for renewal/First time applied/Never applied) | |

**Production section**

| | | |
|---|---|---|
| 12. | Mention no. of operational days in last three months<br>(to be used for calculation purposes in subsequent sections) | **Data Not Available as the mill is closed** |
| 13. | Name and quantity of Raw materials used<br>(in MT total of last three months) | |
| 14. | Name of Final Products<br>(separately mention name and quantity of byproducts also, if any) | |
| 15. | Whether Bleaching performed in production (Yes/No),<br>Name of bleaching chemical used | |
| 16. | Category as per charter | **C1** |
| 17. | Consented production capacity(TPD) | **Data Not Available as the mill is closed since 25.4.2021** |
| 18. | Installed production capacity (TPD) | |
| 19. | Production on previous day of inspection (TPD) | |
| 20. | Production (in MT for last three months) | |
| | Overall Production (in TPD) | |
| | On the day of visit (in TPD) | |
| 21. | Process details (with Material Balance & Flow diagram):<br><br>**Information Not Available as the mill is closed** | |

**Water section : Data Not Available as the mill is closed since 25.4.2021**

| | | |
|---|---|---|
| 22. | *Source of freshwater* | |
| | River | Specify whether flow meter with totalizer installed at line carrying freshwater (Yes/No)<br>Instantaneous Reading:……$m^3$/hr<br>Totalizer Reading: …….. $m^3$<br>Logbook maintained: Yes/No<br>If Yes: Collect copy of logbook for last 03 months |
| | Borewell | No. of Borewell as per CGWA NOC: ……<br>Permitted withdrawal quantity: ……..<br>Actual withdrawal quantity: …….<br>(average of last three months)<br>Actual no. of borewell found on site: …….<br>No. of Borewell having flow meter with totalizer installed: ……<br>Instantaneous Reading:……$m^3$/hr ⎫ (mention these values for all borewell with flow meter)<br>Totalizer Reading during visit: …… $m^3$<br>Type: mechanical/digital/electromagnetic etc.<br>Calibration details:<br>Logbook maintained: Yes/No<br>If Yes: Collect copy of logbook for last 03 months |

| ***Fresh water consumption*** | | | | |
|---|---|---|---|---|
| 23. | Freshwater consumption (KL) (Total of last three months) | Production process | Domestic | Others |
| | Overall in KLD & KL/MT of product | …… **Data Not Available as the mill is closed since 25.4.2021** | | |
| | On the day of visit (KLD) | | | |

**Effluent management section - Data Not Available as the mill is closed since 25.4.2021**

| | | | |
|---|---|---|---|
| 24. | Sources of effluent generation | Name & Quantity generated in KLD | |
| 25. | Flow meters at sources of effluent generation | Yes/No<br>Type: mechanical/digital/electromagnetic etc.<br>Calibration details:<br>Meter readings……<br>Logbook maintained: Yes/No (if yes, last three months logbook data should be collected) | |
| 26. | ETP status | Installed (Yes/No) :<br>Operational (Yes/No) : | |
| 27. | Flow meter/ v-notch installed at ETP inlet | Yes/No:<br>Type: mechanical/digital/electromagnetic etc.<br>Calibration details:<br>Instantaneous Reading:…….$m^3$/hr<br>Totalizer Reading: …….. $m^3$<br>Logbook maintained: Yes/No (if yes, last three months logbook data should be collected) | |
| 28. | Flow meter/ v-notch installed at ETP outlet | Yes/No<br>Type: mechanical/digital/electromagnetic etc.<br>Calibration details:<br>Instantaneous Reading:……$m^3$/hr<br>Totalizer Reading: …….. $m^3$<br>Logbook maintained: Yes/No (if yes, last three months logbook data should be collected) | |
| 29. | Effluent generation quantity (KL) (to be calculated from ETP inlet logbook)- Total of last three months | **Data Not Available as the mill is closed since 25.4.2021** | |
| | Overall in KLD & KL/MT of product | | |
| | On the day of visit | | |
| 28. | Recycled water consumption (KL) (Total of last three months) | In production | Others |
| | Overall in KLD & KL/MT of product | **Data Not Available as the mill is closed since 25.4.2021** | |
| | On the day of visit (KLD) | | |
| 29. | Effluent discharge quantity (KL) (to be calculated from ETP outlet logbook)- Total of last three months | | |

| | | |
|---|---|---|
| | Overall in KLD & KL/MT of product | |
| | On the day of visit | |
| 30. | Mode of discharge | Open channel/ Underground pipeline/ Surface pipeline |
| 31. | a. No. of consented outlets<br>b. Actual no. of outlets observed during visit | |
| 32. | Discharge in | Drain (name)/river (name)/ land |
| 33. | Route to reach river Ganga | |

34. **ZLD status: Not Applicable**

a. Whether consent specifies that unit is ZLD: Yes/No
b. Mode of achieving ZLD:
   - Complete recycling in production process (Yes/No)
   - Reused for irrigation within premises (Yes/No)
c. In case of ZLD mention availability of flow meters (with flow rate and totalizer reading during visit) at all recirculation lines (Y/N):

Type of flow meter: mechanical/digital/electromagnetic etc.
Calibration details:

35. Effluent characteristics

| Parameter | ETP inlet | ETP outlet | Norms as per consent | Norms as per charter | Compliance w.r.t. consent | Compliance w.r.t. charter |
|---|---|---|---|---|---|---|
| pH | **Sample not collected as the mill was closed since 25.4.2021** | | | | | |
| BOD (mg/l) | | | | | | |
| COD (mg/l) | | | | | | |
| TSS (mg/l) | | | | | | |
| TDS (mg/l) | | | | | | |
| AOx (mg/l) | | | | | | |
| SAR | | | | | | |
| Colour (PCU) | | | | | | |

MLSS (mg/l): ……. ; MLVSS (mg/l):…….

| | | |
|---|---|---|
| 36. | BOD Load (on the basis of inlet quality & flow): | ……..kg/day |
| 37. | BOD Load (on the basis of discharge quality & flow): | ……kg/day |

38. **Black Liquor Management (to be filled wherever relevant) Not Applicable**

a. Quantity of Black Liquor generated (Total in last three months)

**b. Chemical Recovery Plant (CRP)**

| | |
|---|---|
| Installed | Yes/No |
| Capacity | |
| Own/Common with other unit | |

c. Quantity of Black Liquor sent to CRP (Total in last three months)

d. Chemicals recovered from CRP

| | | |
|---|---|---|
| | (mention name and quantity for last three months) | |

**Recipient drain & Bypass : Sample not collected as the mill was closed since 25.4.2021**

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 39. | *Recipient drain characteristics (mention name of the drain also)* | | | | | | | |
| | Parameter → / Location ↓ | pH | Colour (PCU) | BOD (mg/l) | COD (mg/l) | TSS (mg/l) | TDS (mg/l) | SAR |
| | Upstream | | | | | | | |
| | Downstream | | | | | | | |
| 40. | By-pass (if any): Yes/ No<br>If, by-pass found: Description of location and characteristics of wastewater | | | | | | | |
| | Parameter → | pH | Colour (PCU) | BOD (mg/l) | COD (mg/l) | TSS (mg/l) | TDS (mg/l) | SAR |
| | Values | | | | | | | |

**ETP section Sample not taken as the mill was closed at the time of visit**

| | | | | | |
|---|---|---|---|---|---|
| 41. | Installed capacity (KLD):…….. ; Utilized capacity (KLD):…… | | | | |
| 42. | Effluent treatment technology: Physico-chemical/ Biological | | | | |
| | ETP unit | Dimension | Capacity | Retention time | Adequate |
| | Bar screen chamber | **Data not available as the mill is closed since 25.4.2021** | | | |
| | Equalization tank | | | | |
| | Primary clarifier | | | | |
| | Aeration tank | | | | |
| | Secondary clarifier | | | | |
| | Polishing Tank (if available) | | | | |
| | Tertiary treatment units DMF/PSF/ACF | | | | |
| 43. | Type of aerators in aeration tank | Surface/Diffused | | Details: | |
| | Rate of aeration | ……. | | | |
| | Provision for sludge recirculation | Yes/No | | | |
| 44. | Type of clarifier (Conventional/ Lamella clarifier/ Tube settler) | Primary clarifier:<br>Secondary clarifier: | | | |
| 45. | Fiber Separation unit: | | | | |
| | Sedicell/Krofta/DAF | | | | |
| 46. | Sludge management: | | | | |
| | Sludge drying beds | | | | |
| | Centrifuge/ Sludge press | | | | |
| | Quantity of sludge generated (kg/day) (average of last three months) | | | | |
| | On the day of visit (kg/day) | | | | |
| | Mode of sludge disposal | | | | |
| 47. | Name of chemical consumed at ETP along with quantity (kg/day) | | | | |
| 48. | Availability of Environmental Lab | | | | |

| | | |
|---|---|---|
| | ETP Lab details:<br>(give details of instruments available in lab of the unit with photographic evidence) | **Data Not Available as the mill is closed** |
| 49. | Staff engaged at ETP (Nos.) | |
| 50. | Total electric Consumption (KWh/day)<br>(average of last three months) | |
| | Separate Energy meter installed for ETP<br><br>Meter reading at the time of visit (KWh)<br><br>Electric Consumption at ETP (KWh/day) (average of last three months) | |

**Hazardous waste section - Data Not Available as the mill is closed**

| 51 | Name of HW generated | Category | Authorised Quantity | Quantity Generated | Source of generation | HW Disposal | Copy of agreement with recyclers /TSDF |
|---|---|---|---|---|---|---|---|
| | a. | **Data Not Available as the mill is closed since 25.4.2021** | | | | | |
| | b. | | | | | | |
| | c. | | | | | | |
| Form-4 and 10 to be collected | | | | | | | |

**Fuel/power consumption - Data Not Available as the mill is closed**

| | | |
|---|---|---|
| 52. | Type of fuel used | |
| 53. | Fuel consumption (mention units) | **Data Not Available as the mill is closed since 25.4.2021** |
| | On the day of visit | |

**OCEMS and other details - Data Not Available as the mill is closed**

| | | |
|---|---|---|
| 54 | Installation Status of<br>(1)OCEMS<br><br>(2)Web Camera<br><br>(3)Flow meter<br><br>Connected with CPCB/SPCB Server:<br><br>(4) Frequency of calibration<br><br>(5) Last date of calibration<br><br>(6) Next due date of calibration<br><br>(7) Techniques | **Data not available as the mill is closed since 25.4.2021**<br><br>Inline/ On-line |
| 55 | Values shown in OCEMS at the time of sampling | Flow ($m^3$/hr):<br>pH: :<br>TSS (mg/L):<br>BOD (mg/L):<br>COD (mg/L):<br>**Data not available as the mill is closed since 25.4.2021** |
| 56 | Specific observations:<br><br>• **Banwari Paper Mills Ltd., , Kashipur was closed at the time of visit**<br>• **Letter of Intimation regarding closure of the mill since 25.4.2021 has been submitted by the mill to the Regional Office of Uttarakhad Pollution Control Board , Kashipur and is placed as Annexure –I ( Letter dated 25.6.2021)**<br>• **The ETP was also not in operation at the time of visit**<br>• **As the mill is closed no effluent sample was collected for analysis** | |
| 57 | Specific recommendations/suggestions:<br><br>**The mill may be advised to keep the regulatory authorities informed about the resumption of mill operation in near future** | |
| 58 | Date of report submission | 21.2.2022 |
| 59 | Inspection team details: | |

| S.No. | Name | Designation | Organisation | Signature with date |
|---|---|---|---|---|
| 1- | Satya Devnegi | Scientist E-I | CPPRI | 31/12/2021 |
| 2- | Dr. Arvind Sharma | Scientist -B | CPPRI | 31/12/21 |
| 3. | Mr. Naresh Kashyap | RO | UKPCB | 31/12/21 |
| 4. | Mr. Akash Kumar | MA | UKPCB | |

**Photographs**

Entrance gate

Paper machine

Closed ETP

Closed hill screen

Closed primary clarifier

Closed secondary clarifier

| | |
|---|---|
| ET P diagram | Inspection Team |

**Documents attached with the report:**

1. Self- closure letter to regional officer of concerned SPCB is attached as **Annexure -I**

**CENTRAL POLLUTION CONTROL BOARD**
**Water Quality Management-II**
**INDUSTRY INSPECTION FORMAT (PULP & PAPER)**

**General section** **Date of inspection:31.12.2021**

| | | |
|---|---|---|
| 1. | Unit code | **613** |
| 2. | Name of the unit with complete postal address: | **Multiwal Pulp & Board Mills (P) Ltd., Bazpur Road, Kashipur, Uttarakhand-244713** |
| 3. | Spatial Co-ordinates (Latitude & longitude) in Decimal format only | **29.1693668**<br>**79.010386** |
| 4. | Name of Contact person with designation<br>Phone & Email: | **Shoib Saifi**<br>**Manager HR & Administration**<br>**8534011111 multiwalhr@gmail.com** |
| 5. | Year of commissioning | **1998** |
| 6. | Name of SPCBs Regional Office | **Uttarakhand Pollution Control Board (UKPCB)** |
| 7. | Industry Operational status | **Non-operational since 28.9.2020**<br><br>If non-operational:<br>a. Self- closed then collect copy of unit shut down letter duly certified by regional officer of concerned SPCB. **Attached as Annexure -1**<br>b. Closure notice by CPCB or SPCB then collect copy of notice and copy of unit shut down letter duly certified by regional officer of concerned SPCB. **Attached as Annexure -2**<br>c. Any other reason, then specify and attach supporting documents |

**Consent section**
(Attach valid copies, or if expired then attach recent expired copies along with copy of application)

| | | |
|---|---|---|
| 8. | **Air consent**<br>(Validity with date/Expired/Applied for renewal/First time applied/Never applied ) | **Data Not Available as the mill is closed since 28.9.2020** |
| 9. | **Water consent**<br>(Validity with date /Expired/Applied for renewal/First time applied/Never applied) | |
| 10. | **Hazardous waste authorization**<br>(Validity with date /Expired/Applied for renewal/First time applied/Never applied ) | |
| 11. | **NOC from CGWA/other authorized body**<br>(Validity with date /Expired/Applied for renewal/First time applied/Never applied) | |

**Production section**

| | | |
|---|---|---|
| 12. | Mention no. of operational days in last three months<br>(to be used for calculation purposes in subsequent sections) | **Data Not Available as the mill is closed since 28.9.2020** |
| 13. | Name and quantity of Raw materials used<br>(in MT total of last three months) | |
| 14. | Name of Final Products<br>(separately mention name and quantity of byproducts also, if any) | |
| 15. | Whether Bleaching performed in production (Yes/No),<br>Name of bleaching chemical used | |
| 16. | Category as per charter | |
| 17. | Consented production capacity(TPD) | |
| 18. | Installed production capacity (TPD) | |
| 19. | Production on previous day of inspection (TPD) | |
| 20. | Production (in MT for last three months) | |
| | Overall Production (in TPD) | |
| | On the day of visit (in TPD) | |
| 21. | Process details (with Material Balance & Flow diagram):<br><br>**Information not available as the mill is closed since 28.9.2020** | |

**Water section** **Data Not Available as the mill is closed since 28.9.2020**

| | | |
|---|---|---|
| 22. | *Source of freshwater* | |
| | River | Specify whether flow meter with totalizer installed at line carrying freshwater (Yes/No)<br>Instantaneous Reading:……$m^3$/hr<br>Totalizer Reading: …….. $m^3$<br>Logbook maintained: Yes/No<br>If Yes: Collect copy of logbook for last 03 months |
| | Borewell | No. of Borewell as per CGWA NOC: ……<br>Permitted withdrawal quantity: …….<br>Actual withdrawal quantity: …….<br>(average of last three months)<br>Actual no. of borewell found on site: …….<br>No. of Borewell having flow meter with totalizer installed: ……<br>Instantaneous Reading:……$m^3$/hr ⎫ (mention these values for all borewell with flow meter)<br>Totalizer Reading during visit: …… $m^3$<br>Type: mechanical/digital/electromagnetic etc.<br>Calibration details:<br>Logbook maintained: Yes/No<br>If Yes: Collect copy of logbook for last 03 months |

| ***Fresh water consumption*** | | | | |
|---|---|---|---|---|
| 23. | Freshwater consumption (KL) (Total of last three months) | Production process | Domestic | Others |
| | Overall in KLD & KL/MT of product | **Data Not Available as the mill is closed since 28.9.2020** | | |
| | On the day of visit (KLD) | | | |

**Effluent management section** **Data Not Available as the mill is closed since 28.9.2020**

| | | |
|---|---|---|
| 24. | Sources of effluent generation | Name & Quantity generated in KLD |
| 25. | Flow meters at sources of effluent generation | Yes/No<br>Type: mechanical/digital/electromagnetic etc.<br>Calibration details:<br>Meter readings……<br>Logbook maintained: Yes/No (if yes, last three months logbook data should be collected) |
| 26. | ETP status | Installed (Yes/No) :<br>Operational (Yes/No) : |
| 27. | Flow meter/ v-notch installed at ETP inlet | Yes/No:<br>Type: mechanical/digital/electromagnetic etc.<br>Calibration details:<br>Instantaneous Reading:…….$m^3$/hr<br>Totalizer Reading: …….. $m^3$<br>Logbook maintained: Yes/No (if yes, last three months logbook data should be collected) |
| 28. | Flow meter/ v-notch installed at ETP outlet | Yes/No<br>Type: mechanical/digital/electromagnetic etc.<br>Calibration details:<br>Instantaneous Reading:…….$m^3$/hr<br>Totalizer Reading: …….. $m^3$<br>Logbook maintained: Yes/No (if yes, last three months logbook data should be collected) |
| 29. | Effluent generation quantity (KL) (to be calculated from ETP inlet logbook)- Total of last three months | **Data Not Available as the mill is closed since 28.9.2020** |
| | Overall in KLD & KL/MT of product | |
| | On the day of visit | |
| 28. | Recycled water consumption (KL) (Total of last three months) | In production / Others |
| | Overall in KLD & KL/MT of product | **Data Not Available as the mill is closed since 28.9.2020** |
| | On the day of visit (KLD) | |
| 29. | Effluent discharge quantity (KL) (to be calculated from ETP outlet logbook)- Total of last three months | |

| | | |
|---|---|---|
| | Overall in KLD & KL/MT of product | |
| | On the day of visit | |
| 30. | Mode of discharge | Open channel/ Underground pipeline/ Surface pipeline |
| 31. | a. No. of consented outlets<br>b. Actual no. of outlets observed during visit | |
| 32. | Discharge in | Drain (name)/river (name)/ land |
| 33. | Route to reach river Ganga | |

34. **ZLD status**: **NOT APPLICABLE**

a. Whether consent specifies that unit is ZLD: Yes/No
b. Mode of achieving ZLD:
- Complete recycling in production process (Yes/No)
- Reused for irrigation within premises (Yes/No)

c. In case of ZLD mention availability of flow meters (with flow rate and totalizer reading during visit) at all recirculation lines (Y/N):

Type of flow meter: mechanical/digital/electromagnetic etc.
Calibration details:

35. Effluent characteristics

| Parameter | ETP inlet | ETP outlet | Norms as per consent | Norms as per charter | Compliance w.r.t. consent | Compliance w.r.t. charter |
|---|---|---|---|---|---|---|
| pH | **Sample not Collected as the mill is closed since 28.9.2020** | | | | | |
| BOD (mg/l) | | | | | | |
| COD (mg/l) | | | | | | |
| TSS (mg/l) | | | | | | |
| TDS (mg/l) | | | | | | |
| AOx (mg/l) | | | | | | |
| SAR | | | | | | |
| Colour (PCU) | | | | | | |

MLSS (mg/l): ……. ; MLVSS (mg/l):……

| | | |
|---|---|---|
| 36. | BOD Load (on the basis of inlet quality & flow): | ……..kg/day |
| 37. | BOD Load (on the basis of discharge quality & flow): | ……kg/day |

38. **Black Liquor Management (to be filled wherever relevant)**

| | |
|---|---|
| a. Quantity of Black Liquor generated (Total in last three months) | Not Applicable |

**b. Chemical Recovery Plant (CRP)**

| | |
|---|---|
| Installed | Yes/No |
| Capacity | |
| Own/Common with other unit | |

| | |
|---|---|
| c. Quantity of Black Liquor sent to CRP (Total in last three months) | |
| d. Chemicals recovered from CRP (mention name and quantity for last three | |

| | | |
|---|---|---|
| | months) | |

**Recipient drain & Bypass**

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 39. | *Recipient drain characteristics (mention name of the drain also)* | | | | | | | |
| | Parameter → / Location ↓ | pH | Colour (PCU) | BOD (mg/l) | COD (mg/l) | TSS (mg/l) | TDS (mg/l) | SAR |
| | Upstream / Downstream | **Samples not collected for analysis as the mill is closed since 28.9.2020** | | | | | | |
| 40. | By-pass (if any): Yes/ No<br>If, by-pass found: Description of location and characteristics of wastewater | | | | | | | |
| | Parameter → | pH | Colour (PCU) | BOD (mg/l) | COD (mg/l) | TSS (mg/l) | TDS (mg/l) | SAR |
| | Values | **Samples not collected for analysis as the mill is closed since 28.9.2020** | | | | | | |

**ETP section Data Not Available as the mill is closed since 28.9.2020**

| | | | | | |
|---|---|---|---|---|---|
| 41. | Installed capacity (KLD):…….. ; Utilized capacity (KLD):…… | | | | |
| 42. | Effluent treatment technology: Physico-chemical/ Biological | | | | |
| | ETP unit | Dimension | Capacity | Retention time | Adequate |
| | Bar screen chamber / Equalization tank / Primary clarifier / Aeration tank / Secondary clarifier / Polishing Tank (if available) / Tertiary treatment units DMF/PSF/ACF | **Data Not Available as the mill is closed since 28.9.2020** | | | |
| 43. | Type of aerators in aeration tank | Surface/Diffused | | Details: | |
| | Rate of aeration | …… | | | |
| | Provision for sludge recirculation | Yes/No | | | |
| 44. | Type of clarifier (Conventional/ Lamella clarifier/ Tube settler) | Primary clarifier:<br>Secondary clarifier: | | | |
| 45. | Fiber Separation unit: | | | | |
| | Sedicell/Krofta/DAF | | | | |
| 46. | Sludge management: | | | | |
| | Sludge drying beds | | | | |
| | Centrifuge/ Sludge press | | | | |
| | Quantity of sludge generated (kg/day) (average of last three months) | | | | |

| | | |
|---|---|---|
| | On the day of visit (kg/day) | **Information Not Available as the mill is closed since 28.9.2020** |
| | Mode of sludge disposal | |
| 47. | Name of chemical consumed at ETP along with quantity (kg/day) | |
| 48. | Availability of Environmental Lab | |
| | ETP Lab details:<br>(give details of instruments available in lab of the unit with photographic evidence) | |
| 49. | Staff engaged at ETP (Nos.) | |
| 50. | Total electric Consumption (KWh/day)<br>(average of last three months) | |
| | Separate Energy meter installed for ETP<br><br>Meter reading at the time of visit (KWh)<br><br>Electric Consumption at ETP (KWh/day) (average of last three months) | |

**Hazardous waste section**

| 51 | Name of HW generated | Category | Authorised Quantity | Quantity Generated | Source of generation | HW Disposal | Copy of agreement with recyclers /TSDF |
|---|---|---|---|---|---|---|---|
| | a. | **Data Not Available as the mill is closed since 28.9.2020** | | | | | |
| | b. | | | | | | |
| | c. | | | | | | |
| Form-4 and 10 to be collected | | | | | | | |

## Fuel/power consumption

| | | |
|---|---|---|
| 52. | Type of fuel used | **Data Not Available as the mill is closed since 28.9.2020** |
| 53. | Fuel consumption (mention units) | |
| | On the day of visit | |

## OCEMS and other details

| | | |
|---|---|---|
| 54 | Installation Status of<br>(1)OCEMS<br><br>(2)Web Camera<br><br>(3)Flow meter<br><br>Connected with CPCB/SPCB Server:<br><br>(4) Frequency of calibration<br><br>(5) Last date of calibration<br><br>(6) Next due date of calibration<br><br>(7) Techniques | **Data Not Available as the mill is closed since 28.9.2020** |

| | | |
|---|---|---|
| 55 | Values shown in OCEMS at the time of sampling | Flow ($m^3$/hr):<br>pH: :<br>TSS (mg/L):<br>BOD (mg/L):<br>COD (mg/L):<br><br>**Data Not Available as the mill is closed since 28.9.2020** |
| 56 | Specific observations:<br>• **The Multiwal Pulp & Board Mills ( P) Ltd , Kashipur was closed at the time of visit**<br>• **As per UKPCB the mill has been closed since 28.9.2020**<br>• **The ETP was also not in operation at the time of visit**<br>• **As the mill is closed no effluent sample was collected for analysis** | |
| 57 | Specific recommendations/suggestions:<br><br>**The mill may be advised to keep the regulatory authorities informed about the resumption of mill operation in near future** | |
| 58 | Date of report submission | 21.1.2022 |
| 59 | Inspection team details: | |

| S.No. | Name | Designation | Organisation | Signature with date |
|---|---|---|---|---|
| 1- | Satya Devnegi | Scientist E-I | CPPRI | 31/12/2021 |
| 2- | Dr. Arvind Sharma | Scientist -B | CPPRI | 31/12/21 |
| 3. | Mr. Naresh Goswami | RO | UKPCB | 31/12/21 |
| 4. | Mr. Akash Kumar | MA | UKPCB | |

**Photographs**

Entrance gate

Closed paper machine

Closed primary carifier

Closed aeration tank

Inspection Team

**Documents attached with the report:**

1. Self- closure letter to regional officer of concerned SPCB is attached as **Annexure -I**
2. Closure notice by UKPCB is attached as **Annexure -II**