

BEFORE THE NATIONAL GREEN TRIBUNAL, PRINCIPAL
BENCH, NEW DELHI

ORIGINAL APPLICATION NO. 744 OF 2022

IN THE MATTER OF:
MOHARRAM ALI

.....APPLICANT

VERSUS

STATE OF UTTAR PRADESH

.....RESPONDENT

WITH

ORIGINAL APPLICATION NO. 277 OF 2022

IN THE MATTER OF:
LIYAKAT ALI & ORS.

.....APPLICANTS

VERSUS

STATE OF UTTAR PRADESH

.....RESPONDENT

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NEW DELHI

DATED : 09.09.2024



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2026

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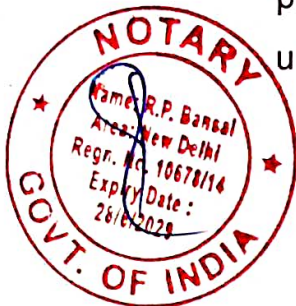
STATE OF UTTAR PRADESH

.....RESPONDENT

AFFIDAVIT ON BEHALF OF U.P. POLLUTION CONTROL
BOARD IN COMPLIANCE OF ORDER DATED 22.05.2024.

I, Ankit Singh, S/o. Shri Ajit Singh, aged about 36 years, Regional Officer, U.P. Pollution Control Board, Muzaffarnagar, U.P. at present at New Delhi do hereby solemnly affirm and declare as under:

1. That I in the abovenoted capacity am well conversant with the facts and records of the present case, hence am competent to swear this affidavit.



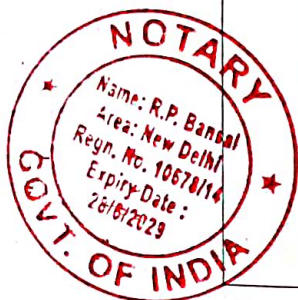
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2. That the abovenoted matter came up for hearing on 22.05.2024 when this Hon'ble Tribunal pleased to pass the following order:

“.....3. A Compliance Report has been filed by the UPPCB on 17.05.2024. In the Compliance Report though in the chart form the results from sample taken from the inlet and outlet of ETP have been mentioned but no test reports have been enclosed. The report on page 1022 states that the report related to adequacy/efficiency of ETP is yet to be prepared and same will be prepared by July, 2024.....”

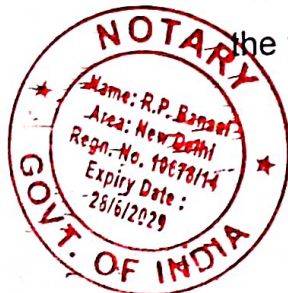
“.....6. We also find that entry 53 of Schedule 1 of Environment Protection Rules 1986 lays down the parameters for large pulp and paper industries as under:

53	LARGE PULP & PAPER NEWS PRINT/ RAYON GRADE PLANTS OF 1 [CAPACITY ABOVE 24000 MT PER ANNUM]	EFFLUENTS	Concentration in mg/l except pH and TOCL
		pH	7.0 – 8.5
		BOD2 [3 days at 27oC]	30
		COD	350
		Suspended Solids	500
		[Absorbable Organic Halogens (AOX) in effluent discharge	1.5 kg/ton of product with effect from the date of publication of this



			notification. 1.0 kg/ton of product with effect from the 1st day of March, 2008.]
		Flow (Total Waste Water Discharge)	
		(i) Large Pulp & Paper	200 Cum/Ton of Paper produced
		(ii) Large Rayon Grade Newsprint	150 Cum/Ton of Paper produced.

3. That in compliance of the said order Regional Office of U.P. Pollution Control Board has inspected the industries on 03.09.2024 and the compliance is enclosed as **Annexure-1**.
4. That the survey report by Central Pulp and Paper Research Institute, Saharanpur in respect of each industry is still awaited, however, in the meantime Pulp and Paper Association has submitted efficiency/adequacy report from M/s. Newcon Consultants and Laboratories, Ghaziabad, an NABL approved laboratory.
5. That it is humbly submitted action for taking action during the period of violation is under process.



6. That the above facts are being placed before this Hon'ble Tribunal for kind consideration.

Subit. S.
DEPONENT

VERIFICATION:

I, the abovenamed deponent do hereby verify that the contents of above affidavit are true to my knowledge. No part of the same is false and nothing has been concealed therefrom.

VERIFIED ON THIS THE 07TH DAY OF SEPTEMBER, 2024 AT NEW DELHI.

Arundata
IDENTIFIED BY



Subit. S.
DEPONENT

ATTESTED
[Signature]
Notary Public, Delhi
(As Presented)

07/09/2024

Compliance Report of UPPCB in reference to order dated 22.05.2024 passed by Hon'ble National Green Tribunal in OA No 744/2022 Moharram Ali versus State of Uttar Pradesh along with O.A. No. 277/2022 Liyakat Ali and Others Vs State of U.P.

1.0 Background:

In reference to the grievance raised by Mohd. Liyakat Ali and other residents of Village Dhandhera, Muzaffarnagar, complaining regarding the pulp and paper mills discharging highly polluted chemical mixed water in the land abutting their land. Hon'ble Tribunal in its order dated 22.03.2023 had constituted a joint committee of CPCB, UPPCB and District Administration. For carrying out inspections of the concerned industries and there after submit the report to the Tribunal. Report of the Joint committee, after survey, was submitted to Hon'ble Tribunal 11.01.2024. Further, as per the directions of Hon'ble Tribunal, UPPCB also submitted a report on 07.03.2024. After consideration of both reports, this Hon'ble Tribunal has passed order dated 12.03.2024.

After consideration of the reports, Hon'ble Tribunal thereafter observed that some of the industrial units were violating the norms, hence passed directions to UPPCB on 12.03.2024 that the UPPCB shall examine the extent and period of violation and take appropriate steps against the industries found under violation, for imposition of environmental compensation. Further UPPCB was directed to take the sample at the inlet of the ETP and outlet of industrial discharge to ensure that it is not diluted and submit the sample analysis report. UPPCB inspected all concerned industries as per the directions of Hon'ble Tribunal and submitted report on 17.05.2024 to Hon'ble Tribunal. After consideration of report, Hon'ble National Green Tribunal issued directions on 22.05.2024.

Order dated 22.05.2024 issued by Hon'ble National Green Tribunal

Hon'ble Tribunal on 22.05.2024, issued directions, the effective part of which is mentioned here under:-

- ".....3. A Compliance Report has been filed by the UPPCB on 17.05.2024. In the Compliance Report though in the chart form the results from sample taken from the inlet and outlet of ETP have been mentioned but no test reports have been enclosed. The report on page 1022 states that the report related to adequacy/efficiency of ETP is yet to be prepared and same will be prepared by July, 2024....."

".....6. We also find that entry 53 of Schedule 1 of Environment Protection Rules 1986 lays down the parameters for large pulp and paper industries as under:

53	LARGE PULP & PAPER NEWS PRINT/ RAYON GRADE PLANTS OF 1 [CAPACITY ABOVE 24000 MT PER ANNUM]	EFFLUENTS	Concentration in mg/l except pH and TOCL
		pH	7.0 – 8.5
		BOD2 [3 days at 27oC]	30
		COD	350
		Suspended Solids	500
		[Absorbable Organic Halogens (AOX) in effluent discharge	1.5 kg/ton of product with effect from the date of publication of this notification. 1.0 kg/ton of product with effect from the 1st day of March, 2008.]
		Flow (Total Waste Water Discharge)	
		(i) Large Pulp & Paper	200 Cum/Ton of Paper produced
(ii) Large Rayon Grade Newsprint	150 Cum/Ton of Paper produced.		

Action taken in compliance of the order dated 22.05.2024

- As per the report of the joint committee dated 11.01.2024, 10 industries were found having questionable and very low values of BOD and COD with respect to raw and treated effluent parameters showing dilution. Hence, all 10 concerned industries were issued directions u/s 33A of Water (Prevention & Control) of Pollution 1974 as amended for submission of efficiency/ adequacy report of ETP from CPPRI Saharanpur. In compliance to the directions, units submitted their letter dated 11.05.2024 informing that are in continuous touch with CPPRI Saharanpur, however, due to excess work at CPPRI, the survey of ETPs to assess efficiency is taking some additional time. Hence, once CPPRI has carried out survey and submitted their reports of individual units, the same shall be submitted to Hon'ble Tribunal. Meanwhile, The Pulp and Paper Association vide letter dated 02.09.2024 has submitted the efficiency/adequacy reports from NABL approved laboratory (third party) M/s Newcon Consultants & Laboratories, Ghaziabad which is annexed as **Annexure No. 1**.
- UPPCB conducted inspections of all concerned industries and collected the samples of treated effluent for analysis on dated 03.09.2024. Following observations found as per the analysis reports :

S. No.	Name of the unit	Product	Parameters					
			pH	BOD (mg/l)	COD (mg/l)	Susp. Solids (mg/l)	AOX	Flow (KL/Ton)
1.	M/s Silverton Pulp & Papers Pvt.Ltd.(Unit-1), Bhopa Road, Muzaffarnagar	Kraft Paper/Cup Stock 300 MTD	7.6	18.0	120	26	-	1.02
2.	M/s Silverton Pulp & Papers Pvt.Ltd.(Unit-2), Bhopa Road, Muzaffarnagar	Writing Printing/Kraft Paper/ Coated Duplex/News Print Paper 300 MT/Day	7.5	19.0	136	24	-	6.93
3.	M/s Garg Duplex and Paper Mills Pvt. Ltd., Bhopa Road, Muzaffarnagar	Kraft Paper/Board/Cup Stock/Writing Printing 415 MT/Day	7.7	19.0	136	24	-	1.86
4.	M/s Shree Sidhbali Paper Mills Ltd., Bhopa Road, Muzaffarnagar	Kraft Paper 250 MT/Day	7.3	18.0	120	26	-	1.12
5.	M/s Meenu Paper Mills Pvt.Ltd., Bhopa Road, Muzaffarnagar	Kraft Paper 190 MT/Day	7.4	19.0	144	28	-	3.0
6.	M/s Tehri Pulp & Paper Ltd.(Unit-1), Bhopa Road, Muzaffarnagar	Kraft Paper 250 MT/Day	7.6	15.0	128	22	-	3.96
7.	M/s Tehri Pulp & Paper Ltd.(Unit-2), Bhopa Road, Muzaffarnagar	Kraft Paper 350 MT/Day	7.4	16.0	120	18	-	1.64
8.	M/s Tirupati Baalaji Fibres Pvt Ltd., Bhopa Road, Muzaffarnagar	Writing Printing Paper 150 MT/Day	7.5	19.0	136	26	-	3.09
9.	M/s Bindals Papers Mills Ltd., Bhopa Road, Muzaffarnagar	Writing Printing Paper 300 MT/Day	7.4	19.0	144	24	-	13.82
10.	M/s Shree Bhageshwari Papers Pvt. Ltd.(Unit-2), Bhopa Road, Muzaffarnagar	Writing Printing Paper 100 MT/Day	7.6	17.0	120	22	-	10.58
11.	M/s Shree Bhageshwari Papers Pvt. Ltd.(Unit-1), Bhopa Road, Muzaffarnagar	Kraft Paper 100 MT/Day	7.7	14.0	136	24	-	2.76
12.	M/s Bindlas Dupulx Ltd., (Unit-1), Bhopa Road, Muzaffarnagar	Kraft Paper 200 MT/Day	7.4	14.0	112	18	-	3.26
13.	M/s Bindlas Dupulx Ltd., (Unit-2), Bhopa Road, Muzaffarnagar	Duplex Board 250 MT/Day	7.6	19.0	128	22	-	3.78
14.	M/s Silvertaan Papers Ltd. (Unit 1), Bhopa Road, Muzaffarnagar	Kraft Paper 180 MT/Day	7.5	17.0	136	26	-	7.04
15.	M/s Silvertaan Papers Ltd. (Unit 2), Bhopa Road, Muzaffarnagar	Kraft Paper 300 MT/Day	7.7	19.0	144	28	-	4.62

As per the analysis report (Annexed as **Annexure No. 2**) and total waste water discharge, all units have been found compliant with the parameters as mentioned in entry 53 of Schedule 1 of Environment Protection Rules 1986.

The above report is put up for perusal and necessary action please.



(Imraan Ali)
Env. Engineer
UPPCB, Muzaffarnagar



(Ankit Singh)
Regional Officer
UPPCB, Muzaffarnagar



ANNEXURE-1

PAPER MANUFACTURER ASSOCIATION

31-A, New Mandi, Muzaffarnagar-251 001 (U.P.) INDIA ♦ Mobile : +91-9837022374
e-mail : pma_up@yahoo.in ♦ bindlas@hotmail.com

सेवा में,
क्षेत्रीय अधिकारी
उ०प्र० प्रदूषण नियंत्रण बोर्ड
मुजफ्फरनगर।

महोदय,

कृपया अवगत कराना है कि माननीय राष्ट्रीय हरित अधिकरण नई दिल्ली में विचाराधीन ओ०ए० संख्या 744/2022 मोहम्मद अली बनाम स्टेट ऑफ उत्तर प्रदेश विद ओ०ए० नं० 277/2022 लियाकत अली एण्ड अदर्स बनाम स्टेट ऑफ यू०पी० में पारित आदेशों के अनुपालन में राज्य बोर्ड द्वारा सम्बन्धित 10 उद्योगों को जल (प्रदूषण निवारण एवं नियंत्रण) अधिनियम 1974 यथासंशोधित की धारा 33ए के अन्तर्गत जारी निर्देश दिनांक 05.04.2024 का संदर्भ ग्रहण करने का कष्ट करें। उक्त के क्रम में पुनः अवगत कराना है कि एसोसिएशन द्वारा सी.पी.पी.आर.आई. सहारनपुर से पल्प एण्ड पेपर उद्योगों की एडीक्वेसी रिपोर्ट तैयार किये जाने आवेदन किया गया था, परन्तु किन्हीं कारणवश वर्तमान तक सी.पी.पी.आर.आई. सहारनपुर द्वारा उद्योगों का निरीक्षण नहीं किया गया है, जिस कारण उद्योगों द्वारा थर्ड पार्टी मै० न्यूकॉन कन्सल्टेन्ट एण्ड लेबोरेट्रीज, गाजियाबाद से उद्योगों का निरीक्षण कराकर एडीक्वेसी रिपोर्ट तैयार करायी गयी है, जो पत्र के साथ संलग्न कर प्रस्तुत की जा रही है।

अतः आपसे अनुरोध है कि कृपया अपने स्तर से मा० एन०जी०टी० के समक्ष उक्त एडीक्वेसी रिपोर्ट को प्रस्तुत करने का कष्ट करें।

पेपर मैनुफैक्चरर एसोसिएशन

Ajay Singh
सचिव
02/04/24



MEENU PAPER MILLS
PRIVATE LIMITED

To,
The Regional Officer
U.P. Pollution Control Board,
Muzaffarnagar-251001 (U.P.)

Sub:- Adequacy & Performance Evaluation Report.

Respected Sir,

We are enclosed herewith the Adequacy & Performance Evaluation Report in this letter.

Kindly hereby request you to receive above report & acknowledge the receipt.

Thanks & Regards

For Meenu Paper Mills Pvt. Ltd.

Manish Kapoor
Director.

2036



Newcon Consultants India Pvt. Ltd.

Design of Waste Water & Air Pollution Control System,
Conducting Environment Impact Assessment, Environment Audit

Office : 204, 205, 11nd Floor, Ansal Sumedha Complex, RDC Raj Nagar, GHAZIABAD - 201 002 (U.P.)
Phone : (0120) 4387075, Mobile : 9999058896, 9811153959, 9810387273, E-mail : newconc@gmail.com

ADEQUACY & PERFORMANCE EVALUATION REPORT

ON

M/S MEENU PAPER MILLS PVT. LTD.

9.5TH KM STONE, BHOPA ROAD, MUZAFFARNAGAR (U.P.) 251001

Prepared By :

M/S NEWCON CONSULTANTS INDIA PVT. LTD.

&

NEWCON CONSULTANTS & LABORATORIES

204-205, 2ND FLOOR, ANSAL SUMEDHA COMPLEX, RDC RAJ NAGAR,

Ghaziabad (U.P.)

PHONE : 0120 - 4387075

For MEENU PAPER MILLS (P) LTD.

Manish Kapoor
Director



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1. SCOPE OF THE STUDY: adequacy assessment & performances evaluation of individual treatment units.

Visit done in M/s Meenu Paper Mills Pvt. Ltd., Muzaffarnagar on 20/08/2024 in connection with adequacy report of ETP

2. MILL BACK GROUND: M/s Meenu Paper Mills Pvt. Ltd. are producing 190 MT per day of kraft paper using waste paper as the basic raw materials. With adoption of CPCB charter of 2012 and 2015, mill has upgraded the process by adopting "Bare Minimum Technology (BMT)" and also upgraded the ETP up to tertiary treatment level to comply the above CPCB charter.

3. OBJECTIVE OF THE STUDY: The present report is to assess the adequacy & specifications of existing effluent treatment plant (ETP) for treatment of effluent to achieve the discharge norms. The report is prepared based on information provided by the mill with respect to water consumption, waste water generation, size of unit of existing ETP and pollution load assessed by analyzing waste water sample collected by Newcon Consultants and Laboratories team during visit to mill.

4. WATER CONSERVATION MEASURES ADOPTED BY MILL:

The mill has implemented various measures and best practices for water conservation. The brief of measures implemented are as follows:

(i) **Installation of Poly Disc Filter (PDF), SEDICELL:** PDF & Sedicell are the most efficient technologies to recover the process water from paper machine back water. The clarified water is reused to replace the fresh water required for cleaning of wire & felt at paper machine.





(ii) **closing loop of gland cooling & vacuum pump sealing:** The back water used for above purpose is collected, clarified & reused in close loop and back water is used as makeup water level.

with the adoption of above measures, the fresh water consumption was reduced from 10 m³/T to 3 m³/T and similarly load was also reduced drastically.

(iii) **Fresh water consumption:** With use of best practices & technology up-gradation the fresh water consumption has been reduced to 3 m³/t paper.

The section wise fresh water consumption is given below,

S. No	Units	Water Consumption, m ³
1	Pulp Mill	Recycled water
2	Paper Machine	350 m ³ /Day
3	Boiler & other utility	250 m ³ /Day
5	Others	20 m ³ /Day
6	Total (m ³ /day)	620 m ³ /Day

(iv) **Waste water generation and its characteristic:** The waste water generation after recycling is as under with characteristics :

Volume, m ³ /day	- 700
TSS, mg/l	- 500
COD, mg/l	- 2100
BOD, mg/l	- 460





(a) PRESENT EFFLUENT TREATMENT PRACTICE :

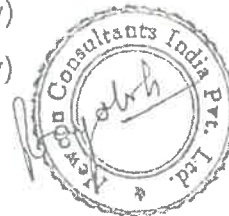
The effluent from various sections & excess water of Paper Machine is taken to equalization tank which is equipped with V-Notch and having provision of disintegrator mixing system to avoid the settling of suspended solids.

After equalization, the effluent is treated in Sedicell followed by primary secondary & tertiary treatment. The aeration tank is equipped with 260 Nos of air diffuser to maintain the desired level of dissolved oxygen in effluent for obtaining proper efficiency of biomass and consortium of the culture added to aeration tank. After aeration tank the mixed liquor is clarified using secondary clarifier for separation of suspended active bio sludge. The overflow of secondary clarifier is further treated using Dual Media Filter (DMF) for removal of colour, COD & BOD. The coagulant & flocculant are used for efficient reduction of pollutants. The tertiary treated effluent after achieving the discharge norms is discharged to a local nalla. The part of underflow of secondary clarifier is recycled to maintain desired level of MLSS in aeration tank and rest along with sludge of tertiary treatment is

de-watered through sludge filter process & bed for further disposal' The layout of combined effluent stream is given.

(b) Adequacy of existing ETP:

Total effluent volume, m ³ /day	- 700 (30 m ³ /h)
TSS, mg/l	- 500 (350 Kg/day)
COD, mg/l	- 2100 (1470 kg/day)
BOD, mg/l	- 450 (2160 kg/day)
TDS, mg/l	- 2050 (315 Kg/day)





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ETP details with remarks as per CPCB charter: - (Design discharge after sedicell
- 700 m³/day)

S. No	Units	Specifications	Status/ Remarks
1	Equalization tank with air Mixing system	Capacity- 229 m ³ Retention time - 3 hrs	Adequate
2.	Primary Clarifier	Capacity - 285m ³ Dia - 9.0 m SWD - 3.0m Retention lime - 7 hrs	Adequate to handle 1000 m ³ /day of effluent approx
3	Aeration tank fine bubble air diffuser - 260 No's	Capacity-300+363 = 663 m ³ Ret. time- 20 h Oxygen required - kg/hrs -72 m ³ /hr Available oxygenation capacity-80m ³ /hr	Capacity of aeration tank & oxygenation capacity of aerators & biomass are adequate to treat the more than the present effluent & BOD load to meet the discharge norms under optimum conditions.
4	Secondary Clarifier	Capacity-235 m ³ Dia-9m SWD-3m Retention time- 6 hr SOR, m ³ /m ² /day - 4 (Permissible SOR-16-20 m ³ /m ² /day)	Adequate to handle around effluent 1,000m ³ /d more than the present effluent volume.
5	Tertiary Treatment System (MGF).	Capacity-40 m ³ /hr	Adequate to handle the present effluent volume.
6	Sedicell	Capacity - 300m ³	Fiber recovery
7	Decanter	Capacity- 25 m ³ /hr	Adequate for dewatering of ETP sludge load.





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PERFORMANCE OF EXISTING EFFLUENT TREATMENT PLANT

The performance of various units of existing Effluent Treatment Plant (ETP) i.e. Sedicell / Primary Clarifier, Secondary Biological System, Tertiary Treatment as well as overall performance of ETP was assessed based on the composite samples collected & analysed by Newcon Consultants and Laboratories as given below :

Performance of Fiber Recovery Units (DAF)

Parameter	ETP Inlet (Equalization Tank)	Primary Clarifier Outlet	Reduction, %
pH	6.8	6.8	--
TSS, mg/l	500	98	80.4
COD, mg/l	2100	1400	33.33
BOD, mg/l	460	385	16.3

Performance of Secondary Treatment System (ASP + Secondary Clarifier)

Parameter	Aeration Inlet (AT Inlet)	SC Outlet (DMF Inlet)	Reduction, %
pH	6.8	7.0	--
COD, mg/l	1400	196	86
BOD, mg/l	385	30	92.2
T.S.S. mg/l	98	80	3





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Performance of Tertiary Treatment System

Parameter	DMF Inlet	DMF Outlet	Reduction, %
pH	7.0	7.0	--
TSS, mg/l	95	45	52.5
COD, mg/l	196	148	24
BOD, mg/l	30	19	36

The overall performance of Effluent Treatment Plant (ETP) is given below

Parameter	Raw Effluent (Equalization Tank)	Treated Effluent (DMF Outlet)	Reduction, %
pH	6.8	7.0	--
TSS, mg/l	500	45	91
COD, mg/l	2100	148	92.9
BOD, mg/l	460	19	95.5
T.D.S. mg/l	2050	1600	21.9

OBSERVATIONS:

The following are the observations made during visit to mill with respect to process water conservation & effluent treatment plant.

- The mill is manufacturing kraft paper using waste paper as raw material.
- The mill has installed V-Notch in the inlet of ETP and online monitoring device at the final discharge of ETP. All data of final discharge (pH, TSS, COD, BOD, Colour & Flow (m³/hr) are transferred to CPCB/UPPCB server round the clock. Mill has also provided V-Notch at final discharge.





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- c) The unit has implemented & adopted "Bare Minimum Technology (BMT)" for process improvement & ETP upgradation for pollution reduction as suggested under CPCB charter'
- d) **Installation of PDF, Sedicell for paper machine back water:** The system improved recovery of fibre and reduces escape of fines into effluent and also replace fresh water with clarified back water in showers (L.P), pulp dilution etc.
- e) The adoption of above measures along with best practices reduced water consumption from 10 m³/day to around 3 m³/day.
- f) **ETP up-gradation:** The ETP has been upgraded up to tertiary treatment level to comply the CPCB charter.
- g) The tertiary treatment system includes filtration using Dual Media Filter (DMF).
- h) The existing ETP consists equalization tank with provision of agitation, Pre-Treatment process, Aeration tank with diffusers for maintaining desired DO level, secondary clarifier, tertiary treatment system(DAF) i.e. dual media filters.
- i) Decanter & sludge beds are being used for dewatering of ETP sludge.
- j) online Monitoring system is already in place and connected to CPCB/UPPCB server.
- k) The effluent discharge observed was around 1.0 to 1.5 m³ /t paper'

Steps initiated by Mill to reduce water consumption:

- Meenu Paper Mills Pvt. Ltd. started recycling Paper Machine back water after treatment in gravity thickner.
- Mill is treating remaining water in sedicell and it's very clear water having TSS around ≤ 50 mg/l and is being used in Paper Machine process (Wire & Felt LP showers).
- Pump sealing water is also recovered in vibro screen and recycled back into pump sealing.





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- Further there is no discharge from Paper machine to ETP, to make "Zero Liquid discharge", mill has installed Sedicell in Paper Machine process.
- So, entire waste water is treated & recycled in Pulp Mill & Paper machine/Stock Preparation, there is "zero liquid discharge" from paper Machine to ETP.

Remarks:

Based on information given by Mill for water consumption, size & specification of ETP units, and pollution load assessed by Newcon Consultants and Laboratories during visit to Mill. Following are the remarks with respect to adequacy of existing ETP:

The existing ETP consisting equalization tank, Pre -Treatment Process, Primary Treatment, Aeration tank, secondary clarifier', tertiary treatment, sludge handling system is adequate and sufficient for treatment of present effluent & BOD load to achieve the discharge norms provided ETP operates under optimum condition.

- a) Mill is advised to install Anaerobic treatment system to further improve the quality i.e. COD mainly & BOD for recycling.
- b) Mill is also advised to operate ETP under optimum conditions to achieve the discharge norms on regular basis.

For Newcon Consultants India Pvt. Ltd.


Director



**SHREE™
BHAGESHWARI
PAPERS PRIVATE LIMITED**



2045

GSTIN: 09AAACB9178R1ZR
CIN: U21012UP1996PTC020389



To,
The Chief Environment officer (Circle-3)
U.P.Pollution Control Board,
Lucknow-226010

Date: - 21-05.2024

Ref: - Your Letter No HO8035/C-3/ JAL 655/MNUAGAR/2024 DT 06.03.2024

Subject: - ETP Adequacy Report & Raw Effluent Characteristics

Dear Sir,

As per Your notice received, we are hereby Submitting ETP Adequacy Report & raw effluent Characteristics,

Hope you will find it in order.

Thanks & Regards

For Shree Bhageshwari Papers Private Limited (unit-2)



Auth. Signatory

C/c The Regional Officer
Uttar Pradesh Pollution Control Board
Muzaffarnagar

THE PAPER PEOPLE



Works & Regd. Office :
9th Km Stone, Bhopa Road,
Muzaffarnagar - 251001 U.P. (INDIA)



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Newcon Consultants India Pvt. Ltd.

Design of Waste Water & Air Pollution Control System,
Conducting Environment Impact Assessment, Environment Audit

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ADEQUACY & PERFORMANCE EVALUATION REPORT

ON

M/S SHREE BHAGESHWARI PAPERS PVT LTD

UNIT-2

9th KM STONE, BHOPA ROAD, MUZAFFARNAGAR (U.P.) 251001

Prepared By :

M/S NEWCON CONSULTANTS INDIA PVT. LTD.

&

NEWCON CONSULTANTS & LABORATORIES

204-205, 2nd Floor, Ansal Sumedha Complex, RDC Raj Nagar,

Ghaziabad (U.P.)

PHONE : 0120 - 4387075



INTRODUCTION

SHREE BHAGESHWARI PAPERS PVT LTD UNIT-2 are engaged in manufacturing of speciality paper at this site 9th KM Stone, Bhopa Road, Muzaffarnagar (U.P.). The installed capacity of unit is to manufacture speciality paper 100 MT/Day. The units function on consents and directions given by the U.P. Pollution Control Board. The effluent water generated from the plant is treated in ETP having units of preliminary, primary, secondary & tertiary treatment.

The unit is generating 2000 KLD of waste water which approach to etp plant after PDF & save all. Unit is recycling the waste water in process after PDF & save all, also 200 KLD after primary clarifier & effluent entering aeration tank in 1800 kld.

We would like to check the adequacy of existing treatment units on the discharge 2000 kld for after primary clarifier & 1800 KLD after primary clarifier.

The treatment system consist of following units.

1. Recycling system – PDF & saveall
2. Equalization tank – 5.2 x 5.2 x 5.0m
3. Primary clarifier – Dia – 15.6m x 3.4m depth
4. Aeration Tank – 12m x 24m x 4m – 2 No's
5. Secondary Clarifier Tank – Dia – 13.0m, h – 3.6 meter depth
6. Sludge Belt Press – 2 Ton/Day
7. Tube settler – 100 m³/hr

Design discharge

The average discharge of waste water from process after primary clarifier is 1800 kld. we will consider discharge as – 2000 KL/Day





CHARACTERISTICS OF WASTE WATER

Table 1 : waste water characteristics (Before Primary Clarifier)

S.No.	Parameter	Range
1.	Quantity of wastewater, m ³ /day	1800
2.	pH	6.9
3.	BOD, mg/l	600
4.	COD, mg/l	1800
5.	TSS, mg/l	550
6.	TDS mg/l	1100

DESIRED CHARACTERISTICS OF TREATED WASTEWATER

The required characteristics of the treated effluent for discharge into inland surface water as per the EP Act 1986 norms are given in table 2

Table 2 : Discharge water norms

S.No.	Parameter	Values
1.	pH	6.5 - 8.5
2.	BOD, mg/l	< 30
3.	COD, mg/l	< 250
4.	TSS, mg/l	< 50
5.	Oil & Grease	< 10





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DESIGN CHECK

1. Design details of equalization tank

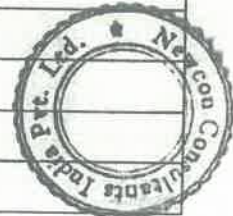
Description	Values
Design Flow	2000 m ³ /day
Tank Size available, Max.	5.2 x 5.2 x 5.0m
Tank Volume	135 m ³ Approx
HRT Recommended	2 - 3 hrs
HRT available	1.5 Hrs. Approx
Remarks	It is recommended to install standby effluent lifting pump

2. Primary Clarifier

Description	Values
Design Flow	2000 m ³ /day
Surface over flow meter recommended	16 m ³ /m ² /day
Surface area required	$\frac{2000}{16} = 125 \text{ m}^2$
Surface area available	191.0 m ²
Remarks	Hence existing primary clarifier is adequate to handle design discharge.

3. Biological Treatment System – activated sludge process

Tank Sizing		
Inlet BOD	Mg/l	450
Flow	M ³ /Day	1800
Outlet BOD required	Mg/l	≤ 30
% BOD removal required	Mg/l	95% approx
Inlet COD	Mg/l	2100
Outlet COD	Mg/l	≤ 250 i.e. 200



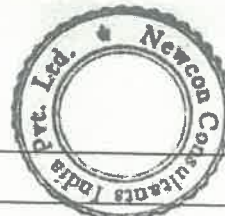


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Following Values of kinetics has been considered while calculating the reactor volume Kinetic Co-efficient $Y = 0.5 - 0.6$ Death rate $k_d = 0.05 - 0.06$ Mean cell residence time ($\bar{\tau}_c$) = 8-12 Mixed Liquor SS (X) = 3500 - 4000	Formula : $V = Y.Q. C. (S_0 - S) * X$ $Y = .6$ $KD = .05,$ $C = 15$ $X = 3500$ $V = .6 \times 1800 \times 12 \times (450 - 30) / (1 + (0.05 \times 12))$ $\times 3500 = 972m^3$
Existing Tank Sizing	12 x 24 x 4.0m - 2 No's
Existing Tank Volume (Both Tanks)	2592 m ³ approx
Remarks	Therefore, the existing aeration tank is sufficient to take care of the desired load .
Aeration requirement :	Coarse bubble diffused aeration
1kg COD requires	1 kg of o ₂
Total COD to be removed	(2100-200)*1800/1000 = 3420 Kg/Day
Therefore, Amount of O ₂ required at field condition (A.O.R.)	3420 x 1.0 = 3420 Kg/d
Oxygen Required for Existing Tank	3420 Kg/Day or 142.5 kg/hr say 143 kg/hr
The above requirement is actual oxygen to be supplied at field condition (A.O.R) Therefore, O ₂ to be supplied at standard condition will be depending on field correction coefficient calculated as below:	

Field correction factor considering the values of i) Alpha = 0.65 ii) Beta = 0.98 iii) Theta = 1.024 iv) D.O. = 2.0 mg/l v) Altitude from MSL = 500m vi) W/w temp of 35 deg. c max	0.54 (= 54%) (F)
There fore Oxygen at standard condition will	AOR / F =





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be (S.O.R.)	Aeration Tank = $143/0.54=264.81$ kg/ o ₂ /hr Say 264.8 kg o ₂ /hr say 265
-------------	--

% of o ₂ in air	%	21
Density of air	Kg/cum	1.206
Std o ₂ transfer efficiency (S.O.T.E.)	% / m Depth	7.5%
Total SOTE for tank depth	%	For 3.5m depth = 22.5
Actual air required	Cum/h	Air reqd, m ³ /hr= S.O.R. / $(23/100)*1.206*21\%$ $= 265/(0.23*1.206*0.21)$ $= 4568.9$ $= 4570$
O ₂ Transfer Capacity of 1 Diffuser	7m ³ /hr	
No. of Diffuse required		$4570/7 = 652$ Say 660
Aeration Existing		Fine bubble diffused aeration system alongwith 792 diffusers

Note :- Hence the existing system is adequate to handle design discharge.





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4. DESIGN DETAILS OF SECONDARY SETTLING UNIT:

Description	Units	Value
Design Flow	Cum/day	2000
Surface overflow rate recommended	m ³ /m ² /day	15 to 18
Surface area required	Considering (18)	$\frac{2000}{18} = 111.11 \text{ m}^2$
Surface area existing		132.6 m ²
Remarks	Hence the existing tank is sufficient to handle the effluent Hydraulically.	

5. Tube Settler

Design flow 1800 m³/day i.e. 90 m³/hr (considering 20 hrs operation)

Note – Unit has Tube Settler of capacity 100 m³/hr which is adequate to handle design flow.





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Performance evaluation of existing effluent treatment plant

The performance of various units of existing Effluent Treatment Plant (ETP) i.e. PDF & Save all, Primary Clarifier, Secondary Biological System, Tertiary Treatment as well as overall performance of ETP was assessed based on the composite samples collected & analysed by Newcon Consultants & Laboratories are given below :

Performance of Fiber Recovery Units (PDF & Save All)

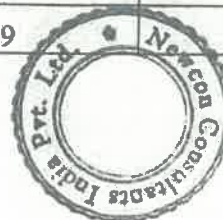
Parameter	ETP Inlet (Equalization Tank)	PDF & Save All Outlet	Reduction, %
pH	6.9	6.9	--
TSS, mg/l	1375	550	60
COD, mg/l	3200	2800	12.5
BOD, mg/l	700	600	14.2

Performance of Primary Clarifier

Parameter	PC Inlet	PC Outlet	Reduction, %
pH	6.9	6.9	--
TSS, mg/l	550	110	80
COD, mg/l	2800	2100	25
BOD, mg/l	600	450	25

Performance of Secondary Treatment System (ASP + Secondary Clarifier)

Parameter	PC Outlet (AT Inlet)	SC Outlet (DMF Inlet)	Reduction, %
pH	6.9	7.0	--
COD, mg/l	2100	179	91





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BOD, mg/l	450	22.5	95
T.S.S. mg/l	110	93.5	15

Performance of Tertiary Treatment System

Parameter	DMF Inlet	DMF Outlet	Reduction, %
pH	7.0	7.0	--
TSS, mg/l	93.5	49	47.5
COD, mg/l	179	146.78	18
BOD, mg/l	22.5	20.25	10

The overall performance of Effluent Treatment Plant (ETP) is given below

Parameter	Raw Effluent (Equalization Tank)	Treated Effluent (DMF Outlet)	Reduction, %
pH	6.9	7.0	--
TSS, mg/l	1375	49	96.4
COD, mg/l	3200	149.7	95
BOD, mg/l	700	20.25	97.1

Suggestion for operation & maintenance of ETP

Effluent Treatment Plant is basically a combination of physical and biological process for removal of suspended & dissolved contaminants in waste water. The microorganisms involved are mixed culture which oxidize the biodegradable organic matter and convert it into new biomass, carbon dioxide, hydrogen etc. To achieve the designed performance from ETP, it is necessary to operate it under optimum conditions so as to meet the environmental





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discharge standards. Following are the suggested measures, the mill should adopt for proper and optimum operation of ETP :

- Ensure proper and optimum conditions as per the designed specification and manufacturer's instruction.
- Avoid fluctuation in effluent flow and pollution load so as to reduce the shock load to biomass and the system as a whole.
- Ensure proper addition of essential nutrients.
- Maintain required level of MLVSS concentration (2500-3000 mg/l) in aeration tank by ensuring proper microbial growth.
- Maintain desired level of DO in the aeration tank (1-2 mg/l).
- Ensure periodic & timely withdrawal of sludge from the clarifiers.
- Proper maintenance of electric motors and pumps etc.
- In addition to above, routine testing of pollution parameters is essential to maintain desired performance of ETP. The parameters of concern and the frequency of their analyses advised are as under:

Parameters	Frequency of analysis
pH	Daily
Suspended Solids	Daily
Total Dissolved Solids	Daily
COD	Daily
BOD	Daily
Effluent Flow	Hourly



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CONCLUSION

After the detailed analysis of the various units of ETP following may be concluded

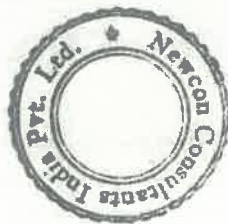
1. ETP scheme is sufficient to meet the discharge norms at discharge 1800 m³/day, final discharge after recycling i.e. 1800 KLD.
2. Design capacities of various units of ETP are adequate to handle the hydraulic and mass load as per the standard design practice.

For Newcon Consultants India Pvt. Ltd.

Priyatosh Gupta

Director

Mr. PRIYATOSH GUPTA
DIRECTOR
B.TECH. M.B.A.
16.05.2024



**Acknowledgment (ARN) on filing of GSTR-3B**

1 message

donotreply@gst.gov.in <donotreply@gst.gov.in>

Mon, May 20, 2024 at 5:34 PM

Reply-To: donotreply@gst.gov.in

To: sbppimzn@gmail.com

Acknowledgement Reference Number (ARN) AB090424856983K

You have filed the return successfully and the particulars are given as under:

GSTIN : 09AAACB9178R1ZR
Legal Name : SHREE BHAGESHWARI PAPERS PRIVATE LIMITED
Trade Name, if any : M/S SHREE BHAGESHWARI PAPERS PRIVATE LIMITED
Form : GSTR-3B
Form Description : Monthly
Return Period : 042024
Financial Year : 2024-25
Date and Time of filing : 20/05/2024 17:34
Centre Jurisdiction : RANGE BHOPA ROAD
State Jurisdiction : Muzaffar Nagar Sector-5
Filed by : Divesh Bansal

It is a system generated acknowledgement and does not require any signature.

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TEHRI

PULP & PAPER LIMITED

Office & Works : 9th K.M. STONE, BHOPA ROAD, MUZAFFARNAGAR-251 001
☎ : 0131-2468383, 2468384, 2468385, 2468386 E-mail : accounts@tehipaper.com

Ref. No.

Dated.....

Date: 13.08.2024

To,
The Regional Officer
Uttar Pradesh Pollution Control Board
6-B, New Mandi
Muzaffarnagar, (U.P.)
251001

Subject: Submission of Adequacy Report of Unit-II.
(Unit-II Regard)

Dear Sir,

In reference to the above subject, we hereby submit the Adequacy Report of Unit-1 prepared by NABL Laboratory.
Thanks and Regards,

Thanks and Regards,

For **TEHRI PULP AND PAPER LIMITED**


(K. K. Gupta)
Authorized Signatory



33
Regd. Office : 216, AGARWAL PRESTIGE MALL PLOT NO. 02
COMMUNITY CENTRE RANI BAGH, PITAMPURA, NEW DELHI - 110034





Newcon Consultants India Pvt. Ltd.

Design of Waste Water & Air Pollution Control System,
Conducting Environment Impact Assessment, Environment Audit

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Phone : (0120) 4387075 Mobile : 9999058896, 9811153959, 9810387273, E-mail : newconci@gmail.com

ADEQUACY & PERFORMANCE EVALUATION REPORT

ON

**M/S TEHRI PULP AND PAPERS PVT LTD
(UNIT-2)**

9th KM STONE, BHOPA ROAD, MUZAFFARNAGAR (U.P.) 251001

Prepared By :

M/S NEWCON CONSULTANTS INDIA PVT. LTD.

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INTRODUCTION

M/S TEHRI PULP AND PAPERS PVT LTD (UNIT-2) are engaged in manufacturing of kraft paper at this site 9th KM Stone, Bhopa Road, Muzaffarnagar (U.P.). The installed capacity of unit is to manufacture kraft paper 350Mt/Day. The units function on consents and directions given by the U.P. Pollution Control Board. The effluent water generated from the plant is treated in ETP having units of preliminary, primary, secondary & tertiary treatment.

The unit is generating 700 KLD of waste water which approach to ETP plant after Sedicell. We would like to check the adequacy of existing treatment units on the discharge 800 kld before primary clarifier.

The treatment system consist of following units.

1. Sedicell – 330 m³/hr
2. Equalization tank – 12 x 5.5 x 4.0 m
3. Primary clarifier – Dia – 19.2 m x 5.5m depth
4. Aeration tank – 37.2 m x 18.0 m x 3.0 m
5. Secondary Clarifier Tank – Dia – 19.3 m, h – 3.4 m depth
6. DMF – 70 m³/hr

Design discharge

The average discharge of waste water from process after recycling & entering into primary clarifier is 700 kld. we will consider discharge as – 800 KL/Day



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CHARACTERISTICS OF WASTE WATER

Table 1 :waste water characteristics (Before Primary Clarifier)

S.No.	Parameter	Range
1.	Quantity of wastewater, m ³ /day	800
2.	pH	6.5 to 7.5
3.	BOD, mg/l	400 to 500
4.	COD, mg/l	2500 to 3000
5.	TSS, mg/l	600 to 800

DESIRED CHARACTERISTICS OF TREATED WASTEWATER

The required characteristics of the treated effluent for discharge into inland surface water as per the EP Act 1986 norms are given in table 2

Table 2 : Discharge water norms

S.No.	Parameter	Values
1.	pH	6.5 - 8.5
2.	BOD, mg/l	< 30
3.	COD, mg/l	< 250
4.	TSS, mg/l	< 50
5.	Oil & Grease	< 10



**DESIGN CHECK****1. Design details of equalization tank**

Description	Values
Design Flow	2000 (as it is before sedicell)
Tank Size available, Max.	12 x 5.5 x 4.0 m
Tank Volume	270 m ³ Approx
HRT Recommended	2-3 hrs
HRT available	3.0 Hrs. Approx
Remarks	Hence existing Equalisation Tank is adequate.

2. Primary Clarifier

Description	Values
Design Flow	800 m ³ /day
Surface over flow meter recommended	16 m ³ /m ² /day
Surface area required	$\frac{800}{16} = 50 \text{ m}^2$
Surface area available	289.38 m ²
Remarks	Hence existing primary clarifier is adequate to handle design discharge.

3. Biological Treatment System – activated sludge process

Tank Sizing		
Inlet BOD	Mg/l	450
Flow	M ³ /Day	800
Outlet BOD required	Mg/l	≤30
% BOD removal required	Mg/l	95% approx
Inlet COD	Mg/l	2800





Outlet COD	Mg/l	≤ 250 i.e. 200
Following Values of kinetics has been considered while calculating the reactor volume	Kinetic Co-efficient $Y = 0.5 - 0.6$ Death rate $k_d = 0.05 - 0.06$ Mean cell residence time ($\bar{\tau}_c$) = 8-12 Mixed Liquor SS (X) = 3500 - 4000	Formula : $V = Y \cdot Q \cdot C \cdot (S_0 - S) \cdot X$ $Y = .6$ $KD = .05,$ $C = 12$ $X = 3500$ $V = 0.6 \times 800 \times 12 \times (450.6 - 30) / (1 + (0.05 \times 12)) \times 3500 = 432.00 \text{ m}^3$
Existing Tank Sizing		38.5 m x 22.5 m x 5.0 m
Existing Tank Volume		3465 m ³ approx
Remarks		Therefore, the existing aeration tank is sufficient to take care of the desired load.
Aeration requirement :		Coarse bubblediffused aeration
1kg COD requires		1 kg of o ₂
Total COD to be removed		$(2800 - 200) \times 800 / 1000 = 2080 \text{ Kg/Day}$
Therefore, Amount of O ₂ required at field condition (A.O.R.)		$2080 \times 1.0 = 2080 \text{ Kg/d}$
Oxygen Required for Existing Tank		2080 Kg/Day or 86.66 kg/hr Say-87
The above requirement is actual oxygen to be supplied at field condition (A.O.R) Therefore, O ₂ to be supplied at standard condition will be depending on field correction coefficient calculated as below:		
Field correction factor considering the values of		0.54 (= 54%) (F)
	i) Alpha = 0.65 ii) Beta = 0.98 iii) Theta = 1.024 iv) D.O. = 2.0 mg/l v) Altitude from MSL = 500m vi) W/w temp of 35 deg. c max	
Therefore Oxygen at standard condition will be (S.O.R.)		$AOR / F = 87 / 0.54$ $= 161.11 \text{ kg/ o}_2\text{/hr or } 162 \text{ kg/ o}_2\text{/hr}$





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% of o ₂ in air	%	23
Density of air	Kg/cum	1.206
Std o ₂ transfer efficiency (S.O.T.E.)	% / m Depth	7.5%
Total SOTE for tank depth	%	For 3m depth = 22.5
Actual air required	Cum/h	Air required, m ³ /hr = S.O.R. / (23/100) *1.206*21% = 162/(0.23*1.206*0.21) = 2793.10 = 2800
O ₂ Transfer Capacity of 1 Diffuser	7m ³ /hr	
No. of Diffuse required		2800/7 = 400
Aeration Existing		Coarse diffused aeration system alongwith 500 Nos. of Air Diffusers

Note:—Hence the existing system is adequate to handle design discharge.





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4. DESIGN DETAILS OF SECONDARY SETTLING UNIT:

Description	Units	Value
Design Flow	Cum/day	900
Surface overflow rate recommended	m ³ /m ² /day	15 to 18
Surface area required	Considering (16)	$\frac{900}{16} = 56.25 \text{ m}^2$
Surface area existing		292.40 m ²
Remarks	Hence the existing tank is sufficient to handle the effluent Hydraulically.	

5. ACF and MGF

Design flow 800 m³/day i.e. 40 m³/hr (considering 20 hrs operation)

Note - Unit has 1 No of DMF of capacity 70 m³ which is adequate to handle design flow.





Suggestion for operation & maintenance of ETP

Effluent Treatment Plant is basically a combination of physical and biological process for removal of suspended & dissolved contaminants in waste water. The microorganisms involved are mixed culture which oxidize the biodegradable organic matter and convert it into new biomass, carbon dioxide, hydrogen etc. To achieve the designed performance from ETP, it is necessary to operate it under optimum conditions so as to meet the environmental discharge standards. Following are the suggested measures, the mill should adopt for proper and optimum operation of ETP :

- Ensure proper and optimum conditions as per the designed specification and manufacturer's instruction.
- Avoid fluctuation in effluent flow and pollution load so as to reduce the shock load to biomass and the system as a whole.
- Ensure proper addition of essential nutrients.
- Maintain required level of MLVSS concentration (2500-3000 mg/l) in aeration tank by ensuring proper microbial growth.
- Maintain desired level of DO in the aeration tank (1-2 mg/l).
- Ensure periodic & timely withdrawal of sludge from the clarifiers.
- Proper maintenance of electric motors and pumps etc.
- In addition to above, routine testing of pollution parameters is essential to maintain desired performance of ETP. The parameters of concern and the frequency of their analyses advised are as under:



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Parameters	Frequency of analysis
pH	Daily
Suspended Solids	Daily
Total Dissolved Solids	Daily
COD	Daily
BOD	Daily
Effluent Flow	Hourly





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CONCLUSION

After the detailed analysis of the various units of ETP following may be concluded

1. ETP scheme is sufficient to meet the discharge norms at discharge $700\text{m}^3/\text{day}$, final discharge after recycling i.e. 700 KLD.
2. Design capacities of various units of ETP are adequate to handle the hydraulic and mass load as per the standard design practice.

Priyatosh

Mr. PRIYATOSH GUPTA
DIRECTOR
B.TECH. M.B.A.
17.05.2024



T.I.N. : 09473100495 dt. 1.4.95
GSTIN No. : 09AAACT0285B1ZO
C.I.N. : U21022DL1993PLC119328

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TRP

13.8.24

TEHRI PULP & PAPER LIMITED

Office & Works : 9th K.M. STONE, BHOPA ROAD, MUZAFFARNAGAR-251 001
☎ : 0131-2468383, 2468384, 2468385, 2468386 E-mail : accounts@tehrpaper.com

Ref. No.

Dated.....

Date: 13.08.2024

To,
The Regional Officer
Uttar Pradesh Pollution Control Board
6-B, New Mandi
Muzaffarnagar, (U.P.)
251001

Subject: Submission of Adequacy Report of Unit-1.
(Unit-I Regard)

Dear Sir,

In reference to the above subject, we hereby submit the Adequacy Report of Unit-1 prepared by NABL Laboratory.
Thanks and Regards,

Thanks and Regards,

For TEHRI PULP AND PAPER LIMITED

(K. K. Gupta)
Authorized Signatory



44
Regd. Office : 216, AGARWAL PRESTIGE MALL PLOT NO. 02
COMMUNITY CENTRE RANI BAGH, PITAMPURA, NEW DELHI - 110034



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Newcon Consultants India Pvt. Ltd.

Design of Waste Water & Air Pollution Control System,
Conducting Environment Impact Assessment, Environment Audit

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ADEQUACY & PERFORMANCE EVALUATION REPORT

ON

**M/S TEHRI PULP AND PAPERS PVT LTD
(UNIT-1)**

9th KM STONE, BHOPA ROAD, MUZAFFARNAGAR (U.P.) 251001

Prepared By :

M/S NEWCON CONSULTANTS INDIA PVT. LTD.

&

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INTRODUCTION

M/S TEHRI PULP AND PAPERS PVT LTD (UNIT-1) are engaged in manufacturing of kraft paper at this site 9th KM Stone, Bhopa Road, Muzaffarnagar (U.P.). The installed capacity of unit is to manufacture kraft paper 250Mt/Day. The units function on consents and directions given by the U.P. Pollution Control Board. The effluent water generated from the plant is treated in ETP having units of preliminary, primary, secondary & tertiary treatment.

The unit is generating 1300 KLD of waste water which approach to ETP plant after Sedicell. We would like to check the adequacy of existing treatment units on the discharge 1300 kld for before primary clarifier.

The treatment system consist of following units.

1. Sedicell – 120 m³/hr
2. Equalization tank – 12 x 5.5 x 4.0 m
3. Primary clarifier – Dia – 19.2 m x 5.5m depth
4. Aeration Tank – 38.5 m x 22.5 m x 5.0 m
5. Secondary Clarifier Tank – Dia – 19.3 m, h – 3.4 m depth
6. Tube Settler - 75 m³/hr
7. -DMF – 75 m³/hr

Design discharge

The average discharge of waste water from process after recycling & entering into primary clarifier is 1200 kld. we will consider discharge as – 1300 KL/Day





CHARACTERISTICS OF WASTE WATER

Table 1 :waste water characteristics (Before Primary Clarifier)

S.No.	Parameter	Range
1.	Quantity of wastewater, m ³ /day	1300
2.	pH	6.8
3.	BOD, mg/l	580
4.	COD, mg/l	2800
5.	TSS, mg/l	580
6.	TDS mg/l	2150

DESIRED CHARACTERISTICS OF TREATED WASTEWATER

The required characteristics of the treated effluent for discharge into inland surface water as per the EP Act 1986 norms are given in table 2

Table 2 : Discharge water norms

S.No.	Parameter	Values
1.	pH	6.5 - 8.5
2.	BOD, mg/l	< 30
3.	COD, mg/l	< 250
4.	TSS, mg/l	< 50
5.	Oil & Grease	< 10



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DESIGN CHECK

1. Design details of equalization tank

Description	Values
Design Flow	2500 (as it is before sedicell)
Tank Size available, Max.	12 x 5.5 x 4.0 m
Tank Volume	270 m ³ Approx
HRT Recommended	2-3 hrs
HRT available	2.5 Hrs. Approx
Remarks	Hence existing Equalisation Tank is adequate.

2. Primary Clarifier

Description	Values
Design Flow	1300 m ³ /day
Surface over flow meter recommended	16 m ³ /m ² /day
Surface area required	$\frac{1300}{16} = 81.25 \text{ m}^2$
Surface area available	289.38 m ²
Remarks	Hence existing primary clarifier is adequate to handle design discharge.

3. Biological Treatment System – activated sludge process

Tank Sizing		
Inlet BOD	Mg/l	435
Flow	M ³ /Day	1300
Outlet BOD required	Mg/l	≤30
% BOD removal required	Mg/l	95% approx
Inlet COD	Mg/l	2240





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Outlet COD	Mg/l	≤ 250 i.e. 200
Following Values of kinetics has been considered while calculating the reactor volume		Formula : $V = Y.Q. C. (S_0 - S) * X$ $Y = .6$ $KD = .05,$ $C = 12$ $X = 3500$ $V = 0.6 \times 1300 \times 12 \times (435.6 - 30) / (1 + (0.05 \times 12)) \times 3500 = 677.00 \text{ m}^3$
Kinetic Co-efficient $Y = 0.5 - 0.6$		
Death rate $k_d = 0.05 - 0.06$		
Mean cell residence time (\bar{t}_c) = 8-12		
Mixed Liquor SS (X) = 3500 - 4000		
Existing Tank Sizing		38.5 m x 22.5 m x 5.0 m
Existing Tank Volume (Both Tanks)		3465 m ³ approx
Remarks		Therefore, the existing aeration tank is sufficient to take care of the desired load.
Aeration requirement :		Coarse bubblediffused aeration
1kg COD requires		1 kg of o ₂
Total COD to be removed		$(2240 - 200) * 1300 / 1000 = 2652 \text{ Kg/Day}$
Therefore, Amount of O ₂ required at field condition (A.O.R.)		$2652 \times 1.0 = 2652 \text{ Kg/d}$
Oxygen Required for Existing Tank		2652 Kg/Day or 110.5 kg/hr
The above requirement is actual oxygen to be supplied at field condition (A.O.R) Therefore, O ₂ to be supplied at standard condition will be depending on field correction coefficient calculated as below:		
Field correction factor considering the values of		0.54 (= 54%) (F)
i) Alpha = 0.65		
ii) Beta = 0.98		
iii) Theta = 1.024		
iv) D.O. = 2.0 mg/l		
v) Altitude from MSL = 500m		
vi) W/w temp of 35 deg. c max		
Therefore Oxygen at standard condition will be (S.O.R.)		$AOR / F = 110.5 / 0.54$ $= 204.62 \text{ kg o}_2/\text{hr}$ or $207 \text{ kg o}_2/\text{hr}$





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% of o ₂ in air	%	23
Density of air	Kg/cum	1.206
Std o ₂ transfer efficiency (S.O.T.E.)	% / m Depth	7.5%
Total SOTE for tank depth	%	For 3m depth = 22.5
Actual air required	Cum/h	Air required, m ³ /hr = S.O.R. / (23/100) * 1.206 * 21% = 207 (0.23 * 1.206 * 0.21) = 3571.5 = 3572
O ₂ Transfer Capacity of 1 Diffuser	7m ³ /hr	
No. of Diffuse required		3572/7 = 510.2 say 515
Aeration Existing		Coarse diffused aeration system alongwith 520 diffusers

Note:—Hence the existing system is adequate to handle design discharge.





4. DESIGN DETAILS OF SECONDARY SETTLING UNIT:

Description	Units	Value
Design Flow	Cum/day	1400
Surface overflow rate recommended	m ³ /m ² /day	15 to 18
Surface area required	Considering (16)	$\frac{1400}{16} = 87.50 \text{ m}^2$
Surface area existing		292.40 m ²
Remarks	Hence the existing tank is sufficient to handle the effluent Hydraulically.	

5. ACF and MGF

Design flow 1300 m³/day i.e. 65 m³/hr (considering 20 hrs operation)

Note - Unit has 1 No of Tube Settler & DMF of capacity 75 m³ each which is adequate to handle design flow.



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Performance evaluation of existing effluent treatment plant

The performance of various units of existing Effluent Treatment Plant (ETP) i.e. Sedicell, Primary Clarifier, Secondary Biological System, Tertiary Treatment as well as overall performance of ETP was assessed based on the composite samples collected & analysed by Newcon Consultants & Laboratories are given below :

Performance of Fiber Recovery Units (Sedicell)

Parameter	ETP Inlet (Equalization Tank)	Sedicell Outlet	Reduction, %
pH	6.8	6.8	--
TSS, mg/l	1480	580	60.8
COD, mg/l	3100	2800	9.6
BOD, mg/l	695	580	16.5

Performance of Primary Clarifier

Parameter	PC Inlet	PC Outlet	Reduction, %
pH	6.8	6.8	-
TSS, mg/l	580	98.6	83
COD, mg/l	2800	2240	20
BOD, mg/l	580	452.4	22

Performance of Secondary Treatment System (ASP + Secondary Clarifier)

Parameter	PC Outlet (AT Inlet)	SC Outlet (DMF Inlet)	Reduction, %
pH	6.8	7.0	--
T.S.S, mg/l	98.6	88.2	10.5
COD, mg/l	2240	179.2	92
BOD, mg/l	452.4	22.6	95





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Performance of Tertiary Treatment System

Parameter	DMF Inlet	Final Outlet	Reduction, %
pH	7.0	7	--
TSS, mg/l	88.2	48	45.5
COD, mg/l	179.2	139	22.4
BOD, mg/l	22.6	18	20

The overall performance of Effluent Treatment Plant (ETP) is given below

Parameter	Raw Effluent (Equalization Tank)	Treated Effluent (Final Outlet)	Reduction, %
pH	6.8	7	--
TSS, mg/l	1480	48	96.7
COD, mg/l	3100	139	95.5
BOD, mg/l	695	18	97.4
TDS, mg/ltr.	2150	1900	11.6

Suggestion for operation & maintenance of ETP

Effluent Treatment Plant is basically a combination of physical and biological process for removal of suspended & dissolved contaminants in waste water. The microorganisms involved are mixed culture which oxidize the biodegradable organic matter and convert it into new biomass, carbon dioxide, hydrogen etc. To achieve the designed performance from ETP, it is necessary to operate it under optimum conditions so as to meet the environmental discharge standards. Following are the suggested measures, the mill should adopt for proper and optimum operation of ETP :





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- Ensure proper and optimum conditions as per the designed specification and manufacturer's instruction.
- Avoid fluctuation in effluent flow and pollution load so as to reduce the shock load to biomass and the system as a whole.
- Ensure proper addition of essential nutrients.
- Maintain required level of MLVSS concentration (2500-3000 mg/l) in aeration tank by ensuring proper microbial growth.
- Maintain desired level of DO in the aeration tank (1-2 mg/l).
- Ensure periodic & timely withdrawal of sludge from the clarifiers.
- Proper maintenance of electric motors and pumps etc.
- In addition to above, routine testing of pollution parameters is essential to maintain desired performance of ETP. The parameters of concern and the frequency of their analyses advised are as under:

Parameters	Frequency of analysis
pH	Daily
Suspended Solids	Daily
Total Dissolved Solids	Daily
COD	Daily
BOD	Daily
Effluent Flow	Hourly





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CONCLUSION

After the detailed analysis of the various units of ETP following may be concluded

1. ETP scheme is sufficient to meet the discharge norms at discharge $1300\text{m}^3/\text{day}$, final discharge after recycling i.e. 1300 KLD.
2. Design capacities of various units of ETP are adequate to handle the hydraulic and mass load as per the standard design practice.

Priyatosh Gupta

Mr. PRIYATOSH GUPTA
DIRECTOR
B.TECH. M.B.A.
17.05.2024



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September 7, 2024

To,
The Regional Officer
U.P.Pollution Control Board,
MUZAFFARNAGAR

Sub.: - SUBMISSION OF A ADEQUANCY EVALUATION REPORT FOR ETP

Dear Sir,

We are submitting, herewith a copy of Adequacy Evaluation Report for ETP of Garg Duplex & Paper Mills Pvt.Ltd .

Thanking you,

Yours faithfully

For Garg Duplex & Paper Mills Pvt.Ltd.



Auth. Sign.

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ADEQUACY EVALUATION REPORT FOR ETP

ON

M/s GARG DUPLEX AND PAPER MILLS PVT. LTD.

Bhopa road, MUZAFFARNAGAR (U.P.) 251001

Prepared By :

M/S NEWCON CONSULTANTS INDIA PVT. LTD.

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1. SCOPE OF THE STUDY: adequacy assessment & performances evaluation of individual treatment units.

Visit done in M/s Garg Duplex and Paper Mills Pvt. Limited, Muzaffarnagar on 22/08/2024 in connection with adequacy report of ETP

2. MILL BACK GROUND: Garg Duplex & Paper Mills Pvt Ltd in Bhopa Road, Muzaffarnagar is known to satisfactorily cater to the demands of its customer base. The business came into existence in 2010 and has, since then, been a known name in its field. It stands located at 8.5 KM, Bhopa Road-251001. 8.5 KM is a prominent landmark in the area and this establishment is in close proximity to the same. The business strives to make for a positive experience through its offerings. Customer centricity is at the core of Garg Duplex & Paper Mills Pvt Ltd in Bhopa Road, Muzaffarnagar and it is this belief that has led the business to build long-term relationships. Ensuring a positive customer experience, making available goods and/or services that are of top-notch quality is given prime importance. It has total production capacity of 415 MT/Day.

3. OBJECTIVE OF THE STUDY: The present report is to assess the adequacy & specifications of existing effluent treatment plant (ETP) for treatment of effluent to achieve the discharge norms. The report is prepared based on information provided by the mill with respect to water consumption, waste water generation, size of unit of existing ETP and pollution load assessed by analysing waste water sample collected by Newcon Consultants and Laboratories team during visit to mill.

4. WATER CONSERVATION MEASURES ADOPTED BY MILL:





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The mill has implemented various measures and best practices for water conservation. The brief of measures implemented are as follows:

(i) Installation of SEDICELL: Sedicell are the most efficient technologies to recover the process water from paper machine back water. The clarified water is reused to replace the fresh water required for cleaning of wire & felt at paper machine.

(ii) closing loop of gland cooling & vacuum pump sealing: The fresh water used for above purpose is collected, clarified & reused in close loop and fresh water is used as makeup water level.

With the adoption of above measures, the fresh water consumption was reduced from 10 m³/T to 3.5 m³/T approx and similarly load was also reduced drastically.

(iii) Fresh water consumption: With use of best practices & technology up-gradation the fresh water consumption has been reduced to 3.5 m³/t paper.

The section wise fresh water consumption is given below,

S. No	Units	Water Consumption, m ³
1	Pulp Mill	Recycled water
2	Paper Machine	480
3	Boiler & other utility	510
5	Others	10
6	Total (m ³ /day)	1000

(iv) Waste water generation and its characteristic: The waste water after recycling is as under with characteristics :





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Volume, m ³ /day	- 700 KLD
TSS, mg/l	- 120
COD, mg/l	- 2000
BOD, mg/l	- 700

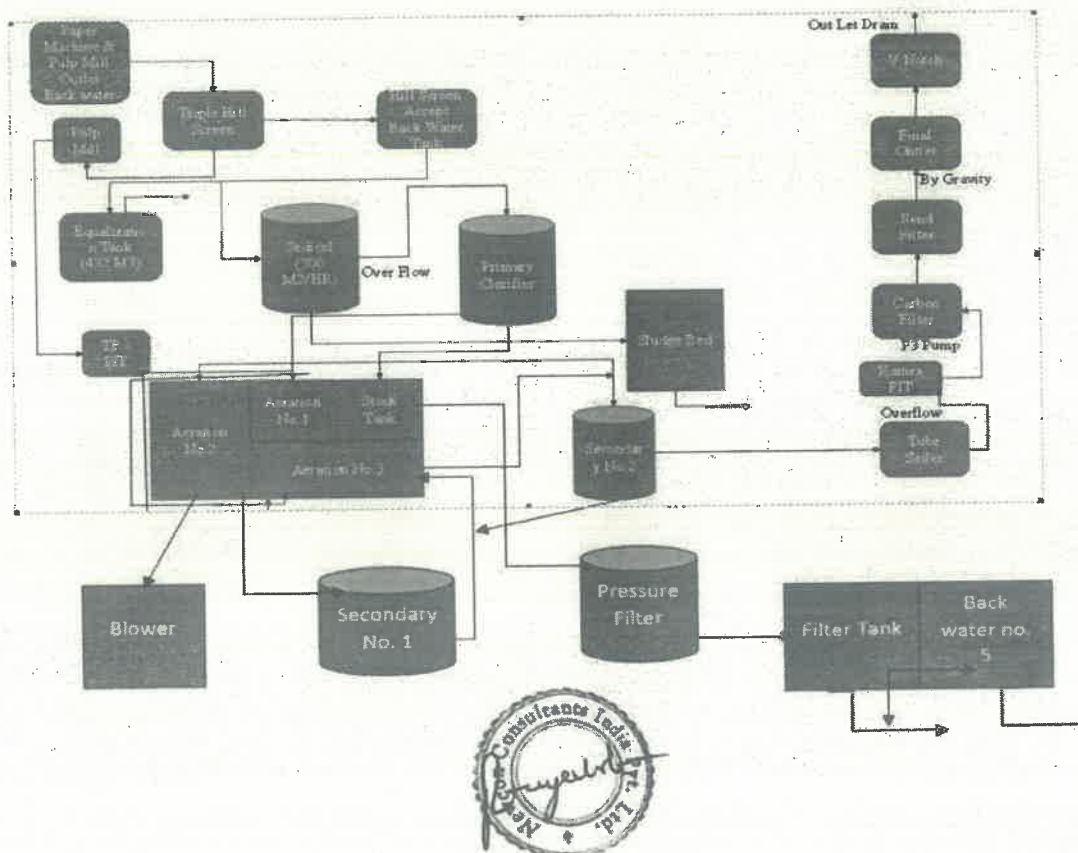




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(a) PRESENT EFFLUENT TREATMENT PRACTICE:

The effluent from various sections & excess water of Paper Machine is taken to equalization tank which is having provision of disintegrator mixing system to avoid the settling of suspended solids.

After equalization, the effluent is treated in Sedicell followed by primary secondary & tertiary treatment. The aeration tank is equipped with fine air diffuser system to maintain the desired level of dissolved oxygen in effluent for obtaining proper efficiency of biomass and consortium of the culture added to aeration tank. After aeration tank the mixed liquor is clarified using secondary clarifier for separation of suspended active bio sludge. The overflow of secondary clarifier is further treated using Tubesettler & Dual Media Filter (DMF) for removal of colour, COD & BOD. The coagulant & flocculant are used for efficient reduction of pollutants. The tertiary



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treated effluent after achieving the discharge norms is discharged to a local drain. The part of underflow of secondary clarifier is recycled to maintain desired level of MLSS in aeration tank and rest along with sludge of tertiary treatment is de-watered through sludge belt press process & bed for further disposal. The layout of combined effluent stream is given.

(b) Adequacy of existing ETP:

Total effluent volume, m ³ /day (as per consent)	- 1100 (45 m ³ /hr)
TSS, mg/l	- 2700
COD, mg/l	- 2000
BOD, mg/l	- 700
TDS, mg/l	- 1950



NOTE :- It was found during visit that the unit is using fresh water @ 800 m³/day & discharging approximately 200 m³/day as treated waste water.

ETP details with remarks as per CPCB charter: - (Design discharge after sedicell - 1100 m³/day)

S. No	Units	Specifications	Status/ Remarks
1	Equalization tank with air Mixing system	Capacity- 432 m ³ Retention time - 9.6 hrs	Adequate
2.	Primary Clarifier	Capacity - 332 m ³ Dia - 11 m SWD - 3.5 m Retention time - 7hrs	Adequate to handle effluent more than the design discharge
3	Aeration tank 1 ST & 2 nd & 3 rd fine air diffuser system	Capacity- 2692 m ³ Ret. time- 59 hr Available oxygenation	Capacity of aeration tank & oxygenation capacity of aerators & biomass



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		Capacity is more than oxygen required.	are adequate to treat more than the present effluent & BOD load to meet the discharge norms under optimum conditions.
4	Secondary Clarifier I	Capacity-504 m ³ Dia-13m SWD-3.8 m Retention time-11.2 hr	Adequate to handle around effluent more than the present effluent volume. (Permissible SOR-16-20 m ³ /m ² /day)
	Secondary Clarifier II	Capacity-350 m ³ Dia-11 m SWD- 3.7 m Retention time-7 hr	
5	Tertiary Treatment System	Capacity- 84 m ³ /hr	Adequate to handle the present effluent volume.
6	Sedicell	Capacity – 300m ³ /hr	Fiber recovery
7	Sludge handle system -Sludge Belt Mould -Sludge beds	Available	Adequate for dewatering of ETP sludge load.
8	OCEMS	Available with online flow meter	Adequate as per requirement





Newcon Consultants India Pvt. Ltd

Environmental Compliances, Groundwater Studies, Impact
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OBSERVATIONS:

The following are the observations made during visit to mill with respect to process water conservation & effluent treatment plant.

- (A) The mill is manufacturing kraft paper using waste paper as raw material.
- (B) The mill has installed V Notch in the inlet of ETP and online monitoring device at the final discharge of ETP. All data of final discharge (pH, TSS, COD, BOD, Colour & Flow (m³/hr) are transferred to CPCB/UPPCB server round the clock. Mill has also provided V-Notch at final discharge.
- (C) The unit has implemented & adopted "Bare Minimum Technology (BMT)" for process improvement & ETP upgradation for pollution reduction as suggested under CPCB charter'
- (D) **Installation of Sedicell for paper machine back water:** The system improved recovery of fibre and reduces escape of fines into effluent and also replace fresh water with clarified back water in showers (L.P), pulp dilution etc.
- (E) The adoption of above measures along with best practices reduced water consumption from 10 m³/day to around 3.5 m³/day.
- (F) **ETP up-gradation:** The ETP has been upgraded up to tertiary treatment level to comply the CPCB charter.
- (G) The tertiary treatment system includes filtration using Dual Media Filter (DMF).
- (H) The existing ETP consists equalization tank with provision of agitation, Pre-Treatment process, Aeration tank with diffusers for maintaining desired DO level, secondary clarifier, tertiary treatment system(DAF) i.e. dual media filters.
- (I) Sludge Filter Press & sludge beds are being used for dewatering of ETP sludge.
- (J) online Monitoring system is already in place and connected to CPCB/UPPCB server.
- (K) The effluent discharge observed was around 2.0 m³ /t.





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Steps initiated by Mill to reduce water consumption:

- Garg Duplex & Paper Mills Pvt Ltd started recycling water at Paper Machine back water after physiochemical treatment .
- Mill is treating remaining water in sedicell and it is very clear water having TSS around ≤ 50 mg/l and is being used in Paper Machine process (Wire & Felt LP showers).
- Pump sealing water is also recovered in vibro screen and recycled back into pump sealing.



Remarks:

Based on information given by Mill for water consumption, size & specification of ETP units, and pollution load assessed by Newcon Consultants and Laboratories during visit to Mill. Following are the remarks with respect to adequacy of existing ETP:

The existing ETP consisting equalization tank, Pre -Treatment Process, Primary Treatment, Aeration tank, secondary clarifier, tertiary treatment, sludge handling system is adequate and sufficient for treatment of present effluent & BOD load to achieve the discharge norms provided ETP operates under optimum condition.

- Mill is advised to install Anaerobic treatment system to further improve the quality i.e. COD mainly & BOD for recycling.
- Mill is also advised to operate ETP under optimum conditions to achieve the discharge norms on regular basis.

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Date 06.09.2024

To,

The Chief Environmental Officer
Uttar Pradesh Pollution Control Board
TC 12 V, Vibhuti Khand, Gomti Nagar.
Lucknow, Uttar Pradesh.

Sub: Submission of adequacy report for ETP vide letter no. H08038/ C-3/WATER475/
MUZAFFARNAGAR/2024 dated 06.03.2024

Res.Sir,

Kindly take reference letter no. H08038/ C-3/WATER475/
MUZAFFARNAGAR/2024 dated 06.03.2024 regarding join inspection team direction on
drown sample analysis report via passed order by Hr NGT Hearing O.A.No744/202
2moharm ali v/s s U.P. state with O.A. No.277/2022 liyakat ali & others v/s U.P. State on
dated 22.03.2023 & dated 25.07.2023 so mill are submitting Owen ETP Adequacy report as
per given below:-

1 :-The mill having a full flange ETP Plant followed by Territory treatment plant to achieve
effluent water quality as charter norms . The mill treated water variable stage up to DMF so
mill having higher reduction limit

2:- The mill communicate many time via email & telephonic with CPPRI for Adequacy report
of Total ETP (unit vise) efficiency & raw effluent characteristics study but CPPRI team not
available for above report due to very busy schedule up to long time

3 ;- The prepare ETP adequacy efficiency report by NABL lab after long time waiting of
CPPRI response & submitting to your reference

So please take reference our report & having a positive response in the mill favor

Thanking you



For SHREE SIDHBALI PAPER MILLS PVT LTD
9.0 KM. JANSATH ROAD M.Z.NAGAR

Cc:-Regional officer UPPCB Muzaffarnagar

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Date: 07.03.2024

To,

The Head of Department
Environment Management Division
Central Pulp & Paper Research Institute
Saharanpur (U.P.)

Respected Sir,

We want to prepare a E.T.P. adequacy & efficiency report as per Pollution Board norms so please send a proposal for total E.T.P. efficiency & adequacy report and also prepare a raw effluent characteristics study.

Sir, I am requesting to you, please planned any technical person to visit at our site regarding above report as soon as possible.

Thanking you,

For Shree Sidhali Paper Mills Private Limited**Pradeep Sharma**

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Newcon Consultants India Pvt. Ltd.

Design of Waste Water & Air Pollution Control System,
Conducting Environment Impact Assessment, Environment Audit

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ADEQUACY & PERFORMANCE EVALUATION REPORT

ON

M/S SHREE SIDHBALI PAPER MILLS LIMITED
9th KM, BHOPA ROAD, MUZAFFARNAGAR (U.P.) 251001

Prepared By :

M/S NEWCON CONSULTANTS INDIA PVT. LTD.

&

NEWCON CONSULTANTS & LABORATORIES
204-205, 2nd Floor, Ansal Sumedha Complex, RDC Raj Nagar,
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PHONE : 0120 - 4387075

For Shree Sidhali Paper Mills Limited


Authorised Signatory



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1. SCOPE OF THE STUDY: adequacy assessment & performances evaluation of individual treatment units.

Visit done in M/s Shree Sidhballi Paper Mills Limited, Muzaffarnagar on 20/08/2024 in connection with adequacy report of ETP

2. MILL BACK GROUND: M/s Shree Sidhballi Paper Mills Limited are producing 250 MT per day of kraft paper using waste paper as the basic raw materials. With adoption of CPCB charter of 2012 and 2015, mill has upgraded the process by adopting "Bare Minimum Technology (BMT)" and also upgraded the ETP up to tertiary treatment level to comply the above CPCB charter.

3. OBJECTIVE OF THE STUDY: The present report is to assess the adequacy & specifications of existing effluent treatment plant (ETP) for treatment of effluent to achieve the discharge norms. The report is prepared based on information provided by the mill with respect to water consumption, waste water generation, size of unit of existing ETP and pollution load assessed by analyzing waste water sample collected by Newcon Consultants and Laboratories team during visit to mill.

4. WATER CONSERVATION MEASURES ADOPTED BY MILL:

The mill has implemented various measures and best practices for water conservation. The brief of measures implemented are as follows:

(i) **Installation of SEDICELL:** Sedicell are the most efficient technologies to recover the process water from paper machine back water. The clarified water is reused to replace the fresh water required for cleaning of wire & felt at paper machine.

For Shree Sidhballi Paper Mills Limited


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(ii) **closing loop of gland cooling & vacuum pump sealing:** The fresh water used for above purpose is collected, clarified & reused in close loop and fresh water is used as makeup water level.

with the adoption of above measures, the fresh water consumption was reduced from 10 m³/T to 4 m³/T approx and similarly load was also reduced drastically.

(iii) **Fresh water consumption:** With use of best practices & technology up-gradation the fresh water consumption has been reduced to 4 m³/t paper.

The section wise fresh water consumption is given below,

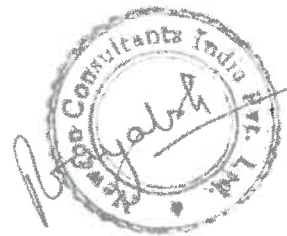
S. No	Units	Water Consumption, m ³	
		Recycled water	
1	Pulp Mill		
2	Paper Machine	1950	
3	Boiler & other utility	200	
5	Others	50	
6	Total (m ³ /day)	2200	

(iv) **Waste water generation and its characteristic:** The waste water generation after recycling is as under with characteristics :

Volume, m ³ /day	- 1400
TSS, mg/l	- 550
COD, mg/l	- 2200
BOD, mg/l	- 450

For Shree Sidhbal Paper Mills Limited


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(a) PRESENT EFFLUENT TREATMENT PRACTICE :

The effluent from various sections & excess water of Paper Machine is taken to equalization tank which is equipped with electromagnetic flow meter and having provision of disintegrator mixing system to avoid the settling of suspended solids. After equalization, the effluent is treated in Sedicell followed by primary secondary & tertiary treatment. The aeration tank is equipped with 1050 Nos of air diffuser to maintain the desired level of dissolved oxygen in effluent for obtaining proper efficiency of biomass and consortium of the culture added to aeration tank. After aeration tank the mixed liquor is clarified using secondary clarifier for separation of suspended active bio sludge. The overflow of secondary clarifier is further treated using Tubesettler & Dual Media Filter (DMF) for removal of colour, COD & BOD. The coagulant & flocculant are used for efficient reduction of pollutants. The tertiary treated effluent after achieving the discharge norms is discharged to a local drain. The part of underflow of secondary clarifier is recycled to maintain desired level of MLSS in aeration tank and rest along with sludge of tertiary treatment is de-watered through sludge belt press process & bed for further disposal. The layout of combined effluent stream is given.

(b) Adequacy of existing ETP:

Total effluent volume, m ³ /day	- 1400 (59 m ³ /h)
TSS, mg/l	- 550 (770 Kg/day)
COD, mg/l	- 2200 (3080 kg/day)
BOD, mg/l	- 450 (630 kg/day)
TDS, mg/l	- 2050 (315 Kg/day)

NOTE :- It was found during visit that the unit is using fresh water @ 800 m³/day & discharging 400 m³/day as treated waste water.

For Shree Sidhbal Paper Mills Limited

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ETP details with remarks as per CPCB charter: - (Design discharge after sedicell
- 1200 m³/day)

S. No	Units	Specifications	Status/ Remarks
1	Equalization tank with air Mixing system	Capacity- 150 m ³ Retention time - 3.0 hrs	Adequate
2.	Primary Clarifier	Capacity - 1100m ³ Dia - 19 m SWD - 3.25m Retention lime - 22 hrs	Adequate to handel effluent more than the design discharge
3	Aeration tank 1 st & 2 nd fine bubble air diffuser - 1050 No's	Capacity- 3500 m ³ Ret. time- 70 hr Oxygen required - 172 m ³ /hr Available oxygenation capacity-305m ³ /hr	Capacity of aeration tank & oxygenation capacity of aerators & biomass are adequate to treat more than the present effluent & BOD load to meet the discharge norms under optimum conditions.
4	Secondary Clarifier	Capacity-1050 m ³ Dia-19m SWD-3.25m Retention time- 21 hr SOR, m ³ /m ² /day - 5 (Permissible SOR-16-20 m ³ /m ² /day)	Adequate to handle around effluent more than the present effluent volume.
5	Tertiary Treatment System tube settler/filtration.	Capacity-150 m ³ /hr	Adequate to handle the present effluent volume.
6	Sedicell	Capacity - 300m ³ /hr	Fiber recovery
7	Sludge handle system -Sludge Belt Press -Sludge beds	Capacity- 1.5 MT/hr	Adequate for dewatering of ETP sludge load.

For Shree Sidhballi Paper Mills Limited

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PERFORMANCE OF EXISTING EFFLUENT TREATMENT PLANT

The performance of various units of existing Effluent Treatment Plant (ETP) i.e. Sedicell / Primary Clarifier, Secondary Biological System, Tertiary Treatment as well as overall performance of ETP was assessed based on the composite samples collected & analysed by Newcon Consultants and Laboratories as given below :

Performance of Fiber Recovery Units (Sedicell)

Parameter	ETP Inlet (Equalization Tank)	Primary Clarifier Outlet	Reduction, %
pH	6.7	6.7	--
TSS, mg/l	550	90	83.6
COD, mg/l	2200	1450	34.0
BOD, mg/l	450	390	13.3

Performance of Secondary Treatment System (ASP + Secondary Clarifier)

Parameter	Aeration Inlet (AT Inlet)	SC Outlet (Tubesttler & DMF Inlet)	Reduction, %
pH	6.7	6.8	--
COD, mg/l	1450	190	86.8
BOD, mg/l	390	31	92.0
T.S.S. mg/l	90	85	5.5

For Shree Sidhballi Paper Mills Limited

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Performance of Tertiary Treatment System

Parameter	DMF Inlet	DMF Outlet	Reduction, %
pH	6.8	6.8	—
TSS, mg/l	85	40	53.0
COD, mg/l	190	145	23.6
BOD, mg/l	31	18	41.9

The overall performance of Effluent Treatment Plant (ETP) is given below

Parameter	Raw Effluent (Equalization Tank)	Treated Effluent (DMF Outlet)	Reduction, %
pH	6.7	6.8	—
TSS, mg/l	550	40	92.7
COD, mg/l	2200	145	93.4
BOD, mg/l	450	18	96
T.D.S. mg/l	1950	1850.	5.1

OBSERVATIONS:

The following are the observations made during visit to mill with respect to process water conservation & effluent treatment plant.

(A) The mill is manufacturing kraft paper using waste paper as raw material.

(B) The mill has installed Electromagnetic flow meter in the inlet of ETP and online monitoring device at the final discharge of ETP. All data of final discharge (pH, TSS, COD, BOD, Colour & Flow (m³/hr) are transferred to CPCB/UPPCB server round the clock. Mill has also provided V-Notch at final discharge.

For Shree Sidhanti Paper Mills Limited

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(C) The unit has implemented & adopted "Bare Minimum Technology (BMT)" for process improvement & ETP upgradation for pollution reduction as suggested under CPCB charter'

(D) **Installation Sedicell for paper machine back water:** The system improved recovery of fibre and reduces escape of fines into effluent and also replace fresh water with clarified back water in showers (L.P), pulp dilution etc.

(E) The adoption of above measures along with best practices reduced water consumption from 10 m³/day to around 4 m³/day.

(F) **ETP up-gradation:** The ETP has been upgraded up to tertiary treatment level to comply the CPCB charter.

(G) The tertiary treatment system includes filtration using Dual Media Filter (DMF).

(H) The existing ETP consists equalization tank with provision of agitation, Pre-Treatment process, Aeration tank with diffusers for maintaining desired DO level, secondary clarifier, tertiary treatment system(DAF) i.e. dual media filters.

(I) Sludge Filter Press & sludge beds are being used for dewatering of ETP sludge.

(J) online Monitoring system is already in place and connected to CPCB/U PPCB server.

(K) The effluent discharge observed was around 2.0 m³ /t paper'

Steps initiated by Mill to reduce water consumption:

- Shree sidhballi Paper Mills Pvt. Ltd. started recycling water at Paper Machine back water after physiochemical treatment .
- Mill is treating remaining water in sedicell and it is very clear water having TSS around ≤ 50 mg/l and is being used in Paper Machine process (Wire & Felt LP showers).

For Shree Sidhballi Paper Mills Limited

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- Pump sealing water is also recovered in vibro screen and recycled back into pump sealing.
- Further the mill also planned to make no discharge from Paper machine to ETP, to make "Zero Liquid discharge", mill has installed Sedicell in Paper Machine process.
- So, entire waste water is treated & recycled in Pulp Mill & Paper machine/Stock Preparation, The also adopt Advance oxydation system & BMT therefore the mill is "zero liquid discharge" from paper Machine to ETP.

Remarks:

Based on information given by Mill for water consumption, size & specification of ETP units, and pollution load assessed by Newcon Consultants and Laboratories during visit to Mill. Following are the remarks with respect to adequacy of existing ETP:

The existing ETP consisting equalization tank, Pre -Treatment Process, Primary Treatment, Aeration tank, secondary clarifier', tertiary treatment, sludge handling system is adequate and sufficient for treatment of present effluent & BOD load to achieve the discharge norms provided ETP operates under optimum condition.

- a) Mill is advised to install Anaerobic treatment system to further improve the quality i.e. COD mainly & BOD for recycling.
- b) Mill is also advised to operate ETP under optimum conditions to achieve the discharge norms on regular basis.

For Newcon Consultants India Pvt. Ltd.

For Shree Sidhali Paper Mills Limited

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Director



Newcon Consultants India Pvt. Ltd.

Design of Waste Water & Air Pollution Control System,
Conducting Environment Impact Assessment, Environment Audit

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ADEQUACY & PERFORMANCE EVALUATION REPORT

ON

**M/S SILVERTON PULP AND PAPERS PVT
LTDUNIT-1**

9TH KM STONE, BHOPA ROAD, MUZAFFARNAGAR (U.P.) 251001

Prepared By :

M/S NEWCON CONSULTANTS INDIA PVT. LTD.

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INTRODUCTION

M/S SILVERTON PULP AND PAPERS PVT LTD UNIT-I are engaged in manufacturing of kraft paper at this site 9th KM Stone, Bhopa Road, Muzaffarnagar (U.P.). The installed capacity of unit is to manufacture kraft paper 300Mt/Day. The units function on consents and directions given by the U.P. Pollution Control Board. The effluent water generated from the plant is treated in ETP having units of preliminary, primary, secondary & tertiary treatment.

The unit is generating 1200 KLD of waste water which approach to ETP plant after Sedicell. We would like to check the adequacy of existing treatment units on the discharge 1300 kld for after primary clarifier.

The treatment system consist of following units.

1. Sedicell – 300 m³/hr
2. Equalization tank – 8x4x3.5 m
3. Primary clarifier – Dia – 16.8 m x 2.4m depth
4. Aeration Tank – 25.5 m x 28.4 m x 3 m
5. Secondary Clarifier Tank – Dia – 16.4 m, h – 2.4 m depth
6. MGF and ACF – 45 m³/hr

Design discharge

The average discharge of waste water from process after primary clarifier is 1200 kld. we will consider discharge as – 1300 KL/Day



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CHARACTERISTICS OF WASTE WATER

Table 1 :waste water characteristics (Before Primary Clarifier)

S.No.	Parameter	Range
1.	Quantity of wastewater, m ³ /day	1300
2.	pH	6.8
3.	BOD, mg/l	620
4.	COD, mg/l	2950
5.	TSS, mg/l	540
6.	TDS mg/l	2350

DESIRED CHARACTERISTICS OF TREATED WASTEWATER

The required characteristics of the treated effluent for discharge into inland surface water as per the EP Act 1986 norms are given in table 2

Table 2 : Discharge water norms

S.No.	Parameter	Values
1.	pH	6.5 - 8.5
2.	BOD, mg/l	< 30
3.	COD, mg/l	< 250
4.	TSS, mg/l	<50
5.	Oil & Grease	< 10



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DESIGN CHECK

1. Design details of equalization tank

Description	Values
Design Flow	1300 m ³ /day
Tank Size available, Max.	8 x 4 x 3.5 m
Tank Volume	112 m ³ Approx
HRT Recommended	2-3 hrs
HRT available	2 Hrs. Approx
Remarks	It is recommended to install standby effluent lifting pump

2. Primary Clarifier

Description	Values
Design Flow	1300 m ³ /day
Surface over flow meter recommended	16 m ³ /m ² /day
Surface area required	$\frac{1300}{16} = 81.25 \text{ m}^2$
Surface area available	221.55 m ²
Remarks	Hence existing primary clarifier is adequate to handle design discharge.

3. Biological Treatment System – activated sludge process

Tank Sizing		
Inlet BOD	Mg/l	452.6
Flow	M ³ /Day	1300
Outlet BOD required	Mg/l	≤30
% BOD removal required	Mg/l	96% approx



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Inlet COD	Mg/l	2271.5
Outlet COD	Mg/l	≤ 250 i.e. 200
Following Values of kinetics has been considered while calculating the reactor volume Kinetic Co-efficient $Y = 0.5 - 0.6$ Death rate $k_d = 0.05 - 0.06$ Mean cell residence time (θ_c) = 8-12 Mixed Liquor SS (X) = 3500 - 4000	Formula : $V = Y.Q.C. (S_0 - S) * X$ $Y = .6$ $KD = .05,$ $C = 12$ $X = 3500$ $V = 0.6 \times 1300 \times 12 \times (452.6 - 30) /$ $(1 + (0.05 \times 12)) \times 3500 = 706.34 \text{ m}^3$	
Existing Tank Sizing		25.5 m x 28.4 m x 3 m
Existing Tank Volume (Both Tanks)		2172.6 m ³ approx
Remarks		Therefore, the existing aeration tank is sufficient to take care of the desired load.
Aeration requirement :		Coarse bubblediffused aeration
1kg COD requires		1 kg of o ₂ .
Total COD to be removed		$(2271.5 - 200) \times 1300 / 1000 = 2693 \text{ Kg/Day}$
Therefore, Amount of O ₂ required at field condition (A.O.R.)		$2693 \times 1.0 = 2693 \text{ Kg/d}$
Oxygen Required for Existing Tank		2693 Kg/Day or 112 kg/hr
The above requirement is actual oxygen to be supplied at field condition (A.O.R) Therefore, O ₂ to be supplied at standard condition will be depending on field correction coefficient calculated as below:		

Field correction factor considering the values of	0.54 (= 54%) (F)
i) Alpha = 0.65	
ii) Beta = 0.98	
iii) Theta = 1.024	
iv) D.O. = 2.0 mg/l	



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v) Altitude from MSL = 500m	
vi) W/w temp of 35 deg. c max	
Therefore Oxygen at standard condition will be (S.O.R.)	AOR / F = 112/0.54 = 207.4 kg/ o2/hror 207kg/ o2/hr

% of o2 in air	%	23
Density of air	Kg/cum	1.206
Std o2 transfer efficiency (S.O.T.E.)	% / m Depth	7.5%
Total SOTE for tank depth	%	For 3m depth = 22.5
Actual air required	Cum/h	Air required, m ³ /hr= S.O.R. / (23/100) *1.206*21% = 207/(0.23*1.206*0.21) = 3571.5 =3572
O2 Transfer Capacity of 1 Diffuser	7m ³ /hr	
No. of Diffuse required		3572/7 = 510.2 say 515
Aeration Existing		Coarse diffused aeration system alongwith 520 diffusers

Note:—Hence the existing system is adequate to handle design discharge.



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4. DESIGN DETAILS OF SECONDARY SETTLING UNIT:

Description	Units	Value
Design Flow	Cum/day	1400
Surface overflow rate recommended	$m^3/m^2/day$	15 to 18
Surface area required	Considering (18)	$\frac{1400}{18} = 77.77 m^2$
Surface area existing		$211.13 m^2$
Remarks	Hence the existing tank is sufficient to handle the effluent Hydraulically.	

5. ACF and MGF

Design flow $1200 m^3/day$ i.e. $50 m^3/hr$ (considering 24 hrs operation)

Note – Unit has 1 No of ACF & 1 No. of MGF of capacity $45 m^3/hr$ which is adequate to handle design flow.

Note :- Kindly note that unit's discharge at inlet of E.T.P. is 800 to 900 KL/Day on an average.



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Performance evaluation of existing effluent treatment plant

The performance of various units of existing Effluent Treatment Plant (ETP) i.e. Sedicell, Primary Clarifier, Secondary Biological System, Tertiary Treatment as well as overall performance of ETP was assessed based on the composite samples collected & analysed by Newcon Consultants & Laboratories are given below :

Performance of Fiber Recovery Units (Sedicell)

Parameter	ETP Inlet (Equalization Tank)	Sedicell Outlet	Reduction, %
pH	6.8	6.8	--
TSS, mg/l	1380	540	60.8
COD, mg/l	3246	2950	9.1
BOD, mg/l	710	620	12.6

Performance of Primary Clarifier

Parameter	PC Inlet	PC Outlet	Reduction, %
pH	6.8	6.8	-
TSS, mg/l	540	91.8	83
COD, mg/l	2950	2271.5	23
BOD, mg/l	620	452.6	27

Performance of Secondary Treatment System (ASP + Secondary Clarifier)

Parameter	PC Outlet (AT Inlet)	SC Outlet (DMF Inlet)	Reduction, %
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pH	6.8	7.0	--
T.S.S. mg/l	91.8	81.7	11
COD. mg/l	2271.5	181.7	92
BOD. mg/l	452.6	21.72	95.2

Performance of Tertiary Treatment System

Parameter	DMF Inlet	Final Outlet	Reduction, %
pH	7.0	7	--
TSS. mg/l	81.7	46.4	43.2
COD. mg/l	181.7	146.6	19.3
BOD. mg/l	21.72	19.91	8.3

The overall performance of Effluent Treatment Plant (ETP) is given below

Parameter	Raw Effluent (Equalization Tank)	Treated Effluent (Final Outlet)	Reduction, %
pH	6.8	7	--
TSS. mg/l	1380	46.4	96.6
COD. mg/l	3246	146.6	95.5
BOD. mg/l	710	19.9	97.2

Suggestion for operation & maintenance of ETP

Effluent Treatment Plant is basically a combination of physical and biological process for removal of suspended & dissolved contaminants in waste water. The microorganisms involved are mixed culture which oxidize the biodegradable organic matter and convert it into new biomass, carbon dioxide, hydrogen etc. To achieve the designed performance from



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ETP, it is necessary to operate it under optimum conditions so as to meet the environmental discharge standards. Following are the suggested measures, the mill should adopt for proper and optimum operation of ETP :

- Ensure proper and optimum conditions as per the designed specification and manufacturer's instruction.
- Avoid fluctuation in effluent flow and pollution load so as to reduce the shock load to biomass and the system as a whole.
- Ensure proper addition of essential nutrients.
- Maintain required level of MLVSS concentration (2500-3000 mg/l) in aeration tank by ensuring proper microbial growth.
- Maintain desired level of DO in the aeration tank (1-2 mg/l).
- Ensure periodic & timely withdrawal of sludge from the clarifiers.
- Proper maintenance of electric motors and pumps etc.
- In addition to above, routine testing of pollution parameters is essential to maintain desired performance of ETP. The parameters of concern and the frequency of their analyses advised are as under:

Parameters	Frequency of analysis
pH	Daily
Suspended Solids	Daily
Total Dissolved Solids	Daily
COD	Daily
BOD	Daily
Effluent Flow	Hourly

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CONCLUSION

After the detailed analysis of the various units of ETP following may be concluded

1. ETP scheme is sufficient to meet the discharge norms at discharge $1200\text{m}^3/\text{day}$.
final discharge after recycling i.e. 1200 KLD.
2. Design capacities of various units of ETP are adequate to handle the hydraulic and mass load as per the standard design practice.

Mr. PRIYATOSH GUPTA
DIRECTOR
B.TECH. M.B.A.
16.05.2024



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ADEQUACY & PERFORMANCE EVALUATION REPORT

ON

**M/S SILVERTON PULP AND PAPERS PVT
LTDUNIT-2**

9TH KM STONE, BHOPA ROAD, MUZAFFARNAGAR (U.P.) 251001

Prepared By :

M/S NEWCON CONSULTANTS INDIA PVT. LTD.

&

NEWCON CONSULTANTS & LABORATORIES

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INTRODUCTION

M/S SILVERTON PULP AND PAPERS PVT LTD UNIT-2 are engaged in manufacturing of Writing Printing/Kraft/Coated Duplex/News Print Paper at this site 9th KM Stone, Bhopa Road, Muzaffarnagar (U.P.). The installed capacity of unit is to manufacture 300Mt/Day. The units function on consents and directions given by the U.P. Pollution Control Board. The effluent water generated from the plant is treated in ETP having units of preliminary, primary, secondary & tertiary treatment.

The unit is generating 2500 KLD of waste water which approach to ETP plant. We would like to check the adequacy of existing treatment units on the discharge 3000 kld before primary clarifier.

The treatment system consists of following units.

1. Equalization tank – 15 x 10 x 3 m
2. Primary clarifier – Dia – 15.8 m x 3 m depth
3. Aeration Tank 1 – 25.2 m x 15 m x 4.15 m
4. Aeration Tank 2 – 24.75 m x 15 m x 4.15 m
5. Secondary Clarifier 1 – Dia – 17.5 m, h – 3 m depth
6. Secondary Clarifier 2 – Dia – 19.5 m, h – 3.5 m depth
7. Holding Tank – 15.8 X 8 X 3 m
8. MGF (2 Units) – 90 m³/ hour
9. ACF (2 Units) – 90 m³/ hour

Design discharge

The average discharge of waste water from process after recycling & entering primary clarifier is 2500 kld. we will consider design discharge as – 3000 KL/Day



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CHARACTERISTICS OF WASTE WATER

Table 1 :waste water characteristics (Before Primary Clarifier)

S.No.	Parameter	Range
1.	Quantity of wastewater, m ³ /day	3000 (Design Discharge)
2.	pH	6.8
3.	BOD, mg/l	710
4.	COD, mg/l	3246
5.	TSS, mg/l	1380
6.	TDS mg/l	2100

DESIRED CHARACTERISTICS OF TREATED WASTEWATER

The required characteristics of the treated effluent for discharge into inland surface water as per the EP Act 1986 norms are given in table 2

Table 2 : Discharge water norms

S.No.	Parameter	Values
1.	pH	6.5 – 8.5
2.	BOD, mg/l	< 30
3.	COD, mg/l	< 250
4.	TSS, mg/l	<50
5.	Oil & Grease	< 10



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DESIGN CHECK

1. Design details of equalization tank

Description	Values
Design Flow	3000 m ³ /day
Tank Size available, Max.	15 x 10 x 3 m
Tank Volume	450 m ³ Approx
HRT Recommended	2-3 hrs
HRT available	6 Hrs. Approx
Remarks	HRT time is sufficient. It is recommended to install standby effluent lifting pump

2. Primary Clarifier

Description	Values
Design Flow	3000 m ³ /day
Surface over flow meter recommended	16 m ³ /m ² /day
Surface area required	$\frac{3000}{16} = 187.5 \text{ m}^2$
Surface area available	196 m ²
Remarks	Hence existing primary clarifier is adequate to handle design discharge.

3. Biological Treatment System – activated sludge process (1st)

Tank Sizing		
Inlet BOD	Mg/l	452.6
Flow	M ³ /Day	3000
Outlet BOD required	Mg/l	≤ 200 say 100
% BOD removal required	Mg/l	80% approx



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Inlet COD	Mg/l	2271.5
Outlet COD	Mg/l	1000
Following Values of kinetics has been considered while calculating the reactor volume Kinetic Co-efficient $Y = 0.5 - 0.6$ Death rate $k_d = 0.05 - 0.06$ Mean cell residence time (θ_c) = 8-12 Mixed Liquor SS (X) = 3500 - 4000	Formula : $V = Y.Q. C. (S_0 - S) * X$ $Y = .6$ $KD = .05,$ $C = 12$ $X = 3500$ $V = 0.6 \times 3000 \times 12 \times (452.6 - 100) / (1 + (0.05 \times 12)) \times 3500 = 1360 \text{ m}^3$	
Existing Tank Sizing	25.2 m x 15 m x 4.15 m	
Existing Tank Volume (Each Tanks)	1556.25 m ³ approx each	
Remarks	Therefore, the existing aeration tank is sufficient to take care of the desired load .	
Aeration requirement :	Coarse bubble diffused aeration	
1kg COD requires	1 kg of o ₂	
Total COD to be removed	$(2271.5 - 1000) \times 3000 / 1000 = 3814.5$ Kg/Day say 3815 kg/day	
Therefore, Amount of O ₂ required at field condition (A.O.R.)	$3815 \times 1.0 = 3815 \text{ Kg/d}$	
Oxygen Required for Existing Tank	3815 Kg/Day or say 158.9 kg/hr	
The above requirement is actual oxygen to be supplied at field condition (A.O.R) Therefore, O ₂ to be supplied at standard condition will be depending on field correction coefficient calculated as below:		

Field correction factor considering the values of i) Alpha = 0.65 ii) Beta = 0.98 iii) Theta = 1.024 iv) D.O. = 2.0 mg/l	0.54 (= 54%) (F)
--	------------------



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v) Altitude from MSL = 500m	
vi) W/w temp of 35 deg. c max	
Therefore Oxygen at standard condition will be (S.O.R.)	AOR / F = 158.9/0.54 = 294.3 kg/ o2/hr or 295 kg/ o2/hr

% of o2 in air	%	23
Density of air	Kg/cum	1.206
Std o2 transfer efficiency (S.O.T.E.)	% / m Depth	7.5%
Total SOTE for tank depth	%	For 3m depth = 22.5
Actual air required	Cum/h	Air required, m ³ /hr= S.O.R. / (23/100) *1.206*21% = 295/(0.23*1.206*0.21) = 5462.96 = 5465.00
O2 Transfer Capacity of 1 Diffuser	7m ³ /hr	
No. of Diffuse required		5465/7 = 780.71 say 781
Aeration Existing		Coarse diffused aeration system alongwith 800 diffusers have been provided

Note:—Hence the existing system is adequate to handle design discharge.

Kindly note that unit has installed double stage activated sludge process thus the BOD & COD load is removed drastically & It is found that BOD & COD after 2nd stage ASP is ≤ 30 & ≤ 200 mg/ltr respectively.



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4. DESIGN DETAILS OF SECONDARY SETTLING UNIT:

Description	Units	Value
Design Flow	Cum/day	3200
Surface overflow rate recommended	m ³ /m ² /day	15 to 18
Surface area required	Considering (16)	$\frac{3200}{16} = 200 \text{ m}^2$
Surface area existing		298.4 m ²
Remarks	Hence the existing tank is sufficient to handle the effluent Hydraulically.	

5. **ACF and MGF**

Design flow 3000 m³/day i.e. 150 m³/hr (considering 20 hrs operation)

Note – Unit has 2 No's of MGF & 2 No's of ACF of capacity 90 m³/hr each which is adequate to handle design flow.



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Performance evaluation of existing effluent treatment plant

The performance of various units of existing Effluent Treatment Plant (ETP) i.e. Sedicell, Primary Clarifier, Secondary Biological System, Tertiary Treatment as well as overall performance of ETP was assessed based on the composite samples collected & analysed by Newcon Consultants & Laboratories are given below :

Performance of Fiber Recovery Units (Sedicell)

Parameter	ETP Inlet (Equalization Tank)	Sedicell Outlet	Reduction, %
pH	6.8	6.8	--
TSS, mg/l	1380	540	60.8
COD, mg/l	3246	2950	9.1
BOD, mg/l	710	620	12.6

Performance of Primary Clarifier

Parameter	PC Inlet	PC Outlet	Reduction, %
pH	6.8	6.8	-
TSS, mg/l	540	91.8	83
COD, mg/l	2950	2271.5	23
BOD, mg/l	620	452.6	27

Performance of Secondary Treatment System (ASP + Secondary Clarifier) (Both Stage)

Parameter	PC Outlet (AT Inlet)	SC Outlet (DMF Inlet)	Reduction, %
pH	6.8	7.0	--



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T.S.S. mg/l	91.8	81.7	11
COD, mg/l	2271.5	181.7	92
BOD, mg/l	452.6	21.72	95.2

Performance of Tertiary Treatment System

Parameter	DMF Inlet	Final Outlet	Reduction, %
pH	7.0	7	--
TSS, mg/l	81.7	46.4	43.2
COD, mg/l	181.7	146.6	19.3
BOD, mg/l	21.72	19.91	8.3

The overall performance of Effluent Treatment Plant (ETP) is given below

Parameter	Raw Effluent (Equalization Tank)	Treated Effluent (Final Outlet)	Reduction, %
pH	6.8	7	--
TSS, mg/l	1380	46.4	96.6
COD, mg/l	3246	146.6	95.5
BOD, mg/l	710	19.9	97.2

Suggestion for operation & maintenance of ETP

Effluent Treatment Plant is basically a combination of physical and biological process for removal of suspended & dissolved contaminants in waste water. The microorganisms involved are mixed culture which oxidize the biodegradable organic matter and convert it into new biomass, carbon dioxide, hydrogen etc. To achieve the designed performance from ETP, it is necessary to operate it under optimum conditions so as to meet the environmental



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discharge standards. Following are the suggested measures, the mill should adopt for proper and optimum operation of ETP :

- Ensure proper and optimum conditions as per the designed specification and manufacturer's instruction.
- Avoid fluctuation in effluent flow and pollution load so as to reduce the shock load to biomass and the system as a whole.
- Ensure proper addition of essential nutrients.
- Maintain required level of MLVSS concentration (2500-3000 mg/l) in aeration tank by ensuring proper microbial growth.
- Maintain desired level of DO in the aeration tank (1-2 mg/l).
- Ensure periodic & timely withdrawal of sludge from the clarifiers.
- Proper maintenance of electric motors and pumps etc.
- In addition to above, routine testing of pollution parameters is essential to maintain desired performance of ETP. The parameters of concern and the frequency of their analyses advised are as under:

Parameters	Frequency of analysis
pH	Daily
Suspended Solids	Daily
Total Dissolved Solids	Daily
COD	Daily
BOD	Daily
Effluent Flow	Hourly



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CONCLUSION

After the detailed analysis of the various units of ETP following may be concluded

1. ETP scheme is sufficient to meet the discharge norms at discharge 2500m³/day, final discharge after recycling i.e. 2500 KLD.
2. Design capacities of various units of ETP are adequate to handle the hydraulic and mass load as per the standard design practice.



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DIRECTOR
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16.05.2024

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Bindals Papers Mills Limited

An ISO 9001:2015, ISO 14001:2015 & OHSAS 18001:2007 Certified Company

MANUFACTURERS OF WRITING & PRINTING PAPER, SUGAR & ETHANOL

Paper Unit- 8th Km., Bhopa Road, Muzaffarnagar-251 001 UP, INDIA

Sugar Unit- Vill. Changipur, Tehsil Chandpur, Distt. Bijnor-246734 (U.P.)

Distillery Unit- Vill. Changipur, Tehsil Chandpur, Distt. Bijnor-246734 (U.P.)

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Date-18.05.2024

To,

Regional Officer

Uttar Pradesh Pollution Control Board

New Mandi

Muzaffarnagar-251001

Subject – Adequacy & Performance report of ETP.

Dear Sir,

This is in reference to your letter No H08034/C3/Jal-624/M.Nagar/2024 dtd 06.03.2024, we would like to inform that we had requested to CPPRI for above study but it could not be done as CPPRI team busy schedule and time taking job and CPPRI informed to finish this work by end of July 2024 and same was informed by Chairman (PMA) vide letter dtd. 11.05.24.

Meanwhile, we had requested to NABL accredited Laboratory i.e. Newcon Consultants India PVT Ltd to do the adequacy and performance of our ETP.

The study is being carried out and adequacy cum Performance report is enclosed herewith.

This is for information & needful please.

Thanks & Regards,

Mayank

(Mayank Bindal)

Director

Encl: - a/a

C.c: - CEO (Circle-3), UPPCB Lucknow



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Regd. Office : NP-151 B, Maurya Enclave, Pitampura, Delhi-110088, INDIA



Newcon Consultants India Pvt. Ltd.

Design of Waste Water & Air Pollution Control System,
Conducting Environment Impact Assessment, Environment Audit

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ADEQUACY & PERFORMANCE EVALUATION REPORT

ON

M/s BINDALS PAPERS MILLS LTD.

8thkm stone, Bhopa Road, MUZAFFARNAGAR (U.P.) 251001

Prepared By:

M/S NEWCON CONSULTANTS INDIA PVT. LTD.

&

NEWCON CONSULTANTS & LABORATORIES

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Ghaziabad (U.P.)**



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1. SCOPE OF THE STUDY: adequacy assessment & performances evaluation of individual treatment units.

Visit done in M/s Bindals Papers Mills Ltd., Muzaffarnagar on 29/04/2024 in connection with adequacy report of ETP

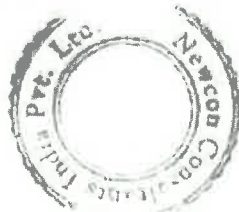
2. MILL BACK GROUND: M/s Bindals Papers Mills Ltd. established in May 2009 as an integrated pulp & paper mill producing 300 MT per day of bleached grade writing & printing paper & photo copier paper using sugarcane bagasse, wheat straw, wood & waste paper as the basic raw materials. With adoption of CPCB charter of 2012 and 2015, mill has upgraded the process by adopting "Bare Minimum Technology (BMT)" and also upgraded the ETP up to tertiary treatment level to comply the above CPCB charter. Further, the mill is under installation of Anaerobic treatment of Wet Washing effluent.

3. OBJECTIVE OF THE STUDY: The present report is to assess the adequacy & specifications of existing effluent treatment plant (ETP) for treatment of effluent to achieve the discharge norms. The report is prepared based on information provided by the mill with respect to water consumption, waste water generation, size of unit of existing ETP and pollution load assessed by analyzing waste water sample collected by Newcon Consultants and Laboratories team during visit to mill.

4. WATER CONSERVATION MEASURES ADOPTED BY MILL:

The mill has implemented various measures and best practices for water conservation. The brief of measures implemented are as follows:

(i) **Installation of raw material wet washing system:** The wet washing plant consists screw pulper, sand and pith filter, conical shape tank followed by clarifier.



Prayash

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No fresh water is used for raw material washing and back water of paper machine is used as make up water.

(ii) **Multistage brown stock washers (BSW):** Four (04) stages BSW are installed and worked using counter current practice for extraction of black liquor & pulp washing. Fresh water is used only for cleaning of wire mesh of pulp washers.

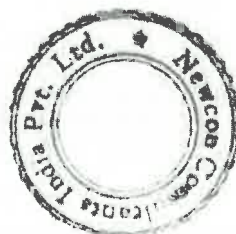
(iii) **Elemental chlorine free bleaching:** The adoption of ECF techniques for bleaching of pulp has drastically reduced pollution load which obviously improve the performance efficiency of effluent treatment plant.

(iv) **Installation of Poly Disc Filter (PDF), DAF & Micro Filter:** PDF, DAF & micro filters are the most efficient technologies to recover the process water from paper machine back water. The clarified water is reused to replace the fresh water required for cleaning of wire & felt at paper machine.

(v) **closing loop of gland cooling & vacuum pump sealing:** The fresh water used for above purpose is collected, clarified & reused in close loop and fresh water is used as makeup water level.

with the adoption of above measures, the fresh water consumption was reduced from 55 m³/T to 20 m³/T and similarly load was also reduced drastically.

Waste water reduction	-	30-35 %
COD load reduction	-	30-35 %
BOD load reduction	-	20-25 %
Colour load reduction	-	40-45 %



Prayalokh



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(vi) **Fresh water consumption:** With use of best practices & technology up-gradation the fresh water consumption has been reduced to 18-20 m³/t paper.

The section wise fresh water consumption is given below,

S. No	Units	Water Consumption, m ³
1	Pulp Mill	1250
2	Paper Machine	3250
3	Boiler & other utility	1500
5	Others	20
6	Total (m ³ /day)	6020 (~20.1 m ³ /t of paper)

(vii) **Waste water generation and its characteristic:** In integrated pulp & paper mill, bleach plant effluent is the major source of pollution load. The main sources of waste water generation are as follows:

Pulp Mill effluent stream (Bleach plant, Paper machine & Recovery plant etc)

Volume, m ³ /day	- 4800
TSS, mg/l	- 500
COD, mg/l	- 2000
BOD, mg/l	- 450
TDS, mg/l	- 2000



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(C) Present effluent treatment practice:

(a) **Wet washing effluent:** The wet washing effluent generated from washing of bagasse/ wheat straw is first filtered for removal of sand & pith and then taken to conical shape collection tank. The over flow collection tank is further treated through clarifier for the removal of suspended matter. The underflow of conical tank is taken to sand re-filter for further removal of sand. In clarifier consortium of specially designed aerobic & anaerobic bacteria culture recently procured from market and approved by "Canadian Food Inspection Agency" (CFIA) is added for degradation of COD & BOD.

The addition of above said culture reduces COD & BOD drastically.

After clarification, all part of clarified wet washing is reused for raw material washing.

Note:- There is no discharge from this section as 100% effluent after clarifying is used back in wet washing plant.



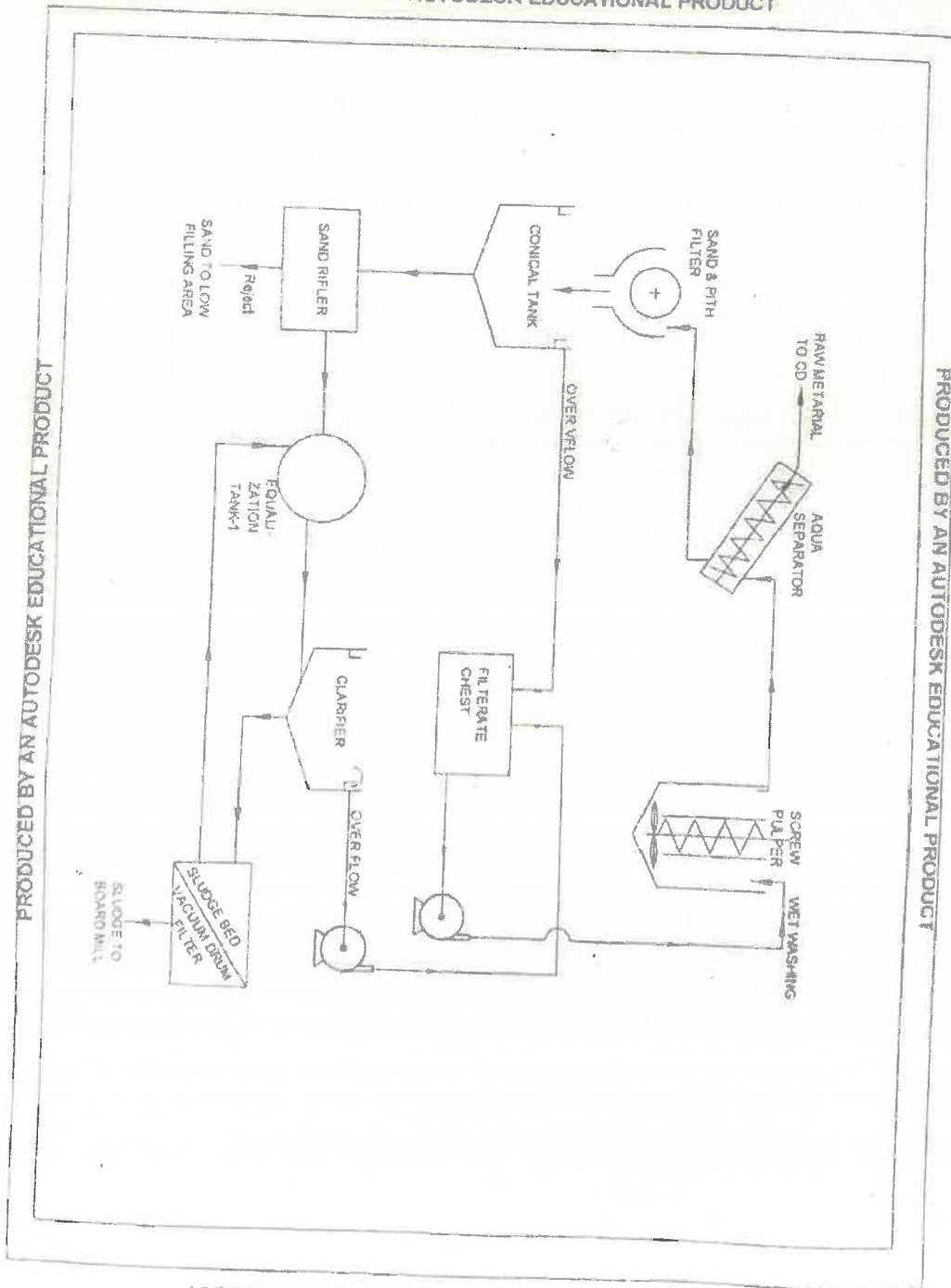
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Fig.1.Wet washing effluent treatment system

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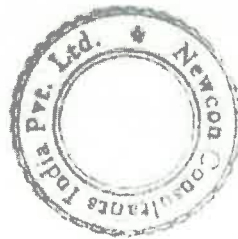
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(b) Pulp Mill effluent stream (From bleach plant through filtering media):

The effluent from this stream after mixing with excess water of Paper Machine & CRP is taken to equalization tank which is equipped with electromagnetic flowmeter and having provision of disintegrator mixing system to avoid the settling of suspended solids.

After equalization, the effluent is treated in DAF followed by secondary & tertiary treatment. The aeration tank is equipped with surface aerators (16x25 HP), Jet aerators (6 Nos of 30 HP each) to maintain the desired level of dissolved oxygen in effluent for obtaining proper efficiency of biomass and consortium of the culture added to aeration tank. After aeration tank the mixed liquor is clarified using secondary clarifier for separation of suspended active bio sludge. The overflow of secondary clarifier is further treated using Physico-chemical process using DAF & Dual Media Filter (DMF) for removal of colour, COD & BOD. The coagulant & flocculant are used for efficient reduction of pollutants. The tertiary treated effluent after achieving the discharge norms is discharged to a local nalla. The part of underflow of secondary clarifier is recycled to maintain desired level of MLSS in aeration tank and rest along with sludge of tertiary treatment is dewatered through sludge filter process & bed for further disposal. The layout of combined effluent stream is given in Fig' 2'



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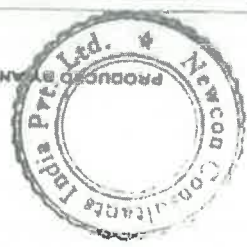
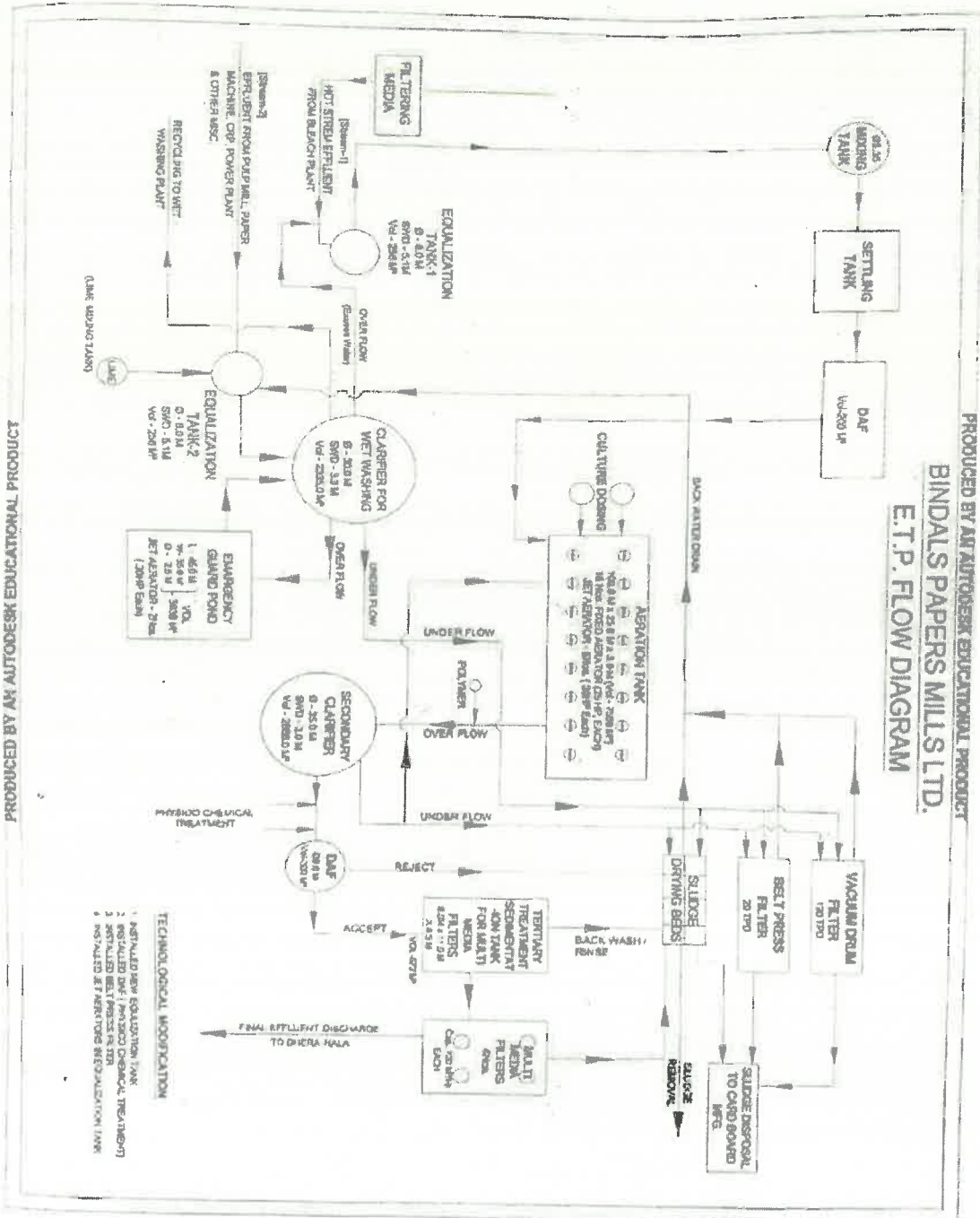
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Fig-2 Main stream effluent treatment scheme



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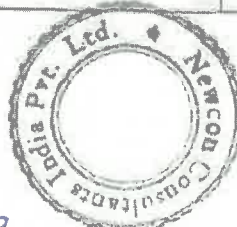
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(C) Adequacy of existing ETP:

Total effluent volume, m ³ /day	- 4800 (200 m ³ /h)
TSS, mg/l	- 500 (2400 Kg/day)
COD, mg/l	- 2000 (9600 kg/day)
BOD, mg/l	- 450 (2160 kg/day)
TDS, mg/l	- 2000 (9600 Kg/day)

ETP details with remarks as per CPCB charter: -

S. No	Units	Specifications	Status/ Remarks
1	Equalization tank with air Mixing system	Capacity- 512 m ³ Dia - 8 m (each)SWD -5.1 m Retention time - 1.6hrs	Adequate
2.	Pre-Treatment System	Mixing Tank- 200m ³ Conical Tank- 200m ³ DAF - 200 m ³	Adequate
2	Aeration tank Surface aerators- 16 x25HP Jet aerators-6 Nos (30 HP) Effluent volume- 7200m ³ /day Including recirculation (100m ³ /hrs) BOD load-90 kg/h	Capacity-7500 m ³ Dimension - 100x25x3 m Ret. time- 25 h (considering influent & Secondary sludge recirculation @ 100m ³ /hr) Oxygen required - kg/hrs -180 Kg/hr Available oxygenation capacity- 480+324=804 kg O ₂ /hr	Capacity of aeration tank & oxygenation capacity of aerators & biomass are adequate to treat the more than the present effluent & BOD load to meet the discharge norms under optimum conditions.
3	Secondary Clarifier	Capacity-2888 m ³	Adequate to handle



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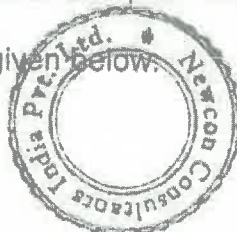
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		Dimension Dia- 35mSWD- 3m Retention time- 9.6hr SOR, m ³ /m ² /day - 7.4 (Permissible SOR-16-20 m ³ /m ² /day)	around effluent15,000m ³ /d morethan the presenteffluentvol ume.
4	Tertiary Treatment System Physico chemical followed by Separation & filtration. -Krofta based DAF technology using coagulant and flocculant -Dual Media Filter	Capacity-300 m ³ Retention time- 55minutes 4x120 m ³ /h.	Adequate to handle the present effluent volume.
5	Sludge handle system -Sludge Press -Sludge beds	Capacity- 25 MT solids/day. Capacity-20x20 m ³	Adequate for dewatering of ETP sludge load.
6	Emergency guard pond for storage of wet washings/back water during breakdown/shut down & reuse in the same process	Capacity-3938 m ³	Adequate to handle app. 19 hrs effluent in case of emergency.

PERFORMANCE OF EXISTING EFFLUENT TREATMENT PLANT

The performance of various units of existing Effluent Treatment Plant (ETP) i.e. DAF, Secondary Biological System, Tertiary Treatment as well as overall performance of ETP was assessed based on the composite samples collected & analysed by Newcon Consultants and Laboratories as given below.



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Performance of Fiber Recovery Units (DAF)

Parameter	ETP Inlet(Equalization Tank)	DAF Outlet	Reduction, %
pH	6.8	6.8	--
TSS, mg/l	500	100	80
COD, mg/l	2000	1400	30
BOD, mg/l	450	378	16
TDS	2000	1900	5

Performance of Secondary Treatment System (ASP + Secondary Clarifier)

Parameter	DAF Outlet(AT Inlet)	SC Outlet(DM Inlet)	Reduction, %
pH	6.8	7.0	--
COD, mg/l	1400	196	86
BOD, mg/l	378	28	92.5
T.S.S.mg/l	100	90	10
TDS	1900	1900	-

Performance of Tertiary Treatment System (Physico Chemical treatment followed by MGF)

Parameter	DMF Inlet	DMF Outlet	Reduction, %
pH	7.0	7.0	--
TSS, mg/l	90	28	68.9
COD, mg/l	196	148	24
BOD, mg/l	28	19	32
TDS	1900	1700	10.5

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The overall performance of Effluent Treatment Plant (ETP) is given below,

Parameter	Raw Effluent(Equ alizationTan k)	Treated Effluent(DMF Outlet)	Reduction, %
pH	6.8	7.0	--
TSS, mg/l	500	28	94.4
COD, mg/l	1400	148	90
BOD, mg/l	450	19	95.7
T.D.S.mg/l	2000	1700	15

OBSERVATIONS:

The following are the observations made during visit to mill with respect to process water conservation & effluent treatment plant.

- a) The Adequacy & Performance evaluation of ETP is found satisfactory.
- b) The mill is manufacturing bleached grade variety i.e. writing & printing paper & photo copier using bagasse, wheat straw & wood.
- c) The mill has installed Electromagnetic flow meter in the inlet of ETP and online monitoring device at the final discharge of ETP. All data of final discharge (pH, TSS, COD, BOD, Colour & Flow (m³/hr) are transferred to CPCB/U PPCB server round the clock. Mill has also provided V-Notch at final discharge.
- d) The unit has conventional chemical recovery system for processing of black Liquor to recover the chemicals for reuse in pulping process and no black liquor is discharged to drain. The chemical recovery unit is equipped with online Mass flow meter as per CPCB Guidelines'
- e) The unit has implemented & adopted "Bare Minimum Technology (BMT)" for process improvement & ETP upgradation for pollution reduction as suggested under CPCB charter'
- f) **process up-gradation:** Adoption of raw material washing system for removal of silica, sand etc. From bagasse & wheat straw to get quality of pulp as well as efficient & smoothly processing of black liquor in pulp the pulp and black



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- liquor for its smooth processing in chemical recovery plant. No fresh water is used in wet washings after clarification clarified water is reused in same loop. The wet washing treatment system consists filter, conical tank and clarifier for removal of pith & sand from back water to make it suitable for reuse.
- g) Mill has started mix consortium of anaerobic & aerobic culture (approved by "Canadian Food Inspection Agency" (CFIA) in clarifier as well as in Aeration Tank for treatment of wet washing effluent and main effluent
- h) **Adoption of elemental chlorine free bleaching (ECF):** Adoption of ECF technology with efficient pulp washers reduced pollution load significantly the bleaching sequence used by mill is DOX D1.
- i) **Installation of PDF, DAF with micro filter for paper machine back water:** The system improved recovery of fibre and reduces escape of fines into effluent and also replace fresh water with clarified back water in showers (L.P), pulp dilution etc.
- j) The adoption of above measures along with best practices reduced water consumption from 13,500 m³/day to around 6,000 m³/day.
- k) **ETP up-gradation:** The ETP has been upgraded up to tertiary treatment level to comply the CPCB charter.
- l) The tertiary treatment system includes Physico chemical system with solids liquids separation using DAF followed by filtration using Dual Media Filter (DMF).
- m) The existing ETP consists equalization tank with provision of agitation, Pre-Treatment process, Aeration tank with surface aerators, Jet aerators for maintaining desired DO level, secondary clarifier, tertiary treatment system (DAF) and dual media filters.
- n) Sludge Filter Press & sludge beds are being used for dewatering of ETP sludge.
- o) The existing clarifier is used for clarification of wet washings generated from raw materials washing since the effluent system (Stream 2) from bleach plant, etc. carries low level of suspended solids i.e. below 500 mg/l.
- p) online Monitoring system is already in place and connected to CPCB/UPPCB server.
- q) The effluent discharge observed was around 15-16 m³/t paper.
- Steps initiated by Mill to reduce water consumption:**





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- a. Bindals Papers Mills started recycling Paper Machine back water after treatment in PDF (Poly disc filter) i.e. cloudy water in to pulp washing offinal bleached washer (D1 stage) and counter current washing at Eop & D₀Washer.
- b. Mill is treating remaining cloudy water in DAF followed by Micro filter and itis very clear water having TSS around 10-12 mg/l and is being used in Paper Machine process (Wire & Felt LPshowers).
- c. Mill is recycling wet washing effluent after neutralizing, sedimentation process back in to raw material washing and further Mill is going to install Anaerobic Digester to recover Bio- gas which will be used in Lime Kiln as afuel.
- d. Chemical Recovery Plant, Power house are on ZLD through micro filter and entire waste water is recycled within process.
- e. Pump sealing water is also recovered in vibro screen and recycled back into pump sealing.
- f. Further there is no discharge from Paper machine to ETP, to make "Zero Liquid discharge", Mill have installed Sedicell & tube settler in Paper Machine process.
- g. Centricleaner reject are treated at Hills screen followed by belt filter press and solid waste is sent to sister concern for board manufacturing and waste water is treated at Tube settler and finally sent to DAF.
- h. All rejects from plant are treated in Sedicell and accept water is sent to Cloudy water while solid part is sent to hill screen for treatment along with centricleaner reject.
- i. So, entire waste water is treated & recycled in Pulp Mill & Paper machine/Stock Preparation, there is "zero liquid discharge" from paper Machineto ETP.

Remarks:

Based on information given by Mill for water consumption, size & specification of ETP units, and pollution load assessed by Newcon Consultants and Laboratories during visit to Mill. Following are the remarks with respect to adequacy of existing



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ETP:

The existing ETP consisting equalization tank, Pre -Treatment Process, Aeration tank, secondary clarifier', tertiary treatment, sludge handling system is adequate and sufficient for treatment of present effluent & BOD load to achieve the discharge norms provided ETP operates under optimum condition.

- a) The existing clarifier is used for treatment of back water/wet washings from raw material washing.
- b) The emergency guard pond (Capacity-3,938m³) used for storage of entire effluent in case of any break down etc.
- c) Mill is advised to install Anaerobic treatment system for wet washing effluent at the earliest to further improve the quality i.e. we into COD & BOD for recycling.
- d) Mill is also advised to operate ETP under optimum conditions to achieve the discharge norms on regular basis.

For Newcon Consultants India Pvt. Ltd.
Rajesh



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ADEQUACY EVALUATION REPORT FOR ETP

ON

M/s TIRUPATIBAALAJI FIBERRS PRIVATE LIMITED

9th Bhopa road, MUZAFFARNAGAR (U.P.) 251001

Prepared By:

M/S NEWCON CONSULTANTS INDIA PVT. LTD.

&

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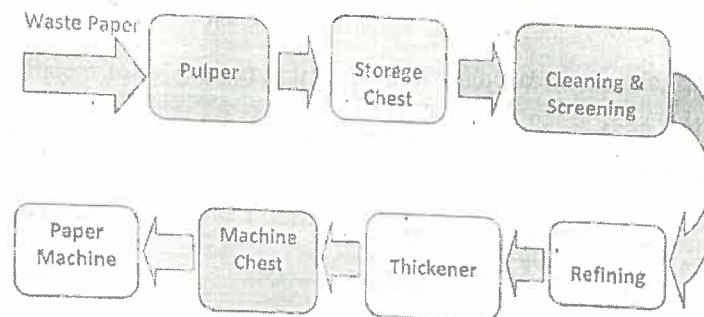
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1. SCOPE OF THE STUDY: Adequacy assessment & evaluation of individual treatment units. Visit done in M/s Tirupatibaalaji Fiberris Private Limited, Muzaffarnagar on 15/08/2024 in connection with adequacy report of ETP

2. MILL BACK GROUND: Tirupatibaalaji Fiberris Private Limited in Bhopa Road, Muzaffarnagar is known to satisfactorily cater to the demands of its customer base. Customer centricity is at the core of Tirupatibaalaji Fiberris Private Limited in Bhopa Road, Muzaffarnagar and it is this belief that has led the business to build long-term relationships. Ensuring a positive customer experience, making available goods and/or services that are of top-notch quality is given prime importance. It has total production capacity of 150 MT/Day including writing, printing and kraft paper.



3. OBJECTIVE OF THE STUDY: The present report is to assess the adequacy & specifications of existing effluent treatment plant (ETP) for treatment of effluent to achieve the discharge norms. The report is prepared based on information provided by the mill with respect to water consumption, waste water generation, size of unit of existing ETP and pollution load assessed by analysing waste water sample collected by Newcon Consultants and Laboratories team during visit to mill.





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4. WATER CONSERVATION MEASURES ADOPTED BY MILL:

The mill has implemented various measures and best practices for water conservation. The brief of measures implemented are as follows:

(i) **Closing loop of gland cooling & vacuum pump sealing:** The fresh water used for above purpose is collected, clarified & reused in close loop and fresh water is used as makeup water level. With the adoption of above measures, the fresh water consumption was reduced from 10 m³/T to 3.81 m³/T approx and similarly load was also reduced drastically.

Specific Water Consumption

Month	Production (MT)	Industrial Water Uses (m ³)	Specific Water Consumption (m ³ /MT)
Jan-24	2085.436	8744	4.19
Feb-24	2130.59	7138	3.35
Mar-24	2032.38	8608	4.23
Apr-24	2174.846	7780	3.57
May-24	1856.522	7730	4.16
Jun-24	2320.265	8044	3.46
Net	12600.039	48044	3.813

(ii) **Fresh water consumption:** With use of best practices & technology up-gradation the fresh water consumption has been reduced to 3.81 m³/t paper.





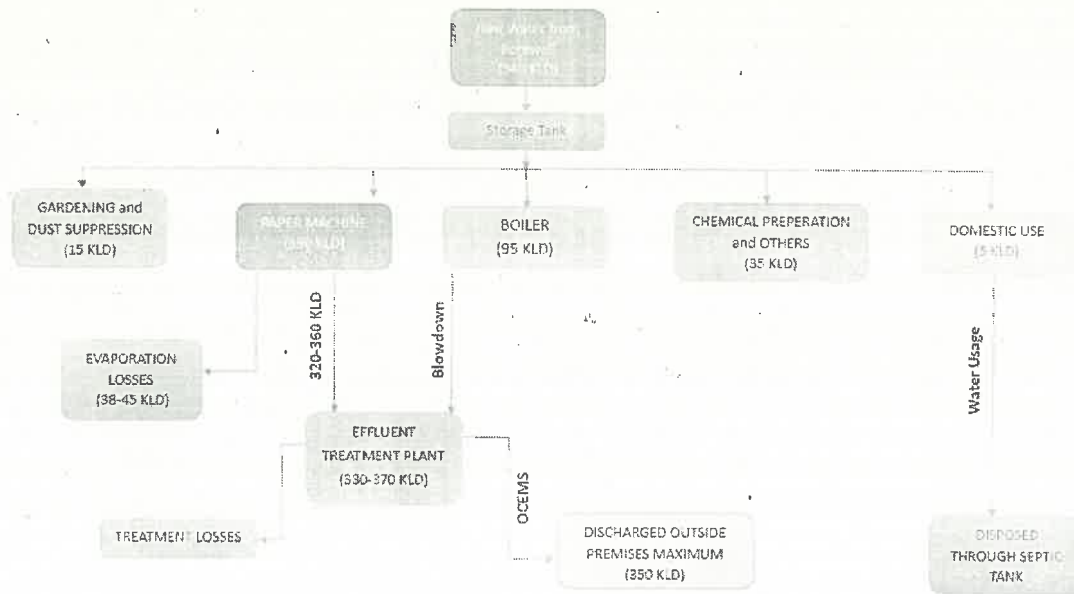
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The section wise fresh water consumption is given below,

S. No	Units	Water Consumption, m ³
1	Pulp Mill	Recycled water
2	Paper Machine	390
3	Boiler, Chemical Preparation and other utility	130
5	Others	20
6	Total (m ³ /day)	540



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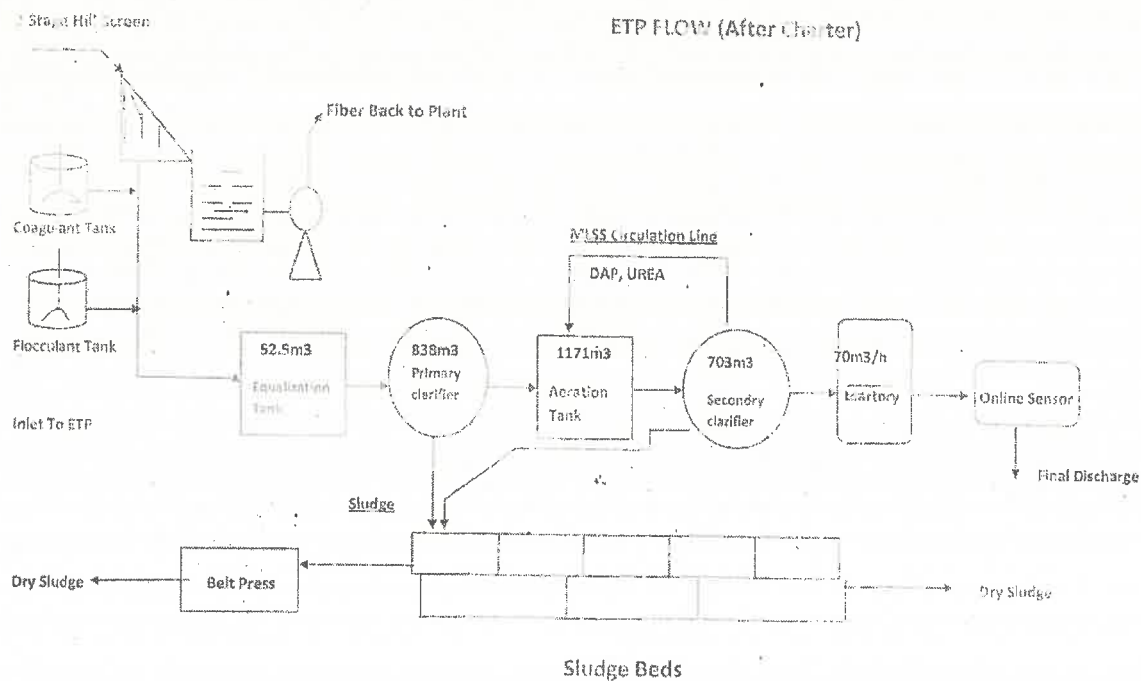
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(iii) **Waste water generation and norms:** The waste water generation after recycling is as under as per CPCB Charter for water recycling and Pollution prevention in Pulp and Paper Industries in Ganga River Basin.

S. No	Parameter	Discharge Norms
1.	Wastewater Volume, m ³ /day	350
2.	TSS, mg/l	<30
3.	COD, mg/l	<150
4.	BOD, mg/l	<20
5.	Colour PCU	<150

(a) PRESENT EFFLUENT TREATMENT PRACTICE:



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The effluent from various sections & excess water of Paper Machine is taken to equalization tank after hill screen (Fibre recovery) which is having provision of disintegrator mixing system to avoid the settling of suspended solids. After equalization, the effluent is treated in primary, secondary & tertiary treatment. The aeration tank is equipped with fine air diffuser system to maintain the desired level of dissolved oxygen in effluent for obtaining proper efficiency of biomass and consortium of the culture added to aeration tank. After aeration tank the mixed liquor is clarified using secondary clarifier for separation of suspended active bio sludge. The overflow of secondary clarifier is further treated using Tube settler & Dual Media Filter (DMF) for removal of colour, COD & BOD. The coagulant & flocculant are used for efficient reduction of pollutants. The tertiary treated effluent after achieving the discharge norms is discharged to a local drain. The part of underflow of secondary clarifier is recycled to maintain desired level of MLSS in aeration tank and rest along with sludge of tertiary treatment is de-watered through sludge belt press process & bed for further disposal. The layout of combined effluent stream is given.

(b) Adequacy of existing ETP:

Total effluent volume, m ³ /day (as per consent)	- 350 (15 m ³ /hr)
TSS, mg/l	- 2700
COD, mg/l	- 2100
BOD, mg/l	- 720
TDS, mg/l	- 2010

**NOTE: – It was found during visit that the unit is using fresh water @ 280 m³/day & discharging approximately 115 m³/day as treated waste water. It was not operating on full efficiency.





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ETP details with remarks as per CPCB charter:

S. No	Units	Specifications	Status/ Remarks
1	Hill Screen		
2.	Equalization tank with air Mixing system	Capacity- 52.5 m3 Retention time – 3.5 hrs	Adequate
3	Primary Clarifier	Capacity – 838 m3 Dia – 17 m SWD – 3.7 m Retention time – 55 hours	Adequate to handle effluent more than the design discharge
	Aeration tank with fine air diffuser system	Capacity- 1171 m3 Ret. time- 78 hr Available oxygenation Capacity is more than oxygen required.	Capacity of aeration tank & oxygenation capacity of aerators & biomass are adequate to treat more than the present effluent & BOD load to meet the discharge norms under optimum conditions. Advised to add one extra blower as standby.
4	Secondary Clarifier	Capacity- 703 m3 Dia-16 m SWD-3.5 m Retention time- 46.8 hr	Adequate to handle around effluent more than the present effluent volume. (Permissible SOR-16-20 m3/m2/day)
5	Tertiary Treatment System	Capacity- 70 m ³ /hr	Adequate to handle the present effluent volume.
7	Sludge handle system -Sludge Belt Mould -Sludge beds	Available	Adequate for dewatering of ETP sludge load.
8	OCEMS	Available with online flow meter	Adequate as per requirement





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OBSERVATIONS:

The following are the observations made during visit to mill with respect to process water conservation & effluent treatment plant.

(A) The mill is manufacturing kraft/writing/printing using waste paper as raw material.

(B) The mill has installed V Notch in the inlet of ETP and online monitoring device at the final discharge of ETP. All data of final discharge (pH, TSS, COD, BOD, Colour & Flow (m³/hr) are transferred to CPCB/UPPCB server round the clock. Mill has also provided V-Notch at final discharge:

(C) The unit has implemented & adopted "Bare Minimum Technology (BMT)" for process improvement & ETP upgradation for pollution reduction as suggested under CPCB charter'

(D) The adoption of above measures along with best practices reduced water consumption from 10 m³/day to around 3.8 m³/day.

(E) **ETP up-gradation:** The ETP has been upgraded up to tertiary treatment level to comply the CPCB charter.

(G) The tertiary treatment system includes filtration using Dual Media Filter (DMF).

(H) The existing ETP consists equalization tank with provision of agitation, Pre-Treatment process, Aeration tank with diffusers for maintaining desired DO level, secondary clarifier, tertiary treatment system (DAF) i.e. dual media filters.

(I) Sludge Filter Press & sludge beds are being used for dewatering of ETP sludge.

(J) online Monitoring system is already in place and connected to CPCB/UPPCB server.

(K) The effluent discharge observed was around 2.2 m³ /t paper'





Newcon Consultants India Pvt. Ltd

Environmental Compliances, Groundwater Studies, Impact
Assessments and Design of Pollution Control Systems

Office: 204-205 Ansal Sumedha Complex, RDC Rainagar, Ghaziabad (201002) U.P.
Mobile: 8512842764, 9990058896, Email: newcon@gmail.com

Steps initiated by Mill to reduce water consumption:

- Tirupatibaalaji Fiberris Private Limited started recycling water at Paper Machine back water after physiochemical treatment.
- Pump sealing water is also recovered in vibro screen and recycled back into pump sealing.

Remarks:

Based on information given by Mill for water consumption, size & specification of ETP units; and pollution load assessed by Newcon Consultants and Laboratories during visit to Mill. Following are the remarks with respect to adequacy of existing ETP:

The existing ETP consisting equalization tank, Pre -Treatment Process, Primary Treatment, Aeration tank, secondary clarifier', tertiary treatment, sludge handling system is adequate and sufficient for treatment of present effluent & BOD load to achieve the discharge norms provided ETP operates under optimum condition.

- a) Mill is advised to install Anaerobic treatment system to further improve the quality i.e. COD mainly & BOD for recycling.
- b) Mill is also advised to operate ETP under optimum conditions to achieve the discharge norms on regular basis.





REGIONAL LABORATORY MuzaffarNagar
UTTAR PRADESH POLLUTION CONTROL BOARD
 Kamal Cinema Building, Railway Road, Muzaffarnagar

TEST REPORT: WASTE WATER LABORATORY

Ref No: 28048140/MuzaffarNagar/2024

Date: 07/09/2024

- 1- **Name of Industry:** SHREE SIDHBALI PAPER MILLS PRIVATE LIMITED, 9TH KM BHOPA ROAD MUZAFFARNAGAR, DISTT- MUZAFFARNAGAR (UP), MUZAFFAR NAGAR, 251001
- 2- **Address of Industry:** 9TH KM BHOPA ROAD MUZAFFARNAGAR, DISTT- MUZAFFARNAGAR (UP), MUZAFFAR NAGAR, 251001
- 3- **District:** Muzaffarnagar
- 4- **Description about sampling point:** Final Outlet Discharge of E.T.P.
- 5- **Type of Sample (Grab/Composite/Integrated):** Grab
- 6- **Sample Collected By:** (1) Inraan Ali: Environment Engineer (2) Maneesh Kumar: J.R.F
- 7- **Colour and Odour:** Colourless Odourfree/No Specific
- 8- **Quantity and Packing:** 2.0 Ltrs PVC
- 9- **Date of Sample Collection:** 03/09/2024
- 10- **Analysis Indented by:** RO MuzaffarNagar
- 11- **Date of sample receipt in Lab:** 03/09/2024

Parameter/Method Name	Unit	Results	Standard	Detection Range
pH, APHA 24th Ed. 4500B: 2023	-	7.3	6.5-8.5	02-12
Suspended Solids, APHA 24th Ed. 2540 D Total Suspended Solids dried at 103-105 °C 2023	mg/l	26	50	10-20000 mg/l
Dissolved Solids, APHA 24th Ed. 2540 C Total Dissolved Solids dried at 180 °C 2023	mg/l	1240	1600	10- 50000 mg/l
Total Solids, APHA 24th Ed. 2540 B: 2023	mg/l	1266	Not Specified	10- 50000 mg/l
BOD, APHA 24th Ed. 3 day 27 °C IS 3025 (Part 44): 1993 Bio 2023	mg/l	18.0	30	1.0 -50000 mg/l
COD, APHA 24th Ed. 5220 B Open Reflux Method 2023	mg/l	120	250	5.0 -100000 mg/l

Reference- (1) General Standards for discharge of environmental pollutants are as part-A Effluent (Schedule-VI), The Environment (Protection) Rules, 1986 source: www.epcb.nic.in/GeneralStandards.pdf. Besides these standards, refer EPA standards for specific purpose

*Non-NABL Parameters.

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

Remark: At the time of inspection industry found operational.

Analysed by-
[Diwakar Dev Gahlot(JRF), Ravish Pratap Singh(JRF)]

Authorized by

Ankit Singh (RO)

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REGIONAL LABORATORY MuzaffarNagar
UTTAR PRADESH POLLUTION CONTROL BOARD

Kamal Cinema Building, Railway Road, Muzaffarnagar

TEST REPORT: WASTE WATER LABORATORY

Ref No: 28048165/MuzaffarNagar/2024

Date: 07/09/2024

- 1- Name of Industry: BINDALS PAPERS MILLS LTD, 8th Km Stone , Bhopa Road , Muzaffarnagar, MUZAFFAR NAGAR, 251001
- 2- Address of Industry: 8th Km Stone , Bhopa Road , Muzaffarnagar, MUZAFFAR NAGAR, 251001
- 3- District: Muzaffarnagar
- 4- Description about sampling point: Final Outlet Discharge of E.T.P.
- 5- Type of Sample (Grab/Composite/Integrated): Grab
- 6- Sample Collected By: (1) Imraan Ali: Environment Engineer (2) Maneesh Kumar: J.R.F
- 7- Colour and Odour: Colourless Odourfree/No Specific
- 8- Quantity and Packing: 2.0 Ltrs PVC
- 9- Date of Sample Collection: 03/09/2024
- 10- Analysis Indented by: RO MuzaffarNagar
- 11- Date of sample receipt in Lab: 03/09/2024

Parameter/Method Name	Unit	Results	Standard	Detection Range
pH. APHA 24th Ed. 4500B: 2023	-	7.4	6.5-8.5	02-12
Suspended Solids , APHA 24th Ed. 2540 D Total Suspended Solids dried at 103-105 °C 2023	mg/l	24	50	10-20000 mg/l
Dissolved Solids. APHA 24th Ed. 2540 C Total Dissolved Solids dried at 180 °C 2023	mg/l	1264	1600	10- 50000 mg/l
Total Solids, APHA 24th Ed. 2540 B: 2023	mg/l	1288	Not Specified	10- 50000 mg/l
BOD. APHA 24th Ed. 3 day 27 °C IS 3025 (Part 44): 1993 Bio 2023	mg/l	19.0	30	1.0 -50000 mg/l
COD, APHA 24th Ed. 5220 B Open Reflux Method 2023	mg/l	144	250	5.0 -100000 mg/l

Reference- (1) General Standards for discharge of environmental pollutants are as part-A Effluent (Schedule-VI). The Environment (Protection) Rules, 1986 source: www.epcb.nic.in/GeneralStandards.pdf. Besides these standards, refer EPA standards for specific purpose

*Non-NABL Parameters.

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.

Remark: At the time of inspection industry found operational.

Analysed by-
[Diwakar Dev Gahlot(JRF), Ravish
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Ankit Singh (RO)

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REGIONAL LABORATORY MuzaffarNagar
UTTAR PRADESH POLLUTION CONTROL BOARD
 Kamal Cinema Building, Railway Road, Muzaffarnagar

TEST REPORT: WASTE WATER LABORATORY

Ref No: 28048424/MuzaffarNagar/2024

Date: 07/09/2024

- 1- Name of Industry: TIRUPATIBAALAJI FIBERRS PRIVATE LIMITED, 9 TH KM BHOPA ROAD
- 2- Address of Industry: 9 TH KM BHOPA ROAD
- 3- District: Muzaffarnagar
- 4- Description about sampling point: Final Outlet Discharge of E.T.P.
- 5- Type of Sample (Grab/Composite/Integrated): Grab
- 6- Sample Collected By: (1)Imraan Ali: Environment Engineer (2)Maneesh Kumar: J.R.F
- 7- Colour and Odour: Colourless Odourfree/No Specific
- 8- Quantity and Packing: 2.0 Ltrs PVC
- 9- Date of Sample Collection: 03/09/2024
- 10- Analysis Indented by: RO MuzaffarNagar
- 11- Date of sample receipt in Lab: 03/09/2024

Parameter/Method Name	Unit	Results	Standard	Detection Range
pH, APHA 24th Ed. 4500B: 2023	-	7.5	6.5-8.5	02-12
Suspended Solids, APHA 24th Ed. 2540 D Total Suspended Solids dried at 103-105 °C 2023	mg/l	26	50	10-20000 mg/l
Dissolved Solids, APHA 24th Ed. 2540 C Total Dissolved Solids dried at 180 °C 2023	mg/l	1148	1600	10- 50000 mg/l
Total Solids, APHA 24th Ed. 2540 B: 2023	mg/l	1174	Not Specified	10- 50000 mg/l
BOD, APHA 24th Ed. 3 day 27 °C IS 3025 (Part 44): 1993 Bio 2023	mg/l	19.0	30	1.0 -50000 mg/l
COD, APHA 24th Ed. 5220 B Open Reflux Method 2023	mg/l	136	250	5.0 -100000 mg/l

Reference- (1) General Standards for discharge of environmental pollutants are as part-A Effluent (Schedule-VI), The Environment (Protection) Rules, 1986 source: www.epcb.nic.in/GeneralStandards.pdf. Besides these standards, refer EPA standards for specific purpose

*Non-NABL Parameters.

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.

Remark: At the time of inspection industry found operational.

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REGIONAL LABORATORY MuzaffarNagar
UTTAR PRADESH POLLUTION CONTROL BOARD
 Kamal Cinema Building, Railway Road, Muzaffarnagar

TEST REPORT: WASTE WATER LABORATORY

Ref No: 28048-439/MuzaffarNagar/2024

Date: 07/09/2024

- 1- **Name of Industry:** SHREE BHAGESHWARI PAPERS PVT LTD UNIT 1, 9th Km Stone . Bhopa Road, Muzaffarnagar, MUZAFFAR NAGAR, 251001
- 2- **Address of Industry:** 9th Km Stone , Bhopa Road, Muzaffarnagar, MUZAFFAR NAGAR, 251001
- 3- **District:** Muzaffarnagar
- 4- **Description about sampling point:** Final Outlet Discharge of E.T.P.
- 5- **Type of Sample (Grab/Composite/Integrated):** Grab
- 6- **Sample Collected By:** (1) Imraan Ali; Environment Engineer (2) Maneesh Kumar; J.R.F
- 7- **Colour and Odour:** Colourless Odourfree/No Specific
- 8- **Quantity and Packing:** 2.0 Ltrs PVC
- 9- **Date of Sample Collection:** 03/09/2024
- 10- **Analysis Indented by:** RO MuzaffarNagar
- 11- **Date of sample receipt in Lab:** 03/09/2024

Parameter/Method Name	Unit	Results	Standard	Detection Range
pH, APHA 24th Ed. 4500B: 2023	-	7.7	6.5-8.5	02-12
Suspended Solids , APHA 24th Ed. 2540 D Total Suspended Solids dried at 103-105 °C 2023	mg/l	24	50	10-20000 mg/l
Dissolved Solids, APHA 24th Ed. 2540 C Total Dissolved Solids dried at 180 °C 2023	mg/l	718	1600	10- 50000 mg/l
Total Solids, APHA 24th Ed. 2540 B: 2023	mg/l	732	Not Specified	10- 50000 mg/l
BOD, APHA 24th Ed. 3 day 27 °C IS 3025 (Part 44): 1993 Bio 2023	mg/l	14.0	30	1.0 -50000 mg/l
COD, APHA 24th Ed. 5220 B Open Reflux Method 2023	mg/l	136	250	5.0 -100000 mg/l

Reference- (1) General Standards for discharge of environmental pollutants are as part-A Effluent (Schedule-VI), The Environment (Protection) Rules, 1986 source: www.epcb.nic.in/GeneralStandards.pdf. Besides these standards, refer EPA standards for specific purpose

*Non-NABL Parameters.

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.

Remark: At the time of inspection industry found operational.

Analysed by-
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REGIONAL LABORATORY MuzaffarNagar
UTTAR PRADESH POLLUTION CONTROL BOARD
 Kamal Cinema Building, Railway Road, Muzaffarnagar

TEST REPORT: WASTE WATER LABORATORY

Ref No: 28048452/MuzaffarNagar/2024

Date: 07/09/2024

- 1- **Name of Industry:** SHREE BHAGESHWARI PAPERS PVT LTD UNIT 2, 9th Km Stone , Bhopa Road , Muzaffarnagar, MUZAFFAR NAGAR, 251001
- 2- **Address of Industry:** 9th Km Stone , Bhopa Road , Muzaffarnagar, MUZAFFAR NAGAR, 251001
- 3- **District:** Muzaffarnagar
- 4- **Description about sampling point:** Final Outlet Discharge of E.T.P.
- 5- **Type of Sample (Grab/Composite/Integrated):** Grab
- 6- **Sample Collected By:** (1) Imraan Ali; Environment Engineer (2) Maneesh Kumar; J.R.F
- 7- **Colour and Odour:** Colourless Odourfree/No Specific
- 8- **Quantity and Packing:** 2.0 Ltrs PVC
- 9- **Date of Sample Collection:** 03/09/2024
- 10- **Analysis Indented by:** RO MuzaffarNagar
- 11- **Date of sample receipt in Lab:** 03/09/2024

Parameter/Method Name	Unit	Results	Standard	Detection Range
pH, APHA 24th Ed. 4500B: 2023	-	7.6	6.5-8.5	02-12
Suspended Solids , APHA 24th Ed. 2540 D Total Suspended Solids dried at 103-105 °C 2023	mg/l	22	50	10-20000 mg/l
Dissolved Solids, APHA 24th Ed. 2540 C Total Dissolved Solids dried at 180 °C 2023	mg/l	1060	1600	10- 50000 mg/l
Total Solids, APHA 24th Ed. 2540 B: 2023	mg/l	1082	Not Specified	10- 50000 mg/l
BOD, APHA 24th Ed. 3 day 27 °C IS 3025 (Part 44): 1993 Bio 2023	mg/l	17.0	30	1.0 -50000 mg/l
COD, APHA 24th Ed. 5220 B Open Reflux Method 2023	mg/l	120	250	5.0 -100000 mg/l

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

*Non-NABL Parameters.

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Remark: At the time of inspection industry found operational.

Analysed by-
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REGIONAL LABORATORY MuzaffarNagar
UTTAR PRADESH POLLUTION CONTROL BOARD
 Kamal Cinema Building, Railway Road, Muzaffarnagar

TEST REPORT: WASTE WATER LABORATORY

Ref No: 28048469/MuzaffarNagar/2024

Date: 07/09/2024

- 1- Name of Industry: TEHRI PULP AND PAPER LTD UNIT 1, 9th K.M stone Bhopa Road Muzaffarnagar.MUZAFFAR NAGAR,251001
- 2- Address of Industry: 9th K.M stone Bhopa Road Muzaffarnagar.MUZAFFAR NAGAR,251001
- 3- District: Muzaffarnagar
- 4- Description about sampling point: Final Outlet Discharge of E.T.P.
- 5- Type of Sample (Grab/Composite/Integrated): Grab
- 6- Sample Collected By: (1)Imraan Ali; Environment Engineer (2)Manceesh Kumar; J.R.F
- 7- Colour and Odour: Colourless Odourfree/No Specific
- 8- Quantity and Packing: 2.0 Ltrs PVC
- 9- Date of Sample Collection: 03/09/2024
- 10- Analysis Indented by: RO MuzaffarNagar
- 11- Date of sample receipt in Lab: 03/09/2024

Parameter/Method Name	Unit	Results	Standard	Detection Range
pH. APHA 24th Ed. 4500B: 2023	-	7.6	6.5-8.5	02-12
Suspended Solids, APHA 24th Ed. 2540 D Total Suspended Solids dried at 103-105 °C 2023	mg/l	22	50	10-20000 mg/l
Dissolved Solids. APHA 24th Ed. 2540 C Total Dissolved Solids dried at 180 °C 2023	mg/l	1036	1600	10- 50000 mg/l
Total Solids, APHA 24th Ed.2540 B: 2023	mg/l	1058	Not Specified	10- 50000 mg/l
BOD. APHA 24th Ed. 3 day 27 °C IS 3025 (Part 44): 1993 Bio 2023	mg/l	15.0	30	1.0 -50000 mg/l
COD, APHA 24th Ed. 5220 B Open Reflux Method 2023	mg/l	128	250	5.0 -100000 mg/l

Reference- (1) General Standards for discharge of environmental pollutants are as part-A Effluent (Schedule-VI). The Environment (Protection) Rules, 1986 source: www.epcb.nic.in/GeneralStandards.pdf. Besides these standards, refer EPA standards for specific purpose

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Remark: At the time of inspection industry found operational.

Analysed by-
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REGIONAL LABORATORY MuzaffarNagar
UTTAR PRADESH POLLUTION CONTROL BOARD
 Kamal Cinema Building, Railway Road, Muzaffarnagar

TEST REPORT: WASTE WATER LABORATORY

Ref No: 28048481/MuzaffarNagar/2024

Date: 07/09/2024

- 1- **Name of Industry:** TEHRI PULP AND PAPER LTD UNIT 2, 9th Km Stone, Bhopa Road, Muzaffarnagar. MUZAFFAR NAGAR, 251001
- 2- **Address of Industry:** 9th Km Stone, Bhopa Road, Muzaffarnagar, MUZAFFAR NAGAR, 251001
- 3- **District:** Muzaffarnagar
- 4- **Description about sampling point:** Final Outlet Discharge of E.T.P.
- 5- **Type of Sample (Grab/Composite/Integrated):** Grab
- 6- **Sample Collected By:** (1) Imraan Ali; Environment Engineer (2) Manecsh Kumar; J.R.F
- 7- **Colour and Odour:** Colourless Odourfree/No Specific
- 8- **Quantity and Packing:** 2.0 Ltrs PVC
- 9- **Date of Sample Collection:** 03/09/2024
- 10- **Analysis Indented by:** RO MuzaffarNagar
- 11- **Date of sample receipt in Lab:** 03/09/2024

Parameter/Method Name	Unit	Results	Standard	Detection Range
pH, APHA 24th Ed. 4500B: 2023	-	7.4	6.5-8.5	02-12
Suspended Solids, APHA 24th Ed. 2540 D Total Suspended Solids dried at 103-105 °C 2023	mg/l	18	50	10-20000 mg/l
Dissolved Solids, APHA 24th Ed. 2540 C Total Dissolved Solids dried at 180 °C 2023	mg/l	1090	1600	10- 50000 mg/l
Total Solids, APHA 24th Ed. 2540 B: 2023	mg/l	1108	Not Specified	10- 50000 mg/l
BOD, APHA 24th Ed. 3 day 27 °C IS 3025 (Part 44): 1993 Bio 2023	mg/l	16.0	30	1.0 -50000 mg/l
COD, APHA 24th Ed. 5220 B Open Reflux Method 2023	mg/l	120	250	5.0 -100000 mg/l

Reference- (1) General Standards for discharge of environmental pollutants are as part-A Effluent (Schedule-VI). The Environment (Protection) Rules, 1986 source: www.epcb.nic.in/GeneralStandards.pdf. Besides these standards, refer EPA standards for specific purpose

*Non-NABL Parameters.

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Remark: At the time of inspection industry found operational.

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REGIONAL LABORATORY MuzaffarNagar
UTTAR PRADESH POLLUTION CONTROL BOARD
 Kamal Cinema Building, Railway Road, Muzaffarnagar

TEST REPORT: WASTE WATER LABORATORY

Ref No: 28048510/MuzaffarNagar/2024

Date: 07/09/2024

- 1- Name of Industry: BINDLAS DUPLUX LTD UNIT 1, 10.6 KM STONE VILL-JATT MUJHERA, BHOPA ROAD
- 2- Address of Industry: 10.6 KM STONE VILL-JATT MUJHERA, BHOPA ROAD
- 3- District: Muzaffarnagar
- 4- Description about sampling point: Final Outlet Discharge of E.T.P.
- 5- Type of Sample (Grab/Composite/Integrated): Grab
- 6- Sample Collected By: (1) Imraan Ali; Environment Engineer (2) Maneesh Kumar: J.R.F
- 7- Colour and Odour: Colourless Odourfree/No Specific
- 8- Quantity and Packing: 2.0 Ltrs PVC
- 9- Date of Sample Collection: 03/09/2024
- 10- Analysis Indented by: RO MuzaffarNagar
- 11- Date of sample receipt in Lab: 03/09/2024

Parameter/Method Name	Unit	Results	Standard	Detection Range
pH. APHA 24th Ed. 4500B: 2023	-	7.4	6.5-8.5	02-12
Suspended Solids, APHA 24th Ed. 2540 D Total Suspended Solids dried at 103-105 °C 2023	mg/l	18	50	10-20000 mg/l
Dissolved Solids. APHA 24th Ed. 2540 C Total Dissolved Solids dried at 180 °C 2023	mg/l	1140	1600	10- 50000 mg/l
Total Solids. APHA 24th Ed. 2540 B: 2023	mg/l	1158	Not Specified	10- 50000 mg/l
BOD. APHA 24th Ed. 3 day 27 °C IS 3025 (Part 44): 1993 Bio 2023	mg/l	14.0	30	1.0 -50000 mg/l
COD. APHA 24th Ed. 5220 B Open Reflux Method 2023	mg/l	112	250	5.0 -100000 mg/l

Reference- (1) General Standards for discharge of environmental pollutants are as part-A Effluent (Schedule-VI). The Environment (Protection) Rules, 1986 source: www.epcb.nic.in/GeneralStandards.pdf. Besides these standards, refer EPA standards for specific purpose

*Non-NABL Parameters.

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.

Remark: At the time of inspection industry found operational.

Analysed by-
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REGIONAL LABORATORY MuzaffarNagar
UTTAR PRADESH POLLUTION CONTROL BOARD
 Kamal Cinema Building, Railway Road, Muzaffarnagar

TEST REPORT: WASTE WATER LABORATORY

Ref No: 28048521/MuzaffarNagar/2024

Date: 07/09/2024

- 1- Name of Industry: BINDLAS DUPLUX LTD UNIT 2, 10.6th Km stone , Bhopa Road . Muzaffarnagar.MUZAFFAR NAGAR,251001
- 2- Address of Industry: 10.6th Km stone , Bhopa Road . Muzaffarnagar.MUZAFFAR NAGAR,251001
- 3- District: Muzaffarnagar
- 4- Description about sampling point: Final Outlet Discharge of E.T.P.
- 5- Type of Sample (Grab/Composite/Integrated): Grab
- 6- Sample Collected By: (1)Imraan Ali: Environment Engineer (2)Manceesh Kumar; J.R.F
- 7- Colour and Odour: Colourless Odourfree/No Specific
- 8- Quantity and Packing: 2.0 Ltrs PVC
- 9- Date of Sample Collection: 03/09/2024
- 10- Analysis Indented by: RO MuzaffarNagar
- 11- Date of sample receipt in Lab: 03/09/2024

Parameter/Method Name	Unit	Results	Standard	Detection Range
pH. APHA 24th Ed. 4500B: 2023	-	7.6	6.5-8.5	02-12
Suspended Solids , APHA 24th Ed. 2540 D Total Suspended Solids dried at 103-105 °C 2023	mg/l	22	50	10-20000 mg/l
Dissolved Solids. APHA 24th Ed. 2540 C Total Dissolved Solids dried at 180 °C 2023	mg/l	994	1600	10- 50000 mg/l
Total Solids, APHA 24th Ed.2540 B: 2023	mg/l	1016	Not Specified	10- 50000 mg/l
BOD. APHA 24th Ed. 3 day 27 °C IS 3025 (Part 44): 1993 Bio 2023	mg/l	19.0	30	1.0 -50000 mg/l
COD, APHA 24th Ed. 5220 B Open Reflux Method 2023	mg/l	128	250	5.0 -100000 mg/l

Reference- (1) General Standards for discharge of environmental pollutants are as part-A Effluent (Schedule-VI). The Environment (Protection) Rules, 1986 source: www.epcb.nic.in/GeneralStandards.pdf. Besides these standards, refer EPA standards for specific purpose

*Non-NABL Parameters.

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.

Remark: At the time of inspection industry found operational.

Analysed by-
[Diwakar Dev Gahlot(JRF), Ravish Pratap Singh(JRF)]

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REGIONAL LABORATORY MuzaffarNagar
UTTAR PRADESH POLLUTION CONTROL BOARD
 Kamal Cinema Building,Railway Road, Muzaffarnagar

TEST REPORT: WASTE WATER LABORATORY

Ref No: 28048530/MuzaffarNagar/2024

Date:07/09/2024

- 1- **Name of Industry:** GARG DUPLEX AND PAPER MILLS PVT LTD, 8.5 KM. Bhopa Road, Muzaffarnagar, U.P.,MUZAFFAR NAGAR,251001
- 2- **Address of Industry:** 8.5 KM, Bhopa Road, Muzaffarnagar. U.P.,MUZAFFAR NAGAR,251001
- 3- **District:** Muzaffarnagar
- 4- **Description about sampling point:** Final Outlet Discharge of E.T.P.
- 5- **Type of Sample (Grab/Composite/Integrated):** Grab
- 6- **Sample Collected By:** (1)Imraan Ali; Environment Engineer (2)Maneesh Kumar: J.R.F
- 7- **Colour and Odour:** Colourless Odourfree/No Specific
- 8- **Quantity and Packing:** 2.0 Ltrs PVC
- 9- **Date of Sample Collection:** 03/09/2024
- 10- **Analysis Indented by:** RO MuzaffarNagar
- 11- **Date of sample receipt in Lab:** 03/09/2024

Parameter/Method Name	Unit	Results	Standard	Detection Range
pH. APHA 24th Ed. 4500B: 2023	-	7.7	6.5-8.5	02-12
Suspended Solids , APHA 24th Ed. 2540 D Total Suspended Solids dried at 103-105 °C 2023	mg/l	24	50	10-20000 mg/l
Dissolved Solids. APHA 24th Ed. 2540 C Total Dissolved Solids dried at 180 °C 2023	mg/l	1296	1600	10- 50000 mg/l
Total Solids, APHA 24th Ed.2540 B: 2023	mg/l	1320	Not Specified	10- 50000 mg/l
BOD. APHA 24th Ed. 3 day 27 °C IS 3025 (Part 44): 1993 Bio 2023	mg/l	19.0	30	1.0 -50000 mg/l
COD, APHA 24th Ed. 5220 B Open Reflux Method 2023	mg/l	136	250	5.0 -100000 mg/l

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

*Non-NABL Parameters.

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.

Remark: At the time of inspection industry found operational.

Analysed by-
[Diwakar Dev Gahlot(JRF), Ravish Pratap Singh(JRF)]

Authorized by

Ankit Singh (RO)

Ankit Singh
 Digitally signed
 by Ankit Singh
 Date: 2024.09.07
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Regional Officer

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REGIONAL LABORATORY MuzaffarNagar
UTTAR PRADESH POLLUTION CONTROL BOARD
 Kamal Cinema Building, Railway Road, Muzaffarnagar

TEST REPORT: WASTE WATER LABORATORY

Ref No: 28050491/MuzaffarNagar/2024

Date: 07/09/2024

- 1- Name of Industry: SILVERTOAN PAPERS LIMITED, 9th Km, Bhopa Road, Muzaffarnagar (U.P.), MUZAFFAR NAGAR, 251001
- 2- Address of Industry: 9th Km, Bhopa Road, Muzaffarnagar (U.P.), MUZAFFAR NAGAR, 251001
- 3- District: Muzaffarnagar
- 4- Description about sampling point: Final Outlet Discharge of E.T.P.
- 5- Type of Sample (Grab/Composite/Integrated): Grab
- 6- Sample Collected By: (1) Imraan Ali; Environment Engineer (2) Diwakar Dev Gahlaut; J.R.F
- 7- Colour and Odour: Colourless Odourfree/No Specific
- 8- Quantity and Packing: 2.0 Ltrs PVC
- 9- Date of Sample Collection: 03/09/2024
- 10- Analysis Indented by: RO MuzaffarNagar
- 11- Date of sample receipt in Lab: 03/09/2024

Parameter/Method Name	Unit	Results	Standard	Detection Range
pH, APHA 24th Ed. 4500B: 2023	-	7.5	6.5-8.5	02-12
Suspended Solids, APHA 24th Ed. 2540 D Total Suspended Solids dried at 103-105 °C 2023	mg/l	26	50	10-20000 mg/l
Dissolved Solids, APHA 24th Ed. 2540 C Total Dissolved Solids dried at 180 °C 2023	mg/l	1396	1600	10- 50000 mg/l
Total Solids, APHA 24th Ed. 2540 B: 2023	mg/l	1422	Not Specified	10- 50000 mg/l
BOD, APHA 24th Ed. 3 day 27 °C IS 3025 (Part 44): 1993 Bio 2023	mg/l	17.0	30	1.0 -50000 mg/l
COD, APHA 24th Ed. 5220 B Open Reflux Method 2023	mg/l	136	250	5.0 -100000 mg/l

Reference- (1) General Standards for discharge of environmental pollutants are as part-A Effluent (Schedule-VI). The Environment (Protection) Rules, 1986 source: www.epcb.nic.in/GeneralStandards.pdf. Besides these standards, refer EPA standards for specific purpose

*Non-NABL Parameters.

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.

Remark: At the time of inspection industry found operational.

Analysed by-
[Ravish Pratap Singh(JRF)]

Authorized by
Ankit Singh (RO)

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 by Ankit Singh
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Regional Officer

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REGIONAL LABORATORY MuzaffarNagar
UTTAR PRADESH POLLUTION CONTROL BOARD

Kamal Cinema Building, Railway Road, Muzaffarnagar

TEST REPORT: WASTE WATER LABORATORY

Ref No: 28050502/MuzaffarNagar/2024

Date: 07/09/2024

- 1- Name of Industry: SILVERTOAN PAPERS LIMITED UNIT 2, 9th Km Bhopa Road
- 2- Address of Industry: 9th Km Bhopa Road
- 3- District: Muzaffarnagar
- 4- Description about sampling point: Final Outlet Discharge of E.T.P.
- 5- Type of Sample (Grab/Composite/Integrated): Grab
- 6- Sample Collected By: (1)Imraan Ali: Environment Engineer (2)Diwakar Dev Gahlaut: J.R.F
- 7- Colour and Odour: Colourless Odourfree/No Specific
- 8- Quantity and Packing: 2.0 Ltrs PVC
- 9- Date of Sample Collection: 03/09/2024
- 10- Analysis Indented by: RO MuzaffarNagar
- 11- Date of sample receipt in Lab: 03/09/2024

Parameter/Method Name	Unit	Results	Standard	Detection Range
pH, APHA 24th Ed. 4500B: 2023	-	7.7	6.5-8.5	02-12
Suspended Solids, APHA 24th Ed. 2540 D Total Suspended Solids dried at 103-105 °C 2023	mg/l	28	50	10-20000 mg/l
Dissolved Solids, APHA 24th Ed. 2540 C Total Dissolved Solids dried at 180 °C 2023	mg/l	1264	1600	10- 50000 mg/l
Total Solids, APHA 24th Ed. 2540 B: 2023	mg/l	1292	Not Specified	10- 50000 mg/l
BOD, APHA 24th Ed. 3 day 27 °C IS 3025 (Part 44): 1993 Bio 2023	mg/l	19.0	30	1.0 -50000 mg/l
COD, APHA 24th Ed. 5220 B Open Reflux Method 2023	mg/l	144	250	5.0 -100000 mg/l

Reference- (1) General Standards for discharge of environmental pollutants are as part-A Effluent (Schedule-VI). The Environment (Protection) Rules, 1986 source: www.epcb.nic.in/GeneralStandards.pdf. Besides these standards, refer EPA standards for specific purpose

*Non-NABL Parameters.

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.

Remark: At the time of inspection industry found operational.

Analysed by-
[Ravish Pratap Singh(JRF)]

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Ankit Singh (RO)

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REGIONAL LABORATORY MuzaffarNagar
UTTAR PRADESH POLLUTION CONTROL BOARD

Kamal Cinema Building, Railway Road, Muzaffarnagar

TEST REPORT: WASTE WATER LABORATORY

Ref No: 28050521/MuzaffarNagar/2024

Date:07/09/2024

- 1- **Name of Industry:** SILVERTON PULP AND PAPERS PRIVATE LIMITED, SILVERTON PULP AND PAPERS PRIVATE LIMITED, 09 TH KM., BHOPA ROAD, MUZAFFARNAGAR, UTTAR PRADESH (INDIA),MUZAFFAR NAGAR,251001
- 2- **Address of Industry:** SILVERTON PULP AND PAPERS PRIVATE LIMITED, 09 TH KM., BHOPA ROAD, MUZAFFARNAGAR, UTTAR PRADESH (INDIA),MUZAFFAR NAGAR,251001
- 3- **District:** Muzaffarnagar
- 4- **Description about sampling point:** Final Outlet Discharge of E.T.P.
- 5- **Type of Sample (Grab/Composite/Integrated):** Grab
- 6- **Sample Collected By:** (1)Imraan Ali; Environment Engineer (2)Diwakar Dev Gahlaut; J.R.F
- 7- **Colour and Odour:** Colourless Odourfree/No Specific
- 8- **Quantity and Packing:** 2.0 Ltrs PVC
- 9- **Date of Sample Collection:** 03/09/2024
- 10- **Analysis Indented by:** RO MuzaffarNagar
- 11- **Date of sample receipt in Lab:** 03/09/2024

Parameter/Method Name	Unit	Results	Standard	Detection Range
pH, APHA 24th Ed. 4500B: 2023	-	7.6	6.5-8.5	02-12
Suspended Solids , APHA 24th Ed. 2540 D Total Suspended Solids dried at 103-105 °C 2023	mg/l	26	50	10-20000 mg/l
Dissolved Solids, APHA 24th Ed. 2540 C Total Dissolved Solids dried at 180 °C 2023	mg/l	972	1600	10- 50000 mg/l
Total Solids, APHA 24th Ed.2540 B: 2023	mg/l	998	Not Specified	10- 50000 mg/l
BOD, APHA 24th Ed. 3 day 27 °C IS 3025 (Part 44): 1993 Bio 2023	mg/l	18.0	30	1.0 -50000 mg/l
COD, APHA 24th Ed. 5220 B Open Reflux Method 2023	mg/l	120	250	5.0 -100000 mg/l

Reference- (1) General Standards for discharge of environmental pollutants are as part-A Effluent (Schedule-VI), The Environment (Protection) Rules,1986 source: www.epcb.nic.in/GeneralStandards.pdf. Besides these standards, refer EPA standards for specific purpose

*Non-NABL Parameters.

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Remark: At the time of inspection industry found operational.

Analysed by-
[Ravish Pratap Singh(JRF)]

Authorized by

Ankit Singh (RO)

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Regional Officer

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REGIONAL LABORATORY MuzaffarNagar
UTTAR PRADESH POLLUTION CONTROL BOARD
 Kamal Cinema Building,Railway Road, Muzaffarnagar

TEST REPORT: WASTE WATER LABORATORY

Ref No: 28050545/MuzaffarNagar/2024

Date:07/09/2024

- 1- **Name of Industry:** SILVERTON PULP AND PAPERS PRIVATE LIMITED UNIT 2, 9th Km Stone , Bhopa Road , Muzaffarnagar 251001.MUZAFFARNAGAR,251001
- 2- **Address of Industry:** 9th Km Stone , Bhopa Road , Muzaffarnagar 251001,MUZAFFARNAGAR,251001
- 3- **District:** Muzaffarnagar
- 4- **Description about sampling point:** Final Outlet Discharge of E.T.P.
- 5- **Type of Sample (Grab/Composite/Integrated):** Grab
- 6- **Sample Collected By:** (1)Imraan Ali; Environment Engineer (2)Diwakar Dev Gahlaut; J.R.F
- 7- **Colour and Odour:** Colourless Odourfree/No Specific
- 8- **Quantity and Packing:** 2.0 Ltrs PVC
- 9- **Date of Sample Collection:** 03/09/2024
- 10- **Analysis Indented by:** RO MuzaffarNagar
- 11- **Date of sample receipt in Lab:** 03/09/2024

Parameter/Method Name	Unit	Results	Standard	Detection Range
pH. APHA 24th Ed. 4500B: 2023	-	7.5	6.5-8.5	02-12
Suspended Solids , APHA 24th Ed. 2540 D Total Suspended Solids dried at 103-105 °C 2023	mg/l	24	50	10-20000 mg/l
Dissolved Solids. APHA 24th Ed. 2540 C Total Dissolved Solids dried at 180 °C 2023	mg/l	1084	1600	10- 50000 mg/l
Total Solids. APHA 24th Ed.2540 B: 2023	mg/l	1108	Not Specified	10- 50000 mg/l
BOD. APHA 24th Ed. 3 day 27 °C IS 3025 (Part 44): 1993 Bio 2023	mg/l	19.0	30	1.0 -50000 mg/l
COD. APHA 24th Ed. 5220 B Open Reflux Method 2023	mg/l	136	250	5.0 -100000 mg/l

Reference- (1) General Standards for discharge of environmental pollutants are as part-A Effluent (Schedule-VI). The Environment (Protection) Rules,1986 source: www.epcb.nic.in/GeneralStandards.pdf. Besides these standards, refer EPA standards for specific purpose

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Remark: At the time of inspection industry found operational.

Analysed by-
[Ravish Pratap Singh(JRF)]

Authorized by

Ankit Singh (RO)

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 by Ankit Singh
 Date:
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Regional Officer

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**REGIONAL LABORATORY MuzaffarNagar
UTTAR PRADESH POLLUTION CONTROL BOARD**

Kamal Cinema Building, Railway Road, Muzaffarnagar

TEST REPORT: WASTE WATER LABORATORY

Ref No: 28050565/MuzaffarNagar/2024

Date: 07/09/2024

- 1- Name of Industry: MEENU PAPER MILLS PRIVATE LIMITED, 9.5th Km Stone, Bhopa Road
- 2- Address of Industry: 9.5th Km Stone, Bhopa Road
- 3- District: Muzaffarnagar
- 4- Description about sampling point: Secondary Clarifier of E.T.P.
- 5- Type of Sample (Grab/Composite/Integrated): Grab
- 6- Sample Collected By: (1) Imraan Ali: Environment Engineer (2) Diwakar Dev Gahlaut: J.R.F
- 7- Colour and Odour: 100 Hazen Odourfree/No Specific
- 8- Quantity and Packing: 2.0 Ltrs PVC
- 9- Date of Sample Collection: 03/09/2024
- 10- Analysis Indented by: RO MuzaffarNagar
- 11- Date of sample receipt in Lab: 03/09/2024

Parameter/Method Name	Unit	Results	Standard	Detection Range
pH, APHA 24th Ed. 4500B: 2023	-	7.4	6.5-8.5	02-12
Suspended Solids, APHA 24th Ed. 2540 D Total Suspended Solids dried at 103-105 °C 2023	mg/l	28	50	10-20000 mg/l
Dissolved Solids, APHA 24th Ed. 2540 C Total Dissolved Solids dried at 180 °C 2023	mg/l	1180	1600	10- 50000 mg l
Total Solids, APHA 24th Ed. 2540 B: 2023	mg/l	1208	Not Specified	10- 50000 mg/l
BOD, APHA 24th Ed. 3 day 27 °C IS 3025 (Part 44): 1993 Bio 2023	mg/l	19.0	30	1.0 -50000 mg/l
COD, APHA 24th Ed. 5220 B Open Reflux Method 2023	mg/l	144	250	5.0 -100000 mg/l

Reference- (1) General Standards for discharge of environmental pollutants are as part-A Effluent (Schedule-VI). The Environment (Protection) Rules, 1986 source: www.epcb.nic.in/GeneralStandards.pdf. Besides these standards, refer EPA standards for specific purpose

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Remark: At the time of inspection industry found operational.

**Analysed by-
[Ravish Pratap Singh(JRF)]**

Authorized by

Ankit Singh (RO)

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Date:
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O.A. No. 744 of 2022; Moharram Ali Vs. State of U.P.

From: Pradeep Misra (pradeepmisra@yahoo.com)
To: rkhuranalegal@gmail.com; utkarsh.sharma7@gmail.com
Date: Monday, September 9, 2024 at 11:23 AM GMT+5:30

Sir,
Please find the attached

With Regards,

(PRADEEP MISRA)



Mohram Ali_merged.pdf
11.9MB