



Date: 08.12.2022

To,  
**The Director**  
**Ministry of Environment, Forest & Climate Change**  
**Kendriya Bhawan, 5<sup>th</sup> Floor, Sector "H" Aliganj**  
**Lucknow (Uttar Pradesh)**

**Subject:** Six Monthly Compliance Report of Environmental Clearance for Expansion of Existing Sugar Mill Crushing Capacity From 7200 TCD & 10000 TCD Along with Captive Co-Generation Power Plant from Existing Capacity 9.7 MW 39.7 MW (Bagasse Based) by M/s Gobind Sugar Mills Limited at village – Khamaria Pandit, Tehsil – Dhaurahra, Block – Isha nagar, District – Lakhimpur, Uttar Pradesh for the period of April, 2022 to September, 2022.

**EC Ref. No: .../Parya/SEAC/1745/2013/OSD(T), Dated: 07<sup>th</sup> August, 2014**

**Reg:** Submission of Six-Monthly Compliance Report for Period of April, 2022 to September, 2022.

Dear Sir,

This is in connection to above mentioned subject we are hereby submitting the six-monthly compliance report of the conditions of Environmental Clearance for Expansion of Existing Sugar Mill Crushing Capacity From 7200 TCD & 10000 TCD Along with Captive Co-Generation Power Plant from Existing Capacity 9.7 MW 39.7 MW (Bagasse Based) by M/s Gobind Sugar Mills Limited, at village – Khamaria Pandit, Tehsil – Dhaurahra, Block – Isha nagar, District – Lakhimpur, Uttar Pradesh for the period of April 2022 to September, 2022 along with annexures as follows:

1. Annexure-01: Copy of CTO (Air and Water),
2. Annexure-02: Copy of Environmental Clearance
3. Annexure-03: Test Report
6. Annexure-04: CGWA NOC
8. Annexure-05: Green belt photographs

Requesting you to accept soft copy reports submitted for information please.

Thanking you,

Yours sincerely,

**Authorized Signatory**

**M/s Gobind Sugar Mills Limited**

Village – Khamaria Pandit, Tehsil – Dhaurahra,

Block – Isha nagar, District – Lakhimpur, Uttar Pradesh.

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**SIX-MONTHLY ENVIRONMENTAL COMPLIANCE  
REPORT OF STIPULATED CONDITIONS OF  
ENVIRONMENTAL CLEARANCE**

**(April, 2022 to September, 2022)**

**For**

**Expansion of Existing Sugar Mill Crushing Capacity From 7200 TCD  
& 10000 TCD Along with Captive Co-Generation Power Plant from  
Existing Capacity 9.7 MW 39.7 MW (Bagasse Based)**

**By**

**Gobind Sugar Mills Limited**

**At**

**Village – Khamaria Pandit, Tehsil – Dhaurahra,  
Block – Isha nagar, District – Lakhimpur, Uttar Pradesh**

**For Submission to:**

**Ministry of Environment, Forest & Climate Change  
(Regional Office, Lucknow)**

**Submitted By:  
M/s Gobind Sugar Mills Ltd.**

**TABLE OF CONTENT**

Sr. No	Title	Page No.
<b>CHAPTER-1: INTRODUCTION AND PROJECT DESCRIPTION</b>		04
<b>CHAPTER-2: COMPLIANCE OF STIPULATED CONDITIONS OF ENVIRONMENTAL CLEARANCE</b>		05 - 10
<b>CHAPTER-3: DETAILS OF ENVIRONMENTAL MONITORING</b>		11 - 35
<b>3.1</b>	<b>Ambient air Quality Monitoring</b>	<b>11</b>
3.1.1	Ambient air Quality Monitoring Stations	11
3.1.2	Ambient Air Quality Monitoring Methodology	11
3.1.3	Ambient Air Quality Monitoring Results at Near Main Gate (Factory Premises) (Station No: 1)	12
3.1.4	Ambient Air Quality Monitoring Results at Village: Allipur (Station No: 2)	13
3.1.5	Ambient Air Quality Monitoring Results at Village: Khamaria Pandit (Station No: 3)	13
3.1.6	Ambient Air Quality Monitoring Results at Village; Aira (Station No: 4)	14
3.1.7	Discussion on Ambient Air Quality in the Study Area	14
<b>3.2</b>	<b>Stack Emission Monitoring</b>	<b>17</b>
3.2.1	Stack Emission Monitoring Methodology	17
<b>3.3</b>	<b>Ambient Noise monitoring</b>	<b>17</b>
3.3.1	Ambient Noise Monitoring Locations	17
3.3.2	Methodology of Noise Monitoring	17
3.3.3	Ambient Noise Monitoring Results	17
3.3.4	Discussion on Ambient Noise Levels in the Study Area	18
<b>3.4</b>	<b>Ground Water Quality Monitoring</b>	<b>19</b>
3.4.1	Ground water Quality Monitoring Locations	19
3.4.2	Methodology of ground water Quality Monitoring	19
3.4.3	Ground water Quality Monitoring Results	19
<b>3.5</b>	<b>Soil Monitoring</b>	<b>26</b>
3.5.1	Soil Monitoring Locations	26
3.5.2	Methodology of Soil Monitoring	26
3.5.3	Soil Monitoring Results	26
3.5.4	Discussion on Soil Characteristics in the Study Area	27
<b>3.6</b>	<b>Water Analysis ETP Inlet &amp; Outlet Monitoring</b>	<b>27</b>

<b>Sr. No.</b>	<b>List of Table</b>	<b>Page No.</b>
1.	<b>Table-3.1:</b> Details of Ambient Air Quality Monitoring Stations	11
2.	<b>Table-3.2:</b> Techniques used for Ambient Air Quality Monitoring	12
3.	<b>Table-3.3:</b> Ambient Air Quality Monitoring Results at Near Main Gate (Factory Premises) (Station No: 1)	12
4.	<b>Table-3.4:</b> Ambient Air Quality Monitoring Results at Village: Allipur (Station No: 2)	13
5.	<b>Table-3.5:</b> Ambient Air Quality Monitoring Results at Village: Khamaria Pandit (Station No: 3)	13
6.	<b>Table-3.6:</b> Ambient Air Quality Monitoring Results at Village; Aira (Station No: 4)	14
7.	<b>Table-3.7:</b> Details of Stack Emission Monitoring Results	17
8.	<b>Table-3.8:</b> Details of Ambient Noise Monitoring Stations	17
9.	<b>Table-3.9:</b> Ambient Noise Monitoring Results	18
10.	<b>Table-3.10:</b> Details of Water Quality Monitoring Station	19
11.	<b>Table-3.11:</b> Ground water Quality Results at Handpump (within premises) (April, 2022)	20
12.	<b>Table-3.12:</b> Ground water Quality Results at Handpump (within premises) (May, 2022)	21
13.	<b>Table-3.13:</b> Ground water Quality Results at Handpump (within premises) (June, 2021)	22
14.	<b>Table-3.14:</b> Ground water Quality Results at Handpump (within premises) (July, 2022)	23
15.	<b>Table-3.15:</b> Ground water Quality Results at Handpump (within premises) (August, 2022)	24
16.	<b>Table-3.16:</b> Ground water Quality Results at Handpump (within premises) (September, 2022)	25
17.	<b>Table-3.17:</b> Details of Soil Monitoring Stations	26
18.	<b>Table-3.18:</b> Physico-Chemical Characteristics of Soil at Near Factory Premises	26
19.	<b>Table-3.19:</b> Physico-Chemical Characteristics of Soil at Near Khamaria Pandit village	
20.	<b>Table 3.20 (A):</b> ETP Inlet Monitoring Result	27
21.	<b>Table 3.20 (B):</b> ETP Outlet Monitoring Result	27

<b>Sr. No.</b>	<b>List of Figures</b>	<b>Page No.</b>
1.	<b>Figure-3.1:</b> Graphs Showing PM <sub>10</sub> Concentration at all sites	15
2.	<b>Figure-3.2:</b> Graphs Showing PM <sub>2.5</sub> Concentration at all sites	15
3.	<b>Figure-3.3:</b> Graphs Showing SO <sub>2</sub> Concentration at all sites	16
4.	<b>Figure-3.4:</b> Graphs Showing NO <sub>x</sub> Concentration at all sites	16
5.	<b>Figure-3.5:</b> Day and Night Time noise Level at Near admin block	18

## **Chapter-1 Introduction and Project Description**

Six monthly environmental compliance / status report is submitted for Expansion of Existing Sugar Mill Crushing Capacity From 7200 TCD & 10000 TCD Along with Captive Co-Generation Power Plant from Existing Capacity 9.7 MW 39.7 MW (Bagasse Based) by Gobind Sugar Mills Limited for September 2022. The Project is located at village – Khamaria Pandit, Tehsil – Dhaurahra, Block – Isha nagar, District – Lakhimpur, Uttar Pradesh. Prior Environment Clearance was obtained from SEIAA, U. P. wide Ref. no.: **.../Parya/SEAC/1745/2013/OSD(T), dated 07<sup>th</sup> August, 2014.** Consent to operate for Water has already been obtained for the project Vide Ref No. - **141503/UPPCB/Lucknow (UPPCBRO)/CTO/water/Lakhimpur Khiri/2021, dated 28/12/2021** and Consent to operate for Air Vide Ref No. **141511/UPPCB/Lucknow (UPPCBRO)/CTO/air/Lakhimpurkhiri/2021, dated 28/12/2021** for validity upto 31/12/2023. Copy of CTO is attached here as **Annexure-1.**

Specific and general conditions stipulated in Environment Clearance have been complied during construction and post construction phases.

Environmental mitigation measures described in Environmental Management Plan are being implemented operation phase. **M/s Gobind Sugar Mills Limited** management team is fully conscious about Environmental Management and enhancing green belt development in project surrounding area.

Six monthly compliance/status reports for April, 2022 to September, 2022 for conditions stipulated in the Environmental Clearance letter issued by MoEF&CC are enclosed as **Annexure-2.** Photographs view of implemented mitigation measures are also attached for the ready reference as Photo Documentation.

## CHAPTER-2 COMPLIANCE OF STIPULATED CONDITIONS OF ENVIRONMENTAL CLEARANCE

**Name of the Project:** Expansion of Existing Sugar Mill Crushing Capacity From 7200 TCD & 10000 TCD Along with Captive Co-Generation Power Plant from Existing Capacity 9.7 MW 39.7 MW (Bagasse Based) by Gobind Sugar Mills Limited at village – Khamaria Pandit, Tehsil – Dhaurahra, Block – Isha nagar, District – Lakhimpur, Uttar Pradesh

**Clearance Letter No:** .../Parya/SEAC/1745/2013/OSD(T), dated 07<sup>th</sup> August, 2014.

**Period of Compliance Report:** (April, 2022 to September, 2022).

Sl. No.	Conditions	Reply
1	The project authorities must strictly adhere to the stipulations made by the Uttar Pradesh State Pollution Control Board and the State Government.	The project authorities strictly adhere to the stipulations made by the Uttar Pradesh State Pollution Control Board and the State Government.
2	No further expansion or modifications in the plant shall be carried out without prior approval of the SEIAA UP.	No further expansion or modifications in the plant will be carried out without prior approval of the SEIAA UP/MoEF & CC.
3	The gaseous emission from various process units shall conform to the load/mass-based standards notified by this Ministry on 19 <sup>th</sup> May, 1993 and standards prescribed from time to time. The State Pollution Control Board may specify more stringent standards for the relevant parameters keeping in view the nature of the industry and its size and location.	Unit is following the stack emission standard as per the Pollution Control Board norms. Unit has done arrangements of regular testing of emissions from 3 <sup>rd</sup> party (EPA approved Laboratory). <b>Test results are enclosed as Enclosure -3.</b>
4	At least four ambient air quality monitoring stations should be established in the downward direction as well as where maximum ground level concentrations of PM <sub>10</sub> , PM <sub>2.5</sub> , SO <sub>2</sub> and NO <sub>x</sub> are anticipated in consultation with the SPCB. Data on ambient air quality and stack emission shall be regularly submitted to UPPCB/CPCB and Regional Office of MoEF at Lucknow once in six months.	For ambient quality monitoring stations were established in the down-wind directions (max GLC also). <b>Test results of the same are enclosed as Enclosure-3.</b>
5	Industrial wastewater shall be properly collected, treated so as to conform to the standards prescribed under GSR 422 (E) dated 19 <sup>th</sup> May, 1993 and 31 <sup>st</sup> December, 1993 or as amended form time to time. The treated wastewater shall be recycled in the plant and there shall not be any discharge of industrial waste water as committee by the project proponent during the presentation.	Industrial wastewater is properly collected, treated so as to conform to the standards prescribed under GSR 422 (E) dated 19 <sup>th</sup> May, 1993 and 31 <sup>st</sup> December, 1993 or as amended form time to time. Unit is working on the principle of maximum recycle and reuse.

**Six Monthly Compliance Report of Environmental Clearance for Expansion of Existing Sugar mill crushing capacity from 7200 TCD & 10000 TCD along with captive co-generation power plant from existing capacity 9.7 MW 39.7 MW (bagasse based) by M/s Gobind Sugar Mills Ltd. Unit, at village – Khamaria Pandit, Tehsil – Dhaurahra, Block – Isha nagar, District – Lakhimpur, Uttar Pradesh**

**EC Compliance  
April, 2022 to  
September, 2022**

6	The overall noise levels in and around the plant area shall be kept well within the standards (85 dBA) by providing noise control measures, including acoustic hoods, silencers, enclosures etc. on all sources of noise generation. The ambient noise levels shall conform to the standards prescribed under EPA Rules, 1989 viz. 75 dBA (day time) and 70 dBA (night time).	The overall noise levels in and around the plant area are kept within the standards (85 dBA). The ambient noise levels conforms to the standards prescribed under EPA Rules, 1989 viz. 75 dBA (day time) and 70 dBA (night time). <b>Concerning test reports are enclosed as enclosures-3.</b>
7	Occupational health surveillance of the workers should be done on a regular basis and records maintained as per the Factories Act.	Occupational health surveillance of the workers has been done on a regular basis and records maintained as per the Factories Act.
8	The company shall develop surface water harvesting structures to harvest the rain water for utilization in the lean season besides recharging the ground water table.	Unit has valid NOC from CGWA and unit is complying the NOC conditions regarding rain water harvesting. Copy of the <b>CGWA NOC is enclosed as enclosure-4.</b>
9	The project proponent shall also comply with all the environmental protection measures and safeguards recommended in the EIA/EMP report. Further, the company must undertake socio-economy development activities in the surrounding villages like community development programmes, educational programmes, drinking water supply and health care etc.	The project proponent is complying with all the environmental protection measures and safeguards recommended in the EIA/EMP report. Further, the company undertakes development programmes, educational programmes, drinking water supply and health care etc.
10	As proposed, budget shall be earmarked towards capital cost and recurring cost/annum for environmental pollution control measures to implement the conditions stipulated by the Ministry of Environment and Forests as well as the State Government. An implementation schedule for implementing all the conditions stipulated herein shall be submitted to the Regional Office of MoEF at Lucknow. The funds so provided shall not be diverted for any other purpose.	Unit has earmarked capital towards environmental pollution control measures to implement the conditions stipulated by the Ministry of Environment and Forests as well as the State Government. Unit has installed all the EPCD as per the project.
11	A copy of clearance letter shall be sent by the proponent to concerned Panchayat, Zila/Parishad/Municipal Corporation, Urban Local Body and the local NGO, if any, from whom suggestions/representations, if any, were received while processing the proposal. The clearance letter shall also be put on the website of the company by the proponent.	Condition complied.
12	The project shall upload the status of compliance of the stipulated environment clearance conditions, including results of monitored data on their website and shall update the same	Unit has uploaded EC copy on its website and the copy of compliance report (of EC) are sent to concerned departments.

	periodically . It shall simulataneiously be sent to the Regional Office of the the MoEF at Lucknow, CPCB and UPPCB. The criteria pollutant levels namely: PM <sub>10</sub> , PM <sub>2.5</sub> , SO <sub>2</sub> , NO <sub>x</sub> (ambient levels as well as stack emissions) for the projects shall be monitored and displayed at a convenient locations near the main gate of the company in the public domain.	
13	The project proponent shall also submits six monthly reports on the status of the compliance of the stipulated environmental conditions including results of monitored data (both in hard copies as well as by e-mail) to the Regional Office of MoEF, CPCB and UPPCB. The Regional Office of MoEF at Lucknow / CPCB/ SPCB shall monitor the stipulated conditions.	Condition noted and complied.
14	The Environmental statement for each financial year ending 31st March in Form –V as is mandate to be submitted by the project proponent to the concered State Pollution Control Board as Prescribed under the Environment (Protection) Rules, 1986 as amended subsequently, shall also be put on the website of the company along with the status of compliance of environmretal conditions and shall also be sent to the Regional Office of the MoEF at Lucknow	Environmental statement is regularly submitted to State Pollution Control Board.
15	The Project Proponent shall inform the Public that the project has been accorded Environmental Clearance by the SEIAAUP and copies of the clearance letter are available with the SPCB and may also bre seen at website of the SEIAAUP at seiaaup.com. This shall be adverised within seven days fromk the date of isseus of the clearance letter, at least in two local newspapers that are widely circulated in the region of which one shall be in the vernacular language of the locally concered and a copy of the same should be forwarded to the Regional office at Lucknow.	Unit has informed public via local and regional newspapers regarding grant of EC.
16	Project authorities shall inform the Regional Office of MoEF, Lucknow as well as the SEIAA the date of Financial closure and final aapproval of the concered authorities and the date of commencing the land development work.	Condition complied. Unit is getting regular consents (to operate) from UPPCB. Copy of the air and water consent is enclosed as <b>Enclosure-1</b> .

**Specific Condition:**

Sr.No.	Conditions	Reply
1	Filter press should be installed to handle the sludge.	Unit has installed filter press to handle the sludge.
2	Two continuous ambient Air quality Monitoring Station one in up wind and other in predominant wind direction shall be installed immediately after the plant is in operation.	For ambient quality monitoring stations were established in the down-wind directions (max GLC also). <b>Test results of the same are enclosed as Enclosure-3.</b>
3	Flow measurement device should be installed at the outlet of ETP.	Flow measurement device is installed at the outlet of ETP.
4	Proposed Expansion of cane crushing and cogeneration plant to reduce the emission of particulate matter and gases Electrostatic precipitator shall be installed and connected with Boiler duct.	Unit has installed ESP as APCS.
5	To control the air emission from power plant a stack of about 72 mts from the ground level for the boiler and 8 mt. above ground for DG sety would be provided. The SPM emission from the stack shall be less than 150 mg/nm <sup>3</sup> . The exhaust stream from the boiler will be used for the process.	Unit has installed stack height of 72 mts from the ground level and the SPM emissions are well within in the stipulated norms. <b>Test results are enclosed as Enclosure -3.</b>
6	For minimizing the escape of SO <sub>2</sub> from the Sulpherisation process, cane juice will be used as scrubber media which will be reused in the process.	Condition noted and complied.
7	Total fresh Water requirement shall not exceed 7000 KL/day on 10,000 TCD and shall be met from the ground water through tube well. Waste water generation shall not be more than 1000 m <sup>3</sup> /day in season and 200 m <sup>3</sup> /day in off-season. Permission shall be obtained from the Competent Authority for withdrawal of ground water. No additional Bore well be installed.	Unit has valid NOC from CGWA regarding ground water abstraction. Copy of the CGWA NOC enclosed as <b>Enclosure-4.</b>
8	The Process and domestic effluents shall not exceed 1000 m <sup>3</sup> /d and 16 m <sup>3</sup> /d respectively. After treatment through Diffusion Based Activated Sludge Process, the waste water will be subjected to secondary Clarifier and sludge drying bed based on activated sludge process followed by tertiary treatment. The BOD of the treated effluent shall be more than 30 mg/l. About 80% of the treated effluent will be recycled in the process and 20% will be utilized in irrigation. No effluent shall be discharged outside the factory premises and zero discharge shall be strictly followed.	Unit is working on the principle of the maximum reuse and recycling of treated water. Unit has installed ETP based on activated sludge process for treatment of effluent to achieve stipulated standards.

9	Molasses shall be stored in MS tanks or in Pucca Lagoons. The Lagoons shall have propoer lining with HDPE and shall be kept in proper conditions to prevent ground water pollution. As per the CPCB/ SPCB recommendations, storage shall not exceed 15 days capacity.	Unit has constructed MS tank for storage of molasses (storage is of 15 days capacity).
10	The solid waste generated from the process will be mainly bagasse, fliter cake (press mud) and boiler ash, 100 % Bagasse shall be reused as fuel in the boiler and excess bagasse, if any shall be sent to other sugar plants for power generation. Molasses will be sent to the Distillery. 32 TPD of boiler Ash shall be sold to brick manufacturers. Sludge from the scrubber shall be dried and disposed of in the low lying areas. ETP sludge shall be used as fertilizer by the farmers. Used batteries and waste Lubricating oil shall be sold to authorized recycler.	Boiler ash along with filter cake, sludge is used as manure.
11	Adequate green belt shall be provided all around the plant premises (approximately 33 % of the area.)	Unit has maintained 33 % of green belt area. <b>Green belt photographs are enclosed as enclosure-5</b>
12	The industry shall take adequate water conservation measures including providing minimum six (06) RWH pits of size 2.34 × 2.34 ×3 at peak rainfall intensity.	Unit has valid NOC from CGWA and unit is complying the NOC conditions regarding rain water harvesting. Copy of the CGWA <b>NOC is enclosed as enclosure-4.</b>
13	CREP Guidelines for the Sugar industries shall be followed by the unit. The capacity of Lagoon shall be as per the CPCB Guidelines.	Condition noted and complied.
14	Commitments made during the public Hearing shall be complied with.	Commitments made during public hearing were complied.
15	Environmental Corporate Responsibility (ECR) plan along with budgetary provision amounting to 2% of total project profit shall be submitted (within the month) on need base assessment study in the study area. Income generating measures which can help in upliftment pf weaker section of society consistent with the traditional skills of the people indentified. The programmes can include activities such as old age homes, rain water harvesting provisions in nearby areas, development of fodder farm, fruit bearing orchards, vocational training etc. In addition, vocational training for individuals shall be imparted so that poor section of society can take up self-employment and jobs. Separate budget for community development activities	Unit is regularly have budgetary provision amounting to 2 % of total benefit. Unit is regularly organising programmes related to social awareness and safeguards the environment.

	and income generating programmers shall be specified.	
16	The company shall provide housing for construction labour within the site with all necessary infrastrucure and facilities such as fuel for cooking, mobile toilets, safe drinking water, medical health care, creche etc. The housing may be in the form of temporary structures and to be removed after the completion of the project.	The temporary housing facilities were provided to the construction labours. As it was expansion project, unit was already having residence facilities.
17	All storm water drain and conveyor belt should be covered.	Condition noted.
18	Any litigation pending in the Courts of law it shall be binding on project proponent.	No any litigation pending in the courts of law.
19	Parking facility should be provided within the project premises.	Parking facility is provided within the project premises..
20	Any appeal against this environmental clearance shall be with the National Green Tribunal, if prefered within a period of 30 days as prescribed under section 11 of the National Environment Appellate Authority Act, 1997.	Condition Noted.
21	All the exisitng boilers of capacities 20 TPH, 25 TPH and 15 TPH shall be dismached as mentioned during the presentation.	Condition Noted and complied.

### Chapter-3

#### Details of Environmental Monitoring

### 3.1 AMBIENT AIR QUALITY MONITORING

#### 3.1.1 Ambient air Quality Monitoring Stations

Ambient air quality monitoring has been carried out at 4 locations; Near Main Gate (Factory Premises) of the project site, village: Allipur village, Khamaria Pandit village and in village; Aira. This will enable to have a comparative analytical understanding about air quality and the changes in the air environment in the study area with respect to the condition prevailing. The location of the ambient air quality monitoring stations is given in Table -3.1: -

**Table-3.1:**

**Details of Ambient Air Quality Monitoring Stations**

Sr. No	Location Code	Location Name/Description	Environmental Setting of surrounding	Date of Monitoring
1.	AAQ-1	Near Main Gate (Factory Premises) (Station No: 1)	Industrial	07.07.2022 to 08.07.2022
2.	AAQ-2	Village: Allipur (Station No: 2)	Residential	07.07.2022 to 08.07.2022
3.	AAQ-3	Village: Khamaria Pandit (Station No: 3)	Residential	08.07.2022 to 09.07.2022
4.	AAQ-4	Village; Aira (Station No: 4)	Residential	08.07.2022 to 09.07.2022

#### **AAQ-1: Near Main Gate (Factory Premises) (Station No: 1)**

The sampler was placed near Main gate and was free from any obstructions. Surroundings of the sampling site represent industrial environmental setting.

#### **AAQ-2-4: Village: Allipur, Khamaria Pandit, and Aira,**

The sampler was placed at village: Allipur, Khamaria Pandit, and Aira were free from any obstructions. Surroundings of the sampling site represent village environmental setting.

#### 3.1.2 Ambient Air Quality Monitoring Methodology

Monitoring was conducted in respect of the following parameters:

- Respirable Suspended Particulate Matter (PM<sub>10</sub>)
- Fine Particulate Matter (PM<sub>2.5</sub>)
- Sulphur Dioxide (SO<sub>2</sub>)
- Oxides of Nitrogen (NO<sub>x</sub>)

The duration of sampling of PM<sub>10</sub>, PM<sub>2.5</sub>, SO<sub>2</sub> and NO<sub>x</sub> was 24 hourly continuous sampling per day duration monitoring. The monitoring was conducted for one day at the location. This is to allow a comparison with the National Ambient Air Quality Standards.

The air samples were analyzed as per standard methods specified by Central Pollution Control Board (CPCB) and IS: 5182. The techniques used for ambient air quality monitoring and minimum detectable levels are given in **Table-3.2**.

Fine Particulate Sampler instruments have been used for monitoring Particulate Matter 2.5 (PM<sub>2.5</sub> i.e. <2.5 microns), and Respirable Dust Sampler with gaseous sampling attachment was used for sampling Respirable fraction (<10 microns), gaseous pollutants like SO<sub>2</sub>, and NO<sub>x</sub>.

**Table-3.2  
Techniques used for Ambient Air Quality Monitoring**

Sr. No	Parameter	Technique	Range of testing /limit of detection
1.	Respirable Suspended Particulate Matter (PM <sub>10</sub> )	Respirable Dust Sampler, with cyclone separator, Gravimetric Method	5.0 - 1200
2.	Fine Particulate Matter (PM <sub>2.5</sub> )	Fine Particulate Sampler, Gravimetric Method	2.0 - 500
3.	Sulphur dioxide	Modified West and Gaeke	5.0 - 1050
4.	Oxides of Nitrogen	Jacob & Hochheiser	6.0 - 750

**3.1.3 Ambient Air Quality Monitoring Results at Near Main Gate (Factory Premises)  
(Station No: 1)**

The detailed on-site monitoring results of PM<sub>2.5</sub>, PM<sub>10</sub>, SO<sub>2</sub> and NO<sub>x</sub> are presented in **Table-3.3**.

**Table-3.3  
Ambient Air Quality Monitoring Results at Near Main Gate (Factory Premises)  
(Station No: 1)**

Sr. No	Particulars	Protocol	Unit	Result	Range of testing /limit of detection	Standard as per NAAQS; dated 18/11/ 2009
1	Particulate matters size less than 10 µm (PM <sub>10</sub> )	IS: 5182 (Part-23): 2006 Reaffirmed: 2017	µg/m <sup>3</sup>	<b>86.3</b>	5.0 - 1200	For 24 hour =100
2	Particulate matters size less than 2.5 µm (PM <sub>2.5</sub> )	IS: 5182 (Part-24): 2019	µg/m <sup>3</sup>	<b>50.36</b>	2.0 - 500	For 24 hour =60
3	Sulphur Dioxides (SO <sub>2</sub> )	IS: 5182 (Part-2): 2001 Reaffirmed: 2017	µg/m <sup>3</sup>	<b>14.49</b>	5.0 - 1050	For 24 hour =80
4	Oxides of nitrogen (NO <sub>x</sub> )	IS: 5182 (Part-6): 2006 Reaffirmed: 2017	µg/m <sup>3</sup>	<b>21.05</b>	6.0 - 750	For 24 hour =80

### 3.1.4 Ambient Air Quality Monitoring Results at Village: Allipur (Station No: 2)

The detailed on-site monitoring results of PM<sub>2.5</sub>, PM<sub>10</sub>, SO<sub>2</sub> and NO<sub>x</sub> are presented in Table-3.4.

**Table-3.4**  
**Ambient Air Quality Monitoring Results at Village: Allipur (Station No: 2)**

Sr. No	Particulars	Protocol	Unit	Result	Range of testing /limit of detection	Standard as per NAAQS; dated 18/11/ 2009
1	Particulate matters size less than 10 µm (PM <sub>10</sub> )	IS: 5182 (Part-23): 2006 Reaffirmed: 2017	µg/m <sup>3</sup>	<b>81.6</b>	5.0 - 1200	For 24 hour =100
2	Particulate matters size less than 2.5 µm (PM <sub>2.5</sub> )	IS: 5182 (Part-24): 2019	µg/m <sup>3</sup>	<b>48.63</b>	2.0 - 500	For 24 hour =60
3	Sulphur Dioxides (SO <sub>2</sub> )	IS: 5182 (Part-2): 2001 Reaffirmed: 2017	µg/m <sup>3</sup>	<b>12.06</b>	5.0 - 1050	For 24 hour =80
4	Oxides of nitrogen (NO <sub>x</sub> )	IS: 5182 (Part-6): 2006 Reaffirmed: 2017	µg/m <sup>3</sup>	<b>17.82</b>	6.0 - 750	For 24 hour =80

### 3.1.5 Ambient Air Quality Monitoring Results at Village: Khamaria Pandit (Station No: 3)

The detailed on-site monitoring results of PM<sub>2.5</sub>, PM<sub>10</sub>, SO<sub>2</sub> and NO<sub>x</sub> are presented in Table-3.5.

**Table-3.5**  
**Ambient Air Quality Monitoring Results at Village: Khamaria Pandit (Station No: 3)**

Sr. No	Particulars	Protocol	Unit	Result	Range of testing /limit of detection	Standard as per NAAQS; dated 18/11/ 2009
1	Particulate matters size less than 10 µm (PM <sub>10</sub> )	IS: 5182 (Part-23): 2006 Reaffirmed: 2017	µg/m <sup>3</sup>	<b>81.9</b>	5.0 - 1200	For 24 hour =100
2	Particulate matters size less than 2.5 µm (PM <sub>2.5</sub> )	IS: 5182 (Part-24): 2019	µg/m <sup>3</sup>	<b>51.23</b>	2.0 - 500	For 24 hour =60
3	Sulphur Dioxides (SO <sub>2</sub> )	IS: 5182 (Part-2): 2001 Reaffirmed: 2017	µg/m <sup>3</sup>	<b>12.86</b>	5.0 - 1050	For 24 hour =80
4	Oxides of nitrogen (NO <sub>x</sub> )	IS: 5182 (Part-6): 2006 Reaffirmed: 2017	µg/m <sup>3</sup>	<b>18.47</b>	6.0 - 750	For 24 hour =80

### 3.1.6 Ambient Air Quality Monitoring Results at Village; Aira (Station No: 4)

The detailed on-site monitoring results of PM<sub>2.5</sub>, PM<sub>10</sub>, SO<sub>2</sub> and NO<sub>x</sub> are presented in Table-3.6.

**Table-3.6**  
**Ambient Air Quality Monitoring Results at Village; Aira (Station No: 4)**

Sr. No	Particulars	Protocol	Unit	Result	Range of testing /limit of detection	Standard as per NAAQS; dated 18/11/ 2009
1	Particulate matters size less than 10 µm (PM <sub>10</sub> )	IS: 5182 (Part-23): 2006 Reaffirmed: 2017	µg/m <sup>3</sup>	<b>80.5</b>	5.0 - 1200	For 24 hour =100
2	Particulate matters size less than 2.5 µm (PM <sub>2.5</sub> )	IS: 5182 (Part-24): 2019	µg/m <sup>3</sup>	<b>42.22</b>	2.0 - 500	For 24 hour =60
3	Sulphur Dioxides (SO <sub>2</sub> )	IS: 5182 (Part-2): 2001 Reaffirmed: 2017	µg/m <sup>3</sup>	<b>11.38</b>	5.0 - 1050	For 24 hour =80
4	Oxides of nitrogen (NO <sub>x</sub> )	IS: 5182 (Part-6): 2006 Reaffirmed: 2017	µg/m <sup>3</sup>	<b>17.49</b>	6.0 - 750	For 24 hour =80

### 3.1.7 Discussion on Ambient Air Quality in the Study Area

The value of PM<sub>10</sub> at Ambient Air Monitoring Station No: 1, 2, 3 & 4 are 86.3 µg/m<sup>3</sup>, 81.6 µg/m<sup>3</sup>, 81.9 µg/m<sup>3</sup> & 80.5 µg/m<sup>3</sup> respectively which were within permissible limit of 100 µg/m<sup>3</sup> and PM<sub>2.5</sub> levels are 50.36 µg/m<sup>3</sup> at Station No: 1, 48.63 µg/m<sup>3</sup> at Station No: 2, 51.23 µg/m<sup>3</sup> at Station No: 3 and 42.22 µg/m<sup>3</sup> at Station No: 4, were also observed within permissible limit of 60 µg/m<sup>3</sup> (for residential, rural and other areas as stipulated in the National Ambient Air Quality Standards). SO<sub>2</sub> ranges between 11.38 µg/m<sup>3</sup> to 14.49 µg/m<sup>3</sup> and NO<sub>x</sub> ranges between 17.49 µg/m<sup>3</sup> to 21.05 µg/m<sup>3</sup> was also observed within the corresponding stipulated limits (Limit for SO<sub>2</sub> and NO<sub>x</sub>; 80 µg/m<sup>3</sup>) at all of the 3 monitoring locations. Station wise variation of ambient air quality parameters has been graphically shown in Figure-3.1 to 3.4.

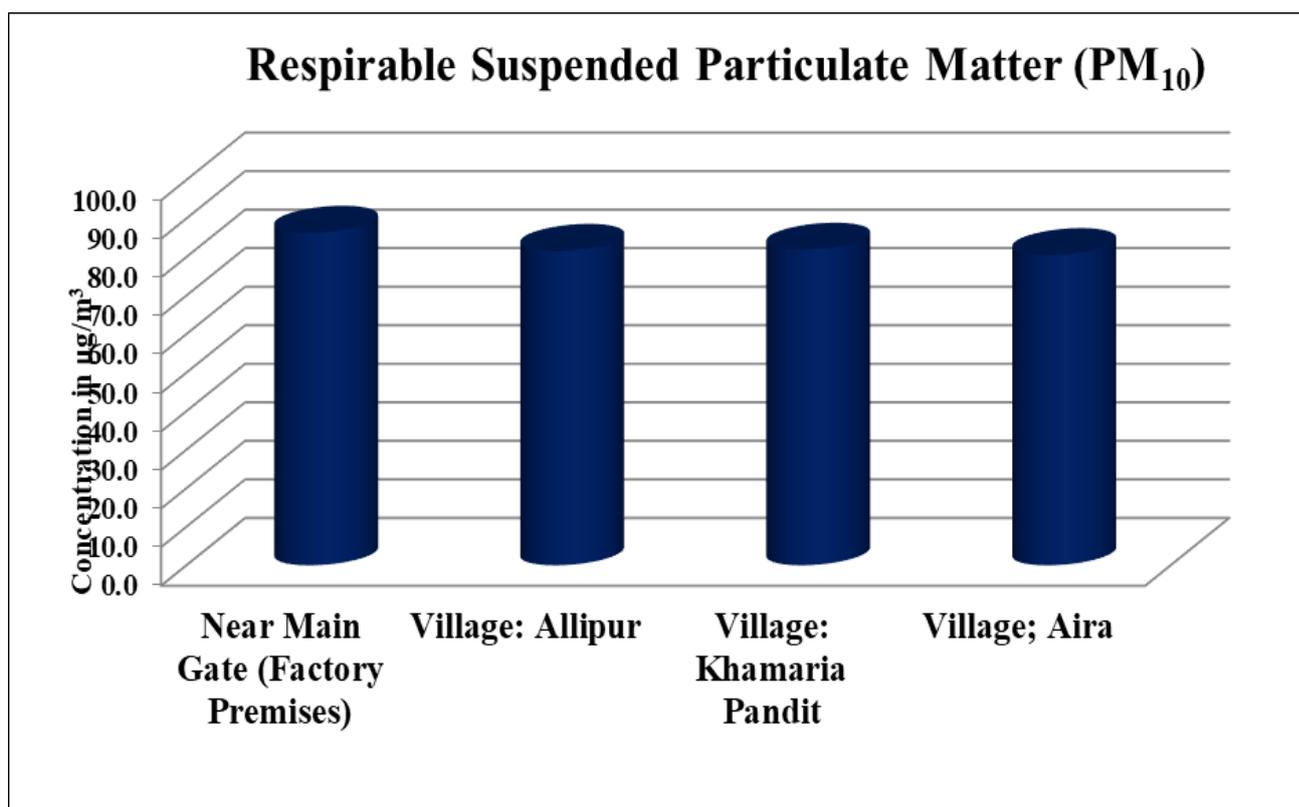


Figure-3.1: Graphs Showing PM<sub>10</sub> Concentration at all sites

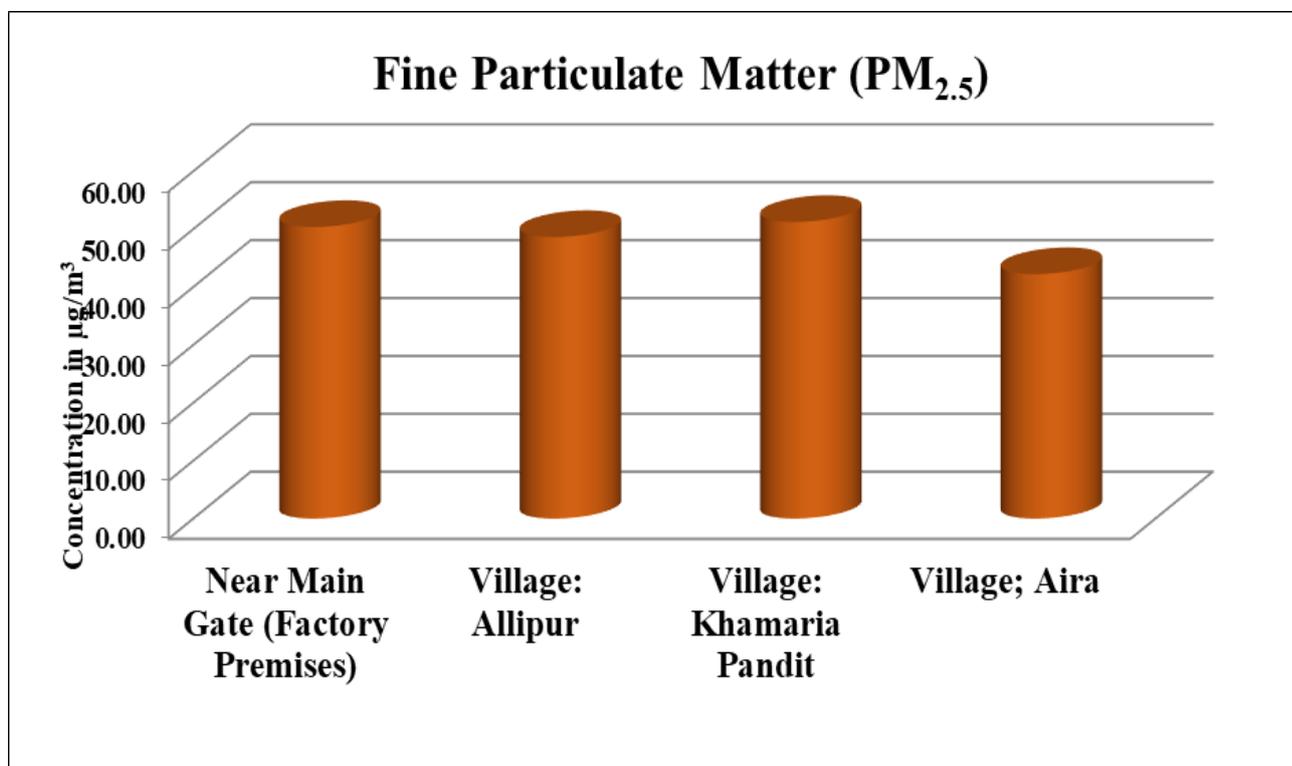


Figure-3.2: Graphs Showing PM<sub>2.5</sub> Concentration at all sites

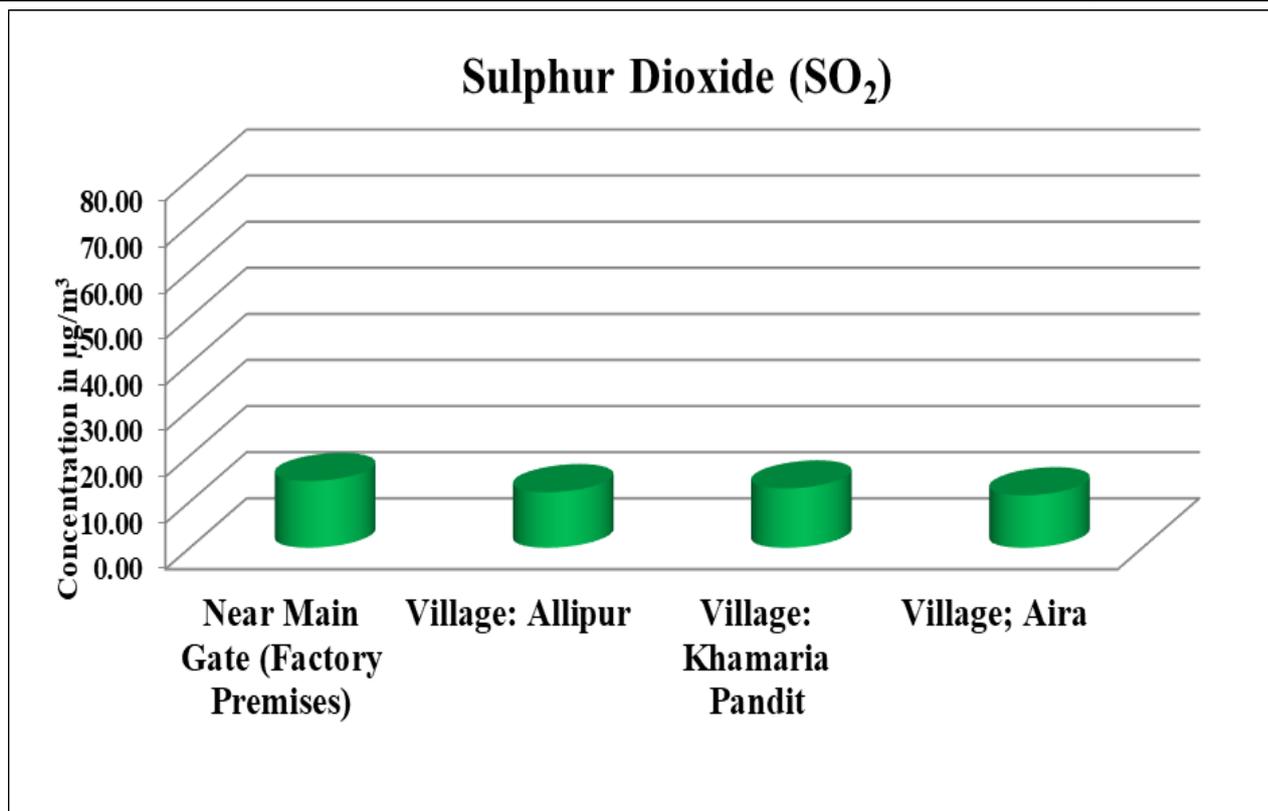


Figure-3.3: Graphs Showing SO<sub>2</sub> Concentration at all sites

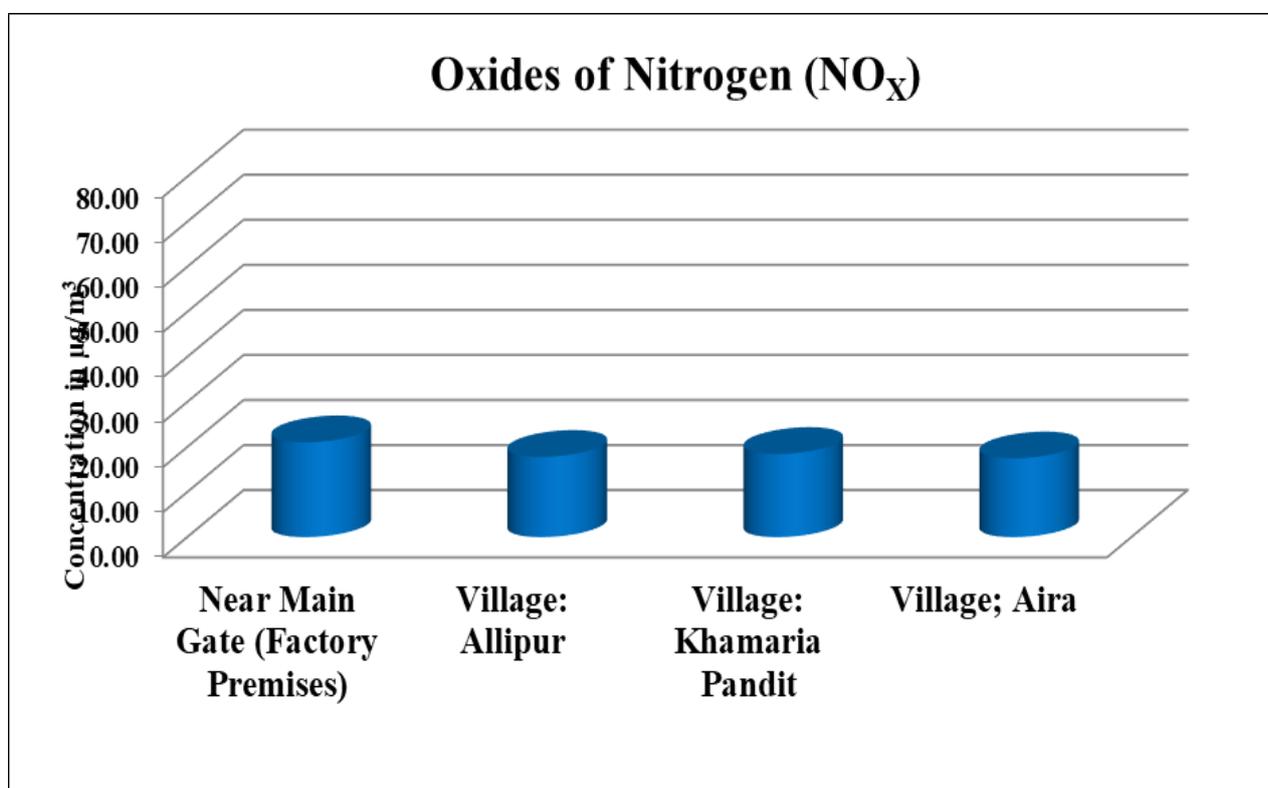


Figure-3.4: Graphs Showing NO<sub>x</sub> Concentration at all sites

### 3.2 STACK EMISSION MONITORING

Stack Emission monitoring was carried out by EPA approved Laboratory on date 01.04.2022 for the installed 70 TPH & 150 TPH boiler (attached with Bag Filters & ESP as air pollution control device with a stack height of 40 meter & 72 meter).

#### 3.2.1 Stack Emission Monitoring Methodology

Monitoring was conducted in respect of the following parameters:

- Particulate Matter (PM)

The Method used for Stack Emission monitoring and range of testing with CPCB standard are given in **Table-3.7**.

**Table-3.7:**  
**Details of Stack Emission Monitoring Results**

Sr. No.	Parameter	Unit	Protocol	Result	Range of Testing/ Limit of Detection	Standard (as per CPCB)
Stack-1	Particulate Matter	mg/Nm <sup>3</sup>	IS: 11255 (Part-1): 1985 Reaffirmed: 2019	<b>78.6</b>	2.0 - 1000	150
Stack-2	Particulate Matter	mg/Nm <sup>3</sup>	IS: 11255 (Part-1): 1985 Reaffirmed: 2019	<b>81.3</b>	2.0 - 1000	150

### 3.3 AMBIENT NOISE MONITORING

#### 3.3.1 Ambient Noise Monitoring Locations

The main objective of noise monitoring in the study area is to assess the present ambient noise levels near project site due to various industrial activities and increased vehicular movement. A preliminary reconnaissance survey has been undertaken to identify the major noise generating sources in the area. Ambient noise monitoring was conducted at 1 location as given in **Table-3.8**.

**Table-3.8:**  
**Details of Ambient Noise Monitoring Stations**

Sr. No	Location Code	Location name and description	Date of Monitoring
1.	NQ-1	Project site	08/07/2022 to 09/07/2022

#### 3.3.2 Methodology of Noise Monitoring

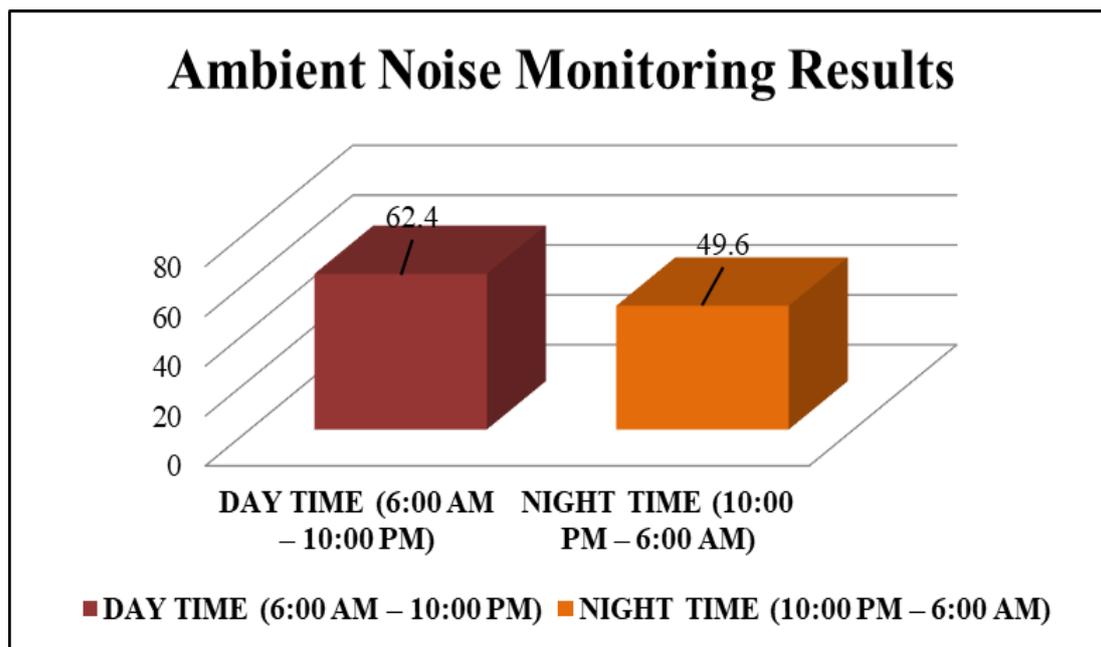
Noise levels were measured using sound level meter. Noise level monitoring was carried out continuously for 24-hours with one-hour interval starting at 06:00 hrs to 06:00 hrs next day. The noise levels were monitored on working days only. During each hour Leq were directly computed by the instrument based on the sound pressure levels. Monitoring was carried out at 'A' response.

#### 3.3.3 Ambient Noise Monitoring Results

The location wise ambient noise monitoring results is summarized in **Table-3.9**. The noise levels are graphically presented in **Figure-3.5**.

**Table-3.9: Ambient Noise Monitoring Results**

Ambient Noise Level				
Sr. No.	Parameter	Unit	Results DAY TIME (6:00 AM - 10:00 PM)	Results NIGHT TIME (10:00 PM - 6:00 AM)
1	Equivalent sound level	dB(A)	62.4	49.6



**Figure-3.5: Day and Night Time noise Level at Near admin block**

Noise Standards as per CPCB Schedule rule 3(1) and 4(1)			
Area Code	Category of Area/Zone	Limits in dB(A) Leq	
		Day Time	Night Time
A	Industrial Area	75	70
B	Commercial Area	65	55
C	Residential Area	55	45
D	Silence Zone	50	40

### 3.3.4 Discussion on Ambient Noise Levels in the Study Area

#### **Day Time Noise Levels ( $L_{day}$ ):**

The day time noise level at monitoring station was found 62.4 dB(A), which is within limits prescribed for industrial area i.e. 75 db (A).

#### **Night Time Noise Levels ( $L_{night}$ ):**

The night time noise level at monitoring station was found 49.6 dB(A), which is within limit prescribed for industrial area i.e. 70 dB (A).

### 3.4 GROUND WATER QUALITY MONITORING

#### 3.4.1 Ground water Quality Monitoring Locations

Keeping in view the importance of ground water, sample of ground water was collected from the project site for the assessment of impacts of the project on the groundwater quality.

Water sample was collected from the project site. The sample was analyzed for various parameters to compare with the standards for Ground water as per IS: 10500 for Groundwater sources. The details of water sampling locations are given in **Table-3.10**.

**Table-3.10:**

**Details of Water Quality Monitoring Station**

Sr. No	Location Code	Location name and description	Date of Monitoring
1.	GW-1	Borewell Water	01 <sup>st</sup> April, 2022
2.	GW-1	Borewell Water	08 <sup>th</sup> May, 2022
3.	GW-1	Borewell Water	04 <sup>th</sup> June, 2022
4.	GW-1	Borewell Water	09 <sup>th</sup> July, 2022
5.	GW-1	Borewell Water	19 <sup>th</sup> August, 2022
6.	GW-1	Borewell Water	23 <sup>rd</sup> September-2022

#### 3.4.2 Methodology of ground water Quality Monitoring

Sampling of ground water was carried out on 01.04.2022, 08.05.2022, 04.06.2022, 09.07.2022, 19.08.2022 and 23.09.2022. Samples were collected as grab sample and sampling forms are filled in as per the sampling plan. The preservative sample were properly added to preserve as per standard operating procedures (SOP) and stored immediately in ice boxes, which were ensured for appropriate temperatures. **Sample for chemical analysis was collected in polyethylene carboys. Sample collected for metal content were acidified to <2 pH with 1 ml HNO<sub>3</sub>. A sample for bacteriological analysis was collected in sterilized glass bottles.**

Soon after the completion of sampling, chain of custody sheets for the samples are filled in and then they were transported by road to Environmental & Technical Research Centre, Lucknow for further analysis. Proper care was taken during packing and transportation of samples. All the samples reached the central laboratory within the holding times for different parameters. After ensuring the same the samples were forwarded immediately for analysis.

The samples were analyzed as per the standard procedures specified in 'Standard Methods for the Examination of Water and Wastewater' published by American Public Health Association (APHA) and CPCB. The analytical techniques and the test methods adopted for testing of ground water are given in **Table-3.11 to Table-3.16**.

#### 3.4.3 Ground water Quality Monitoring Results

The detailed Ground water quality monitoring results are presented in **Table-3.11 to Table-3.16**.

**Table-3.11:  
Ground water Quality Results at Borewell Water (April, 2022)**

Sr. No	Test Parameter	Unit	Protocol/Test Method	Result	Range of testing /limit of detection	Indian Standard 10500: 2012	
						Desirable	Permissible
<b>Physico-chemical Parameters</b>							
1	Colour	Hazen	IS: 3025 (Part-4): 1983 Reaffirmed: 2017	<5.0	5 - 30	5	15
2	Odour	-	IS: 3025 (Part-5): 1983 Reaffirmed: 2017	Agreeable	Qualitative	Agreeable	Agreeable
3	pH	-	APHA 23 <sup>rd</sup> Ed. 2017-4500 H <sup>+</sup>	7.4	1 - 14	6.5-8.5	No Relaxation
4	Turbidity	NTU	APHA 23 <sup>rd</sup> Ed. 2017-2130 B	BDL	2 - 40	1	5
5	Total Dissolved Solids (TDS)	mg/l	IS: 3025 (Part-16): 1984 Reaffirmed: 2017	428.0	10 - 5000	500	2000
6	Ammonia (as total ammonia-N)	mg/l	APHA 23 <sup>rd</sup> Ed. 2017-4500-NH <sub>3</sub> F	BDL	0.5 - 2.0	0.5	No Relaxation
7	Anionic Detergents (as MBAS)	mg/l	APHA 23 <sup>rd</sup> Ed. 2017-5540 C	BDL	0.05 - 0.5	0.2	1.0
8	Calcium as Ca	mg/l	IS: 3025 (Part-40): 1991 Reaffirmed: 2019	60.8	2.0 - 600	75	200
9	Magnesium as Mg	mg/l	APHA 23 <sup>rd</sup> Ed. 2017-3500 Mg, B	27.21	0.1 - 200	30	100
10	Chloride as Cl	mg/l	APHA 23 <sup>rd</sup> Ed. 2017-4500-Cl <sup>-</sup> B	30.0	2.0 - 2000	250	1000
11	Fluoride as F	mg/l	APHA 23 <sup>rd</sup> Ed. 2017-4500 F <sup>-</sup> C	0.42	0.02 - 5.0	1.0	1.5
12	Free Residual Chlorine	mg/l	IS: 3025 (Part-26): 1986 Reaffirmed: 2019	BDL	0.1 - 5.0	0.2	1.0
13	Nitrate as NO <sub>3</sub>	mg/l	IS: 3025 (Part-34): 1986 Reaffirmed: 2019	6.4	1.0 - 70	45	No Relaxation
14	Phenolic Compound (as C <sub>6</sub> H <sub>5</sub> OH)	mg/l	APHA 23 <sup>rd</sup> Ed. 2017-5530 C	BDL	0.001 - 0.005	0.001	0.002
15	Sulphate as SO <sub>4</sub>	mg/l	APHA 23 <sup>rd</sup> Ed. 2017-4500- SO <sub>4</sub> <sup>2-</sup>	30.0	1.0 - 500	200	400
16	Alkalinity as CaCO <sub>3</sub>	mg/l	APHA 23 <sup>rd</sup> Ed. 2017-2320 B	288.0	2.0 - 1000	200	600
17	Total Hardness as CaCO <sub>3</sub>	mg/l	APHA 23 <sup>rd</sup> Ed. 2017-2340 C	264.0	5.0 - 800	200	600
18	Aluminium as Al	mg/l	APHA 23 <sup>rd</sup> Ed. 2017-3120 B (ICP-OES)	BDL	0.015 - 5.0	0.03	0.2
19	Boron as B	mg/l	APHA 23 <sup>rd</sup> Ed. 2017-3120 B (ICP-OES)	BDL	0.05 - 2.0	0.5	1.0
20	Copper as Cu	mg/l	APHA 23 <sup>rd</sup> Ed. 2017-3120 B (ICP-OES)	BDL	0.03 - 10	0.05	1.5
21	Iron as Fe	mg/l	APHA 23 <sup>rd</sup> Ed. 2017-3120 B (ICP-OES)	0.11	0.05 - 20	0.3	No Relaxation
22	Manganese as Mn	mg/l	APHA 23 <sup>rd</sup> Ed. 2017-3120 B (ICP-OES)	0.02	0.02 - 5.0	0.1	0.3
23	Zinc as Zn	mg/l	APHA 23 <sup>rd</sup> Ed. 2017-3120 B (ICP-OES)	0.43	0.05 - 15	5	15
24	Cadmium as Cd	mg/l	APHA 23 <sup>rd</sup> Ed. 2017-3120 B (ICP-OES)	BDL	0.05 - 2.0	0.003	No Relaxation
25	Lead as Pb	mg/l	APHA 23 <sup>rd</sup> Ed. 2017-3120 B (ICP-OES)	BDL	0.01 - 10	0.01	No Relaxation
26	Mercury as Hg	µg/l	APHA 23 <sup>rd</sup> Ed. 2017-3120 B (ICP-OES)	BDL	0.5 - 1000	1.0	No Relaxation
27	Nickel as Ni	mg/l	APHA 23 <sup>rd</sup> Ed. 2017-3120 B (ICP-OES)	BDL	0.05 - 5.0	0.02	No Relaxation
28	Arsenic as As	mg/l	APHA 23 <sup>rd</sup> Ed. 2017-3120 B (ICP-OES)	BDL	0.02 - 2	0.01	0.05
29	Total Chromium	mg/l	APHA 23 <sup>rd</sup> Ed. 2017-3120 B (ICP-OES)	BDL	0.03 - 5.0	0.05	No Relaxation
<b>Microbiological Parameters</b>							
30	<i>E. coli</i>	MPN/100 ml	IS: 1622 - 1981 Reaffirmed: 2019	Absent	≥ 2 MPN Present or Absent per 100 ml	Shall not be detected in any 100 ml sample	
31	<i>T. coli</i>	MPN/100 ml	IS: 1622 - 1981 Reaffirmed: 2019	Absent	≥ 2 MPN Present or Absent per 100 ml	Shall not be detected in any 100 ml sample	

**Table-3.12:  
Ground water Quality Results at Borewell Water (May 2022)**

Sr. No	Test Parameter	Unit	Protocol/Test Method	Result	Range of testing /limit of detection	Indian Standard 10500: 2012	
						Desirable	Permissible
<b>Physico-chemical Parameters</b>							
1	Colour	Hazen	IS: 3025 (Part-4): 1983 Reaffirmed: 2017	<5.0	5 - 30	5	15
2	Odour	-	IS: 3025 (Part-5): 1983 Reaffirmed: 2017	Agreeable	Qualitative	Agreeable	Agreeable
3	pH	-	APHA 23 <sup>rd</sup> Ed. 2017-4500 H <sup>+</sup>	7.5	1 - 14	6.5-8.5	No Relaxation
4	Turbidity	NTU	APHA 23 <sup>rd</sup> Ed. 2017-2130 B	BDL	2 - 40	1	5
5	Total Dissolved Solids (TDS)	mg/l	IS: 3025 (Part-16): 1984 Reaffirmed: 2017	406.4	10 - 5000	500	2000
6	Ammonia (as total ammonia-N)	mg/l	APHA 23 <sup>rd</sup> Ed. 2017-4500-NH <sub>3</sub> F	BDL	0.5 - 2.0	0.5	No Relaxation
7	Anionic Detergents (as MBAS)	mg/l	APHA 23 <sup>rd</sup> Ed. 2017-5540 C	BDL	0.05 - 0.5	0.2	1.0
8	Calcium as Ca	mg/l	IS: 3025 (Part-40): 1991 Reaffirmed: 2019	59.2	2.0 - 600	75	200
9	Magnesium as Mg	mg/l	APHA 23 <sup>rd</sup> Ed. 2017-3500 Mg, B	29.16	0.1 - 200	30	100
10	Chloride as Cl	mg/l	APHA 23 <sup>rd</sup> Ed. 2017-4500-Cl <sup>-</sup> B	28.0	2.0 - 2000	250	1000
11	Fluoride as F	mg/l	APHA 23 <sup>rd</sup> Ed. 2017-4500 F <sup>-</sup> C	0.35	0.02 - 5.0	1.0	1.5
12	Free Residual Chlorine	mg/l	IS: 3025 (Part-26): 1986 Reaffirmed: 2019	BDL	0.1 - 5.0	0.2	1.0
13	Nitrate as NO <sub>3</sub>	mg/l	IS: 3025 (Part-34): 1986 Reaffirmed: 2019	9.8	1.0 - 70	45	No Relaxation
14	Phenolic Compound (as C <sub>6</sub> H <sub>5</sub> OH)	mg/l	APHA 23 <sup>rd</sup> Ed. 2017-5530 C	BDL	0.001 - 0.005	0.001	0.002
15	Sulphate as SO <sub>4</sub>	mg/l	APHA 23 <sup>rd</sup> Ed. 2017-4500- SO <sub>4</sub> <sup>2-</sup>	28.0	1.0 - 500	200	400
16	Alkalinity as CaCO <sub>3</sub>	mg/l	APHA 23 <sup>rd</sup> Ed. 2017-2320 B	296.0	2.0 - 1000	200	600
17	Total Hardness as CaCO <sub>3</sub>	mg/l	APHA 23 <sup>rd</sup> Ed. 2017-2340 C	268.0	5.0 - 800	200	600
18	Aluminium as Al	mg/l	APHA 23 <sup>rd</sup> Ed. 2017-3120 B (ICP-OES)	BDL	0.015 - 5.0	0.03	0.2
19	Boron as B	mg/l	APHA 23 <sup>rd</sup> Ed. 2017-3120 B (ICP-OES)	BDL	0.05 - 2.0	0.5	1.0
20	Copper as Cu	mg/l	APHA 23 <sup>rd</sup> Ed. 2017-3120 B (ICP-OES)	BDL	0.03 - 10	0.05	1.5
21	Iron as Fe	mg/l	APHA 23 <sup>rd</sup> Ed. 2017-3120 B (ICP-OES)	0.12	0.05 - 20	0.3	No Relaxation
22	Manganese as Mn	mg/l	APHA 23 <sup>rd</sup> Ed. 2017-3120 B (ICP-OES)	0.02	0.02 - 5.0	0.1	0.3
23	Zinc as Zn	mg/l	APHA 23 <sup>rd</sup> Ed. 2017-3120 B (ICP-OES)	0.38	0.05 - 15	5	15
24	Cadmium as Cd	mg/l	APHA 23 <sup>rd</sup> Ed. 2017-3120 B (ICP-OES)	BDL	0.05 - 2.0	0.003	No Relaxation
25	Lead as Pb	mg/l	APHA 23 <sup>rd</sup> Ed. 2017-3120 B (ICP-OES)	BDL	0.01 - 10	0.01	No Relaxation
26	Mercury as Hg	µg/l	APHA 23 <sup>rd</sup> Ed. 2017-3120 B (ICP-OES)	BDL	0.5 - 1000	1.0	No Relaxation
27	Nickel as Ni	mg/l	APHA 23 <sup>rd</sup> Ed. 2017-3120 B (ICP-OES)	BDL	0.05 - 5.0	0.02	No Relaxation
28	Arsenic as As	mg/l	APHA 23 <sup>rd</sup> Ed. 2017-3120 B (ICP-OES)	BDL	0.02 - 2	0.01	0.05
29	Total Chromium	mg/l	APHA 23 <sup>rd</sup> Ed. 2017-3120 B (ICP-OES)	BDL	0.03 - 5.0	0.05	No Relaxation
<b>Microbiological Parameters</b>							
30	<i>E. coli</i>	MPN/100 ml	IS: 1622 - 1981 Reaffirmed: 2019	Absent	≥ 2 MPN Present or Absent per 100 ml	Shall not be detected in any 100 ml sample	
31	<i>T. coli</i>	MPN/100 ml	IS: 1622 - 1981 Reaffirmed: 2019	Absent	≥ 2 MPN Present or Absent per 100 ml	Shall not be detected in any 100 ml sample	

**Table-3.13:**  
**Ground water Quality Results at Borewell Water (June, 2022)**

Sr. No	Test Parameter	Unit	Protocol/Test Method	Result	Range of testing /limit of detection	Indian Standard 10500: 2012	
						Desirable	Permissible
<b>Physico-chemical Parameters</b>							
1	Colour	Hazen	IS: 3025 (Part-4): 1983 Reaffirmed: 2017	<5.0	5 - 30	5	15
2	Odour	-	IS: 3025 (Part-5): 1983 Reaffirmed: 2017	Agreeable	Qualitative	Agreeable	Agreeable
3	pH	-	APHA 23 <sup>rd</sup> Ed. 2017-4500 H <sup>+</sup>	7.5	1 - 14	6.5-8.5	No Relaxation
4	Turbidity	NTU	APHA 23 <sup>rd</sup> Ed. 2017-2130 B	BDL	2 - 40	1	5
5	Total Dissolved Solids (TDS)	mg/l	IS: 3025 (Part-16): 1984 Reaffirmed: 2017	436.8	10 - 5000	500	2000
6	Ammonia (as total ammonia-N)	mg/l	APHA 23 <sup>rd</sup> Ed. 2017-4500-NH <sub>3</sub> F	BDL	0.5 - 2.0	0.5	No Relaxation
7	Anionic Detergents (as MBAS)	mg/l	APHA 23 <sup>rd</sup> Ed. 2017-5540 C	BDL	0.05 - 0.5	0.2	1.0
8	Calcium as Ca	mg/l	IS: 3025 (Part-40): 1991 Reaffirmed: 2019	59.2	2.0 - 600	75	200
9	Magnesium as Mg	mg/l	APHA 23 <sup>rd</sup> Ed. 2017-3500 Mg, B	34.99	0.1 - 200	30	100
10	Chloride as Cl	mg/l	APHA 23 <sup>rd</sup> Ed. 2017-4500-Cl <sup>-</sup> B	26.0	2.0 - 2000	250	1000
11	Fluoride as F	mg/l	APHA 23 <sup>rd</sup> Ed. 2017-4500 F <sup>-</sup> C	0.41	0.02 - 5.0	1.0	1.5
12	Free Residual Chlorine	mg/l	IS: 3025 (Part-26): 1986 Reaffirmed: 2019	BDL	0.1 - 5.0	0.2	1.0
13	Nitrate as NO <sub>3</sub>	mg/l	IS: 3025 (Part-34): 1986 Reaffirmed: 2019	10.2	1.0 - 70	45	No Relaxation
14	Phenolic Compound (as C <sub>6</sub> H <sub>5</sub> OH)	mg/l	APHA 23 <sup>rd</sup> Ed. 2017-5530 C	BDL	0.001 - 0.005	0.001	0.002
15	Sulphate as SO <sub>4</sub>	mg/l	APHA 23 <sup>rd</sup> Ed. 2017-4500- SO <sub>4</sub> <sup>2-</sup>	36.0	1.0 - 500	200	400
16	Alkalinity as CaCO <sub>3</sub>	mg/l	APHA 23 <sup>rd</sup> Ed. 2017-2320 B	316.0	2.0 - 1000	200	600
17	Total Hardness as CaCO <sub>3</sub>	mg/l	APHA 23 <sup>rd</sup> Ed. 2017-2340 C	292.0	5.0 - 800	200	600
18	Aluminium as Al	mg/l	APHA 23 <sup>rd</sup> Ed. 2017-3120 B (ICP-OES)	BDL	0.015 - 5.0	0.03	0.2
19	Boron as B	mg/l	APHA 23 <sup>rd</sup> Ed. 2017-3120 B (ICP-OES)	BDL	0.05 - 2.0	0.5	1.0
20	Copper as Cu	mg/l	APHA 23 <sup>rd</sup> Ed. 2017-3120 B (ICP-OES)	BDL	0.03 - 10	0.05	1.5
21	Iron as Fe	mg/l	APHA 23 <sup>rd</sup> Ed. 2017-3120 B (ICP-OES)	0.14	0.05 - 20	0.3	No Relaxation
22	Manganese as Mn	mg/l	APHA 23 <sup>rd</sup> Ed. 2017-3120 B (ICP-OES)	0.08	0.02 - 5.0	0.1	0.3
23	Zinc as Zn	mg/l	APHA 23 <sup>rd</sup> Ed. 2017-3120 B (ICP-OES)	0.29	0.05 - 15	5	15
24	Cadmium as Cd	mg/l	APHA 23 <sup>rd</sup> Ed. 2017-3120 B (ICP-OES)	BDL	0.05 - 2.0	0.003	No Relaxation
25	Lead as Pb	mg/l	APHA 23 <sup>rd</sup> Ed. 2017-3120 B (ICP-OES)	BDL	0.01 - 10	0.01	No Relaxation
26	Mercury as Hg	µg/l	APHA 23 <sup>rd</sup> Ed. 2017-3120 B (ICP-OES)	BDL	0.5 - 1000	1.0	No Relaxation
27	Nickel as Ni	mg/l	APHA 23 <sup>rd</sup> Ed. 2017-3120 B (ICP-OES)	BDL	0.05 - 5.0	0.02	No Relaxation
28	Arsenic as As	mg/l	APHA 23 <sup>rd</sup> Ed. 2017-3120 B (ICP-OES)	BDL	0.02 - 2	0.01	0.05
29	Total Chromium	mg/l	APHA 23 <sup>rd</sup> Ed. 2017-3120 B (ICP-OES)	BDL	0.03 - 5.0	0.05	No Relaxation
<b>Microbiological Parameters</b>							
30	<i>E. coli</i>	MPN/100 ml	IS: 1622 - 1981 Reaffirmed: 2019	Absent	≥ 2 MPN Present or Absent per 100 ml	Shall not be detected in any 100 ml sample	
31	<i>T. coli</i>	MPN/100 ml	IS: 1622 - 1981 Reaffirmed: 2019	Absent	≥ 2 MPN Present or Absent per 100 ml	Shall not be detected in any 100 ml sample	

**Table-3.14:  
Ground water Quality Results at Borewell Water (July, 2022)**

Sr. No	Test Parameter	Unit	Protocol/Test Method	Result	Range of testing /limit of detection	Indian Standard 10500: 2012	
						Desirable	Permissible
<b>Physico-chemical Parameters</b>							
1	Colour	Hazen	IS: 3025 (Part-4): 1983 Reaffirmed: 2017	<5.0	5 - 30	5	15
2	Odour	-	IS: 3025 (Part-5): 1983 Reaffirmed: 2017	Agreeable	Qualitative	Agreeable	Agreeable
3	pH	-	APHA 23 <sup>rd</sup> Ed. 2017-4500 H <sup>+</sup>	7.4	1 - 14	6.5-8.5	No Relaxation
4	Turbidity	NTU	APHA 23 <sup>rd</sup> Ed. 2017-2130 B	BDL	2 - 40	1	5
5	Total Dissolved Solids (TDS)	mg/l	IS: 3025 (Part-16): 1984 Reaffirmed: 2017	406.5	10 - 5000	500	2000
6	Ammonia (as total ammonia-N)	mg/l	APHA 23 <sup>rd</sup> Ed. 2017-4500-NH <sub>3</sub> F	BDL	0.5 - 2.0	0.5	No Relaxation
7	Anionic Detergents (as MBAS)	mg/l	APHA 23 <sup>rd</sup> Ed. 2017-5540 C	BDL	0.05 - 0.5	0.2	1.0
8	Calcium as Ca	mg/l	IS: 3025 (Part-40): 1991 Reaffirmed: 2019	56.0	2.0 - 600	75	200
9	Magnesium as Mg	mg/l	APHA 23 <sup>rd</sup> Ed. 2017-3500 Mg, B	32.076	0.1 - 200	30	100
10	Chloride as Cl	mg/l	APHA 23 <sup>rd</sup> Ed. 2017-4500-Cl <sup>-</sup> B	32.0	2.0 - 2000	250	1000
11	Fluoride as F	mg/l	APHA 23 <sup>rd</sup> Ed. 2017-4500 F <sup>-</sup> C	0.39	0.02 - 5.0	1.0	1.5
12	Free Residual Chlorine	mg/l	IS: 3025 (Part-26): 1986 Reaffirmed: 2019	BDL	0.1 - 5.0	0.2	1.0
13	Nitrate as NO <sub>3</sub>	mg/l	IS: 3025 (Part-34): 1986 Reaffirmed: 2019	6.8	1.0 - 70	45	No Relaxation
14	Phenolic Compound (as C <sub>6</sub> H <sub>5</sub> OH)	mg/l	APHA 23 <sup>rd</sup> Ed. 2017-5530 C	BDL	0.001 - 0.005	0.001	0.002
15	Sulphate as SO <sub>4</sub>	mg/l	APHA 23 <sup>rd</sup> Ed. 2017-4500- SO <sub>4</sub> <sup>2-</sup>	30.0	1.0 - 500	200	400
16	Alkalinity as CaCO <sub>3</sub>	mg/l	APHA 23 <sup>rd</sup> Ed. 2017-2320 B	288.0	2.0 - 1000	200	600
17	Total Hardness as CaCO <sub>3</sub>	mg/l	APHA 23 <sup>rd</sup> Ed. 2017-2340 C	272.0	5.0 - 800	200	600
18	Aluminium as Al	mg/l	APHA 23 <sup>rd</sup> Ed. 2017-3120 B (ICP-OES)	BDL	0.015 - 5.0	0.03	0.2
19	Boron as B	mg/l	APHA 23 <sup>rd</sup> Ed. 2017-3120 B (ICP-OES)	BDL	0.05 - 2.0	0.5	1.0
20	Copper as Cu	mg/l	APHA 23 <sup>rd</sup> Ed. 2017-3120 B (ICP-OES)	BDL	0.03 - 10	0.05	1.5
21	Iron as Fe	mg/l	APHA 23 <sup>rd</sup> Ed. 2017-3120 B (ICP-OES)	0.18	0.05 - 20	0.3	No Relaxation
22	Manganese as Mn	mg/l	APHA 23 <sup>rd</sup> Ed. 2017-3120 B (ICP-OES)	0.03	0.02 - 5.0	0.1	0.3
23	Zinc as Zn	mg/l	APHA 23 <sup>rd</sup> Ed. 2017-3120 B (ICP-OES)	0.47	0.05 - 15	5	15
24	Cadmium as Cd	mg/l	APHA 23 <sup>rd</sup> Ed. 2017-3120 B (ICP-OES)	BDL	0.05 - 2.0	0.003	No Relaxation
25	Lead as Pb	mg/l	APHA 23 <sup>rd</sup> Ed. 2017-3120 B (ICP-OES)	BDL	0.01 - 10	0.01	No Relaxation
26	Mercury as Hg	µg/l	APHA 23 <sup>rd</sup> Ed. 2017-3120 B (ICP-OES)	BDL	0.5 - 1000	1.0	No Relaxation
27	Nickel as Ni	mg/l	APHA 23 <sup>rd</sup> Ed. 2017-3120 B (ICP-OES)	BDL	0.05 - 5.0	0.02	No Relaxation
28	Arsenic as As	mg/l	APHA 23 <sup>rd</sup> Ed. 2017-3120 B (ICP-OES)	BDL	0.02 - 2	0.01	0.05
29	Total Chromium	mg/l	APHA 23 <sup>rd</sup> Ed. 2017-3120 B (ICP-OES)	BDL	0.03 - 5.0	0.05	No Relaxation
<b>Microbiological Parameters</b>							
30	<i>E. coli</i>	MPN/100 ml	IS: 1622 - 1981 Reaffirmed: 2019	Absent	≥ 2 MPN Present or Absent per 100 ml	Shall not be detected in any 100 ml sample	
31	<i>T. coli</i>	MPN/100 ml	IS: 1622 - 1981 Reaffirmed: 2019	Absent	≥ 2 MPN Present or Absent per 100 ml	Shall not be detected in any 100 ml sample	

**Table-3.15:**  
**Ground water Quality Results at Borewell Water (August, 2022)**

Sr. No	Test Parameter	Unit	Protocol/Test Method	Result	Range of testing /limit of detection	Indian Standard 10500: 2012	
						Desirable	Permissible
<b>Physico-chemical Parameters</b>							
1	Colour	Hazen	IS: 3025 (Part-4): 1983 Reaffirmed: 2017	<b>&lt;5.0</b>	5 - 30	5	15
2	Odour	-	IS: 3025 (Part-5): 1983 Reaffirmed: 2017	<b>Agreeable</b>	Qualitative	Agreeable	Agreeable
3	pH	-	APHA 23 <sup>rd</sup> Ed. 2017-4500 H <sup>+</sup>	<b>7.5</b>	1 - 14	6.5-8.5	No Relaxation
4	Turbidity	NTU	APHA 23 <sup>rd</sup> Ed. 2017-2130 B	<b>BDL</b>	2 - 40	1	5
5	Total Dissolved Solids (TDS)	mg/l	IS: 3025 (Part-16): 1984 Reaffirmed: 2017	<b>410.2</b>	10 - 5000	500	2000
6	Ammonia (as total ammonia-N)	mg/l	APHA 23 <sup>rd</sup> Ed. 2017-4500-NH <sub>3</sub> F	<b>BDL</b>	0.5 - 2.0	0.5	No Relaxation
7	Anionic Detergents (as MBAS)	mg/l	APHA 23 <sup>rd</sup> Ed. 2017-5540 C	<b>BDL</b>	0.05 - 0.5	0.2	1.0
8	Calcium as Ca	mg/l	IS: 3025 (Part-40): 1991 Reaffirmed: 2019	<b>60.8</b>	2.0 - 600	75	200
9	Magnesium as Mg	mg/l	APHA 23 <sup>rd</sup> Ed. 2017-3500 Mg, B	<b>24.3</b>	0.1 - 200	30	100
10	Chloride as Cl	mg/l	APHA 23 <sup>rd</sup> Ed. 2017-4500-Cl <sup>-</sup> B	<b>30.0</b>	2.0 - 2000	250	1000
11	Fluoride as F	mg/l	APHA 23 <sup>rd</sup> Ed. 2017-4500 F <sup>-</sup> C	<b>0.36</b>	0.02 - 5.0	1.0	1.5
12	Free Residual Chlorine	mg/l	IS: 3025 (Part-26): 1986 Reaffirmed: 2019	<b>BDL</b>	0.1 - 5.0	0.2	1.0
13	Nitrate as NO <sub>3</sub>	mg/l	IS: 3025 (Part-34): 1986 Reaffirmed: 2019	<b>8.4</b>	1.0 - 70	45	No Relaxation
14	Phenolic Compound (as C <sub>6</sub> H <sub>5</sub> OH)	mg/l	APHA 23 <sup>rd</sup> Ed. 2017-5530 C	<b>BDL</b>	0.001 - 0.005	0.001	0.002
15	Sulphate as SO <sub>4</sub>	mg/l	APHA 23 <sup>rd</sup> Ed. 2017-4500- SO <sub>4</sub> <sup>2-</sup>	<b>26.0</b>	1.0 - 500	200	400
16	Alkalinity as CaCO <sub>3</sub>	mg/l	APHA 23 <sup>rd</sup> Ed. 2017-2320 B	<b>276.0</b>	2.0 - 1000	200	600
17	Total Hardness as CaCO <sub>3</sub>	mg/l	APHA 23 <sup>rd</sup> Ed. 2017-2340 C	<b>252.0</b>	5.0 - 800	200	600
18	Aluminium as Al	mg/l	APHA 23 <sup>rd</sup> Ed. 2017-3120 B (ICP-OES)	<b>BDL</b>	0.015 - 5.0	0.03	0.2
19	Boron as B	mg/l	APHA 23 <sup>rd</sup> Ed. 2017-3120 B (ICP-OES)	<b>BDL</b>	0.05 - 2.0	0.5	1.0
20	Copper as Cu	mg/l	APHA 23 <sup>rd</sup> Ed. 2017-3120 B (ICP-OES)	<b>BDL</b>	0.03 - 10	0.05	1.5
21	Iron as Fe	mg/l	APHA 23 <sup>rd</sup> Ed. 2017-3120 B (ICP-OES)	<b>0.13</b>	0.05 - 20	0.3	No Relaxation
22	Manganese as Mn	mg/l	APHA 23 <sup>rd</sup> Ed. 2017-3120 B (ICP-OES)	<b>0.08</b>	0.02 - 5.0	0.1	0.3
23	Zinc as Zn	mg/l	APHA 23 <sup>rd</sup> Ed. 2017-3120 B (ICP-OES)	<b>0.36</b>	0.05 - 15	5	15
24	Cadmium as Cd	mg/l	APHA 23 <sup>rd</sup> Ed. 2017-3120 B (ICP-OES)	<b>BDL</b>	0.05 - 2.0	0.003	No Relaxation
25	Lead as Pb	mg/l	APHA 23 <sup>rd</sup> Ed. 2017-3120 B (ICP-OES)	<b>BDL</b>	0.01 - 10	0.01	No Relaxation
26	Mercury as Hg	µg/l	APHA 23 <sup>rd</sup> Ed. 2017-3120 B (ICP-OES)	<b>BDL</b>	0.5 - 1000	1.0	No Relaxation
27	Nickel as Ni	mg/l	APHA 23 <sup>rd</sup> Ed. 2017-3120 B (ICP-OES)	<b>BDL</b>	0.05 - 5.0	0.02	No Relaxation
28	Arsenic as As	mg/l	APHA 23 <sup>rd</sup> Ed. 2017-3120 B (ICP-OES)	<b>BDL</b>	0.02 - 2	0.01	0.05
29	Total Chromium	mg/l	APHA 23 <sup>rd</sup> Ed. 2017-3120 B (ICP-OES)	<b>BDL</b>	0.03 - 5.0	0.05	No Relaxation
<b>Microbiological Parameters</b>							
30	<i>E. coli</i>	MPN/100 ml	IS: 1622 - 1981 Reaffirmed: 2019	<b>Absent</b>	≥ 2 MPN Present or Absent per 100 ml	Shall not be detected in any 100 ml sample	
31	<i>T. coli</i>	MPN/100 ml	IS: 1622 - 1981 Reaffirmed: 2019	<b>Absent</b>	≥ 2 MPN Present or Absent per 100 ml	Shall not be detected in any 100 ml sample	

**Table-3.16;**  
**Ground water Quality Results at Borewell Water (September, 2022)**

Sr. No	Test Parameter	Unit	Protocol/Test Method	Result	Range of testing /limit of detection	Indian Standard 10500: 2012	
						Desirable	Permissible
<b>Physico-chemical Parameters</b>							
1	Colour	Hazen	IS: 3025 (Part-4): 1983 Reaffirmed: 2017	<5.0	5 - 30	5	15
2	Odour	-	IS: 3025 (Part-5): 1983 Reaffirmed: 2017	Agreeable	Qualitative	Agreeable	Agreeable
3	pH	-	APHA 23 <sup>rd</sup> Ed. 2017-4500 H <sup>+</sup>	7.4	1 - 14	6.5-8.5	No Relaxation
4	Turbidity	NTU	APHA 23 <sup>rd</sup> Ed. 2017-2130 B	BDL	2 - 40	1	5
5	Total Dissolved Solids (TDS)	mg/l	IS: 3025 (Part-16): 1984 Reaffirmed: 2017	425.8	10 - 5000	500	2000
6	Ammonia (as total ammonia-N)	mg/l	APHA 23 <sup>rd</sup> Ed. 2017-4500-NH <sub>3</sub> F	BDL	0.5 - 2.0	0.5	No Relaxation
7	Anionic Detergents (as MBAS)	mg/l	APHA 23 <sup>rd</sup> Ed. 2017-5540 C	BDL	0.05 - 0.5	0.2	1.0
8	Calcium as Ca	mg/l	IS: 3025 (Part-40): 1991 Reaffirmed: 2019	62.4	2.0 - 600	75	200
9	Magnesium as Mg	mg/l	APHA 23 <sup>rd</sup> Ed. 2017-3500 Mg, B	27.21	0.1 - 200	30	100
10	Chloride as Cl	mg/l	APHA 23 <sup>rd</sup> Ed. 2017-4500-Cl <sup>-</sup> B	28.0	2.0 - 2000	250	1000
11	Fluoride as F	mg/l	APHA 23 <sup>rd</sup> Ed. 2017-4500 F <sup>-</sup> C	0.40	0.02 - 5.0	1.0	1.5
12	Free Residual Chlorine	mg/l	IS: 3025 (Part-26): 1986 Reaffirmed: 2019	BDL	0.1 - 5.0	0.2	1.0
13	Nitrate as NO <sub>3</sub>	mg/l	IS: 3025 (Part-34): 1986 Reaffirmed: 2019	10.2	1.0 - 70	45	No Relaxation
14	Phenolic Compound (as C <sub>6</sub> H <sub>5</sub> OH)	mg/l	APHA 23 <sup>rd</sup> Ed. 2017-5530 C	BDL	0.001 - 0.005	0.001	0.002
15	Sulphate as SO <sub>4</sub>	mg/l	APHA 23 <sup>rd</sup> Ed. 2017-4500- SO <sub>4</sub> <sup>2-</sup>	32.0	1.0 - 500	200	400
16	Alkalinity as CaCO <sub>3</sub>	mg/l	APHA 23 <sup>rd</sup> Ed. 2017-2320 B	296.0	2.0 - 1000	200	600
17	Total Hardness as CaCO <sub>3</sub>	mg/l	APHA 23 <sup>rd</sup> Ed. 2017-2340 C	268.0	5.0 - 800	200	600
18	Aluminium as Al	mg/l	APHA 23 <sup>rd</sup> Ed. 2017-3120 B (ICP-OES)	BDL	0.015 - 5.0	0.03	0.2
19	Boron as B	mg/l	APHA 23 <sup>rd</sup> Ed. 2017-3120 B (ICP-OES)	BDL	0.05 - 2.0	0.5	1.0
20	Copper as Cu	mg/l	APHA 23 <sup>rd</sup> Ed. 2017-3120 B (ICP-OES)	BDL	0.03 - 10	0.05	1.5
21	Iron as Fe	mg/l	APHA 23 <sup>rd</sup> Ed. 2017-3120 B (ICP-OES)	0.18	0.05 - 20	0.3	No Relaxation
22	Manganese as Mn	mg/l	APHA 23 <sup>rd</sup> Ed. 2017-3120 B (ICP-OES)	0.06	0.02 - 5.0	0.1	0.3
23	Zinc as Zn	mg/l	APHA 23 <sup>rd</sup> Ed. 2017-3120 B (ICP-OES)	0.74	0.05 - 15	5	15
24	Cadmium as Cd	mg/l	APHA 23 <sup>rd</sup> Ed. 2017-3120 B (ICP-OES)	BDL	0.05 - 2.0	0.003	No Relaxation
25	Lead as Pb	mg/l	APHA 23 <sup>rd</sup> Ed. 2017-3120 B (ICP-OES)	BDL	0.01 - 10	0.01	No Relaxation
26	Mercury as Hg	µg/l	APHA 23 <sup>rd</sup> Ed. 2017-3120 B (ICP-OES)	BDL	0.5 - 1000	1.0	No Relaxation
27	Nickel as Ni	mg/l	APHA 23 <sup>rd</sup> Ed. 2017-3120 B (ICP-OES)	BDL	0.05 - 5.0	0.02	No Relaxation
28	Arsenic as As	mg/l	APHA 23 <sup>rd</sup> Ed. 2017-3120 B (ICP-OES)	BDL	0.02 - 2	0.01	0.05
29	Total Chromium	mg/l	APHA 23 <sup>rd</sup> Ed. 2017-3120 B (ICP-OES)	BDL	0.03 - 5.0	0.05	No Relaxation
<b>Microbiological Parameters</b>							
30	<i>E. coli</i>	MPN/100 ml	IS: 1622 - 1981 Reaffirmed: 2019	Absent	≥ 2 MPN Present or Absent per 100 ml	Shall not be detected in any 100 ml sample	
31	<i>T. coli</i>	MPN/100 ml	IS: 1622 - 1981 Reaffirmed: 2019	Absent	≥ 2 MPN Present or Absent per 100 ml	Shall not be detected in any 100 ml sample	

### 3.5 SOIL MONITORING

#### 3.5.1 Soil Monitoring Locations

The objective of the soil monitoring is to identify the impacts of ongoing project activities on soil quality and also predict impacts, which have arisen due to execution of various constructions allied activities. Accordingly, a study of assessment of the soil quality has been carried out.

To assess impacts of ongoing project activities on the soil in the area, the Physico-chemical characteristics of soils were examined by obtaining soil samples from selected points and analysis of the same. Single sample of soil was collected from the project site for studying soil characteristics, the location of which is listed in **Table-3.17**.

**Table-3.17:**

**Details of Soil Monitoring Stations**

S. No.	Location Code	Location name and description
1.	S1	Plant Site

#### 3.5.2 Methodology of Soil Monitoring

The sampling has been done in line with IS: 2720 & Methods of Soil Analysis, Part-1<sup>st</sup>, 2<sup>nd</sup> Edition, 1986 of American Society for Agronomy and Soil Science Society of America. The homogenized samples were analyzed for physical and chemical characteristics (physical, chemical and heavy metal concentrations). The soil samples were collected in the month of July on 09.07.2022.

The samples have been analyzed as per the established scientific methods for Physico-chemical parameters. The heavy metals have been analyzed by using Atomic Absorption Spectro-photometer.

#### 3.5.3 Soil Monitoring Results

Single sample of soil is collected from the site to check the quality of soil of the study area. The Physico-chemical characteristics of the soil, as obtained from the analysis of the soil sample, are presented in **Table-3.18 & 3.19**.

**Table-3.18:**

**Physico-Chemical Characteristics of Soil at Plant Site**

Sr. No.	Test Parameter	Unit	Protocol/Test Method	Result	Range of testing /limit of detection
1	pH	-	IS: 2720 (Part-26): 1987 Reaffirmed: 2016	7.2	1 - 14
2	Electrical Conductivity	µmhos/cm	IS: 14767:2000 Reaffirmed:2016	296.0	1.0 - 40000
3	Moisture content	%	IS: 2720 (Part-2): 1973 Reaffirmed: 2015	3.28	1.0 - 50
4	Nitrate as N	Kg/Hec	Method manual of soil testing India	264.2	1.0-50
5	Phosphorus (as P <sub>2</sub> O <sub>5</sub> )	Kg/Hec	Method manual of soil testing India	19.4	5.0-500
6	Potash as K <sub>2</sub> O	Kg/Hec	ETRC/ LABSOPS/17	151.0	1.0 - 2000

7	<b>Copper</b>	mg/kg	ETRC/ LABSOPS/07	<b>0.43</b>	0.3 - 500
8	<b>Zinc</b>	mg/kg	ETRC/ LABSOPS/08	<b>10.2</b>	1.0 - 500
9	<b>Iron</b>	mg/kg	ETRC/ LABSOPS/09	<b>34.6</b>	5.0 - 500
10	<b>Sulphur</b>	Kg/Hec	IS:14685: 1999 Reaffirmed: 2014	<b>8.2</b>	5.0 - 100
11	<b>Manganese</b>	mg/kg	ETRC/ LABSOPS/10	<b>14.9</b>	5.0 - 500

### 3.5.4 Discussion on Soil Characteristics in the Study Area

The soil in study area is characterized by moderate organic content. The soil quality in the project area has not been affected by the project activities

### 3.6 Water Analysis ETP Inlet & Outlet Monitoring

The sampling and analysis of ETP Inlet & outlet was done on month April 2022 the monthly results are as under.

**Table 3.20 (A): ETP Inlet Monitoring Result**

Sr. No.	Test Parameter	Unit	Protocol/Test Method	Result	Range of testing /limit of detection
1	pH	-	APHA 23 <sup>rd</sup> Ed. 2017-4500H <sup>+</sup>	<b>4.7</b>	1 - 14
2	Total Dissolved Solid (TDS)	mg/l	IS: 3025 (Part-16): 1984 Reaffirmed: 2017	<b>1458.6</b>	10 - 40000
3	Total Suspended Solid (TSS)	mg/l	APHA 23 <sup>rd</sup> Ed. 2017-2540 D	<b>264.5</b>	5.0 - 20000
4	Bio-chemical Oxygen Demand (BOD)	mg/l	IS: 3025 (Part-44): 1993 Reaffirmed: 2019	<b>674.0</b>	1.0 - 150000
5	Chemical Oxygen Demand (COD)	mg/l	IS: 3025 (Part-58): 2006 Reaffirmed: 2017	<b>2168.0</b>	2.0 - 600000

**Table 3.20 (B): ETP Outlet Monitoring Result**

Sr. No.	Test Parameter	Unit	Protocol/Test Method	Result	Range of testing /limit of detection
1	pH	-	APHA 23 <sup>rd</sup> Ed. 2017-4500H <sup>+</sup>	<b>7.4</b>	1 - 14
2	Total Dissolved Solid (TDS)	mg/l	IS: 3025 (Part-16): 1984 Reaffirmed: 2017	<b>875.5</b>	10 - 40000
3	Total Suspended Solid (TSS)	mg/l	APHA 23 <sup>rd</sup> Ed. 2017-2540 D	<b>28.6</b>	5.0 - 20000
4	Bio-chemical Oxygen Demand (BOD)	mg/l	IS: 3025 (Part-44): 1993 Reaffirmed: 2019	<b>22.0</b>	1.0 - 150000
5	Chemical Oxygen Demand (COD)	mg/l	IS: 3025 (Part-58): 2006 Reaffirmed: 2017	<b>92.0</b>	2.0 - 600000



**UTTAR PRADESH POLLUTION CONTROL BOARD**  
**Building. No TC-12V Vibhuti Khand, Gomti Nagar, Lucknow-226010**

Phone:0522-2720828,2720831, Fax:0522-2720764, Email: info@uppcb.com, Website: www.uppcb.com

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**CONSENT ORDER**

**Ref No. -**  
**141511/UPPCB/Lucknow(UPPCBRO)/CTO/air/LAKHIMPUR**  
**KHIRI/2021**

**Dated : 28/12/2021**

**To ,**

Shri GOBIND SUGAR MILLS LIMITED SUGAR DIVISION  
M/s GOBIND SUGAR MILLS LIMITED SUGAR DIVISION  
AIRA ESTATE, KHAMARIA PANDIT,LAKHIMPUR KHIRI,LAKHIMPUR KHIRI,262722  
LAKHIMPUR KHIRI

**Sub :** Consent under section 21/22 of the Air (Prevention and control of Pollution) Act, 1981 (as amended)  
to M/s. GOBIND SUGAR MILLS LIMITED SUGAR DIVISION

Reference Application No. 14035923

Dated : 28/12/2021

1. With reference to the application for consent for emission of air pollutants from the plant of M/s GOBIND SUGAR MILLS LIMITED SUGAR DIVISION. under Air Act 1981. It is being authorised for said emissions, as per the standards, in environment, by the Board as per enclosed conditions .
2. This consent is valid for the period from 01/01/2022 to 31/12/2023 .
3. In spite of the conditions and provisions mentioned in this consent order UP Pollution Control Board reserves its right and powers to reconsider/amend any or all conditions under section 21 (6) of the Air (Prevention and Control of Pollution) Act, 1981 as amended.  
This consent is being issued with the permission of competent authority .

**For and on behalf of U.P. Pollution Control Board**

**Chief Environmental Officer,Circle-5.**

**Enclosed : As above**  
**(condition of consent):**

Copy to: Regional Officer, UPPCB, Lucknow.

**Chief Environmental Officer,Circle-5.**

## U.P. Pollution Control Board

Dated : 28/12/2021

### CONDITIONS OF CONSENT

1. This consent is valid for the approved production capacity of cane crushing Sugar by crushing sugar cane 10,000 TCD and 39.7 Megawatt Co-generation Power Plant .
2. This consent is valid only for products and quantity mentioned above. Industry shall obtain prior approval before making any modification in product/ process /fuel/ plant machinery failing which consent would be deemed void.
- 3(a) The maximum rate of emission of flue gas should not be more than the emission norms for the stacks.
- 3(b) . Air Pollution Source Details.

<b>Air Pollution Source Details</b>					
<b>S.No</b>	<b>Air Polution Source</b>	<b>Type of Fuel</b>	<b>Stack No.</b>	<b>Parameters</b>	<b>Height</b>
1	01 nos. Boiler (capacity of 150.0 TPH)	Bagasse	1	Particulate Matter	72 meter from GL
2	01 nos. Boiler (capacity of 70.0 TPH)	Bagasse	2	Particulate Matter	40 meter from GL
3	625 KVA DG set	Diesel	3	Particulate Matter	As specified in EPA, 1986
4	625 KVA DG set	Diesel	4	Particulate Matter	As specified in EPA, 1986
5	625 KVA DG set	Diesel	5	Particulate Matter	As specified in EPA, 1986

- 3(c) . The emissions by various stacks into the environment should be as per the norms of the Board .

<b>Emission Quality Details Detail</b>			
<b>S.No</b>	<b>Stack No</b>	<b>Parameter</b>	<b>Standard</b>
1	1	Particulate Matter	150 mg/Nm3
2	2	Particulate Matter	150 mg/Nm3

- 4 . The industry should be operated in such a manner that it does not adversely affect the environment and the solid waste generated such as ash etc. is disposed in eco friendly manner .
- 5 . Any source of emission other than that mentioned in the Air consent seeking application will not be permitted by the Board .
- 6 . The industry should ensure the operation of the air pollution control system (APCS) in such a manner that the air emission confirms with the standards prescribed under the E.P Act 1986 as amended.
- 7 . The industry shall submit Environmental Statement in prescribed format as per rule no.14 as per E.P Rules 1986 .
- 8 . The industry shall abide by orders / directions issued by Hon'ble Supreme court Hon'ble High Court, Hon'ble National Green tribunal, Central Pollution Control Board and U.P Pollution Control Board for protection and safe guard of environment from time to time .
- 9 . Industry shall submit monthly monitoring reports of all stacks and ambient air quality from a certified / approved laboratory under E.P. Act 1986 .
- 10 . The industry shall comply with various provisions of Air (Prevention and Control of Pollution) Act 1981 as amended, Water (Prevention and Control of Pollution) Act 1974 as amended and all other applicable rules notified under E.P. Act 1986.
- 11 . The industry will ensure the continuous and uninterrupted data supply from the OCEEMS to the CPCB and SPCB .

- 12 . The unit shall submit audited balance sheet for the current year and the details of fees deposited during last three years within a month failing which consent would be deemed void.
- 13 . The use of Pet coke and Furnace oil as a fuel in the factory is restricted in compliance of the Hon'ble Supreme court order .
- 14 . The Industry will use minimum 20% Bio Briquette as fuel in the Boiler depending upon its availability .
- 15 . The industry shall obtain prior consents in the event of any addition of new emission generation sources such as- Boiler/ Furnace/ Heaters/ D.G. Sets or alteration of existing emission sources in accordance with section- 21/22 of air Act 1981 (as amended respectively).
- 16 . Minimum 33% of the land on which industry is established will be covered and properly maintained by the plantation of tall trees of suitable species as per the guidelines set up by the Board vide its Office Order no.H-16405/220/2018/02 dt. 16/02/2018. The copy of this guideline is available at URL [http://www.uppcb.com/pdf/Green-Belt-Guidle\\_160218.pdf](http://www.uppcb.com/pdf/Green-Belt-Guidle_160218.pdf) .
- 17 . If closure order is issued by CPCB or UPPCB against the unit, then CTO issued earlier will remain suspended during the closure period and after ensuring the compliance and after revocation of closure order, the CTO will automatically be effective with additional conditions mentioned in the closure revocation order .
- 18 . Industry shall abide by the directions given by Hon'ble Court, Central Pollution Control Board and UPPCB for protection and safe guard of environment from time to time .

**The Unit will file the renewal application at least 2 months prior to the expiry of this Order.**

**Specific Conditions:**

1. This consent is valid for the production of Sugar by crushing sugar cane- 10,000 TCD and 39.70 Megawatt Co-generation Power Plant.
2. The analysis report of flue gas emission, and ambient air quality shall be submitted on quarterly basis.
3. The industry shall ensure the proper operation and maintenance of the air pollution control system (wet scrubber) in such a manner that the air emission conforms with the standards prescribed under the E.P Act 1986 as amended.
4. The industry shall ensure comply with the provisions of charter on Sugar industry and industry shall abide by directions given by Hon'ble Supreme Court, High Court, National Green Tribunals, Central Pollution Control Board and Uttar Pradesh Pollution Control Board for protection and safeguard of environment from time to time.
5. Industry shall operate and maintain installed APCS (ESP and wet scrubber attached with the boilers of capacity 150.0 TPH and 70 TPH) effectively and Stack monitoring report shall be submitted on quarterly basis.
6. Stack heights of all the DG sets (capacities of 3X625 KVA) should be kept as per the prescribed norms under E.P. Act, 1986 and all the DG sets shall be in acoustic enclosure.
7. Industry shall submit the latest copy of Audited Balance Sheet/C.A. Certificate (Fixed Assets+ Current Assets - Current Liabilities) so the Consent fee payable by the industry may be verified.
8. The operation of industry shall be in such a manner that no any adverse impact on the environment and public in surrounding.
9. Industry shall develop green belt as per the protocol attached with the board's office order no. H16405/220/2018/02 dated 16-02-2018 which is available on board's website.
10. Effective operation & maintenance of all installed air pollution control equipment shall be done so that emission meets the norms/standards of CPCB and Industry shall be operated in such a manner that ambient air quality should not be adversely affected.
11. Fly Ash content shall be used for low lying industry own land filling in a scientific manner that ambient air quality near by the industry should not be adversely affected.
12. The industry shall follow the directions issued by the Ministry of Environment Forest and Climate Change, Delhi vide Notification no. GSR 35(E) dated 14/01/2016.
13. The industry shall be operated in such a manner that it does not adversely affect the environment and the solid waste generated such as ash etc. is disposed in Eco friendly manner.
14. Arrangements for collection, segregation, storage, handling and disposal of solid Waste including garbage shall be provided and maintained properly.
15. Any new source of emission other than that mentioned in the Air consent seeking application will not be permitted by the Board. The unit shall obtain prior consents in the event of any addition of new emission generation sources such as- Boiler/ Furnace/ Heaters/ D.G. Sets or alteration of existing emission sources in accordance with section- 21/22 of air Act 1981 (as amended respectively).
16. The industry shall ensure to submit within 01 month a proposal, along with relevant land ownership documents, for safe disposal of boiler ash.
17. Solid waste generated from industries will not be allowed for open burning in the premises or around the industry's area as it is mandatory by the order of NGT.
18. The industry shall comply with the provisions of Environment (Protection) Act 1986, Water (Prevention and Control of Pollution) Act, 1974 as amended, Air (Prevention and Control of Pollution) Act, 1981 as amended, Plastic Waste Management Rules 2016, E- Waste (Management) Rules 2016, Solid Waste Management Rules 2016 & Hazardous and other Waste (Management and

Transboundary Movement) Rules 2016 (Whichever is applicable).

19. The units must ensure to deposit the balance CTO (Air) fee of Rs. 50,000/-, in compliance to the condition mentioned at serial no. 19 of previous CTO issued dated 11.3.2020.

20. If closure order is issued by CPCB or UPPCB against any defaulting unit, then CTO issued earlier will remain suspended during the closure period and after ensuring the compliance and after revocation of closure order, the CTO will automatically be effective from the date of issuance of closure order revocation, with additional conditions mentioned in the closure revocation order.

**Issued with the permission of competent authority .**

**For and on behalf of U.P. Pollution Control Board .**

**Chief Environmental Officer,Circle-5.**



**UTTAR PRADESH POLLUTION CONTROL BOARD**  
**Building. No TC-12V Vibhuti Khand, Gomti Nagar, Lucknow-226010**

Phone:0522-2720828,2720831, Fax:0522-2720764, Email: info@uppcb.com, Website: www.uppcb.com

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**CONSENT ORDER**

**Ref No. -**  
**141503/UPPCB/Lucknow(UPPCBRO)/CTO/water/LAKHIMPUR KHIRI/2021**

**Dated : 28/12/2021**

**To ,**

Shri GOBIND SUGAR MILLS LIMITED SUGAR DIVISION  
M/s GOBIND SUGAR MILLS LIMITED SUGAR DIVISION  
AIRA ESTATE, KHAMARIA PANDIT, LAKHIMPUR KHIRI, LAKHIMPUR KHIRI, 262722  
LAKHIMPUR KHIRI

**Sub : Consent under Section 25/26 of The Water (Prevention and control of Pollution) Act, 1974 (as amended) for discharge of effluent to M/s. GOBIND SUGAR MILLS LIMITED SUGAR DIVISION**

**Reference Application No :14034884**

**Dated :28/12/2021**

1. For disposal of effluent into water body or drain or land under The Water (Prevention and control of Pollution) Act, 1974 as amended (here in after referred as the act ) M/s. GOBIND SUGAR MILLS LIMITED SUGAR DIVISION is hereby authorized by the board for discharge of their industrial effluent generated through ETP for irrigation/river through drain and disposal of domestic effluent through septic tank/soak pit subject to general and special conditions mentioned in the annexure ,in reference to their foresaid application .
2. This consent is valid for the period from 01/01/2022 to 31/12/2023 .
3. In spite of the conditions and provisions mentioned in this consent order UP Pollution Control Board reserves its right and powers to reconsider/amend any or all conditions under section 27(2) of the Water (Prevention and Control of Pollution) Act, 1974 as amended .

This consent is being issued with the permission of competent authority .

**For and on behalf of U.P. Pollution Control Board**

**Chief Environmental Officer, Circle-5, UPPCB.**

**Enclosed : As above**  
**(condition of consent):**

Copy to: Regional Officer, UPPCB, Lucknow.

**Chief Environmental Officer, Circle-5, UPPCB.**



## U.P. POLLUTION CONTROL BOARD, LUCKNOW

### Annexure to Consent issued to M/s.GOBIND SUGAR MILLS LIMITED SUGAR DIVISION vide

Consent Order No. 14034884/ Water

Dated : 28/12/2021

#### CONDITIONS OF CONSENT

1. This consent is valid for the approved production capacity of Sugar by crushing sugar cane 10,000 TCD and 39.7 Megawatt Co-generation Power Plant .
2. This consent is valid only for products and quantity mentioned above. Industry shall obtain prior approval before making any modification in product/ process /fuel/ plant machinery failing which consent would be deemed void.
3. The quantity of maximum daily effluent discharge should not be more than the following :

<b>Effluent Discharge Details</b>			
<b>S.No</b>	<b>Kind of Effluent</b>	<b>Maximum daily discharge,KL/day</b>	<b>Treatment facility and discharge point</b>
1	Domestic	160 KLD	Septic Tank
2	Industrial	2000 KLD	ETP

4. Arrangement should be made for collection of water used in process and domestic effluent separately in closed water supply system. The treated domestic and industrial effluent if discharged outside the premises, if meets at the end of final discharge point, arrangement should be made for measurement of effluent and for collecting its sample. Except the effluent informed in the application for consent no other effluent should enter in the said arrangements for collection of effluent. It should also be ensured that domestic effluent should not be discharged in storm water drain .
- 4(a) The domestic effluent should be treated in the treatment plant so that it should be in conformity with the norms of treated effluent as stipulated in E.P. Rules 1986 as amended.

<b>Domestic Effluent</b>		
<b>S.No</b>	<b>Parameter</b>	<b>Standard</b>

- 4(b) The industrial effluent should be treated in treatment plant so that the treated effluent should be in conformity with the standard lay down under the notification issued by MOEF&CC vide its GO no GSR 35 (E) dated 14/01/2016.

<b>Industrial Effluent</b>		
<b>S.No</b>	<b>Parameter</b>	<b>Standard</b>
1	Total Suspended Solids	30 mg/l
2	BOD	30 mg/l
3	COD	250 mg/l
4	Oil & Grease	10 mg/l

- 4(c) Loading Rates for different soil textures.

<b>S.No</b>	<b>Soil Texture</b>	<b>Loading rate in m<sup>3</sup>/Ha/Day</b>
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5. Effluent generated in all the processes, bleed water, cooling effluent and the effluent generated from washing of floor and equipments etc should be treated before its disposal with treated industrial effluent so that it should be according to the norms prescribed under The Environment (Protection) Rules, 1986 or otherwise mandatory.
6. The method for collecting industrial and domestic effluent and its analysis should be as per legal Indian standards and its subsequent amendments/ standards prescribed under the Environment (Protection) Act, 1986.
7. The industry shall establish the cooling arrangement and polishing tank for recycling the excess condensate water to process or utilities or allied units.
8. Effluent Treatment Plant to be stabilized one month prior to the start of the crushing season and continue to operate one month after the crushing season.

9. During no demand period for irrigation, the treated effluent to be stored in a seepage proof lined pond having 15 days holding capacity only.
10. The industry shall implement treated effluent flow distribution measurement for irrigation purposes completely in accordance with irrigation plan.
11. The impact of treated effluent application on land is to be included further in E.I.A. studies, involving ground water monitoring point identified in close proximity to the unit.
12. The industry will have to ensure compliance of the permission from the CGWA before ground water extraction and it will be the responsibility of the industry to comply with the various conditions of the permission taken.
13. The industry shall submit Environmental Statement in prescribed form V rule no.14 of E.P Rules 1986.
14. The industry shall comply with various provisions of Air (Prevention and Control of Pollution) Act 1981 as amended, Water (Prevention and Control of Pollution) Act 1974 as amended and all other applicable rules notified under E.P. Act 1986.
15. Minimum 33% of the land on which unit is established will be covered and properly maintained by the plantation of tall trees of suitable species as per the guidelines set up by the Board vide its Office Order no.H-16405/220/2018/02 dt. 16/02/2018. The copy of this guideline is available at URL [http://www.uppcb.com/pdf/Green-Belt-Guidle\\_160218.pdf](http://www.uppcb.com/pdf/Green-Belt-Guidle_160218.pdf).
16. The industry will ensure the continuous and uninterrupted data supply from the OCEEMS to the CPCB and SPCB .
17. Flow meter to be installed in all water abstraction points and usage of fresh water to be minimized. The unit will ensure facility to transmit data to CPCB server and submit a regular calibration certificate of Electro Magnetic Flow meter to the Board.
18. If closure order is issued by CPCB or UPPCB against the unit, then CTO issued earlier will remain suspended during the closure period and after ensuring the compliance and after revocation of closure order, the CTO will automatically be effective with additional conditions mentioned in the closure revocation order.
19. Industry shall abide by the directions given by Hon'ble Court, Central Pollution Control Board and UPPCB for protection and safe guard of environment from time to time.
20. The Unit will file the renewal application at least 2 months prior to the expiry of this Order.

**Specific Conditions:**

1. This consent is valid for the production of Sugar by crushing Sugar cane- 10,000 TCD and 39.7 Megawatt Co-generation Power.
2. This consent is valid for the current products and capacity. In Case of any change in process, capacity enhancement etc. No Objection Certificate shall be obtained from the Board.
3. The industry shall treat industrial effluent through ETP in such manner, so that quality of treated effluent meets the prescribed standards.
4. The industry shall ensure continuous operation of ETP in non crushing season of sugar unit.
5. The industry shall maintain and operate the ETP properly and the treated effluent/sewage shall be recycled and used for irrigation and shall ensure that no treated effluent is discharged in any surface water body.
6. The industry shall ensure to maintain and operate the PTZ webcam on the aeration tanks and at the final outlet of ETP.
7. The industry shall ensure regular operation of water flow meter at ETP outlet.
8. During no demand period for irrigation, the treated effluent shall be stored in a seepage proof lined pond having 15 days holding capacity and should be red marked at free Board.
9. The industry shall ensure to operate and maintain the online Continuous Effluent Monitoring System regularly.
10. The industry shall ensure to install the STP of adequate capacity for treatment of domestic waste water and submit a time bound program in this office within a month.
11. The industry shall follow the directions issued by the Ministry of Environment Forest and Climate Change, Delhi vide Notification no. GSR 35(E) dated 14/01/2016.
12. The industry shall be submit irrigation plan as per the protocol within one month.
13. The industry shall submit to proposal for installation of flow meter to ensure recycled condensate from sugar cane juice and cooling tower within 01 month.
14. The industry shall comply with the conditions as imposed in NOC from CGWA issued dated 28.02.2020.
15. The Order issued by Hon'ble Courts/Hon'ble NGT, MOEF, Central Pollution Control Board, U.P. Pollution Control Board, shall be complied with.
16. Generated hazardous waste shall be stored temporarily in the factory premises and disposed off through authorized TSDf after obtaining the authorization from the Board.
17. Industry shall submit the latest copy of Audited Balance Sheet/C.A. Certificate (Fixed Assets+ Current Assets - Current Liabilities) so the Consent fee payable by the industry may be verified.
18. Install Electromagnetic Pizo Meter at each point of water supply source and at effluent discharge point and ensure to timely send meter reading to department on monthly basis.
19. The industry shall comply with the provisions of Environment (Protection) Act 1986, Water (Prevention and Control of Pollution) Act, 1974 as amended, Air (Prevention and Control of Pollution) Act, 1981 as amended, Plastic Waste Management Rules 2016, E- Waste (Management) Rules 2016, Solid Waste Management Rules 2016 & Hazardous and other Waste (Management and Transboundary Movement) Rules 2016 (Whichever is applicable).
20. Industry shall develop green belt as per the Protocol attached with Board's office order H 16405 /220/2018/02 dated 16-2-2018, which is available on Board's website- [www.uppcb.com](http://www.uppcb.com).
21. The unit must submit within 01 month a proposal in the Board for installation of Sewage Treatment Plant for treatment of domestic sewage.

22. Conditions for Molasses Storage:

- i. The molasses shall be properly collected and stored in steel tank which shall be leak proof. At no stage of handling of molasses, there shall be leakage or spillage.
- ii. The capacity of tank for storage of molasses shall be such that it will take care of bumper production of sugar, non-lifting of molasses etc.
- iii. All the area on which molasses are stored and handled should be provided with drain for diverting the spills to the treatment plant/molasses tank. Suitable arrangements for accidental discharges of molasses from the tank shall be provided to contain the same within factory premises.
- iv. Destruction of molasses and its disposal shall not be done without specific permission in writing from the authorized officer of the Board. Intimation of intention to destroy or dispose of the molasses shall be given to the Board at least 15 days in advance by registered post under intimation to the Board.
- v. The storage tanks shall be kept in good conditions all the year around with adequate maintenance. The tanks size and capacity per cm, height, total capacity in tones shall be displayed prominently near/on the tank.

23. Operation of ETP shall be started at least one month before starting of cane crushing to achieve desired MLSS. So as to meet prescribed standards from day one the operation of mill.

24. Industry shall maintain flow meter at the Final Outlet of ETP and maintain a logbook to record its readings.

25. Neither storm water nor discharge from other premises shall be allowed to mix with the effluents from the factory.

26. The industry shall ensure polluted water is not discharged into any stream so that the quality of Sharda river water is not adversely affected.

27. Industry to keep minimum number of fresh water taps in the sugar mill to reduce loss of water.

28. All pipe lines and vessels should be properly insulated to reduce steam consumption and water loss.

29. The unit must ensure compliance of the instruction given to it vide Board's letter H 61846/C-5/L/Jal/01/2021 dated 17.5.2021 regarding installation of Sulphate removal system.

30. The units must ensure to deposit the balance CTO (Water) fee of Rs. 50,000/-, in compliance to letter issued by Head Office ref. no. H 50937/C-5/L/Jal-1/2020 dated 14.7.2020, due towards renewal of previous CTO (water).

31. If closure order is issued by CPCB or UPPCB against the unit, then this CTO issued will remain suspended during the closure period and after ensuring the compliance and after revocation of closure order, the CTO will automatically be effective from the date of issuance of closure order revocation, with additional conditions mentioned in the closure revocation order.

**Issued with the permission of competent authority .**

**For and on behalf of U.P. Pollution Control Board .**

**Chief Environmental Officer, Circle-5, UPPCB.**

755

# State Level Environment Impact Assessment Authority, Uttar Pradesh

EC  
File No - 1745

Directorate of Environment, U.P.

Vineet Khand-1, Gomti Nagar, Lucknow-226 010

Phone : 91-522-2300 541, Fax : 91-522-2300 543

E-mail : docuplko@yahoo.com

Website : www.seaap.com

To,

Sri Ashok Saxena,  
President- Unit Head,  
M/s Govind Sugar Mill Ltd.,  
Aira Estate,  
Lakhimpur-Kheri-262722

Ref. No...../Parya/SEAC/1745/2013/OSD(T)

Date: 07/8 August, 2014

**Sub: Environmental Clearance for Expansion of existing sugar Mill crushing capacity from 7200 TCD to 10000 TCD along with captive co-generation power plant from existing capacity 9.7 MW to 39.7 MW (bagasse based) within existing Sugar Plant, at Village-Khamaria Pandit, Tehsil- Dhaurahra, Block- Isha nagar, distrcit- Lakhimpur of M/s Govind Sugar Mill Ltd.,-Regarding.**

Dear Sir,

Please refer to your application/letters dated 08-08-2013 & 22-05-2014 addressed to the Secretary, SEAC and Director, Directorate of Environment Govt. of UP on the subject as above. A presentation was made by the representative of the project proponent along with their consultant M/s Sawen Consultancy Services Pvt. Ltd.Lucknow. of the project in State Level Expert Appraisal Committee (SEAC) meeting dated 20-06-2013.

The Project proponent, through documents (submitted to SEAC) and presentation made during meeting, has informed to the SEAC that:-

1. The environmental clearance is sought for Expansion of existing sugar Mill crushing capacity from capacity 7200 TCD to 10000 TCD and captive power co-generation from existing capacity 9.7 MW to 39.7 MW based on the bagasse fuel within existing Sugar Mill Plant (Govind Sugar Mill Ltd., Lakhimpur Kheri.)
2. Salient features of the project are as follows:

	Item	Details
1.	Total project area	Expansion will be done within existing premises, land is available
2.	Proposed capacity of Expansion of Sugar plant & Power	Expansion of existing cane crushing capacity from 7200 TCD to 10000 TCD along with expansion of Power- 9.7MW to 39.7MW. Project cost: 272 Crore.+ 5.44 Crore for CSR activities(@2% of total project profit
3.	Proposed capacity of Power	39.7 MW after expansion

Recd  
4/8/14  
26/8/14

VIKAS C. AGGARWAL  
S.P.O. (ENVIS)  
Directorate of Environment

	generation	
4.	Category of Project	'B' Sugar with power ( integrated project)
5.	Raw material	Sugarcane
6.	Quantity of Sugarcane	10,000 MT/day Sugarcane,
7.	Steam requirement	Approx. 220 TPH
8.	Water requirement	Industrial process- 7000 KLPD, Domestic- 20 KLPD
9.	Waste water generation	1000 KLPD
10.	Waste water treatment	ETP based on Activated sludge process by up gradation of the existing ETP
11.	Waste water discharge	ZERO
12.	No of Boilers	Existing- 70 TPH -01 no, Proposed 150 TPH - 01 no
13.	Fuel quality & quantity	Bagasse -1354 TPD
14.	Air pollution control device	ESP ( electro static precipitator) in new Boiler. Wet scrubber is reported to be installed in the existing boiler.
15.	No of Stack	Existing attached with existing boiler & 01 for proposed boiler height 72 mtrs
16.	Solid waste generation and its disposal (1)Fly ash from Boiler (2) Bagasse (3)Molasses (4) Press mud	92 TPD will reused in filling of low lying areas or making fly ash bricks 3000 TPD will be used as fuel in own boilers 450 TPD will be sold to the fermentation units/Distillery 350 TPD will be used as fertilizers.
17.	Power Generation	39.7 MW after expansion
18.	Power requirement	10.0 MW in own consumption, rest for export.
19.	Green belt development	Approx. 33-35 % of total area
20.	Cost towards Environmental protection measures( Capital cost)	Approx .Rs 3.0 crores
21.	Recurring cost towards Environmental control measures.	Approx. 50 Lacs per annum
22.	CSR expenses (Corporate social responsibility)	Up to 2% of the project profit i.e. approx. 5.44 crores.

- The proposals are covered under category 5 "j" and 1 "d" of EIA notification dated 14/09/2006, as amended.
- The TOR was issued on vide letter 2098/parya/SEAC/1745/2013 OSD(T) dated 12.10.2013. The EIA report has been submitted vide letter no- 7492 dated 22.05.2014.

Based on the recommendations of the State Level Expert Appraisal Committee Meeting (SEAC) held on 20-06-2014 the State Level Environment Impact Assessment Authority (SEIAA) in its Meeting held on 22-07-2014 decided to grant the Environmental Clearance to the project subject to the effective implementation of the following general and specific conditions:-

### General Conditions:

1. The project authorities must strictly adhere to the stipulations made by the Uttar Pradesh State Pollution Control Board and the State Government.
2. No further expansion or modifications in the plant shall be carried out without prior approval of the SEIAA, UP.
3. The gaseous emissions from various process units shall conform to the load/mass based standards notified by this Ministry on 19th May, 1993 and standards prescribed from time to time. The State Pollution Control Board may specify more stringent standards for the relevant parameters keeping in view the nature of the industry and its size and location.
4. At least four ambient air quality monitoring stations should be established in the downward direction as well as where maximum ground level concentration of  $PM_{10}$ ,  $PM_{2.5}$ ,  $SO_2$  and  $NO_x$  are anticipated in consultation with the SPCB. Data on ambient air quality and stack emission shall be regularly submitted to UPPCB/CPCB and Regional Office, of MoEF at Lucknow once in six months.
5. Industrial wastewater shall be properly collected, treated so as to conform to the standards prescribed under GSR 422 (E) dated 19th May, 1993 and 31st December, 1993 or as amended from time to time. The treated wastewater shall be recycled in the plant and there shall not be any discharge of industrial waste water as committed by the project proponent during the presentation.
6. The overall noise levels in and around the plant area shall be kept well within the standards (85 dBA) by providing noise control measures including acoustic hoods, silencers, enclosures etc. on all sources of noise generation. The ambient noise levels shall conform to the standards prescribed under EPA Rules, 1989 viz. 75 dBA (daytime) and 70 dBA (night times).
7. Occupational health surveillance of the workers should be done on a regular basis and records maintained as per the Factories Act.
8. The company shall develop surface water harvesting structures to harvest the rain water for utilization in the lean season besides recharging the ground water table.
9. The project proponent shall also comply with all the environmental protection measures and safeguards recommended in the EIA/EMP report. Further, the company must undertake socio-economic development activities in the surrounding villages like community development programmes, educational programmes, drinking water supply and health care etc.
10. As proposed, budget shall be earmarked towards capital cost and recurring cost/annum for environment pollution control measures to implement the conditions stipulated by the Ministry of Environment and Forests as well as the State Government. An implementation schedule for implementing all the conditions stipulated herein shall be submitted to the Regional Office of MoEF at Lucknow. The funds so provided shall not be diverted for any other purpose.
11. A copy of clearance letter shall be sent by the proponent to concerned Panchayat, Zila Parishad/Municipal Corporation, Urban Local Body and the local NGO, if any, from whom suggestions/representations, if any, were received while processing the proposal. The clearance letter shall also be put on the web site of the company by the proponent.
12. The project proponent shall upload the status of compliance of the stipulated environment clearance conditions, including results of monitored data on their website and shall update the same periodically. It shall simultaneously be sent to the Regional Office of the MoEF at Lucknow, CPCB and UPPCB. The criteria pollutant levels namely;  $PM_{10}$ ,  $PM_{2.5}$ ,  $SO_2$ ,  $NO_x$  (ambient levels as well as stack emissions) for the projects shall

- be monitored and displayed at a convenient location near the main gate of the company in the public domain.
13. The project proponent shall also submit six monthly reports on the status of the compliance of the stipulated environmental conditions including results of monitored data (both in hard copies as well as by e-mail) to the Regional Office of MoEF, CPCB and UPPCB. The Regional Office of MoEF at Lucknow / CPCB / SPCB shall monitor the stipulated conditions.
  14. The environmental statement for each financial year ending 31st March in Form-V as is mandated to be submitted by the project proponent to the concerned State Pollution Control Board as prescribed under the Environment (Protection) Rules, 1986, as amended subsequently, shall also be put on the website of the company along with the status of compliance of environmental conditions and shall also be sent to the Regional Office of the MoEF at Lucknow.
  15. The Project Proponent shall inform the public that the project has been accorded Environmental Clearance by the SEIAAUP and copies of the clearance letter are available with the SPCB and may also be seen at Website of the SEIAAUP at seiaaup.com. This shall be advertised within seven days from the date of issue of the clearance letter, at least in two local newspapers that are widely circulated in the region of which one shall be in the vernacular language of the locality concerned and a copy of the same should be forwarded to the Regional office at Lucknow.
  16. Project authorities shall inform the Regional Office of MoEF, Lucknow as well as the SEIAA the date of financial closure and final approval of the project by the concerned authorities and the date of commencing the land development work.

#### **Specific Conditions**

1. Filter press should be installed to handle the sludge.
2. Two continuous ambient Air Quality Monitoring Station one in up wind and other in predominant wind direction shall be installed immediately after the plant is in operation.
3. Flow measurement device should be installed at the outlet of ETP.
4. Proposed Expansion of cane crushing and co-generation plant to reduce the emission of particulate matter and gasses Electrostatic Precipitator shall be installed and connected with Boiler duct.
5. To control the air emission from power plant a stack of about 72 mts from the ground level for the boiler and 8mt. above ground for DG set would be provided. The SPM emission from the stack shall be less than  $150 \text{ mg/nm}^3$ . The exhaust stream from the boiler will be used for the process.
6. For minimizing the escape of  $\text{SO}_2$  from the Sulpherisation process, cane juice will be used as scrubber media which will be reused in the process.
7. Total fresh Water requirement shall not exceed 7000 KL/day on 10,000 TCD and shall be met from the ground water through tube well. Waste water generation shall not be more than  $1000 \text{ m}^3/\text{day}$  in season and  $200 \text{ m}^3/\text{day}$  in off-season. Permission shall be obtained from the Competent Authority for withdrawal of ground water. No additional Bore Well be installed.
8. The process and domestic effluents shall not exceed  $1000 \text{ m}^3/\text{d}$  and  $16 \text{ m}^3/\text{d}$  respectively. After treatment through Diffusion Based Activated Sludge Process, the waste water will be subjected to Secondary Clarifier and sludge drying bed based on activated sludge process followed by tertiary treatment. The BOD of the treated effluent shall be more than 30 mg/l. About 80% of the treated effluent will be recycled in the process and 20% will be utilized in irrigation. No effluent shall be discharged outside the factory premises and zero discharge shall be strictly followed.

9. Molasses shall be stored in MS tanks or in Pucca Lagoons. The lagoons shall have proper lining with HDPE and shall be kept in proper condition to prevent ground water pollution. As per the CPCB/ SPCB recommendation, storage shall not exceed 15 days capacity.
10. The Solid waste generated from the process will be mainly bagasse, filter cake (press mud) and boiler ash. 100 % Bagasse shall be reused as fuel in the boiler and excess bagasse, if any, shall be sent to other sugar plants for power generation. Molasses will be sent to the Distillery unit. Filter cake shall be sent for bio-composting in the Distillery. 32 TPD of Boiler Ash shall be sold to brick manufacturers. Sludge from the scrubber shall be dried and disposed of in the low lying areas. ETP sludge shall be used as fertilizer by the farmers. Used batteries and Waste Lubricating Oil shall be sold to authorized recyclers.
11. Adequate green belt shall be provided all around the plant premises (approximately 33% of total area).
12. The Industry shall take adequate water conservation measures including providing minimum six(06) RWH pits of size 2.34 X 2.34 X 3 at peak rainfall intensity.
13. CREP Guidelines for the Sugar Industries shall be followed by the unit. The capacity of Lagoon shall be as per the CPCB Guidelines.
14. Commitments made during the Public Hearing shall be complied with.
15. Environmental Corporate Responsibility (ECR) plan along with budgetary provision amounting to 2% of total project profit shall be submitted (within the month) on need base assessment study in the study area. Income generating measures which can help in upliftment of weaker section of society consistent with the traditional skills of the people identified. The programme can include activities such as old age homes, rain water harvesting provisions in nearby areas, development of fodder farm, fruit bearing orchards, vocational training etc. In addition, vocational training for individuals shall be imparted so that poor section of society can take up self-employment and jobs. Separate budget for community development activities and income generating programmers shall be specified.
16. The company shall provide housing for construction labour within the site with all necessary infrastructure and facilities such as fuel for cooking, mobile-toilets, safe drinking water, medical health care, crèche etc. The housing may be in the form of temporary structures and to be removed after the completion of the project.
17. All storm water drain and conveyor belt should be covered.
18. Any litigation pending in the Courts of Law it shall be binding on project proponent.
19. Parking facility should be provided within the project premises.
20. Any appeal against this environmental clearance shall lie with the National Green Tribunal, if preferred, within a period of 30 days as prescribed under Section 11 of the National Environment Appellate Authority Act, 1997.
21. All the existing boilers of capacities 20 TPH, 25 TPH and 15 TPH shall be dismantled as mentioned during the presentation.

No construction/operation is to be started without obtaining Prior Environmental Clearance. Concealing factual data and information or submission of false/fabricated data and failure to comply with any of the conditions stipulated in the Prior Environmental Clearance attract action under the provision of Environmental (Protection) Act, 1986.

This Environmental Clearance is subject to ownership of the site by the project proponents in confirmation with approved Master Plan for Lakhimpur Kheri. In case of violation, it would not be effective and would automatically be stand cancelled.

You are also directed to ensure that the proposed site is not a part of any no-

development zone as required/prescribed/identified under law. In case of violation, this permission shall automatically deem to be cancelled. Also, in the event of any dispute on ownership or land use of the proposed site, this clearance shall automatically deemed to be cancelled.

The project proponent will have to submit approved plans and proposals incorporating the conditions specified in the Environmental Clearance within 03 months of issue of the clearance. The SEIAA/MoEF reserves the right to revoke the environmental clearance, if conditions stipulated are not implemented to the satisfaction of SEIAA/MoEF. SEIAA may impose additional environmental conditions or modify the existing ones, if necessary. Necessary statutory clearances should be obtained and submitted before start of any construction activity.

These stipulations would be enforced among others under the provisions of Water (Prevention and Control of Pollution) Act, 1974, the Air (Prevention and Control of Pollution) Act, 1981, the Environment (Protection) Act, 1986, the Public Liability (Insurance) Act, 1991 and EIA Notification, 2006 including the amendments and rules made thereafter.

This is to request you to take further necessary action in the matter as per provision of Gazette Notification No. S.O. 1533(E) dated 14.9.2006, as amended and send regular compliance reports to the authority as prescribed in the aforesaid notification.

(J. S. Yadav)

Member Secretary, SEIAA

No. 996 /Parya/SEAC/1745/2013/OSD(T)

Dated: As above

Copy with enclosure for Information and necessary action to:

1. The Principal Secretary, Department of Environment, Govt. of Uttar Pradesh, Lucknow.
2. Advisor, IA Division, Ministry of Environment & Forests, Govt. of India, Paryavaran Bhavan, CGO Complex, Lodhi Road, New Delhi.
3. Chief Conservator, Regional Office, Ministry of Environment & Forests, (Central Region), Kendriya Bhawan, 5th Floor, Sector-H, Aliganj, Lucknow.
4. District Magistrate, Lakhimpur Kheri.
5. The Member Secretary, U.P. Pollution Control Board, Gomti Nagar, Lucknow.
6. Copy to Web Master/ guard file.

(Dr. R.K. Sardana)  
Secretary, SEAC/  
Director (I/C), Environment

**SIX MONTHLY  
COMPLIANCE REPORT  
(April, 2022 to September, 2022)**

Ambient Air : July, 2022  
Stack Emission : April, 2022  
Noise Monitoring : July, 2022  
Ground Water : April, 2022 to September, 2022  
ETP Inlet & Outlet : April, 2022  
Soil Quality : July, 2022

of

**M/s Gobind Sugar Mills Limited**

**Sugar Division**

**Village: Khamaria Pandit, Aira Estate**

**Tehsil: Dhaurahra**

**District: Lakhimpur Kheri**

**Uttar Pradesh - 262722**

By

**Environmental and Technical Research Centre**

**(A QCI / NABET Accredited Organization and**

**MoEF, NABL Approved Laboratory)**

**ISO 9001:2015, ISO 14001:2015, ISO 45001:2018**



# ENVIRONMENTAL AND TECHNICAL RESEARCH CENTRE

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ISO 9001:2015, ISO 14001 : 2015, OHSAS 18001 : 2007

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ETRC/PM14/TES-REP/FT/36

## TEST REPORT STACK EMISSION MONITORING AND ANALYSIS REPORT STACK No. 01

<b>Test Report Ref No.:</b> ETRC/EPA/6057/2022		<b>Date of Report:</b> 04.04.2022
<b>Name /Address/Type of Industry</b>		<b>M/s Gobind Sugar Mills Limited Sugar Division Village: Khamaria Pandit, Aira Estate, Tehsil: Dhaurahra District: Lakhimpur Kheri (U.P.) - 262722</b>
<b>Monitored by</b>		<b>ETRC, Lucknow</b>
<b>Sr. No.</b>	<b>GENERAL INFORMATION</b>	<b>DETAILS</b>
1.(a)	Date of monitoring	01.04.2022
(b)	Stack material	MS
(c)	Height of stack from ground level	40 mts
(d)	Source to which stack attached	Boiler
(e)	No of Source attached with capacity	01 No., 70 TPH
(f)	Type and quantity of fuel used	Bagasse
(g)	Details of APCS installed	Wet Scrubber
<b>2.</b>	<b>PARAMETERS</b>	<b>VALUES</b>
(a)	Ambient temperature (°C)	30.0
(b)	Stack gas temperature (°C)	129.0
(c)	Stack gas velocity (m/sec)	11.18
(d)	Flow rate (LPM)	16
(e)	Sampling time (minutes)	65
(f)	Volume of air sampled (liters)	1040

### TEST RESULT

Sr. No.	Parameter	Unit	Protocol	Result	Range of Testing / Limit of Detection	Standard (as per CPCB)
1	Particulate Matter	mg/Nm <sup>3</sup>	IS: 11255 (Part-1): 1985 Reaffirmed: 2019	78.6	2.0 - 1000	150

..... END OF REPORT.....

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- All disputes subject to Lucknow jurisdiction.
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- Complain register is available in our laboratory.

  
**Authorized Signatory  
(Sandeep Kr Verma)  
Lab-Incharge**



  
**Authorized Signatory  
(Ritu Garg)  
QM**



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ETRC/PM14/TES-REP/FT/36

## TEST REPORT STACK EMISSION MONITORING AND ANALYSIS REPORT STACK No. 02

<b>Test Report Ref No.:</b> ETRC/EPA/6058/2022		<b>Date of Report:</b> 04.04.2022
<b>Name /Address/Type of Industry</b>		<b>M/s Gobind Sugar Mills Limited Sugar Division Village: Khamaria Pandit, Aira Estate, Tehsil: Dhaurahra District: Lakhimpur Kheri (U.P.) - 262722</b>
<b>Monitored by</b>		<b>ETRC, Lucknow</b>
<b>Sr. No.</b>	<b>GENERAL INFORMATION</b>	<b>DETAILS</b>
1.(a)	Date of monitoring	01.04.2022
(b)	Stack material	RCC
(c)	Height of stack from ground level	72 mts
(d)	Source to which stack attached	Boiler
(e)	No of Source attached with capacity	01 Nos., 150 TPH
(f)	Type and quantity of fuel used	Bagasse
(g)	Details of APCS installed	ESP
2.	<b>PARAMETERS</b>	<b>VALUES</b>
(a)	Ambient temperature (°C)	31.0
(b)	Stack gas temperature (°C)	128.0
(c)	Stack gas velocity (m/sec)	11.37
(d)	Flow rate (LPM)	16
(e)	Sampling time (minutes)	64
(f)	Volume of air sampled (liters)	1024

### TEST RESULT

Sr. No.	Parameter	Unit	Protocol	Result	Range of Testing / Limit of Detection	Standard (as per CPCB)
1	<b>Particulate Matter</b>	mg/Nm <sup>3</sup>	IS: 11255 (Part-1): 1985 Reaffirmed: 2019	<b>81.3</b>	2.0 - 1000	150

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**Authorized Signatory  
(Sandeep Kr Verma)  
Lab-Incharge**



  
**Authorized Signatory  
(Ritu Garg)  
QM**



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ETRC/PM14/TEST-REP/FT/17

## TEST REPORT WATER ANALYSIS

Test Report Ref No.: ETRC/EPA/6059/2022	Date of Report: 04.04.2022
Name /Address/Type of Industry	M/s Gobind Sugar Mills Limited Sugar Division Village: Khamaria Pandit, Aira Estate, Tehsil: Dhaurahra District: Lakhimpur Kheri (U.P.) - 262722

### SAMPLE DETAILS

1	Water/ Waste Water	Ground Water	5	Packing Condition	Sealed
2	Sample Description	Borewell Water	6	Sample Collected By	ETRC, Lucknow
3	Sample received date	01.04.2022	7	Analysis Start Date	01.04.2022
4	Sample Quantity	5.0 liters	8	Analysis End Date	04.04.2022

### TEST RESULT

Sr. No	Test Parameter	Unit	Protocol/Test Method	Result	Range of testing /limit of detection	Indian Standard 10500: 2012	
						Desirable	Permissible
Physico-chemical Parameters							
1	Colour	Hazen	IS: 3025 (Part-4): 1983 Reaffirmed: 2017	<5.0	5 - 30	5	15
2	Odour	-	IS: 3025 (Part-5): 1983 Reaffirmed: 2017	Agreeable	Qualitative	Agreeable	Agreeable
3	pH	-	APHA 23 <sup>rd</sup> Ed. 2017-4500 H <sup>+</sup>	7.4	1 - 14	6.5-8.5	No Relaxation
4	Turbidity	NTU	APHA 23 <sup>rd</sup> Ed. 2017-2130 B	BDL	2 - 40	1	5
5	Total Dissolved Solids (TDS)	mg/l	IS: 3025 (Part-16): 1984 Reaffirmed: 2017	428.0	10 - 5000	500	2000
6	Ammonia (as total ammonia-N)	mg/l	APHA 23 <sup>rd</sup> Ed. 2017-4500-NH <sub>3</sub> F	BDL	0.5 - 2	0.5	No Relaxation
7	Anionic Detergents (as MBAS)	mg/l	APHA 23 <sup>rd</sup> Ed. 2017-5540 C	BDL	0.05 - 0.5	0.2	1.0
8	Calcium as Ca	mg/l	IS: 3025 (Part-40): 1991 Reaffirmed: 2019	60.8	2.0 - 600	75	200
9	Magnesium as Mg	mg/l	APHA 23 <sup>rd</sup> Ed. 2017-3500 Mg, B	27.21	0.1 - 200	30	100
10	Chloride as Cl	mg/l	APHA 23 <sup>rd</sup> Ed. 2017-4500-Cl <sup>-</sup> B	30.0	2.0 - 2000	250	1000
11	Fluoride as F	mg/l	APHA 23 <sup>rd</sup> Ed. 2017-4500 F C	0.42	0.02 - 5.0	1.0	1.5
12	Free Residual Chlorine	mg/l	IS: 3025 (Part-26): 1986 Reaffirmed: 2019	BDL	0.1 - 5.0	0.2	1.0
13	Nitrate as NO <sub>3</sub>	mg/l	IS: 3025 (Part-34): 1986 Reaffirmed: 2019	6.4	1.0 - 70	45	No Relaxation
14	Phenolic Compound (as C <sub>6</sub> H <sub>5</sub> OH)	mg/l	APHA 23 <sup>rd</sup> Ed. 2017-5530 C	BDL	0.001 - 0.005	0.001	0.002
15	Sulphate as SO <sub>4</sub>	mg/l	APHA 23 <sup>rd</sup> Ed. 2017-4500- SO <sub>4</sub> <sup>2-</sup>	30.0	1.0 - 500	200	400
16	Alkalinity as CaCO <sub>3</sub>	mg/l	APHA 23 <sup>rd</sup> Ed. 2017-2320 B	288.0	2.0 - 1000	200	600
17	Total Hardness as CaCO <sub>3</sub>	mg/l	APHA 23 <sup>rd</sup> Ed. 2017-2340 C	264.0	5.0 - 800	200	600
18	Aluminium as Al	mg/l	APHA 23 <sup>rd</sup> Ed. 2017-3120 B (ICP-OES)	BDL	0.015 - 5.0	0.03	0.2
19	Boron as B	mg/l	APHA 23 <sup>rd</sup> Ed. 2017-3120 B (ICP-OES)	BDL	0.05 - 2.0	0.5	1.0
20	Copper as Cu	mg/l	APHA 23 <sup>rd</sup> Ed. 2017-3120 B (ICP-OES)	BDL	0.03 - 10	0.05	1.5



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## Test Report Ref No.: ETRC/EPA/6059/2022

21	Iron as Fe	mg/l	APHA 23 <sup>rd</sup> Ed. 2017-3120 B (ICP-OES)	0.11	0.05 - 20	0.3	No Relaxation
22	Manganese as Mn	mg/l	APHA 23 <sup>rd</sup> Ed. 2017-3120 B (ICP-OES)	0.02	0.02 - 5.0	0.1	0.3
23	Zinc as Zn	mg/l	APHA 23 <sup>rd</sup> Ed. 2017-3120 B (ICP-OES)	0.43	0.05 - 15	5	15
24	Cadmium as Cd	mg/l	APHA 23 <sup>rd</sup> Ed. 2017-3120 B (ICP-OES)	BDL	0.05 - 2.0	0.003	No Relaxation
25	Lead as Pb	mg/l	APHA 23 <sup>rd</sup> Ed. 2017-3120 B (ICP-OES)	BDL	0.01 - 10	0.01	No Relaxation
26	Mercury as Hg	µg/l	APHA 23 <sup>rd</sup> Ed. 2017-3120 B (ICP-OES)	BDL	0.5 - 1000	1.0	No Relaxation
27	Nickel as Ni	mg/l	APHA 23 <sup>rd</sup> Ed. 2017-3120 B (ICP-OES)	BDL	0.05 - 5.0	0.02	No Relaxation
28	Arsenic as As	mg/l	APHA 23 <sup>rd</sup> Ed. 2017-3120 B (ICP-OES)	BDL	0.02 - 2.0	0.01	0.05
29	Total Chromium	mg/l	APHA 23 <sup>rd</sup> Ed. 2017-3120 B (ICP-OES)	BDL	0.03 - 5.0	0.05	No Relaxation
<b>Microbiological Parameters</b>							
30	E. coli	MPN/100 ml	IS: 1622 - 1981 Reaffirmed: 2019	Absent	≥ 2 MPN Present or Absent per 100 ml	Shall not be detected in any 100 ml sample	
31	T. coli	MPN/100 ml	IS: 1622 - 1981 Reaffirmed: 2019	Absent	≥ 2 MPN Present or Absent per 100 ml	Shall not be detected in any 100 ml sample	

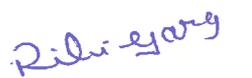
BDL=Below Detection Limit

..... END OF REPORT.....

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**Authorized Signatory**  
**(Sandeep Kr Verma)**  
**Lab-Incharge**



  
**Authorized Signatory**  
**(Ritu Garg)**  
**QM**



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ETRC/PM14/TEST-REP/FT/17

## TEST REPORT WATER ANALYSIS

Test Report Ref No.: ETRC/EPA/6060/2022	Date of Report: 04.04.2022
Name /Address/Type of Industry	M/s Gobind Sugar Mills Limited Sugar Division Village: Khamaria Pandit, Aira Estate, Tehsil: Dhaurahra District: Lakhimpur Kheri (U.P.) - 262722

### SAMPLE DETAILS

1	Water/ Waste Water	Waste Water	5	Packing Condition	Sealed
2	Sample Description	ETP Inlet	6	Sample Collected By	ETRC, Lucknow
3	Sample received date	01.04.2022	7	Analysis Start Date	01.04.2022
4	Sample Quantity	2.0 liters	8	Analysis End Date	04.04.2022

### TEST RESULT

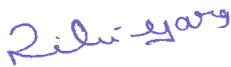
Sr. No.	Test Parameter	Unit	Protocol/Test Method	Result	Range of testing /limit of detection
1	pH	-	APHA 23 <sup>rd</sup> Ed. 2017-4500H <sup>+</sup>	4.7	1 - 14
2	Total Dissolved Solid (TDS)	mg/l	IS: 3025 (Part-16): 1984 Reaffirmed: 2017	1458.6	10 - 40000
3	Total Suspended Solid (TSS)	mg/l	APHA 23 <sup>rd</sup> Ed. 2017-2540 D	264.5	5.0 - 20000
4	Bio-chemical Oxygen Demand (BOD)	mg/l	IS: 3025 (Part-44): 1993 Reaffirmed: 2019	674.0	1.0 - 150000
5	Chemical Oxygen Demand (COD)	mg/l	IS: 3025 (Part-58): 2006 Reaffirmed: 2017	2168.0	2.0 - 600000

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QM



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ETRC/PM14/TEs-REP/FT/17

## TEST REPORT WATER ANALYSIS

Test Report Ref No.: ETRC/EPA/6061/2022	Date of Report: 04.04.2022
Name /Address/Type of Industry	M/s Gobind Sugar Mills Limited Sugar Division Village: Khamaria Pandit, Aira Estate, Tehsil: Dhaurahra District: Lakhimpur Kheri (U.P.) - 262722

### SAMPLE DETAILS

1	Water/ Waste Water	Waste Water	5	Packing Condition	Sealed
2	Sample Description	ETP Outlet	6	Sample Collected By	ETRC, Lucknow
3	Sample received date	01.04.2022	7	Analysis Start Date	01.04.2022
4	Sample Quantity	2.0 liters	8	Analysis End Date	04.04.2022

### TEST RESULT

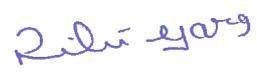
Sr. No.	Test Parameter	Unit	Protocol/Test Method	Result	Range of testing /limit of detection
1	pH	-	APHA 23 <sup>rd</sup> Ed. 2017-4500H <sup>+</sup>	7.4	1 - 14
2	Total Dissolved Solid (TDS)	mg/l	IS: 3025 (Part-16): 1984 Reaffirmed: 2017	875.5	10 - 40000
3	Total Suspended Solid (TSS)	mg/l	APHA 23 <sup>rd</sup> Ed. 2017-2540 D	28.6	5.0 - 20000
4	Bio-chemical Oxygen Demand (BOD)	mg/l	IS: 3025 (Part-44): 1993 Reaffirmed: 2019	22.0	1.0 - 150000
5	Chemical Oxygen Demand (COD)	mg/l	IS: 3025 (Part-58): 2006 Reaffirmed: 2017	92.0	2.0 - 600000

..... END OF REPORT.....

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Authorized Signatory  
(Sandeep Kr Verma)  
Lab-Incharge



  
Authorized Signatory  
(Ritu Garg)  
QM



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ETRC/PM14/TES-REP/FT/17

## TEST REPORT WATER ANALYSIS

Test Report Ref No. ETRC/EPA/6360/2022	Date of Report: 11/05/2022
Name /Address/Type of Industry	M/s Gobind Sugar Mills Limited Sugar Division Village: Khamaria Pandit, Aira Estate Tehsil: Dhaurahra District: Lakhimpur Kheri (U.P.) - 262722

### SAMPLE DETAILS

1	Water/ Waste Water	Ground Water	5	Packing Condition	Sealed
2	Sample Description	Borewell Water	6	Sample Collected By	Industry Self
3	Sample received date	08.05.2022	7	Analysis Start Date	08.05.2022
4	Sample Quantity	5.0 liters	8	Analysis End Date	08.05.2022

### TEST RESULT

Sr. No	Test Parameter	Unit	Protocol/Test Method	Result	Range of testing /limit of detection	Indian Standard 10500 : 2012	
						Desirable	Permissible
<b>Physico-chemical Parameters</b>							
1	Colour	Hazen	IS: 3025 (Part-4): 1983 Reaffirmed: 2017	<5.0	5 - 30	5	15
2	Odour	-	IS: 3025 (Part-5): 1983 Reaffirmed: 2017	Agreeable	Qualitative	Agreeable	Agreeable
3	pH	-	APHA 23 <sup>rd</sup> Ed. 2017-4500 H <sup>+</sup>	7.5	1 - 14	6.5-8.5	No Relaxation
4	Turbidity	NTU	APHA 23 <sup>rd</sup> Ed. 2017-2130 B	BDL	2 - 40	1	5
5	Total Dissolved Solids (TDS)	mg/l	IS: 3025 (Part-16): 1984 Reaffirmed: 2017	406.4	10 - 5000	500	2000
6	Ammonia (as total ammonia-N)	mg/l	APHA 23 <sup>rd</sup> Ed. 2017-4500-NH <sub>3</sub> F	BDL	0.5 - 2	0.5	No Relaxation
7	Anionic Detergents (as MBAS)	mg/l	APHA 23 <sup>rd</sup> Ed. 2017-5540 C	BDL	0.05 - 0.5	0.2	1.0
8	Calcium as Ca	mg/l	IS: 3025 (Part-40): 1991 Reaffirmed: 2019	59.2	2.0 - 600	75	200
9	Magnesium as Mg	mg/l	APHA 23 <sup>rd</sup> Ed. 2017-3500 Mg, B	29.16	0.1 - 200	30	100
10	Chloride as Cl	mg/l	APHA 23 <sup>rd</sup> Ed. 2017-4500-Cl <sup>-</sup> B	28.0	2.0 - 2000	250	1000
11	Fluoride as F	mg/l	APHA 23 <sup>rd</sup> Ed. 2017-4500 F C	0.35	0.02 - 5.0	1.0	1.5
12	Free Residual Chlorine	mg/l	IS: 3025 (Part-26): 1986 Reaffirmed: 2019	BDL	0.1 - 5.0	0.2	1.0
13	Nitrate as NO <sub>3</sub>	mg/l	IS: 3025 (Part-34): 1986 Reaffirmed: 2019	9.8	1.0 - 70	45	No Relaxation
14	Phenolic Compound (as C <sub>6</sub> H <sub>5</sub> OH)	mg/l	APHA 23 <sup>rd</sup> Ed. 2017-5530 C	BDL	0.001 - 0.005	0.001	0.002
15	Sulphate as SO <sub>4</sub>	mg/l	APHA 23 <sup>rd</sup> Ed. 2017-4500- SO <sub>4</sub> <sup>2-</sup>	28.0	1.0 - 500	200	400
16	Alkalinity as CaCO <sub>3</sub>	mg/l	APHA 23 <sup>rd</sup> Ed. 2017-2320 B	296.0	2.0 - 1000	200	600
17	Total Hardness as CaCO <sub>3</sub>	mg/l	APHA 23 <sup>rd</sup> Ed. 2017-2340 C	268.0	5.0 - 800	200	600
18	Aluminium as Al	mg/l	APHA 23 <sup>rd</sup> Ed. 2017-3120 B (ICP-OES)	BDL	0.015 - 5.0	0.03	0.2
19	Boron as B	mg/l	APHA 23 <sup>rd</sup> Ed. 2017-3120 B (ICP-OES)	BDL	0.05 - 2.0	0.5	1.0
20	Copper as Cu	mg/l	APHA 23 <sup>rd</sup> Ed. 2017-3120 B (ICP-OES)	BDL	0.03 - 10	0.05	1.5



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## Test Report Ref No. ETRC/EPA/6360/2022

21	Iron as Fe	mg/l	APHA 23 <sup>rd</sup> Ed. 2017-3120 B (ICP-OES)	0.12	0.05 - 20	0.3	No Relaxation
22	Manganese as Mn	mg/l	APHA 23 <sup>rd</sup> Ed. 2017-3120 B (ICP-OES)	0.02	0.02 - 5.0	0.1	0.3
23	Zinc as Zn	mg/l	APHA 23 <sup>rd</sup> Ed. 2017-3120 B (ICP-OES)	0.38	0.05 - 15	5	15
24	Cadmium as Cd	mg/l	APHA 23 <sup>rd</sup> Ed. 2017-3120 B (ICP-OES)	BDL	0.05 - 2.0	0.003	No Relaxation
25	Lead as Pb	mg/l	APHA 23 <sup>rd</sup> Ed. 2017-3120 B (ICP-OES)	BDL	0.01 - 10	0.01	No Relaxation
26	Mercury as Hg	µg/l	APHA 23 <sup>rd</sup> Ed. 2017-3120 B (ICP-OES)	BDL	0.5 - 1000	1.0	No Relaxation
27	Nickel as Ni	mg/l	APHA 23 <sup>rd</sup> Ed. 2017-3120 B (ICP-OES)	BDL	0.05 - 5.0	0.02	No Relaxation
28	Arsenic as As	mg/l	APHA 23 <sup>rd</sup> Ed. 2017-3120 B (ICP-OES)	BDL	0.02 - 2.0	0.01	0.05
29	Total Chromium	mg/l	APHA 23 <sup>rd</sup> Ed. 2017-3120 B (ICP-OES)	BDL	0.03 - 5.0	0.05	No Relaxation
<b>Microbiological Parameters</b>							
30	E. coli	MPN/100 ml	IS: 1622 - 1981 Reaffirmed: 2019	Absent	≥ 2 MPN Present or Absent per 100 ml	Shall not be detected in any 100 ml sample	
31	T. coli	MPN/100 ml	IS: 1622 - 1981 Reaffirmed: 2019	Absent	≥ 2 MPN Present or Absent per 100 ml	Shall not be detected in any 100 ml sample	

BDL=Below Detection Limit

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**(Sandeep Kr Verma)**  
**Lab-Incharge**



  
**Authorized Signatory**  
**(Ritu Garg)**  
**QM**



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ETRC/PM14/TES-REP/FT/17

## TEST REPORT WATER ANALYSIS

Test Report Ref No. ETRC/EPA/6497/2022	Date of Report: 09/06/2022
Name /Address/Type of Industry	M/s Gobind Sugar Mills Limited Sugar Division Village: Khamaria Pandit, Aira Estate, Tehsil: Dhaurahra District: Lakhimpur Kheri (U.P.) - 262722

### SAMPLE DETAILS

1	Water/ Waste Water	Ground Water	5	Packing Condition	Sealed
2	Sample Description	Borewell Water	6	Sample Collected By	Industry Self
3	Sample received date	04.06.2022	7	Analysis Start Date	04.06.2022
4	Sample Quantity	5.0 liters	8	Analysis End Date	08.06.2022

### TEST RESULT

Sr. No	Test Parameter	Unit	Protocol/Test Method	Result	Range of testing /limit of detection	Indian Standard 10500: 2012	
						Desirable	Permissible
<b>Physico-chemical Parameters</b>							
1	Colour	Hazen	IS: 3025 (Part-4): 1983 Reaffirmed: 2017	<5.0	5 - 30	5	15
2	Odour	-	IS: 3025 (Part-5): 1983 Reaffirmed: 2017	Agreeable	Qualitative	Agreeable	Agreeable
3	pH	-	APHA 23 <sup>rd</sup> Ed. 2017-4500 H <sup>+</sup>	7.5	1 - 14	6.5-8.5	No Relaxation
4	Turbidity	NTU	APHA 23 <sup>rd</sup> Ed. 2017-2130 B	BDL	2 - 40	1	5
5	Total Dissolved Solids (TDS)	mg/l	IS: 3025 (Part-16): 1984 Reaffirmed: 2017	436.8	10 - 5000	500	2000
6	Ammonia (as total ammonia-N)	mg/l	APHA 23 <sup>rd</sup> Ed. 2017-4500-NH <sub>3</sub> F	BDL	0.5 - 2	0.5	No Relaxation
7	Anionic Detergents (as MBAS)	mg/l	APHA 23 <sup>rd</sup> Ed. 2017-5540 C	BDL	0.05 - 0.5	0.2	1.0
8	Calcium as Ca	mg/l	IS: 3025 (Part-40): 1991 Reaffirmed: 2019	59.2	2.0 - 600	75	200
9	Magnesium as Mg	mg/l	APHA 23 <sup>rd</sup> Ed. 2017-3500 Mg, B	34.99	0.1 - 200	30	100
10	Chloride as Cl	mg/l	APHA 23 <sup>rd</sup> Ed. 2017-4500-Cl <sup>-</sup> B	26.0	2.0 - 2000	250	1000
11	Fluoride as F	mg/l	APHA 23 <sup>rd</sup> Ed. 2017-4500 F <sup>-</sup> C	0.41	0.02 - 5.0	1.0	1.5
12	Free Residual Chlorine	mg/l	IS: 3025 (Part-26): 1986 Reaffirmed: 2019	BDL	0.1 - 5.0	0.2	1.0
13	Nitrate as NO <sub>3</sub>	mg/l	IS: 3025 (Part-34): 1986 Reaffirmed: 2019	10.2	1.0 - 70	45	No Relaxation
14	Phenolic Compound (as C <sub>6</sub> H <sub>5</sub> OH)	mg/l	APHA 23 <sup>rd</sup> Ed. 2017-5530 C	BDL	0.001 - 0.005	0.001	0.002
15	Sulphate as SO <sub>4</sub>	mg/l	APHA 23 <sup>rd</sup> Ed. 2017-4500- SO <sub>4</sub> <sup>2-</sup>	36.0	1.0 - 500	200	400
16	Alkalinity as CaCO <sub>3</sub>	mg/l	APHA 23 <sup>rd</sup> Ed. 2017-2320 B	316.0	2.0 - 1000	200	600
17	Total Hardness as CaCO <sub>3</sub>	mg/l	APHA 23 <sup>rd</sup> Ed. 2017-2340 C	292.0	5.0 - 800	200	600
18	Aluminium as Al	mg/l	APHA 23 <sup>rd</sup> Ed. 2017-3120 B (ICP-OES)	BDL	0.015 - 5.0	0.03	0.2
19	Boron as B	mg/l	APHA 23 <sup>rd</sup> Ed. 2017-3120 B (ICP-OES)	BDL	0.05 - 2.0	0.5	1.0
20	Copper as Cu	mg/l	APHA 23 <sup>rd</sup> Ed. 2017-3120 B (ICP-OES)	BDL	0.03 - 10	0.05	1.5



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## Test Report Ref No. ETRC/EPA/6497/2022

21	Iron as Fe	mg/l	APHA 23 <sup>rd</sup> Ed. 2017-3120 B (ICP-OES)	0.14	0.05 - 20	0.3	No Relaxation
22	Manganese as Mn	mg/l	APHA 23 <sup>rd</sup> Ed. 2017-3120 B (ICP-OES)	0.08	0.02 - 5.0	0.1	0.3
23	Zinc as Zn	mg/l	APHA 23 <sup>rd</sup> Ed. 2017-3120 B (ICP-OES)	0.29	0.05 - 15	5	15
24	Cadmium as Cd	mg/l	APHA 23 <sup>rd</sup> Ed. 2017-3120 B (ICP-OES)	BDL	0.05 - 2.0	0.003	No Relaxation
25	Lead as Pb	mg/l	APHA 23 <sup>rd</sup> Ed. 2017-3120 B (ICP-OES)	BDL	0.01 - 10	0.01	No Relaxation
26	Mercury as Hg	µg/l	APHA 23 <sup>rd</sup> Ed. 2017-3120 B (ICP-OES)	BDL	0.5 - 1000	1.0	No Relaxation
27	Nickel as Ni	mg/l	APHA 23 <sup>rd</sup> Ed. 2017-3120 B (ICP-OES)	BDL	0.05 - 5.0	0.02	No Relaxation
28	Arsenic as As	mg/l	APHA 23 <sup>rd</sup> Ed. 2017-3120 B (ICP-OES)	BDL	0.02 - 2.0	0.01	0.05
29	Total Chromium	mg/l	APHA 23 <sup>rd</sup> Ed. 2017-3120 B (ICP-OES)	BDL	0.03 - 5.0	0.05	No Relaxation
<b>Microbiological Parameters</b>							
30	E. coli	MPN/ 100 ml	IS: 1622 - 1981 Reaffirmed: 2019	Absent	≥ 2 MPN Present or Absent per 100 ml	Shall not be detected in any 100 ml sample	
31	T. coli	MPN/ 100 ml	IS: 1622 - 1981 Reaffirmed: 2019	Absent	≥ 2 MPN Present or Absent per 100 ml	Shall not be detected in any 100 ml sample	

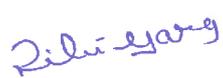
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..... END OF REPORT.....

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**Lab-Incharge**



  
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ETRC/PM14/TES-REP/FT/37

## TEST REPORT AMBIENT AIR QUALITY MONITORING REPORT

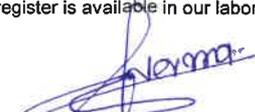
<b>Test Report Ref No.:</b> ETRC/EPA/6646/2022		<b>Date of Report:</b> 14.07.2022	
<b>Name /Address/Type of Industry</b>		<b>M/s Gobind Sugar Mills Limited Sugar Division Village: Khamaria Pandit, Aira Estate, Tehsil: Dhaurahra District: Lakhimpur Kheri (U.P.) - 262722</b>	
<b>Monitored by</b>		<b>ETRC, Lucknow</b>	
<b>Location of Sampling points</b>		<b>Near Main Gate (Factory Premises)</b>	
<b>Sr. No.</b>	<b>GENERAL OBSERVATIONS</b>	<b>DETAILS-PM<sub>10</sub></b>	<b>DETAILS-PM<sub>2.5</sub></b>
1 (a)	Weather conditions	Clear	Clear
(b)	Wind direction	West to East	West to East
(c)	Average humidity (%)	58	58
(d)	Average ambient temperature (°C)	26	26
(e)	Time of Sampling Started (Hours)	10:08 am (07.07.2022)	10:08 am (07.07.2022)
(f)	Time of Sampling completed (Hours)	10:02 am (08.07.2022)	10:02 am (08.07.2022)
(g)	Total time of sampling (Minutes)	24 hour (1418 minutes)	24 hour (1418 minutes)
2	Average Air sampling rate for PM (m <sup>3</sup> /minute)	1.150	NA
3	Average sampling rate for gas (LPM)	0.5	NA
4	<b>TOTAL VOLUME OF AIR SAMPLED</b>		
	• PM	• 1631.16	• 23.628
	• GAS	• 709.2	

### TEST RESULT

Sr. No.	Particulars	Protocol	Unit	Result	Range of testing /limit of detection	Standard as per NAAQS ; dated 18/11/ 2009
1	Particulate matters size less than 10 µm (PM <sub>10</sub> )	IS: 5182 (Part-23): 2006 Reaffirmed: 2017	µg/m <sup>3</sup>	86.3	5.0 - 1200	For 24 hour =100
2	Particulate matters size less than 2.5 µm (PM <sub>2.5</sub> )	IS: 5182 (Part-24): 2019	µg/m <sup>3</sup>	50.36	2.0 - 500	For 24 hour =60
3	Sulphur Dioxide (SO <sub>2</sub> )	IS: 5182 (Part-2): 2001 Reaffirmed: 2017	µg/m <sup>3</sup>	14.49	5.0 - 1050	For 24 hour =80
4	Oxides of Nitrogen (NO <sub>x</sub> )	IS: 5182 (Part-6): 2006 Reaffirmed: 2017	µg/m <sup>3</sup>	21.05	6.0 - 750	For 24 hour =80

..... END OF REPORT.....

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(Sandeep Kr Verma)  
Lab-Incharge**



  
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ETRC/PM14/TEST-REP/FT/37

## TEST REPORT AMBIENT AIR QUALITY MONITORING REPORT

<b>Test Report Ref No.:</b> ETRC/EPA/6647/2022		<b>Date of Report:</b> 14.07.2022	
<b>Name /Address/Type of Industry</b>		<b>M/s Gobind Sugar Mills Limited Sugar Division Village: Khamaria Pandit, Aira Estate, Tehsil: Dhaurahra District: Lakhimpur Kheri (U.P.) - 262722</b>	
<b>Monitored by</b>		<b>ETRC, Lucknow</b>	
<b>Location of Sampling points</b>		<b>Village: Allipur</b>	
<b>Sr. No.</b>	<b>GENERAL OBSERVATIONS</b>	<b>DETAILS-PM<sub>10</sub></b>	<b>DETAILS-PM<sub>2.5</sub></b>
1 (a)	Weather conditions	Clear	Clear
(b)	Wind direction	West to East	West to East
(c)	Average humidity (%)	58	58
(d)	Average ambient temperature (°C)	26	26
(e)	Time of Sampling Started (Hours)	10:22 am (07.07.2022)	10:22 am (07.07.2022)
(f)	Time of Sampling completed (Hours)	10:09 am (08.07.2022)	10:09 am (08.07.2022)
(g)	Total time of sampling (Minutes)	24 hour (1419 minutes)	24 hour (1419 minutes)
2	Average Air sampling rate for PM (m <sup>3</sup> /minute)	1.155	NA
3	Average sampling rate for gas (LPM)	0.5	NA
4	<b>TOTAL VOLUME OF AIR SAMPLED</b>		
	• PM	• 1638.945	• 23.648
	• GAS	• 709.5	

### TEST RESULT

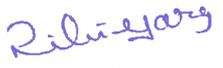
Sr. No.	Particulars	Protocol	Unit	Result	Range of testing /limit of detection	Standard as per NAAQS; dated 18/11/ 2009
1	Particulate matters size less than 10 µm (PM <sub>10</sub> )	IS: 5182 (Part-23): 2006 Reaffirmed: 2017	µg/m <sup>3</sup>	81.6	5.0 - 1200	For 24 hour =100
2	Particulate matters size less than 2.5 µm (PM <sub>2.5</sub> )	IS: 5182 (Part-24): 2019	µg/m <sup>3</sup>	48.63	2.0 - 500	For 24 hour =60
3	Sulphur Dioxide (SO <sub>2</sub> )	IS: 5182 (Part-2): 2001 Reaffirmed: 2017	µg/m <sup>3</sup>	12.06	5.0 - 1050	For 24 hour =80
4	Oxides of Nitrogen (NO <sub>x</sub> )	IS: 5182 (Part-6): 2006 Reaffirmed: 2017	µg/m <sup>3</sup>	17.82	6.0 - 750	For 24 hour =80

..... END OF REPORT.....

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QM**



# ENVIRONMENTAL AND TECHNICAL RESEARCH CENTRE

Office & Laboratory: 2/261, Vishwas Khand, Gomti Nagar, Lucknow- 226 010 (U.P.)

Email : ETRCLTH@YAHOO.IN, Web: www.etrccindia.com

ISO 9001:2015, ISO 14001 : 2015, OHSAS 18001 : 2007

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ETRC/PM14/TEST-REP/FT/37

## TEST REPORT AMBIENT AIR QUALITY MONITORING REPORT

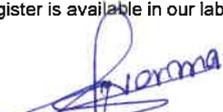
<b>Test Report Ref No.:</b> ETRC/EPA/6648/2022		<b>Date of Report:</b> 14.07.2022	
<b>Name /Address/Type of Industry</b>		<b>M/s Gobind Sugar Mills Limited Sugar Division Village: Khamaria Pandit, Aira Estate, Tehsil: Dhaurahra District: Lakhimpur Kheri (U.P.) - 262722</b>	
<b>Monitored by</b>		<b>ETRC, Lucknow</b>	
<b>Location of Sampling points</b>		<b>Village: Khamaria Pandit</b>	
<b>Sr. No.</b>	<b>GENERAL OBSERVATIONS</b>	<b>DETAILS-PM<sub>10</sub></b>	<b>DETAILS-PM<sub>2.5</sub></b>
1 (a)	Weather conditions	Clear	Clear
(b)	Wind direction	West to East	West to East
(c)	Average humidity (%)	60	60
(d)	Average ambient temperature (°C)	27	27
(e)	Time of Sampling Started (Hours)	10:15 am (08.07.2022)	10:15 am (08.07.2022)
(f)	Time of Sampling completed (Hours)	10:03 am (09.07.2022)	10:03 am (09.07.2022)
(g)	Total time of sampling (Minutes)	24 hour (1417 minutes)	24 hour (1417 minutes)
2	Average Air sampling rate for PM (m <sup>3</sup> /minute)	1.180	NA
3	Average sampling rate for gas (LPM)	0.5	NA
4	<b>TOTAL VOLUME OF AIR SAMPLED</b>		
	• PM	• 1672.296	• 23.618
	• GAS	• 708.6	

### TEST RESULT

Sr. No.	Particulars	Protocol	Unit	Result	Range of testing /limit of detection	Standard as per NAAQS; dated 18/11/ 2009
1	Particulate matters size less than 10 µm (PM <sub>10</sub> )	IS: 5182 (Part-23): 2006 Reaffirmed: 2017	µg/m <sup>3</sup>	81.9	5.0 - 1200	For 24 hour =100
2	Particulate matters size less than 2.5 µm (PM <sub>2.5</sub> )	IS: 5182 (Part-24): 2019	µg/m <sup>3</sup>	51.23	2.0 - 500	For 24 hour =60
3	Sulphur Dioxide (SO <sub>2</sub> )	IS: 5182 (Part-2): 2001 Reaffirmed: 2017	µg/m <sup>3</sup>	12.86	5.0 - 1050	For 24 hour =80
4	Oxides of Nitrogen (NO <sub>x</sub> )	IS: 5182 (Part-6): 2006 Reaffirmed: 2017	µg/m <sup>3</sup>	18.47	6.0 - 750	For 24 hour =80

..... END OF REPORT.....

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- Complain register is available in our laboratory.

  
**Authorized Signatory  
(Sandeep Kr Verma)  
Lab-Incharge**



  
**Authorized Signatory  
(Ritu Garg)  
QM**



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ETRC/PM14/TEST-REP/FT/37

## TEST REPORT AMBIENT AIR QUALITY MONITORING REPORT

<b>Test Report Ref No.:</b> ETRC/EPA/6649/2022		<b>Date of Report:</b> 14.07.2022	
<b>Name /Address/Type of Industry</b>		<b>M/s Gobind Sugar Mills Limited Sugar Division Village: Khamaria Pandit, Aira Estate, Tehsil: Dhaurahra District: Lakhimpur Kheri (U.P.) - 262722</b>	
<b>Monitored by</b>		<b>ETRC, Lucknow</b>	
<b>Location of Sampling points</b>		<b>Village: Aira</b>	
<b>Sr. No.</b>	<b>GENERAL OBSERVATIONS</b>	<b>DETAILS-PM<sub>10</sub></b>	<b>DETAILS-PM<sub>2.5</sub></b>
1 (a)	Weather conditions	Clear	Clear
(b)	Wind direction	West to East	West to East
(c)	Average humidity (%)	60	60
(d)	Average ambient temperature (°C)	27	27
(e)	Time of Sampling Started (Hours)	10:38 am (08.07.2022)	10:38 am (08.07.2022)
(f)	Time of Sampling completed (Hours)	10:21 am (09.07.2022)	10:21 am (09.07.2022)
(g)	Total time of sampling (Minutes)	24 hour (1422 minutes)	24 hour (1422 minutes)
2	Average Air sampling rate for PM (m <sup>3</sup> /minute)	1.180	NA
3	Average sampling rate for gas (LPM)	0.5	NA
4	<b>TOTAL VOLUME OF AIR SAMPLED</b>		
	• PM	• 1677.96	• 23.685
	• GAS	• 711.0	

### TEST RESULT

Sr. No.	Particulars	Protocol	Unit	Result	Range of testing /limit of detection	Standard as per NAAQS; dated 18/11/ 2009
1	Particulate matters size less than 10 µm (PM <sub>10</sub> )	IS: 5182 (Part-23): 2006 Reaffirmed: 2017	µg/m <sup>3</sup>	80.5	5.0 - 1200	For 24 hour =100
2	Particulate matters size less than 2.5 µm (PM <sub>2.5</sub> )	IS: 5182 (Part-24): 2019	µg/m <sup>3</sup>	42.22	2.0 - 500	For 24 hour =60
3	Sulphur Dioxide (SO <sub>2</sub> )	IS: 5182 (Part-2): 2001 Reaffirmed: 2017	µg/m <sup>3</sup>	11.38	5.0 - 1050	For 24 hour =80
4	Oxides of Nitrogen (NO <sub>x</sub> )	IS: 5182 (Part-6): 2006 Reaffirmed: 2017	µg/m <sup>3</sup>	17.49	6.0 - 750	For 24 hour =80

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(Sandeep Kr Verma)  
Lab-Incharge**



  
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(Ritu Garg)  
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## TEST REPORT AMBIENT NOISE MONITORING AND ANALYSIS REPORT

<b>Test Report Ref No.:</b> ETRC/EPA/6650/2022		<b>Date of Report:</b> 14.07.2022
<b>Name /Address/Type of Industry</b>		<b>M/s Gobind Sugar Mills Limited Sugar Division Village: Khamaria Pandit, Aira Estate, Tehsil: Dhaurahra District: Lakhimpur Kheri (U.P.) - 262722</b>
<b>Monitored by</b>		<b>ETRC, Lucknow</b>
<b>Sr. No.</b>	<b>GENERAL INFORMATION</b>	<b>DETAILS</b>
(a)	Date of monitoring	08/07/2022 (6:00 AM) to 09/07/2022 (6:00 AM)
(b)	Sample Description	Ambient Noise
(c)	Parameter	Equivalent sound level
(d)	Environmental Condition	Normal

### TEST RESULT

Ambient Noise Level				
Sr. No.	Locations	Unit	Results	Results
			DAY TIME (6:00 AM - 10:00 PM)	NIGHT TIME (10:00 PM - 6:00 AM)
1	Near Main Gate	dB(A)	62.4	49.6

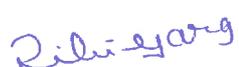
Noise Standards as per CPCB Schedule rule 3(1) and 4(1)			
Area Code	Category of Area/Zone	Limits in dB(A) Leq	
		Day Time	Night Time
A	Industrial Area	75	70
B	Commercial Area	65	55
C	Residential Area	55	45
D	Silence Zone	50	40

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ETRC/PM14/TE/REP/FT/17

## TEST REPORT WATER ANALYSIS

Test Report Ref No.: ETRC/EPA/6651/2022	Date of Report: 14.07.2022
Name /Address/Type of Industry	M/s Gobind Sugar Mills Limited Sugar Division Village: Khamaria Pandit, Aira Estate, Tehsil: Dhaurahra District: Lakhimpur Kheri (U.P.) - 262722

### SAMPLE DETAILS

1	Water/ Waste Water	Ground Water	5	Packing Condition	Sealed
2	Sample Description	Borewell Water	6	Sample Collected By	Industry Self
3	Sample received date	09.07.2022	7	Analysis Start Date	09.07.2022
4	Sample Quantity	5.0 liters	8	Analysis End Date	13.07.2022

### TEST RESULT

Sr. No	Test Parameter	Unit	Protocol/Test Method	Result	Range of testing /limit of detection	Indian Standard 10500 : 2012	
						Desirable	Permissible
<b>Physico-chemical Parameters</b>							
1	Colour	Hazen	IS: 3025 (Part-4): 1983 Reaffirmed: 2017	<5.0	5 - 30	5	15
2	Odour	-	IS: 3025 (Part-5): 1983 Reaffirmed: 2017	Agreeable	Qualitative	Agreeable	Agreeable
3	pH	-	APHA 23 <sup>rd</sup> Ed. 2017-4500 H <sup>+</sup>	7.4	1 - 14	6.5-8.5	No Relaxation
4	Turbidity	NTU	APHA 23 <sup>rd</sup> Ed. 2017-2130 B	BDL	2 - 40	1	5
5	Total Dissolved Solids (TDS)	mg/l	IS: 3025 (Part-16): 1984 Reaffirmed: 2017	406.5	10 - 5000	500	2000
6	Ammonia (as total ammonia-N)	mg/l	APHA 23 <sup>rd</sup> Ed. 2017-4500-NH <sub>3</sub> F	BDL	0.5 - 2	0.5	No Relaxation
7	Anionic Detergents (as MBAS)	mg/l	APHA 23 <sup>rd</sup> Ed. 2017-5540 C	BDL	0.05 - 0.5	0.2	1.0
8	Calcium as Ca	mg/l	IS: 3025 (Part-40): 1991 Reaffirmed: 2019	56.0	2.0 - 600	75	200
9	Magnesium as Mg	mg/l	APHA 23 <sup>rd</sup> Ed. 2017-3500 Mg, B	32.076	0.1 - 200	30	100
10	Chloride as Cl	mg/l	APHA 23 <sup>rd</sup> Ed. 2017-4500-Cl <sup>-</sup> B	32.0	2.0 - 2000	250	1000
11	Fluoride as F	mg/l	APHA 23 <sup>rd</sup> Ed. 2017-4500 F <sup>-</sup> C	0.39	0.02 - 5.0	1.0	1.5
12	Free Residual Chlorine	mg/l	IS: 3025 (Part-26): 1986 Reaffirmed: 2019	BDL	0.1 - 5.0	0.2	1.0
13	Nitrate as NO <sub>3</sub>	mg/l	IS: 3025 (Part-34): 1986 Reaffirmed: 2019	6.8	1.0 - 70	45	No Relaxation
14	Phenolic Compound (as C <sub>6</sub> H <sub>5</sub> OH)	mg/l	APHA 23 <sup>rd</sup> Ed. 2017-5530 C	BDL	0.001 - 0.005	0.001	0.002
15	Sulphate as SO <sub>4</sub>	mg/l	APHA 23 <sup>rd</sup> Ed. 2017-4500- SO <sub>4</sub> <sup>2-</sup>	30.0	1.0 - 500	200	400
16	Alkalinity as CaCO <sub>3</sub>	mg/l	APHA 23 <sup>rd</sup> Ed. 2017-2320 B	288.0	2.0 - 1000	200	600
17	Total Hardness as CaCO <sub>3</sub>	mg/l	APHA 23 <sup>rd</sup> Ed. 2017-2340 C	272.0	5.0 - 800	200	600
18	Aluminium as Al	mg/l	APHA 23 <sup>rd</sup> Ed. 2017-3120 B (ICP-OES)	BDL	0.015 - 5.0	0.03	0.2
19	Boron as B	mg/l	APHA 23 <sup>rd</sup> Ed. 2017-3120 B (ICP-OES)	BDL	0.05 - 2.0	0.5	1.0
20	Copper as Cu	mg/l	APHA 23 <sup>rd</sup> Ed. 2017-3120 B (ICP-OES)	BDL	0.03 - 10	0.05	1.5



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## Test Report Ref No.: ETRC/EPA/6651/2022

21	Iron as Fe	mg/l	APHA 23 <sup>rd</sup> Ed. 2017-3120 B (ICP-OES)	0.18	0.05 - 20	0.3	No Relaxation
22	Manganese as Mn	mg/l	APHA 23 <sup>rd</sup> Ed. 2017-3120 B (ICP-OES)	0.03	0.02 - 5.0	0.1	0.3
23	Zinc as Zn	mg/l	APHA 23 <sup>rd</sup> Ed. 2017-3120 B (ICP-OES)	0.47	0.05 - 15	5	15
24	Cadmium as Cd	mg/l	APHA 23 <sup>rd</sup> Ed. 2017-3120 B (ICP-OES)	BDL	0.05 - 2.0	0.003	No Relaxation
25	Lead as Pb	mg/l	APHA 23 <sup>rd</sup> Ed. 2017-3120 B (ICP-OES)	BDL	0.01 - 10	0.01	No Relaxation
26	Mercury as Hg	µg/l	APHA 23 <sup>rd</sup> Ed. 2017-3120 B (ICP-OES)	BDL	0.5 - 1000	1.0	No Relaxation
27	Nickel as Ni	mg/l	APHA 23 <sup>rd</sup> Ed. 2017-3120 B (ICP-OES)	BDL	0.05 - 5.0	0.02	No Relaxation
28	Arsenic as As	mg/l	APHA 23 <sup>rd</sup> Ed. 2017-3120 B (ICP-OES)	BDL	0.02 - 2.0	0.01	0.05
29	Total Chromium	mg/l	APHA 23 <sup>rd</sup> Ed. 2017-3120 B (ICP-OES)	BDL	0.03 - 5.0	0.05	No Relaxation
<b>Microbiological Parameters</b>							
30	E. coli	MPN/100 ml	IS: 1622 - 1981 Reaffirmed: 2019	Absent	≥ 2 MPN Present or Absent per 100 ml	Shall not be detected in any 100 ml sample	
31	T. coli	MPN/100 ml	IS: 1622 - 1981 Reaffirmed: 2019	Absent	≥ 2 MPN Present or Absent per 100 ml	Shall not be detected in any 100 ml sample	

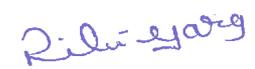
BDL=Below Detection Limit

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ETRC/PM14/TES-REP/FT/38

## TEST REPORT SOIL ANALYSIS

Test Report Ref No.: ETRC/EPA/6652/2022	Date of Report: 14.07.2022
Name /Address/Type of Industry	M/s Gobind Sugar Mills Limited Sugar Division Village: Khamaria Pandit, Aira Estate, Tehsil: Dhaurahra District: Lakhimpur Kheri (U.P.) - 262722

## SAMPLE DETAILS

1	Sampling Location	Plant Site	5	Packing Condition	Sealed
2	Sample Description	Soil	6	Sample Collected By	ETRC, Lucknow
3	Sample received date	09.07.2022	7	Analysis Start Date	09.07.2022
4	Sample Quantity	1.0 kg	8	Analysis End Date	13.07.2022

## TEST RESULT

Sr. No.	Test Parameter	Unit	Protocol/Test Method	Result	Range of testing /limit of detection
1	pH	-	IS: 2720 (Part-26): 1987, Reaffirmed: 2016	7.2	1 - 14
2	Electrical Conductivity	µS/cm	IS: 14767: 2002 Reaffirmed: 2016	296.0	1 - 40000
3	Moisture Contents	%	IS: 2720 (Part-2): 1973 Reaffirmed: 2015	3.28	1.0 - 50
4	Nitrate as N	kg/Hec	Method manual of soil testing India	264.2	5.0 - 500
5	Phosphorus (as P <sub>2</sub> O <sub>5</sub> )	kg/Hec	Method manual of soil testing India	19.4	1 - 2000
6	Potash as K <sub>2</sub> O	kg/Hec	ETRC/ LABSOPS/17, ISSUE NO.1 Dated 10.08.2015	151.0	1.0 - 2000
7	Copper as Cu	mg/kg	ETRC/LABSOPS/07 Issue. 1 Dated. 10.08.2015	0.43	0.3 - 500
8	Zinc as Zn	mg/kg	ETRC/LABSOPS/08 Issue. 1 Dated. 10.08.2015	10.2	1.0 - 500
9	Iron as Fe	mg/kg	ETRC/LABSOPS/09 Issue. 1 Dated. 10.08.2015	34.6	5.0 - 500
10	Manganese as Mn	mg/kg	ETRC/LABSOPS/10 Issue. 1 Dated. 10.08.2015	8.2	5.0 - 500
11	Sulphur	mg/kg	IS: 14685: 1999 Reaffirmed: 2014	14.9	5.0 - 100

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ETRC/PM14/TES-REP/FT/17

## TEST REPORT WATER ANALYSIS

Test Report Ref No. ETRC/2408/10527/2022	Date of Report: 24/08/2021
Name /Address/Type of Industry	M/s Gobind Sugar Mills Limited Sugar Division Village: Khamaria Pandit, Aira Estate, Tehsil: Dhaurahra District: Lakhimpur Kheri (U.P.) - 262722

### SAMPLE DETAILS

1	Water/ Waste Water	Ground Water	5	Packing Condition	Sealed
2	Sample Description	Borewell Water	6	Sample Collected By	Industry Self
3	Sample received date	19.08.2022	7	Analysis Start Date	19.08.2022
4	Sample Quantity	5.0 liters	8	Analysis End Date	23.08.2022

### TEST RESULT

Sr. No	Test Parameter	Unit	Protocol/Test Method	Result	Range of testing /limit of detection	Indian Standard 10500: 2012	
						Desirable	Permissible
<b>Physico-chemical Parameters</b>							
1	Colour	Hazen	IS: 3025 (Part-4): 1983 Reaffirmed: 2017	<5.0	5 - 30	5	15
2	Odour	-	IS: 3025 (Part-5): 1983 Reaffirmed: 2017	Agreeable	Qualitative	Agreeable	Agreeable
3	pH	-	APHA 23 <sup>rd</sup> Ed. 2017-4500 H <sup>+</sup>	7.5	1 - 14	6.5-8.5	No Relaxation
4	Turbidity	NTU	APHA 23 <sup>rd</sup> Ed. 2017-2130 B	BDL	2 - 40	1	5
5	Total Dissolved Solids (TDS)	mg/l	IS: 3025 (Part-16): 1984 Reaffirmed: 2017	410.2	10 - 5000	500	2000
6	Ammonia (as total ammonia-N)	mg/l	APHA 23 <sup>rd</sup> Ed. 2017-4500-NH <sub>3</sub> F	BDL	0.5 - 2	0.5	No Relaxation
7	Anionic Detergents (as MBAS)	mg/l	APHA 23 <sup>rd</sup> Ed. 2017-5540 C	BDL	0.05 - 0.5	0.2	1.0
8	Calcium as Ca	mg/l	IS: 3025 (Part-40): 1991 Reaffirmed: 2019	60.8	2.0 - 600	75	200
9	Magnesium as Mg	mg/l	APHA 23 <sup>rd</sup> Ed. 2017-3500 Mg, B	24.3	0.1 - 200	30	100
10	Chloride as Cl	mg/l	APHA 23 <sup>rd</sup> Ed. 2017-4500-Cl <sup>-</sup> B	30.0	2.0 - 2000	250	1000
11	Fluoride as F	mg/l	APHA 23 <sup>rd</sup> Ed. 2017-4500 F <sup>-</sup> C	0.36	0.02 - 5.0	1.0	1.5
12	Free Residual Chlorine	mg/l	IS: 3025 (Part-26): 1986 Reaffirmed: 2019	BDL	0.1 - 5.0	0.2	1.0
13	Nitrate as NO <sub>3</sub>	mg/l	IS: 3025 (Part-34): 1986 Reaffirmed: 2019	8.4	1.0 - 70	45	No Relaxation
14	Phenolic Compound (as C <sub>6</sub> H <sub>5</sub> OH)	mg/l	APHA 23 <sup>rd</sup> Ed. 2017-5530 C	BDL	0.001 - 0.005	0.001	0.002
15	Sulphate as SO <sub>4</sub>	mg/l	APHA 23 <sup>rd</sup> Ed. 2017-4500- SO <sub>4</sub> <sup>2-</sup>	26.0	1.0 - 500	200	400
16	Alkalinity as CaCO <sub>3</sub>	mg/l	APHA 23 <sup>rd</sup> Ed. 2017-2320 B	276.0	2.0 - 1000	200	600
17	Total Hardness as CaCO <sub>3</sub>	mg/l	APHA 23 <sup>rd</sup> Ed. 2017-2340 C	252.0	5.0 - 800	200	600
18	Aluminium as Al	mg/l	APHA 23 <sup>rd</sup> Ed. 2017-3120 B (ICP-OES)	BDL	0.015 - 5.0	0.03	0.2
19	Boron as B	mg/l	APHA 23 <sup>rd</sup> Ed. 2017-3120 B (ICP-OES)	BDL	0.05 - 2.0	0.5	1.0
20	Copper as Cu	mg/l	APHA 23 <sup>rd</sup> Ed. 2017-3120 B (ICP-OES)	BDL	0.03 - 10	0.05	1.5



# ENVIRONMENTAL AND TECHNICAL RESEARCH CENTRE

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ISO 9001:2015, ISO 14001 : 2015, OHSAS 18001 : 2007

An Approved Laboratory from Ministry of Environment, Forest and Climate change, Govt. of India under EPA 1986

## Test Report Ref No. ETRC/2408/10527/2022

21	Iron as Fe	mg/l	APHA 23 <sup>rd</sup> Ed. 2017-3120 B (ICP-OES)	0.13	0.05 - 20	0.3	No Relaxation
22	Manganese as Mn	mg/l	APHA 23 <sup>rd</sup> Ed. 2017-3120 B (ICP-OES)	0.08	0.02 - 5.0	0.1	0.3
23	Zinc as Zn	mg/l	APHA 23 <sup>rd</sup> Ed. 2017-3120 B (ICP-OES)	0.36	0.05 - 15	5	15
24	Cadmium as Cd	mg/l	APHA 23 <sup>rd</sup> Ed. 2017-3120 B (ICP-OES)	BDL	0.05 - 2.0	0.003	No Relaxation
25	Lead as Pb	mg/l	APHA 23 <sup>rd</sup> Ed. 2017-3120 B (ICP-OES)	BDL	0.01 - 10	0.01	No Relaxation
26	Mercury as Hg	µg/l	APHA 23 <sup>rd</sup> Ed. 2017-3120 B (ICP-OES)	BDL	0.5 - 1000	1.0	No Relaxation
27	Nickel as Ni	mg/l	APHA 23 <sup>rd</sup> Ed. 2017-3120 B (ICP-OES)	BDL	0.05 - 5.0	0.02	No Relaxation
28	Arsenic as As	mg/l	APHA 23 <sup>rd</sup> Ed. 2017-3120 B (ICP-OES)	BDL	0.02 - 2.0	0.01	0.05
29	Total Chromium	mg/l	APHA 23 <sup>rd</sup> Ed. 2017-3120 B (ICP-OES)	BDL	0.03 - 5.0	0.05	No Relaxation
<b>Microbiological Parameters</b>							
30	E. coli	MPN/100 ml	IS: 1622 - 1981 Reaffirmed: 2019	Absent	≥ 2 MPN Present or Absent per 100 ml	Shall not be detected in any 100 ml sample	
31	T. coli	MPN/100 ml	IS: 1622 - 1981 Reaffirmed: 2019	Absent	≥ 2 MPN Present or Absent per 100 ml	Shall not be detected in any 100 ml sample	

BDL=Below Detection Limit

..... END OF REPORT.....

- ETRC warrants that all analytical work is conducted professionally in accordance with all applicable standard laboratory practices and that this data reflects our best attempt to generate accurate results for the sample, mentioned in the report as above.
- The result relate only to the items tested.
- ETRC does not assume any liability for any claims or damages related to the quality of parameter analyzed in the results and/or the performance of the equipment constituting to the results.
- All disputes subject to Lucknow jurisdiction.
- This report is not to be reproduced wholly or in part and cannot be used as evidence in the court of law and should not be used in any advertising media without our special permission in writing.
- Complain register is available in our laboratory.

  
**Authorized Signatory**  
**(Sandeep Kr Verma)**  
**Lab-Incharge**



  
**Authorized Signatory**  
**(Ritu Garg)**  
**QM**



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ETRC/PM14/TES-REP/FT/17

## TEST REPORT WATER ANALYSIS

Test Report Ref No.: ETRC/EPA/7058/2022	Date of Report: 29.09.2022
Name /Address/Type of Industry	M/s Gobind Sugar Mills Limited Sugar Division Village: Khamaria Pandit, Aira Estate Tehsil: Dhaurahra District: Lakhimpur Kheri (U.P.) - 262722

### SAMPLE DETAILS

1	Water/ Waste Water	Ground Water	5	Packing Condition	Sealed
2	Sample Description	Borewell Water	6	Sample Collected By	Industry Self
3	Sample received date	23.09.2022	7	Analysis Start Date	23.09.2022
4	Sample Quantity	5.0 liters	8	Analysis End Date	28.09.2022

### TEST RESULT

Sr. No	Test Parameter	Unit	Protocol/Test Method	Result	Range of testing /limit of detection	Indian Standard 10500 : 2012	
						Desirable	Permissible
Physico-chemical Parameters							
1	Colour	Hazen	IS: 3025 (Part-4): 1983 Reaffirmed: 2017	<5.0	5 - 30	5	15
2	Odour	-	IS: 3025 (Part-5): 1983 Reaffirmed: 2017	Agreeable	Qualitative	Agreeable	Agreeable
3	pH	-	APHA 23 <sup>rd</sup> Ed. 2017-4500 H <sup>+</sup>	7.4	1 - 14	6.5-8.5	No Relaxation
4	Turbidity	NTU	APHA 23 <sup>rd</sup> Ed. 2017-2130 B	BDL	2 - 40	1	5
5	Total Dissolved Solids (TDS)	mg/l	IS: 3025 (Part-16): 1984 Reaffirmed: 2017	425.8	10 - 5000	500	2000
6	Ammonia (as total ammonia-N)	mg/l	APHA 23 <sup>rd</sup> Ed. 2017-4500-NH <sub>3</sub> F	BDL	0.5 - 2	0.5	No Relaxation
7	Anionic Detergents (as MBAS)	mg/l	APHA 23 <sup>rd</sup> Ed. 2017-5540 C	BDL	0.05 - 0.5	0.2	1.0
8	Calcium as Ca	mg/l	IS: 3025 (Part-40): 1991 Reaffirmed: 2019	62.4	2.0 - 600	75	200
9	Magnesium as Mg	mg/l	APHA 23 <sup>rd</sup> Ed. 2017-3500 Mg, B	27.21	0.1 - 200	30	100
10	Chloride as Cl	mg/l	APHA 23 <sup>rd</sup> Ed. 2017-4500-Cl <sup>-</sup> B	28.0	2.0 - 2000	250	1000
11	Fluoride as F	mg/l	APHA 23 <sup>rd</sup> Ed. 2017-4500 F <sup>-</sup> C	0.40	0.02 - 5.0	1.0	1.5
12	Free Residual Chlorine	mg/l	IS: 3025 (Part-26): 1986 Reaffirmed: 2019	BDL	0.1 - 5.0	0.2	1.0
13	Nitrate as NO <sub>3</sub>	mg/l	IS: 3025 (Part-34): 1986 Reaffirmed: 2019	10.2	1.0 - 70	45	No Relaxation
14	Phenolic Compound (as C <sub>6</sub> H <sub>5</sub> OH)	mg/l	APHA 23 <sup>rd</sup> Ed. 2017-5530 C	BDL	0.001 - 0.005	0.001	0.002
15	Sulphate as SO <sub>4</sub>	mg/l	APHA 23 <sup>rd</sup> Ed. 2017-4500- SO <sub>4</sub> <sup>2-</sup>	32.0	1.0 - 500	200	400
16	Alkalinity as CaCO <sub>3</sub>	mg/l	APHA 23 <sup>rd</sup> Ed. 2017-2320 B	296.0	2.0 - 1000	200	600
17	Total Hardness as CaCO <sub>3</sub>	mg/l	APHA 23 <sup>rd</sup> Ed. 2017-2340 C	268.0	5.0 - 800	200	600
18	Aluminium as Al	mg/l	APHA 23 <sup>rd</sup> Ed. 2017-3120 B (ICP-OES)	BDL	0.015 - 5.0	0.03	0.2
19	Boron as B	mg/l	APHA 23 <sup>rd</sup> Ed. 2017-3120 B (ICP-OES)	BDL	0.05 - 2.0	0.5	1.0
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## Test Report Ref No.: ETRC/EPA/7058/2022

21	Iron as Fe	mg/l	APHA 23 <sup>rd</sup> Ed. 2017-3120 B (ICP-OES)	0.18	0.05 - 20	0.3	No Relaxation
22	Manganese as Mn	mg/l	APHA 23 <sup>rd</sup> Ed. 2017-3120 B (ICP-OES)	0.06	0.02 - 5.0	0.1	0.3
23	Zinc as Zn	mg/l	APHA 23 <sup>rd</sup> Ed. 2017-3120 B (ICP-OES)	0.74	0.05 - 15	5	15
24	Cadmium as Cd	mg/l	APHA 23 <sup>rd</sup> Ed. 2017-3120 B (ICP-OES)	BDL	0.05 - 2.0	0.003	No Relaxation
25	Lead as Pb	mg/l	APHA 23 <sup>rd</sup> Ed. 2017-3120 B (ICP-OES)	BDL	0.01 - 10	0.01	No Relaxation
26	Mercury as Hg	µg/l	APHA 23 <sup>rd</sup> Ed. 2017-3120 B (ICP-OES)	BDL	0.5 - 1000	1.0	No Relaxation
27	Nickel as Ni	mg/l	APHA 23 <sup>rd</sup> Ed. 2017-3120 B (ICP-OES)	BDL	0.05 - 5.0	0.02	No Relaxation
28	Arsenic as As	mg/l	APHA 23 <sup>rd</sup> Ed. 2017-3120 B (ICP-OES)	BDL	0.02 - 2.0	0.01	0.05
29	Total Chromium	mg/l	APHA 23 <sup>rd</sup> Ed. 2017-3120 B (ICP-OES)	BDL	0.03 - 5.0	0.05	No Relaxation
<b>Microbiological Parameters</b>							
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**Authorized Signatory**  
**(Sandeep Kr Verma)**  
**Lab-Incharge**



  
**Authorized Signatory**  
**(Ritu Garg)**  
**QM**



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

(भूजल निकासी हेतु अनापत्ति प्रमाण पत्र)

**NO OBJECTION CERTIFICATE (NOC) FOR GROUND WATER ABSTRACTION**

Project Name:	M/s Gobind Sugar Mills Ltd.		
Project Address:	M/s Gobind Sugar Mills Ltd. Village- Khamaria Pandit, Tehsil- Dhaurahra, District - Lakhimpur Kheri , Uttar Pradesh		
Village:	Khamaria Pandit	Block:	Isanagar
District:	Kheri	State:	Uttar Pradesh
Pin Code:	262722		
Communication Address:	Village- Khamaria Pandit, Tehsil- Dhaurahra, District - Lakhimpur Kheri , Kheri, Uttar Pradesh - 262722		
Address of CGWB Regional Office :	Central Ground Water Board Northern Region, Bhujal Bhavan, Sector-B Sitapur Road Yojna, Ram Ram Bank Chauraha, Lucknow, Uttar Pradesh - 226021		

1. NOC No.:	CGWA/NOC/IND/REN/1/2020/5692									
2. Application No.:	21-4/3872/UP/IND/2017			3. Category:	Industry					
4. Project Status:	Existing Project			5. NOC Type:	1st Renewal					
6. Valid from:	28/02/2020			7. Valid up to:	26/02/2023					
8. Ground Water Abstraction Permitted:										
Fresh Water		Saline Water		Dewatering		Total				
m <sup>3</sup> /day	m <sup>3</sup> /year	m <sup>3</sup> /day	m <sup>3</sup> /year	m <sup>3</sup> /day	m <sup>3</sup> /year	m <sup>3</sup> /day	m <sup>3</sup> /year			
3000.00	535000.00					3000.00	535000.00			
9. Details of ground water abstraction /Dewatering structures										
Total Existing No.:2					Total Proposed No.:0					
	DW	DCB	BW	TW	MP	DW	DCB	BW	TW	MP
Abstraction Structure*	0	0	0	2	0	0	0	0	0	0
*DW- Dug Well; DCB-Dug-cum-Bore Well; BW-Bore Well; TW-Tube Well; MP-Mine Pit										
10. Quantum of ground water recharge/harvesting(m <sup>3</sup> /year):	78244.00									
11. Number of Piezometers(Observation wells) to be constructed/ monitored & Monitoring mechanism.	No. of Piezometers		Monitoring Mechanism							
			Manual		DWLR**		DWLR With Telemetry			
**DWLR - Digital Water Level Recorder	2		0		1		1			

(Compliance Conditions given overleaf)

सदस्य (केन्द्रीय भूमि जल प्राधिकरण)  
Member (CGWA)

**Validity of this NOC shall be subject to compliance of the following mandatory conditions:**

1. No additional ground water abstraction and/or de-watering structures shall be constructed for this purpose without prior approval of the Central Ground Water Authority (CGWA).
2. The proponent shall seek prior permission from CGWA for any increase in quantum of groundwater abstraction (more than that permitted in NOC for specific period).
3. All new as well as existing ground water abstraction/ de-watering structures shall be fitted with digital water flow meters by the firm at its own cost immediately on completion of their construction or grant of NOC as the case may be. In case of renewal of NOCs, all existing ground water abstraction structures shall continue to be fitted with digital water flow meters. Intimation of installation of flow meters shall be sent by the proponent to the Regional Director of CGWB within 6 months of grant of NOC. Daily ground water abstraction data shall be monitored / continue to be monitored (in case of renewal) by the firm and recorded in a log book. Details of month-wise ground water abstraction shall be submitted to the Regional Director, CGWB, once every year.
4. In case the ground water abstraction is more than 10 m<sup>3</sup>/day, monthly water level monitoring data shall be maintained and submitted annually to the Regional Office of CGWB. Wherever groundwater withdrawal is more than 500 m<sup>3</sup>/day, the firm shall install telemetry system in one of the piezometers and share USER ID and password of the telemetry system with the Regional Director, CGWB.
5. In case ground water abstraction is more than 10 m<sup>3</sup>/day, ground water quality shall be monitored once in a year (during pre- monsoon period) and the report submitted to the Regional Office, CGWB. Wherever the extraction is less than 10 m<sup>3</sup>/day, ground water quality report shall be submitted by the proponent at the time of submission of self-compliance report.
6. Ground water augmentation/harvesting measures, as stipulated in the NOC, shall be implemented (in new cases) / continue to be maintained (in case of renewal) in consultation with the concerned Regional Director, CGWB.
7. Proof of recharge/water harvesting structures constructed (photographs of structures) shall be submitted to the concerned Regional Director, CGWB within 6 months from the date of issue of NOC. The firm shall also undertake periodic maintenance of recharge/water harvesting structures at its own cost.
8. The project proponent shall take all necessary measures to prevent contamination of ground water in the premises failing which the firm shall be responsible for any consequences arising thereupon.
9. In case of industries that are likely to contaminate the ground water, no recharge measures shall be taken up by the firm inside the plant premises. The runoff generated from the rooftop shall be stored and put to beneficial use by the firm.
10. The firm shall optimize water use through recycling/ reuse of waste water after proper treatment.
11. Wherever the NOC is for abstraction of saline water and the existing wells (s) is /are yielding fresh water, the same shall be sealed and new tubewell(s) tapping saline water zone shall be constructed within 3 months of the issuance of NOC. The firm shall also ensure safe disposal of saline residue, if any.
12. In case of mining projects, additional key wells shall be established in consultation with the Regional Director, CGWB for ground water level monitoring four (4) times a year (January, May, August and November) in core as well as buffer zones of the mine.
13. Unexpected variations in inflow of ground water into the mine pit, if any, shall be reported to the concerned Regional Director, Central Ground Water Board.
14. The firm shall report compliance of the NOC conditions online in the website ([www.cgwa-noc.gov.in](http://www.cgwa-noc.gov.in)) within one year from the date of issue of this NOC.
15. This NOC is subject to prevailing Central/State Government rules/laws/norms or Court orders related to construction of tube well/ground water abstraction structure / recharge or conservation structure/discharge of effluents or any such matter as applicable.
16. This NOC does not absolve the proponents of their obligation / requirement to obtain other statutory and administrative clearances from appropriate authorities.
17. The issue of this NOC does not imply that other statutory / administrative clearances shall be granted to the project by the concerned authorities. Such authorities would consider the project on merits and take decisions independently of the NOC.
18. This NOC is being issued without any prejudice to the directions of the Hon'ble NGT/court orders in cases related to ground water or any other related matters.
19. Application for renewal can be submitted online from 90 days before the expiry of NOC. Ground water withdrawal, if any, after expiry of NOC shall be illegal & liable for legal action as per provisions of Environment(Protection)Act,1986.
20. **In case of any violation of NOC conditions or illegal extraction of Ground water the firm shall be liable to pay "Environmental Compensation"/ "Penalty", if any under Sec 15 of EPA 1986as and when decided by statutory authorities.**

**(Non-compliance of the conditions mentioned above is likely to result in the cancellation of NOC and legal action against the proponent.)**

# Green Belt



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