

O/c



To  
The Member Secretary,  
Jharkhand State Pollution Control Board,  
Dhurwa, Ranchi,  
Jharkhand

Date:- 28/09/2021

**Sub:- Submission of Environment Statement for 2020-2021.**

Dear Sir,

Please find the attached herewith Environment Statement for the period of 2020-2021.

Your good self is therefore requested kindly acknowledge the same in order.

Thanking you

For, Ankur Biochem Pvt Ltd.

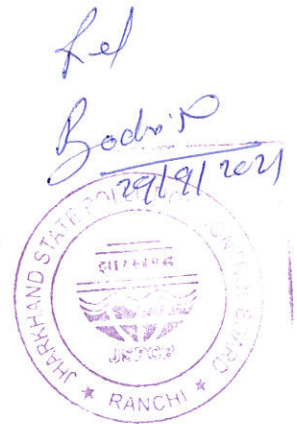
Ankur Biochem Pvt. Ltd.

Authorized Signatory

Authorized Signatory

CC- Regional Office, Dhanbad

Enclose: Environment Statement along with Annexure



**ANKUR BIOCHEM PVT. LTD.**

Tetulia More, Vill. & P.O. Dhubhi (Tetulia), P.S. Nirsa, Dist. Dhanbad 828205, Jharkhand, India

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CIN-U24100WB2008PTC128390

# **ENVIRONMENT STATEMENT**

**(2020-2021)**



**FOR**

**M/S: ANKUR BIOCHEM PVT.LTD.**

**AT:- Tetulia More, Vill & P.O.- Dubhi, Nirsa, Dhanbad.  
(Jharkhand)**

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# PREFACE

Anthropogenic activities including industrial activities have an impact on various attributes of the environment, the eco - system does not process unlimited capacity for absorbing such impact to avoid the adverse impacts on the eco- system due to such anthropogenic activities, it means of using the environmental resources by which the environment can be conserved and the resources can be optimally used, substantially.

This has posed a significant challenge to the engineering profession and attitude. It has become necessary to know the behaviour of the environment, capacity of the territory and future development plans before implementation of any development activities in the country.

Development activities are aimed at the improvement and socio- economic growth of the society and nation but due to in appropriate unscientific handling of resources they are causing negative impacts on the environment. Thus a detailed environment statement is considered essential for assessment of the quantum of pollutants generated and discharged by the industry. This is also means of sound decision making tools for the plant management for the effective and efficient use of resources and for suitable planning to minimize the negative impacts.

## REGULATORY FRAMEWORK

To ensure better environment conditions, Government of india has made it a statutory requirement for industries to submit Environment Statement as per notification from Ministry of Environment and Forests. Under the environment (Protection) Rules, 1986, all industries operations of processes requiring consent to operate under section 25 of water (Prevention and Control of Pollution) Act, 1974 and / or under section 21 of the Air (Prevention and Control of Pollution) Act 1981 and / or authorized under the Hazardous Waste (Management and Handling) Rules 1989 as amended from time to time under Environment (Protection) Act 1986.

Environment Statement is also a tool for the industries for making environmental self introspection and setting environmental goals. It provides an opportunity to select options for waste minimization, which in turn could even benefit the industry in economic terms. It is for the industries to utilize the tool effectively and efficiently.

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## INTRODUCTION

The country demand for ethanol is going to increase every year as the demand for the potable industrial and fuel ethanol is increasing. Recently, Government of India has announced 5% blending of ethanol in petrol in the country. World over also the demand for ethanol is increasing sharply as many countries are adopting blending of ethanol with petrol.

Setting up to molasses based distilleries in Jharkhand is not possible as molasses in large quantity will not be available on long term basis as well because of stringent effluent disposal norms being enforced by CPCB for molasses based distilleries.

The **Model** exercise policy under consideration of the ministry of food processing. Government of India also recommends that in future all potable liquors should be produced using grain alcohol, not molasses alcohol.

Grain alcohol is supposed to be superior in quality for potable purpose as compared molasses alcohol.

Grain alcohol distilleries are "Grain Field" project without any process liquid effluent discharge and therefore environmental friendly.

Dry milling process for grain alcohol also results in the production of Distillers wet grains with soluble (DWGS) or Distillers dry grains with soluble (DDGS), which can be sold as high protein containing animal feed.

## MANUFACTURING PROCESS

The distillery is utilized corn or rice as basic raw material to produce either parablr quality retified spirit (RS), potable quality superfine Extra Neutral Alcohol (ENA) or Ethanol . The distillery has capacity of 200 KLPD production of ENA, impure spirit, Ethanol. Along with animal feed called as Distillers Dried Grain with Soluble (DDGS) or Distillers Wet Grain with Solubles (DWGS) as By product. The whole integrate approach and production of DDGS or DWGS will result in zero discharge or there will be no process effluent coming out of the distillery as in the case of conventional distilleries based on molasses. The process will be based on dry milling technology.

Grain handling and milling accepted the quality carnance grain is unloaded in to silos for storage before milling Grains are stored in the silos from there it is converted through screw conveyor to bucket elevator. Bucket elevator lifts the grains in approximately 18m height and then passes the grains through vibrating screen destoner and magnetic separator to remove dust and stones, the flow through this equipment are under gravity.

The cleaned grains are then again conveyed by bucket elevator to an intermediate hopper which is provided with the rotary air lock system for controlled flow in hammer mill. In hammer mill the particle size is reduced as per required for the process. Form hammer

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mill the flour is pre-automatically conveyed to flower bin (Intermediate Storage for flour. From flour bin the flour is carried to premaster unit. In premaster flour is mixed with water and enzymes.

The propose of milling is to break up the order to facilitate subsequent penetration of water in the cooking process. The milling section of the plant has the necessary equipment for cleaning of the raw materials sand, stone, metallic particles & other undesired foreign material and screening the milled flour so as to get the desired particles size selected hammer mill will be able to mill either cornor rice. The distribution test of the meal is done regularly in order to ascertain the mill setting and particle size distribution. The slurry of the milled raw material is prepared in water and then this slurry is then sent for liquefaction.

## **LIQUEFACTION**

Liquefaction initiates the conversion of starch in to simple molecules of dextrin. It is divided into three sub processes i.e. (i) Pre Liquefaction (ii) Jet cooking (iii) Post Liquefaction: This involves partial hydrolysis / liquefaction of starch in presence of enzyme amylase at a temperature much below the gelatinization temperature. Gelatinization results in education in viscosity of the mash. Gelatinization temperature various for the different grains i.e. for corn it is 62 °C – 72 °C and for sorghum, it is 68 °C – 77 °C part of the enzyme is added in this step after necessary adjustment of PH and Ca++ concentration.

Process water is added to premasher to make slurry. The mixed slurry is taken to the initial liquefaction tank where additional quantity of water is added as per requirement. Viscosity education enzyme and stabilizing enzyme are also added at this stage.

## **JETCOOKING**

This step involves the cooking of the starch slurry with live steam so as to instantaneously raise its temperature. The slurry is cooked in the get cooker. This slurry is continuously pumped to a steam jet cooker where high pressure steam at 170 °C rapidly raises the slurry temperature. The mixture of slurry and steam is then passed through the retention loop for desired retention time about 5 to 110 minutes at given flow rate. The cooked mash is discharged to a flash tank. The cooking process, accomplished in the above manner converts the slurry into a hydrated sterilized suspension (as starch molecule is solublized) and is therefore susceptible.

## **POST LIQUEFACTION**

The retention time in post-Liquefaction / flash chamber is 30 minutes, second part of L-amylase enzyme is added in post liquefaction. The jet-cooked slurry from the flash tank is again held at high temperature in present of enzyme to complete the process of a post liquefaction. The L-amylase enzyme used will be able to break down the starch molecule at higher temperature.

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## **PRE-SACCHARIFICATION**

From the post liquefaction chamber, the mash is pumped through a heat exchanger to the cooled for saccharification is the formation of fermentable glucose and the process is carried out with a time of between 45 to 90 minutes. The quantity of glucose produced is monitored by measuring the Dextrose equivalent (DE) of the mash.

## **Yeast Activation**

Yeast seed material is prepared in pre-fermenter by inoculating sterilized mash with yeast. Optimum temperature is maintained by circulating cooling water. The contents of the pre-fermenter are then transferred to fermenter. The purpose of fermentation is to convert the fermentable substrate into alcohol. To prepare the mash for fermentation, it is diluted with water. Yeast is added in sufficient quantity to complete fermentation to produce alcohol.

At the start of the cycle, the fermenter is charged with mash and contents of the pre-fermenter. Significant heat release takes place during fermentation. This is removed by passing the mash through heat exchangers to maintain an optimum temperature. The recirculating pumps also serve to empty the fermenter into beer well. Carbon dioxide generated is taken to compressing unit and sent to the markets in tankers. After emptying of fermenter, it is cleaned with CIP using cleaning nozzles. After CIP, fermenter is ready for next batch to be filled.

## **Hi-Ferm Fermentation**

The fermentation process is engineered to operate in batch mode depending upon the quality of raw material. The purpose of fermentation is to convert the fermentable sugars into alcohol. During fermentation, sugars are broken down into alcohol and carbon-dioxide. Significant heat release takes place during fermentation. The fermenter temperature is maintained at around 30 – 32oC by forced recirculation flow through plate heat exchangers. There will be a provision for spent wash recycle to fermentation depending on solids concentration in fermented wash.

## **Eco-Fine Multi-Pressure Distillation**

Multi-Pressure Distillation system has seven distillation columns operating at various pressure conditions. Heat energy from columns operating under high pressure is utilized for columns operating under low pressure to optimize the operation for energy consumption.

## **Wash to ENA Mode**

Following columns will be under operation:

1. **Analyser Column**
2. **Degasser Column**

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3. **Pre-Rectifier Column**
4. **ED Column**
5. **Rectifier cum Exhaust Column**
6. **Recovery Column**
7. **Simmering Column**

Pre-heated fermented wash will be fed to degasser column. Fermented wash is stripped off alcohol by ascending vapors in analyser column. Rectifier vapors provide energy to analyser column through a Thermosyphon reboiler. Vapors of degasser column are condensed and taken to recovery feed tank. The condensed analyser vapors are taken to pre-rectifier column. Analyser condensate is concentrated in pre-rectifier column, which operates under pressure. Condensing steam provides energy to pre-rectifier column through a vertical Thermosyphon reboiler. A Technical Alcohol (TA) cut of about 1-2% of total spirit is taken from the pre-rectifier column.

Concentrated alcohol drawn from pre-rectifier column is fed to ED column for purification. Dilution water in the ratio of 1:9 is added in this column for concentrating higher alcohol at the top. Top of this column is condensed in its condensers and fed to recovery feed tank while bottoms are fed to rectifier cum exhaust column for concentration. Rectifier column operates under pressure and condensing steam provides energy to this column through a vertical thermosyphon reboiler. Technical alcohol cut is taken out from the top of this column while ENA is taken out from appropriate upper trays and fed to simmering column after cooling. Fusel Oil build up is avoided by taking fusel oil draws from appropriate trays. Fusel oils along with the condensate of degasifying & extractive distillation columns are fed to recovery column for concentration. A technical alcohol cut is taken out from the top of this column. Simmering column is operated under high reflux for better separation of methanol and di-acetyls. Final ENA product draw is taken from the bottom of this column.

### **Decantation & Thin Slops Recycle Section**

Decantation section comprises of a centrifuge decanter for separation of suspended solids from spent wash coming out of grain distillation plant. Wet cake has 30-32% w/w solids as removed from bottom of decanter which can be sold directly in wet form as cattle feed (DWG).

Thin slops coming out of decanter are collected in a tank and partly recycled into the process & further for evaporation for concentration up to 35-40% w/w solids. The concentrated thin slops called as syrup is mixed with Wet cake and sold in wet form as cattle feed (DWGS) or the entire mixture can be dried in a DDGS Dryer and then sold in dry form as cattle feed (DDGS).



## **Eco-Vap Evaporation System - Integrated Evaporation Scheme**

The suggested treatment scheme effect working on the principle of falling film & force circulation

- Analyzer vapors is fed to the first effect evaporator shell side and steam is fed to shell side finisher at the given pressure and temperature as the heating medium.
- Vapors from last effect are condensed in surface condenser. A shell & tube type multi-pass surface condenser is employed for condensing the shell side vapors.
- The product at the desired concentration 35-40% is obtained at the outlet of Finisher.
- Each effect is provided with recirculation cum transfer pump.
- The condensate from surface condensers is collected in a common condensate pot. The condensate is transferred for further treatment / recycle by using centrifugal pump.
- The pure steam condensates are collected in receiving vessels and can be pumped to desired battery limit
- Highly efficient operating pumps have been provided for pumping the required fluid.
- The plant is having high level of automation to get consistent output at required concentration.
- The system operates under vacuum. Water-ring vacuum pumps are used to maintain a desired vacuum.
- Cooling water from cooling tower is used in the surface condensers for condensing the vapors.

## **DWGS, Dryer With Cooling And Conveying System**

- Wet distiller's grains shall be fed into the dryer housing at controlled rate through a suitable feeding system. The rotary tube bundle is enclosed in an insulated dryer housing and its outer flights are fixed. Dry saturated steam is to be supplied to the tube bundle through rotary joint at one end and the condensate is discharged through rotary joint mounted on another end.
- During the course of rotation, these flights pick up the material and shower them on to the tube bundles. The heat transfer is primarily by conduction. The water vapors are exhausted through an exhaust blower and passed through a cyclone separator for separating fines.

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- Dry product partially recycled back to feed conditioner for feed conditioning through product screw and recycle conveyor.
- Entire operation of the dryer is controlled through control panel.
- The proposed project is expansion of existing grain based distillery unit of 60 KLPD to 200 KLPD. Different resources required for the said expansion are described in details in this part of the report.

### **Dryer section**

- DWGS is subjected to further drying in the dryer system to produce DDGS. This also requires additional steam. The steam tube dryer system operation consists of two stages.
- The final moisture content of DDGS is about 9 to 10%. The quantity of DDGS produced is around 190 to 210 kg per ton of cereals processed. The estimated production of DDGS is of about 115 TPD.

### **EFFLUENT TREATMENT**

- Primary effluent treatment consists of decantation and multiple effect evaporation section. Produced DWGS (wet cake) will be sent to dryer, to produce DDGS. The effluent treatment plant includes the secondary effluent treatment where process condensates, spent lees, CIP (Cleaning in place) wastewater, boiler & cooling tower blow down, etc. are treated together. It comprises of cooling pond, pH neutralization unit, extended aeration and multimedia filtration unit

### **Primary Effluent Treatment Plant for spentwash (Decantation Section)**

- The alcohol stripped whole stillage or spent mash or thick stillage coming out of distillation section is subjected to decantation by centrifugation to separate the suspended fibrous mass called wet cake and the thin stillage. Wet cake has about 30 % w/w solids as removed from the bottom of the decanter and can be directly loaded on the trolleys parked below. Wet cake can be used directly in the formulation of animal feed.

  
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## PART A

## GENERAL DETAILS

<b>Name Of Industry</b>	<b>M/s Ankur Biochem Pvt Ltd.</b>
<b>Location Of Industry</b>	Tetulia More, Vill & P.O- Dubhi, Nirsa, Dhanbad, Jharkhand – 828205.
<b>Office Address Of Industry</b>	33, Masjid Bari Lane, Asansol -713301, Dist- Pachim Burdwan (W.B)
<b>Industry Category Primary (STC Code) Secondary (STC Code)</b>	
<b>Name of the Products</b>	Grain Extra Neutral Alcohol
<b>Total Production Capacity</b>	200 KLPD
<b>Year Of Establishment</b>	2011-12
<b>Date of Last Environmental Statement Submitted</b>	19.11.2020

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**PART – B**

**WATER AND RAW MATERIAL CONSUMPTION**

**1. WATER CONSUMPTION**

Water Consumption	Quantity cum/day (Previous Year) (2019-2020)	Quantity cum/day (Current Year) (2020-2021)
Process	207.87 m <sup>3</sup>	223.40 m <sup>3</sup>
Cooling Tower	125.44 m <sup>3</sup>	132.74 m <sup>3</sup>
Domestic	25.09 m <sup>3</sup>	34.55 m <sup>3</sup>
Bottling	Nil	18.09 m <sup>3</sup>

Name Of Product	Water Consumption During Previous Year (2019-2020)	Water Consumption During Current Year (2020-2021)
ENA, DDGS, CO <sub>2</sub> Liquid	6.15 m <sup>3</sup> / 1 m <sup>3</sup> of Product	6.39 m <sup>3</sup> / 1 m <sup>3</sup> of Product
IMFL & Country Liquor	NIL	7.19 Ltr / Cases of Product

**2. RAW MATERIAL CONSUMPTION**

Raw Material	Product	Raw Material Consumption During Previous Year (2019-2020)	Raw Material Consumption During Current Year (2020-2021)
Broken Rice	ENA (Grain Extra Neutral Alcohol)	67172.310 MT	65576.150 MT

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**PART – C**

**LEVEL OF POLLUTANTS DISCHARGED**

(Parameter as specified in the Consent issued)

<b>Pollutants</b>	<b>Quality Of Pollutants Discharges (Mass / Day)</b>	<b>Concentration Of Pollutants in Discharges (Mass / Volume)</b>
<b>AIR</b>	Analysis Report of Stack Emission was attached as <b>annexure- I</b>	Nil
<b>WATER</b>	Analysis Report of Effluent and Water was attached as <b>annexure- II</b>	NIL as we maintain Zero Liquid Discharge

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## PART - D

### HAZARDOUS WASTE STATEMENT

As per the condition under Hazardous (management & handling) rules 1989 and amendment rules 2000 & 2003

Generation	Use	Remarks
DG Set Waste / Spend Oil	Spend Oil was use for greasing and oiling machinery for their maintenance purpose in own machinery.	Generation of spend oil is very minor since DG Set was used very rarely during total power failure.

Some very small quantities of spent oil & lubricants are generated from DG set and machineries.

## PART - E

### SOLID WASTE MANAGEMENT

Generation	Use	Remarks
Boiler Fly Ash	Use in construction of approach road, internal road to the plant, also use in land filling in Low lying area within premises to developed greenbelts, after that the excess quantity, which we are supplying to bricks/blocks manufacturer company.	

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### Solid Waste Utilisation / Disposal

Solid Wastes	During Previous Financial Yr (Qty. In MT) (2019 – 2020)	During Current Financial Year (Qty. In MT) (2020 – 2021)
Quantity Recycled Or Reutilized Within The Unit	DWGS- 8.000 MT DDG- 481.470 MT DDGS- 12147.190 MT	DWGS- 0.000 MT DDG- 326.900 MT DDGS- 13201.950 MT
Quantity Sold	DWGS- 8.850 MT DDG- 401.690 MT DDGS- 12229.590 MT	DWGS- 8.850 MT DDG- 336.730 MT DDGS- 13636.630 MT
Quantity Otherwise Disposed	<b>NIL</b>	<b>NIL</b>
Total		

### PART - F

#### CHARACTERIZATION OF SOLID WASTES

1	Solid Waste Generation in Process	Solid waste from the process of steam generation in coal fired boiler.
2	Solid waste from control facility	Fly Ash generated in ESP system. Sludge generated in ETP.

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## PART – G

### IMPACT STATEMENT

<b>WATER</b>	Water required in the process is for cooling, Refining and for steam generation. Hence the quality of water with respect to inlet characteristic is changed. A part of used water is continuously recycled to the system, and the part of water used in process is as effluent.
<b>AIR</b>	Coal fire boiler generates air pollution in form of particulate matter. Coal in Jharkhand has low sulphur content and emission of sulphur dioxide concentration is also generally low. Heat is also utilized for preheating of feed water. The emission levels in such units get controlled to within desirable limits. However for reliable performance, and to take care of variation in the quality of coal, it is advisable that a suitable pollution control device has been installed and operated.
<b>NOISE</b>	Industrial operation activity is well controlled by lubricant and regular maintenance. Here there is very negligible generation of noise which crosses the threshold limit. Noise levels at the boundary of plant are within permissible standards. Also plantation shielding helps in controlling works environment noise, if any.
<b>HAZARDOUS WASTE</b>	As mentioned earlier, there is inactive nickel catalyst generated which is hazardous waste and sold to registered vendors.
<b>SOCIO ECONOMY</b>	There is example employment generation. Hence increased living standards of the people. Indirect employment is also generated to a good extent. All basic facilities such as medical benefits are provided.

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**PART – H**

**ADDITIONAL MEASURES PROPOSED & INVESTMENT FOR PROTECTION OF ENVIRONMENT**

The plant management is conscious of its responsibility towards the society and its moral obligations and statutory requirements for protection of environment. The following Budget is proposed for environment management.

Activity	Budget (Rupees)
Operation & Maintenance of pollution control equipment	6,50,00,000.00
Green Belts Development	15,00,000.00
Rain Water Harvesting	20,00,000.00
Environment Monitoring	40,00,000.00
ETP & Water related pollution control equipment	8,50,00,000.00
Other Allied Activities	2,50,00,000.00
Total	18,25,00,000.00

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## PART – I

### MISCELLANEOUS

(ANY OTHER PARTICULARS FOR IMPROVING THE QUALITY OF THE ENVIRONMENT)

**POLLUTION CONTROL:** Pollution control system for the stack i.e. ESP is already installed. The efficient of the system is to be regularly ascertained.

**WATER RESOURCES MAINTENANCE:-** In order to prevent the depletion of ground water source, it is advised to complete a suitable rain water harvesting plan as prescribed by CPCB. This will also be helpful in preventing the run-off water during rainy season or accidental spillage from flowing out of the plant premises. Rain water harvesting is also useful in meeting part of need for water for process on cooling.

**FUGITIVE EMISSIONS:-** Fugitive emissions are generally low in such plants. However care to be taken to ascertain that in case of increase of fugitive emission suitable system must be incorporated to control the same.

**NOISE ENVIRONMENT :-** To control level within the plant, following initiative measures may be considered:

- Proper Maintenance – Reduction of noise at source
- Provision for Silencers where possible.
- Isolation of Noise generation equipment
- Provision for Acoustic Lagging
- Provision for ear plugs and minimum exposure.
- Green belt development would also dampen noise effects.

**GREEN BELT DEVELOPMENT:-** Green belt development has great environment advantages. It acts as noise barriers, prevents the suspended particles blowing and also adds to the beautification of the plant thus creating a better working condition.

Development of planned green belt in the industry is done with following objective.

- a) To act as wind shelter and prevent air pollution in surrounding area.
- b) To act as a natural sink to absorb dust and sequester carbon.
- c) To act as a medium to absorb noise energy and reduce noise.
- d) Plantations absorb air born dust.
- e) Plantation provide shed.

**ROADS:-** All roads in the plant site are to be made pucca. This will prevent the spreading of dust during movement of vehicles in the premises.

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# YUGANTAR BHARATI

Annexure - J

## ANALYTICAL & ENVIRONMENTAL ENGINEERING LABORATORY

Accredited by: - National Accreditation Board for Testing Laboratory (NABL) & Jharkhand State Pollution Control Board (JSPCB)  
Certified by: - An ISO 9001:2015 & ISO 45001:2018



### ANALYTICAL TEST REPORT

URL (Unique Lab Report) No.		T	C	7	8	1	3	2	1	2	0	0	0	0	6	8	0	
Discipline	Chemical	Group	Atmospheric Pollution				Sample Description	Stationary Source Emission										
Report Release Date	30 <sup>th</sup> August, 2021					Report ID	YBAEEL- 210728-183503- S1											
W. Order/ JSPCB App. No.	10878582					Work Order Date	28.07.2021											
Type of Industry (if any)	Distilleries Unit					Job code/ Ref. no.	YBAEEL/WA/L/A/Aug-21/30											
Report Issue to	M/s Ankur Biochem Pvt. Ltd. At.-Dhubi, PO- Nirsa, Dist.- Dhanbad, Jharkhand.																	
Sampling Period	20 <sup>th</sup> August, 2021					Mode of sample collection	Sampling team of YBAEEL											
Sampling Protocol	IS: 11255 & CPCB Guideline (Lats/80/2013-14)																	
Meteorological Cond.	W.C.- Cloudy					RH % - 62 %	Temp. - 28°C											
Sample receipt Date	21/08/2021			Analysis Started on	21/08/2021			Analysis completed on	28/08/2021									

#### General Information

As observed while sampling		As reported by customer	
Location	Port Hole	Type of fuel Used	Coal
Platform	Permanent	Quantity of Fuel Used	148 TPD
Stack Description (Shape & Material)	Circular / Metal	Total production Capacity	2.5 MW
Sampling port	Available	Height of Stack from ground level	45 mtr.
Stack Identification	Single - 01	Inner Diameter of Stack	1.5 mtr
Height of port hole from Ground level	15 mtr.	Pollution Controlling Device (if any)	ESP
Running Oven during sampling (if any)	N/A	Total No. of Oven (if any)	N/A

#### \*\*\*\*\*Test Results\*\*\*\*\*

Sl	Parameters	Test Method	Units	MU %	Results	Limits
1.	Stack gas Temperature	IS 11255 (Part 3)2008	k	--	385	-
2.	Stack gas Velocity	IS 11255 (Part 3)2008	m/s	--	21.8	-
3.	Volumetric Flow Rate	IS 11255 (Part 3)2008	Nm <sup>3</sup> /hr	--	103999.8	-
3.	Particulate Matter (PM)	IS 11255 (Part 1)2009	mg/Nm <sup>3</sup>	2.12	40.3	50
4.	Sulphure Dioxide (SO <sub>2</sub> )	IS 11255 (Part 2)2009	mg/Nm <sup>3</sup>	3.06	306.0	600
5.	Oxide of Nitrogen (as NO <sub>x</sub> )	IS 11255 (Part 7)2005 RA 2012	mg/Nm <sup>3</sup>	2.70	181.6	450

#### \*\*\*\*\*End of Report\*\*\*\*\*

Limit is specified as	The Environmental (Protection) Rule - 1986.
Abbreviation	MDL : Minimum detection limit, BDL : Below detection limit, MU : Measurement Uncertainty
Specific contractual notes	All values are expressed in as unit and results listed refer only to the tested sample and applicable parameter.
	This report, in full or in part, shall not be used for advertising or as evidence in any court of law.
	This report cannot be reproduced, except when in full, without the written permission of the Lab In-charge.
	The samples collected shall be destroyed after 7 days from the date of issue of the certificate unless specified otherwise
	The liability of the laboratory is limited to the invoiced amount.
Remarks	All disputes are subjected to the Ranchi Jurisdiction. Samples Comply with prescribed limits in respect of decision rule.

#### Only CONCERN for

Jharkhand State Pollution Control Board  
Application No. 10878582  
Allotted Date 28.07.2021  
Submission Date 30.08.2021

Tested by Amit Kumar Sinha Lab Analyst	Verified by Brij Nandan Kumar Section In-Charge	Authorized Signatory Atmospheric Pollution Yugantar Bharati Analytical & Environmental Engineering Laboratory	Issued by Umesh Das Technical Manager
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Branch Office: - Jamshedpur | Dhanbad | Hazaribag | Pakur

Main Office: Namkum Post Office, Sidroul, Ranchi - 834010, Jharkhand

Ph: 098351-97960, 098357-86677, Email - ybaeel@gmail.com, Web - https://ybaeel.in





### ANALYTICAL & ENVIRONMENTAL ENGINEERING LABORATORY



Accredited by: - National Accreditation Board for Testing Laboratory (NABL) & Jharkhand State Pollution Control Board (JSPCB)  
 Certified by: - An ISO 9001:2015 & ISO 45001:2018

#### ANALYTICAL TEST REPORT

URL (Unique Lab Report) No.		T C 7 8 1 3 2 1 3 0 0 0 0 0 5 9												
Discipline	Chemical	Group	Pollution & Environment		Sample Description	Waste Water / Effluent Water								
Report Release Date	30 <sup>th</sup> August, 2021			Report ID	YBAEEL- 210728-183503- WW01									
W. Order/ JSPCB App. No.	10878582			Work Order Date	28.07.2021									
Type of Industry (If any)	Distilleries Unit			Job code/ Ref. no.	YBAEEL/WA/LW/Aug-21/07									
Report Issue to	M/s Ankur Biochem Pvt. Ltd. At.- Dhubi, PO- Nirsa, Dist.- Dhanbad, Jharkhand													
Sampling Date	20/08/2021			Mode of sample collection	By YBAEEL Team									
Sampling Protocol	IS : 3025 (Part-1) 1987, R-2003			Sample Code	210821-WW-J01									
Sampling Location	ETP Outlet			Sampling Source	Waste Water									
Sample pkg. Condition	Sealed Pack in PP Bottle			Sample Quantity	3000 ml									
Meteorological Cond.	W.C.- Cloudy			RH % - 62	Temp.-28°C									
Sample receipt Date	21/08/2021	Analysis Started on	21/08/2021	Analysis completed on	26/08/2021									

#### \*\*\*\*\*Test Results \*\*\*\*\*

Sl	Parameter	Test Method	Units	MU %	Results	Limits
1.	pH value	IS 3025 (P-11):2002	pH	2.53	7.71	5.5-9.0
2.	Temperature	IS 3025 (P-09)	°C	1.55	27.5	--
3.	Total Solids	IS 3025 (P-15):2009	mg/l	7.33	612.0	--
4.	Total dissolved solids	IS 3025 (P-16):2006	mg/l	0.38	572.0	--
5.	Total Suspended Solids	IS 3025 (P-17):2012	mg/l	8.26	40.0	100
6.	BOD (3 days at 27°C)	IS 3025 (P-44):2009	mg/l	6.85	16.0	30
7.	COD (Open reflux)	IS 3025 (P-58):2006	mg/l	4.02	180.0	250
8.	Oil & Grease	IS 3025 (P-39):2003	mg/l	14.60	4.1	10
9.	Chloride (as Cl <sup>-</sup> )	IS 3025 (P-32):2003	mg/l	3.44	62.2	--
10.	Sulphate (as SO <sub>4</sub> <sup>2-</sup> )	IS 3025 (P-24):2003	mg/l	4.37	52.3	--

#### \*\*\*\*\*End of Report\*\*\*\*\*

Limit is specified as	The Environmental (Protection) Rule 1986.
Abbreviation	MDL : Minimum detection limit, BDL : Below detection limit,
Specific contractual notes	All values are expressed in as unit and results listed refer only to the tested sample and applicable parameter.
	This report, in full or in part, shall not be used for advertising or as evidence in any court of law.
	This report cannot be reproduced, except when in full, without the written permission of the Lab In-charge.
	The samples collected shall be destroyed after 15 days from the date of issue of the certificate unless specified otherwise.
	The liability of the laboratory is limited to the invoiced amount.
Remarks	All disputes are subjected to the Ranchi Jurisdiction.
	<b>Samples Comply with prescribed limits in respect of decision rule.</b>

Only CONCERN for

Jharkhand State Pollution Control Board  
 Application No. 10878582  
 Allotted Date 28.07.2021  
 Submission Date 30.08.2021

Tested by Shivani Kr. Singh Lab Analyst	Verified by Brij Nandan Kumar Section In-Charge	Authorized Signatory Issued by Umesh Das Technical Manager

Branch Office :- Jamshedpur | Dhanbad | Hazaribag | Pakur

Main Office : Namkum Post Office, Sidroul, Ranchi - 834010, Jharkhand

Ph : 098351-97960, 098357-86677, Email - ybaeel@gmail.com, Web - https://ybaeel.in





# YUGANTAR BHARATI

## ANALYTICAL & ENVIRONMENTAL ENGINEERING LABORATORY

Accredited by :- National Accreditation Board for Testing Laboratory (NABL) & Jharkhand State Pollution Control Board (JSPCB)  
 Certified by :- An ISO 9001:2015 & ISO 45001:2018



### ANALYTICAL TEST REPORT

URL (Unique Lab Report) No.		T C 7 8 1 3 2 1 3 0 0 0 0 0 6 0													
Discipline	Chemical	Group	Pollution & Environment		Sample Description	Waste Water / Effluent Water									
Report Release Date	30 <sup>th</sup> August, 2021			Report ID	YBAEEL- 210728-183503- WW02										
W. Order/ JSPCB App. No.	10878582			Work Order Date	28.07.2021										
Type of Industry (if any)	Distilleries Unit			Job code/ Ref. no.	YBAEEL/WA/LW/Aug-21/07										
Report Issue to	M/s Ankur Biochem Pvt. Ltd. At.- Dhubi, PO- Nirsa, Dist.- Dhanbad, Jharkhand														
Sampling Date	20/08/2021			Mode of sample collection	By YBAEEL Team										
Sampling Protocol	IS : 3025 (Part-1) 1987, R-2003			Sample Code	210821-WW-J02										
Sampling Location	ETP Inlet			Sampling Source	Waste Water										
Sample pkg. Condition	Sealed Pack in PP Bottle			Sample Quantity	3000 ml										
Meteorological Cond.	W.C.- Cloudy			RH % - 62	Temp.-28°C										
Sample receipt Date	21/08/2021	Analysis Started on	21/08/2021	Analysis completed on	26/08/2021										

\*\*\*\*\*Test Results\*\*\*\*\*

Sl	Parameter	Test Method	Units	MU %	Results	Limits
1.	pH value	IS 3025 (P-11):2002	pH	2.53	3.6	Not Applicable
2.	Temperature	IS 3025 (P-09)	°C	1.55	27.4	
3.	Total Solids	IS 3025 (P-15):2009	mg/l	7.33	1162.0	
4.	Total dissolved solids	IS 3025 (P-16):2006	mg/l	0.38	1080.0	
5.	Total Suspended Solids	IS 3025 (P-17):2012	mg/l	8.26	82.0	
6.	BOD (3 days at 27°C)	IS 3025 (P-44):2009	mg/l	6.85	108.0	
7.	COD (Open reflux)	IS 3025 (P-58):2006	mg/l	4.02	384.0	
8.	Oil & Grease	IS 3025 (P-39):2003	mg/l	14.60	4.8	
9.	Chloride (as Cl <sup>-</sup> )	IS 3025 (P-32):2003	mg/l	3.44	134.9	
10.	Sulphate (as SO <sub>4</sub> <sup>2-</sup> )	IS 3025 (P-24):2003	mg/l	4.37	108.6	

\*\*\*\*\*End of Report\*\*\*\*\*

Limit is specified as	Not Applicable
Abbreviation	MDL : Minimum detection limit, BDL : Below detection limit,
Specific contractual notes	All values are expressed in as unit and results listed refer only to the tested sample and applicable parameter.
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	The liability of the laboratory is limited to the invoiced amount.
Remarks	Not Applicable
	All disputes are subjected to the Ranchi Jurisdiction.

Only CONCERN for  
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ISO 45001:2018



ISO 9001:2015