

# SHRI PRABHULINGESHWAR SUGARS & CHEMICALS LIMITED SIDDAPUR

## ENVIRONMENTAL STATEMENT FORM-V (See rule 14)

*Environmental Statement for the financial year  
ending with 31st March 2024*

### PART -A

1	Name and Address of the owner/ Occupier of the industry	:	<b>SHRI JAGADEESH. S. GUDAGUNTI CHAIRMAN AND MANAGING DIRECTOR SHRI PRABHULINGESHWAR SUGARS &amp; CHEMICALS LIMITED</b> At/PO: Siddapur Taluk: Jamkhandi, District: Bagalkot. PIN: 587301
2	Production capacity	:	12000 TCD of Sugarcane Crushing & 55.50MW Hour of Power Generation
3	Year of Establishment	:	1999
4	Date of last environment statement submitted	:	<b>20<sup>th</sup> June 2023</b>



**PART-B**  
**Water and Raw Material Consumption**

**(1) (a) Water Consumption m<sup>3</sup>/d**

Source	During the year 2023-24	During the year 2022-23
a) Process	10	10
b) Cooling & Boiler Feed	500	833
c) Domestic	70	72
<b>TOTAL</b>	<b>510</b>	<b>843</b>
<b>CPU Condensate</b>		
Treated in CPU	2895	2125
Used for Sugar process	1200	633
Used for RO Plant (i.e., Boiler feed)	450	331
Co-Gen Cooling tower makeup	650	555
Used for Agricultural use	595	606

\* All quantities in Kilo Liter.

**NOTE:** In the sugar process, we are not consuming any raw/fresh water. For the sugar unit, condensate-treated effluent is used. The above data shows the consumption of fresh water for Boiler feed-water makeup and domestic only.

**(b) Water consumption per unit of output: Water consumption per unit of Product in m<sup>3</sup>/MT**

Name of the product	During the year 2023-2024	During the year 2022-23
Power Generation	0.004	0.008
Sugar	0.43	0.92

**NOTE:** The water consumption per unit of output is calculated based on the daily average sugar produced.



**2) Raw Material Consumption:**

Names of raw materials	Name of product	Consumption of raw materials (in MT/MT) per unit of sugar output.	
		During the year 2023-24	During the year 2022-23
a) sugar cane	Sugar	10.63	11.75
b) Lime		0.133	0.125
c) Sulphur		0.053	0.048
d) Caustic soda		0.000651	0.000505

**PART-C**

**Pollution Generated**

(Parameters as analyzed by III rd party enclosed)

Production Details	<b>Annexure-I</b>
Treated water Quality:	<b>Annexure-II</b>
Stack Monitoring Reports:	<b>Annexure-III</b>
Ambient Air Quality Monitoring:	<b>Annexure-IV</b>
Noise level monitoring reports:	<b>Annexure- V</b>

**PART-D**

Hazardous Waste [As specified under Hazardous Wastes Management Handling & Trans-boundary Movement Rules, 2008.

Hazardous wastes	Total Quantity (liters)	
	During the year 2023-24	During the year 2022-23
a) From process	NIL	Nil
b) From pollution control facilities	NIL	Nil
c) Used oil from DG sets & compressors (category No. 5.1)	330	320



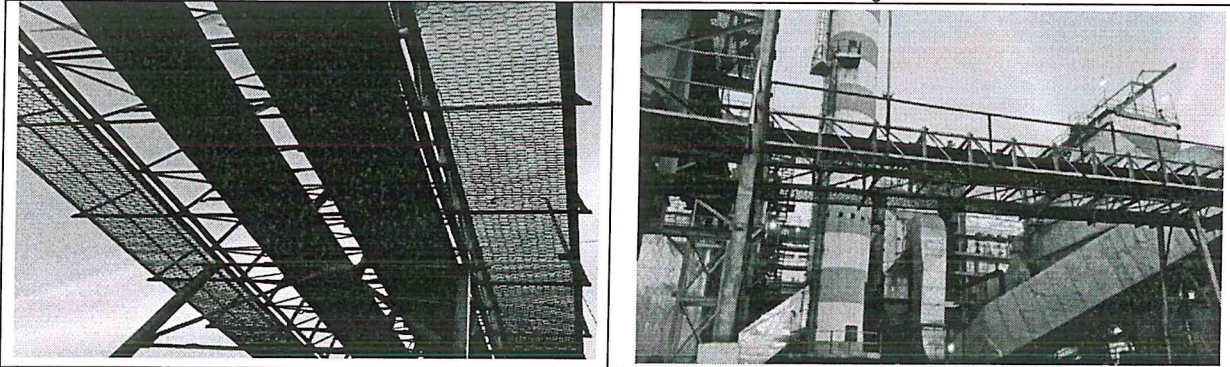
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**PART-E  
SOLID WASTES**

Waste Source	Total Quantity (MT)	
	During the year 2023-24	During the year 2022-23
<b>a) From process (By-products)</b>		
i) Bagasse	570115	515142
ii) Press mud	69533	62492
iii) Molasses (B Heavy)	95581	954090
<b>b) From pollution control facility</b>		
ETP sludge	20	15
Solid (Boiler Ash)	91625	802422
<b>c) Quantity recycled or reutilized within the unit</b>		
1) Bagasse as boiler fuel	570115	515142
2) Solid (Boiler Ash)	91625	802422
3) Press mud	69533	62492
4) Molasses	95581	954090
5) Disposed	NIL	NIL

Note: Boiler ash, Press-mud, and ETP sludge are given to M/S Siddapur Distilleries ltd for compost manufacturing along with their spent wash. The Boiler Ash and Press-mud generated are transported through Belt conveyors.

**Pressmud & Boiler Ash Belt conveyors**



**PART-F**

- Please specify the characteristics (in terms of concentration and quantum) of hazards as well as solid wastes and indicate disposal practices adopted by both these categories of wastes.



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### 1) Hazardous Waste:

The hazardous waste generation is from DG sets and compressors, this is in the form of used oil and is classified under category No 5.1 according to The Hazardous Wastes (Management, Handling, and Transboundary Movement) amended rules 2016, the Hazardous waste generated is stored securely in sealed barrels within the premises and used as a lubricant for conveyors, it is used for chain-links etc. for lubricating purpose within the premises / if in excess it will be sold to authorized used oil recyclers approved by KSPCB.



### 2) Solid Waste / By-products

All the Bagasse produced is used as fuel in boilers for the generation of steam and electricity. Characteristics of Bagasse is available in **Annexure VI**

The generated molasses is sold to M/s Siddapur distilleries Limited as raw material for the manufacture of rectified spirit/Ethanol. Characteristics of Molasses is available in **Annexure VI**

The press mud contains micro-nutrients essential for plant growth. The Press-mud, boiler ash ETP sludge and spent wash are mixed in a scientific manner. The mixture is further subjected to composting by M/s. Siddapur Distilleries Ltd. This composted manure is sold to the member and farmers at a nominal cost. The factory also uses this manure for its R&D Farm. The manure because of its rich nutrient value helps in a better yield of sugarcane. Characteristics of Press mud are available in **Annexure VI**.

### PART-G

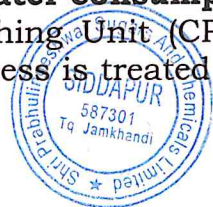
Impact of the pollution control measures taken on conservation of natural resources and consequently on the cost of production.

#### (A) Impact of pollution Abatement on conservation

Impact of the pollution abatement that could be identified is presented below along the activity responsible for the same:

- **Reduced water consumption**

Condensate Polishing Unit (CPU): The total vapour condensate generated during sugar process is treated in this plant (Quantity details given in (1) (a)



Water consumption) We are consuming this CPU treated water for various applications in the process such as Co-Gen Cooling tower makeup, for Mill bearing cooling, Sulphur burner, Vessel cleaning & RO plant feed water etc...

CPU treated condensate water reduced raw water consumption to almost zero. This helped us to achieve the CREP guidelines.

- **Ambient Air Quality**

Electrostatic precipitators are installed on all the boilers for controlling the suspended particulate matter in the flue gas. This ensures good ambient air quality in and around the factory premises.

- **Nutrient value of press-mud**

The industry educated its member farmers regarding the optimum usage of water, fertilizers, and composted manure. This resulted in less usage of inorganic fertilizers and a higher yield for better-quality.

**(B) Effects of pollution Abatement on the Cost of Production:**

The total expenditure incurred on the installation and maintenance of ETP and air pollution control measures is around **Rs 2, 29, 83,385/-** for the year 2023-24. Expenditures details are enclosed as **Annexure VII**

- **Installation of Online monitoring system**

We installed the online monitoring systems for Treated effluent to measure pH, BOD, COD, TSS and Flow, as per CPCB/KSPCB directions. The generated data are regularly uploaded to CPCB/KSPCB servers around the clock. The monitored data is available in **Annexure II B**

**PART-H**

- Additional measures/investment proposal for environment including abatement of pollution/prevention of pollution.

The company has improved manufacturing discipline, installed quality systems of proper standards, and adopted quality management. Excellent housekeeping and preventive maintenance are implicit therein. All these practices have lead to a significant reduction in quantity of wastewater.

Raw material consumption other than sugarcane is also reduced during the season compared to last season.

Waste reduction and material conservation are trust areas and such schemes are not only adopted but encouraged.

We are consuming almost all the cooled and treated vapor condensate generated during the process for various applications, such as Co-Gen Cooling tower makeup water, for various cooling applications like Mill bearing, Sulphur burner, Vessel cleaning, etc We are not using any fresh water for the process. To treat the Excess condensate, we have a Condensate polishing unit (CPU) nearby ETP. We are using this treated condensate as raw water for RO plant, further it will be used as boiler feed water.



We have constructed metallic collection pits to recover spillage juice, sugar material which is leaking and going for the drains. This has reduced organic load in the effluent, BOD or COD concentrations in the effluent is reduced and helps to operate the ETP smoothly as the shock loads are reduced.

The company is aware of the occupational health and is further providing regular medical check ups, first aid centers and ambulance etc... We are very much concerned about environment and we have celebrating environment day every year without fail.

We are adopting method of Reduce, Reuse, and Recirculate available water in such a way that the quantity of effluent is kept minimum. Also we are using cooled vapour condensate in cooling towers in place of raw water. We are planning for more conservation of energy and water for the coming crushing seasons.

**The Industry has got ISO 14001:2015 EMS certification for the manufacturing and supply of White Crystal Sugar.**

**The Industry has also FSSC 2000 V 5.1 FSMS certification for the Manufacture and supply of White Crystal Sugar.**

**PART-I**

- Any other particulars for improving the quality of the environment.

The industry has planted various trees like Mango, Neem, Acacia; Eucalyptus etc. (Around 18,400 plants) in it own premises covering an area of 30 acres. We utilized all the treated effluent and spray pond overflow for irrigating this. The factory is also growing sugar cane over an area of 40 acres using the treating effluent. Plantation details enclosed as **Annexure VIII**



  
**VEERUPAKSHAYYA. J. GUDAGUNTI**  
**EXECUTIVE DIRECTOR**  
**SHRI PRABHULINGESHWAR SUGARS**  
**& CHEMICALS LTD SIDDAPUR**



**Annexure I**  
**Working of the factory**

Sl. No.	Particulars	During the year 2023-24	During the year 2022-23
1	Working days for the season	160	172
2	Total sugarcane crushed during the season(MT)	2036124.557	1776352.868
3	Total Sugar Produced (MT)	188795	157430
4	Power Generation MW	119964.876	108337.100
5	Daily average of cane crushed (MT)	12725.77	10327.63
6	Daily average of sugar produced (MT)	1179.96	915.290





**Annexure II (A)**  
**Third party analysis reports**  
**Treated Effluent**

Parameters	Color	Odor	pH	BOD	TDS	TSS	Oil & Grease
Units	....	....	...	mg/liter	mg/liter	mg/liter	mg/liter
Limits	Not specified	Not specified	6.50-8.50	100 max	2100 max	100 max	10 max
April 2023	Colorless	Agreeable	7.65	92.31	1950	69	BDL
May 2023	Industry was not in operation (Off season)						
June 2023	Industry was not in operation (Off season)						
July 2023	Industry was not in operation (Off season)						
August 2023	Industry was not in operation (Off season)						
September 2023	Industry was not in operation (Off season)						
October 2023	Industry was not in operation (Off season)						
November 2023	Colorless	Agreeable	8.28	44.51	1138	68	BDL
December 2023	Colorless	Agreeable	8.12	39.04	1098	48	BDL
January 2024	Colorless	Agreeable	7.76	70.67	1960	69	BDL
February 2024	Colorless	Agreeable	7.59	77.43	1912	58	BDL
March 2024	Colorless	Agreeable	7.29	69.57	2000	75	BDL
M/s Shri K N Kulkarni NICHROME TESTING LABORATORY 179 2 <sup>nd</sup> Main Narayanpur Dharwad 580008 Karnataka				<u>Recognitions/Accreditations</u> MoEF & CC, New Delhi ISO/IEC17025:2017 (NABL TC 6990) ISO: 9001:2015, ISO45001:2018 FOSTAC-FSSAI, AGMARK.			
BDL: Below detection Limit							



Annexure II (B)

Shri Prabhulingeshwar Sugars and Chemicals Ltd ETP

At Post: siddapur Tal :Jamkhandi Jamkhandi Karnataka 587301

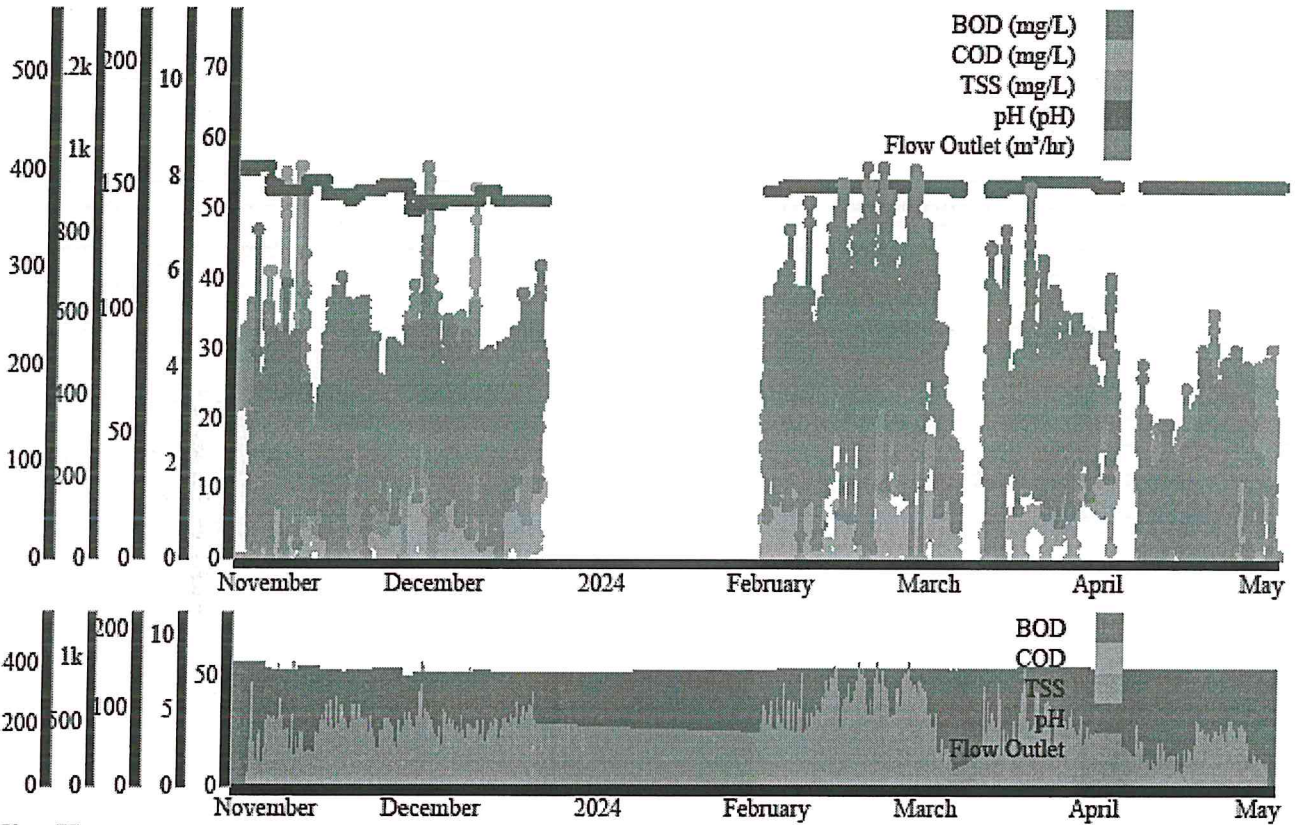
Start Date - 2023-10-25

End Date - 2024-05-31

Average - 15 minutes

Please wait ..

1=U (Usable Data), 4=C (Calibration Data),5=F (Faulty Data), 6=Z (ZeroCal Data)



Close (X)

- Select All
- BOD



**Annexure III**

**Third party Boiler Stack Monitoring reports**

a) Boiler Stack reports

<b>Stack No I</b>					
Stack Height: 54 m		Stack Dia: 3.25 m		C S Area: 7.07 Sqm	
Fuel Used: Bagasse		Boiler capacity: 60 TPH			
APC: Electro Static Precipitator (ESP)					
Flue gas Parameters	Temp	Velocity	SPM	SOx	NOx
Units	Deg <sup>0</sup> C	m/s	mg/Nm <sup>3</sup>	mg/Nm <sup>3</sup>	mg/Nm <sup>3</sup>
Limits (CFE-Max)	.....	.....	115.00	.....	.....
April 23	111	7.90	109.2	13.70	24.17
May 2022 to October 2022 Unit not in operation due to offseason					
November 23	110	8.14	60.05	14.48	23.49
December 23	115	8.29	45.39	16.95	21.52
January 24	128	8.82	50.45	18.85	26.12
February 24	110	8.34	51.16	16.43	30.61
March24	98	8.11	106.76	16.38	27.60
M/s Shri K N Kulkarni NICHROME TESTING LABORATORY, 179 2 <sup>nd</sup> Main Narayanpur, Dharwad 580008 Karnataka			<u>Recognitions/Accreditations</u> MoEF & CC, New Delhi ISO/IEC17025:2017 (NABL TC 6990) ISO: 9001:2015, ISO45001:2018 FOSTAC-FSSAI, AGMARK.		

<b>Stack No II</b>					
Stack Height: 74 m		Stack Dia: 4.23 m		C S Area: 7.07 Sqm	
Fuel Used: Bagasse		Boiler capacity: 60+135 TPH			
APC: Electro Static Precipitator (ESP)					
Flue gas Parameters	Temp	Velocity	SPM	SO x	NO x
Units	Deg <sup>0</sup> C	m/s	mg/Nm <sup>3</sup>	mg/Nm <sup>3</sup>	mg/Nm <sup>3</sup>
Limits CFE- (Max)	.....	.....	115.00	.....	.....
April 23	129	8.28	112.54	13.85	23.98
May 2023 to October 2023 Unit not in operation due to offseason					
November 23	120	8.34	62.15	17.38	24.14
December 23	128	8.63	33.76	17.13	28.70
January 24	126	8.70	52.25	19.11	25.24
February 24	128	8.73	55.65	17.30	28.79
March24	125	8.60	109.34	18.35	35.46
M/s Shri K N Kulkarni NICHROME TESTING LABORATORY, 179 2 <sup>nd</sup> Main Narayanpur, Dharwad 580008 Karnataka			<u>Recognitions/Accreditations</u> MoEF & CC, New Delhi ISO/IEC17025:2017 (NABL TC 6990) ISO: 9001:2015, ISO45001:2018 FOSTAC-FSSAI, AGMARK.		



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**Annexure IV**  
**Ambient Air Quality Monitoring**

**A) Station: Near Main Gate**

Month	PM 10	PM 2.5	SOx	NOx
Units	mg/Nm3	mg/Nm3	mg/Nm3	mg/Nm3
April 23	83.35	49.21	6.81	11.43
May 23	Industry was not in operation (Off season)			
June 23				
July 23				
August 23				
September 23				
October 23				
November 23	86.31	56.84	6.49	12.47
December 23	88.25	41.62	5.69	11.53
January 24	87.24	41.32	6.50	12.49
February 24	83.52	41.62	5.44	14.00
March 24	84.88	39.62	5.53	12.05
M/s Shri K N Kulkarni NICHROME TESTING LABORATORY 179 2 <sup>nd</sup> Main Narayanpur Dharawad 580008 Karnataka			<u>Recognitions/Accreditations/Certifications</u> MoEF & CC, New Delhi (F.NO Q-15018/34/2015/CPW), ISO/IEC17025:2017 NABL -ACCREDITED, ISO: 9001:2015 OHSAS 18001:2007	

**B) Station: Near Store**

Month	PM 10	PM 2.5	Sox	NOx
Units	mg/Nm3	mg/Nm3	mg/Nm3	mg/Nm3
April 23	73.87	43.21	5.94	10.69
May 23	Industry was not in operation (Off season)			
June 23				
July 23				
August 23				
September 23				
October 23				
November 23	77.21	49.87	5.68	11.51
December 23	82.88	39.74	4.87	10.55
January 24	83.35	39.71	5.69	11.53
February 24	80.43	38.51	4.68	13.05
March 24	80.90	37.95	6.32	11.04
M/s Shri K N Kulkarni NICHROME TESTING LABORATORY 179 2 <sup>nd</sup> Main Narayanpur Dharawad 580008, Karnataka			<u>Recognitions/Accreditations</u> MoEF & CC, New Delhi ISO/IEC17025:2017 (NABL TC 6990) ISO: 9001:2015, ISO45001:2018 FOSTAC-FSSAI, AGMARK.	



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**C) Station: Near Effluent Treatment Plant**

Month	PM 10	PM 2.5	SOx	NOx
Units	mg/Nm3	mg/Nm3	mg/Nm3	mg/Nm3
April 23	79.48	45.20	46.79	11.40
May 23	Industry was not in operation (Off season)			
June 23				
July 23				
August 23				
September 23				
October 23				
November 23	83.69	46.84	4.88	10.57
December 23	76.61	35.12	5.68	9.59
January 24	80.35	36.54	7.28	11.48
February 24	75.27	34.21	6.24	12.05
March 24	74.75	34.82	5.50	9.98
M/s Shri K N Kulkarni 5.18 10.87 NICHROME TESTING LABORATORY 179 2 <sup>nd</sup> Main Narayanpur Dharwad 580008 Karnataka			<u>Recognitions/Accreditations</u> MoEF & CC, New Delhi ISO/IEC17025:2017 (NABL TC 6990) ISO: 9001:2015, ISO45001:2018 FOSTAC-FSSAI, AGMARK.	

**D) Station: Near Weigh Bridge**

Month	PM 10	PM 2.5	Sox	NOx
Units	mg/Nm3	mg/Nm3	mg/Nm3	mg/Nm3
April 23	58.10	32.22	5.09	9.98
May 23	Industry was not in operation (Off season)			
June 23				
July 23				
August 23				
September 23				
October 23				
November 23	76.10	41.32	4.06	9.61
December 23	70.24	32.14	4.86	10.53
January 24	76.83	35.51	4.88	10.57
February 24	74.35	31.62	5.70	11.52
March 24	73.75	32.62	4.95	10.48
Monitoring was not carried due to COVID 19 pandemic				
M/s Shri K N Kulkarni NICHROME TESTING LABORATORY 179 2 <sup>nd</sup> Main Narayanpur Dharwad 580008, Karnataka			<u>Recognitions/Accreditations</u> MoEF & CC, New Delhi ISO/IEC17025:2017 (NABL TC 6990) ISO: 9001:2015, ISO45001:2018 FOSTAC-FSSAI, AGMARK.	



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**E) Ambient Air Quality Monitoring 12 Parameters monitored for 24  
Hrs duration.**

Month	March 2024			
Station Name	Main Gate	Weigh Bridge	Store	Effluent Treatment Plant
<b>Units</b>	mg/Nm3	mg/Nm3	mg/Nm3	mg/Nm3
PM 10	84.88	73.75	80.90	74.75
PM 2.5	39.62	32.62	37.95	34.82
SOx	5.53	4.95	6.32	5.50
NOx	12.05	10.48	11.04	9.98
Ammonia (NH3)	BDL	BDL	BDL	BDL
Ozone (O3)	BDL	BDL	BDL	BDL
Carbon monoxide (CO)	1.29	1.28	1.31	1.32
Benzene (C6H6)	BDL	BDL	BDL	BDL
Lead (Pb)	BDL	BDL	BDL	BDL
Benzopyrine (BaP)	BDL	BDL	BDL	BDL
Arsenic (As)	BDL	BDL	BDL	BDL
Nickel (Ni)	BDL	BDL	BDL	BDL
Duration ( Hrs)	24	24	24	24
M/s Shri K N Kulkarni NICHROME TESTING LABORATORY 179 2 <sup>nd</sup> Main Narayanpur Dharawad 580008, Karnataka		<u>Recognitions/ Accreditations</u> MoEF & CC, New Delhi ISO/IEC17025:2017 (NABL TC 6990) ISO: 9001:2015, ISO45001:2018 FOSTAC-FSSAI, AGMARK.		



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**Annexure V**  
**Third Party Noise level monitored reports**

a) Noise Level Reports during day time

Stations Units	Mill House dB	Boiling House dB	Turbo Generator Room dB
April 23	71.00	72.10	69.60
May 23	Industry was not in operation (Off season)		
June 23			
July 23			
August 23			
September 23			
October 23			
November 23	66.50	73.50	74.50
December 23	71.60	74.00	72.90
January 24	74.20	73.10	74.40
February 24	73.90	68.30	72.50
March 24	68.40	72.00	70.10
M/s Shri K N Kulkarni NICHROME TESTING LABORATORY 179 2 <sup>nd</sup> Main Narayanpur Dharawad 580008 Karnataka		<u>Recognitions/Accreditations</u> MoEF & CC, New Delhi ISO/IEC17025:2017 (NABL TC 6990) ISO: 9001:2015, ISO45001:2018 FOSTAC-FSSAI, AGMARK.	



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**ANNEXURE -VI**

**Characteristics of Bagasse**

Sl. No.	Parameters	Concentration
1	Calorific value	2722 K Cal/Kg
2	Nitrogen (%)	0.1 to 0.3
3	Phosphorus (%)	0.2 to 0.3
4	Potassium (%)	0.05 to 0.07
5	Organic Carbon (%)	35 to 45
6	Moisture (%)	47 to 50

**Characteristics of press-mud**

Sl. NO.	Parameters	Concentrations
1	pH	6.5 to 7.0
2	Organic Matter %	62.0
3	Organic carbon %	35.28
4	Available Nitrogen (N) %	1.70
5	Phosphorous (as P <sub>2</sub> O <sub>5</sub> )%	1.88
6	Potassium (as K <sub>2</sub> O) %	0.42
7	Calcium (as Ca) %	2.8
8	Magnesium (Mg)	1.5
9	Wax %	8.0
10	Sulphur %	1.4

**Characteristics of Molasses**

Sl. No.	Parameters	Concentration in mg/L (except pH & Color)
1	pH	3.5 to 4.1
2	Color	Dark Brown
3	TDS	2,70,000
4	BOD	4,25,000
5	COD	9,50,000
6	Chlorides	32,000
7	Sulphates	15,000





**Annexure VII**

**A. Effluent Treatment Plant maintenance charges (Per Annum):**

Details	Basic cost (Rs)
Chemicals and culture consumption cost:	
Soda ash consumption 60 MT	21,66,000/-
Cow dung consumption 60 MT	2,70,000/-
Power consumed charges: (Units cons 636677 KWh* Rs 7.40)	47,11,409/-
Total	71,47,409/-

**B. Air Pollution control equipment's maintenance charges (Per Annum):**

Details	Basic cost (Rs)
ESP Maintenance charges:	
WO No 1964/06-4-23	33,00,000/-
PO No 06/07-4-23	22,95,000/-
PO No 137/28-06-2023	1,90,000/-
ESP Power consumed charges (Units cost 135824KWh* Rs 7.40)	100,50,976/-
Total	1,58,35,976/-

**Grand Total: Rs 2, 29, 83,385/-**



**Annexure VIII**

**PLANTATION DETAILS 2022-23**

Sl. No	Scientific Name	Common Name	No. of trees-Existing
1	Sandal	<i>Santalum album</i>	180
2	Teak Wood	<i>Tectona grandis</i>	645
3	Neem	<i>Azadirachta indica</i>	8000
4	Tamarind	<i>Tamarindus indica</i>	290
5	Ashoka	<i>Saraca asoca</i>	600
6	Eucalyptus	<i>Eucalyptus globulus</i>	660
7	Cherry	<i>Prunus genus</i>	310
8	Badam	<i>Terminalia catappa</i>	500
9	Mango	<i>Mangifera indica</i>	300
10	Gulmohar	<i>Delonix regia</i>	1300
11	Bamboo	<i>Bambusa vulgaris</i>	34
12	Jamboo Tree	<i>Syzygium cumini</i>	32
13	Banni	<i>Prosopis cineraria</i>	380
14	Custard	<i>Annona reticulate</i>	280
15	Silver Oak	<i>Grevillea robusta</i>	2000
16	Red Sandal	<i>Pterocarpus santalinus</i>	200
17	Portia	<i>Thespesia populnea</i>	4
18	Palm	<i>Arecaceae</i>	70
19	Fig tree	<i>Ficus carica</i>	15
20	Honge Tree	<i>Pongamia pinnata</i>	2600
	<b>Total</b>		<b>18400</b>

Thanking you

