ENVIRONMENTAL STATEMENT

FOR

THE FINANCIAL YEAR – 2015 - 16

FOR

DSCL SUGAR-AJBAPUR

(A DIVISION OF DCM SHRIRAM LIMITED)

VILL.-AJBAPUR, PO.-MULLAPUR
DISTT. – LAKHIMPUR KHERI, UP

ENVIRONMENT AUDIT TEAM

Mr. O.S. Shukla

Mr. M. Arumugasamy

Mr. P. P. Mishra

Ref – DSCL-A / ENV/ 2016 / Date – 08.08.2015

The Member Secretary
U.P. Pollution Control Board
TC-12 V , Gomti Nagar
Lucknow – 226010

Dear Sir,

Please find here with the Environmental statement for the FY 2015-16 in form V in line with the requirement of rule – 14 of the Environmental (protection) rules 1986 with respect to DSCL Sugar-Ajbapur, Distt.- Lakhimpur- Kheri, UP.

We hope you will find this in order.

Thanking you
Yours faithfully,
For DSCL Sugar - Ajbapur

Authorized Signatory

Encl: - As above
CC:- The Regional Officer U.P. Pollution Control Board PICUP Bhawan, Gomti Nagar, Lucknow.

CONTENT

GOVERNMENT OF INDIA

MINISTRY OF ENVIRONMENT AND FOREST

Notification No G.S.R. 95 (E) dated February 12, 1992 published in the Gazette of India, Extra – ordinary part II Section 3 (i) dated 12th February 1992, page 2 (No. Q-14011 (i) 90-CPA)

In exercise of the powers conferred by Section 6 and 25 of the ENVIRONMENT (PROTECTION) ACT 1986 (29 OF 1986) THE CENTRAL GOVERNMENT hereby makes the following rules further to amend the ENVIRONMENT (PROTECTION) RULES, 1986, namely: -

1. (i) These rules may be called the ENVIRONMENT (PROTECTION) (Amendment) Rules, 1992

   (ii) They shall come into force on the date of their publication in the Official Gazette

2. In rules 3 of the ENVIRONMENT (PROTECTION) Rules, 1986 after sub-rule (5), the following sub-rule shall be added, namely: -

   (6) Notwithstanding anything contained in sub rule (3), an industry, operation process which has commenced production on or before 16th May, 1981 and has shown adequate proof of at least commencement of physical work for establishment of facilities to meet the specified standards within a time bound program, to the satisfaction of the concerned State Pollution Control Board, shall comply with such standards latest by the 30th day of September 1993.

   (7) Notwithstanding anything contained in sub rule (3) or sub-rule (6), an Industry, Operation or Process which has commenced production after the 16th day of May, 1991 but before the 31st day of December, 1991 and has shown adequate proof of facilities to meet the specified standard within a time bound program, to the satisfaction of the concerned State Pollution Control Board, shall comply with such standard latest by 31st day of December 1992.

GOVERNMENT OF INDIA

MINISTRY OF ENVIRONMENT AND FOREST

NOTIFICATION

No. G.S.R 329 (E), dated March 13, 1992, published in the Gazette of India, Extra-ordinary part II, Section 3 (i), dated 13th March 1992, Sl. No. 120, Page 3 & 4 (F. No. Q-415015/1/90-CPA)

In exercise of the powers conferred by sections 6 and 25 of the ENVIRONMENT (PROTECTION) ACT 1986 (29 of 1986), the Central Government hereby makes the following rules further to amend the ENVIRONMENT (PROTECTION) Rules, 1986, namely: -

1. (i) These rules may be called the Environment (Protection) (Second Amendment) Rules , 1992 .

   (ii) They shall come into force on the date of their publication in the Official Gazette.

2. In the Environment (Protection) Rules, 1986, after 13 the following rules shall be inserted namely: -

14. SUBMISSION OF ENVIRONMENT AUDIT REPORT:

Every person carrying on an industry, operation or process requiring consent under Section 25 of the WATER (Prevention and Control of Pollution) Act 1974 (6 of 1974) or under section 21 of the AIR (Prevention and Control of Pollution) Act 1981 (14 0f 1981) or both or authorization under the Hazardous Waste (Management and Handling) Rules, 1989 issued under the Environment Protection Act 1986 (29 of 1986) shall submit and Environmental Audit Report for the financial year ending the 31st March in form V to concerned State Pollution Control Board on or before the 15th of May every year ending 31st March every year beginning 1993.

PART II SECTION 3, SUBSECTION (I)

GOVERNMENT OF INDIA

MINISTRY OF ENVIRONMENT AND FOREST

NOTIFICATION

(No C.S.R.329 (E)

In exercise of the powers conferred by section 6 and 25 of the ENVIRONMENT (PROTECTION) ACT 1986 (29 of 1986) The Central Government hereby makes the following rules further to amend the INVIRONMENT (PROTECTION) Rules, 1986, namely: -

1. (i) These rules may be called the Environment (Protection) (Amendment) Rules, 1993

   (ii) They shall come into force on the date of their publication in the Official Gazette

2. In the ENVIRONMENT (PROTECTION) Rules, 1986,

   a) In Rules 14

      (i) For the word Audit Report whenever they occur the word Statement shall be substituted.

      (ii) For the figure letters and word "15th Day of May" the word "THIRTIETH day of SEPTEMBER" shall be substituted.

   b) In appendix "A" for From –V, the following from shall be substituted, namely: -

FORM V

(SEE RULE – 14)

ENVIRONMENT STATEMENT

FOR FY – 2015-16

DSCL SUGAR – AJBAPUR

(A DIVISION OF DCM SHRIRAM LIMITED)

VILL.-AJBAPUR, PO.-MULLAPUR
DISTT.- LAKHIMPUR KHERI, UP

PART- A

I) NAME AND ADDRESS OF OWNER / OCCUPIER OF INDUSTRY OPERATION OR PROCESS	Sh. Kuldip Singh Addl. Vice President DSCL SUGAR- AJBAPUR VILL. - AJABAPUR, P.O. - MULLAPUR DISTT - LAKHIMPUR KHERI (U.P.) PIN 261505
II) INDUSTRY CATEGORY	PRIMARY (SUGAR)
III) PRODUCTION CAPACITY	11000 TONNES CANE / DAY & 27.50 MW Cogeneration
IV) YEAR OF ESTABLISHMENT	1997
V) DATE OF LAST ENVIORNMENTAL STATEMENT SUBMITTED	15.05.2015

PART- B

WATER AND RAW MATERIAL CONSUMPTION

TOTAL INDUSTRIAL WATER CONSUMPTION:

FOR INDUSTRIAL 1082 M3 / Day

FOR DOMESTIC 195 M3 / Day

NAME OF PRODUCT:	**PROCESS WATER CONSUMPTION PER UNIT PRODUCT OUTPUT**	
	DURING FINANCIAL YEAR 2014-15	**DURING FINANCIAL YEAR 2015-16**
SUGAR	1.190 KL / Ton of sugar	1.073 KL / Ton of sugar

RAW MATERIAL CONSUMPTION

NAME OF RAW MATERIAL	**NAME OF PRODUCT**	**CONSUMPTION OF RAW MATERIAL PER UNIT OF OUTPUT**	
		DURING FINANCIAL YEAR 2014-15	**DURING FINANCIAL YEAR 2015-16**
SUGAR CANE (Qtls / Qtl of Product)	SUGAR	9.93	8.85

PART- C

POLLUTANTS DISCHARGED TO ENVIRONMENT PER UNIT OF OUTPUT

(PARAMETERS AS PER ANALYSIS REPORT OF THE THIRD PARTY MONITORING REPORT)

POLLUTANTS	MAXIMUM QUANTITY OF POLLUTANTS IN DISCHARGE (Mass / Day)	CONCENTRATION POLLUTANTS IN DISCHARGE (Mass / Volume)	PERCENT VARIATION FROM PRESC. STANDARD WITH REASON
WATER			
BOD	17.69 Kg / DAY	26.4 mg / lit	12.00 % Below limit
COD	57.62 Kg / DAY	86.0 mg / lit	65.60% Below limit
TSS	12.06 Kg / DAY	18.0 mg / lit	40.0 % Below limit

NOTE: 1) BASED ON ACTUAL EFFLUENT DISCHARGE @ 670 CU.M / DAY
2) CONCENTRATION OF POLLUTANTS IN DISCHARGE IS BASED ON APPROOVED LABORATORY OF ECOMEN LABORATORY LUCKNOW TEST REPORT Dated 22.12.2015

AIR

Stack No.-1				
SPM	601.52 Kg / day	118.22	mg / Nm^3	21.19 % Below limit
Stack No.-2				
SPM	674.28 Kg/day	132.52	mg / Nm^3	11.65 % Below limit

NOTE: 1) CONCENTRATION OF POLLUTANTS IN DISCHARGE IS BASED ON APPROOVED LABORATORY OF ECOMEN LABORATORY LUCKNOW TEST REPORT Dated 29.03.2016

PART –D

HAZARDOUS WASTE

{AS SPECIFIED UNDER HAZARDOUS WASTES (MANAGEMENT) AND HANDLING RULES 1989}

HAZARDOUS WASTES			TOTAL QUANTITY DURING FINANCIAL YEAR 2015-16	
a) FROM PROCESS				
i)	**Empty Oil drum & Paint Container**	**:**	**559**	**Nos./Year**
ii)	**Oil Soaked Cotton Waste**	**:**	**59**	**kg / Year**
b) FROM POLLUTION CONTROL FACILITIES :				
i)	**Recovered Used / Spent Oil**	**:**	**729.25**	**kg/Year**

Note:

Oil & Grease

Separated Oil & Grease is used in cane carrier and bagasse carrier chains.

Empty Oil & paint drum

Used as flower pots, dustbins and nut & bolt storage.

Oil soaked cotton waste

Collected oil soaked cotton waste is incinerated in the boiler.

PART – E

SOLID WASTES

SOLID WASTES	TOTAL QUANTITY DURING FINANCIAL YEAR 2014-2015	TOTAL QUANTITY DURING FINANCIAL YEAR 2015-16	MODE OF DISPOSAL
A., FROM PROCESS			
PRESS MUD	56517.0 MT	60804.90 MT	AS MANURE BY CANE GROWER
B. FROM POLLUTION CONTROL FACILITES			
SLUDGE	87.50 MT	94.48 MT	AS MANURE IN FACTORY FARM
C . FROM BOILER			
BOILER ASH	32.24 MT/DAY	43.91 MT/DAY	AS A LAND FILL IN LOW LAND
D. SOLID WASTE RECYCLED OR REUSED	A + B + C		

PART- F

PLEASE SPECIFY THE CHARACTERAISATION (IN TERMS OF COMPOSITION 'AND QUANTUM) OF HAZARDOUS AS WELL AS SOLID WASTES AND INDICATE 'DISPOSAL PRACTICES ADOPED FOR BOTH CATEGORIES OF WASTES

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1. **BAGASSE AND BAGASSE ASH :**

   The fibrous residue of the mill house is known as bagasse. It is obtained after extraction of juice from Cane. Bagasse % cane normally varies from 28% to 35 % and during season 2015-2016 it was 27.48 %. Bagasse is used as fuel in sugar factories in India and excess bagasse is used for co-generation of power or sold to paper or card board factories. It is neither toxic nor hazardous in nature. Similarly, bagasse ash (about 1.5 %- 2.0%) is disposed of as land fill to avoid spreading of ash particles in the atmosphere.

2. **FILTER CAKE :**

   In clarification process of juice when juice filtered through vacuum filters and solid mass obtained from therein is known as filter cake. It varies from 3.5 to 5.0 % on cane. During season 2015-2016 it was 4.86 % on cane. The filter cake produced in sugar factories is neither toxic nor hazardous in nature. It is bio - manure and used as manure. It contains nutrients like Nitrogen (about 0.8 to1 %), Phosphorus (1.0 to 1.5 %) and 30 to 40 % organic matters.

3. **E T P SLUDGE :**

   Sludge is produced in Effluent Treatment Plant, during activated sludge treatment of industrial effluent of sugar plant. It is used as manures in factory R & D farm. It is neither toxic nor hazardous in nature.

4. **OILY WASTE MATERIAL :**

   It is collected from the oil skimmer and oil & grease trap at ETP. The waste is taken out and stored in steel drums and recycled back in the process.

PART- G

IMPACT OF THE POLLUTION ABATEMENT MEASURES TAKEN ON CONSERVATION OF NATURAL RESOURCESAND ON THE COST OF PRODUCTION

A. EFFLUENT TREATMENT PLANT :

For liquid pollution control, factory has installed extended aeration type effluent treatment plant based on activated sludge treatment process to bring down BOD, COD, Suspended solid and Oil & Grease to the level of below 30 ppm, 250 ppm, 30 ppm and 10 ppm respectively. The various units in the treatment process are as follows:

1. SCREEN:

All drains up to oil separator have been properly covered and a proper graded screen has been installed to prevent coarse floating matter like polyethylene bags and other foreign materials entering the influent drain.

2. OIL SKIMMER:

Oil and grease skimmer is installed to recover oily material from the effluent mechanically. Recovered oil and grease is stored in steel drums and used in cane carrier and bagasse carrier for lubrication..

3. OIL AND GREASE SEPARATOR:

Oil and grease separator is having three chambers. These have been provided for removal of free-floating oil and grease. The oil and grease is skimmed off manually from the top.

4. EQUALISATION TANK:

An equalization Tank has been provided for complete homogenization of the effluent

5. PRIMARY CLARIFIER TANK:

The effluent flows to the primary clarifier tank for removal of suspended solids

6. AERATION TANK:

The effluent free from suspended solids is further treated in the aeration tank by conventional activated sludge process the organic matter in the effluent has been degraded with the help of micro - organism specially grown and maintained in the aeration tank and in conjunction with dissolved oxygen transferred by Aerators is converted to new cells. The organic matter present in the homogenized effluent is thus

converted to stable end products without any nuisance or health hazard. The active sludge process is one of the most widely used processes in waste water purification resulting in 85 % reduction in BOD 3 days at 27º C. The homogenized effluent is first aerated in the aeration tank. During this period a mass of biologically active flock called “Activated Sludge " is formed. Nutrients are also being added to maintain healthy multiplication of Bio-mass and level of BOD: N: P: to 100:5:1 is maintained. The mixed liquor suspended solids concentrations kept around 3000 mg / l.

7. SECONDARY CLARIFIER:

In the second step of the above process the mixed liquor is passed through a clarifier The activated mixed liquor is passed through the clarifier where separation of the activated sludge from aerated water takes place, activated sludge is removed as down flow from the clarifier by pump, part of the sludge is recycled to the Aeration tank to act as seed for the formation of more activated sludge and homogenously maintain the MLSS around 3000 mg/l .The part as excess sludge is sent for percolation and drying on sludge drying beds.

8. SLUDGE DRYING BEDS:

Sedimented sludge needs to be dewatered and dried for easy disposal. This is being done on sand gravel filter media. Dewatered sludge in the SDB is dried by natural heat of Sun light. The dried sludge is disposed off as manure. The percolated water from the sludge beds is sent back to process for treatment.

9. MGF & ACF:

MGF & ACF has been installed to reduce suspended solids and to remove colour of the treated effluent.

AIR POLLUTION CONTROL SYSTEM :

The flue gases from the Boiler is pass through the Fly Ash Arrestor (wet scrubber type) where in the suspended particulate matter and gases are removed to a greater extent resulting in an overall efficiency of 96% removal. The type of scrubber is as under.

WET DYNAMIC SCRUBBER

The Ash slurry discharge from the scrubber is sent to sedimentation tank where the ash gets sedimented at the bottom and water over flow from the top is re circulated to the Scrubber. Lime / Caustic Soda Solutions being added to maintain to pH value 6

-7.5.Make-up water is added to maintain adequate supply of water .The Ash Slurry is pumped to 2 Nos. of clarifiers for separation of fly ash & supernatant liquid which is recycled back into process and sludge is disposed off as land material. The clean gas emitted from the outlet of the scrubber is discharged to the chimney through the booster fan .The Air emission from the chimney SPM concentration is always less than 150 mg/Nm³ i.e. always meeting the emission norm of 150 mg/Nm³. U P Pollution Control Board. Wet dynamic types include the sprayed fan designs, such as Ducon's UW-4 scrubber and American Air Filter's Rotocylone these devices feature a hydraulically atomized spray introduced into the inlet of paddle wheel (or modified wheel) fan. Fan motor horsepower is expended in the movement of the air & in the creation of finely divided water droplets .Most of these devices precondition the air by spraying or passing the contaminant gas stream through a wetted knock-out area. This helps humidify the air stream, reducing the evaporation rate in the fan housing, and thus controlling the deposition of particulate on those surfaces. The fan discharge, now laden with droplets, is directed to a droplet eliminator which retains the liquid while permitting the cleaned gases to pass through.

ELECTROSTATIC PRECIPITATOR

An electrostatic precipitator (ESP) is a particulate collection device that removes particles from a flowing gas (such as air) using the force of an induced electrostatic charge. Electrostatic precipitators are highly efficient filtration devices that minimally impede the flow of gases through the device, and can easily remove fine particulate matter such as dust and smoke from the air stream.

ESPs continue to be excellent devices for control of many industrial particulate emissions, including smoke from electricity-generating utilities (coal, bio-fuel and oil fired), salt cake collection from black liquor boilers in pulp mills, and catalyst collection from fluidized bed catalytic cracker units in oil refineries to name a few. These devices treat gas volumes from several hundred thousand ACFM to 2.5 million ACFM in the largest coal-fired boiler applications.

Transformer-rectifier systems apply voltages of 50-150 kilovolts at relatively high current densities. Modern controls minimize sparking and prevent arcing, avoiding

damage to the components. Automatic rapping systems and hopper evacuation systems remove the collected particulate matter while on line, theoretically allowing ESPs to stay in operation for years at a time.

Equipment data: Electrostatic Precipitators

Parameters	Design Conditions
Application: Normal	Flue gas from 100% MCR bagasse
Gas Flow at ESP inlet	49.25 AM3/Sec.
Temperature	150 °C
Temperature, Mech. Design	250 °C
Dust Concentration at ESP Inlet	3.0 g/NM3
Dust concentration at ESP outlet (max)	115 mg/NM3
TR Set Rating each	95 kV (peak)/ 500 mA (mean)
ESP Controller	Electronic TR Controller cum Rapping Controller
Pressure drop across ESP	20-30 mm WG (max)

PART- H

ADDITIONAL MEASURES / INVESTMENT PROPOSAL FOR ENVIRONMENTALPROTECTION INCLUDING ABATEMENT OF POLLUTION - PREVENTION OF POLLUTION

The experiments conducted for utilization of treated water for irrigation in factory Lawn, garden and farm, showed encouraging results. Considering fact that treated effluent containing considerable amount of Nitrogen, Phosphorus Potash, Calcium, Magnesium , Copper , Manganese, Iron and Zinc etc .and in order to utilize its manorial value, factory has used approximately 100 % treated effluent in their Gardening.

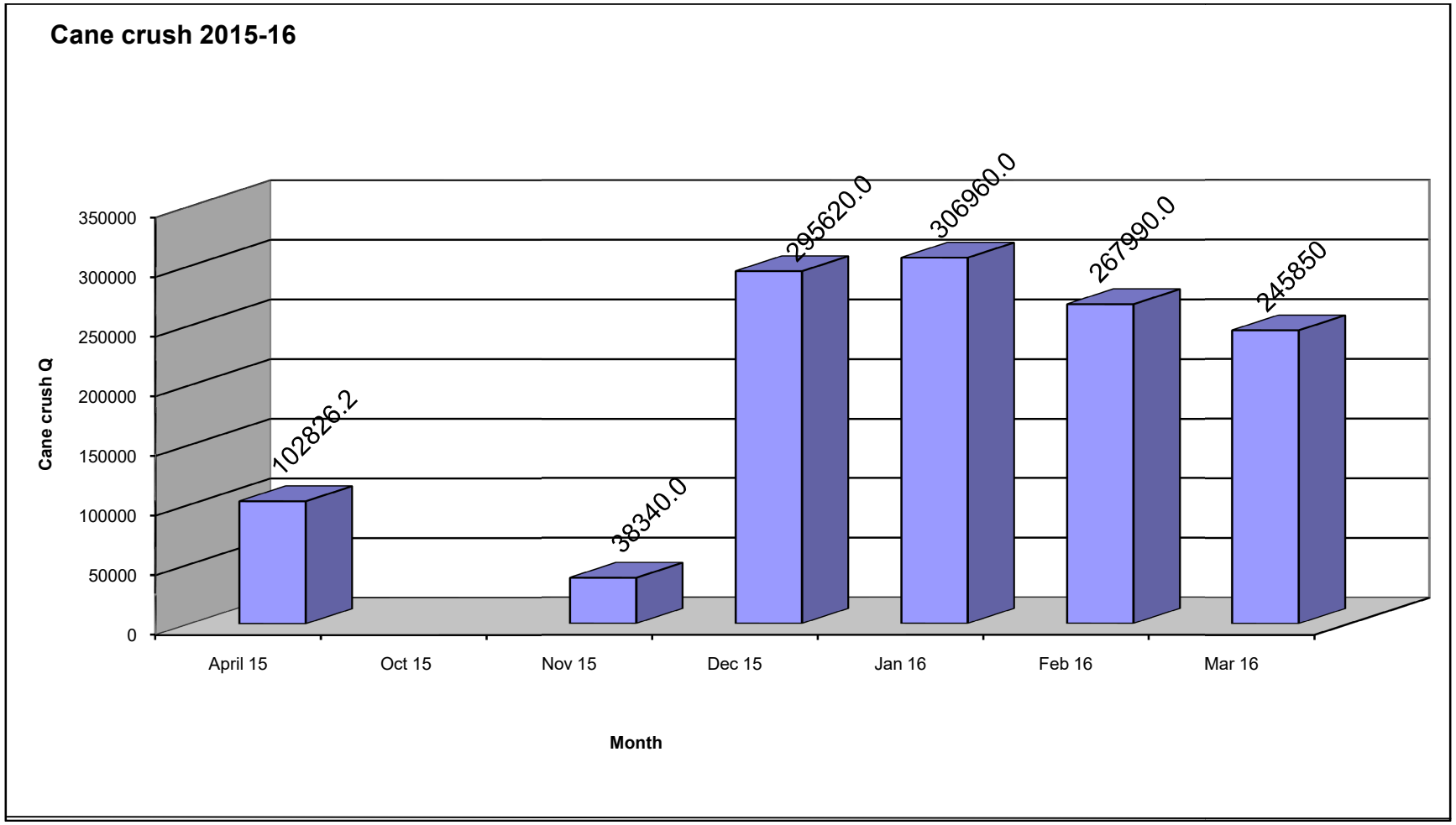
PART- I

ANY OTHER PARTICULAR FOR IMPROVING THE QUALITY OF THIS ENVIRONMENT

A campaign has been launched to develop greenery all around factory campus for the same approximately 3223 trees have been planted in year 2015-16. Further factory is planning to plant approx 2000 trees during the year 2016-17. The industry has kept open any investment proposal for Pollution abatement in future.

Signatures of Audit Team

(P. P. Mishra) **(M. Arumugasamy)** **(O. S. Shukla)**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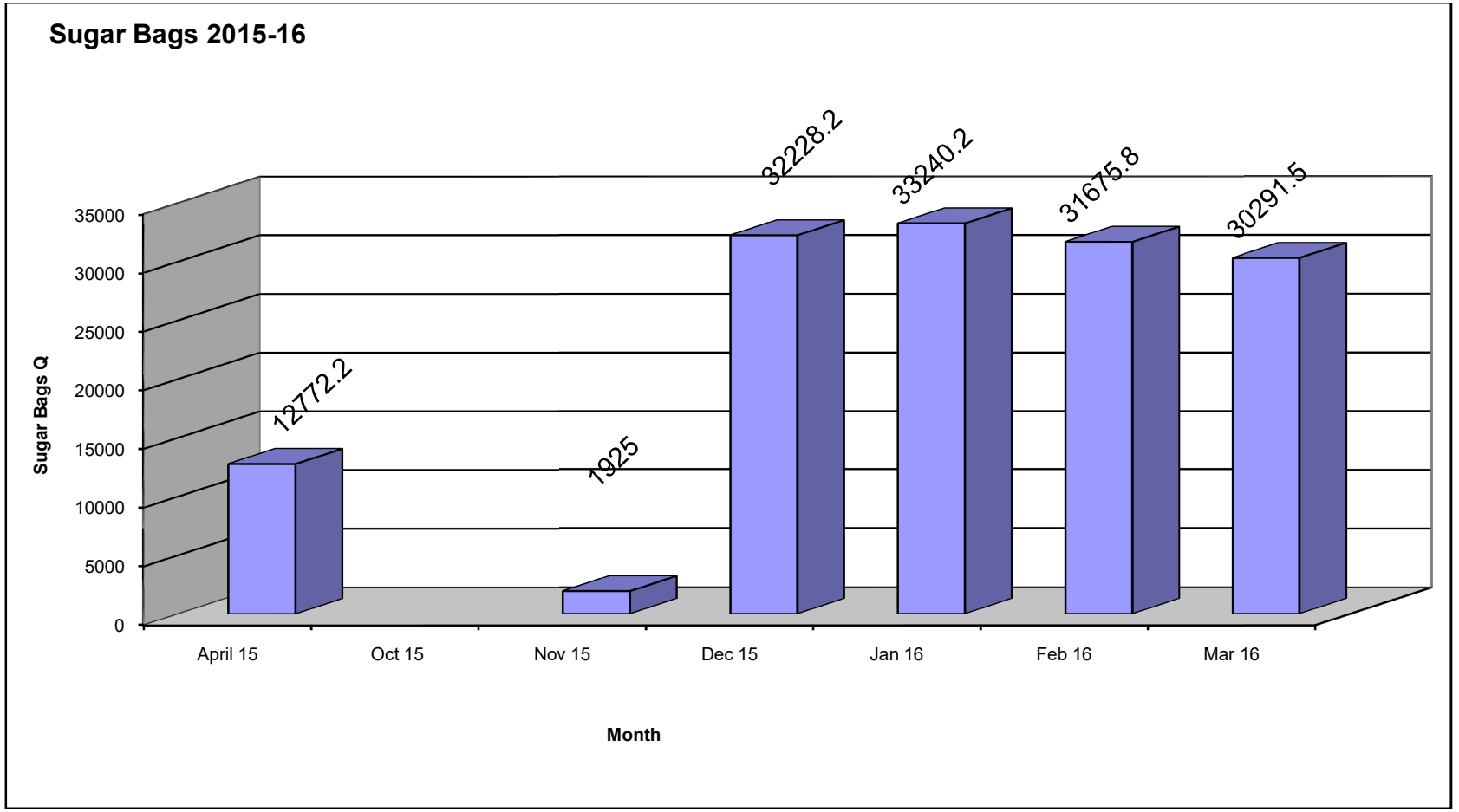
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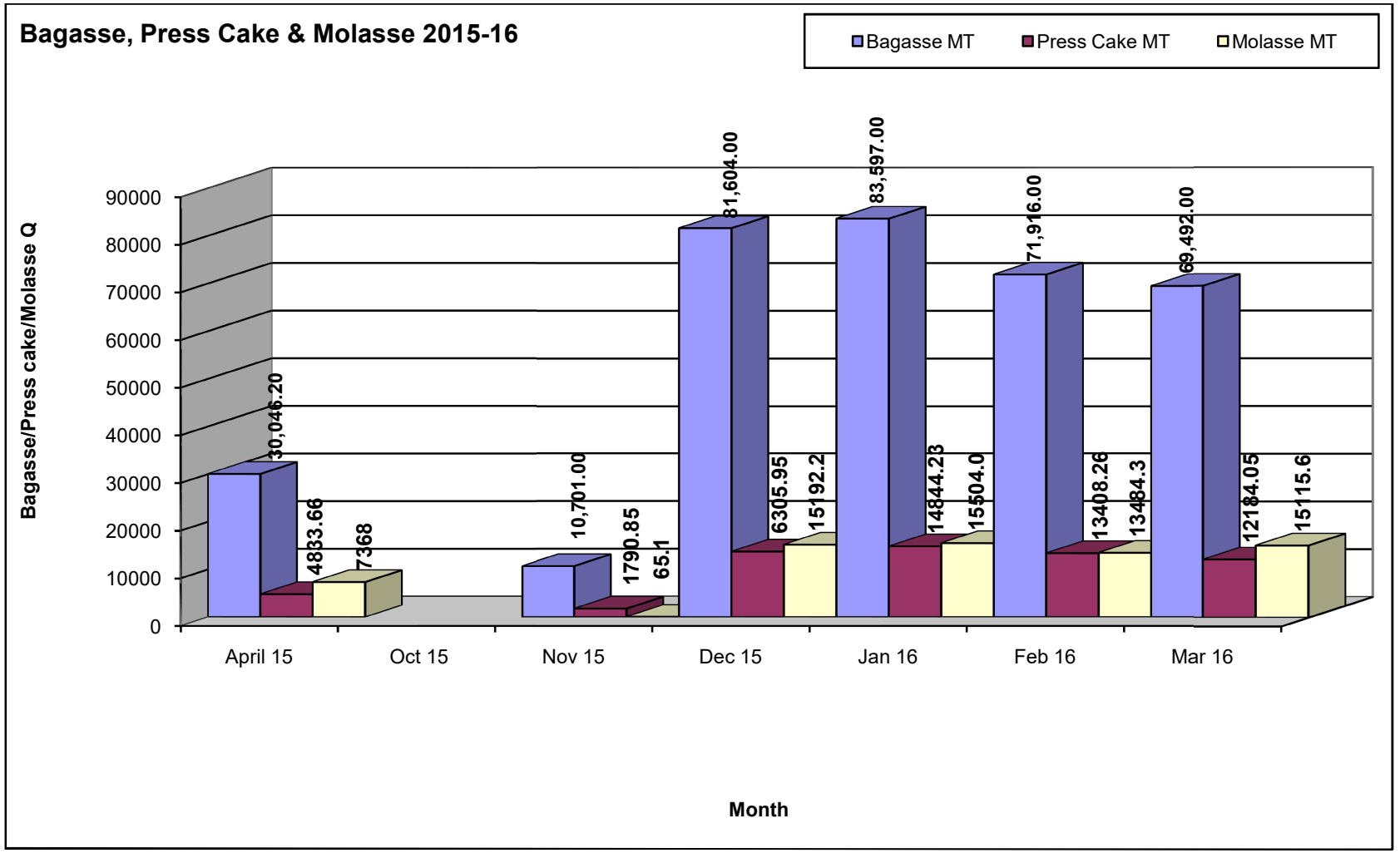
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