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Through: Courier

Ref: VC/WS/ENV/23-24/G-1

Date: 07.06.2023

To  
Environmental Officer,  
Karnataka State Pollution Control Board,  
Plot No.12/2, Sy.No.19/P,  
Mansafdar Layout, M.G.Road,  
Santraswadi Kalaburagi- 585101

Sub:- Environmental Statement of M/s.Vasavadatta Cement, Prop: Kesoram Industries Ltd, situated at Sedam-Taluka, District- Kalaburagi, Karnataka for the period April 2022 to March 2023

Ref:- Notification No. G.S.R. 329(E) dated 13.03.1992 & G.S.R. 386(E) dated 22.04.1993 of MoEF, New Delhi.

\*\*\*\*\*

Respected Sir,

As mentioned in the above cited subject and in reference to the notifications no. G.S.R. 329(E) dated 13.03.1992 & G.S.R. 386(E) dated 22.04.1993. We are here by enclosing the Environmental Statement Report for the Period April 2022 to March 2023.

Hope you will find the same in order.

Kindly acknowledge the receipt.

Thanking you,

Yours faithfully,  
For Vasavadatta Cement,  
For Kesoram Inds., Ltd.,

CIN of KIL- L17119WB1919PLC003429

  
M.U. Venkatpati Raju  
Chief Manufacturing Officer

Kesoram Industries Limited  
Cement Division

P + 08441 - 276005 / 276391

Unit : Vasavadatta Cement Works : Post. Sedam - 585 222.  
Tq. Sedam, Dist. Kalaburagi, Karnataka

Corporate Office :  
E : corporate@kesoram.net

Registered Office : Birla Building, 8th Floor, 9/1, R.N. Mukherjee Road, Kolkata-700 001,  
CIN - L17119WB1919PLC003429



# *Environment Statement Report FY 2022-23*



**Cement Plant**



**Captive Mine**



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# Prologue

*Vasavadatta Cement is a Second Green Field project by Kesoram Industries Ltd and IS/ISO 9001, 14001, 18001 & 50001 Certified Company, in Vasavadatta Cement the Environmental policy reflects each & every section in the organization. Our main vision is to conserve the Environment through new technologies, new initiatives.*

*At National Level, great emphasis is being laid on maintaining environmental quality, particularly in the regions where large-scale developmental programs are being undertaken. Vasavadatta Cement has adopted corporate policy along with various policies like, Water Policy, Energy Policy and Safety, Health and Environment Pillar policy, for conserving the Sustainable environment and its development.*

*Company aspires to exceed market expectations across all sustainability issues and go beyond legal compliance to proactively reduce our environmental impacts. Our goals are to reduce our overall carbon footprint by embedding Environmental controls and practices into the daily management of the firm and thereby encouraging positive behaviour from our staff to achieve a greener culture.*

*In order to comply with Environmental Protection Act and Environmental Preservation and Sustainable Development, Vasavadatta Cement has prepared the Environmental Statement Report; this report is furnished in **Form-V** & along with the data for Environmental components like Air, Water, Hazardous and Energy for the period of **April-2022 to March-2023**.*



## 1.1 Introduction:

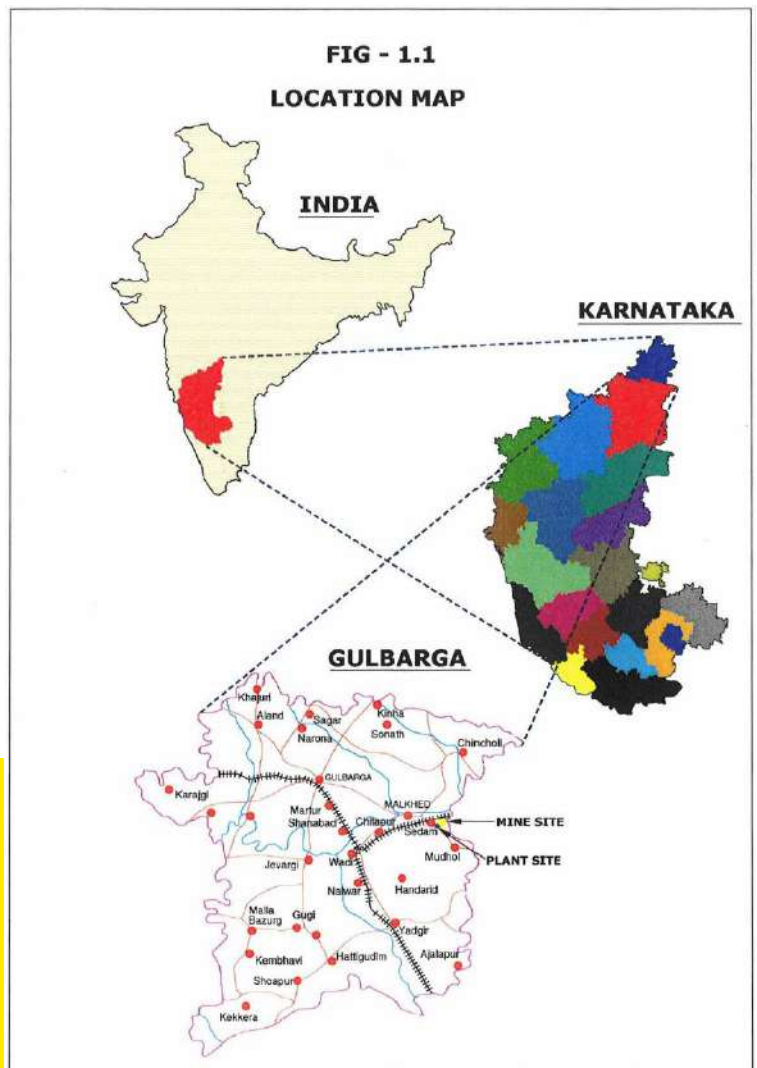
M/s .Vasavadatta Cement is the 2<sup>nd</sup> green field project of Kesoram Industries Ltd, it is under the flagship 'B.K Birla Group of Companies' located at Sedam Taluka of Kalaburagi Dist, Karnataka state. M/s .Vasavadatta Cement is premier cement manufacturing unit and is rated as one of the most efficient cement units and one of the most technologically advanced in the cement industry.

Cement Plant Unit-I was commissioned in the year 1983-84 and commercial production was started in the year 1986. After commissioning of Unit-II, III & IV, the production capacity has enhanced to Clinker-6.0 MTPA, Cement -9.0 MTPA (Unit I to IV) and captive Power Plant 79.2 MW (Unit I to V); the Captive Power Plants caters the needs to Cement Units.

### Location:

M/s .Vasavadatta Cement is located at Sedam Taluka, Kalaburagi District of Karnataka, the Plant is situated at 3 KM away from the sedam town and the plant site falls under the Latitude of 17° 05' - 17° 15' N and longitude 77° 15' - 77° 20' E.

- We are producing 43 Grade and 53 Grade-OPC and PPC in the brand name of Birla Shakti Cement
- Aims at Zero Breakdown, Zero Accident, Zero Defect, Optimum Inventory and Clean Environment involve each and every employee across the order.



**Line-I** Plant machinery was supplied by world known plant supplier M/S POLYSIUS, GERMANY and their counterparts M/s THYSSEN KRUPP INDUSTRIES INDIA LTD. Cement are based on dry process Pre-Calcliner technology and the major equipments of the plant include single stage Hazemag impact crusher for Limestone crushing, Stacker-Reclaimer for Pre blending / homogenisation/transport of crushed limestone, Polysius Vertical Roller Mill for Raw Meal grinding, Single Continuous Blending Silo for storing Raw meal, Rotary Kiln for Clinkerisation, Aumund's Deep Pan Conveyor for Clinker transport, closed circuit mill for cement grinding and two electronic packers for despatching Cement.

In order to make the plant Environment friendly, Vasavadatta Cement has taken the Pollution Control measures by installing Bag House for Raw mill/Kiln, ESPs for Grate Cooler; Bag filter for cement mill, lime stone crushing, Blending silo, Cement silo, Clinker stockpile, Raw mill hoppers, Cement mill hoppers, Coal mill, Coal weigh feeders, Fine coal bin & Packing plant.

**Line-II** was put on stream in 1997. The main plant machinery was supplied by M/S POLYSIUS and their Indian counterparts M/s THYSSEN KRUPP INDUSTRIES INDIA LTD. Bag House was provided for Kiln/Raw mill, ESP for Cooler and Bag Filter for Cement mill and for the other dust emitting sources bag filters were provided to collect the dust.

**Line-III** Cement plant was commissioned in the year 2006. Pyro processing equipment has been supplied by M/s FL Smidth, Denmark; Coal mill by M/s Gebr Pfeiffer, Germany; Raw mill & Cement Mill by M/s Polysius, Germany.

**Line-IV** Cement plant was commissioned in the year 2009. Pyro processing equipment has been supplied by M/s FL Smidth, Denmark; Coal mill by M/s Gebr. Pfeiffer, Germany; Raw mill & Cement Mill by M/s Polysius, Germany.

## **1.2 EMS Systems:**

Being a responsible corporate citizen, the management of M/s. Vasavadatta Cement is highly conscious about the social commitment towards the surrounding environment. The management of the unit is committed to develop its activities in an environmentally sound manner and support all the efforts made in achieving this objective. Further, the management actively initiates the environmental policy, which is relevant to its activities, products, services and their environmental effects. SHE Policy set by Vasavadatta Cement is enclosed as **Figure-1.1**.

Senior management of the unit periodically reviews the Environmental Management System to ensure its suitability and effectiveness. The Management Action Plan aims at controlling pollution at the source level to the possible extent, with the best available technology, followed by treatment measures before they are discharged.



## **1.3 TECHNICAL FEATURES OF CEMENT PLANT**

1. To support friction drive in Kiln, eliminating the use of lubricants.
2. Raw mill does not require water sprinkling, it induces less hot air reducing energy & water Consumption.
3. Bag house is installed in Kiln / Raw mill instead of ESP, eliminating uncontrolled emissions for short durations during ESP trappings. Bag house does not have gas conditioning tower in the circuit thus it reduces the water requirement.
4. Re-circulated water is used in water spraying systems.
5. Selection of screw compressors with acoustic enclosure.
6. Clinker Silos are used for storage of clinker to reduce fugitive dust.
7. Cross flow cooler eliminates dust from cooler bottom hoppers.
8. In Cooler fans silencers are installed to reduce ambient noise levels.
9. Selection of machinery with less specific power consumption.
10. Selection of duo flux burner for handling alternate fuels.

## **CAPTIVE POWER PLANTS**

- ☞ **15.7 MW** (Peak 16.2 MW) Captive Thermal Power Plant (**TPP-1**) was commissioned in 1997. The Boiler was supplied by M/s CETHAR VESSELS LTD, TRICHY. Alternator was supplied by M/s TOYO DENKI SIEZO JAPAN. Water treatment plant was supplied by M/s ION EXCHANGE INDIA LTD. PUNE and cooling tower was supplied by M/s SHRIRAM TOWER TECH, CHENNAI.
- ☞ **9.5 MW** Thermal Power Plant (**TPP-2**) was commissioned in June 2005. The Boiler was supplied by M/s CETHAR VESSELS LTD, TRICHY. Alternator was supplied by M/s BHEL, Hyderabad. Water treatment plant was supplied by M/s ION EXCHANGE INDIA LTD. and cooling tower was supplied by M/s Paharpur Cooling Tower, Kolkata.
- ☞ **18 MW** Thermal Power Plant (**TPP-3**) was commissioned in February 2007. The Boiler was supplied by M/s CETHAR VESSELS LTD, TRICHY; CVPL,Trichy; Turbogenerator by M/s TDPS, Bangalore, Cooling tower by M/s Paharpur, Kolkata; ESP by M/s Thermax.
- ☞ **18 MW** Thermal Power Plant (**TPP-4**) was commissioned in February 2009. The Boiler was supplied by M/s CETHAR VESSELS LTD, TRICHY; CVPL,Trichy; Turbogenerator by M/s TDPS, Bangalore, Cooling tower by M/s Paharpur, Kolkata; ESP by M/s Thermax. Air cooled condenser by GEA, Chennai.
- ☞ **18 MW** Thermal Power Plant (**TPP-5**) was commissioned in August 2012. The Boiler was supplied by M/s CETHAR VESSELS LTD, TRICHY; CVPL,Trichy; Turbogenerator by M/s TDPS, Bangalore, Cooling tower by M/s Paharpur, Kolkata; ESP by M/s Thermax. Air cooled condenser by GEA, Chennai.



## **1.4 TECHNICAL FEATURES OF POWER PLANTS**

- ☞ Acoustic enclosures for TG sets.
- ☞ Screw compressors with acoustic enclosures.
- ☞ Effluent water from power plant is 100 % Recycled.
- ☞ Pneumatic handling of total ash.
- ☞ Air Cooled condensers are installed at UNIT-IV & UNIT-V, rather than water cooled condensers to save water.

## **1.5 CONSUMPTION OF RAW MATERIALS AND FUELS FOR CEMENT MANUFACTURE IN LINE-I to IV (2022-2023)**

S.NO.	DESCRIPTION	UNIT-I to IV CEMENT PLANTS IN MT
1.	Limestone	63,73,893
2.	Shale	9,900
3.	Additives	5,89,459
4.	Gypsum	1,82,958
5.	Coal + AFR	7,58,150
6.	Fly ash	7,36,535
7.	Per imp 1 Limestone	75,074

## **1.6 CEMENT MANUFACTURING PROCESS**

The Process of Cement manufacturing involves basically the following sequential unit operations and processes.

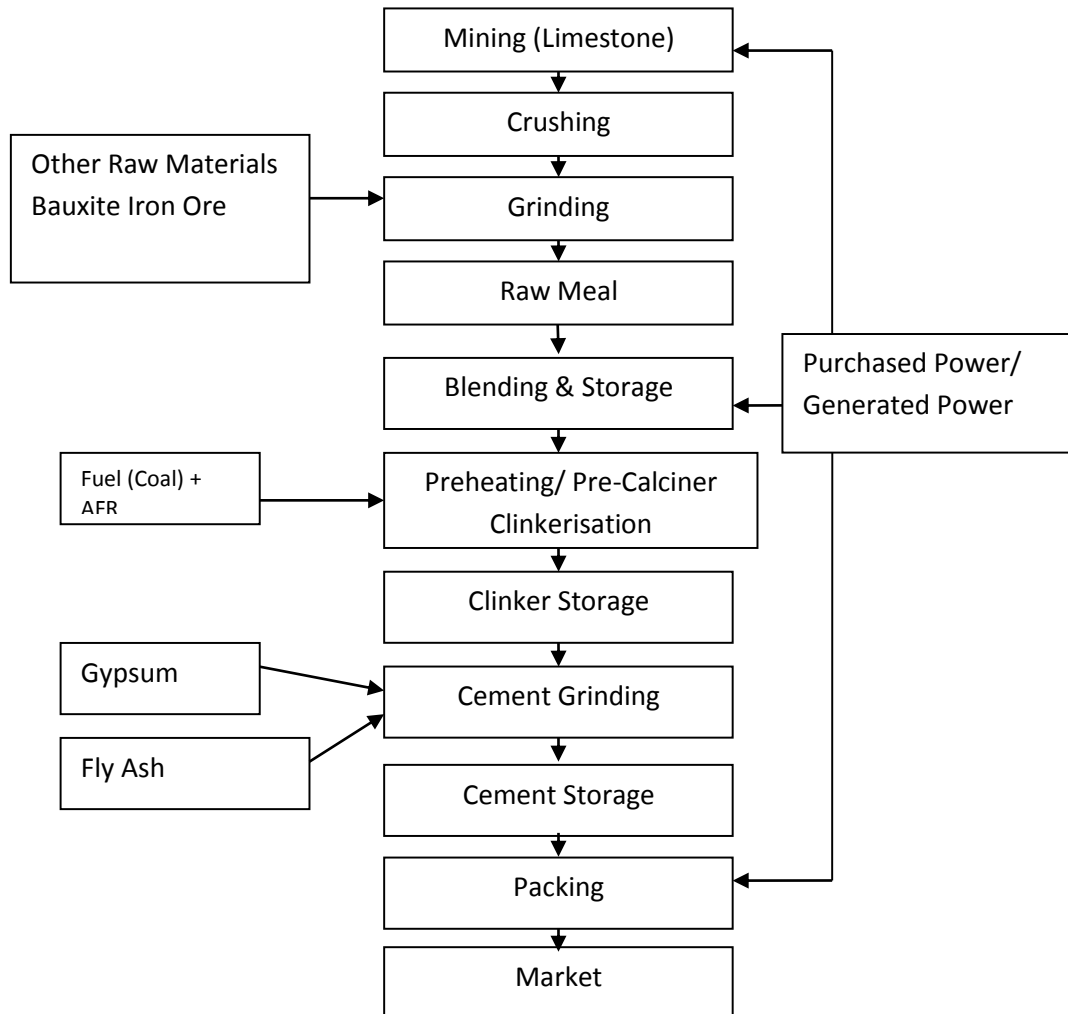
- ☞ Limestone Mining
- ☞ Limestone Crushing
- ☞ Stacking and Reclaiming
- ☞ Raw material Grinding
- ☞ Storage and Homogenization of raw meal in continuous blending silo.
- ☞ Coal unloading, Stacking and Grinding
- ☞ Clinkerisation – (Kiln Feed, Preheating, Kiln and Cooler)
- ☞ Cement Grinding, Storing, Cement Packing & Dispatches





## CEMENT MANUFACTURING PROCESS

Manufacturing process involves Crushing, grinding and mixing of limestone with additives like bauxite and iron ore into a powder known as “raw meal”. The raw meal is in the form of a dry powder, is heated and burnt in a pre-heater, kiln and then cooled in an air cooling system to form a semi-finished product, known as a clinker. Clinker (95%) is cooled by air and subsequently ground with gypsum (5%) to form Ordinary Portland Cement (“OPC”). Other forms of cement require increased blending with other raw materials. Blending of clinker with other materials helps impart key characteristics to cement, which eventually govern its end use.



**Figure-1.0**



## **THE BASIC STEPS INVOLVED IN THE PRODUCTION PROCESS IS SET OUT BELOW:**

In Vasavadatta Cement, dry process technology is adopted in all Cement units. Limestone is crushed into a uniform and usable size, blended with certain additives (such as iron ore and bauxite) and discharged on a vertical roller mill/roller press/ball mill, where the raw materials are ground to fine powder. An electrostatic precipitator/bag house de-dusts the raw mill gases and collects the raw meal for a series of further stages of blending. The homogenized raw meal thus extracted is pumped to the top of a preheater by bucket elevator. In Pre-heaters the material is heated to 750°C. Subsequently, the raw meal undergoes calcination in a pre-calciner (in which the carbonates present are reduced to oxides) and is then fed to the kiln. The remaining calcination and Clinkerisation reactions are completed in the kiln where the temperature is raised to between 1450°C and 1500°C. The clinker formed is cooled and conveyed to the clinker storage area from where it is extracted and transported to the cement mills for producing cement. For producing OPC, clinker and gypsum are used and for producing Portland [Pozzolana] Cement ("PPC"), clinker, gypsum and fly ash are used.

### **COAL ASH**

Coal ash is a solid waste generated from Coal Based / Thermal Power Plants, as it is hazardous, if it is not used for alternate beneficial use the disposal of coal ash causing various pollution problems.

The coal ash from power plant is of two types.

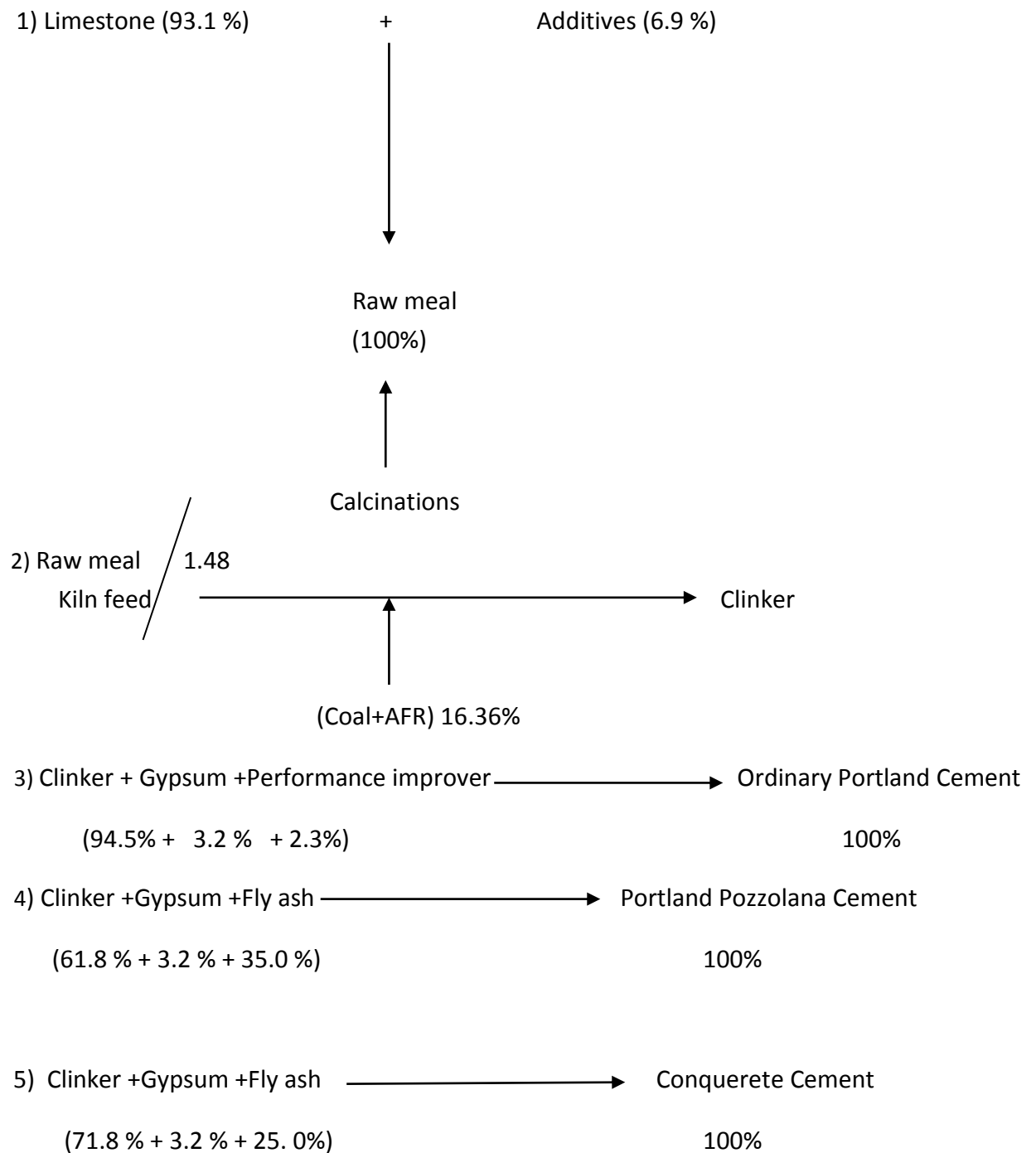
1. Cinder ash (Coarse ash)
2. Fly ash (Ash collected from ESP)

Both fine ash and coarse ash generated in power plant is pneumatically transported to cement plant through dense phase and used to manufacture cement and also procuring the fly ash from Raichur Thermal Power Station, NTPC Ramagundam and Parli, Astech Raichur, Global Engg Bellary, Adani Tiroda Etc. It is being used in the production of Pozzolana Portland cement.

The utilisation of coal ash helped in reduction of limestone (Natural mineral resource), consumption owing to partial substitution of clinker and conservation of thermal energy corresponding to clinker so substituted.



## 1.7 MATERIAL BALANCE FOR 2022 – 2023 (UNIT-I to IV)



*Note: - Depending upon the quality of Raw material and Quality of coal, the above Material balance will change.*



## **FORM – V**

*(See rule 14)*

Environmental Statement for the financial year ending 31<sup>st</sup> March 2022

### **PART – A**

- (i) Name and address of the owner/  
Occupier of the industry operation : Radhakrishna – Whole Time Director  
Registered & Corporate Office  
Kesoram Industries Ltd  
9/1 R.N. Mukherjee Road  
Kolkata – 700 001

#### **Operation or Process**

- (ii) Industry Category : Red

Primary : (STC Code) : ----

Secondary : ----

- (iii) Production capacity of units : 6.0 MTPA of Clinker  
Combined capacity of Line-I to IV  
Cement plant

Combined capacity of Cement plant : 9.0 MTPA of Cement  
Cement production of line-I to IV

Captive Power Plant (CPP # I) : 15.7 MW (Peak 16.2 MW)  
Captive Power Plant (CPP # II) : 9.5 MW  
Captive Power Plant (CPP # III) : 18 MW  
Captive Power Plant (CPP # IV) : 18 MW  
Captive Power Plant (CPP # V) : 18 MW

- (iv) Year of establishment

Cement plant Line-I : 1986  
Cement plant Line-II : 1997  
Cement plant Line-III : 2006  
Cement plant Line-IV : 2009  
Captive Power Plant (CPP # I) : 1997  
Captive Power Plant (CPP # II) : 2005  
Captive Power Plant (CPP # III) : 2007  
Captive Power Plant (CPP # IV) : 2009  
Captive Power Plant (CPP # V) : 2012

- (v) Date of last Environment statement : 09.06.2022 (For the year 2021-2022)  
Report submitted





## **PART B**

### **WATER AND RAW MATERIAL CONSUMPTION**

#### **I. WATER CONSUMPTION m<sup>3</sup>/day:**

Being a complete dry process cement manufacturing plant does not require any process water. Water consumption in the plant for cooling, boiler feed, gardening etc is as follows.

<b>S.No.</b>	<b>Description</b>	<b>During Current Financial Year 2021-2022</b>	<b>During Current Financial Year 2022-2023</b>
<b>1</b>	<b>Water consumption in m<sup>3</sup> / d or KLD</b>	5690	5005
	a) Process/Cooling	3867	3199
	b) Domestic/Gardening	1822	1806

Note: VC is permitted to draw water for 238 days in a year from river Kagina. VC is permitted to draw water from Kagina River at the rate of 17 Lakh gallons per day.

#### **II. RAW MATERIAL CONSUMPTION**

<b>1S.No</b>	<b>Name of the Raw Material</b>	<b>Name of the Product</b>	<b>Consumption of Raw Material per unit of output in ton</b>	
			<b>During Current Financial Year 2021-2022</b>	<b>During Current Financial Year 2022-2023</b>
			<b>Line – I to IV</b>	<b>Line – I to IV</b>
i.	Lime stone & Shale	Cement	1.1293	1.111
ii.	Additives		0.080539	0.082
iii.	Gypsum		0.0343	0.032
iv.	Coal with AFR		0.1410	0.132
v.	Fly Ash		0.1289	0.129
vi.	Per imp 1 Limestone		0.0193	0.013



## PART C

### Pollution discharged to Environment/Unit of Output

S.NO	Pollutants	Quantity of pollutants discharged (Mass/day))	Concentration of pollutants in discharge ( Mass/Volume)	Percentage of variation from prescribed standards with reasons
<b>a) WATER: -</b>				
a.	Outlet effluent of sewage treatment plant	376 KL/day	----	----
	i) Suspended solids	----	15.60 * mg/L	Within Standards
	ii) Bio Chemical Oxygen Demand 5 days at 20 °C	-----	8.40 * mg/L	Within Standards
<b>b) AMBIENT AIR:-</b>				
a.	Mine area (Plant premises)	PM <sub>10</sub>  &  PM <sub>2.5</sub>	73 µg/m <sup>3</sup>	Within Standards
			41 µg/m <sup>3</sup>	
b.	Staff Club (Employees colony)		72 µg/m <sup>3</sup>	Within Standards
			41 µg/m <sup>3</sup>	
c.	Dairy farm (Employees Colony)		73 µg/m <sup>3</sup>	Within Standards
			41 µg/m <sup>3</sup>	
d.	Near Power Plant (Plant premises)		73 µg/m <sup>3</sup>	Within Standards
			41 µg/m <sup>3</sup>	
e.	Top of Lions Bhavan (Sedam town)		72 µg/m <sup>3</sup>	Within Standards
			40 µg/m <sup>3</sup>	Within Standards

\* The value represents arithmetic average of 12 months for the financial year 2022-2023.



## Stack Gas Quality for Particulate Matter

S.No	POLLUTANTS	QUANTITY OF POLLUTANTS DISCHARGED (m <sup>3</sup> /H)	CONCENTRATIONS OF POLLUTANTS IN DISCHARGE (Mass/Vol.) (mg/Nm <sup>3</sup> )	PERCENTAGE OF VARIATION FROM PRESCRIBED STANDARDS WITH REASONS
<b>LINE – I CEMENT PLANT</b>				
1.	Kiln/Raw mill	1,75,618	25	Within Standards
2.	Clinker cooler	1,63,240	21	
3.	Coal mill	36,798	21	
4.	Cement mill	40,043	22	
<b>LINE – II CEMENT PLANT</b>				
5	Raw mill/Kiln	2,29,196	22	Within Standards
6	Clinker cooler	3,43,682	24	
7	Cement mill	64,719	23	
8	Coal mill	52,272	23	
<b>LINE – III CEMENT PLANT</b>				
9	Raw mill/Kiln	3,14,166	23	Within Standards
10	Clinker cooler	3,94,119	22	
11	Coal mill	1,04,600	21	
12	Cement mill	34,973	21	
13	Crusher (Located at Mines)	42,567	24	
14	Coal crusher	7,920	26	
<b>LINE – IV CEMENT PLANT</b>				
15	Raw mill/Kiln	6,25,779	22	Within Standards
16	Clinker cooler	4,17,925	21	
17	Coal mill	60,317	22	
18	Cement mill	32,940	21	
<b>CAPTIVE POWER PLANT (I to V)</b>				
19	CPP-I	66,193	23	Within Standards
20	CPP-II	62,659	30	
21	CPP-III	63,201	21	
22	CPP-IV	1,10,637	25	
23	CPP-V	2,07,975	23	

*\*The value represents arithmetic average of 12 months for the financial year 2022-2023.*



## **PART – D**

### **Hazardous Wastes**

As specified under Hazardous and Other waste (Management and Transboundary Movement) Rules, 2016.

<b>Hazardous waste Generation</b>	<b>Total Quantity in MT</b>	
	<b>During Current Financial Year 2021-2022</b>	<b>During Current Financial Year 2022-2023</b>
Used oil & waste/residue containing oil	9.32 MT	17.70 MT
Used Batteries	5.56 MT	5.16 MT

## **PART – E**

### **Solid Wastes**

<b>S. No</b>	<b>Solid Waste</b>	<b>Total Quantity</b>	
		<b>During the current financial year 2021-2022</b>	<b>During the current financial year 2022-2023</b>
1. (a)	<b>From process</b> (Fly ash from captive Thermal Power Plant)	# Nil from Cement plant. 1, 45,164 MT from Power Plants.	# Nil from Cement plant. 88,427 MT from Power Plants.
(b)	<b>Fly Ash from RTPS / NTPC</b> Ramagundam/Parli, Astech Raichur, Global Engg Bellary, Adani Tiroda Etc.	# 4, 95,838 MT	# 6, 48,107 MT
2.	<b>From pollution control facility</b>	Recycled in to the main process in cement plant. Fly ash from power plants reutilised in cement plants.	Recycled in to the main process in cement plant. Fly ash from power plants reutilised in cement plants.
3.	<b>Quantity recycled or reutilised Within the unit</b>	28,722 MT  (In process, material recycled from Pollution control equipment like ESPs /Bag House /Bag filter).	28,351 MT  (In process, material recycled from Pollution control equipment like ESPs /Bag House /Bag filter).
	i) Sold	-----	-----
	ii) Disposed	-----	-----

*# Fly ash utilization is improving continuously; this is observed from the consumption values of total Fly ash generated at our Power plant, RTPS, NTPC, Parli & Ramagundam, Astech Raichur, Global Engg Bellary, Adani Tiroda etc*





## **PART – F**

**Please specify the characteristics (in terms of concentration of quantum) of Hazardous as well as solid wastes and indicate disposal practice adopted for both these categories of wastes.**

### **Hazardous wastes:**

Cement manufacturing is based on Dry process technology, Hazardous wastes is generated in the form of used oil from drained machineries / equipments and used batteries from the various equipments. Used oil & Battery waste is disposed off to KSPCB authorized Reprocessors and Recyclers.

### **Solid wastes:**

Fly ash generated from power plant is being utilized for manufacturing of Pozzolona Portland Cement. Pollution control equipments restrain the emissions and the entrapped solid wastes are recycled at appropriate stages in cement plant.

## **PART – G**

**Impact of the pollution abatement measures taken on conservation of natural resources and the cost of production.**

M/s.Vasavadatta Cement is a Green co Platinum rated company by CII in the year 2015-16, our Cement Plant is being operated on complete dry process technology, which is cost effective and environmentally clean technology. The stack emissions in the plant are controlled by installation of pollution control equipments like Bag Houses, ESP's etc., and also Bag Filters are installed at various material transfer points to control fugitive dust emissions. The particulate matter collected in the pollution control equipments are recycled back in to process and neutralizing the cost of pollution control equipments and hence no cost of impact in the production.

In our Captive Power Plant for Unit IV & Unit V, we have installed Air cooled condensers to reduce consumption of water @ 2500 KLD, hence generation of wastewater quantity is deteriorates.

### **Modifications for the year 2022-23 for energy conservation and better Environment**

#### **PROCESS:**

- Planning for Utilization of alternate fuel in remaining units (Unit-1,2 & 4)
- Planning for Utilization of Carbon Black in Unit-1

#### **POWER PLANT:**

- Installation of flash steam recovery system for Unit-4 to avoid wastage of water/reduce heat loss.
- Replacement of worn-out water MS pipeline from cpp to mins to avoid wastage of water.



### **INSTRUMENTATION:**

1. Installation of 75kw VFD panel for unit-1 main firing blower Cement Mill-1, 2, 3 and Packing Plant 2 & 4 compressor.

### **Mines:-**

1. Exploration work for mineral investigation

**Benefits:** - Conversion of Limestone Resources from (G3) to Reserves (G1) as per UNFC Classification.

2. Conservation of portable IR Tower light in to Electrical Tower light.

**Benefits:** - Reduction of HSD consumption

3. Drone Survey to be done as per MCDR(Mineral Conservation and Development Rules 2021

**Benefits:** - For better planning of mineral extraction & judiciously using the land for Mining activities.

4. Proposed plantation of 3000 Saplings in mines ( 1500 Fresh + Gap Filling)

**Benefits:** - Green belt development

5. Making of new ramp from 415 to 405 RL to reduce lead distance and to avoid road curves for better safety and saving in transportation cost

**Benefits:** - Reduction of HSD consumption

6. Installation of permanent sprinkler on haulage road

**Benefits:** - Water conservation.

## **PART – H**

### **Additional measures/ investments proposal for environment protection including abatement of pollution and prevention of pollution.**

Green Belt development and Tree plantation is ongoing process, we are doing plantation to increase the bio diversity of the area.

### **AFFORESTATION:**

In Vasavadatta Cement, as the conditions are not suitable for growing trees in Plant, colony & mines area as rock sheet is just below 1 m depth and especially colony and mines it is just below 0.3 m to 0.6 m. Hence the roots of the plant cannot penetrate in too deep. The whole area was looking like barren land except very few trees & shrubs. In spite of the adverse conditions, we have able to develop plantation by constructing retaining walls, the area was filled with black cotton soil and installing tree guards. This results a thick green belt, which gives an aesthetic beauty in Colony, Mines and Plant. The greenery includes lawn, ornamental garden, mango orchard, teak wood farm, Afforestation etc.



**The following measures are being taken for development of Green Belt:**

- ☞ Vasavadatta Cement having a beautiful nursery where the saplings are being developed and distributed at free of cost to our colony residents and farmers through GAK, and also purchasing saplings from forest dept to develop Afforestation.
- ☞ Vasavadatta Cement is conducting annual Garden competition among the colony residents and distributing prizes,
- ☞ Vasavadatta Cement is planting trees as per the five year plan, due to the aesthetic beauty of our colony the nearby peoples refer to as a place of picnic spot.
- ☞ We have started plantation for mosquito repellent plants in colony.
- ☞ Since 1983 to till date, so far we have planted over 5.95 Lakhs saplings out of which over 3.40 Lakhs plants are surviving with a survival rate of 57%.

**The following species are being used for plantation**

Neem	Lemon grass	Pongamia	Pipal
Tulsi	Lentana Hedge	Cassia Sp.	D. Sisso
Marva	Peltophoram	Banyan	Teak

- ☞ For year wise plantation refer Annexure-I

**Proposed modifications for the year 2023-24 for Energy Conservation and better Environment:**

- Gas Conditioning system for Top cyclone at Kiln-4
- High efficiency blowers for U-1 & 2 Kiln coal firing (Main & PC)
- Installation of Kiln - 4 inlet and outlet graphite sealing system
- Replacement of ball mill diaphragm to improve the output in cement mill-4
- High efficiency water pumps (4 pumps)
- VFD for compressors for power reduction
- Replacement of old multiple reminded/inefficient motors with IE3 Energy Efficient Motors (30 No's)
- Replacement of Metallic blades with FRP blades in HT Motors Cooling Blowers at various locations. (34 No's)
- Replacement of conventional light fittings with LED Light fittings. (500 No's)
- Making of new ramp to reduce lead distance by 250 Mtrs in Mines Pit-A



- Increase in bulk transportation of cement through rail mode.
- Increase in rail transportation of inbound raw materials like Laterite, gypsum and Fly Ash.

## **PART – I**

### **Any other particulars for improving the quality of the Environment**

1. Environment cell is provided with well qualified Engineers holding Post Graduation Degree in Environment to carryout various activities like Stack Emission Monitoring, Ambient Air Quality monitoring, Noise monitoring at plant boundaries and machineries , Report preparation and Compliances etc,. The Environment Cell is set up under senior Executive of Head-Environment who is reporting directly to Chief Manufacturing Officer.
2. Regular checking and scheduled maintenances of all Pollution Control Equipments and is taking care for good House Keeping.
3. Green Belt development program in a phase wise manner by planting new saplings within Plant, colony, Mines and surrounding villages.
4. To emphasis on conservation of natural resources & to reduce the disposal problems of the waste, we have adopted co-processing of various wastes as AFR in our Cement Kiln i.e., Organic residue, MSW- Refuse Derived Fuel (RDF), Shredded Tyre Chips, Plastic waste and carbon black.

### **MISCELLANEOUS MATTERS:**

1. Vasavadatta Cement is first in Cement Sector being rated as Green co Platinum in the year 2015-16.
2. Energy conservation measures are being taken.
3. Emergency Response plan & Disaster Management Plan are developed by the industry and Safety Audits are conducted.
4. Success in efforts of ensuring accident free working conditions for workers.
5. Building up-to-date library to facilitate the process of learning of environment protection measures. Environment messages printed on company covers.
6. Implementation of TPM in the plant.
7. Regularity in filing of applications i.e., Renewal of Air & Water consents, Hazardous waste and Bio- medical waste management consents for operation of plant.
8. Regular monitoring of Emission testing of various stacks & Ambient Air Quality and submitting the reports every month to statutory bodies. Regular monitoring of Treated Sewage Quality and regular visiting of Sewage Treatment Plant for better performance. Regularity in submission of Hazardous Waste, Bio-Medical & E- waste Annual reports.
9. Fugitive dust is being monitored regularly. Noise levels are being monitored regularly by using Noise Level Meter, Noise generating sources have been isolated by housing them in enclosures. Wherever entry is necessitated in such areas ear plugs/ear muffs are issued. Helping the Engineering and Management students to carry out their project works.





**ANNEXURE – I**

<b>Details of Tree Plantation in Vasavadatta Cement Factory, Colony and Mines Area From 1983 – 84 to 2021-22 as on March-22 and Percentage of Survival</b>						
<b>Year</b>	<b>Colony</b>	<b>Factory</b>	<b>Mines</b>	<b>Total</b>	<b>Survival %</b>	<b>Survivals</b>
1983-84	10000	8000	2000	20000	80	16000
1984-85	10000	7000	3000	20000	62	12400
1985-86	11000	3000	559	14559	60	8735
1986-87	13000	8500	3000	24500	55	13475
1987-88	14000	10000	3000	27000	60	16200
1988-89	13000	9000	3121	25121	60	15072
1989-90	12500	8500	4000	25000	55	13750
1990-91	9000	4000	3000	16000	65	10400
1991-92	11000	6000	4000	21000	48	10080
1992-93	11500	8000	2500	22000	47	10340
1993-94	13000	5000	4180	22180	83	18409
1994-95	10580	3500	1000	15080	80	12064
1995-96	9000	12764	5441	27205	80	21764
1996-97	9400	6400	9200	25000	52	13000
1997-98	2000	14996	8000	24996	50	12498
1998-99	4850	5700	4650	15200	50	7600
1999-00	1000	4000	5000	10000	30	3000
2000-01	1303	3891	4812	10006	35	3502
2001-02	2200	4500	3500	10200	50	5100
2002-03	2100	3500	4400	10000	30	3000
2003-04	2020	3010	5100	10130	52	5267
2004-05	1500	3500	1500	6500	60	3900
2005-06	1700	1500	4500	7700	30	2310
2006-07	4915	2800	2490	10205	50	5102
2007-08	2075	1650	3950	7675	45	3453
2008-09	2485	2950	1800	7235	43	3111
2009-10	2500	1000	5500	9000	50	4500
2010-11	2400	1490	6565	10455	48	5018
2011-12	3060	3115	3140	9315	60	5589
2012-13	2055	2135	2075	6265	51	3195
2013-14	2914	6577	24027	33518	55	18434
2014-15	1865	544	4516	6925	40	2770
2015-16	1973	6380	4224	12577	58	7262
2016-17	9856	9090	6354	25300	65	16445
2017-18	9983	11262	4075	25320	55	13926
2018-19	5204	5317	2820	13341	52	6937
2019-20	3404	3329	1995	8728	80	6982
2020-21	220	290	2340	2850	71	2050
2021-22	1110	520	3260	4890	70	3423
2022-23	2470	279	2380	5129	75	3847
<b>Total:</b>	<b>2,34,142</b>	<b>2,02,989</b>	<b>1,70,974</b>	<b>6,08,105</b>	<b>58</b>	<b>3,49,910</b>

VC has taken up green belt Development plan by planting approximately 6, 08,105 saplings, Out of 3,49,910 Saplings are survived with a survival rate of 56 % as on March-2023



## **World Environment Day Celebrations -2023**

### **Environmental Awareness:**

With reference to the above cited subject, and above mentioned reference World Environment Day on 5<sup>th</sup> June, 2023, Plantation activities was done at Vasavadatta Cement, Mines area opposite to Mines view point with **200 plants** and a theme **“Beat Plastic Pollution”**

World Environment Day 5<sup>th</sup> June 2023 Awareness rally was conducted at **“Vasavadatta Colony”** at 07.00 AM to 09.00 AM in presence of VVV School staff and Children’s, HOD’s from various departments and Shri. U.Venkatpati Raju - Chief Manufacturing Officer. Beat plastic pollution dram script done by VVV School students.

We Celebrated World Environment day 05<sup>th</sup> June 2023 in Our X-ray Conference Hall at 03.00 PM with Theme **“Beat Plastic Pollution”**, Our Department (Environment) Achievements FY-2022-23 and Awareness videos on Beat Plastic Pollution presented. We are conducted **Essay writing** (Kannada ,Hindi and English) in our VVV School on topic of **“Beat Plastic Pollution”** We are presented Gift s for Essay writing (Kannada ,Hindi and English) students and **regular Bicycle using** persons in our plant.

World Environment Day 5<sup>th</sup> June 2023 Plantation was carried at Mines view point @ 04.00 PM in presence of VVV School staff and Children’s and HOD’s from various departments ,staff and workers. The programme was chaired by Shri. U.Venkatpati Raju - Chief Manufacturing Officer.



## **Glimpses of World Environment Day Celebrations -2023**

**Glimpses of Plantation at Mines area Opposite to Mines View Point World Environment Day-2023 celebrations at Vasavadatta Cement, Sedam, Karnataka.**



Environmental Awareness Rally with VVV School Children's



Environment Day Celebrations at X-Ray Conference Hall







Prizes are distributed to School Children's for Essay Writing



Prizes are distributed to Employee and Workers for using Bicycles daily







Plantation Programme at Mines Area with VC- Staff, Workers and School Children's

