CK BIRLA GROUP | ORIENT CEMENT

Through Courier

Ref:OCL/ENV/Sr.VP-(WORKS)/20-21/ 285 **Date: 03/09/2020**

To,
Member Secretary,
Karnataka State Pollution Control Board
#49, 4th & 5th floor
Parisara Bhavan, Church Street
Bengaluru-560001

Dear Sir,

Sub: - **Environment Statement Report (Form-V) of Plant & Mines for the financial year 2019-2020:-Reg**

Ref-1: - GOI Notification No. G.S.R. 329(E) Dt.13.03.1992 & G.S.R.386 (E) Dt.28.04.93 of MOEF, New Delhi

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With reference to the above cited subject and vide reference- 1, **M/s Orient cement Ltd,** Chittapur, is here by submitting the **Environmental Statement/Audit report-Form V** of **Captive Limestone Mines & Cement Plant** for the financial period **1st April 2019 to 31st March 2020.** Kindly find the enclosed statement report for your perusals & acknowledge the receipt of the same.

Thanking You,
Yours Faithfully,
For Orient Cement Ltd

3.9.2020

Satyabrata Sharma
Sr. Vice President - Works

5/9/2020

Copy to:

1. Additional Principal Chief Conservator of Forests (C),
   Ministry of Environment & Forest, Govt. of India
   Regional office (Southern zone)
   Kendriya Sedan, IV th Floor, E & F Wings,
   17th Main Road, II Block, Koramangala, Bangalore-56034
2. Environmental officer,
   Karnataka State Pollution Control Board,
   #101, F-Block, Green Park, KHB,
   Near Chor Gumbaz, Ring road, Kalaburagi- 585 105.

O/C- Environment Dept

CK BIRLA GROUP

ENVIRONMENTAL STATEMENT REPORT

(Form-V)

[Year 2019 - 2020]

REPORT BY

ORIENT CEMENT

(Orient Cement Ltd.)
Captive Limestone, Clinkerisation,
Cement Unit & Captive Power Plant
Itga (V), Chittapur (Tq)
Gulbarga - 585211

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CK BIRLA GROUP

ORIENT CEMENT

ENVIRONMENTAL STATEMENT REPORT

FOR

PLANT
(FORM-V)

[YEAR 2019 - 2020]

REPORT BY

ORIENT CEMENT

(Orient Cement Ltd.)

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Cement Unit & Captive Power Plant

Itga (V), Chittapur (Tq)

Prologue

Orient Cement is a Green Field project by CK Birla Group and EHS 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. Orient Cement has adopted corporate policy along with EHS 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 behavior from our staff to achieve a greener culture.

In order to comply with Environmental Protection Act and Environmental Preservation and Sustainable Development, Orient Cement has prepared the Environmental Statement Report; this report is furnished in Form-V & along with the data for Environmental components like Air, Water, & Noise for the period of **April-2019 to March-2020**.

INTRODUCTION

Man is a part of nature, and not separate or independent; at the same time, man is unique in the influence he has over nature. Man derives all his food, clothing, shelter, and other amenities from nature. In that process, if he does not take care to protect and cherish nature, but decrease or destroys, he will find that his own life and that of his children is in jeopardy.

The environment, a word as it stands today is not simple; it is not a fashionable word, but has got established definitions incorporates limitless complexities, bear definite power to put everybody under a flood of worries and pushes us to plan for betterment with minimum problems. The environment is now catching for all, the industry, the government, the people. Hence, it is joint responsibility to protect, preserve the environment and avoid perishing the natural treasures. At this critical junction of time and efforts, the Indian industry has fulfilled its commitment in maintaining the environmental integrity.

Orient Cement Limited considers itself responsible for Environment and Society. We are committed to emission reduction, climate protection, effective energy management, responsible use of resources and its conservation keeping in mind that "**Today's Need – Future of Our Children**".

The next few pages of this Environment Statement Report (ESR) of Orient Cement Limited is based on actual data and verified record, will present a picture of more optimism for environmental care than ever before.

Orient Cement Ltd: is situated at Itga Village, Chittapur Taluk, Gulbarga District: which is about 50 Km from Gulbarga. It started its commercial operation in the year 2015. Presently factory is operating with one Kiln of capacity 6000 TPD & 50MW Power Plant. The Company is manufacturing Ordinary Portland Cement (OPC) & Pozzolana Portland Cement (PPC).

M/s Orient Cement Ltd is operating lime stone mine at Itga (V), Chittapur Taluk and Gulbarga District as captive mines for their Cement manufacturing at factory, which is about 02 Km from Mines. This

safety (OHSAS 18001) certification from BSI. The new integrated cement manufacturing unit at Chittapur is equipped with new state of the art technology and latest energy- efficient equipment.

Cement manufacturing contributes significantly to the Air pollution level only in the vicinity of the works as large quantity of pulverized materials is handled at each stage of manufacturing that is from crushing of Raw material to final packing of cement resulting emission of dust leading to Air pollution. This is due to very nature of cement manufacturing.

Apart from dust, combustion product and coal used in the kiln to burn Raw materials give rise to formation of SOx and NOx. The Sulphur content of Coal would vary from source to source. However the alkaline nature of Raw materials leads to direct absorption of SOx.

The dust emitted from various machines is controlled by providing hi-tech air pollution control equipments such as Electro static precipitators and bag house. The emission sources in the cement plant are mainly process dust emission and fugitive dust emissions.

Water Pollution is virtually absent in the cement plant as no liquid effluents are seriously involved & CPP liquid effluents is treated used in dust suppression. The water is used for cooling the machines/parts of the machines. A WTP – Cooling Water Tower is being maintained for the circulation of water for the entire plant. The major area of domestic water consumption inside the plant is for drinking, toilet, for canteen use & Colony.

The policy for the abatement of pollution by the government of India provides for submission of environment statement by all the industries. Environmental Statement is therefore an output of Environmental Audit.

So an effort has been made in this report to explain Environmental Statement for the financial year 2019-2020 ended 31st March 2020 as per Government of India notification GSR 329 (E), dated 13th March 1992 and amendment to Environmental (Protection) Rules 1986 and subsequent amendment there on.

Corporate Safety, Health and Environment (SHE) Policy

We, at Orient Cement Limited are committed towards environmental protection and providing healthy & safe work environment by way of:

- Compliance with all applicable legal, social and other requirements
- Improvement in environmental performance and resource efficiency
- Reviewing objectives and targets for continual improvement in environment, work place, health & safety
- Engaging and training human capital to enhance their skills and augment resources for effective EHS performance
- Controlling Pollution
- Prevention of occupational injuries and health hazards

Rajendra Mishra

Chief Operating Officer

Date: 01.01.2018

Orient Cement Limited
#5-9-22/57/D, 2nd, 3rd & 4th Floor, GP Birla Centre, Adarsh Nagar, Hyderabad 500063, Telangana.
Ph: 040-2368 8600 / 700, Fax: 040-2368 8654 E-mail: info@orientcement.com
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CIN No: L26940OR2017PLC031933

ENVIRONMENTAL STATEMENT REPORT

[FORM-V]
(See rule 14)

PART-A

Name and address of the owner/ Occupier of the industry	:	Satyabrata Sharma Sr. Vice President - Works Itga (V), Chittapur (Tq) Gulbarga - 585211
Operation process	:	Production of Cement
i. Industry category: Primary-(STC code) Secondary-(STC code)	:	Red category
ii. Production category-units		
Cement plant	:	2.0 MTPA of Clinker
	:	3.0 MTPA of Cement
Captive Power Plant	:	50 MW
iii. Year of establishment		
Cement plant	:	Sept 2015
Captive Power Plant	:	Feb 2016

iv. Date of last environmental statement submitted: 27/08/2019 for the year (2018-2019)

CK BIRLA GROUP

Postal Address

1) Registered Office	:	Orient Cement Ltd. 5-9-22/57/D G.P Birla Center 2nd & 3rd floor Adrash Nagar, Telangana Hyderabad - 500063
2) Factory	:	Orient Cement Ltd. Itga (V), Chittapur (Tq) Gulbarga - 585211 Phone: 08474-236716 Fax: 08474-236716

PART-B

Water Reservoir at Plant (Water from Kagina River & Natural water due to mining operations) is the major source of water for this factory. Due to moderate rainfall in this region there is always drastic variation in the yield of water from these sources and almost this area is suffering from water shortage. In this view company is also operating a Sewage Treatment Plant & Effluent Treatment Plant to treat the entire waste water of the factory and colony, so that it can be recycled and reused for cooling the machines, gardening and for abatement of pollution in the area.

The water consumption for the year **2019-2020** is shown in the table given below and the consumption of water is measured with the help of water meters which are installed at different points of sources. Water consumption readings are being sent to the State Pollution Control Board in the monthly return.

(i) Water Consumption (m^3/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.

Sl.No	Description	During Previous Financial Year 2018-19 in (m^3/day)	During Current Financial Year (2019-2020) (m^3/day)
	Water consumption in m^3 / d or KLD	901.66	958.69
1.	a) Process/Cooling	491.06	611.707
	b) Domestic/Gardening	410.60	346.695

Note: OCL is permitted to withdraw water from river Kagina at the rate of 5.56 MLD, the agreement had in between M/s Orient cement ltd. and KNNL , the validity is 18.03.2023

Name of products	Process water consumption per unit of products output	
	During the Previous financial year (2018-2019)	During the current financial year (2019-2020)
Cement	0.047 (KL/Ton)	0.065(KL/Ton)
Power	0.32 (KL/MWH)	0.29 (KL/MWH)

(ii) Raw material consumption per ton of product

Name of raw materials	Name of products	Consumption of raw material per unit of (Clinker) output	
		During the Previous financial year (2018-19)	During the current financial year (2019-2020)
Lime Stone	Clinker	1.427	1.414
Laterite		0.0633	0.073
Bauxite		0.070	0.059
Coal		0.040	0.030

Name of raw materials	Name of products	Consumption of raw material per unit of (Cement) output	
		During the Previous financial year (2018-2019)	During the current financial year (2019-2020)
Lime Stone	Cement (OPC & PPC)	1.11	1.15
Laterite Iron & Silica		0.05	0.06
Bauxite		0.05	0.04
Coal		0.06	0.02
Petcoke		0.03	0.05
Clinker		0.78	0.81
Fly Ash		0.15	0.14
Gypsum		0.03	0.03

Name of raw materials	Name of products	Consumption of raw material per unit of (Power) output	
		During the Previous financial year (2018-2019)	During the current financial year (2019-2020)
Coal	Power	1.073 MT/MWh	0.9682 MT/MWh

PART-C

The impact of the cement plant pollution on the environment is limited to its immediate surrounding areas. In reality dust pollution is the only environmental problem in & around the plant. Although the dust produced while manufacturing of cement is nontoxic, nonflammable and non-corrosive. It does constitute a nuisance to a little extent. So the company has adopted several technological measures to completely avoid the dust emission at the source itself.

Water pollution is virtually absent as no liquid effluent are seriously involved. The water here is used for cooling the machines/parts of the machine. A WTP – Cooling Tower is being maintained for the circulation of water for the entire plant. The major area of domestic water consumption inside the plant is for domestic (Drinking, Toilet, Colony and for Canteen use).

The company is monitoring the dust level concentration at all the emission sources by batch sampling technique. The quantity of pollutants discharged is calculated at an average emission level taken from monthly stack monitoring reports.

Pollution discharged to environment/unit of output :(Parameter as specified in the consent issued).

S.NO	Pollutants	Quantity of pollutants discharged (Mass/day))	Concentration of pollutants in discharge (Mass/Volume)	Percentage of variation from prescribed standards with reasons
a) WATER: -				
	Outlet effluent of sewage treatment plant	33.03 KL/day	----	----
1.	pH		7.3 mg/L	Within Standard
2.	BOD 3 days at 27°C		4.7 mg/L	Within Standard
3.	COD		9.3 mg/L	Within Standard
4.	Ammonical Nitrogen		0.0 mg/L	Within Standard
5.	Total Nitrogen		3.5 mg/L	Within Standard
6.	Phosphate		0.3 mg/L	Within Standard
7.	Fecal Coliforms		4.6 mg/L	Within Standard
b) AMBIENT AIR:-				
1.	Near Main Gate Concentration in µg/Nm³	PM10	62.6	Within Standard
		PM2.5	22.7	Within Standard
		SO2	11.5	Within Standard
		NOx	10.5	Within Standard
2.	Near Coal Yard	PM10	65.2	Within Standard
		PM2.5	24.4	Within Standard
		SO2	11.2	Within Standard
		NOx	10.1	Within Standard
3.	Near Dispatch Gate	PM10	61.4	Within Standard
		PM2.5	22.0	Within Standard
		SO2	10.9	Within Standard
		NOx	10.0	Within Standard

4.	Near CPP plant	PM10	58.8	Within Standard
		PM2.5	20.2	Within Standard
		SO2	10.9	Within Standard
		NOx	10.0	Within Standard

*** The value represents arithmetic average of 12 months for the financial year 2019-2020.**

Stack Gas Quality for Particulate Matter

CEMENT PLANT & CPP:

S.No	POLLUTANTS	QUANTITY OF POLLUTANTS DISCHARGED (m3/H)-Flow	CONCENTRATIONS OF POLLUTANTS IN DISCHARGE (Mass/Vol.) (mg/Nm3)	PERCENTAGE OF VARIATION FROM PRESCRIBED STANDARDS WITH REASONS
1.	Crusher	34616.53	10	Within Standards
2.	Kiln/Raw mill	423353.23	22	
3.	Coal mill	94024.04	21	
4.	Cement mill	137151.85	20	
5.	Packing plant	11945.03	17	
6.	Clinker cooler	289435.48	21	
7.	CPP	136844.22	31	

*** The value represents arithmetic average of 12 months for the financial year 2019-20**

PART-D

Hazardous Wastes

[As specified under Hazardous Wastes (Management, Handling and Transboundary Movement) Rules, **2008 as Amended]**

Hazardous waste Generation	Total Quantity MT/KL/No's	
	During Previous Financial Year 2018-2019	During Current Financial Year 2019-2020
Waste oil / used oil	3.51KL (Reutilized for our machineries)	7.18KL (Reutilized for internal machineries)
Used Batteries	April-18 to Sept 18 (UPS Battery-05 NO's) i.e., 0.15 MT. Oct-18 to March-19 (Lead Acid Batteries-282 NO's & UPS:- 19 NO's) Total 301 NO's with total weight of 8.20 MT.	For the period Apr-19-Sep-19 - Nil For the period Oct – 19 to March 2020 – 248 Nos.

Name & Category of the waste	Qty received & Co-processed in MT
Hazardous waste(A)	
(20.3) Distillation Residue	19.935
(28.1) Organic/Process residue	5413.06
(28.2) Spent Catalyst	0.00
(28.3) Spent Carbon	19.050
(28.6) Spent Solvent	190.585
(29.1) Process Waste or residue	421.96
(35.3) Chemical Sludge from Waste water treatment	8.280
(36.1) Any Process or distillation Residue	22.540
(36.3) ETP Sludge	9.59
Subtotal (A) 6105.00 MT	
Non-Hazardous/Other waste	
Carbon Black / waste pneumatic and other tyres	3866.00
Subtotal (B)	**3866.00**
Grand Total A+B	**9971.00**

The Waste oil generated at different sections in the plant is collected in the hazardous waste oil platform especially made for the purpose. Waste oil so collected in the leak proof container (M.S.Barrels) is being sold to the authorized reprocesses/recyclers KM Oils Pvt Ltd, Kalaburagi if generated in huge quantity. The waste oil generated is also reutilized in our plant machineries if the quantity is very less. The details specifying the same is submitted via Form-IV to KSPCB vide our letter no **Ref: OCL/ENV/Sr-VP (Works)/19-20/F-240 dated 23/04/2020.**

New Batteries purchased from the dealers/agency during the period April-2019 to March-2020 has been submitted in Form VIII to Board on half yearly basis vide our letter no **OCL/ ENV/Sr.GM(Prod)/ 2019-20/172 Dated: 18.10.2019 & OCL/ ENV/Sr.GM(Prod)/ 2019-20/ 252 Dated: 07.05.2020 respectively.**

PART-E

Solid Wastes

Sl.No	Solid Waste	Total Quantity	
		During the Previous financial year 2018-2019	During the current financial year 2019-2020
1. (a)	From process (Fly ash from captive Thermal Power Plant)	Nil from Cement plant. #68947 MT from Power Plants	Nil from Cement plant. #59047 MT from Power Plants
(b)	Fly Ash from RTPS / NTPC/Kudgi/Raichur/Ramgondam/STPP	# 270022 MT	#275720 MT
2.	From pollution control facility	791.07 MT/Year Recycled in to the main process in cement plant	329.716 MT/Year Recycled in to the main process in cement plant
3.	Quantity recycled or reutilized Within the unit	**791.07 MT/Year** (In process, material recycled from Pollution control equipment like ESPs /Bag House /Bag filter).	**329.716 MT/Year** (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 , Kudgi , Raichur , Ramagondam & STPP.

PART-F

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

Hazardous waste:

All used Oil generated from the different sections of plant is being collected in closed drums, barrels and then stored at Hazardous waste storage platform that has been made as per Hazardous Waste (Management, Handling & Trans boundary Movement) Rule, 2008. These stored hazardous wastes **are being sold to authorized recycler within the stipulated time / utilised for the machineries.**

Solid waste:

- There is no solid waste generated during the process of cement manufacturing process.
- In process, materials are recycled from pollution control equipment like ESP and Bag filters.
- The total generated fly ash & bottom ash are utilized for the manufacturing of cement.
- Refractory bricks and Mild steel scrap generated is disposed to party for further use/ recycling.

PART-G

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

- Cement Production is being operated on dry process technology, which is cost effective and environmentally clean technology. The advantage of dry process is also in fuel economy. The stack emissions from the plant are controlled by equipment like Bag Houses, ESP's & Bag Filters installed at various material transfer points to arrest the fugitive emissions. The particulate matter collected in the pollution control equipment is recycled in process.
- All the raw materials are being stored in covered yard **by which reduction in fugitive emission is achieved**.
- The conveyor belts are fully covered **due to which fugitive emission is controlled.**
- Clinker and cement is being stored in silos due to which fugitive emission **is controlled**.
- Fogging system has been installed at Raw material handling area and conveyor belts for further reduction of fugitive emission.
- Water sprinkling for dust suppression on the road and other dust generation points in and around the plant is being done to control the fugitive emissions.
- Utilization of fly ash for the manufacturing of cement is being done to avoid landfilling of waste.
- Huge rain water harvesting pit of capacity 5.6 lakh cubic meter is developed in the plant for storing water during rainy season and utilization of the same is being done for plant, mines dust suppression, Gardening etc.
- Installed an STP of capacity 500 KLD in order to recycle or reuse the treated water for plantation purpose/Gardening Purpose etc.,

- Rainwater harvesting reservoir with a capacity 5,60,000m3 has been constructed at the plant area, for recharging ground and thereby reducing the consumption of surface water.
- Development of extensive green belt in and around the plant & Colony area to abate the pollution.

Modifications for the year 2019-20 for energy conservation and better Environment

Process

- Saving of 5 Kcal per Kg Clinker by applying special heat resistant paint on pre heater cyclones.
- Balancing of cooling air through optimization of cooler fans.
- Optimization of Kiln hood draft resulting in saving in cooler ESP fan power consumption.
- Operation of coal reclaimer in auto mode resulting in reduction of idle running of coal transport circuit.
- Reducing the purging pressure of coal mill and raw mill bag house.
- Optimization of bag filters.
- Optimization of raw mill-1 & 2 separator speed.
- Logic modification for additive reclaimer to avoid idle running.
- Logic modification of cement mill bag filter heaters, stopping when mill stops saving power.
- Installation of pneumatic valve in both cement mills compressed air line resulting in reduced air consumption.
- Modification in ammonia spray nozzles thus Reduction in ammonia molar consumption.
- Usage of alternative fuels in Kiln.
  - LAFR
  - Agro Waste
  - Plastic Waste
- Using Super Poly Diesel in place of HSD for Kiln Firing.

Electrical & Instrumentation:

- **Renewable energy:** Installed 3 KVA load of solar panels for CCTV in Scrap Yard, Mines Magazine building & Ammonium nitrate building.

Instrumentation: -

- Provision of additional metal detector at coal feeding belt in order to avoid coal dust nuisance at core area of the plant and to safe guard critical equipment of the plant.
- Isolation of kiln burner panel to minimise the downtime, problems and stores inventory for easy troubleshooting as well.
- Provision of LED display board at main gate to indicate AFR material details at main gate.
- Provision of LED display board at main gate and transport office for logistics.

- Installation of flow meters at cooling tower-1 and cooling tower-2 in order to monitor, control water usage and log the readings as well.
- Installation of draught transmitters at sixth cyclones feed pipes for early detection of cyclone jamming.
- Automation in water spray system for water filling at LS Crusher and Material handling sections to feed water in controlled way for to tanks with single pump.
- Automation of fire hydrant pumps (main and jockey) to ensure line pressure at all the times.
- Installation and commissioning of ammonia slip sensor to monitor ammonia wastage.
- Installation of RTD's and temperature indication at CCR for load centers and SCS rooms to monitor the room temperature remotely.

Power Plant:

- Installed 2 nos VFD drives for ACW pumps to reduce discharge pressure which gives the energy saving of 1080 kwh/day.
- Modified BFP Feed control valve with trim set to reduce pressure drop across the feed control valve which gives the energy saving of 840 Kwh/day.

Mechanical:-

Following Modifications were done towards betterment of Environment & reducing power consumption.

- Provided a screw conveyor for 482FN 632 discharge for CM-1 clinker hopper for dust handling.
- Installation of screw conveyor system in 482BF630 bag filter discharge for reducing cement mill-2 vibration/stoppages.
- Modification of belt conveyor discharge chutes in cement mill circuit to avoid material spillages.
- CM-1 we-feeder discharge chute modification to increase belt life & to reduce spillages.
- In-house fabrication and installation of stirrer system in grinding aid to increase the efficiency.
- Installation of external grinding aid system for reducing material handling cost.
- Preparation of hoppers for reusage of spilled material.
- Bag filter purging airline modification's to make air free leakages environment.
- Chute modification for controlling spillages.
- Installed extra scrapper for controlling spillages.
- We-feeder skirt board installation for controlling fugitive dust emission.
- Extra suction line installed for controlling fugitive dust emission.
- Modifications in water spray system to control dust at LS dump hopper.
- Installation of belt curtains at raw mill for controlling dust emission.

- Bags replacement of bag filters for proper suction of dust.
- Replacement of skirts at all discharge points.
- Replacement of scrappers of all conveyors.
- Installation of guide roller for controlling spillage & stoppages on belt sway.
- Fabrication and erection of fly ash safety platform for bulker unloading system.
- Safety platform provided in all bag filters for maintenance of solenoid valve pursing system.
- Refurbishment of cement mill-1 separator fan 531fn400 to increase life and reduce the power consumption.
- Replacement of cement mill-2 table liners with new design to reduce the mill stoppages due to bolt failure.
- Application of anti-stick coating in cement mill-2 baghouse hoppers to reduce the jamming/mill stoppages.
- Bulk loading integral bag filter (De-dusting) line modified in Packer N0-2&3 to reduced dust emission and power saving.
- Packer-1,2 & 4 tangential discharge belt and tangential inclined belt modified to increase the packer efficiency (reduced bag jamming)
- Packer-1,2,3,4 & 5 radial discharge belt modified to reduce bag brushing improve packer efficiency.
- Wagon loading spiral chute modified N0-1 to 20 no's to Improve wagon loading and reduced bag jamming.
- Wagon loading machine telescopic belt idler modified to reducing maintenance cost.
- Wagon loading Machine-2 & 12 telescopic belt modified to improve wagon loading height.
- Wagon loading machine intermediate belt modification to improve wagon loading height.
- Fabrication and erection of bulk loading safety platform for bulker loading system.

PART-H

Additional measures/investment proposal for energy conservation and better environment.

- Continuous efforts are always being made to maintain the environment clean and green by developing a Green Belt.
- Installation of WHRB to utilize Hot gases from Cooler & Preheater and produce Electricity of 14MW.
- Regularly we are monitoring ambient air quality, Noise level and stack along with water quality analysis.
- Constructing of internal good road inside the plant to reduce fugitive dust emission in Phase manner
- Scheduled maintenance and monitoring of all Air Pollution Control Device's (APCD'S) like Bag Filters and Bag House are being regularly undertaken to ensure their efficient operations in order to keep emissions level within the prescribed limit.
- Awareness programs like plantation activities, Slogan competition, drawing competition & Essay competition was organized for Employees & Families of Employees for awareness on environment protection on 5th June (World Environment Day) , Ozone day (16th Sep) & Earth day (22nd April)
- Actions are taken to utilize Hazardous wastes like Paint sludge, ETP Sludge & other alternate fuels like Carbon powder, tyre chips, plastic waste, agro waste ,MSW waste ,RDF waste etc. in Kiln.
- Green belt development and tree plantation is our on-going & continuous process. We are doing new plantation to increase the bio-diversity of the area.
- Total plant area is 266 Ha out of which plantation will be done in 33% area which is 88 Ha. Presently **174696 plants in 107Ha areas have been** planted surrounding Boundary Zone, of the total plant & Mines area.

Proposed modifications for the year 2020-21 for Energy Conservation and Better Environment:

Process:-

- Heat resistant paint to be done on Kiln & kiln hood area which will reduce the shell radiation.
- Installation of VFD in all bag filters.

Power plant:-

- To reduce the power consumption by optimization of ESP purge blower heater run hours based on temperature control.
- To reduce the power consumption by replacing Conventional lighting with LED Light fittings.

Mechanical:-

- Cement mill-1 & 2 bag house air purging line modification to make zero leakages.
- Cement mill-2 weigh feeder chutes modification for increasing belt life and reducing spillages
- All bag filter purging airline modifications to make air free leakages environment.
- Bag house hopper anti stick coating applied for reducing hopper jamming to increase mill running hour to avoid breakdown & spillages.
- Replacement of belt conveyors from HR grade to UHR to increase belt life and reducing fine power spillages.
- All bag filter purging airline modifications to make air free leakages environment.
- Installation of Belt trackers for controlling spillages.
- Fly ash platform structure fabrication and installation for jumbo bags unloading.
- Application of anti-stick coating in cement mill1 baghouse hoppers to reduce the jamming/mill stoppages.
- Wagon loading machine feed belt modified to improve wagon loading height.
- All pneumatic actuator modified to avoid failure of actuator.
- Packer-2 compressor air pipe line modified to reduce air consumption to make zero air leakages.
- Bulker loading spout rope limits modified to avoid rope failure.
- Packer-1 spillage hopper modified to avoid material jamming.
- Flap type sensor provided at diverter for Reducing of bag jamming.
- Truck loading machine TLM-1 limits provided to avoid failure of hydraulic cylinder.
- Bulker Air slide vent line modified to reduce emission and smooth running.
- Packer-2 bag house air purging line modification to make zero air leakages.
- Application of anti-stick coating in wagon loading spiral chute to reduce the jamming/ stoppages.
- Bags lifting system modified for increasing equipment life reducing stoppages and safety.
- Fabrication and erection of bulker door closing safety platform for improvement safety.
- Bulk loading system hopper adopter air slide modification to improve of efficiency.

Electrical & Instrumentation:

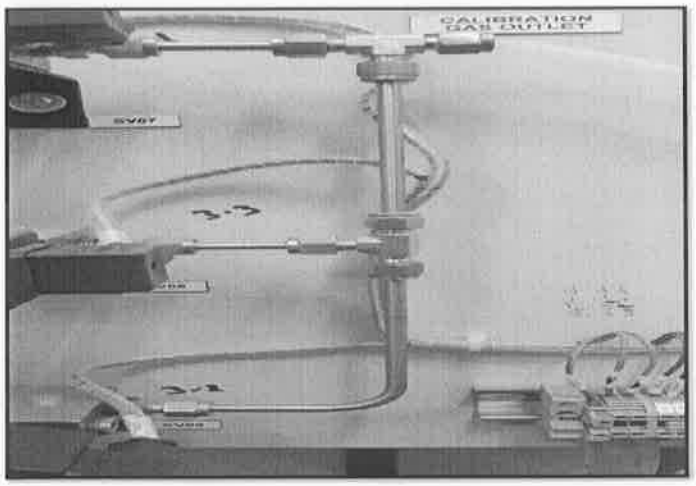
- Installation and commissioning of VFD for cooler area bag filter fan for power optimisation.
- Bypass water line arrangement for coal water spray system to minimise/avoid the down time of mill in case of flowmeter and control valve failures.

- Modification at coal bag house controller panel power distribution with MCB protection to protect the instruments, cards and easy troubleshooting as well.
- Provision of hardware input for local/remote signal at LS reclaimer for easy maintenance and operation.
- Installation of LED Tower lights-5 No's (7 KW) in Mines.
- Replacement of energy efficient Lamps(LED) in Place of HPSV/MH lamps Phase wise.
  - Replacing of 30W LED instead of 150W HPSV @ LS Tunnel.
  - Replacing of 30W LED instead of 70W HPSV @ LS Compressor Room.
  - Replacing of 60W LED instead of 150W HPSV @ Mines Office outside Area Lighting.
  - Replacing of 60W LED instead of 150W HPSV @ Mines Garage.
  - Replacing of 35W LED instead of 70W HPSV @ Truck loading area.
  - Replacing of 35W LED instead of 70W HPSV @ Packer area.
  - Replacing of 60W LED instead of 250W HPSV @ Mines weigh bridge Outside Area Lighting.
  - Replacing of 200W LED instead of 400W MH @ Mines high mast Lighting.

PART- I

Any other particular in respect of environmental protection and abatement of pollution

- Implementation of EMS including compliance of environmental laws through periodic Management Review & Internal/ external audits.
- Awareness promotion through various environmental competitions, workshops, presentations etc. on world environment day, Ozone day & Earth day.
- Improvement in Ambient Air Quality through effective control on fugitive dust emission.
- Extensive green belt surrounding the boundary & inside plant premises is being developed in a phase wise manner.
- Installation of Remote calibration facility for Gaseous parameter SO2 & NOx for stacks of CPP & Kiln.

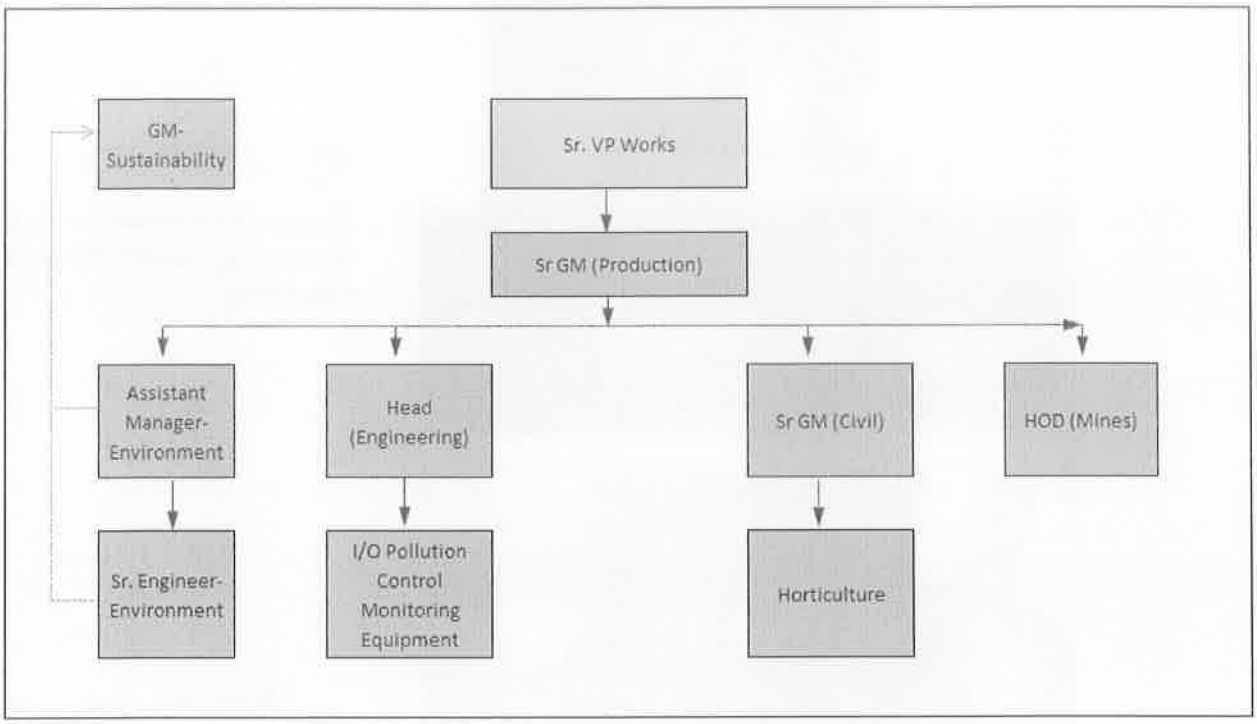


Remote calibration Setup

Continuous Ambient Air Quality Monitoring stations (04 No's Locations)

Installation of Continuous Stack emission monitoring stations for main stacks

Details of Environmental Cell



Miscellaneous

World Environment Day Celebrations -2019

Environmental Awareness:

World Environment Day 2019 was celebrated at M/s Orient Cement Ltd, Chittapur, from 5th June 2019 to 10th June-2019@ 10:00 AM. This year theme for World Environment day was: **"BEAT AIR POLLUTION," with a Slogan "We can't stop breathing, but we can do something about the quality of our air"** for which Environment Department along with staff of Orient Cement Ltd commenced an opening program at OCL Mines area with mass plantation of around 400 saplings.

Then from 6th June to 9th June-2019 , OCL Chittapur has conducted an awareness program, Quiz completion, Essay Competitions , Drawing competitions involving school children's of surrounding villages, workmen & OCL Staff. Saplings were distributed to Schools for plantation.

Finally on 10th June 2019,OCL Chittapur organized a closing ceremony program involving the Chief Guests from KSPCB ,Forest Department & Reputed Institution namely Mr.Venkatesh Shekar-SEO,Mr.Manjappa-EO from Pollution Control Board,Mr.Baburao Patil-Assistant Conservator of

Forest,Mr.Mujeebuddin-RFO Forest Department, Dr.S.R Mise & Dr.S.R Patil –Prof Environmnet Engg. Dept,PDA College of Engineering Kalaburagi. The programme was chaired by Shri. Satyabrata Sharma-Unit Head, Shri.Santosh Kumar Sharma-Sr.GM-Production & other delegates.

The Welcome Note along with World Environment Day Speech was addressed by Mr.Mallikarjun.S.D from Environment Department & then the Speech was addressed by Delegates from KSPCB & Forest Department with a concluding speech by our Unit Head Shri. Satyabrata Sharma in a thought provoking manner, which set a perfect platform for our colleagues who have gathered for WED celebration. The chair persons suggested few visions to be included to make remarkable changes in the environment to combat the Air pollution and also addressed the people to change their thoughts to change an environment. A prize distribution program was also carried out rewarding the inners, who have participated in the World Environmnet day Events (Quiz,Essay,Skit& drawing).

Later all the staff of OCL ,delegates from Pollution Control Board, Forest Department & Engineering College along with School Children's & Workers carried out a plantation programme at Raw Meal area, where 1000 No's of Honge,neem,pongemia,peepal,etc Saplings were planted.

Glimpses of World Environment Day-2019 celebrations at Orient Cement Ltd, Karnataka

Plantation Involving School Children at Raw Mill Area

Plantation Involving School Children at Raw Mill Area

Plantation by Assistant Conservator of Forest

Plantation Involving Pollution Control Board, Forest Dept official and OCL Staff

WED Celebration and Speech @ OCL Premises

WED Celebration and Speech @ OCL Premises

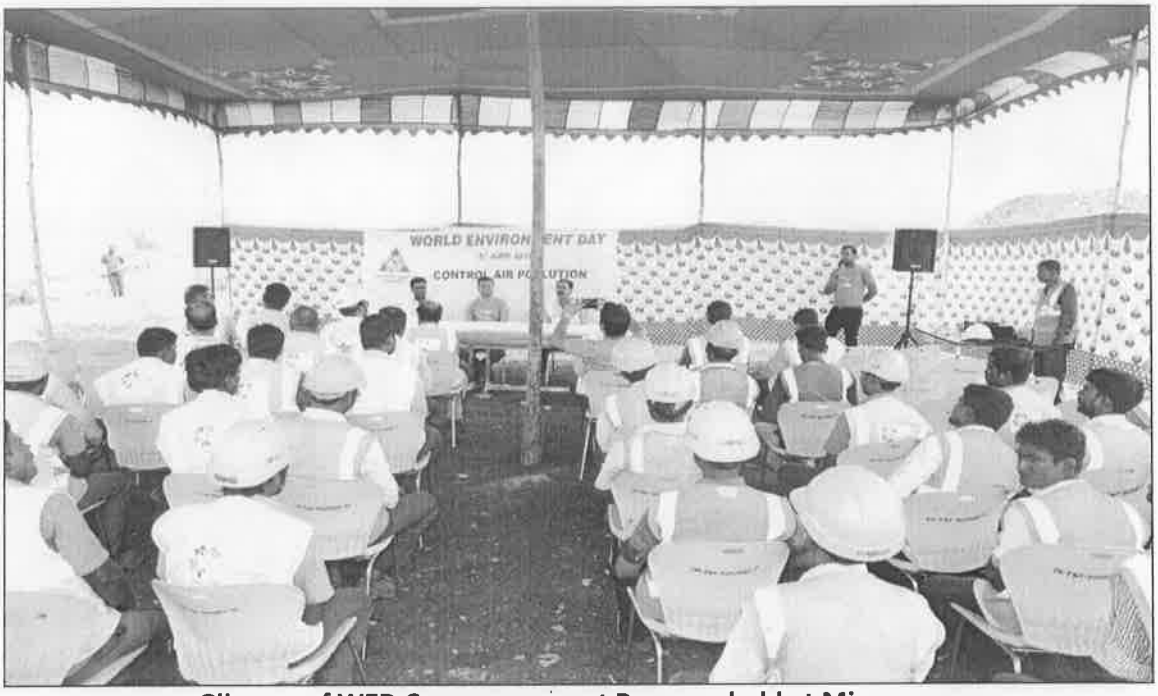
WED Celebration and Prize Distribution @ OCL Premises

Distribution of Saplings @ Govt School of Itga Village

Distribution of Saplings @ Govt School of Chittapur Village

Conducting Awareness Session at Chittapur Govt Girl's High School

Distribution of Saplings @ Govt School of Diggaon Village



Glimpse of WED Commencement Program held at Mines area

Plantation being carried out by our Unit Head Mr. Satyabrata Sharma

Plantation by Sr-GM Production- Santosh Kumar Sharma

Plantation by Sr.GM-Civil, Mr. Shivabasappa Nandyal

ಮಾಲಿನ್ಯ ನಿಯಂತ್ರಿಸಲು ಸಲಹೆ

ಪ್ರಜಾವಾಣಿ ವಾರ್ತೆ

ಚಿತ್ತಾಪುರ ತಾಲ್ಲೂಕಿನ ಓರಿಯಂಟ್ ಸಿಮೆಂಟ್ ಕಂಪನಿಯಲ್ಲಿ ಸೋಮವಾರ ವಿಶ್ವ ಪರಿಸರ ದಿನಾಚರಣೆ ಕಾರ್ಯಕ್ರಮದಲ್ಲಿ ಕರ್ನಾಟಕ ಮಾಲಿನ್ಯ ನಿಯಂತ್ರಣ ಮಂಡಳಿಯ ಎಸ್.ವೆಂಕಟೇಶ ಕೆಜ್ಜುರ್ ಮಾತನಾಡಿದರು

ಚಿತ್ತಾಪುರ: 'ಜಾಗತಿಕ ತಾಪಮಾನ ಏರುಗತಿಯಲ್ಲಿ ಸಾಗುತ್ತಿದೆ. ಪರಿಸರ ಮಾಲಿನ್ಯ ಹೆಚ್ಚುತ್ತಿದೆ. ಕೈಗಾರಿಕೆಗಳು ಪರಿಸರ ಮಾಲಿನ್ಯ ನಿಯಂತ್ರಣಕ್ಕೆ ಹೆಚ್ಚಿನ ಒತ್ತು ನೀಡಬೇಕು' ಎಂದು ಕರ್ನಾಟಕ ಮಾಲಿನ್ಯ ನಿಯಂತ್ರಣ ಮಂಡಳಿ ವಲಯ ಕಚೇರಿಯ ಹಿರಿಯ ಅಧಿಕಾರಿ ಎಸ್. ವೆಂಕಟೇಶ ಕೆಜ್ಜುರ್ ಅವರು ಹೇಳಿದರು.

ತಾಲ್ಲೂಕಿನ ಇಟಗಾ ಗ್ರಾಮದ ಹತ್ತಿರದ ಓರಿಯಂಟ್ ಸಿಮೆಂಟ್ ಕಂಪನಿಯಲ್ಲಿ ಸೋಮವಾರ ವಿಶ್ವ ಪರಿಸರ ದಿನಾಚರಣೆಯ ಸಮಾರಂಭದಲ್ಲಿ ಮುಖ್ಯ ಅತಿಥಿಯಾಗಿ ಅವರು ಮಾತನಾಡಿದರು. 'ಯುರೋಪ್ ಮತ್ತು ಪಾಶ್ಚಿಮಾತ್ಯ ದೇಶಗಳಲ್ಲಿ ಪರಿಸರ ಸಂರಕ್ಷಣೆಗೆ ಹೆಚ್ಚಿನ ಆದ್ಯತೆ ನೀಡಲಾಗಿದೆ. ಆದರೆ, ಇಲ್ಲಿ ಅದಕ್ಕೆ ತದ್ವಿರುದ್ಧ ವಾತಾವರಣ ಇದೆ. ಒಂದೆ ಕಾಲದಲ್ಲಿ ಹಸಿರಿನ ದೇಶ ಎನಿಸಿಕೊಂಡ ಭಾರತ ಇಂದು ಹಸಿರು ಮಾಯವಾಗಿ ಪರಿಸರ ಮಾಲಿನ್ಯದಿಂದ ನರಳುತ್ತಿದೆ' ಎಂದು ಅವರು ಬೇಸರ ವ್ಯಕ್ತ ಮಾಡಿದರು.

ಕಂಪನಿಯ ಘಟಕದ ಮುಖ್ಯಸ್ಥ ಸತ್ಯವ್ರತ ಕುಮಾರ್, ವಲಯ ಅರಣ್ಯಾಧಿಕಾರಿ ಮುಜೀಬುದ್ದೀನ್, ಕಂಪನಿಯ ಜನರಲ್ ಮ್ಯಾನೇಜರ್ ಶಿವಾನಂದ ಪಾಟೀಲ್ ಅವರು ಮಾತನಾಡಿದರು.

ಕಾರ್ಯಕ್ರಮದಲ್ಲಿ ಪರಿಸರ ಮಾಲಿನ್ಯ ನಿಯಂತ್ರಣ ಮಂಡಳಿಯ ಕಾರ್ಯನಿರ್ವಾಹಕ ಅಧಿಕಾರಿ ಮಂಜಪ್ಪ, ಅರಣ್ಯ ಇಲಾಖೆಯ ಬಾಬುರಾವ್ ಪಾಟೀಲ್, ಕಲಬುರ್ಗಿ ಪಿಡಿಎ ಎಂಜಿನಿಯರಿಂಗ್ ಕಾಲೇಜಿನ ಪ್ರೊ.ಡಾ.ಎಸ್.ಆರ್ ಮ್ಯಾಗೇರಿ, ಡಾ.ಎಸ್.ಬಿ ಪಾಟೀಲ್, ಕಂಪನಿಯ ಹಿರಿಯ ಜನರಲ್ ಮ್ಯಾನೇಜರ್ ಸಂತೋಷಕುಮಾರ ಕುಮಾರ್, ಮಲ್ಲಿಕಾರ್ಜುನ ಜೋಗಿ ಅತಿಥಿಗಳಾಗಿದ್ದರು.

ಬಹುಮಾನ ವಿತರಣೆ: ಪರಿಸರ ಮಾಲಿನ್ಯ ನಿಯಂತ್ರಣ ಮತ್ತು ಸಂರಕ್ಷಣೆ ಕುರಿತು ಕಂಪನಿಯ ವಿವಿಧ ವಿಭಾಗಗಳ ಅಧಿಕಾರಿ, ಸಿಬ್ಬಂದಿ, ಕಾರ್ಮಿಕರು ಹಾಗೂ ಕಂಪನಿಯ ಶಾಲೆ, ಇಟಗಾ, ದಿಗ್ಗಾಂವ, ಚಿತ್ತಾಪುರದ ಸರ್ಕಾರಿ ಪ್ರಾಥಮಿಕ ಪ್ರೌಢ ಶಾಲೆಯ ವಿದ್ಯಾರ್ಥಿಗಳಿಗಾಗಿ ಆಯೋಜಿಸಿದ್ದ ಕನ್ನಡ ಮತ್ತು ಆಂಗ್ಲ ಮಾಧ್ಯಮದಲ್ಲಿ ಪ್ರಬಂಧ ಸ್ಪರ್ಧೆ ಮತ್ತು ಘೋಷವಾಕ್ಯ ರಚನೆ ಸ್ಪರ್ಧೆಗಳಲ್ಲಿ ವಿಜೇತರಾದವರಿಗೆ ಬಹುಮಾನ ನೀಡಲಾಯಿತು.

AMBIENT NOISE LEVEL (PLANT) [Leq Value in dB(A)] FY-2019-20

Particular	Tolerance Limit dB(A) in day time	Actual Avg Values Max dB(A) Day Time
Near Power Plant	75	**67.2**
Near Coal Yard	75	**64.7**
Near Water Reservoir	75	**63.1**
Near Main Gate	75	**63.5**

Particular	Tolerance Limit dB(A) in Night time	Actual Avg Values Max dB(A) Night Time
Near Power Plant	70	**62.2**
Near Coal Yard	70	**58.3**
Near Water Reservoir	70	**60.0**
Near Main Gate	70	**61.4**

Details of Pollution Control Measures installed at various location

S. No.	Location of PCM	PCM
1	Lime stone crusher	Water Sprinkling at Hopper & Bag Filter
2	Additives crusher	Bag Filter
3	Coal crusher	Bag Filter
4	Raw Mill	Bag House
5	KILN	
6	Cooler	ESP
7	Coal Mill	Bag Filter
8	Cement Mill-1	Bag Filter
9	Cement Mill-2	
10	Captive Power Plant	ESP
11	Stacker	Water Sprinkling and Covered
12	Clinker Silo	Bag Filter
13	Fine Coal bin Silo	Bag Filter
14	Raw Meal Silo	Bag Filter
15	Cement Silo (4 no's)	Bag Filter
16	Fly ash Silo	Bag Filter
17	Packing House (5 no's of Packers)	Bag Filter
18	All transferring points of raw material handling and product.	Bag Filter
19	Sewage treatment plant for domestic sewage	Sewage treatment plant (500 KLD)
20	Green belt development in the premises	Green belt development

Statement Showing Power Consumption Plant for the Year April-2019 to Mar-2020

MONTH	POWER CONSUMPTION (KWh)
	KPTCL/CPP/ Renewable energy
Apr-19	13512916
May-19	14460825
June-19	7921262
July -19	11780517
Aug-19	10010725
Sept-19	9489523
Oct-19	9472420
Nov-19	10193778
Dec-19	14837500
Jan-20	12353617
Feb-20	14459504
Mar-20	11628440
TOTAL	**140121027**

Statement Showing Power Consumption Mines for the Year April-2019 to Mar-2020

MONTH	POWER CONSUMPTION ((KWh))
	KPTCL/CPP/Renewable energy
Apr-19	397424
May-19	476831
June-19	160734
July -19	402527
Aug-19	256167
Sept-19	274925
Oct-19	332964
Nov-19	300719
Dec-19	493233
Jan-20	332202
Feb-20	433169
Mar-20	347764
TOTAL	**4208658**

Year wise plantation details carried at Orient Cement Ltd

The Details of Tree Plantation in Orient Cement Factory and Mines area from 2013-14 to 2019-2020 and Percentage of Survival

Year	Factory	Mines	Surrounding Plant Area(Labours colony, Staff Colony, Colony Road Side, School, Main Gate Front Area)	Total	Survival % Age
2013-2014	25000	-	-	25000	50%
2014-2015	25000	-	-	25000	50%
2015-2016	30000	1220	-	31220	70%
2016-2017	49000	4780	-	53780	66%
2017-2018	21266	3159		24425	75%
2018-2019	13631	3963	15233	32827	80%
2019-2020	10799	4279	24446	39524	80%
Total:	**174696**	**17401**	**39679**	**231776**	**67%**

Total plant area: 266 Ha.
Total GBD to be developed: 33%of plant area = 87.78 Ha. (To be developed in five years)
Total area of Green Belt Development in factory & Colony: 140 Ha with survival rate of 67 %. (Until March 2020)
Total Area of Green Belt Developed in FY 2018-2019: 26 Ha.
Total area planned during current FY-2019-20: 35Ha.

Types of Species planted:

Pongemia, Badam, Thaspesia, Sisha Piniya, Acacia, Neem, Tamarind, Honge trees, Eucalyptus, Ashok, Peeple tree, Hercules fermc, Gilmore tree, Subabul tree, Hatti tree, Conocarpus (Dubai Tree) Feltoform, Bamboo, matti, alstonia, keshiaseema, keshiya-java, mango, kaala jamun, alma, guava, caesalpinia, and Others.




Green Belt Development inside the plant premise

Green Belt Development inside the plant premise

Greenery Development surrounding the reservoir inside the plant premise

DETAILS OF EPM EXPENDITURE

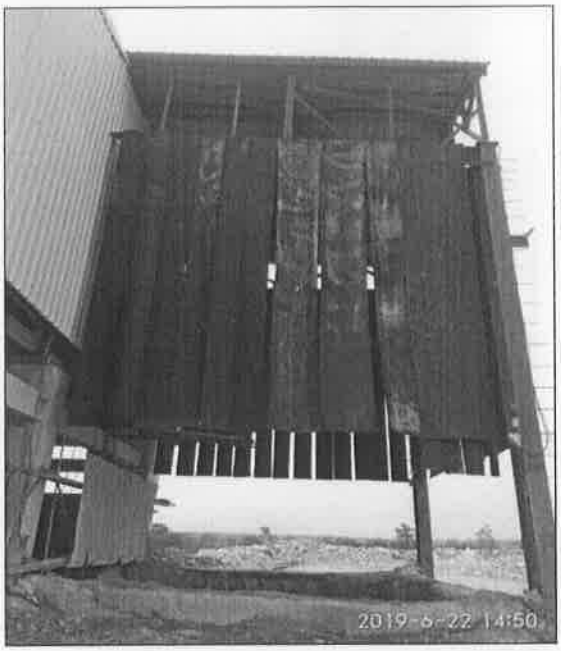
ASSET DESCRIPTION	Amount	Amount in Lakhs
DUST SUPRESSION SYSTEM	43,58,474	43.58
BAG FILTER & ESP FOR STACKS	33,54,39,089	3,354.39
CPP - RCC CHIMEY	2,87,14,293	287.14
WATER RESERVOIR	25,87,57,199	2,587.57
WATER TREATMENT PLANT	12,85,41,299	1,285.41
SEWAGE TREATMENT PLANT	7,28,00,825	728.01
ROAD & DRAIN	50,14,63,605	5,014.64
GREEN BELT DEVELOPMENT	53,48,720	53.49
FLY ASH SILO & HANDLING SYSTEM	12,89,16,613	1,289.17
EFFLUENT TREATMENT PLANT & DM PLANT IN CPP	3,60,66,506	360.67
CPP - ELECTROSTATIC PRECIPITATOR	10,77,18,110	1,077.18
CPP ASH HANDLING SYSTEM	3,98,25,799	398.26
COMPLETE BURNER ASSEMBLY	1,17,15,390	117.15
AMBIENT AIR QUALITY MONITORING	2,20,13,783	220.14
SNCR FOR NOX REDUCTION	3,03,21,259	303.21
AMMONIA SLIP SENSOR STACK APPLICATION	17,80,000	17.80
MEDIA CONVERT - LIQUID AFR SYSTEM	2,54,471	2.54
NEUTRON SURVEY METER	4,25,000	4.25
UT PUMP	13,03,410	13.03
WASTE SEGREGATION YARD	4,55,406	4.55
SHREDDER FOR AGRO WASTE AFR	3,47,913	3.48
BUCKET ELEV,FEEDING ARRG & SHED FOR AGRO	18,89,931	18.90
TOTAL	**1,71,84,57,096**	**17,185**

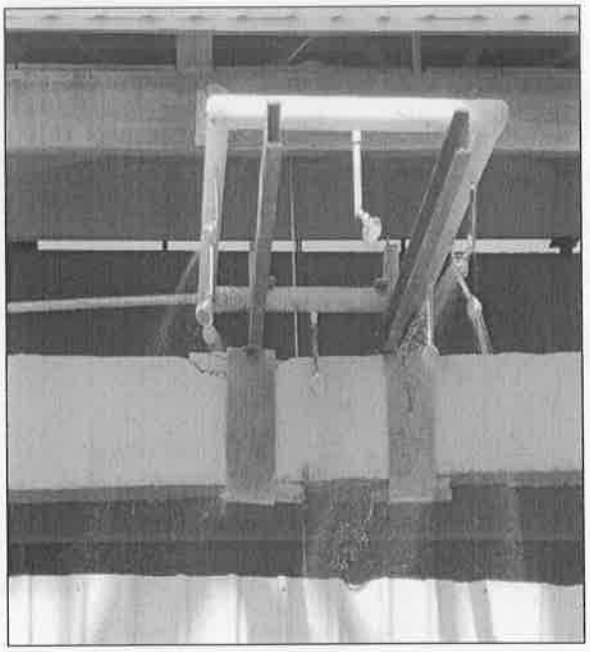
CSR-R&R Activities carried out FY 2019-20

Sno	Nature of expenses	Amount (Rs. In Lakh)
1	Itga road P&L random rubble stone pitching	74,71,022
2	Contribution for shree Basaveshwar jatra @ Itaga	25,000
3	Contribution towards Dr. B R Ambedkar celebration	10,000
4	Hiring of 12 kl water tanker (Itaga, Diggaon)	4,79,548
5	Hiring of 12 kl water tanker (Itaga, diggaon)	4,79,907
6	Dispensary expenses April to Sept'2019	16,70,551

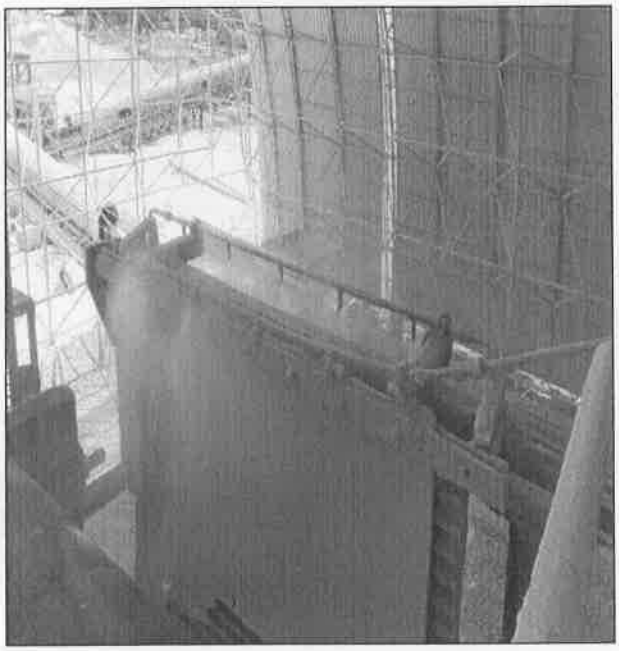
7	School 1st floor	2,28,56,550
8	Smart classroom for school	14,77,012
9	Dispensary boundary wall	22,93,018
10	Bottled water dispenser 2.5l	12,400
11	Contribution to 85TH Kannada Sahitya Sammelana	3,00,000
12	Water Tanker - Hire 12 KL for Supply to Itaga & Diggaon Village	5,25,380
13	Dispensary - Ambulance Expense FY 2019-20	4,37,473
14	Dispensary - Salary & Medicine Exp FY 2019-20	12,52,969
15	Dispensary Tools : SCOOP STRECHER	10,250
16	School - Running Expenses FY 19-20	39,13,831
17	School - COVERING SHED	94,103
18	School - CSR (School Covering Shed)	2,92,808
19	School - ITECH SCHOOL SOLUTIONS	2,00,000
20	School - CSR (Scholl Godrej Matrix Safe)	98,741
21	CSR FOR PROJECTOR INSTALATION CHR (SCHOOL)	10,000
22	Synthetic Mat for Chittapur Badminton court	2,09,340
23	Wall Painting of Aganwadi's - 8 School, PROVIDING SHISHU AHAR, Agricultural Activities, Swacchata Abhiyana, FASHION DESIGNING, UNIFORM, MEMORY GAMES ETC. TO KIDS, Health Check UP Programme, EDUCATION PROGRAMME - Akruti Trust	23,36,937
24	ADVT CHRS FOR INNAGURATION OF GULBARGA AIRPORT	31,500
25	FIRE NOC CHALLAN FOR SCHOOL	20,000
26	Supply and fixing of granite 18mm thk, Number Plate, Letter writing	66,605
27	Contribution Towards Karnataka Rajyotsava	10,000
28	Contribution Towards Sevalal Jayanthi	25,000
	Total	**4,66,09,945**

Initiatives on Environment

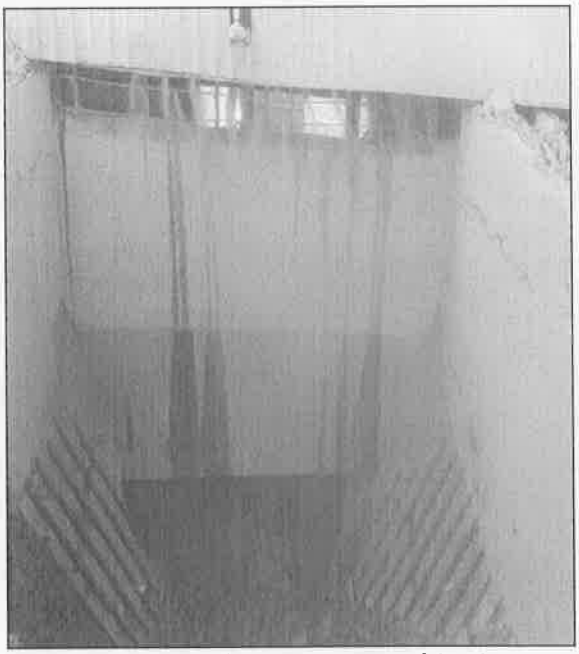




Water sprinkling & rubber Curtains @ Limestone Hopper

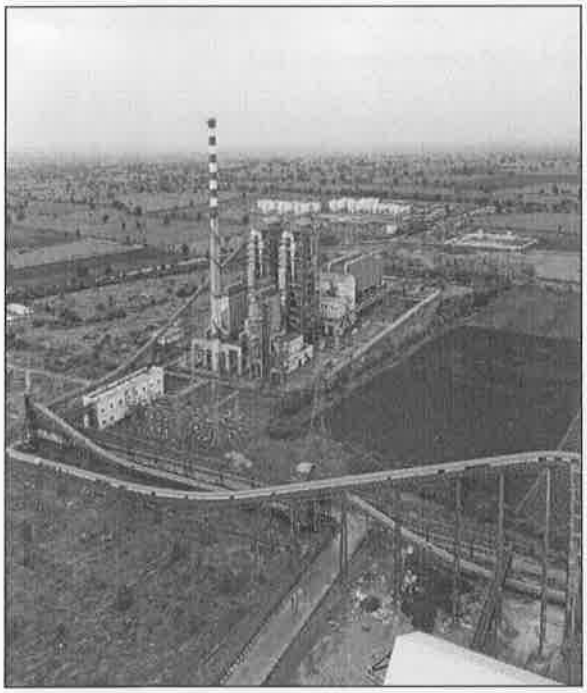


Fogging System on Belt Conveyors

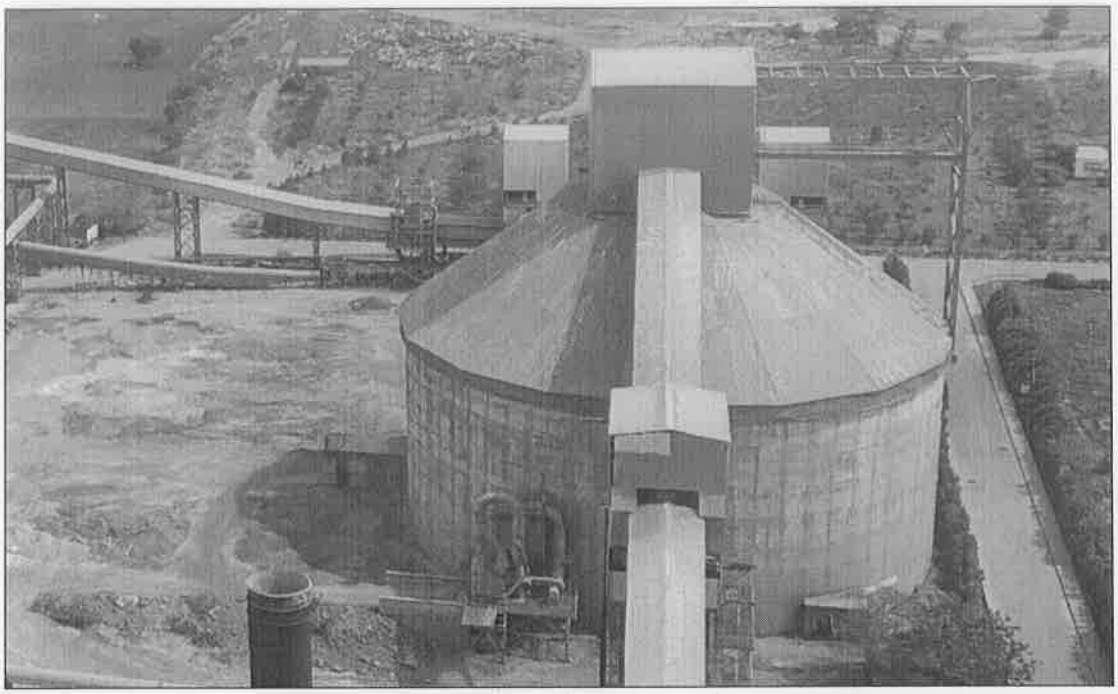


Water Sprinkling (Fogging system) in Limestone Hopper

Concrete road inside the plant to avoid fugitive dust



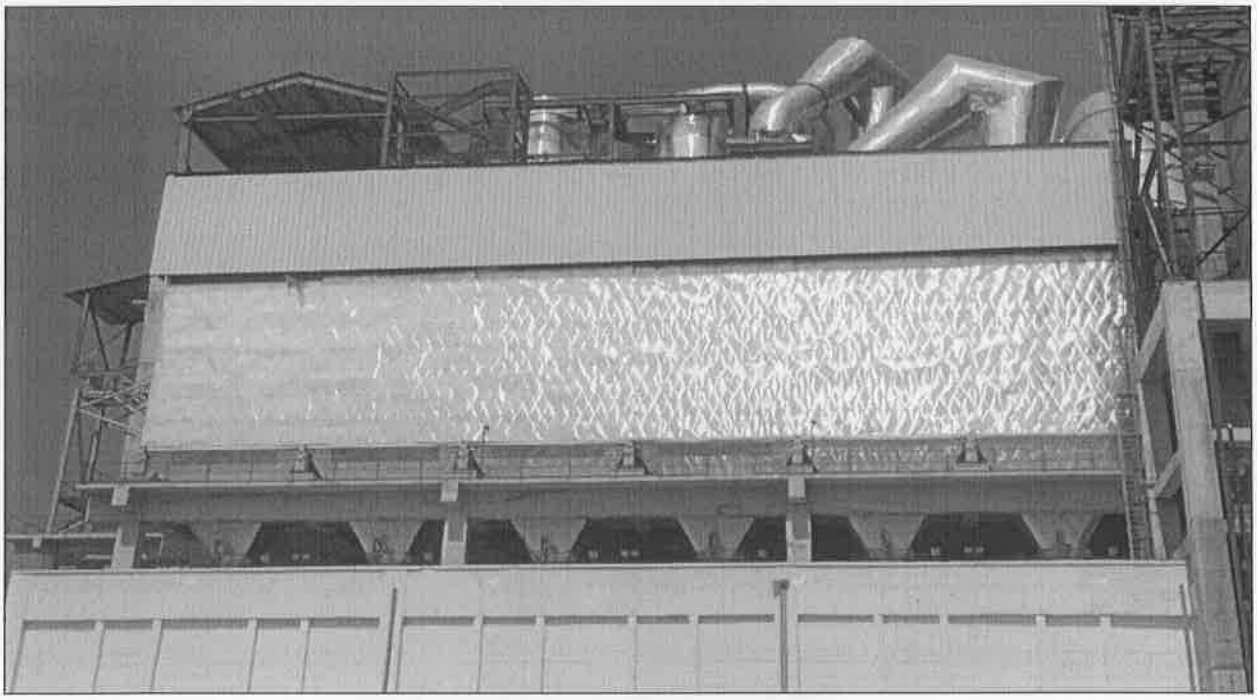
Belt Conveyors are fully covered



Clinker Silo is fully covered

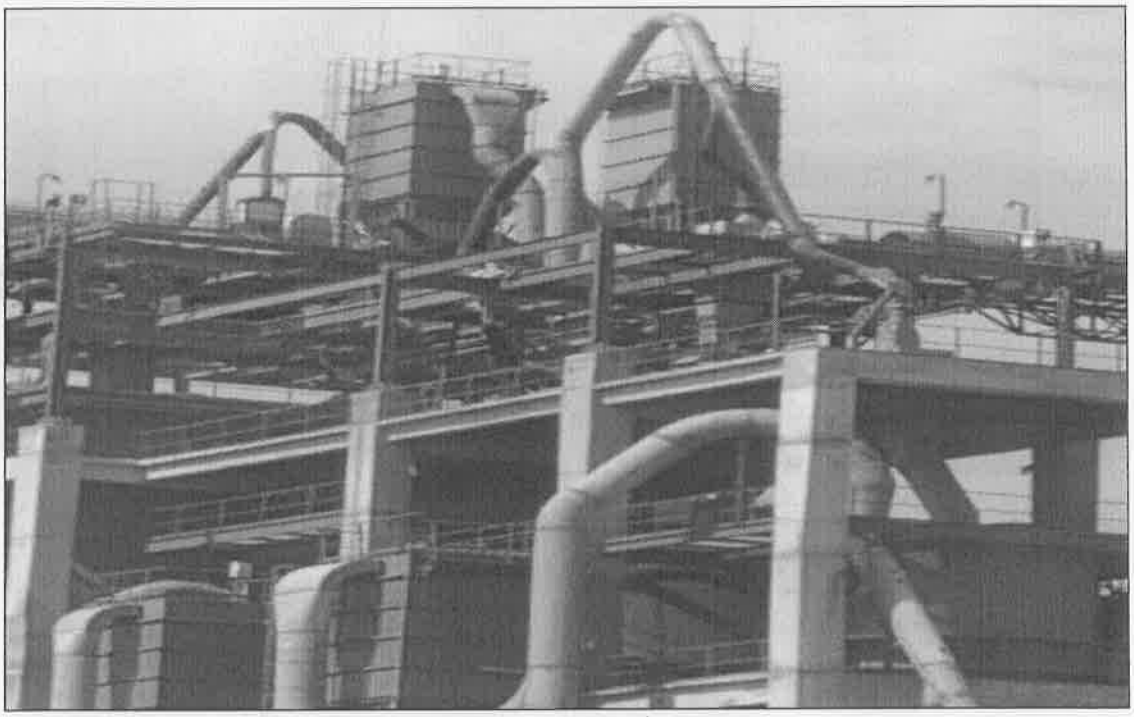
Covered Shed for Raw Material storage

Raw materials Storage Yard are covered



Bag House for Kiln & Raw Mill

ESP for Cooler and CPP



Bag Filters at all transfer points

Water Storage Reservoir & Rainwater Harvesting

WTP & STP

CK BIRLA GROUP

ORIENT CEMENT

ENVIRONMENTAL STATEMENT REPORT

FOR

MINES
(FORM-V)

[YEAR 2019 - 2020]

REPORT BY

ORIENT CEMENT

(Orient Cement Ltd.)

Captive Limestone, Clinkerisation,

Cement Unit & Captive Power Plant

Itga (V), Chittapur (Tq)
Gulbarga - 585211

CONTENTS

Prologue

Orient Cement is a Green Field project by CK Birla Group and EHS 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. Orient Cement has adopted corporate policy along with EHS 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, Orient Cement has prepared the Environmental Statement Report; this report is furnished in Form-V & along with the data for Environmental components like Air, Water, & Noise for the period of **April-2019 to March-2020**.

1.1 INTRODUCTION

Man is a part of nature, and not separate or independent; at the same time, man is unique in the influence he has over nature. Man derives all his food, clothing, shelter, and other amenities from nature. In that process, if he does not take care to protect and cherish nature, but decrease or destroys, he will find that his own life and that of his children is in jeopardy.

The environment, a word as it stands today is not simple; it is not a fashionable word, but has got established definitions incorporates limitless complexities, bear definite power to put everybody under a flood of worries and pushes us to plan for betterment with minimum problems. The environment is now catching for all, the industry, the government, the people. Hence, it is joint responsibility to protect, preserve the environment and avoid perishing the natural treasures. At this critical junction of time and efforts, the Indian industry has fulfilled its commitment in maintaining the environmental integrity.

Orient Cement Limited considers itself responsible for Environment and Society. We are committed to emission reduction, climate protection, effective energy management, responsible use of resources and its conservation keeping in mind that **"Today's Need – Future of Our Children"**.

The next few pages of this Environment Statement Report (ESR) of Orient Cement Limited is based on actual data and verified record, will present a picture of more optimism for environmental care than ever before.

Orient Cement Ltd: is situated at Itga Village, Chittapur Taluk, Gulbarga District: which is about 50 Km from Gulbarga. It started its commercial operation in the year 2015. Presently factory is operating with one Kiln of capacity 6000 TPD & 50MW Power Plant. The Company is manufacturing Ordinary Portland Cement (OPC) & Pozzolana Portland Cement (PPC).

M/s Orient Cement Ltd is operating limestone mine at Itga (V), Chittapur Taluk and Gulbarga District as captive mines with limestone production of 3.0 Million tonnes per Annum for their Cement manufacturing at factory , which is about 02 Km from Mines. The project site is located between latitude and longitude of the mine lease area 17^0 6' 34.87'' - 17^0 8' 13.86'' N and 77^0 7'

35.65'' - 77^0 9' 35.41'' E. This mine is being operated using mechanized open cast method with heavy equipment like hydraulic excavators, dozers and dumpers.

The policy for the abatement of pollution by the government of India provides for submission of environment statement by all the industries. Environmental Statement is therefore an output of Environmental Audit.

So an effort has been made in this report to explain Environmental Statement for the financial year 2019-2020 ended 31st March 2020 as per Government of India notification GSR 329 (E), dated 13th March 1992 and amendment to Environmental (Protection) Rules 1986 and subsequent amendment there on.

1.2 METHOD OF MINING:

We are operating mines in eco-friendly way for sustainable development of environment. The mines are operated by open-cast mechanized method of working where deep hole drilling and blasting and deployment of HEMM are used.

Separate Benches are made in overburden & Limestone to avoid contamination. In limestone further five benches formed based on grade/Quality of limestone. ROM quality is maintained with the help of online X-belt Gamma rays analyzer. All the stone mined is being utilized for cement manufacturing.

1.3 ENVIRONMENT MANAGEMENT:

Top soil management:

We are stacking top soil of black cotton at designated places at stable ground so called BC soil dump. The reason for stacking is to preserve the top soil for plantation and land fertilization for natural condition. BC soil dump is maintained in specified gradient manner. Some of the top soil removed is used for plantation purpose in mines area and also in our plant area.

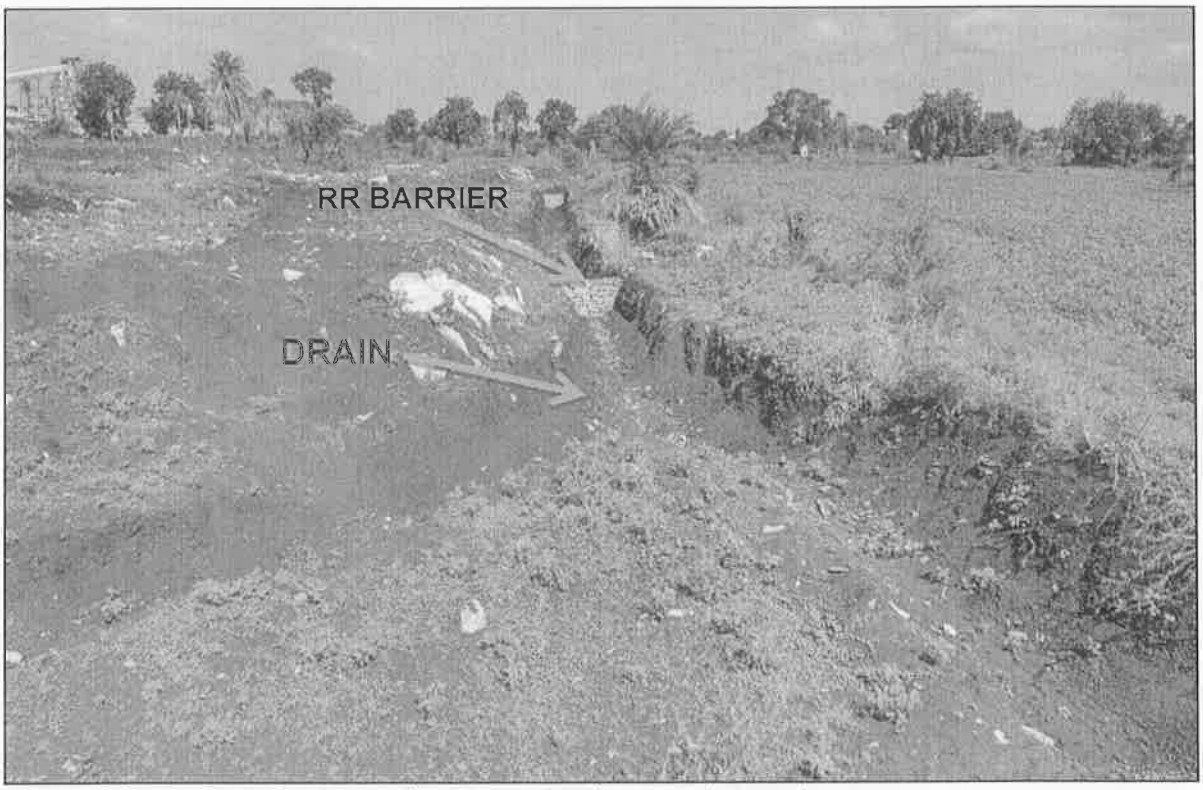
BC Soil Dump with Protection Wall

BC Soil Utilised For Plantation

Bund along the Village and Mining Lease Boundary

Terrace Dump with Toe Wall Protection

Garland Drain along the Dump Toe Wall with Random Rubble Barriers



Garland Drain along the Dump Toe Wall with Random Rubble Barriers

AIR QUALITY MANAGEMENT:

- Wet drilling arrangement and dust extractor system provided in drilling machine.
- Bag filter is provided at crusher to collect dust.
- Conveyor belts are totally covered with metal hood.
- Water spray is being done in hopper & on conveyor belts.

WATER QUALITY MANAGEMENT:

We are using mines pit water for dust suppression and drilling operation along the mines working area and haulage roads involved in transportation of limestone to crusher. We also use the pit water for planation purpose. We engaged a water tanker for plantation and also for dust suppression.

Monitoring Locations of Ground water Level:

Sl.No	Location Name	Water Level in (m-BGL)
1	Itga Village	11.66
2	Moghla Village	14.67
3	Diggaon Village	10.37
4	Chittapur Village	4.55

AFFORESTATION:

FY 2019-20 trees planted are 4279. Types of species are Gulmohar, Filta pam, Acacia, Neem, tamarind, Ashok, People tree, Dubai Conocurpus (dubai Tree), Honge trees, Bougain villa, Badam, Thespesia populmea, Sankeswar, Peltoform, Neem, Nelli, Shubham trees, Alstonia scholaris, Pongamia pinnata.

Areas of trees planted are as follows

a) Nalla safety zone.
b) Main road.
c) Near weight bridge.
d) Office front and backside.
e) Main road near soil dump gap filling
f) Near view point.
g) Near road 7.5 m safety zone.
h) Near mine crusher road and weigh bridge road.
i) Near village safety zone.

The Details of Tree Plantation in Orient Cement Factory and Mines area from 2013-14 to 2019-2020 and Percentage of Survival

Year	Factory	Mines	Surrounding Plant Area (Labours colony, Staff Colony, Colony Road Side, School, Main Gate Front Area)	Total	Survival % Age
2013-2014	25000	-	-	25000	50%
2014-2015	25000	-	-	25000	50%
2015-2016	30000	1220	-	31220	70%
2016-2017	49000	4780	-	53780	66%
2017-2018	21266	3159	-	24425	75%
2018-2019	13631	3963	15233	32827	80%
2019-2020	10799	4279	24446	39524	80%
Total:	**174696**	**17401**	**39679**	**231776**	**67%**

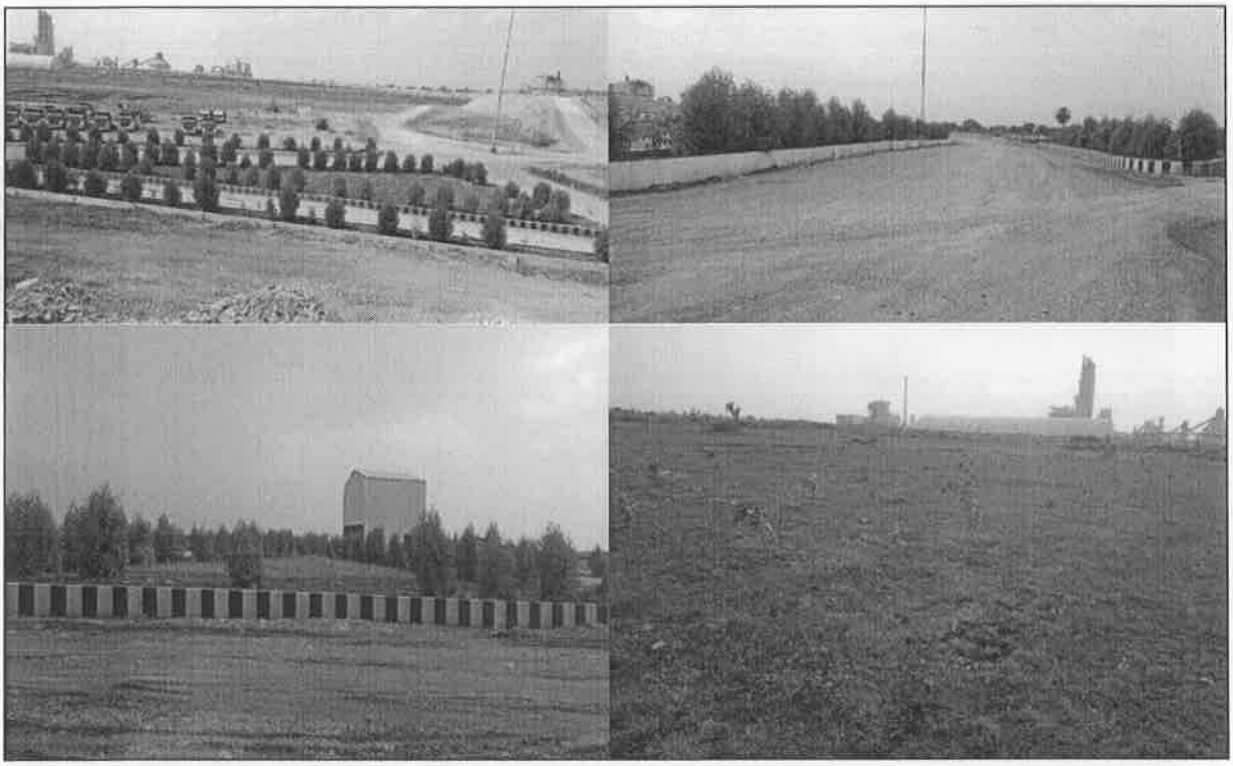
DETAILS OF EPM EXPENDITURE

ASSET DESCRIPTION	Amount	Amount in Lakhs
DUST SUPRESSION SYSTEM	43,58,474	43.58
BAG FILTER & ESP FOR STACKS	33,54,39,089	3,354.39
CPP - RCC CHIMNEY	2,87,14,293	287.14
WATER RESERVOIR	25,87,57,199	2,587.57
WATER TREATMENT PLANT	12,85,41,299	1,285.41
SEWAGE TREATMENT PLANT	7,28,00,825	728.01
ROAD & DRAIN	50,14,63,605	5,014.64
GREEN BELT DEVELOPMENT	53,48,720	53.49
FLY ASH SILO & HANDLING SYSTEM	12,89,16,613	1,289.17
EFFLUENT TREATMENT PLANT & DM PLANT IN CPP	3,60,66,506	360.67
CPP - ELECTROSTATIC PRECIPITATOR	10,77,18,110	1,077.18
CPP ASH HANDLING SYSTEM	3,98,25,799	398.26
COMPLETE BURNER ASSEMBLY	1,17,15,390	117.15
AMBIENT AIR QUALITY MONITORING	2,20,13,783	220.14
SNCR FOR NOX REDUCTION	3,03,21,259	303.21
AMMONIA SLIP SENSOR STACK APPLICATION	17,80,000	17.80
MEDIA CONVERT - LIQUID AFR SYSTEM	2,54,471	2.54
NEUTRON SURVEY METER	4,25,000	4.25
UT PUMP	13,03,410	13.03
WASTE SEGREGATION YARD	4,55,406	4.55
SHREDDER FOR AGRO WASTE AFR	3,47,913	3.48
BUCKET ELEV,FEEDING ARRG & SHED FOR AGRO	18,89,931	18.90
TOTAL	**1,71,84,57,096**	**17,185.00**

CSR - R&R Activities carried out FY 2019-20

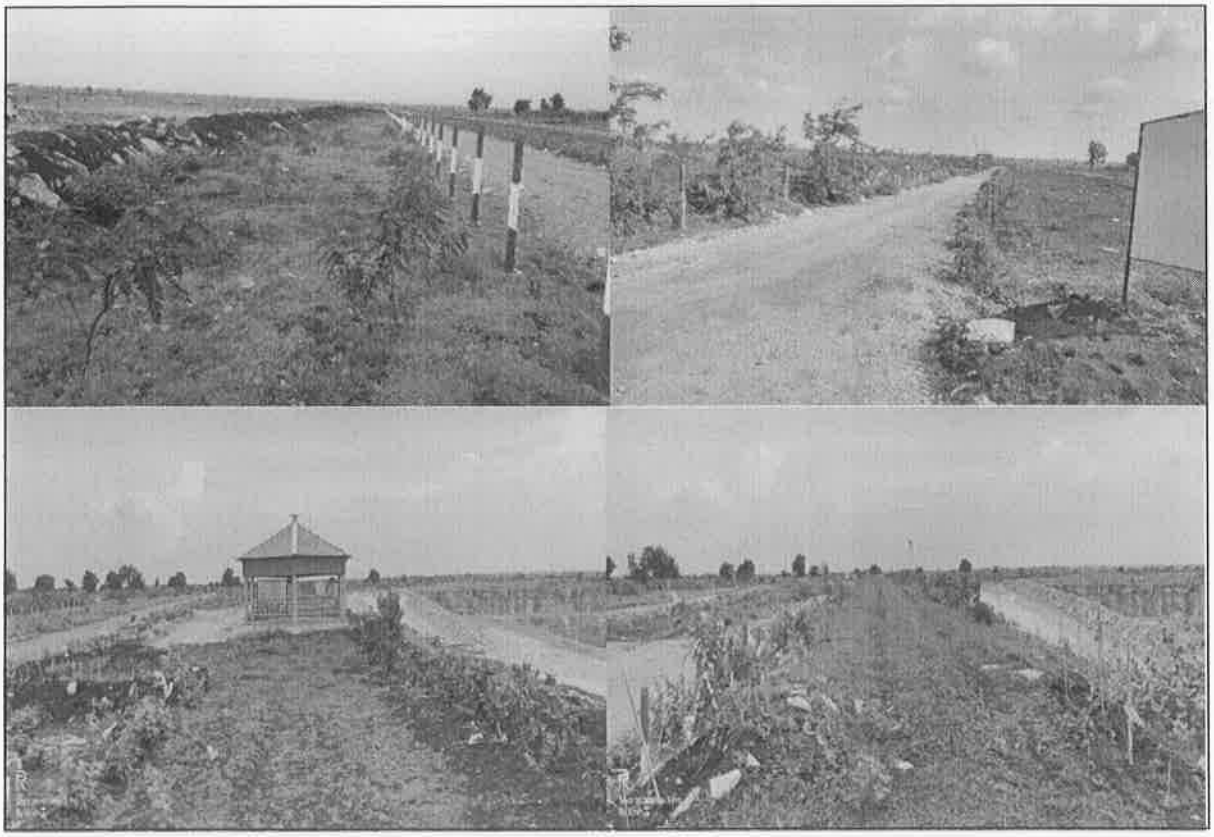
S. no.	Nature of expenses	Amount (Rs. In Lakh
1	Itga road p&L random rubble stone pitching	74,71,022
2	Contribution for shree basaveshwar jatra @ Itaga	25,000
3	Contribution towards Dr. B R Ambedkar celebration	10,000
4	Hiring of 12 kl water tanker (Itaga, Diggaon)	4,79,548
5	Hiring of 12 kl water tanker (Itaga, Diggaon)	4,79,907
6	Dispensary expenses April to Sept'2019	16,70,551
7	School 1st floor	2,28,56,550
8	Smart classroom for school	14,77,012
9	Dispensary boundary wall	22,93,018
10	Bottled water dispenser 2.5l	12,400
11	Contribution to 85th KANNADA SAHITYA SAMMELANA	3,00,000
12	Water Tanker - Hire 12 KL for Supply to Itga & Diggaon Village	5,25,380
13	Dispensary - Ambulance Expense FY 2019-20	4,37,473
14	Dispensary - Salary & Medicine Exp FY 2019-20	12,52,969
15	Dispensary Tools : SCOOP STRECHER	10,250
16	School - Running Expenses FY 19-20	39,13,831
17	School - COVERING SHED	94,103
18	School - CSR (School Covering Shed)	2,92,808
19	School - ITECH SCHOOL SOLUTIONS	2,00,000
20	School - CSR (Scholl Godrej Matrix Safe)	98,741
21	CSR FOR PROJECTOR INSTALATION CHR (SCHOOL)	10,000
22	Synthetic Mat for Chittapur Badminton court	2,09,340
23	Wall Painting of Aganwadi's - 8 School, PROVIDING SHISHU AHAR, Agricultural Activities, Swacchata Abhiyana, FASHION DESIGNING, UNIFORM, MEMORY GAMES ETC. TO KIDS, Health Check UP Programme, EDUCATION PROGRAMME - Akruti Trust	23,36,937
24	ADVT CHRS FOR INNAGURATION OF GULBARGA AIRPORT	31,500
25	FIRE NOC CHALLAN FOR SCHOOL	20,000
26	Supply and fixing of granite 18mm thk, Number Plate, Letter writing	66,605
27	Contribution Towards Karnataka Rajyotsav	10,000
28	Contribution Towards Sevalal Jayanthi	25,000
	Total	**4,66,09,945**

Forest Tree Plantation near Office



Plantation near Office

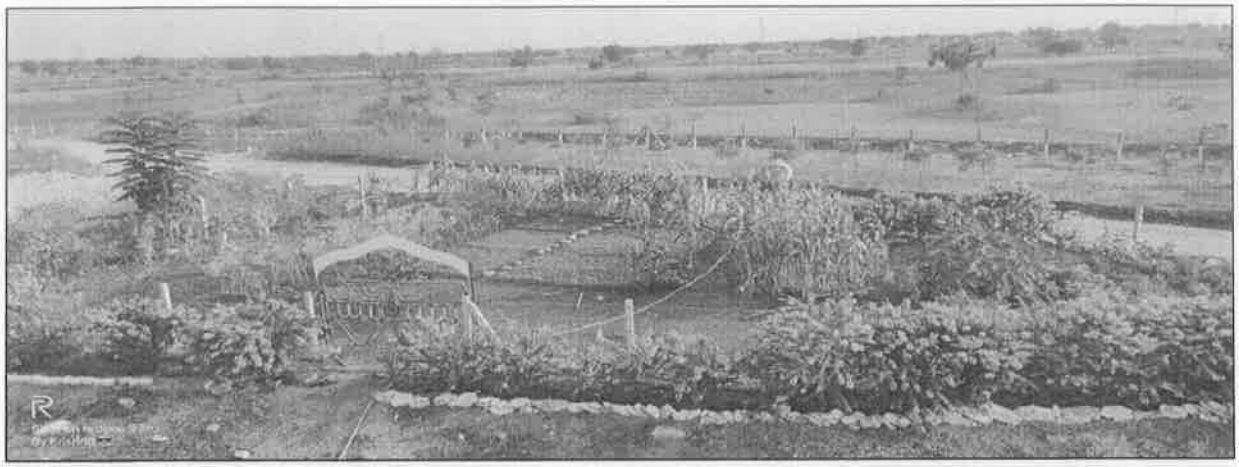
Plantation along Nala Bank



Green Belt Plantation near View Point and Safety Zone

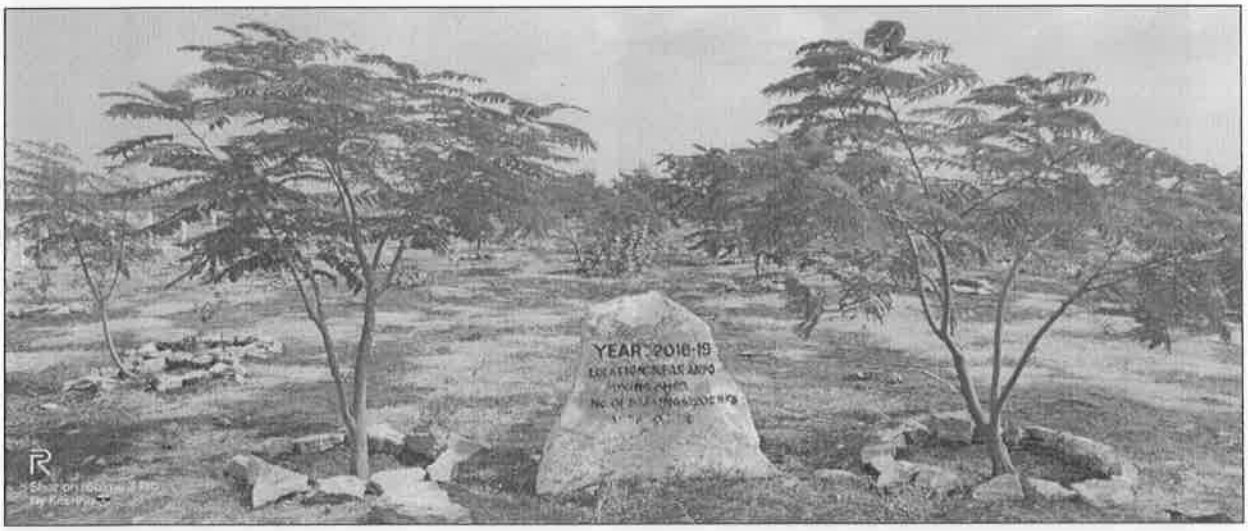
Avenue Plantation

Plantation along Nala Bank



Vegetable Garden near Mines Office

Green Belt Plantation near View Point and Safety Zone



Green Belt Development

1. Dubai Plants and Drip irrigation are planted in Mines for better Survival rate.
2. Ever green & will not shed the leaves in any season
3. Alternate leaf arrangement with short petioles
4. Having dense foliage & leathery leaves
5. Fast growing & will reach 6 feet in a year

Year wise plantation at Mines

SL No	Financial Year	Location	Area in Ha.	Number of trees Planted	No. of plants survived	Survival (%)	Types of Species
1	2015-16	Reclaimed Black cotton dump area and Behind Mines Office	1.3	1220	610	50%	Acacia, Neem, tamarind, Ashok, People tree, Conocarpus (dubai Tree), Honge trees.
2	2016-17	Safety zones, Magazine Roads, Mineral stock area and Along the nala banks	2.35	4780	2390	50%	Acacia, Neem, tamarind, Ashok, People tree, Conocarpus (dubai Tree), Honge trees.
3	2017-18	Safety zones, Behind office & Garage and near view point	2.13	3159	2527	80%	Acacia, Conocarpus, Bougain villa, Badam, Honge, Tapsi, Sankeswar, Peltoform, Neem, Nelli, Shubham trees
4	2018-19	Avenue plantation(near nala), 7.5 m safety zone, Behind ANFO mixing shed & Near New rest shelter (WLA)	4.3	3963	3646	92%	Acacia, Conocarpus, Bougain villa, Badam, Honge, Tapsi, Sankeswar, Peltoform, Neem, Nelli, Shubham trees
5	2019-20	Nala & Buffer Safety zone and office surround area	3.33	4279	3829	89%	Conocarpus, Badam, Honge
Total			**13.41**	**17401**	**13002**	**74%**	

Total area: 519 Ha
Active Mining Area: 25.90 Ha

Environmental Monitoring details as under:

Monitoring is carried out by M/S Cosmo Conscious Research laboratory, Bellary and SUMS Techno labs Pvt. Ltd Hosapete in all four seasons. The details are as under.

S.No	Environmental parameters	Parameters
1	Ambient Air Quality	Ambient air quality is being monitored continuously season wise as per IBM circular 3/92 & NAAQ notification 2009.
2	Noise	Season wise noise measurement study is carried out within the mining lease area. Personal protective devices were provided to workers to reduce the impact of noise.
3	Ground vibration	Ground vibration study is carried out by the company and every blast is monitored by "Seismograph". It is observed that all the readings are less than acceptable level.
4	Water	Water quality within the mine pit is monitored on regular basis. IS – 10500-2012 Drinking water standards, GSR 422 (E) General Standards for discharge of Effluent.

a) Stack monitoring report is as below.

S.NO.	POLLUTANTS (Particulate matter)	Avg. Quantity of Flow discharged (Nm3/H)	Avg. CONCENTRATIONS OF POLLUTANTS IN DISCHARGE (Mass/Vol.) (mg/Nm3)	Tolerance Limit (mg/Nm3)
01	New Crusher stack	34616.53	10.13	30

b) Measures Taken to Control Noise:-

- Seismograph is used to get details of vibration and Noise pre blasting.
- Control blasting technique adopted by using NONEL.
- Schedule and Preventive maintenance of HEMM.
- Centralized lubrication system in Drilling Equipment.
- Noise mapping is done regularly in all mining operation area.

AMBIENT NOISE LEVEL (MINES) [Leq Value in dB(A)] FY-2019-20

Particular	Tolerance Limit dB(A) in day time	Actual Values Min dB(A)	Actual Values Max dB(A)
Crushing & Screening	**75**	60.70	67.50
Mining Area	**75**	62.00	68.20
Haulage / Office	**75**	52.10	57.30
Surge bin hopper	**75**	46.60	59.20

Particular	Tolerance Limit dB(A) in Night time	Actual Values Min dB(A)	Actual Values Max dB(A)
Crushing & Screening	**70**	57.60	61.30
Mining Area	**70**	60.70	64.80
Haulage / Office	**70**	42.20	54.15
Surge bin hopper	**70**	40.50	53.40

c) Measures taken for Ground Vibration Control:

- Seismograph is used to get details of vibration, Noise & fly rock pre blasting. Blasting pattern is modified if parameters are high.
- Down the Hole initiation is performed by shock tubes NONEL to reduce the noise and ground vibration.
- Optimum Charge per delay is maintained as per the recommendation given by DGMS.
- Blasting operation is carried out under supervision of qualified and experienced team.

ENVIRONMENTAL STATEMENT REPORT

[FORM-V]
(See rule 14)

PART-A

Name and address of the owner/ Occupier of the industry	: Satyabrata Sharma Sr. Vice President – Works Itga (V), Chittapur (Tq) Gulbarga - 585211
Operation process	: Production of Cement
i. Industry category: Primary-(STC code) Secondary-(STC code)	: Red category
ii. Production category-units	: 2 MTPA (for Clinker Production) 3 MTPA (for Cement Production)
a. Installed Capacity	: 3.6 MTPA (Lime Stone)
b. Consented Capacity	: 3 MTPA (Lime Stone)
iii. Year of establishment	: 2015 (ML-2681)
iv. Date of last environmental statement submitted	: 27/08/2019 FY 2018-19

Postal Address

1) Registered Office	: Orient Cement Ltd. 5-9-22/57/D G.P Birla Center 2nd & 3rd floor, Adrash Nagar, Telangana Hyderabad- 500063
2) Factory	: Orient Cement Ltd. Itga (V), Chittapur (Tq) Gulbarga - 585211 Phone: 08474-236716 Fax: 08474-23671

PART-B

Water and Raw Material Consumption

Particulars	During Previous Financial Year (2018-2019)	During Current Financial Year (2019-2020)
	(m^3/day)	(m^3/day)
Process/Dust suppression	44	45
Domestic/Gardening/Dust Suppression	1.89	3.61

Name of products	Process water consumption per unit of products output	
	During the previous financial year (2018-2019)	During the current financial year (2019-2020)
	(m^3/day)	(m^3/day)
Lime Stone	0.0062 m^3/MT of Limestone	0.0061 m^3/MT of Limestone

(ii) Raw material consumption

Name of raw materials	Name of products	Consumption of raw material per unit of (Clinker) output	
		During the previous financial year (2018-2019)	During the current financial year (2019-2020)
Lime Stone	Lime stone	1.44	1.40

PART-C

Pollution discharged to environment/unit of output (Parameters as specified in the consent issued)

S.NO	Pollutants	Quantity of pollutants discharged (Mass/day))	Concentration of pollutants in discharge (Mass/Volume)	Percentage of variation from prescribed standards with reasons
a) WATER: -				
a.	Effluent treatment plant	Nil	----	No wastewater generation in Mines
b) AMBIENT AIR:-				
a.	Mining Area	PM10 & PM2.5	70 µg/m3	Within Standards
			20 µg/m3	
b.	Haulage		71 µg/m3	Within Standards
			19 µg/m3	
c.	Crushing & Screening		70 µg/m3	Within Standards
			19 µg/m3	
d.	Surge bin hopper		63 µg/m3	Within Standards
			18 µg/m3	

*** The value represents arithmetic average of 12 months for the financial year 2019-20**

Ambient Air Quality Report in µg/m³ Mines FY 2019-20

		Apr-19	May-19	Jun-19	Jul-19	Aug-19	Sep-19	Oct-19	Nov-19	Dec-19	Jan-20	Feb-20	Mar-20	Average
Mining Area	PM_{10}	71	69	69	63	73	63	71	71	67	77	72	75	**70**
	$PM_{2.5}$	21	20	18	23	18	16	19	19	20	21	20	22	**20**
	SO_2	15	14	15	15	13	14	14	14	14	13	12	13	**14**
	NO_X	11	14	14	14	14	12	15	14	14	14	14	14	**14**
	CO	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**ND**
Haulage	PM_{10}	67	70	73	74	72	66	70	72	70	80	76	63	**71**
	$PM_{2.5}$	19	21	16	22	17	15	16	18	19	21	21	21	**19**
	SO_2	13	14	13	15	14	13	15	14	12	14	14	13	**14**
	NO_X	14	14	13	13	15	15	15	15	14	15	16	15	**15**
	CO	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**ND**
Crushing & Screening	PM_{10}	72	71	73	61	68	72	73	67	65	70	70	74	**70**
	$PM_{2.5}$	21	22	18	22	16	17	18	17	19	19	19	20	**19**
	SO_2	14	14	14	14	15	13	14	14	14	15	13	15	**14**
	NO_X	13	14	12	13	14	15	15	15	14	16	16	16	**14**
	CO	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**ND**
Labor Colony/ Near Surgebin	PM_{10}	66	69	75	65	72	68	67	54	54	54	54	54	**63**
	$PM_{2.5}$	18	20	20	20	17	18	17	16	20	19	17	17	**18**
	SO_2	15	13	15	14	15	14	14	15	14	13	13	15	**14**
	NO_X	12	14	12	14	14	14	16	15	13	15	15	17	**14**
	CO	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**ND**

Mines Pit Water Quality Monitoring Data FY 2019-20

Parametrs	Unit	Apr-19	May-19	Jun-19	Jul-19	Aug-19	Sep-19	Oct-19	Nov-19	Dec-19	Jan-20	Feb-20	Mar-20	Avg
Colour	Hazen units	Under Range	Under Range	Under Range	Under Range	Under Range	Under Range	2.00	Under Range	Under Range	<5	<5	<5	2.00
conductivity	ms/cms	724	661	831	467	1210	714	705	376	740	822	649	933.1	736.01
Total dissolved Solids	mg/l	500	430	583	326	845	497	492	260	518	520	364	523	488.17
pH	-	7.36	7.46	6.89	7.6	7.36	7.15	7.48	8.28	7.91	8.08	8.14	8.32	7.67
Turbidity	NTU	4.8	0.1	3.9	18.2	5	6.1	0.6	5.2	0.2	3.2	1	3.1	4.28
Total Suspneded Solids	mg/l	2	2	3	17	10	2	5	18	5	8	12	11	7.92
Calcium as Ca	mg/l	58.52	66.53	80.16	44.09	35.27	54.51	59.32	36.07	64.93	43.2	33.6	42.4	51.55
Magnesium as Mg	mg/l	32.51	38.34	45.61	14.55	65.06	28.14	25.71	12.61	25.22	52.27	23.8	25.6	32.45
Total Hardness as CaCo3	mg/l	280	324	388	170	356	252	254	142	266	212	182	208	252.83
Chlorides as Cl	mg/l	54.44	44.54	59.28	32.33	80.84	50.47	48.53	21.84	53.38	26.89	33.99	29.99	44.71
Sulphates as SO4	mg/l	62.5	69	76.5	96	56.5	66.5	70.5	69.5	56	65.33	22.5	66.12	64.75
Flourides as F	mg/l	1.57	1.67	1.45	1.13	1.67	1.37	1.32	1.12	1.24	0.35	0.35	0.33	1.13
Nitrate Nitrogen As No3	mg/l	0.25	11.55	2.05	2.65	2.65	3.1	0.25	0.15	0.25	7.48	5.14	7.68	3.60
Total Alkalinity as CaCo3	mg/l	290	275	285	55	280	205	200	70	235	276.88	234	276	223.49
Total Iron as Fe	mg/l	0.586	BDL	0.698	0.416	0.341	0.389	0.311	0.296	0.319	0.18	0.12	0.14	0.35
Total Coliform Count	MPN/100ml	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Escherichia Coli Count	MPN/100ml	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

PART-D

Hazardous Wastes

[As specified under Hazardous Wastes (Management, Handling and Transboundary Movement) Rules, 2008]

Hazardous Wastes		Total Quantity	
		During the Previous Financial year (2018-2019)	During the Current Financial year (2019-2020)
(a) From Process	(a) Spent/ Used Oil (Category 5.1) (Including CPP)	3.51 MT	7.18 MT
(b) From Pollution control Facilities	N.A.	N.A.	N.A.

However this waste is being generated from industrial related activity i.e. hydraulic movement of machines, oiling/ greasing etc. which will be sold to registered to recycler once authorization for Hazardous waste is received from the board.

PART-E
Solid Wastes

	Total Quantity (Overburden)	
	During the previous financial year (2018-19)	During the current financial year (2019-2020)
(a) From process	40940 MT (Over burden)	57872 (Over burden)
(b) From pollution control facility	4.226MT (from LS Crusher Bag filter)	4.400 MT (from LS Crusher Bag filter)
(c) Quantity recycled or re-utilized	4.226MT	4.400 MT

PART-F

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

Hazardous waste:

- No hazardous waste generated from the mining activities.
- Limestone Crusher Gear box oil will be stored and disposed for authorized person.

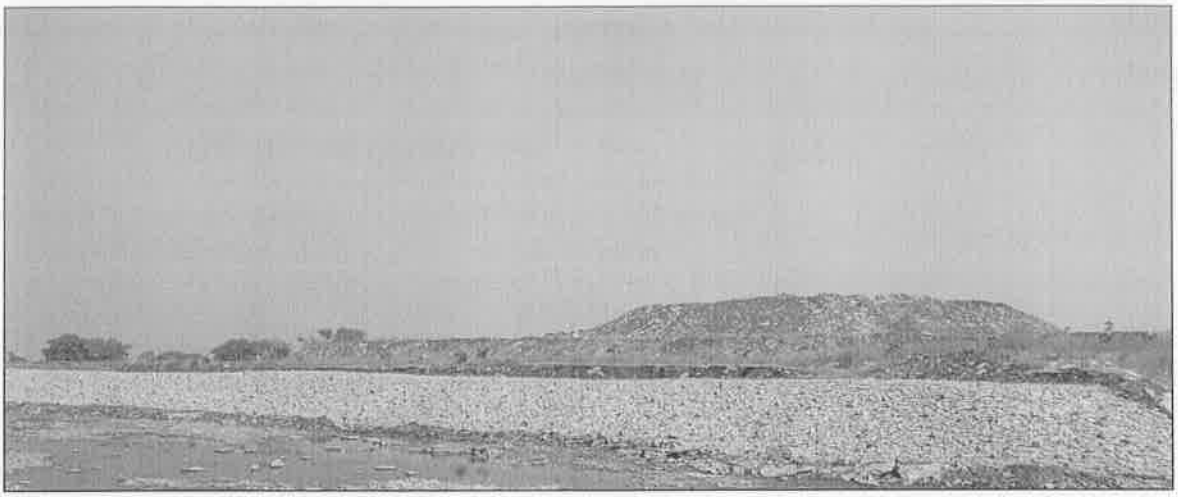
Solid waste:

- Generated and disposed during 2019-20: 57872MT of over burden is used for making bunds and for green belt development.

PART-G

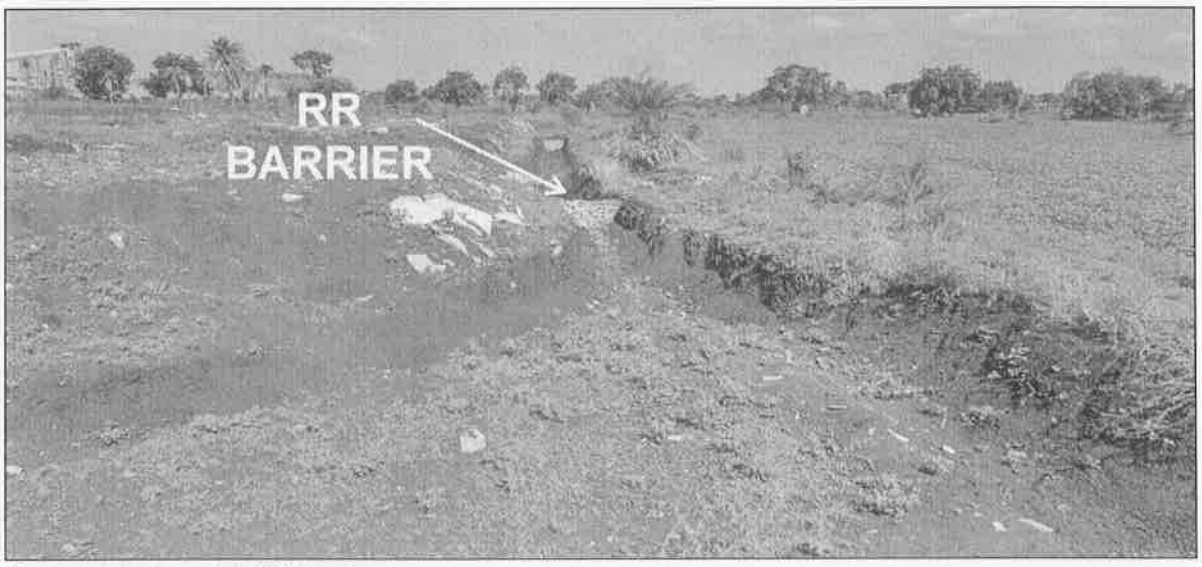
Impact of pollution abatement measures taken on conservation of natural resources and on the cost of production.

- 0.71 ha of Overburden soil dump area has been reclaimed and rehabilitated by plantation.
- Total 17401 saplings have been planted in 13.41ha area till March 2020 along the statutory barrier, along the road, nalla safety zone and mines safety zone.
- Constructed Embankment and garland drain around the pit about 285m to avoid surface water into mines.
- Stone pitching has been made along the slopes of nala stream both side.
- Automatic water sprinkler has been installed on main haul road to reduce dust Emission.
- Crushed limestones are being conveyed to plant by fully covered belt conveyor to avoid spillage and air borne dust.
- Water sprinkling system is provided at crushing operations and transfer points of belt conveyer for controlling fugitive emissions.



BC Soil Dump with Protection Wall

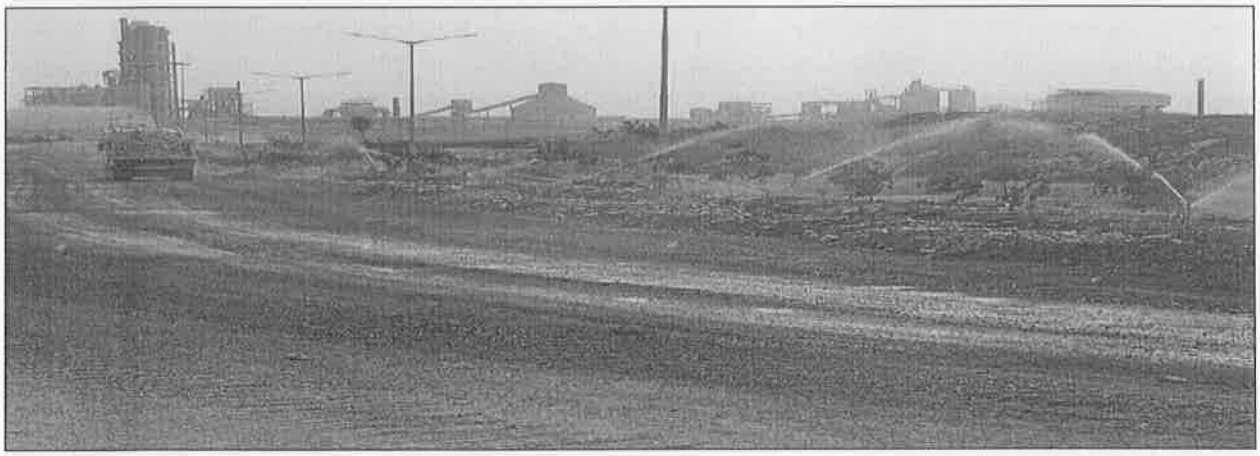
Garland Drain along the Dump Toe Wall with Random Rubble Barriers



Garland drain with RR barrier

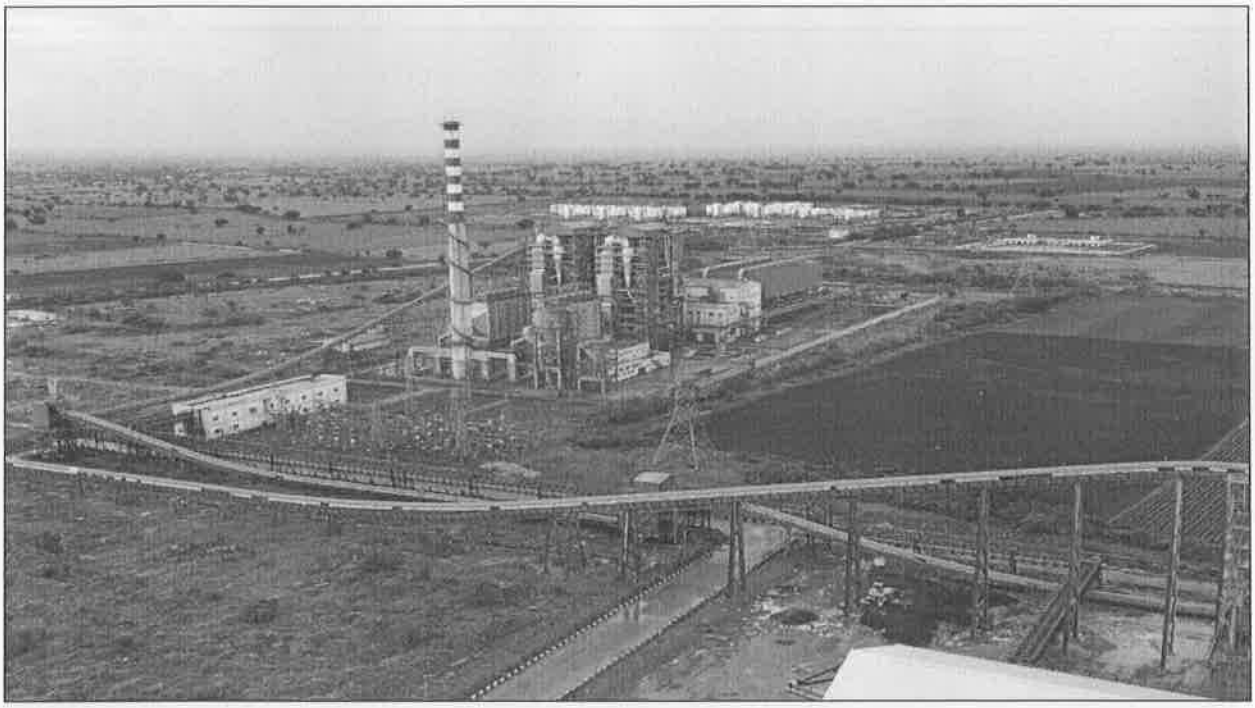
Stone Pitching along Nala Banks

Automatic water sprinkler



Automatic water sprinkler

Closed Belt Conveyor



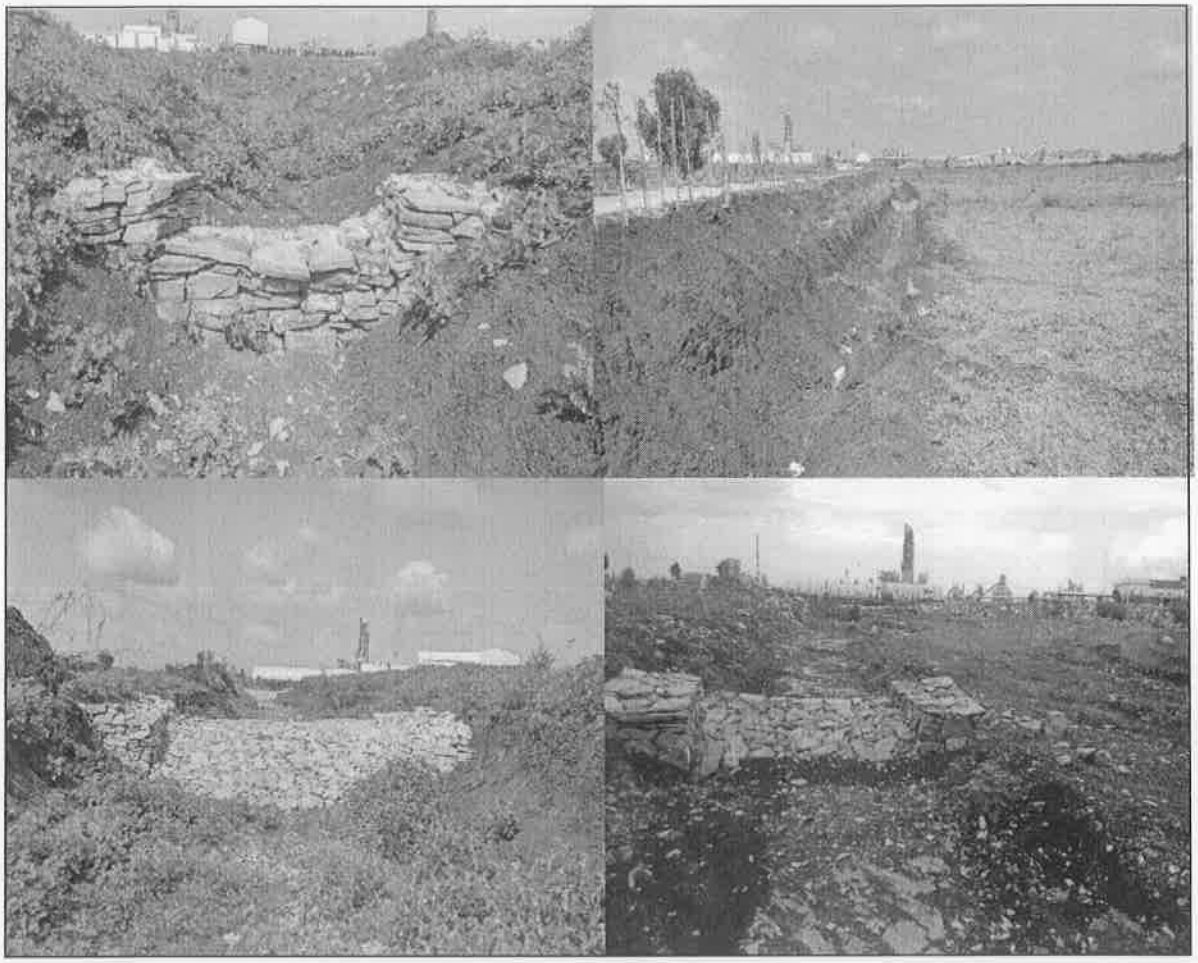
Closed Belt Conveyor

Dust Control System at Lime stone Crusher

Desilting Work

Modifications for the year 2019-20 for energy conservation and better Environment:

- To avoid the Run – Off of top soil from the dump, Toe wall is constructed along with garland drain for a length of about 370 mts below the top soil dump.
- Constructed Embankment and garland drain around the pit to avoid surface water into mines area.
- 26 No's of Random rubble check barrier in garland drain within the ML area.



Catchment Drains with RR Dry Stone Barriers

- Pressurized water sprinkler is fitted on water tanker for spraying on blasted material to avoid dust during loading.
- 4 No's of Permanent tower lights installed in mines for illumination of working area.
- Existing plantation maintenance cost Rs. 50,000/-
- Total 2.5KV solar panel has been installed in various location as alternative power.
- Sources for lighting and other applications.
- Desilting of garland drain, nala, ponds cost Rs.1,15,000/-
- Constructed of Rain water Harvesting Pit.

PART-H

Additional measures/investment proposal for environmental protection including abatement of pollution, prevention of pollution

1. Total 17401 saplings have been planted in 13.41 ha area as on March 2020 along the statutory barrier, along the road, nalla safety zone, In front of Mines office and mines safety zone .
2. Total 370 m of Toe wall at below the top soil dump has been construction and garland drain along the dump toe wall with 36 no's of random rubble type barriers is made to arrest the silt.
3. Catchment drains of appropriate size with suitable gradient is made around the mine pit and at haul roads to prevent run off water and desilted at regular intervals.
4. Pressurized water sprinkler is fitted on water tanker for spraying on blasted material to avoid dust during loading.
5. Rainwater harvesting pit with size 50m X 40m with depth 2m has been constructed near south side of the mine lease boundary for ground water recharge.
6. Pumping of Mine water to plant reservoir has been installed.
7. Existing plantation maintenance cost Rs. 50,000/-
8. Total 2.5KV solar panel has been installed in various locations as alternative power sources for lighting and other applications.
9. Desilting of garland drain, nala, ponds cost Rs.1,15,000/-
10. 2322 m of fencing made around the working pit and along the mining lease boundary to avoid unauthorized entry.
11. 5m height earthen bund for a length of about 250 m has been formed along the village and Mining lease boundary.

➢ **EXPENDITURE ON ENVIRONMENT MANAGEMENT**

DETAILS OF EPM EXPENDITURE

ASSET DESCRIPTION	Amount	Amount in Lakhs
DUST SUPRESSION SYSTEM	43,58,474	43.58
BAG FILTER & ESP FOR STACKS	33,54,39,089	3,354.39
CPP - RCC CHIMEY	2,87,14,293	287.14
WATER RESERVOIR	25,87,57,199	2,587.57
WATER TREATMENT PLANT	12,85,41,299	1,285.41
SEWAGE TREATMENT PLANT	7,28,00,825	728.01
ROAD & DRAIN	50,14,63,605	5,014.64
GREEN BELT DEVELOPMENT	53,48,720	53.49
FLY ASH SILO & HANDLING SYSTEM	12,89,16,613	1,289.17
EFFLUENT TREATMENT PLANT & DM PLANT IN CPP	3,60,66,506	360.67
CPP - ELECTROSTATIC PRECIPITATOR	10,77,18,110	1,077.18
CPP ASH HANDLING SYSTEM	3,98,25,799	398.26

COMPLETE BURNER ASSEMBLY	1,17,15,390	117.15
AMBIENT AIR QUALITY MONITORING	2,20,13,783	220.14
SNCR FOR NOX REDUCTION	3,03,21,259	303.21
AMMONIA SLIP SENSOR STACK APPLICATION	17,80,000	17.80
MEDIA CONVERT - LIQUID AFR SYSTEM	2,54,471	2.54
NEUTRON SURVEY METER	4,25,000	4.25
UT PUMP	13,03,410	13.03
WASTE SEGREGATION YARD	4,55,406	4.55
SHREDDER FOR AGRO WASTE AFR	3,47,913	3.48
BUCKET ELEV,FEEDING ARRG & SHED FOR AGRO	18,89,931	18.90
TOTAL	**1,71,84,57,096**	**17,185**

Details of Expenses (in Rs) made towards Environment Protection in Mines for the year 2019-20

Sl no.	Particulars	2019-20
1	Expenses for B C Soil Handling & Use for Afforestation	19,67,649.00
2	Expenses for Afforestation	6,36,280.00
3	Expenses for Construction of Toe wall at below the BC soil dump	7,66,148.00
4	Expenses for Garland Drain Cutting along with RR Check/ Rain Water harvesting	1,30,825.00
5	Expenses for Desilting of Check Dam	80,000.00
6	Expenses for Dust Suppression operation & maint cost of Water Tanker(including pressurized Sprinkler fitting)	15,21,000.00
7	Expenses for operation & maint cost of permanent water sprinkler in Haul road, view Point and floating fountains in mine pit	1,20,000.00
8	Expenses for Use of NONEL, Electronic Detonators, Wooden Spacers and Stem Plugs.	3,08,156.00
9	Expenses for Environmental Monitoring Expenses	9,00,000.00
10	Expenses for Ear Plugs & Ear Muffs	45,000.00
11	Expenses for Oil Separation Tank Maintenance	84,565.00
12	Expenses for Handling of Waste Oil, Scrap Batteries, Used Cotton Waste, Filters	-
	Total	**65,59,623.00**
	Rs in Lakhs	**65.60**

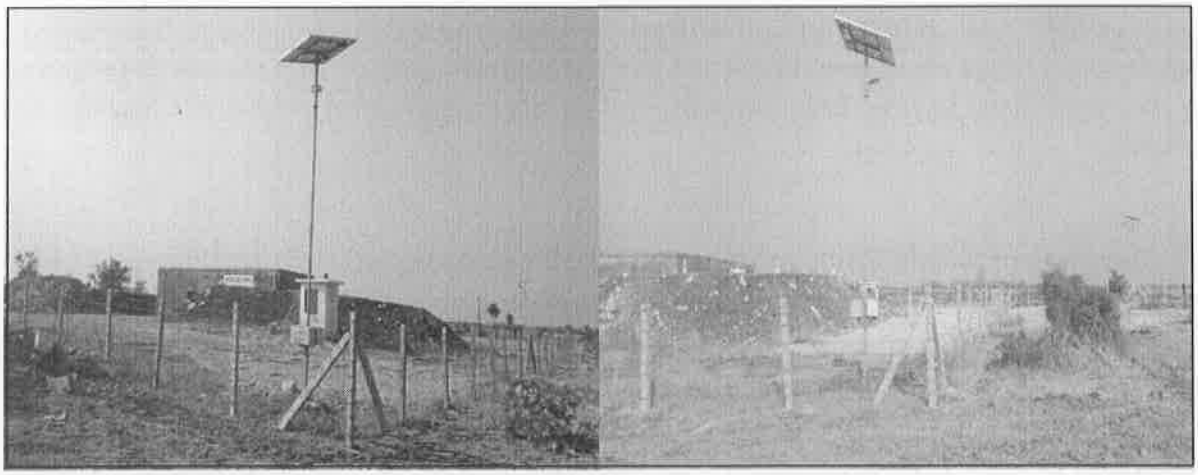
Proposed modifications for the year 2020-21 for Energy Conservation and Better Environment:

1. 3750 saplings are proposed covering an area of 1.50 ha within ML area.
2. Formation of Balance bund with 5m height along the village and mining lease boundary side with plantation - 345m length.
3. Existing plantation maintenance.
4. Fixing of permanent sprinkler in the new haulage road for dust suppression.
5. Fencing around pit – 1000m.
6. Construction of Garland drain along the new haulage road.

PART- I

Any other particular in respect of environmental protection and abatement of pollution

- Promoting Eco Friendly zero waste mining.
- Implementation of EMS including compliance of environmental laws through periodic Management Review & Internal/ external audits.
- Awareness promotion through various environmental competitions, workshops, presentations etc. on world environment day.
- Improvement in Ambient Air Quality through effective control on fugitive dust emission.
- Extensive green belt is being developed in the mining area with plantation of tree saplings surrounding mining lease area.



Arrangement of Solar light Panels in required areas

MISCELLANEOUS

World Environment Day 2019 Celebrations

World Environment Day 2019 was celebrated at M/s Orient Cement Ltd, Chittapur, from 5th June 2019 to 10th June-2019@ 10:00 AM .This year theme for World Environment day was: "BEAT AIR POLLUTION,'' with a Slogan "We can't stop breathing, but we can do something about the quality of our air" for which Environment Department along with staff of Orient Cement Ltd commenced an opening program at OCL Mines area with mass plantation of around 400 saplings.

Then from 6th June to 9th June-2019 , OCL Chittapur has conducted an awareness program, Quiz Competitions, Essay Competitions , Drawing competitions involving school children's of surrounding villages, workmen & OCL Staff. Saplings were distributed to Schools for plantation.

Finally on 10th June 2019, OCL Chittapur organized a closing ceremony program involving the Chief Guests from KSPCB ,Forest Department & Reputed Institution namely Mr. Venkatesh Shekar-SEO, Mr. Manjappa-EO from Pollution Control Board, Mr. Baburao Patil-Assistant Conservator of Forest, Mr. Mujeebuddin-RFO Forest Department, Dr. S.R Mise & Dr. S.R Patil –Prof Environmnet Engg. Dept, PDA College of Engineering Kalaburagi. The programme was chaired by

Shri. Satyabrata Sharma-Unit Head, Shri. Santosh Kumar Sharma-Sr.GM-Production & other delegates.

The Welcome Note along with World Environment Day Speech was addressed by Mr.Mallikarjun.S.D from Environment Department & then the Speech was addressed by Delegates from KSPCB & Forest Department with a concluding speech by our Unit Head Shri. Satyabrata Sharma in a thought-provoking manner, which set a perfect platform for our colleagues who have gathered for WED celebration. The chairpersons suggested few visions to be included to make remarkable changes in the environment to combat the Air pollution and also addressed the people to change their thoughts to change an environment. A prize distribution program was also carried out rewarding the inners, who have participated in the World Environment day Events (Quiz, Essay, Skit & drawing).

Later all the staff of OCL ,delegates from Pollution Control Board, Forest Department & Engineering College along with School Children's & Workers carried out a plantation programme at Raw Meal area, where 1000 No's of Honge, neem, pongemia, peepal, etc Saplings were planted.

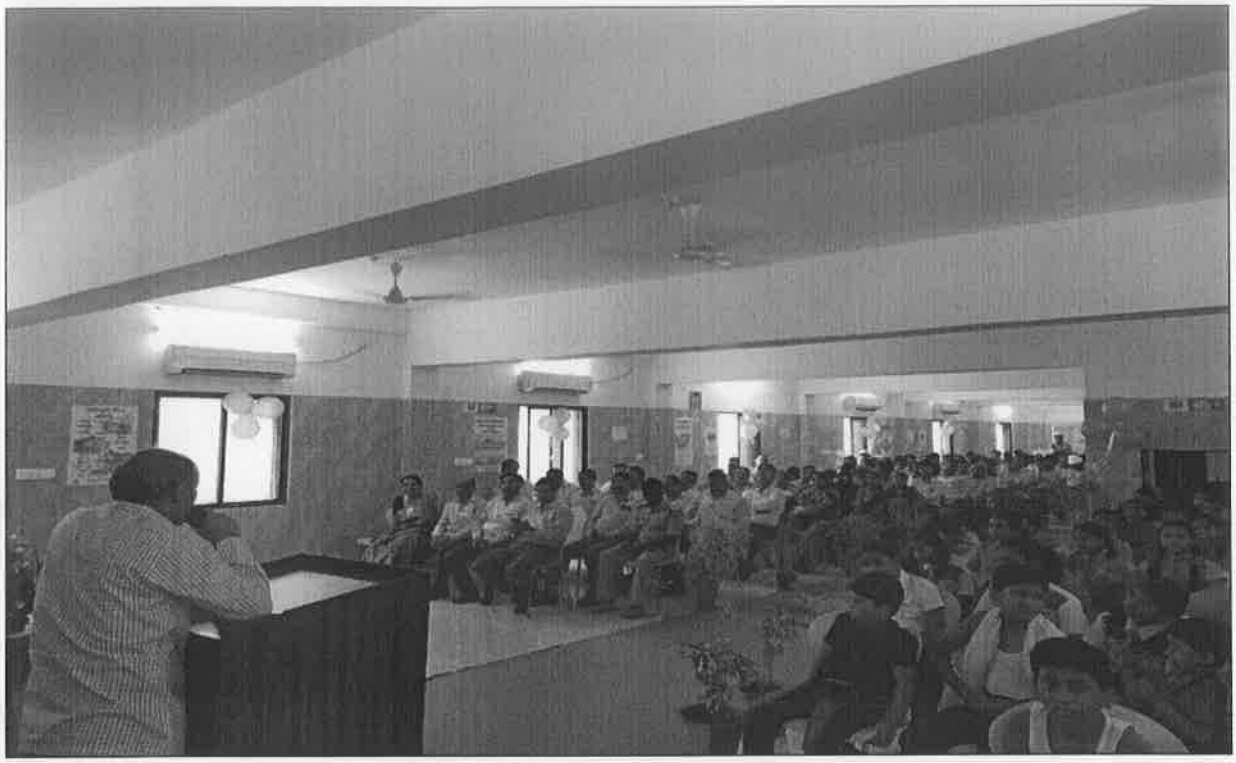
Glimpses of World Environment Day-2019 celebrations at Orient Cement Ltd, Karnataka

Plantation Involving School Children at Raw Mill Area

Plantation by Assistant Conservator of Forest

Plantation Involving Pollution Control Board, Forest Dept official and OCL Staff

WED Celebration and Speech @ OCL Premises



WED Celebration and Speech @ OCL Premises

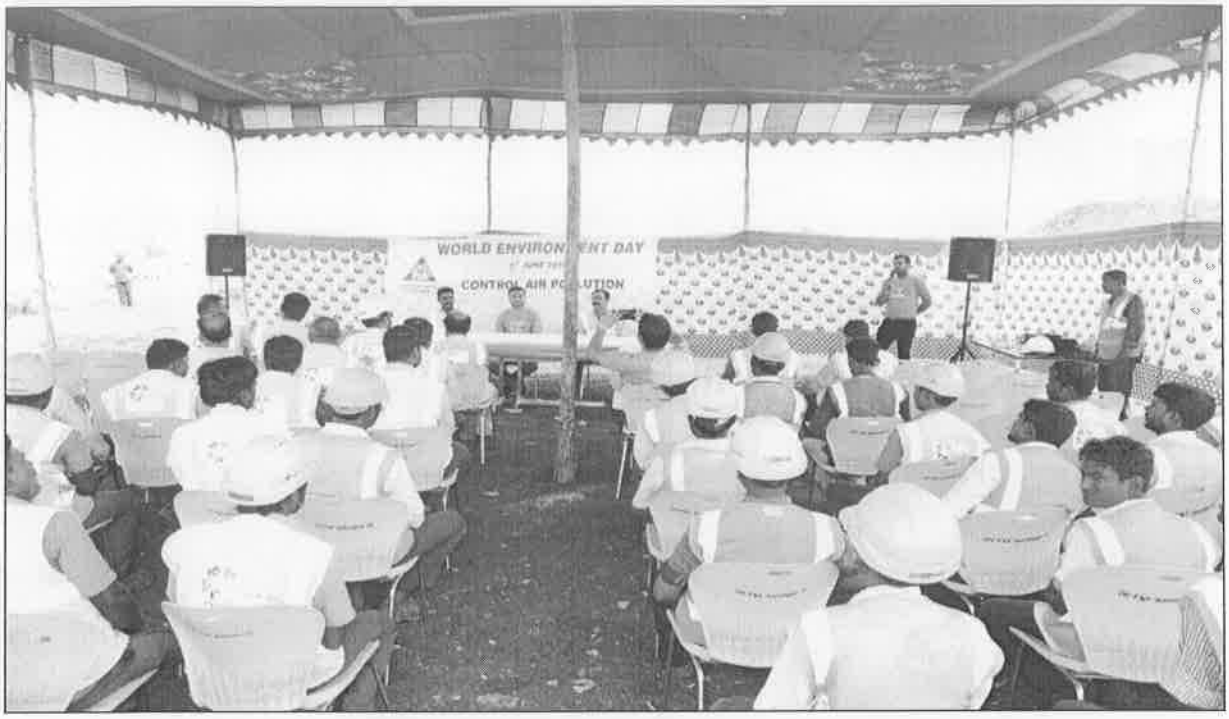
WED Celebration and Prize Distribution @ OCL Premises

Distribution of Saplings @ Govt School of Itga Village

Distribution of Saplings @ Govt School of Chittapur Village

Conducting Awareness Session at Chittapur Govt Girl's High School

Distribution of Saplings @ Govt School of Diggaon Village



Glimpse of WED Commencement Program held at Mines area

Plantation being carried out by our Unit Head Mr. Satyabrata Sharma

Plantation by Sr-GM Production- Santosh Kumar Sharma

Plantation by Sr.GM-Civil, Mr. Shivabassappa Nandyal

Glimpses of Social Activities organised by Orient Cement Ltd, Karnataka.

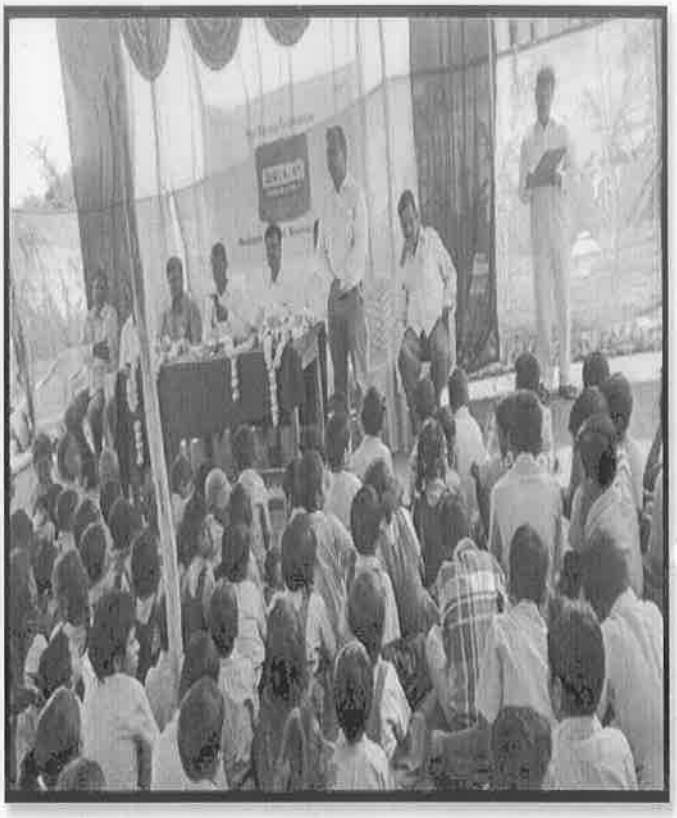
Mogala

Candel Making - Maragol

Teachers skill Development Programme.


CULTURAL-HERITAGE


Tailoring and Fashion Designing
Training Programme




PLANT

ಕಂಪನಿ ಸೌಲಭ್ಯಗಳ ಸದುಪಯೋಗಕ್ಕೆ ಸಲಹೆ

ಇಟಗಾದಲ್ಲಿ ನೀರು ಶುದ್ಧೀಕರಣ ಘಟಕಕ್ಕೆ ಚಾಲನೆ

ಶುದ್ಧ ನೀರಿನ ಘಟಕ ಆರಂಭ

ಶಿವಾನಂದ ಪಾಟೀಲ್ ಸಲಹೆ ಇಟಗಾದಲ್ಲಿ ಸಾಮಗ್ರಿ ವಿತರಣೆ

ಸ್ವಚ್ಛತೆ ಕಾಪಾಡುವುದು ಸರ್ವರ ಕರ್ತವ್ಯ

ಇಟಗಾದಲ್ಲಿ ಓರಿಯಂಟ ಸಿಮೆಂಟ್ ಕಂಪನಿಯಿಂದ ಕಸದ ಬುಟ್ಟಿಗಳು ಮತ್ತು ಸಾಕ್ಷರತಾ ಸಾಮಗ್ರಿಗಳನ್ನು ಪ್ರಧಾನ ವ್ಯವಸ್ಥಾಪಕ ಶಿವಾನಂದ ಪಾಟೀಲ್ ಗ್ರಾಮಸ್ಥರಿಗೆ ವಿತರಿಸಿದರು.