ANDHRA CEMENTS LIMITED
DURGA CEMENT WORKS

Speed Post with Acknowledgement Due

ACL/DCW/ENV/2020/39 Date: 19/09/2020

The Member Secretary
Andhra Pradesh Pollution Control Board
Head office,D.No.33-26-14D/2
Near Sunrise Hospital, Pushpa Hotel Centre,
Chalamavari Street, Kasturibaipet,
Vijayawada-520010, Andhra Pradesh

Sub: Submission of Environment statement for Mines Division of Durga Cement Works for the financial year ending 31st March 2020.

Ref: Consent Order No: APPCB/VJA/GTR/16829/HO/CFO/2019 Dt.10.04.2019, valid for the period up to Dt.30.06.2020.

Dear Sir,

With reference to the Consent to operate vide order no. APPCB/VJA/GTR/10023/HO/CFO/2019 Dated 10.04.2019 of Durga Cement works (Mines Division) (A Unit of Andhra Cements Limited), we hereby submit the Environment statement (Form-V) for the financial year 2019-2020.

Further, we would like to inform you that hard copy is being sent through speed post for reference, please.

This is for your kind information and request to arrange for acknowledgement, please.

Thanking You

Yours faithfully,
For **Durga Cement Works** (Mines Division)
(A unit of Andhra Cements Limited)

N.B Singh
Advisor (Technical)

Encl: a/a
CC:

The Environmental Engineer
Regional Office, Andhra Pradesh Pollution Control Board
Door No.4-5-4/5C (EAST), Navbharatnagar, Ring Road,
Guntur-522007, Andhra Pradesh

The Director,
Ministry of Environment, Forest and Climate Change
Regional Office-South Eastern Zone 1st and 2nd Floor,
HEPC Building NO.34, Cathedral Garden Road
Nungambakkam, Chennai-600034

Scientist & Incharge
Central Pollution Control Board
1st and 2nd Nisarga Bhavan, 7th D Main Road,
Thimmaiah Rd, Shivanagar, A-Block, Bengaluru, Karnataka 560079

JAYPEE GROUP

Regd. Office &
Factory

ANDHRA CEMENTS LIMITED
Durga Cement Works, Durgapuram, Srinagar (P.O),
Dachepalli - 522 414, Guntur Dt. Andhra Pradesh
Ph : +91-8649-257428-29, Fax : +91-8649-257449

Environmental Statement Report

Form-V

[Financial Year 2019-2020]

Durga Cement Works

(Limestone Mines)

A Unit of Andhra Cements Limited

Gamalapadu (V), Dachepalli (M)
Guntur District, Andhra Pradesh
Pin Code - 522414

FORM-V

See Rule-14

Environmental Statement Report for the financial year ending the March 31, 2020

PART- A

i	Name and address of the owner /Occupier of Industry operation or Process	Shri Naveen Kumar Singh Director Durga Cement Works (A Unit of Andhra Cements Limited) Durgapuram, Gamalapadu (V), Dachepalli (M) Dist- Guntur, AP Pin-522414
ii.	Industry Category Primary (SIC code) Secondary (SIC Code)	Primary (SIC category)
iii.	Production Capacity (Units)	Limestone: 3.0 MTPA
iv.	Year of establishment	1983
v.	Date of last environmental statement submitted	Letter No. ACL/DCW/ENV/2018-19/396 Dt.12/09/2019

PART- B

Water and Raw material consumption

A. Water

(i) Water consumption m^3/day

Process m^3/day : 46.1 (Average during 2019-2020)

Domestic m^3/day : 4.9 (Average during 2019-2020)

(ii) Consumption per unit of production

Name of product	Process water consumption per unit of product-output (KL/MT)	
	During the previous financial year (2018-2019)	During the current financial year (2019-2020)
1.Limestone	0.0076	0.0094

B. Raw material consumption

Name of the raw material	Name of product	Consumption of raw material per unit product output (MT)	
		During the previous financial year (2018-2019)	During the current financial year (2019-2020)
Limestone	Cement	No raw material used for Limestone mining	No raw material used for Limestone mining

PART –C

Pollutant discharge to environment/unit of output
(Parameter as specified in the consent issued)

S. No.	Pollutants	Quantity of pollutants discharged (Mass/day) (tone/day)	Concentrations of pollutants in discharged (mass/volume) ($kg/m^{3)}$	Percentage of variation from prescribed standard with reason
a	Water	No waste water is generated from mining process. Domestic waste water treated in Sewage Treatment Plant.		
b	Air			
(a)	**Ambient Air monitoring**			
	PM_{10}	$7.798x10^{-8}$	$5.539x10^{-8}$	7.68 % less
	$PM_{2.5}$	$3.414x10^{-8}$	$2.867x10^{-8}$	28.32 % less
	SO_2	$8.930x10^{-9}$	$6.320x10^{-9}$	87.36 % less
	NO_2	$1.271x10^{-8}$	$0.901x10^{-8}$	74.75 % less

PART D

HAZARDOUS WASTES

(As specified under Hazardous wastes/management& handling rule, 1989)

Hazardous waste	Total Quantity (Kg)	
	During the previous financial year (2018-2019)	During the current financial year (2019-2020)
(a) From process	Nil	Nil
(b) From pollution control facility	Nil	Nil

PART-E

SOLID WASTE

S. No.	Solid Waste	Total Quantity (Kg.)	
		During the previous financial year (2018-2019)	During the current financial year (2019-2020)
a	From Process	No solid waste is generated from the mining process. No over warden	No solid waste is generated from the mining process. No over warden
b	From Pollution control facility	Nil	Nil
c	Quantity recycled or reused	Nil	Nil

PART –F

Please specify the characterizations (in terms of composition quantity) of hazardous as well as solid waste and indicates disposal practice adopted for both these categories of wastes.

Hazardous waste: Nil

Solid waste: Nil

PART –G

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

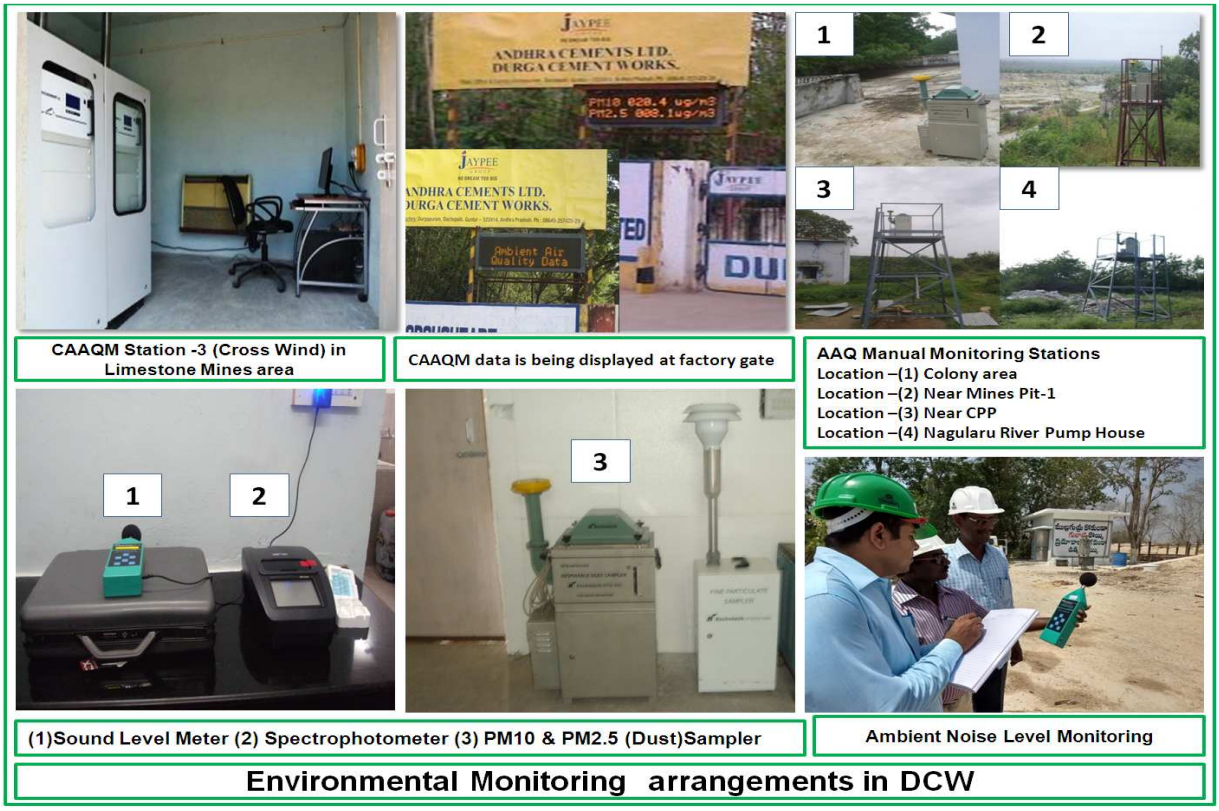
M/s Durga Cement works; mine has taken necessary steps to control pollution with respect to air, water, solid waste and also in the development of green belt within the mines area.

1. **Air pollution control measures**

   Following measures have been taken for air pollution control.

   a. Wet drilling process adopted during drilling time for the control of emission.
   b. Regular water spray is being carried out on haul roads through water tankers for control of air pollution.
   c. Avoiding blasting during high windy periods, night times and temperature inversion periods.
   d. Regular gardening of haul roads and service roads to clear accumulation of material.
   e. Excavation operation is being suspended during periods of very strong wind.
   f. Avoiding over filling of dumpers which may result in consequent spillage on the roads.
   g. The vehicle and machinery is being kept in well maintained condition, so that emissions are minimized.
   h. Regular AAQM monitoring has been carried out to check the emission level in mine area. The results show that the emissions like PM_{10}, $PM_{2.5}$, SO_2, and NO_2 are well within limits.
   i. Green belt have been maintained along the mine roads and vacant mine area.

Ambient Air Quality Monitoring Report				
				Period : April, 2019 to March, 2020
Location – (1)	**Near Mine Pit (Cross wind)**			
Parameter	**$PM_{2.5}$ ($\mu g/m^3$)**	**PM_{10} ($\mu g/m^3$)**	**SO_2 ($\mu g/m^3$)**	**NO_2 ($\mu g/m^3$)**
Maximum	58.25	9.06	9.06	9.90
Minimum	50.34	4.26	4.26	6.70
Average	55.14	7.02	7.02	8.14
Location – (2)	**Near Naguleru River Pump House (Cross Wind)**			
Parameter	**$PM_{2.5}$ ($\mu g/m^3$)**	**PM_{10} ($\mu g/m^3$)**	**SO_2 ($\mu g/m^3$)**	**NO_2 ($\mu g/m^3$)**
Maximum	55.27	32.20	8.23	11.40
Minimum	49.31	26.20	4.11	6.82
Average	52.38	28.86	5.29	8.47
Location – (3)	**Near CPP (Towards Gamalapadu Village) UP Wind**			
Parameter	**$PM_{2.5}$ ($\mu g/m^3$)**	**PM_{10} ($\mu g/m^3$)**	**SO_2 ($\mu g/m^3$)**	**NO_2 ($\mu g/m^3$)**
Maximum	62.65	33.77	9.03	11.42
Minimum	54.56	26.25	3.95	9.36
Average	58.63	29.97	5.84	10.45
Location – (4)	**Colony area (Towards Srinagar Village) Down Wind**			
Parameter	**$PM_{2.5}$ ($\mu g/m^3$)**	**PM_{10} ($\mu g/m^3$)**	**SO_2 ($\mu g/m^3$)**	**NO_2 ($\mu g/m^3$)**
Maximum	58.18	29.72	9.50	11.24
Minimum	51.95	23.71	5.86	7.47
Average	55.40	26.36	7.16	8.92



CAAQM Station -3 (Cross Wind) in Limestone Mines area

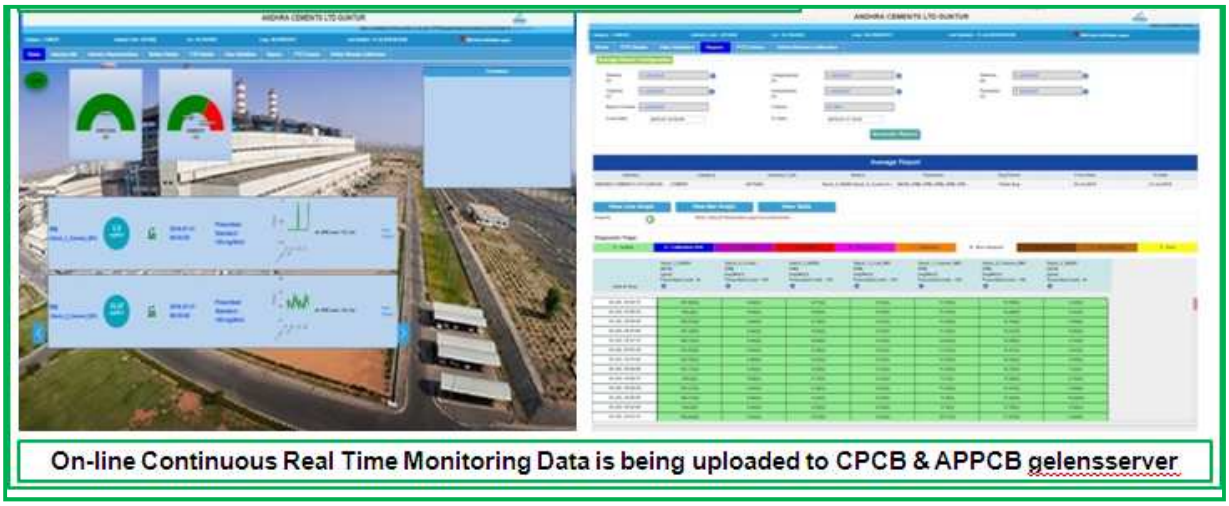
CAAQM data is being displayed at factory gate

AAQ Manual Monitoring Stations
Location –(1) Colony area
Location –(2) Near Mines Pit-1
Location –(3) Near CPP
Location –(4) Nagularu River Pump House

(1)Sound Level Meter (2) Spectrophotometer (3) PM10 & PM2.5 (Dust)Sampler

Ambient Noise Level Monitoring

Environmental Monitoring arrangements in DCW



On-line Continuous Real Time Monitoring Data is being uploaded to CPCB & APPCB gelensserver

Noise pollution control measures:

a. Proper and regular maintenance of vehicles, machinery and other equipments
b. The noise generated by the machinery is being reduce by proper lubrication of the machinery and equipments
c. The workers employed are provided with protection equipment, earmuffs and ear – plugs, as a protection from the high noise level at the mine site wherever required.
d. Noise level is being also controlled by using optimum explosive charges, proper delay detonators and proper stemming to prevent blow out of holes

e. Speed of truck entering or leaving the mine is limited to moderate speed of 10 KMPH to prevent undue noise from empty trucks.
f. Regular checking noise level to access the noise level in mining area

Ambient Noise Level Monitoring Report				
			Period: April, 2019 to March, 2020	
Location	**1. Haulage Road**		**2. Drilling Point**	
Time	**Day (6:00 am-10:00 pm)**	**Night (10:00 am-06:00 pm)**	**Day (6:00 am-10:00 pm)**	**Night (10:00 am-06:00 pm)**
Concentration	**dB(A)Leq**			
Maximum	**64.60**	**47.00**	**61.40**	**43.80**
Minimum	**54.7**	**37.5**	**55.2**	**38.3**
Average	**60.0**	**43.1**	**57.6**	**40.4**
Location	**3. Loading Point**		**4. Mines Office**	
Time	**Day (6:00 am-10:00 pm)**	**Night (10:00 am-06:00 pm)**	**Day (6:00 am-10:00 pm)**	**Night (10:00 am-06:00 pm)**
Concentration	**dB(A)Leq**			
Maximum	**64.60**	**43.50**	**45.70**	**41.50**
Minimum	**59.5**	**35.4**	**39.0**	**34.9**
Average	**60.1**	**39.0**	**41.6**	**38.0**

2. Water conservation :

a. No waste water generated in mine area from mining process.
b. The water is also used for domestic purpose in the colony.
c. Pits or sumps are being used as a water reservoir
d. All the Plant and colony rain water harvesting are connected to mine's pit which is used as water reservoir to meet water demand.
e. STP of 300 KLD commissioned - all the treated water will be utilized for specific purposes such as plantation, dust suppression etc.

300 KLD Sewage Treatment Plant installed near DCW Colony

Domestic Water flow Meter

Glimpse of STP area

Sewage Treatment plant Inlet (1) & Outlet (2) water Meter

Industrial Water flow Meter

Best possible approaches to conserve water

Potable Water Test Report

Durga Cement Works
(A Unit of Andhra Cements Limited)

Test Report

Nature of samples : Water
Sample received date : 26.09.2019
Sample analysis date : 26.09.2019
Sample analyzed at : In-house Laboratory (Captive Power Plant)

Location:			Srinagar Village	Gamalapadu Village	Colony	Club	Krishna River	Plant	IS 10500 Drinking Water Standards Limit	
Type of Water:			Bore				River	Drinking Water		
S. No.	Parameter	Unit	Results						Desirable Limit	Permissible limit
1.	pH	-	7.7	7.5	7.6	7.5	8.3	6.8	6.5 to 8.5	6.5 to 8.5
2.	Conductivity	(µs)	850	1150	1250	1470	620	152	NA	NA
3.	Turbidity	(NTU)	1.5	1.4	1.6	1.4	1.8	0.04	5-10	5-10
4.	Total Hardness	(mg/l)	210	240	215	220	205	20	300	600
5.	Calcium Hardness	(mg/l)	150	165	128	155	135	11	75	200
6.	Magnesium Hardness	(mg/l)	60	75	87	65	70	9	30	100
7.	TDS	(mg/l)	553	748	813	956	403	99	200	2000
8.	TSS	(mg/l)	-	-	-	-	-	-	100	100
9.	Alkalinity	(mg/l)	145	153	155	162	110	22	200	600
10.	Chlorides	(mg/l)	45	49	41	51	48	19	250	1000
11.	Fluorides	(mg/l)	0.37	0.29	0.41	0.25	0.35	0.1	0.5	1.5
12.	Arsenic	(mg/l)	0.003	0.004	0.003	0.004	0.02	0.01	0.05	0.05

Analyzed Signature
(Adesh Chaudhary)
Sr Chemist

STP Outlet Test Report

STARTECH LABS PVT. LTD.
2nd Floor, SMR Chambers, H.No. : 1-56/7,
Opp.: St. Ann's Jr. College, Madinaguda,
Hyderabad - 500 050, Telangana, INDIA.
Tel. : +91-40-23041900, 23041905, 40215094
E-mail: rambabu.g@startechlabs.com
Mobile : +91 9390869077

STARTECH LABS
QUALITY SERVICE IS OUR STRENGTH

TEST REPORT

Name & Address of the Customer:
M/S Durga Cement Works,
A Unit of Andhra Cements Ltd.,
Srinagar, Dachepally Mandal,
Guntur Dist., A.P.

Anal. Ref.No. : STL/EHS/J/12/2019/19D
Anal. Started on : 12/10/19
Anal. Comp. on. : 17/10/19
Date of Report : 17/10/19

SAMPLE DETAILS

Name of Sample : STP Outlet Water
Batch No.: ---
Sample Qty: 1Ltr
Date of Registration : 12/10/19
Sampling Details: Nil

RESULTS

S. No	Tests	Units	Methods	Results	Limits As per APPCB/CPCB Standards
1	pH @ Temperature (°C)	---	IS 3025	7.16 @ 25.7	6.0 – 9.0
2	Color	Hazen	IS 3025	1	---
3	Total Solids	mg/L	IS 3025	369	---
4	Total Dissolved Solids	mg/L	IS 3025	352	2100
5	Total Suspended Solids	mg/L	IS 3025	17	200
6	Oil & Grease	mg/L	IS 3025	Nil	10
7	Chemical Oxygen Demand	mg/L	IS 3025	28	250
8	Biological Oxygen Demand (3 days) at 27°C	mg/L	IS 3025	8.3	<10

Format No: ST/EN 020-F-03-01, Effective date: 02.07.2016
Report: Obtained results reported

Prepared by

Checked by

Authorised signatory
(Name & Designation)
G. Rambabu
ENV Manager

1 of 1

Rain water harvesting in DCW mine pit

3. Green belt development:

M/s Durga cement Works has been taken a lot of interest in the greenery development around the mines. Greenbelt development in the form of above described manner will serve following purposes

a) Mitigation of fugitive emissions
b) Noise pollution control
c) Arresting the soil erosion
d) Optimum use of waste land
e) Aesthetics
f) Increase in fresh Oxygen supply and acting as carbon sink thereby combating global warming through Reduction in CO_2 emissions
g) Improving microclimate, contributing to cooling effect and improve green cover in the surrounding areas, improving QOL (Quality of Life) with Increase in lung space and Promoting healthy lifestyle.

Plantation is being developed in following manner:

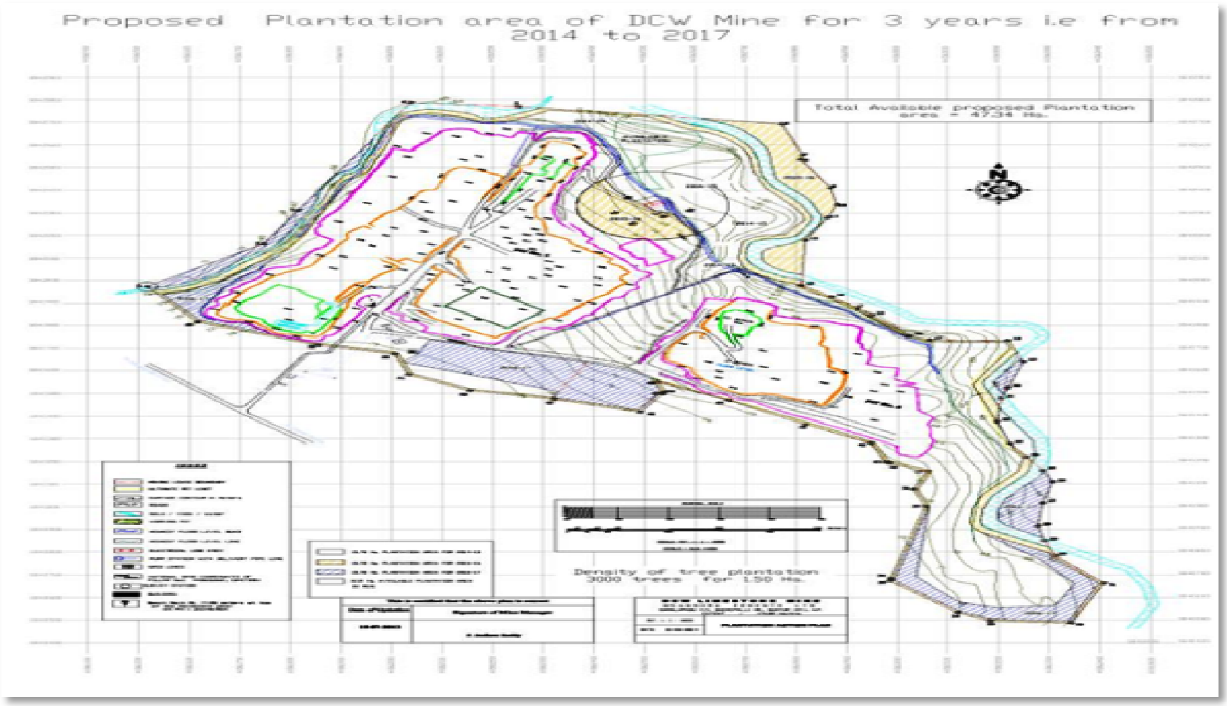
a) Shelter Belt plantation

All around the mine boundary 3 rows of saplings is being planted to form a greenbelt; Preference is being given to fast growing species including locally dominant species such as Neem, Pongamia, and Alstronia etc

b) Block plantation

Vacant land around facilities being developed in mines

Proposed Plantation Area:



Status of green belt development:

Total Mines Lease area	**Total Plantation**	**Total Plantation area**	**Period:** April, 2019 to March, 2020
170.22 Hectares	28334 Nos.	34.85 Hectares	Plantation : 2511 Nos.

Plantation Species :

S. No.	**Scientific Name**	**Common Name**	
1.	Tamarindus indica	Tamarind	Chinta
2.	Conocarpus erectus	Buttonwood	Dubai
3.	Phyllanthus emblica	Indian gooseberry	Usiri
4.	Neolamarckia cadamba	Burflower	Kadamba
5.	Millettia pinnata	Indian beech	Kanuga
6.	Azadirachta indica	Indian Lilac	Neem
7.	Albizia saman	East Indian walnut	Rain/ nidra ganneru
8.	Syzygium cumini	Black plum	Neeredu
9.	Terminalia catappa	Indian-almond	Badam
10.	Sapindus	Soapnut	Kunkudu
11.	Hardwickia binata	Anjan	Yepu
12.	Ficus religiosa	Sacred fig	Peepal/ raavi
13.	Annona squamosa	Sugar-Apple	Sweetsop/ Seetaphalam
14.	Ficus benghalensis	Banyan	Bargad/ Marri
15.	Tectona grandis	Teak Wood	Sagwan/Taku
16.	Calophyllum inophyllum	Indian laurel	Punnaga/ Tamanu
17.	Cassia fistula	Indian laburnum	Golden shower /Pupils

Soil binding and Nitrogen fixing trees plantation growth in mines area

Greenbelt both side of roads

Sapling Plantation on World Environment Day 5th June 2019

Green Belt Development in Mines Premises

4. Good housekeeping

<u>Following measures have been taken for good house keeping at mine area</u>

a) Mine roads and surrounding of site office area is being cleaned regularly.
b) All the roads of Mines and colony area have been concreted as well as flowering plants have been planted & developed both sides of road for beatification.
c) Development of plantation and greenery
d) Garden development surrounding mine site office & explosive magazine

Glimpse of house keeping in Explosive Magazine and site office in Mines

5. Solid waste management

Following strategy is being implemented to handle solid waste of all kinds.

a. Practicing principle of 2Rs i.e. Reduces & Reuse
b. No Solid waste is generated from mines.
c. All the hazarded waste will be disposed through the authorized recyclers.

PART –H

Additional Measures /investments proposed for environmental protection including abatement of pollution, prevention of pollution.

Durga Cement Works

(Limestone Mines)

A Unit of Andhra Cements Limited

Gamalapadu(V) Dachepalli (M) Dist. Guntur (AP)

Period : April, 2013 to March, 2019

S. No.	Description	Period	Amount (Lakhs)
1	Capital Cost investment in Pollution control Measure	2013-2014	35.56
2	Capital Cost investment in Pollution control Measure	2014-2015	10.84
3	Capital Cost investment in Pollution control Measure	2015 -2016	1.80
4	Capital Cost investment in Pollution control Measure	2016 -2017	1.28
5	Capital Cost investment in Pollution control Measure	2017 -2018	1.50
6	Capital Cost investment in Pollution control Measure	2018 -2019	1.32

Recurring cost of investment on pollution control at Limestone Mines			
S. No.	**Description**	**Period**	**Amount (Lakhs)**
1.	Water Sprinkling on roads by tankers	During the Year 2016 - 2017	3.1500
2.	House keeping		1.8000
		Total Expenditure =	**4.6758**
3.	House keeping and Maintenance	During the Year 2017 - 2018	7.3000
4.	Man Power		2.3420
5.	Water Spraying		2.1000
6.	Mines Plantation (Labour) Cost		4.9764
		Total Expenditure =	**16.7184**
7.	House keeping and Maintenance	During the Year 2018 - 2019	3.61596
8.	Man Power		5.90417
9.	Water Sprinkling on roads by tankers		7.29000
		Total Expenditure =	**16.8101**
10.	House keeping and Maintenance	During the Year 2019 - 2020	3.60000
11.	Water Sprinkling on roads by tankers		2.73600
		Total Expenditure =	**6.33600**

Summarized CSR activities during the period April 2019-March 2020

Sl. No.	Description	Amount (Rs. in Lakhs)
1	Drinking water supply scheme for village Srinagar, & Dandivagu lift Irrigation Co.Society (Rs 60,000/-each).	1.2
2	Providing medical check ups to all students at DPS with free medical help and energy food to lower class (weekly twice)	0.4
3	Contribution to Temple/Church for Maintenance/Puja at Village Ramapuram(2000/-PM Srinagar(3000/-PM/ Gamalapadu 3000/-PM	0.48
4	340 Cement bags issued Durga Public School for Maintenance work from April to July19	1.02
5	Security Services provided for Durga Public School	1.56
6	Maintenance of School building & class room benches for student of DPS.	0.60
7	Flooring/plastering/roadwork & works of Saraswati temple inside DPS premises.	3.08
	Total Expenditure (Rs. in Lakhs)	**8.34**

DCW CSR Activities

Purified RO water plant provided in Srinagar village

Street Light & Water supply pipeline provided in Srinagar Village

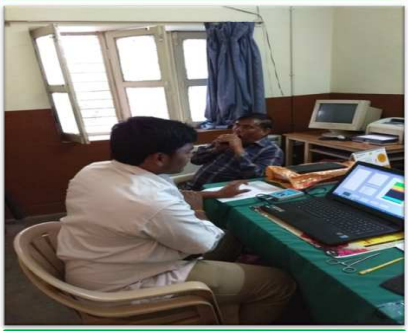
Eye checkup

Blood pressure test

Blood Sugar test

ECG test

Audiometry test



Pulmonary function test

Medical Health Checkup

PART –I

Any other particulars for improving the Quality of environment

Preventive Measures:

a. Protection of environment: The mine management has taken all initiative to control of pollution. Ambient air and fugitive air quality monitoring is regularly being carried out by the company as wells by other statuary agencies and the results have been found to be within the prescribed limits .Noise levels are also monitored and care is taken to keep the same with in prescribed norms

b. Use of personal protective Equipment: All employees are provided with personal protective Equipments(PPEs),as per the requirement, such as workers working in mine area are provided with dust masks and in noise pollution areas with Ear plugs/Ear muff ,safety boots gloves welding goggles, Goggles and safety helmet are also being provided as per the requirement.

Workplace Safety Awareness Training by Safety dept. personnel

Mines Safety Week celebration conducted on 26.11.2019