

ANDHRA CEMENTS LIMITED
DURGA CEMENT WORKS

Registered Post with Acknowledgement Due

ACL/DCW/ENV/2018-19/ 396

Date: 12/09/2019

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 2019.

Ref: Consent Order no: APPCB/HO/UH-IV/CFO: VJA/Auto Renewal-3/2016 Dt.20.06.2016, valid for the period up to Dt. 30.06.2019.

Dear Sir,

With reference to your Consent to operate vide order no. APPCB/HO/UH-IV/CFO:VJA/Auto Renewal-3/2016 Dated 30.06.2016 of Durga Cement works (Mines Division) a unit of Andhra Cements limited; We hereby submit the Environment statement (Form-V) for the financial year 2018-2019.

This is for your kind information and acknowledgement please.

Thanking You

Yours faithfully,
For **Durga Cement Works**
(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

Additional Principal Chief Conservator of Forests,
Ministry of Environment, Forest and Climate Change,
Regional Office (SEZ),
1st and 11nd Floor, Handloom Export Promotion Council,
34, Cathedral Garden Road, Nungambakkam,
Chennai – 34

The Director
Regional Office, (South Zone) MoEF, Govt. of India
Kendriya sadan, 4th floor E&F wings, 11nd Blook, Karamangla
Bengaluru-560034, Karnataka

Scientist & Incharge
Central Pollution Control Board

1st and 2nd Nisarga Bhavan, 7th D Main Road,
Tirumala Rd, Shivanagar, A-Block, Bengaluru, Karnataka 560079

Hegd. 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

**JAYPEE**
GROUP

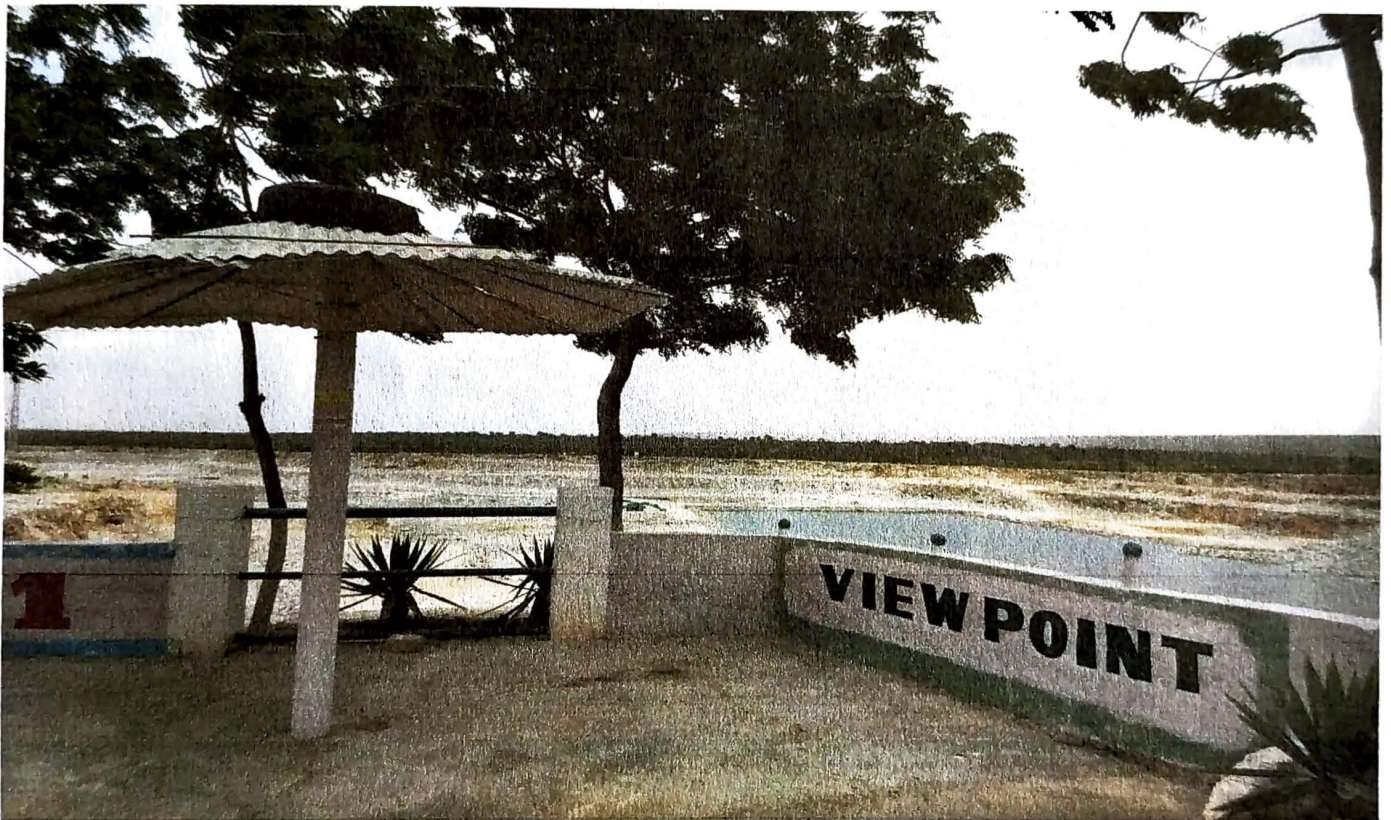
o/c



Environmental Statement Report

Form-V

[Financial Year 2018-2019]



Durga Cement Works (Limestone Mines)

A Unit of Andhra Cements Limited



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

DURGA CEMENT WORKS

(MINES DIVISION)

A Unit of Andhra Cements Limited
Durgapuram, Gamalapadu (V), Dachepalli (M)
Guntur Dist. (AP)

FORM-V

See Rule-14

Environmental Statement Report for the financial year ending the March 31, 2019

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/2018/1578 Dt.14/08/2018

PART- B

Water and Raw material consumption

A. Water

(i) Water consumption m³/day

Process m³/day : 45.14 (Average during 2018-2019)

Domestic m³/day : 4.92 (Average during 2018-2019)

(ii) Consumption per unit of production

Name of product	Process water consumption per unit of product-output (KL/MT)	
	During the previous financial year (2017-2018)	During the current financial year (2018-2019)
1.Limestone	0.0063	0.0076

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 (2017-18)	During the current financial year (2018-2019)
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	8.328x10 ⁻⁸	5.228x10 ⁻⁸	12.87 % less
	PM _{2.5}	6.901x10 ⁻¹⁰	3.013x10 ⁻⁸	24.69 % less
	SO ₂	1.294x10 ⁻⁹	9.639x10 ⁻⁹	80.72 % less
	NO ₂	1.800x10 ⁻⁸	1.322x10 ⁻⁸	66.95 % less

PART D

HAZARDOUS WASTES

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

Hazardous waste	Total Quantity (Kg)	
	During the previous financial year 2017-2018	During the current financial year (2018-2019)
(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 (2017-18)	During the current financial year (2018-2019)
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, used oil: Nil

Solid waste: Nil

PART -G

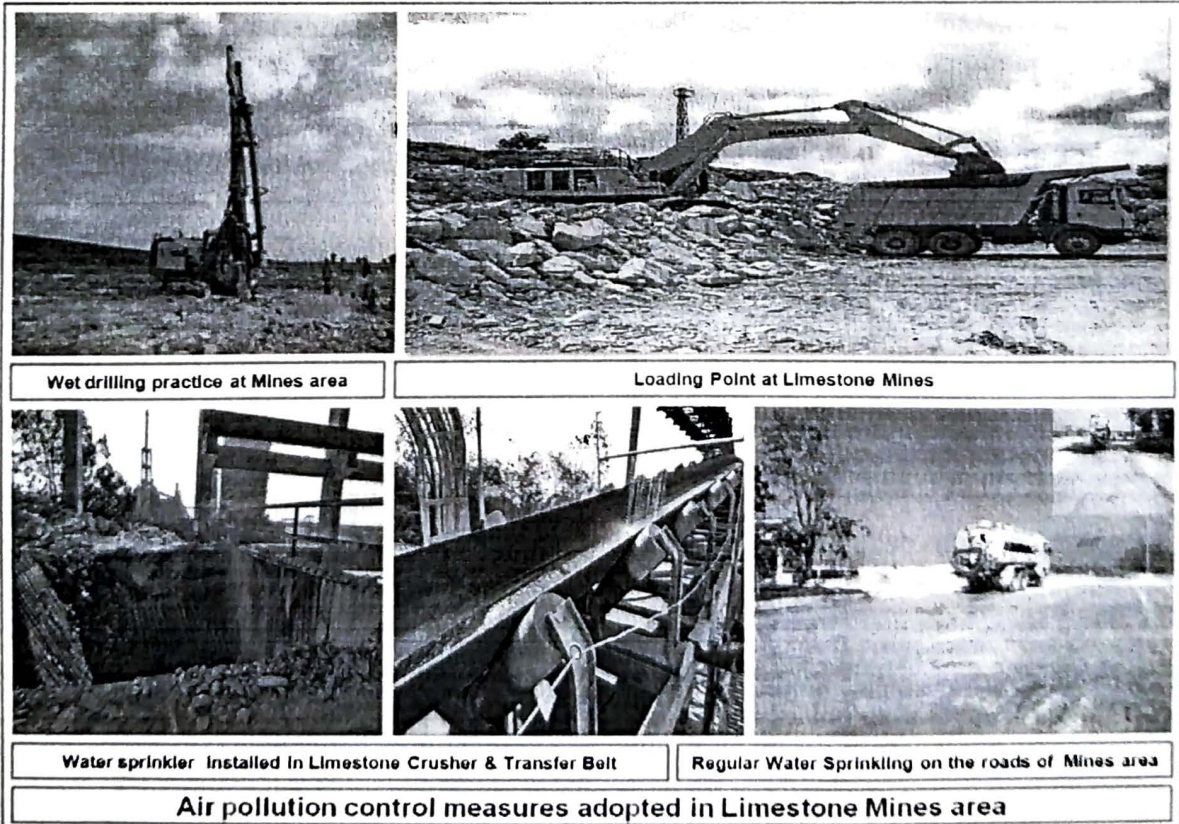
Impact of the pollution abatement measures taken on conservation of natural resources and on the cost of production

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 done on haul roads through water spray tanker 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. The results show that the emissions like SPM SO₂, NO₂ 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 , 2018 to March, 2019

Location – (1)	Near Mine Pit (Cross wind)			
Parameter	PM _{2.5} (µg/m ³)	PM ₁₀ (µg/m ³)	SO ₂ (µg/m ³)	NO ₂ (µg/m ³)
Maximum	37.34	65.55	16.16	29.60
Minimum	23.36	43.44	4.12	2.19
Average	29.32	53.10	10.11	13.42
Location – (2)	Near Naguleru River Pump House (Cross Wind)			
Parameter	PM _{2.5} (µg/m ³)	PM ₁₀ (µg/m ³)	SO ₂ (µg/m ³)	NO ₂ (µg/m ³)
Maximum	41.73	66.88	22.39	26.55
Minimum	23.63	39.54	1.14	8.78
Average	30.57	53.12	10.57	14.53
Location – (3)	Near CPP (Towards Gamalapadu Village) UP Wind			
Parameter	PM _{2.5} (µg/m ³)	PM ₁₀ (µg/m ³)	SO ₂ (µg/m ³)	NO ₂ (µg/m ³)
Maximum	40.80	69.54	15.27	18.52
Minimum	25.03	40.83	1.26	4.50
Average	33.13	53.47	8.12	11.80
Location – (4)	Colony area (Towards Srinagar Village) Down Wind			
Parameter	PM _{2.5} (µg/m ³)	PM ₁₀ (µg/m ³)	SO ₂ (µg/m ³)	NO ₂ (µg/m ³)
Maximum	35.85	61.91	32.86	19.74
Minimum	23.23	37.86	0.58	8.28
Average	27.49	49.43	9.76	13.13



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

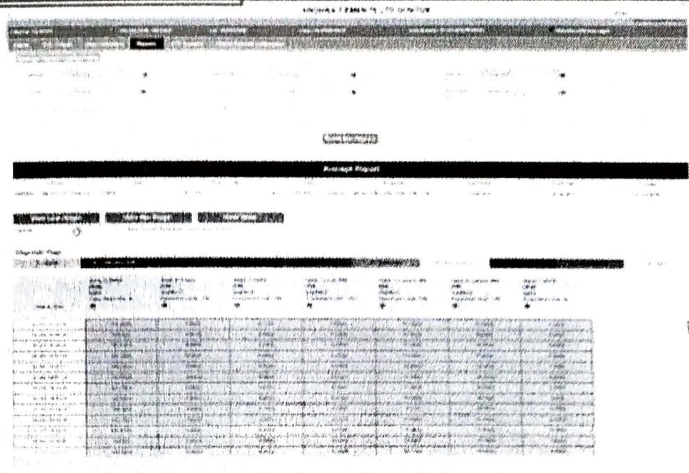
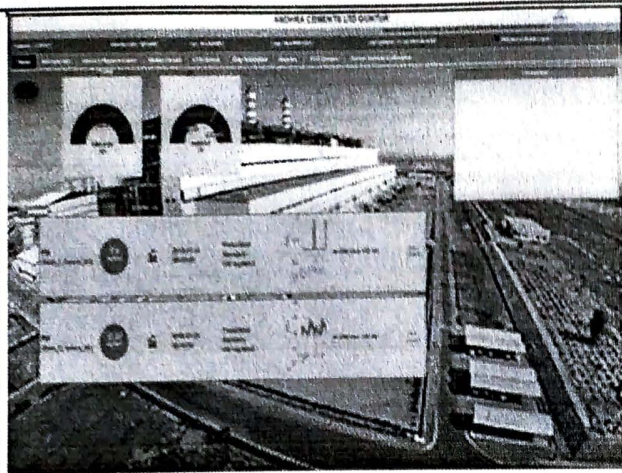


(1) Sound Level Meter (2) Spectrophotometer (3) PM10 & PM2.5 (Dust) Sampler



Ambient Noise Level Monitoring

Environmental Monitoring arrangements in DCW



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

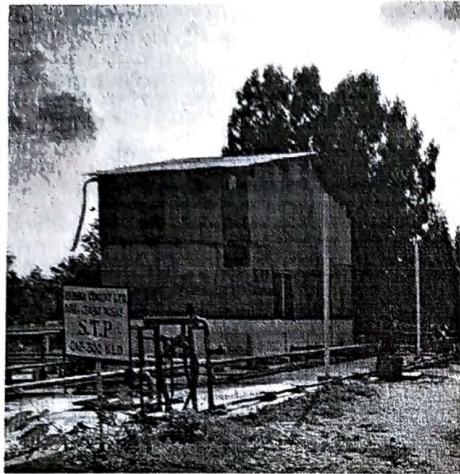
Noise pollution control measures:

- 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

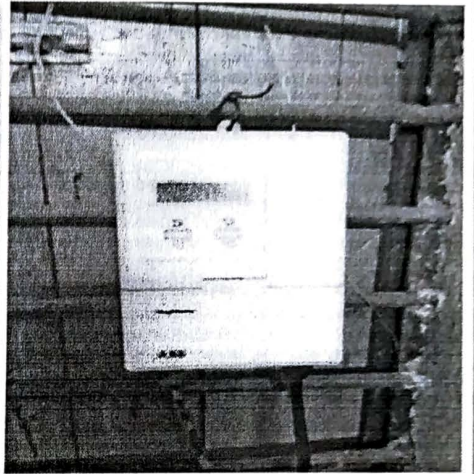
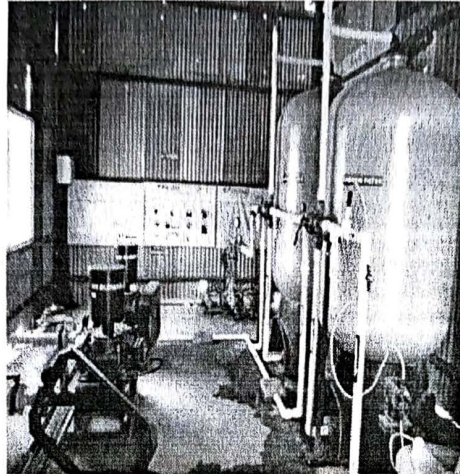
Ambient Noise Level Monitoring Report				
Period: April, 2018 to March, 2019				
Location	1. Haulage Road		2. Drilling Point	
Time	Day (6:00 am-10:00 pm)	Night (10:00 am-06:00 pm)	Day (6:00 am-10:00 pm)	Night (10:00 am-06:00 pm)
Concentration	dB(A)Leq			
Maximum	70.1	62.2	69.7	57.8
Minimum	55.3	40.5	54.3	37.7
Average	61.5	50.1	60.4	47.8
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	69.4	60.4	68.2	63.8
Minimum	55.3	39.6	39.9	36.8
Average	62.0	47.8	49.0	45.9

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.



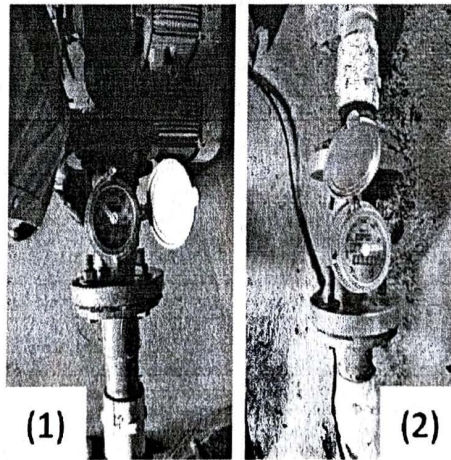
300 KLD Sewage Treatment Plant Installed near DCW Colony



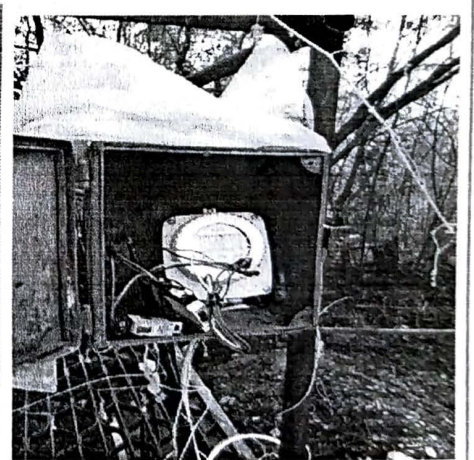
Domestic Water flow Meter



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

Test Report

Nature of samples: Water
 Sample received date: 06.03.2019
 Sample analysis date: 06.03.2019
 Sample analyzed at: In-house Laboratory (Captive Power Plant)

S. No.	Parameter	Unit	Location							IS 18500 Drinking Water Standards Limit	
			Srinagar Village	Ganapadu Village	Colony	Club	Krishna River	Plant	Bore	River	Drinking Water
1	pH	-	7.1	7.2	7.5	7.4	8.2	8.0	8.5 to 8.5	6.5 to 8.5	
2	Conductivity	(µs)	835	1230	1549	1519	885	161	NA	NA	
3	Turbidity	(NTU)	1.21	1.2	1.7	1.5	1.3	0.05	5-10	5-10	
4	Total Hardness	(mg/l)	220	215	204	229	215	16	300	600	
5	Calcium Hardness	(mg/l)	140	143	121	150	136	9	75	200	
6	Magnesium Hardness	(mg/l)	80	72	83	79	79	7	30	100	
7	TDS	(mg/l)	543	800	878	988	446	105	200	2000	
8	TSS	(mg/l)	-	-	-	-	-	-	100	100	
9	Alkalinity	(mg/l)	140	150	146	160	101	20	200	600	
10	Chlorides	(mg/l)	40	48	57	50	47	17	250	1000	
11	Fluoride	(mg/l)	0.33	0.24	0.37	0.3	0.4	0.2	0.5	1.5	
12	Arsenic	(mg/l)	0.007	0.003	0.003	0.004	0.02	0.07	0.05	0.05	

Analyzed Signature
 (C Prasad)
 Jr Chemist

STP Outlet Test Report

STARTECH LABS PVT LTD

Plot No. 100, Chaitanya, 11th No. 1, 5th,
 12th, 13th, 14th, 15th, 16th, 17th, 18th,
 Hyderabad - 500 080, Telangana, INDIA.
 Tel: +91 40 33041991, 33041995, 40218004
 E-mail: startechlabs@startechlabs.com
 Website: www.startechlabs.com



TEST REPORT

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

Anal. Ref No: STLEHS/11002/190
 Anal. Started on: 11/03/19
 Anal. Comp. on: 16/03/19
 Date of Report: 18/03/19

SAMPLE DETAILS

Name of Sample: STP Outlet Water
 Batch No.:
 Sample Qty: 1Ltr
 Date of Registration: 11/03/19

Sampling Details: NA

RESULTS

S. No	Tests	Units	Methods	Results	Limits As per TSPCB/CPCB Standards
1	pH @ Temperature (°C)	-	IS 3025	7.14 @ 25.8	6.5 - 9.0
2	Color	Hazen	IS 3025	1	-
3	Total Solids	mg/L	IS 3025	358	-
4	Total Dissolved Solids	mg/L	IS 3025	349	2100
5	Total Suspended Solids	mg/L	IS 3025	9.0	200
6	Oil & Grease	mg/L	IS 3025	Nil	10
7	Chemical Oxygen Demand	mg/L	IS 3025	32.3	250
8	Biological Oxygen Demand (5 days) at 27°C	mg/L	IS 3025	7.8	<10

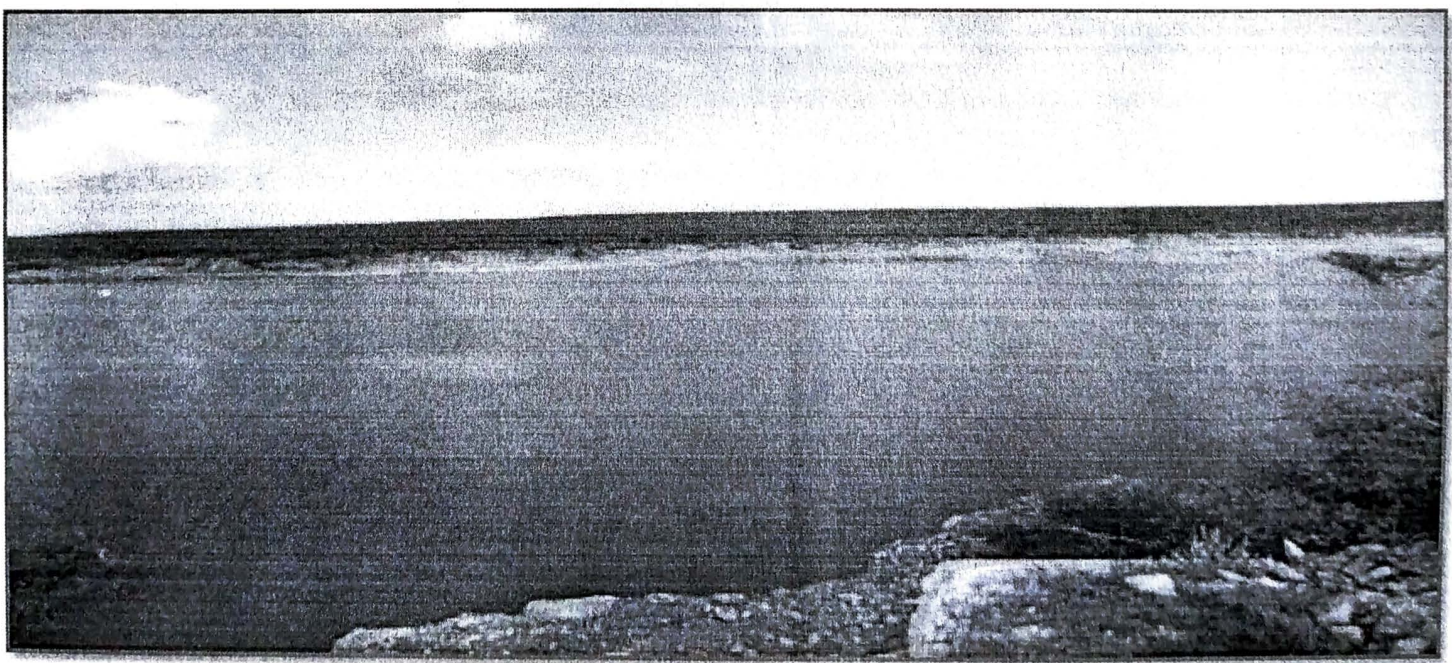
Form No: ST/34-20-F-03-01, Effective date: 02.07.2016

Report: Obtained results reported

Prepared by: *[Signature]*

Checked by: *[Signature]* 18/03/19

[Signature]
 18/03/19
 Authorised signatory
 (Name & Designation)
 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 CO₂ 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

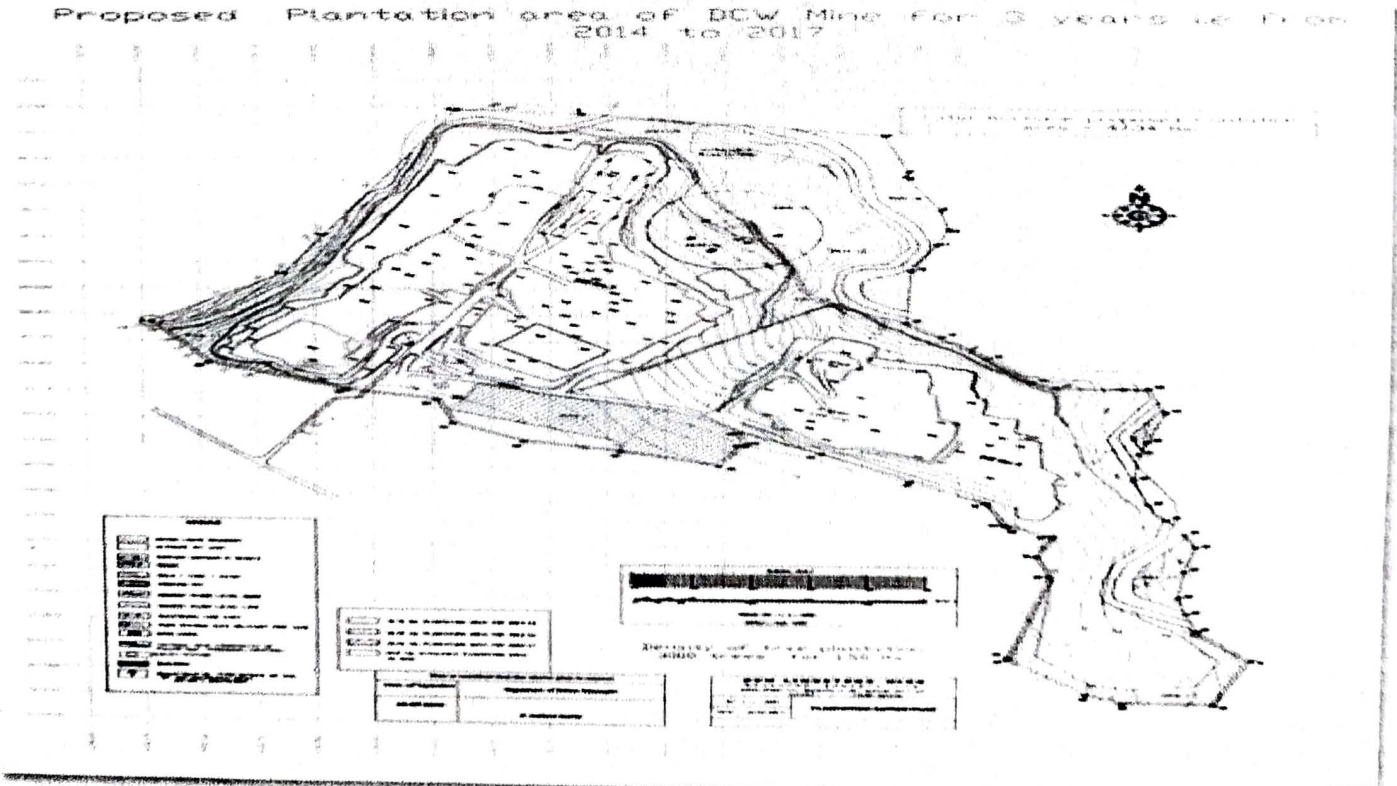
All around the mine boundary 3 rows of saplings is being planted to form a greenbelt; Preference is being given to fast growing species including locally dominant species such as Neem, Pongamia, and Alstronia etc

- b) Block plantation

Vacant land around facilities being developed in mines

Proposed Plantation Area:

Proposed Plantation area of DCW Mine For 3 years i.e From 2014 to 2017

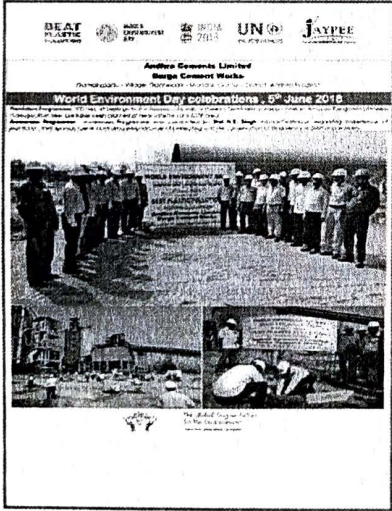


Status of green belt development:


Total Mines Lease area	Total Plantation	Total Plantation area	Period: April, 2018 to March, 2019
170.22 Hectares	26223 Nos.	33.77 Hectares	Plantation : 3599 Nos.

Plantation Species :

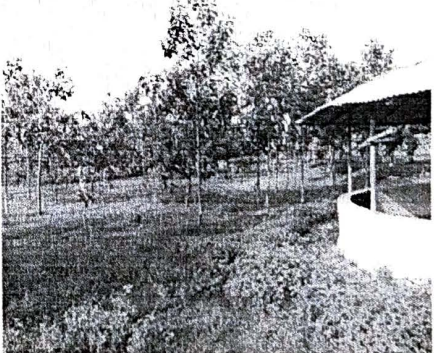
S. No.	Scientific Name	Common Name	
1.	Tamarindus indica	Tamarind	Chinta
2.	Conocarpus erectus	Buttonwood	Dubai
3.	Phyllanthus emblica	Indian gooseberry	Usiri
4.	Neolamarckia cadamba	Burflower	Kadamba
5.	Millettia pinnata	Indian beech	Kanuga
6.	Azadirachta indica	Indian Lilac	Neem
7.	Albizia saman	East 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




World Environment Day celebrations - 5th June 2018




Soil binding and Nitrogen fixing trees plantation growth in mines area



Greenbelt both side of roads



Sapling plantation on Mines Environment & Mineral Conservation week



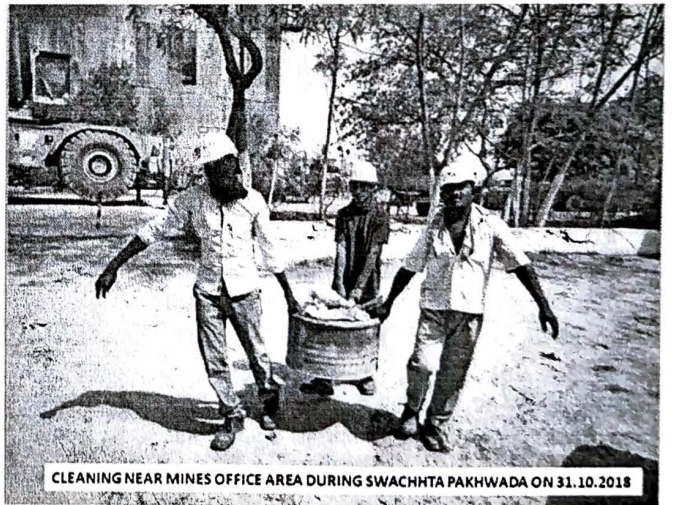
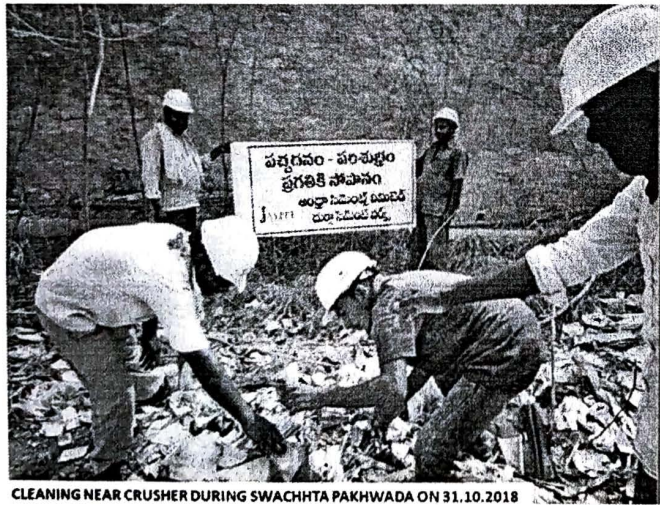
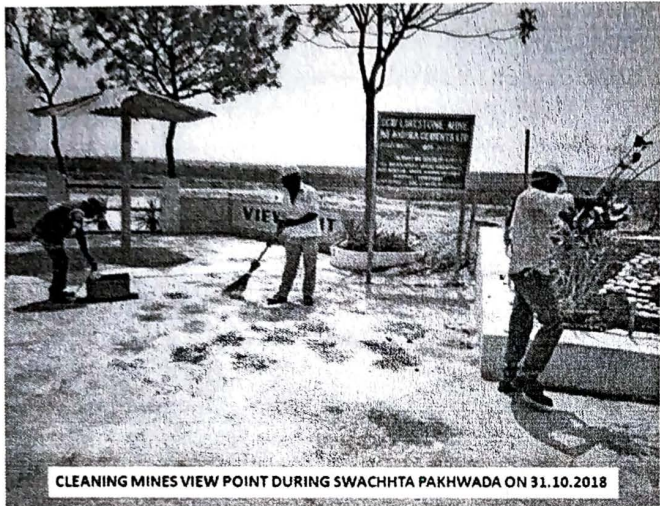
Greenbelt both side of roads

Green belt development in Mines premises

4. Good housekeeping

Following measures have been taken for good house keeping at mine

- 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 and shedding plant species 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



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 hazardous waste will be disposed through the authorized recyclers.

A

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, 2018			
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

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 2015 - 2016	2.9883
2.	House keeping		1.6875
Total Expenditure =			4.6758

3.	Water Sprinkling on roads by tankers	During the Year 2016 - 2017	3.1500
4.	House keeping		1.8000
Total Expenditure =			4.9500

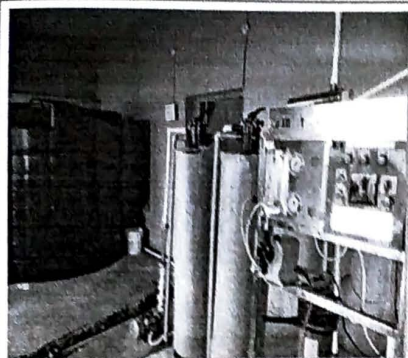
5.	House keeping and Maintenance	During the Year 2017 - 2018	7.3000
6.	Man Power		2.3420
7.	Water Spraying		2.1000
8.	Mines Plantation (Labour) Cost		4.9764
Total Expenditure =			16.7184

9.	House keeping and Maintenance	During the Year 2018 - 2019	361596
10.	Man Power		590417
11.	Water Sprinkling on roads by tankers		729000
Total Expenditure =			16.8101

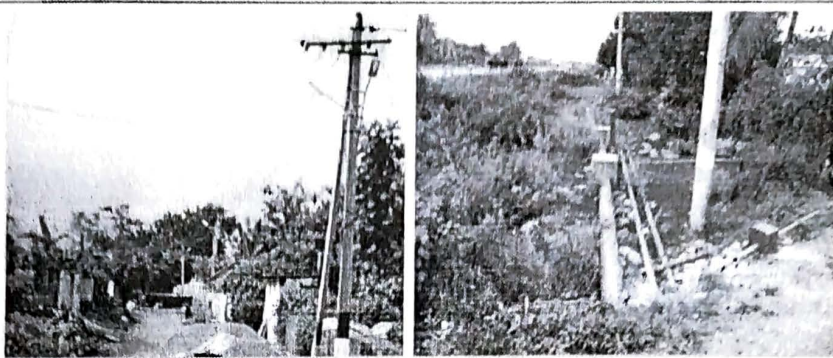
Summarized CSR activities during the period April 2018-March 2019

S. No.	Description	Amount (Lakhs)
1	Drinking Water Supply scheme for four village (Srinagar, Ramapuram, Gamalpadu, Batrupalem)	1.2
2	Drinking water supply scheme for village Srinagar & Dandivagu lift Irrigation Co. Society (Rs 60,000/-each). on 01/12/18	1.2
3	75 bags Cement supplied to Dachehalli village.	0.15
4	Providing Medical check ups to students at Durga Public school with free medical help and energy food to lower class (weekly twice)	0.8
5	Providing free R.O. water (including supply of regular water in times of power/water supply failure), emergency medical services and ambulance and fire services in surrounding villages like Madinapadu, Srinagar, Ramapuram, Gamalpadu, Batrupalem.	0.5
6	Cost of Temple renovation & maintenance work outside Andhra Cements Ltd , for uplift, security of temple area , temple coming under Gamalpadu panchayat area , Dachehalli Mandal, Distt. A.P -522414.	6.5
7	Maintenance work (civil & steel work), providing cover to stage with steel tins to School Stage at Durga Public School for Children Function and other school activity.	0.5
8	Maintenance of Class room benches meant for students of Durga Public school..	0.55
9	Supply of 264Tons of filling material for Road making at Srinagar, in July 2018, Gamalpadu Panchayat, Guntur Distt.	0.37
10	Contribution to Temple/Church for Maintenance/Puja at Village Ramapuram (2000/-PM Srinagar(3000/-PM/ Gamalpadu 3000/-PM	0.48
11	Fire tender service provided during urgent requirement in Dachehalli/ Village Srinagar.	0.15
12	Extension of Five Class rooms , Construction & completion work at DPS School Dachehalli Mandal, Distt Guntur	6.5
13	Maintenance work, providing at DPS for children function and other school activities	0.5
14	Maintenance of class room benches for students of DPS.	0.55
15	Boarding & lodging arrangement for Kabaddi Team organized by National Kabaddi Sports Authority Dachehalli for 30 Nos. for 5days at Township Durgapuram Andhra Cements	0.75
16	200 bags donated for Sri Krishna Temple at Machavarum village, Distt Guntur on 7/11/18	0.6
17	200 bags donated for Church at Village: Julakallu, Distt Guntur	0.6
18	400 bags donated for Maddeliah Temple Dacheppali Mandal, Distt Guntur.	1.2
Total Expenditure =		23.1

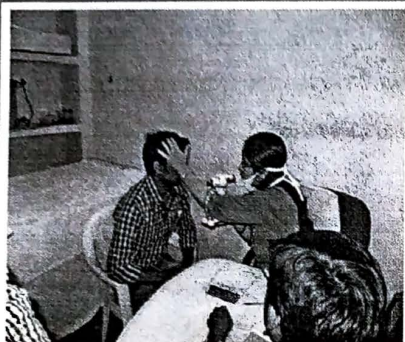
DCW CSR Activities



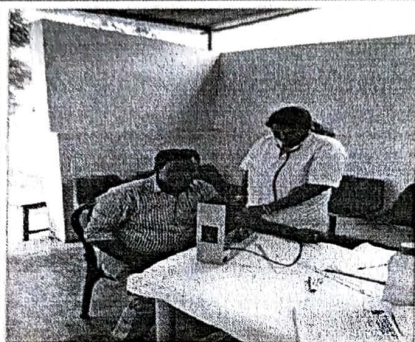
Purified RO water plant provided in Srinagar village



Street Light & Water supply pipeline provided in Srinagar Village



Eye checkup



Blood pressure test



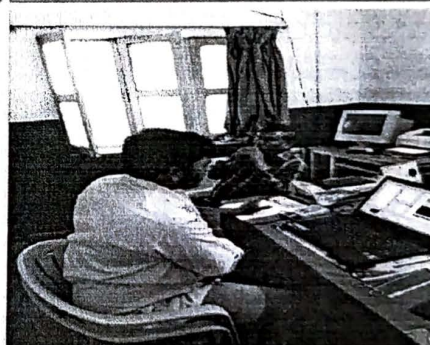
Blood Sugar test



ECG test



Audiometry test



Pulmonary function test

Medical Health Checkup

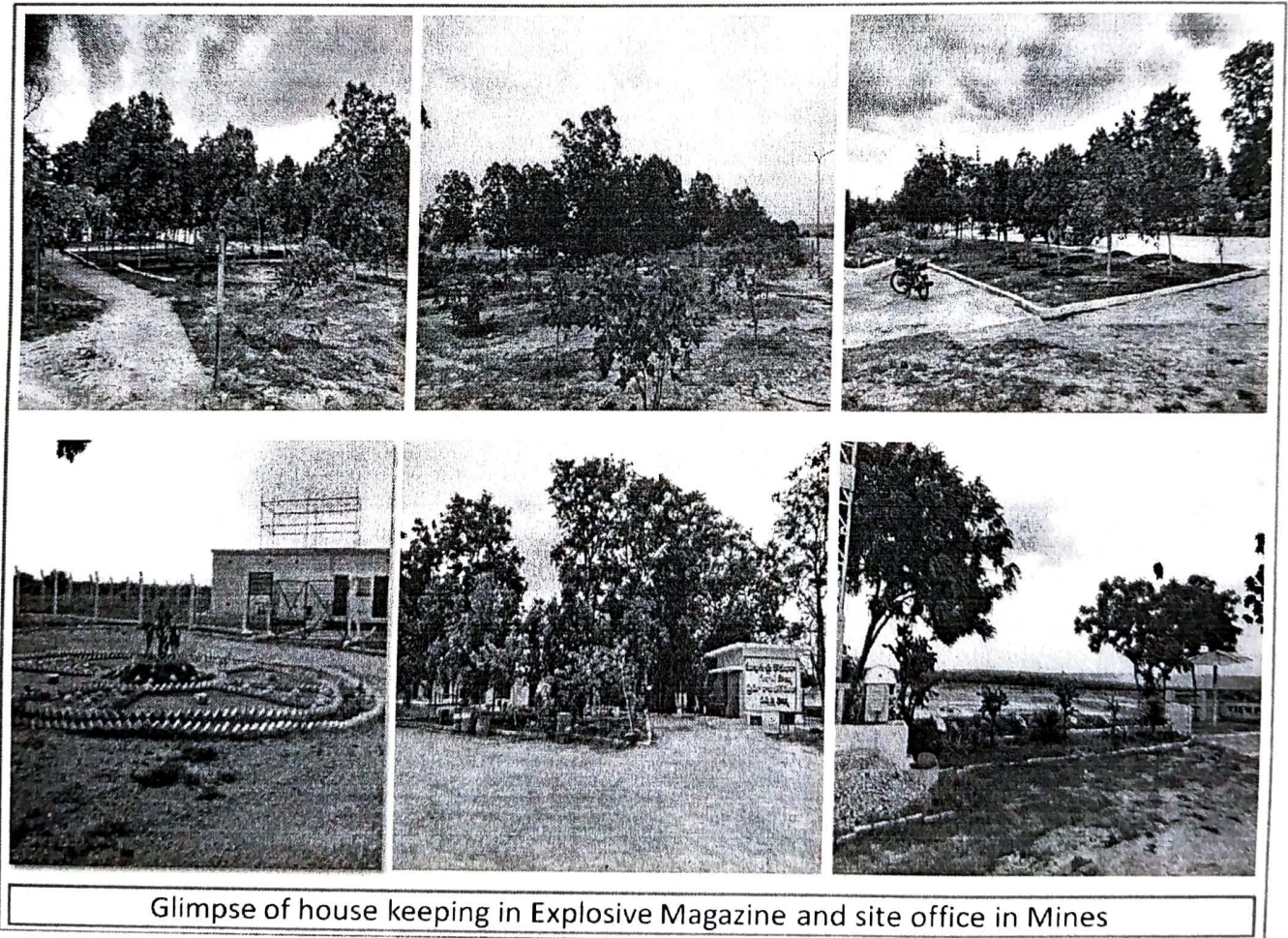
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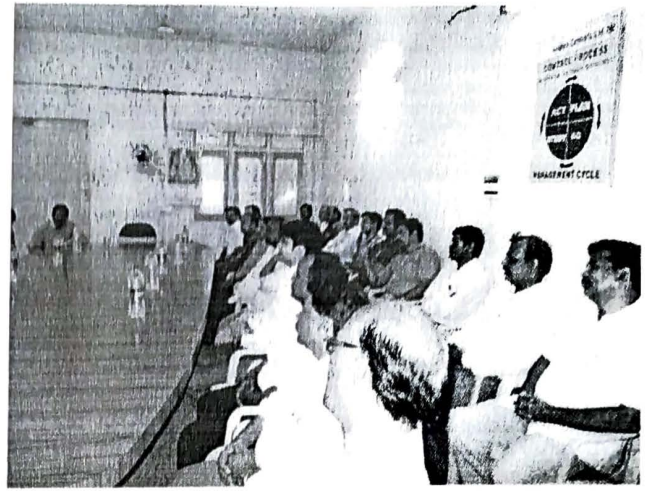
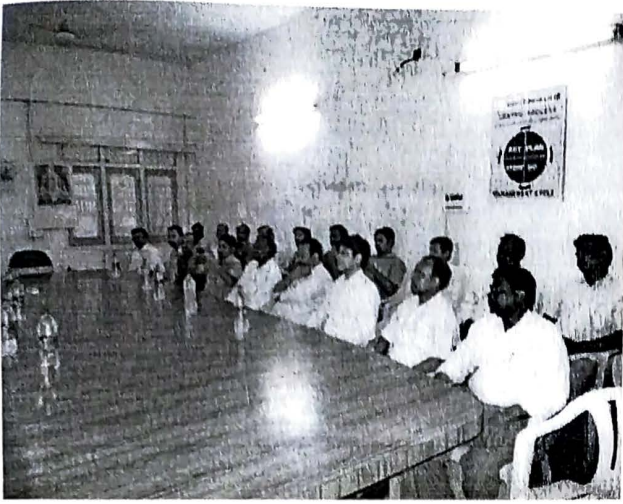
PART -I

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 statutory 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.





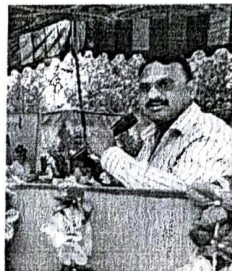
Workplace Safety Awareness Training by Safety dept. personnel



Sh. B. Narasimhulu (Manager - Mines)



Sh. A.K. Kushwah (Sr. Vice President)



Sh. K. Veera Babu (Vice President- Mech.)



Sh. K. Kasinath (GM - Elect & Inst.)



Sh. M. Prabhakar Rao (GM - P & A)



Deep Prajwalan on celebrating Mines Safety Week



Audit Team experts comments on Mines Safety Week celebration – Dt.29.11.18



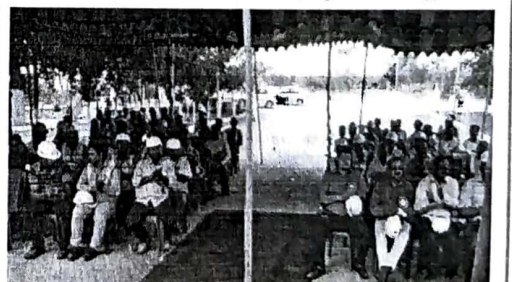
Sh. K. P. Singh (Engineer - Safety)



Auditors Welcome on stage Function



Honor & Appreciation by Auditors to employees



Glimpse of participants & audience

Mines Safety Week celebration

An audit team had inspected our DCW Limestone Mines on 29.11.2018.

After completion of the Mines inspection, Stage Function was celebrated at Mines office.

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