



ISO 9001 ISO 14001 ISO 45001 ISO 50001
Certified Company

Kumarasamy Raja Nagar – 521457
Jaggayapet Mandal, Krishna District,
Andhra Pradesh, India
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THE RAMCO CEMENTS LIMITED

RCL/PCB-Form-V/240/171

Date: 10.09.2020

The Environmental Engineer,
AP Pollution Control Board,
Regional Office,
Plot No. 41, Kanakadurga Officers Colony,
Opp. SBH, Gurunanak Road,
VIJAYAWADA – 520 008.

Dear Sir,

Sub: Submission of Environmental Statement in Form - V for Jayanthipuram Limestone Mine (North Band), Jayanthipuram Limestone Mine (South Band), Ravirala Limestone Mine (RF) and Ramco Budawada Limestone Mine (RF) for the Financial Year 2019-2020 - Reg.

Please find enclosed herewith three sets of Environmental Statement in Form - V for the following Captive Mines of The Ramco Cements Limited for the financial year 2019-2020 along with relevant enclosures:

- Jayanthipuram Limestone Mine (North Band)
- Jayanthipuram Limestone Mine (South Band)
- Ravirala Limestone Mine (RF)
- Ramco Budawada Limestone Mine (RF)

This is for your information and records please.

Thanking you.

Yours faithfully,
For The Ramco Cements Limited,

(N RAVI SHANKAR)
President (Mfg)

Encl.: As above.

ENVIRONMENTAL STATEMENT (FORM – V)

FOR FINANCIAL YEAR 2019-2020

**JAYANTHIPURAM LIMESTONE MINE (NORTH BAND)
JAYANTHIPURAM LIMESTONE MINE (SOUTH BAND)
RAVIRALA LIMESTONE MINE (RF)
RAMCO BUDAWADA LIMESTONE MINE (RF)**

An

**QMS- IS / ISO 9001:2015,
EMS- IS/ ISO 14001:2015,
OHSMS- IS/ISO 45001:2018,
EnMS – ISO 50001:2011
Certified Company**



**THE RAMCO CEMENTS LIMITED,
KUMARASAMY RAJA NAGAR 521457
JAGGAIHPET (M),
KRISHNA DIST., AP.
ENVIRONMENTAL STATEMENT (FORM – V)**

(See rule 14)

**Environmental statement for the financial year
ending the 31st March 2020
PART – A**

1.	Name and address of the owner / occupier of the industry operation or process	:	The Ramco Cements Limited Kumarasamy Raja Nagar - 521 457, Jaggiahpet Mandal, Krishna Dt., A.P										
	Industry operation or process	:	Captive Limestone Mines: <ul style="list-style-type: none">• Jayanthipuram Limestone Mine (North Band)• Jayanthipuram Limestone Mine (South Band)• Ravirala Limestone Mine (RF)• Ramco Budawada Limestone Mine (RF)										
2.	Industry category Primary – (STC Code) Secondary – (SIC Code)												
3.	Production capacity		Production capacities are: <table border="1" style="width: 100%;"><thead><tr><th>Mine</th><th>Limestone Capacity, Million TPA</th></tr></thead><tbody><tr><td>Jayanthipuram Limestone Mine (North Band)</td><td>1.8</td></tr><tr><td>Jayanthipuram Limestone Mine (South Band)</td><td>0.5</td></tr><tr><td>Ravirala Limestone Mine (RF)</td><td>1.2</td></tr><tr><td>Ramco Budawada Limestone Mine (RF)</td><td>1.1</td></tr></tbody></table>	Mine	Limestone Capacity, Million TPA	Jayanthipuram Limestone Mine (North Band)	1.8	Jayanthipuram Limestone Mine (South Band)	0.5	Ravirala Limestone Mine (RF)	1.2	Ramco Budawada Limestone Mine (RF)	1.1
Mine	Limestone Capacity, Million TPA												
Jayanthipuram Limestone Mine (North Band)	1.8												
Jayanthipuram Limestone Mine (South Band)	0.5												
Ravirala Limestone Mine (RF)	1.2												
Ramco Budawada Limestone Mine (RF)	1.1												
4.	Year of Establishment		1986										
5.	Date of the last environment audit report submitted	:	25.09.2019										

**PART – B
WATER AND RAW MATERIAL CONSUMPTION**

Water consumption m³/day:

Process & greenbelt 312.88 m³/day
Total 312.88 m³/day

Name of the product(s)	Water consumption per unit of products (m ³ /MT of Limestone)	
	During the previous financial year (2018-2019)	During the current financial year (2019-2020)
Limestone	0.027	0.032

Note:

- Water consumption for domestic uses is being transported from water treatment plant located in cement plant. This quantity is included in the cement plant domestic use category, hence not mentioned here.
- The limestone production details are given in Annexure – I.

Raw material consumption:

Sl. No.	Name of the raw material	Consumption of raw material	
		During the previous financial year (2018-2019)	During the current financial year (2019-2020)
1	Diesel Oil, L	18,67,600	1970600
2	Lubricant Oil, L	26,593	36052
3	Grease, kg	9,124	9210
4	ANFO, kg	5,61,600	542850
5	Slurry explosives – Small dia. (up to 32mm)., kg	1,679	----
6	Slurry explosives – Large dia. (above 32mm)., kg	1,41,970	139000
7	Electrical Detonators – Ordinary, Nos.	3,197	1134
8	Electrical Detonators – Delay, Nos.	2,518	672
9	Nonel Detonators, Nos.	24,366	15874
10	Detonating fuse, m	9,924	3920

PART- C

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

(1) Pollutants	Quantity of Pollutants discharged (mass/day)	Concentrations of Pollutants discharges (Mass/volume)	Percentage of variation from prescribed standards with reasons
(a) Water			
p ^H	Auto Garage Oil & Grease Trap Treated Waste Water - Not quantified in the financial year 2019-2020	7.18 - 7.93	Well within the prescribed limits
TDS		894.2 mg/L	
TSS		85.4 mg/L	
COD		131.2 mg/L	
BOD		34.0 mg/L	
O & G		2.8 mg/L	

(1) Pollutants	Quantity of Pollutants discharged (mass/day)	Concentrations of Pollutants discharges (Mass/volume)	Percentage of variation from prescribed standards with reasons
(b) Air - Ambient Air Quality Monitoring in the nearby areas:			
PM ₁₀	Dharmavarapadu Thanda Village	58.18 µg/m ³	Well within the prescribed limits
PM _{2.5}		22.50 µg/m ³	
SO ₂		13.23 µg/m ³	
NO _x		17.47 µg/m ³	
PM ₁₀	Jayanthipuram Village	52.79 µg/m ³	Well within the prescribed limits
PM _{2.5}		20.85 µg/m ³	
SO ₂		13.68 µg/m ³	
NO _x		17.99 µg/m ³	

PM ₁₀	Own Your House Colony	62.54 µg/m ³	Well within the prescribed limits
PM _{2.5}		24.40 µg/m ³	
SO ₂		13.57 µg/m ³	
NOx		17.63 µg/m ³	
PM ₁₀	K Agraharam Village	65.21 µg/m ³	Well within the prescribed limits
PM _{2.5}		25.23 µg/m ³	
SO ₂		13.73 µg/m ³	
NOx		17.79 µg/m ³	
PM ₁₀	Jaggayyapet	71.07 µg/m ³	Well within the prescribed limits
PM _{2.5}		28.53 µg/m ³	
SO ₂		15.91 µg/m ³	
NOx		20.09 µg/m ³	
PM ₁₀	Budawada Village	60.93 µg/m ³	Well within the prescribed limits
PM _{2.5}		24.02 µg/m ³	
SO ₂		13.63 µg/m ³	
NOx		17.98 µg/m ³	
PM ₁₀	Vedadri Village	59.38 µg/m ³	Well within the prescribed limits
PM _{2.5}		23.15 µg/m ³	
SO ₂		13.80 µg/m ³	
NOx		17.62 µg/m ³	
PM ₁₀	Padmavathi Nagar	61.90 µg/m ³	Well within the prescribed limits
PM _{2.5}		24.15 µg/m ³	
SO ₂		14.71 µg/m ³	
NOx		17.91 µg/m ³	
PM ₁₀	Ravirala Village	63.38 µg/m ³	Well within the prescribed limits
PM _{2.5}		24.58 µg/m ³	
SO ₂		14.10 µg/m ³	
NOx		17.80 µg/m ³	

Note:

- The analysis data of Auto Garage Oil & Grease Trap Treated Waste Water generated for the financial year 2019-2020 is narrated in Annexure - II. No deviation is observed from Prescribed Standards in this period.
- Data on ambient air quality monitoring carried out in the nearby villages (9 locations) in the financial year 2019-2020 (by MoEF&CC approved environmental monitoring agency) is enclosed in Annexure - III. No deviation is observed (with respect to quality) for ambient air quality data (adjacent to plant & in surrounding villages) from Prescribed Standards in the financial year 2019-2020.

PART – D
HAZARDOUS WASTES

As specified under 1[Hazardous Wastes (Management, Handling and Transboundary Movement) Rules, 2008)]

Hazardous Waste	During the current financial year (2018-2019)	During the current financial year (2019-2020)
Waste oil	1.4 kL	15.54 kL
Waste grease		4.7 MT
Waste lead acid batteries	Nil	Nil

- Copy of Form - 4 (submitted to APPCB) - Hazardous Waste generation / receipts and consumption / disposal details for both plant & mines for the financial year 2019-2020 is enclosed as Annexure - IV.
- Part of the waste oil / lubricants is used along with fresh grease for reclaimers.

**PART – E
SOLID WASTES**

Location	During the Previous financial year (2018-2019)	During the current financial year (2019-2020)
(a) From process		
I. Overburden / waste Generation, Tonne		
i. From Jayanthipuram Limestone Mine (North Band)	8,64,733	9,92,337
ii. From Jayanthipuram Limestone Mine (South Band)	36,404	46,996
iii. From Ravirala Limestone Mine (RF)	2,46,279	2,18,116
iv. From Ramco Budawada Limestone Mine	0	0
II. Top Soil Generation, Tonne		
i. From Jayanthipuram Limestone Mine (North Band)	0	0
ii. From Jayanthipuram Limestone Mine (South Band)	0	0
iii. From Ravirala Limestone Mine (RF)	0	0
iv. From Ramco Budawada Limestone Mine	0	0
(b) From pollution control facility (wet drilling, water sprinkling, etc.)	No solid waste generated	
(c) Quantity recycled or re-utilized (for reclamation), Tonne		
i. Jayanthipuram Limestone Mine (North Band)	8,64,733	9,92,337
ii. Jayanthipuram Limestone Mine (South Band)	0	0
iii. Ravirala Limestone Mine (RF)	0	0
iv. Ramco Budawada Limestone Mine	0	0

PART – F

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

Solid Waste Handling & Reclamation:

- Total solid waste handled in the financial year 2019-2020 is as follows:

Name of the Mine	Solid Waste, Tonne		
	Generated	Used in reclamation	Dumped in dumps
Jayanthipuram Limestone Mine (North Band)	9,92,337	9,92,337	0

Jayanthipuram Limestone Mine (South Band)	46,996	0	46,996
Ravirala Limestone Mine	2,18,116	0	2,18,116
Ramco Budawada Limestone Mine	0	0	0

- 13.43 ha of area is reclaimed by the end of financial year 2019-2020 at Jayanthipuram Limestone Mine (North Band).
- Details of handling / disposal of various wastes generated from mines, plant and colony are given in Annexure – I.

PART - G

Impact of the pollution control measures taken on concentration of natural resources and on the cost of production

- All the surrounding areas are kept free from pollution.
- The capital expenditure incurred for environmental protection measures in financial year 2019-2020 is Rs. 6.754 lakh for all four operating mining leases.
- The recurring expenditure incurred for environmental protection measures in financial year 2019-2020 is Rs. 323.15 lakh for all four operating mining leases i.e., nearly Rs. 9.14 per Tonne of limestone production against Rs. 6.95 per Tonne of limestone production in the financial year 2018-2019.
- Various expenditures incurred for environment protection measures for 4 mining leases are listed in Annexure - V.
- An amount of Rs. 246.33 lakh is allocated towards Environment Management Activities for the financial year 2020-2021 towards capital as well as recurring costs for mines and being spent.

PART - H

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

- As part of environmental protection measures, 0.23 ha is reclaimed during the year 2019-2020 and a cumulative of 13.43 ha by the end of financial year 2019-2020 at Jayanthipuram Limestone Mine (North Band).

PART - I

Any other particulars for improving the quality of the environment

Various Management Systems are being implemented in our premises, viz.,

Management System	Implemented from
Quality Management System - IS/ISO 9001:2015	1996
Environmental Management System - IS/ISO 14001:2015	2006
Occupational Health & Safety Management System - IS/ISO 45001:2018	2010
Energy Management System - ISO 50001:2011	2014
Work Place Management - 5S Certification	2016

ANNEXURE - I

ENVIRONMENTAL PROTECTION MEASURES

Ramco group of Companies have diversified activities in Cement, Textiles, Fibre-Cement Products, Wind Energy, Software Products, Surgical Dressings, Ready-Mix Concrete and Dry Mortar Plants.

The Ramco Cements Limited (formerly known as Madras Cements Ltd.) is a unit of the Ramco Group which has been growing steadily right from its inception with present capacity 16.5 Million Tonnes / Annum of cement. RCL, which has always been striving for Total Quality Management, possesses International Certificates IS/ISO 9001:2015, IS/ISO 14001:2015, IS/ISO 45001:2018, ISO 50001:2011 and 5-S Workplace Management System.

The KSR Nagar plant was presented with an Award in recognition of practicing 'Cleaner Production Measures' from AP Pollution Control Board, Hyderabad for the year 2011-2012 on the eve of World Environment Day – 05th June 2012. Andhra Pradesh Pollution Control Board recommended for 'Better Environmental Practices Award - First in Cement Industry Category for the year 2016-2017 in the State of Andhra Pradesh'.

Captive Limestone Mines are obtaining awards in Mines Environmental & Mineral Conservation Week and in Mines Safety Week celebrations. Captive Mines is using Nonel Delay Detonators, to reduce ground vibration, to avoid fly rocks & fugitive dust. Permanent water sprinkling system is installed on mines haul road to reduce fugitive dust.

PRODUCTION DETAILS:

Name of the Mine	Production Capacities of Mines as per EC, TPA	For Financial Year 2018-2019, Tonne		For Financial Year 2019-2020, Tonne	
		Production	Despatch	Production	Despatch
Jayanthipuram Limestone Mine (North Band)	20,00,000	17,78,440	17,99,500	17,66,408	17,95,000
Jayanthipuram Limestone Mine (South Band)	5,00,000	4,99,500	4,99,500	4,99,500	4,99,500
Ravirala Limestone Mine (RF)	12,00,000	11,99,500	11,99,500	11,84,000	11,84,000
Ramco Budawada Limestone Mine (RF) *	11,00,000	97,140	97,140	85,200	85,200

**AIR:
Ambient Air Quality Monitoring:**

(i) Ambient Air Quality Monitoring – external agency:

Data on ambient air quality monitoring carried out in the nearby villages (buffer zones of limestone mining leases) in the financial year 2019-2020 is enclosed as Annexure - III. Data on core zone air monitoring carried out in four mining leases in the financial year 2019-2020 is enclosed as Annexure - III. The values are within the specified limits. The average values are:

Location / Norm	Average concentration of pollution type, $\mu\text{g}/\text{m}^3$							
	Financial Year 2018-2019				Financial Year 2019-2020			
	PM ₁₀	PM _{2.5}	SO ₂	NO _x	PM ₁₀	PM _{2.5}	SO ₂	NO _x
Pollution Board Norms	100	60	80	80	100	60	80	80
Dharmavarapadu Thanda	63.58	29.13	10.45	11.65	58.18	22.50	13.23	17.47
Jayanthipuram Village	61.38	26.67	10.79	12.00	52.79	20.85	13.68	17.99
Own Your House Colony	62.46	30.21	11.10	12.27	62.54	24.40	13.57	17.63
K Agraharam Village	60.96	26.00	10.35	11.59	65.21	25.23	13.73	17.79
Jaggayyapet	66.57	30.42	11.83	13.04	71.07	28.53	15.91	20.09
Budawada Village	62.83	27.29	10.03	11.67	60.93	24.02	13.63	17.98
Vedadri Village	61.25	28.00	10.51	11.94	59.38	23.15	13.80	17.62
Padmavathi Nagar	58.92	26.54	11.18	12.61	61.90	24.15	14.71	17.91
Ravirala Village	57.25	25.83	10.25	11.73	63.38	24.58	14.10	17.80

Mine	Location	Average concentration, $\mu\text{g}/\text{m}^3$							
		Financial Year 2018-2019				Financial Year 2019-2020			
		PM ₁₀	PM _{2.5}	SO ₂	NO _x	PM ₁₀	PM _{2.5}	SO ₂	NO _x
Pollution Board	Norms	100	60	80	80	100	60	80	80
Jayanthipuram Limestone Mine (North Band)	Mines Office	64.04	28.71	11.23	12.53	65.74	26.71	14.75	18.73
	Workshop	65.17	29.29	11.36	12.66	63.30	25.08	14.75	18.08
	Sub-station	60.63	26.21	11.52	12.70	64.34	26.04	14.69	18.23
	Magazine Area	57.83	24.33	11.35	12.66	62.86	24.63	14.83	18.46
Jayanthipuram Limestone Mine (South Band)	Mines Office	59.96	25.46	11.00	12.28	62.83	25.10	14.48	17.95
	Pump House	64.04	27.63	11.33	12.45	62.95	24.85	14.90	18.14
	Haul Road	68.67	29.58	12.10	13.39	63.45	25.29	14.88	18.61
	Loading Area	68.25	30.92	12.15	13.34	64.63	25.64	14.49	18.30
Ravirala Limestone Mine	Mines Office	61.13	25.96	10.58	11.91	60.96	23.80	14.33	17.74
	ML3 Tower Light Area	61.13	26.33	11.15	12.47	63.10	24.51	14.63	18.48
	ML4 Tower Light Area	62.75	27.58	11.09	12.33	61.72	24.10	14.70	18.05
	View Point Tower Light Area	64.75	28.92	11.66	12.94	62.18	24.31	15.02	18.54
Ramco Budawada Limestone Mine	Drilling Area	63.46	29.67	10.93	12.47	60.69	23.50	14.20	17.53
	Loading Area	59.13	26.96	11.02	12.31	62.23	24.86	14.30	17.69
	Haul Road	63.33	29.17	11.73	15.36	59.93	23.60	14.49	17.72
	Unloading Area	61.38	27.33	12.02	13.38	61.98	24.48	14.82	18.19

(ii) Ambient Air Quality Monitoring – online monitoring:

2 Nos. of Continuous ambient air quality monitoring stations are installed at:

- Time Office
- Mines Office

The following parameters are being monitored:

- PM₁₀
- PM_{2.5}
- SO₂
- NO_x

On-line Continuous Ambient Air Quality Monitoring data is linked up with APPCB & CPCB websites.

Air Pollution Control Measures:

- Permanent water sprinkling system is installed on mines haul road to reduce fugitive dust.
- Non-el delay detonators are used to reduce ground vibration, to avoid fly rocks & fugitive dust.
- Massive greenbelt development all along the haul roads.
- Dozer is used for dozing haul roads regularly.
- Mobile water sprinklers are used for water sprinkling on internal haul roads & muck pile.

WATER:

Water Requirement:

Total water requirement for Captive Mines is 312.88 m³/day in the financial year 2019-2020 against 266.2 m³/day in the financial year 2018-2019. Total water requirement for Cement Plant, Thermal Power Plant and for Domestic Purposes is 5,209.8 m³/day in the financial year 2019-2020. For which, State Ground Water Department accorded permission for water withdrawal @ 7,000 m³/day.

Water Level Data & Water Quality Data:

Water levels are regularly monitored through piezometers on regular basis at 4 mining leases:

Name of the Mine	No. of Piezometers
Jayanthipuram Limestone Mine (North Band)	4 Nos.
Jayanthipuram Limestone Mine (South Band)	3 Nos.
Ravirala Limestone Mine (RF)	4 Nos.
Ramco Budawada Limestone Mine(RF)	3 Nos.

In Ravirala Limestone Mine (RF) and Jayanthipuram Limestone Mine (South Band) 3 nos. of each Automatic Water Level recorders installed and other piezometers are being monitored manually.

Data on water levels collected up to financial year 2019-2020 is enclosed as Annexure – I - A.

Panchayat Raj & Rural Development Department (nodal agency for Central Ground Water Dept) accorded permission to work below water table vide:

Mine Name	NOC No. & Date	Remarks
Jayanthipuram Limestone Mine (North Band)	NOC No. PRR05-11028/14/2018-SLNA-GIS-CORD dated 06.07.2018, which is valid up to 05.07.2020.	Renewal application is submitted and renewal is awaited
Jayanthipuram Limestone Mine (South Band)	NOC No. PRR05-11028/13/2018-SLNA-GIS-CORD dated: 08.08.2018, which is valid up to 07.08.2020	Got renewed vide NOC No. PRR05-11028/13/2018-SLNA-GIS-CORD dated 07.07.2020, which is valid up to 06.07.2023
Ravirala Limestone Mine (RF)	NOC No. PRR05-11028/15/2018-SLNA-GIS-CORD dated 06.07.2018, which is valid up to 05.07.2020.	Got renewed vide NOC No. PRR05-11028/15/2018-SLNA-GIS-CORD dated 07.07.2020, which is valid up to 06.07.2023
Ramco Budawada Limestone Mine (RF)	NOC No. 69/RD/SLNA/APWALTA-NOC/2015 dated 23.05.2017, which is valid up to 22.05.2019	Renewal application is submitted within stipulated time and renewal is awaited

Water Quality Analysis:

- Ground water quality data for the samples collected in the nearby villages is enclosed as Annexure – I-B.
- Surface water quality data for the samples collected in the near to the mines is enclosed as Annexure – I-C.

Waste Water Quality Analysis:

- No process effluent generation from limestone extraction.
- Domestic wastewater is being treated in respective septic tanks followed by soak pits.
- Mine seepage water is being allowed to settle in mine sump located in respective mine. Mine seepage water quality data for the samples collected in financial year 2019-2020 is enclosed as Annexure–I-D. The values are within the specified limits.

- Workshop effluents are being treated in oil & grease trap located and the outlet water is being used for greenbelt development. Compiled data on analysis reports of workshop oil & grease trap outlet water carried out in the financial year 2019-2020 by MoEF&CC approved external agency is enclosed as Annexure - II. The values are within the specified limits. The average values are:

Pollution Type	Unit	Pollution Board Norms	Average Value / Range (2018-2019)	Average Value / Range (2019-2020)
p ^H		5.5 - 9.0	7.14 - 7.64	7.18 - 7.93
TDS	mg/L	2100	615-995	894.2
TSS	mg/L	100	15-54	85.4
COD	mg/L	250	28-46	131.2
BOD	mg/L	100	6-11	34.0
O & G	mg/L	10	<1	2.8

Rain Water Harvesting Pits & Check Dams:

- 48 Nos. of rain water harvesting structures are made to recharge the ground water in the colony by March 2020. 4 Nos. of rain water harvesting structures are made to recharge the ground water in the plant by March 2020. The locations of these pits are listed in Annexure - I-E.
- 1 No. of check dam is constructed near Jayanthipuram Limestone Mine (North Band) and 1 No. of check dam is located near Ravirala Limestone Mine.
- Check bund is constructed in SE direction of Ravirala Limestone Mine.

Water Conservation:

Water collected in mine pits is being used for:

- Cement plant & power plant process requirements,
- Water sprinkling for dust suppression purpose (plant & mines),
- Greenbelt development purpose,
- Domestic water requirements of plant, mines & colony,
- Domestic water requirements of nearby villages,
- Part of this outlet water is used for agricultural purpose in the nearby areas,
- Part of the excess waste water is being passed to pond (about 0.5 ha area) in our own lands to uplift the water table nearby area and
- balance is being let out.

Drinking Water:

Reverse Osmosis (RO) plant is located at colony and purified water is being distributed to all offices, mines and colony houses. The analysis reports of

RO plant inlet and outlet samples in the financial year 2019-2020 are enclosed as Annexure – I-F.

NOISE & VIBRATION LEVELS:

- Noise level data collected in the mines areas in the financial year 2019-2020 is listed out in Annexure – I-G.
- Vibration levels are being monitored by Minimate instrument regularly. The vibration reports collected while blasting at four mining leases [Jayanthipuram Limestone Mine (North Band), Jayanthipuram Limestone Mine (South Band), Ravirala Limestone Mine (RF) and Ramco Budawada Limestone Mine (RF)] in the financial year 2019-2020 are enclosed as Annexure – I-H.

OCCUPATIONAL HEALTH:

Occupational health check-ups are being carried out for new employees at the time of joining into the organization and occupational health surveillance programme is carried out for all the employees regularly. Full-fledged occupational health centre is established and services are being rendered by qualified occupational health specialist.

Occupational health checkup at the time of recruitment is being carried for all the employees as per Mines Rules, with the following tests:

- Lung function test
- ECG
- Chest X-ray
- Blood analysis test
- Urine analysis test
- Audiometry
- Checking colour blindness
- Stool Analysis
- Sputum (Optional)

The employees who are working at the time of initiation of this programme are covered for these tests. If any person failed in this health checkup, was not recruited. Like so, a baseline data on the health status of workmen in the Pre-recruitment stage was established. The same is being repeated periodically to update and to take action accordingly.

Occupational health surveillance on regular basis is being carried for all the employees, with the following tests:

- Clinical examination including Neurological assessment
- Lung function test
- ECG
- Chest X-ray

- Blood analysis test
- Urine analysis test
- Audiometry
- Checking colour blindness

If any person failed in this health checkup, he will be shifted / transferred to non-hazardous activities. Till now, no such case is observed.

Occupational Health Centre (with qualified Occupational Health Specialist) is established with the following facilities:

- X-ray
- ECG
- Spirometry (lung function test)
- Audiometry
- Semi-auto analyser to carryout bio-chemical tests
- Clinical lab for micro-biological tests (including sputum test)
- Checking colour blindness
- Dental chair
- Ambulance

The first aid box is made available for immediate treatment. First aid training is imparted to the selected employees regularly. The list of first aid members is being displayed at strategic places.

WASTE HANDLING & CLEANER PRODUCTION PRACTICES:

Solid Waste Handling & Reclamation:

- Total solid waste handled in the financial year 2019-2020 is as follows:

Name of the Mine	Solid Waste, Tonne		
	Generated	Used in reclamation	Dumped in dumps
Jayanthipuram Limestone Mine (North Band)	9,92,337	9,92,337	0
Jayanthipuram Limestone Mine (South Band)	46,996	0	46,996
Ravirala Limestone Mine	2,18,116	0	2,18,116
Ramco Budawada Limestone Mine	0	0	0

- 13.43 ha of area is reclaimed by the end of financial year 2019-2020 at Jayanthipuram Limestone Mine (North Band).
- Various handling and disposal practices of various wastes are:

Type of waste	Quantity handled in 2019-2020	Disposal practice
Top Soil Generation	Nil	No top soil generation in the financial year 2019-2020 from all the mining leases.
Dust generation during drilling	Nil	Controlled by Wet drilling

Type of waste	Quantity handled in 2019-2020	Disposal practice
Dust generation during loading	Nil	Water sprinkling on muck piles
Dust generation during transportation	Nil	Water sprinkling on haul roads (by permanent water sprinkler of 2 km length of main haul roads and by water tanker on minor haul roads)
Sludge collected from STP	36 m ³	Is being used as manure in greenbelt activities, in place of chemical fertilizers.
Colony garbage	61.81 Tonne of compost	By Vermi-composting and compost is being used for greenbelt activities as manure, in place of chemical fertilizers. Out of 61.81 Tonne, 58.88 Tonne is utilized.
Kitchen waste from colony	1697 kg of bio-gas generated	Kitchen waste is being composted in bio-gas plant, which is under commission stage. The generated bio-gas is used in industrial canteen, to partially replace the consumption of LPG.
E-waste from plant & mines	E-waste - 0.520 Tonne Printer Cartridges - 0.057 Tonne	Is being disposed to APPCB authorized agencies. Returns are being submitted annually. Copy of the E-waste returns for the financial year 2019-2020 is enclosed as Annexure - I-I.
Haz. waste - Waste oil & waste grease from plant & mines	Waste Oil - 15.54 kL Waste Grease - 4.7 MT	Waste oil along with fresh fuel is being used for kiln firing while light up & waste grease for reclaimer lubrication. Excess waste oil & waste grease are sold to APPCB authorized agents. Returns are being submitted annually (Annexure - IV).
Haz. waste - waste lead acid batteries from plant & mines	NIL	Waste lead acid batteries are being disposed to the supplier on exchange basis or to APPCB authorized agencies. Returns are being submitted annually (Annexure - IV).
Plastic waste collected from colony, mines and plant	Not quantified	Being fired in the kilns.

Type of waste	Quantity handled in 2019-2020	Disposal practice
Bio-medical waste from OHC	Calendar year 2019: Yellow – 165.4 kg Red – 143.0 kg White – 20.15 kg Blue – 19.77 kg	Operating Occupational Health Centre (OHC) to provide basic first aid facilities within the premises. Bio-medical waste from this OHC is being regularly collected by APPCB authorized agent, M/s Safenviron Bio-Medical Treatment Plant for onward treatment. The agency collects the bio-medical waste on 48 hours basis. Copy of Bio-Medical Annual Returns submitted for the calendar year 2019 is enclosed as Annexure – I-J.

CLEANER PRODUCTION PRACTICES:

To control air emissions as well as fugitive emissions from various sources, various cleaner production practices are initiated. These are:

- Permanent water sprinkler system is installed for a length of nearly 2 km at mines haul road.
- Mobile Water sprinkling on mines internal haul roads.
- Nonel delay detonators instead of conventional detonators.
- Minimate vibration monitor is used to measure the ground vibrations and to control them accordingly.
- Reclamation & rehabilitation initiated at mined out areas.
- For better housekeeping, '5-S – Work Place Management' is implemented.

GREENBELT ACTIVITIES:

Areas of greenbelt developed within ML area as on 31.03.2020 are as follows:

Name of the Mine	Area specified in EC order	Developed up to	
		31.03.2019	31.03.2020
Jayanthipuram Limestone Mine (North Band)	62.39	63.32	64.32
Jayanthipuram Limestone Mine (South Band)	19.05	18.00	19.05
Ravirala Limestone Mine	3.19	7.51	8.41
Ramco Budawada Limestone Mine	0.0	3.25	3.25

Note: All values are mentioned in ha.

High Density Plantation:

High density plantation (Miyawaki method) is initiated in the financial year 2019-2020. The details of plantation carried out in plant, captive mines and colony in the financial year 2019-2020 are:

- No. of saplings planted – 6485.
- Total area covered – 1880 m².

RECENT SOCIO - ECONOMIC MEASURES CARRIED OUT:

As part of Corporate Social Responsibility, various socio-economic measures are being carried out. Cost of various socio-economic activities for the surrounding villages for the period 2003-14 (11 years) is Rs. 4,05,79,555/- i.e., nearly Rs. 36.89/- lakh per annum. Amount spent for various socio-economic activities in the financial years 2014-2015, 2015-2016, 2016-2017, 2017-2018, 2018-2019 & 2019-2020 are Rs. 54.18 lakh, Rs. 42.40 lakh, Rs. 85.60 lakh, Rs. 105.30 lakh, Rs. 102.54 lakh & Rs. 84.76 Lakh respectively. The details are enclosed as Annexure – I-K.

Some of the major initiatives taken in the financial year 2019-2020 are as follows:

- Medical camps conducted in nearby villages of Jayanthipuram, Ravirala, Budawada, K.Agraharam etc., 39 Nos. of medical camps conducted in nearby villages in the financial year 2019-2020 and medicines are being distributed at free of cost.
- Water supply for agriculture fields at Jayanthipuram Village. Water supply for Jayanthipuram village, Dharmavarapupadu Thanda village & Budawada village (in summer season) for safe drinking water.
- Joining Hands with District Administration in implementing Govt. Schemes and local developments.
- Committed for Infrastructure Facility in the Region.
- Financial support to Govt. Schools.
- Provision of Ambulance for the villages and other medical facilities.
- Contribution to Education in the area.
- Carrying out various welfare activities for the benefit of the local population.

EXPENDITURE INCURRED FOR ENVIRONMENT PROTECTION:

- The capital expenditure incurred for environmental protection measures in financial year 2019-2020 is Rs. 6.754 lakh for all four operating mining leases.
- The recurring expenditure incurred for environmental protection measures in financial year 2019-2020 is Rs. 323.15 lakh for all four operating mining leases i.e., nearly Rs. 9.14 per Tonne of limestone production against Rs. 6.95 per Tonne of limestone production in the financial year 2018-2019.

- Various expenditures incurred for environment protection measures (other than socio-economic measures) for 4 mining leases [Jayanthipuram Limestone Mine (North Band), Jayanthipuram Limestone Mine (South Band), Ravirala Limestone Mine (RF) and Ramco Budawada Limestone Mine (RF)] are listed in Annexure - V.
- An amount of Rs. 246.33 lakh is allocated towards Environment Management Activities for the financial year 2020-2021 towards capital as well as recurring costs for mines and being spent.

CELEBRATION OF WORLD ENVIRONMENT DAY:

- On the eve of World Environment Day - 5th June 2019, plantation activity conducted at plant premises, mines premises, colony premises and at surrounding areas.
- Distributed WED - 2019 batches (prepared by National Safety Council) to our employees and took Environmental Oath.
- Participated in World Environment Day Celebrations conducted by Andhra Pradesh Pollution Control Board, Regional Office, Vijayawada.

