SHREE RAIPUR CEMENT PLANT

(A UNIT OF SHREE CEMENT LIMITED)

Village : Khaparadih, Tehsil : Simga, Distt. : Baloda Bazar-Bhatapara (C.G.) Pin : 493 332,
Ph. : 07727-203101, **CIN No. : L26943RJ1979PLC001935**

OIC

SRCP/ENV/2021-22/72

Date: 17/08/2021

To,
The Member Secretary,
Chhattisgarh Environment Conservation Board,
Paryavas Bhavan, North Block, Sector-19
Naya Raipur (C.G)

Sub: - Submission of Environment Statement of Shree Lime Stone mine for the year 2020-21 by Shree Raipur Cement Plant (A unit of Shree Cement Ltd.) mine located at Village Semaradih and Bharuwadih in Baloda Bazar - Bhatapara District (Chhattisgarh).

Ref: Consent to Operate (Air & Water) letter No.- 7553/TS/CECB/2020, dated 24/11/2020.

Dear Sir,

Kindly referred to above subject matter and reference letter. In this regards, we are submitting herewith the **Environmental Statement in Form-V** for the year **2020-21** of Shree Lime Stone Mine located at Village Semaradih and Bharuwadih in Baloda Bazar - Bhatapara District (Chhattisgarh).

Hope you will find this in Order

Thanking you,

Yours faithfully,
For Shree Raipur Cement Plant
(A unit of Shree Cement Ltd.)

R K Vijay
Jt. VP (Operations)

R.O.C.E.C.B, L.R.No. DATE 31-8 RAIPUR

Enclosed: - As above.

CC to: - Regional Officer, Chhattisgarh Environment Conservation Board, Commercial Complex, Chhattisgarh Housing Board Colony Kabir Nagar, Raipur (C.G.) - 492099

ENVIRONMENTAL STATEMENT
FORM – V
Shree Raipur Cement Plant
(A Unit of Shree Cement ltd)
(Shree Lime Stone Mine)
Period from: April 2020 to March 2021

PART – A

1.	Name and address of the Owner / Occupier of the Industry operation or process	Shree Lime Stone Mines M/s Shree Cement Limited Village – Bharuadih - Semradih, Tahsil – Balodabazar, Distt – Baloda Bazar -Bhatapara Chhattisgarh – 493332
2.	Industry Category Primary (S.T.C. Code) Secondary (S.T.C. Code)	Red Category
3.	Production Capacity	8.6 Million TPA Limestone
4.	Year of Establishment	2015
5.	Date of the last Environmental Statement Submitted	04/09/2019

PART – B
WATER AND RAW MATERIAL CONSUMPTION

(I) WATER CONSUMPTION:

Process	:	N.A.
Cooling and dust Suppression	:	128.22 KLD
Domestic	:	0.91 KLD

Name of Product	Process Water Consumption per Unit of Product Output (KL/MT of Lime stone)	
	During Previous Financial Year (2019-20)	During Current Financial Year (2020-21)
Limestone mine	0.0084	0.0073

(II) RAW MATERIAL CONSUMPTION:

Name of Raw Materials	Name of Products	Consumption of raw material per unit of output	
		During Previous Financial Year (2019-20)	During Current Financial Year (2020-21)
Lime Stone	Crushed cement grade Limestone	57,55,055 MT	57,67,492 MT

(III) POWER CONSUMPTION (KWH/T OF LIMESTONE):

During Previous Financial Year (2019-20)	During Current Financial Year (2020-21)
1.45	1.44

(IV) TOTAL LIMESTONE PRODUCTION (MT):

During Previous Financial Year (2019-20)	During Current Financial Year (2020-21)
57,55,055 MT	57,67,492 MT

PART – C

DISCHARGED TO ENVIRONMENTAL / UNIT OF OUTPUT

Pollutants	Quantity of Pollutants Discharged (Mass/Day)	Concentration of Pollutants in Discharge (Mass/Value)	Percentage of variation from prescribed standard with reasons
(a) Water	No waste water is discharged outside the premises.	Waste water generated from office toilets is treated with septic tank followed by soak pit. Waste water generated from workshop has some traces of oil and grease which is separated in oil and grease separator and filtered water is reused for washing purpose.	
(b) Air	Air	Please refer Annexure – 1 & 2	

PART – D

HAZARDOUS WASTE

((As specified under Hazardous & other wastes (Management and Transboundary Movement) Rule, 2016)

Hazardous Waste	Total Quantity (Ltrs.)	
	During Previous Financial Year (2019-20)	During Current Financial Year (2020-21)
Common for Cement plant & Mines		
a) From Process	Used Oil (Cat. 5.1) : 29.25 KL	Used Oil (Cat. 5.1): 10.42 KL
(b) From Pollution Control Facilities	Nil	Nil

PART – E
SOLID WASTE

		Total Quantity (MT)	
		During Previous Financial Year (2019-20)	During Current Financial Year (2020-21)
(a)	From Process	Not Applicable	
(b)	From Pollution Control Facility	Nil.	
(c)	1. Quantity rejected or re-utilized within the unit	Not Applicable	
	2. Sold	Not Applicable	
	3. Disposed (During mining of limestone disposed of overburden)		
	a. Top soil for reclamation (MT)	1,34,136	8,944
	a. Over burden (MT)	12,82,729	34,07,083
	b. Total Qty (MT)	14,16,865	34,16,027

Note: - Overburden is being dumped along with mine lease area, and Plantation is also being done on the overburden.

PART – F

Please specify the characterization (in terms of composition and quantum) of hazardous as well as solid wastes and indicate disposal practice adopted for both the categories of wastes:

Hazardous Wastes

Cement manufacturing is based on "Dry Process". No Hazardous waste is generated from the process except used oil which is drained from Machineries / Equipment's. The store department stores all collected hazardous waste at specified location as per Hazardous and Other Wastes (Management and Transboundary Movement) Rules, 2016 from where the hazardous waste is being sold out to SPCB authorized recyclers.

Battery Wastes: Nil

Note – No any used battery generated in April-2020 to March-2021.

E-WASTE

	Total Quantity (MT) (Common for Cement plant & Mines)	
April, 2020 to March, 2021	**During Previous Financial Year (2019-20)**	**During Current Financial Year (2020-21)**
	7.480	9.340

Note- E-Waste sold to authorized recycler.

Bio-Medical Wastes:

Bio-medical waste generated during current financial year April, 2020 to March, 2021 under the Bio-Medical Waste Management Rules, 2016, are as follows.

April, 2020 to March, 2021	Bio-Medical Waste Quantity (Kg) (Common for Cement plant & Mines)			
	(Cat. -Yellow)	**(Cat. - Red)**	**(Cat. -White)**	**(Cat.-Blue)**
	10.56	8.96	9.58	11.99

Note- Above mentioned waste has been sent to M/s SMS Watergrace Enviroprotect Pvt. Ltd., CBWTF Bio Medical Treatment Facility, Raipur (C.G.) for disposal.

PART – G

IMPACT OF THE POLLUTION CONTROL MEASURES ON CONSERVATION OF NATURAL RESOURCES AND CONSEQUENTLY ON THE COST OF PRODUCTION

1. Low grade limestone is blended with high grade lime stone for conservation of Mineral as well as increase of reserves.
2. Diverting runoff water into mine pit to accumulate rain water during rainfall. This accumulated water utilized for Cement plant, dust suppression purposes & plantation purpose.
3. Developed one number of water harvesting pond having capacity of 2,50,000 KL outside of pit area and 2,50,000 KL at lower benches of our active pit for conservation as well to improve water table of area.
4. Topsoil is stacked separately & utilized for plantation purpose.
5. Plantation is being done regularly on OB Dumps, along haulage roads & gap filling within the mines lease area etc.

PART – H

ADDITIONAL MEASURES / INVESTMENTS PROPOSAL FOR ENVIRONMENT PROTECTION INCLUDING ABATEMENT OF POLLUTION

1. Garland drains all around the waste dump yard have been made for channelizing the surface runoff and stabilization of dump.
2. Over burden dumps has been stabilized by proper benching as per approved mining plan. It is also stabilized by plantation with suitable native species.
3. Waste is stacked in non-mineralized zone/area inside mining lease area as per approved mining plan.
4. Bag filter is installed at crusher I & II for control of fugitive dust.
5. Drilling is being done by Wet Drilling Machine equipped with water injection system and dust extraction system.
6. Blasting is being done by as per working permission of DGMS under regulation 106 of MMR1961.
7. Controlled Blasting is being done by latest technology by using shock tube detonators of down the hole delay (in millisecond) as well as trunk line delay (In millisecond) to control noise level, vibration and fly rock. Which is regularly monitored by latest series of Seismograph Micro mate.
8. Provided Two Mobile Water Tankers with capacity of 20 KL & 18 KL engaged for Water spraying on haul road.
9. Water spraying arrangement / Dust suppression system has been provided at the unloading point of limestone crusher hopper & Discharge end of belt conveyor.
10. Fugitive dust at loading point is controlled by pressurized water mist spray arrangement of water tanker.
11. Installed 1.5 km pipe conveyor system from Crusher-I to Cement plant for transportation of limestone so there are no fugitive emissions as there is no transfer point.
12. Installed 3.3 KM length closed conveyor from crusher-II to plant for transportation of limestone. Bag filters has installed at transfer point to reduce fugitive emission.
13. Constructed permanent CC road having length of 1.8 Km from mine Crusher-I to plant, so that there is no dust formation along the permanent road.
14. All HEMMs are provided with AC operator's cabin to overcome noise & dust pollution as well as fatigue sensor to improve operator efficiency.
15. All HEMM machines are Komatsu Japan having certification of American standards EPA (Env. Protection agency) Tier – 2 & Tier-3 as producing low NOx & SOx within permissible limit.
16. At present there is no Inter burden generated from our mining operations.
17. At present 1,95,686 plant sampling has been planted in mining area.
18. Under Hariyar Chhattisgarh project. we have planted 15000 trees near School of Bharuwadih, Semradih, Khapradih, Chandi, Karahi & Parkidih villages with about 10 KM of both side of road plantation from Bharuwadih to Chandi village and this year, we have also planted about 15050 trees at Bhatapara. Apart from that, 5000 tree sapling have been also planted in Railway siding, 4600 trees have been planted in colony area. Hariyar Plantation near villages 14524.
19. The funds earmarked for Environmental Protection measures are being utilized. Total expenditure incurred during the period April-2020 to March-2021 are as under-

S. No.	Description	Amount (in lakh)
1	Plantation	63.22
2	3000mHDP pipe + 3nos water tank	6.12
3	Water sprinkling	10.56
4	Vacuum Sweeping m/c	50.60
5	Env. Monitoring	13.63
6	Consent fees/Charges	2.55
7	Technical consultancy charges	15.17
8	Bag filter maintenance	7.5
9	water used in Wet drilling	5.5
	Total	174.85

PART – I

ANY OTHER PARTICULATES FOR IMPROVING THE QUALITY OF ENVIRONMENT.

1. All the operators having provided PPE including Earplug & Ear muff to meet out noise pollution and regular noise survey being done at all HEMM.
2. Regular dust survey being carried out as per DGMS Norms.
3. Two Rock breaker machines being used for breaking of oversize boulders instead of secondary blasting which eliminates vibration, noise, fly rocks & reducing greenhouse gases which are caused due to secondary blasting.
4. Wet drilling system with water injection system and dust extraction system being used while drilling so that dust is suppressed immediately.
5. Blasting is being done by using slurry explosive and ANFO, having low velocity of detonation therefore it will reduce air pollution as well as ground vibration. NONEL blasting system is used to reduce ground vibration.
6. Constructed grease and oil separation chambers at washing ramp to avoid water pollution. Oil and grease is separated from water by gravity action & filtered water is reused for washing purpose.
7. Installed 4 numbers of online Ambient Air Quality Monitoring Stations.
8. Maintenance department is doing regular checking and scheduled maintenance of all the pollution control devices.

On support of above, we are enclosing herewith following: -

Annexure-1: Stack Emission monitoring report.

Annexure-2: Ambient Air Quality Monitoring Report.

Annexure – 1

Shree Raipur Cement Plant
Shree Lime Stone Mines
(A Unit of Shree Cement Ltd)
Crusher Stack Emission Monitoring Report (2020-21)

Name of stack / Month	Primary crusher – I (PM – 30 mg/Nm3)	Primary crusher – II (PM – 30 mg/Nm3)
Apr-20	Not in operation due to COVID-19	Not in operation due to COVID-19
May-20	13.87	15.78
Jun-20	14.43	14.32
Jul-20	15.34	16.56
Aug-20	14.85	15.82
Sep-20	14.43	14.32
Oct-20	17.64	14.52
Nov-20	16.85	15.42
Dec-20	17.11	18.02
Jan-21	13.79	15.47
Feb-21	15.61	17.14
Mar-21	16.63	18.17
Average	**15.50**	**15.96**

Annexure-2

Shree Raipur Cement Plant
Shree Lime Stone Mines
(A Unit of Shree Cement ltd)
Ambient Air Quality Monitoring Report (All value in µg/m3)
For The Period of April 2020 To March 2021

Location	Parameters	Norms (µg/m3)	Unit	Apr-20	May-20	Jun-20	Jul-20	Aug-20	Sep-20	Oct-20	Nov-20	Dec-20	Jan-21	Feb-21	Mar-21	Avg.
AAQMS 1 (Mines boundary towards village Bharuwadih)	PM_{10}	100	µg/m3	57.40	54.02	45.64	37.49	28.29	43.12	53.38	51.64	59.00	53.39	55.06	48.57	48.92
	$PM_{2.5}$	60		24.83	26.27	24.96	18.43	14.05	24.16	29.74	28.81	29.05	29.11	27.06	26.71	25.26
	SO_2	80		12.06	11.81	10.36	10.22	10.60	10.66	12.12	11.93	12.16	12.13	12.12	11.80	11.50
	NO_2	80		11.13	10.90	9.56	9.44	9.77	9.84	11.18	11.02	11.22	11.20	11.19	7.77	10.35
AAQMS 2 (Mines boundary towards villageSemradih)	PM_{10}	100		22.65	55.61	Not in Operation due to UPS breakdown						37.49	31.05	48.64	57.53	42.16
	$PM_{2.5}$	60		13.18	26.53							16.71	11.95	24.68	28.08	20.19
	SO_2	80		22.10	11.76							9.74	9.46	11.14	10.44	12.44
	NO_2	80		20.51	7.84							6.49	6.31	7.43	6.96	9.26
AAQMS 3 (Plant Boundary towards South Diection)	PM_{10}	100		46.64	58.77	42.58	30.30	21.99	38.63	53.70	51.77	53.60	60.35	49.87	53.66	46.82
	$PM_{2.5}$	60		21.85	29.56	25.55	18.97	11.35	21.38	26.34	31.63	31.00	30.79	22.27	27.00	24.81
	SO_2	80		12.14	12.35	12.59	12.39	12.61	12.69	12.79	12.47	12.19	12.31	12.38	13.06	12.50
	NO_2	80		9.11	9.26	9.45	9.30	9.46	9.52	9.59	9.35	9.14	9.23	9.28	13.60	9.69
AAQMS 4 (Plant Boundary towards village Khapradih)	PM_{10}	100		42.07	41.22	30.02	37.68	28.69	43.69	56.00	53.52	60.95	59.41	51.47	51.58	46.36
	$PM_{2.5}$	60		22.77	24.78	22.09	18.22	13.45	23.26	24.91	30.44	30.78	30.75	24.53	24.79	24.23
	SO_2	80		10.04	9.12	22.04	7.71	5.36	5.21	5.06	5.28	5.34	5.71	5.77	6.07	7.73
	NO_2	80		6.45	6.13	6.22	6.23	3.93	0.96	1.62	2.00	7.70	12.26	12.41	12.14	6.50