

STAR CEMENT LIMITED

Ref: SCL/EHS/LUM/2023-24/02

Dated: 20/04/2023

To,

The Member Secretary
Meghalaya State Pollution Control Board
'ARDEN', Lumpyngngad,
Shillong, Meghalaya - 793014

Subject : Submission of Environmental Monitoring Report for the month of March, 2023.

Reference : Ref. No.: MPCB/CON-900-Pt-IV/2021-2022/76, Dated. Shillong, the 11th Feb, 2022.

Dear Sir,

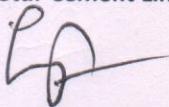
This is in reference to above cited subject, we are hereby submitting the monthly Environmental monitoring reports of Ambient Air Quality for plant and ESZ including meteorological data, Stack Emission, Fugitive Emission, Surface water & Waste Water (STP) monitoring reports of M/s Star Cement Limited for the month of **March, 2023**.

This is for your kind information, record and kindly acknowledge receipt of the same.

Thanking you,

Yours truly,

For *Star Cement Limited Line-I*



Laxmaiah Munjala
Unit Head

Enclosed: a/a

- Copy To:** 1) The Deputy Director General of Forest (Central), Ministry of Environment Forest & Climate Change, Govt. of India, Regional Office, Shillong, Meghalaya-793021.
- 2) The Regional Director, Central Pollution Control Board (CPCB), North Eastern Zonal Office, 'TUMSIR', Lower Motinagar, Shillong, Meghalaya-790314.
- 3) The Member Secretary, State Environment Impact Assessment Authority (SEIAA), 'Silviculture Building' Lower Lachumiere, Shillong-793001, Meghalaya.

Regd. Office & Works: P.O. Lumshnong, East Jaintia Hills District, Meghalaya-793210, E-mail: ehslums@starcement.co.in

Corporate Office: Century House, 2nd Floor, P 15/1, Taratala Road, Kolkata-700088, e-mail: kolkata@starcement.co.in



AN ISO 9001, ISO 14001 & ISO 45001 CERTIFIED COMPANY

CIN NO. L26942ML2001PLC006663



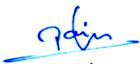
STAR CEMENT LIMITED

Lumshnong, Meghalaya

Date (DD-MM-YYYY)	Pressure (mmHg)	Relative Humidity (%)	Temp. (C)	Manual Rain (mm)
01-03-2023	761.2	65.4	20.5	0
02-03-2023	761	61.3	21.6	0
03-03-2023	760.4	69.0	19.4	0
04-03-2023	760.9	62.1	20.7	0
05-03-2023	762.4	51.3	23.5	0
06-03-2023	763.9	61.4	25.7	0
07-03-2023	763.5	56.1	26.4	0
08-03-2023	763	64.2	24.8	0
09-03-2023	763.2	54.3	21.6	0
10-03-2023	763.2	69.2	22.8	0
11-03-2023	762.5	61.4	23.6	0
12-03-2023	762.2	54.6	26.0	0
13-03-2023	762	55.5	26.0	0
14-03-2023	761	51.2	26.0	0
15-03-2023	760.9	81.6	19.3	6.4
16-03-2023	760.9	85.7	16.8	15
17-03-2023	761	84.9	17.6	8.4
18-03-2023	761.5	77.5	20.0	0
19-03-2023	762.4	81.4	16.9	27.6
20-03-2023	762.7	84.0	15.6	24.8
21-03-2023	762.2	83.0	16.7	59.6
22-03-2023	762.5	89.2	17.2	33.4
23-03-2023	762.2	94.2	20.6	0
24-03-2023	762	84.3	18.1	0
25-03-2023	761	69.2	18.7	0
26-03-2023	760.9	87.6	15.1	34.8
27-03-2023	760.9	84.4	17.2	10.2
28-03-2023	761	86.7	21.3	10.8
29-03-2023	761.5	78.6	18.9	3
30-03-2023	760.9	65.2	19.6	0
31-03-2023	762.4	80.4	19.2	5
			Total	239

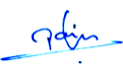
	STAR CEMENT LIMITED Lumshnong, Meghalaya		Reference No.	SCL/Env/F – 01
			Issue No.	1
	AMBIENT AIR QUALITY MONITORING REPORT		Date of Issue:	24.08.2013
			Revision No.	5
			Date of Rev.	01.12.2020
Reference No.: SCL/ENV/AAQM/MONTHLY/2022-23/12			Month: March	
Location of Sampling: Near Star Club		GPS Coordinate: 25°10'36"N 92°23'16"E 928 m		
Sampling Duration:	24 Hrs.	24 Hrs.	24 Hrs.	24 Hrs.
Date of Sampling	PM ₁₀ (µg/m ³)	PM _{2.5} (µg/m ³)	SO ₂ (µg/m ³)	NO ₂ (µg/m ³)
02.03.2023	35.56	24.30	11.00	15.76
04.03.2023	42.83	26.16	11.97	13.92
07.03.2023	38.63	21.91	10.18	15.67
10.03.2023	35.13	24.30	9.97	14.29
13.03.2023	41.88	23.16	11.15	15.69
15.03.2023	41.52	26.00	10.00	13.19
17.03.2023	38.66	25.11	10.76	14.69
23.03.2023	36.62	24.81	10.98	13.50
NAAQS permissible limits for Rural, Industrial, Residential Area	100 (µg/m ³)	60 (µg/m ³)	80 (µg/m ³)	80 (µg/m ³)
Remarks: All the analyzed parameters are well within the permissible limits of NAAQ Standards , Notification dated 18th November 2009.				
 Analysed by  Checked by  Verified By				

	STAR CEMENT LIMITED Lumshnong, Meghalaya		Reference No.	SCL/Env/F – 01
			Issue No.	1
	AMBIENT AIR QUALITY MONITORING REPORT		Date of Issue:	24.08.2013
			Revision No.	5
			Date of Rev.	01.12.2020
Reference No.: SCL/ENV/AAQM/MONTHLY/2022-23/12			Month: March	
Location of Sampling: Near Pump House		GPS Coordinate: 25°10'42"N 92°23'32"E 919 m		
Sampling Duration:	24 Hrs.	24 Hrs.	24 Hrs.	24 Hrs.
Date of Sampling	PM ₁₀ (µg/m ³)	PM _{2.5} (µg/m ³)	SO ₂ (µg/m ³)	NO ₂ (µg/m ³)
02.03.2023	72.78	43.46	17.88	25.25
04.03.2023	67.43	44.34	18.90	26.28
07.03.2023	69.66	45.00	19.36	24.26
10.03.2023	73.65	43.33	18.81	23.19
13.03.2023	70.98	41.16	17.33	22.44
15.03.2023	72.48	43.53	15.65	23.30
17.03.2023	74.23	44.91	17.81	23.28
23.03.2023	70.34	42.20	16.90	21.19
NAAQS permissible limits for Rural, Industrial, Residential Area	100 (µg/m ³)	60 (µg/m ³)	80 (µg/m ³)	80 (µg/m ³)
Remarks: All the analyzed parameters are well within the permissible limits of NAAQ Standards , Notification dated 18th November 2009.				
 Analysed by		 Checked by		 Verified By

	STAR CEMENT LIMITED Lumshnong, Meghalaya		Reference No.	SCL/Env/F – 01
			Issue No.	1
	AMBIENT AIR QUALITY MONITORING REPORT		Date of Issue:	24.08.2013
			Revision No.	5
		Date of Rev.	01.12.2020	
Reference No.: SCL/ENV/AAQM/MONTHLY/2022-23/12			Month: March	
Location of Sampling: Near Security Gate - 3		GPS Coordinate: 25°10'27"N 92°23'37"E 944 m		
Sampling Duration:	24 Hrs.	24 Hrs.	24 Hrs.	24 Hrs.
Date of Sampling	PM ₁₀ (µg/m ³)	PM _{2.5} (µg/m ³)	SO ₂ (µg/m ³)	NO ₂ (µg/m ³)
02.03.2023	68.47	38.79	15.31	19.67
04.03.2023	63.12	39.67	16.33	20.70
07.03.2023	65.35	40.33	16.79	18.68
10.03.2023	69.34	38.66	16.24	17.61
13.03.2023	66.67	36.49	14.76	16.86
15.03.2023	68.17	38.86	13.08	17.72
17.03.2023	69.92	40.24	15.24	17.70
23.03.2023	66.03	37.53	14.45	15.61
NAAQS permissible limits for Rural, Industrial, Residential Area	100 (µg/m ³)	60 (µg/m ³)	80 (µg/m ³)	80 (µg/m ³)
Remarks: All the analyzed parameters are well within the permissible limits of NAAQ Standards , Notification dated 18th November 2009.				
 Analysed by		 Checked by		 Verified By

	STAR CEMENT LIMITED Lumshnong, Meghalaya		Reference No.	SCL/Env/F – 01
			Issue No.	1
	AMBIENT AIR QUALITY MONITORING REPORT		Date of Issue:	24.08.2013
			Revision No.	5
		Date of Rev.	01.12.2020	
Reference No.: Tongseng Village /2022-23/12			Month: March	
Location of Sampling: Tongseng Village		GPS Coordinate: 25°10'08"N 92°24'17"E 756 m		
Sampling Duration:	24 Hrs.	24 Hrs.	24 Hrs.	24 Hrs.
Date of Sampling	PM ₁₀ (µg/m ³)	PM _{2.5} (µg/m ³)	SO ₂ (µg/m ³)	NO ₂ (µg/m ³)
06.03.2023	34.01	15.68	9.88	12.03
NAAQS permissible limits for Rural, Industrial, Residential Area	100 (µg/m ³)	60 (µg/m ³)	80 (µg/m ³)	80 (µg/m ³)
Remarks: All the analyzed parameters are well within the permissible limits of NAAQ Standards , Notification dated 18th November 2009.				
 Analysed by  Checked by  Verified By				

	STAR CEMENT LIMITED Lumshnong, Meghalaya						Reference No.	SCL/Env/F-02	
							Issue No.	1	
	STACK EMISSION MONITORING ANALYSIS REPORT						Date of Issue	01.05.2019	
							Revision No.	5	
Report No: SCL/ENV/STACK/MONTHLY/2022-23/12						Date of Rev.			01.06.2021
Analysis Result									
A. General Information About Stack									
1	Stack Identification No	S-1	S-2	S-3	S-4	S-5	S-6	S-7	S-8
2	Stack Connected to	Kiln/Raw Mill	Coal Mill	Cooler	Roller Press	Cement Mill	Packing Plant	Primary Crusher	Secondary Crusher
3	Material of Construction (Stack/Duct)	Mild Steel	Mild Steel	Mild Steel	Mild Steel	Mild Steel	Mild Steel	Mild Steel	Mild Steel
4	Shape of duct	Circular	Circular	Circular	Circular	Circular	Circular	Circular	Circular
5	Whether duct is provided with permanent platform & ladder	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
B. Physical characteristic of stack									
1	Stack Height from ground level (meter)	45.4	37	30.4	24	30	28	21	17
2	Duct diameter at sampling point (meter)	3	1.2	2.8	1.4	1.5	1.1	1.2	1.0
3	Sampling height point from ground level (meter)	-	-	-	-	-	-	-	-
4	Cross sectional area of Duct/Stack (m ²)	7.07	1.13	6.15	1.54	1.77	0.95	1.13	0.79
C. Pollution Control Device									
1	Details of pollution control device attached to stack	Reverse Air Bag House	Bag Filter	ESP	Bag Filter	Bag Filter	Bag Filter	Bag Filter	Bag Filter
D. Result of Sampling & Analysis of Gaseous Emission									
1	Date of Sampling	22.03.2023	17.03.2023	18.03.2023	16.03.2023	16.03.2023	17.03.2023	22.03.2023	22.03.2023
2	Ambient Temp (°C)	30	25	45	22.5	21	23	21	22.5
3	Stack Gas Temp (°C)	196	87	250	33	33	35	35	33
4	Exit Velocity of Gas (m/sec.)	20.46	13.42	10.08	13.90	14.58	14.20	13.81	12.90
5	Flow Rate (Nm ³ / sec.)	86.82	11.87	33.97	19.49	23.48	12.35	14.11	9.31
6	Quantity of Emission (Nm ³ / Hr)	312539.04	42730.68	122293.74	70174.61	84521.22	44467.03	50791.20	33521.56
7	Concentration of PM (mg/Nm ³)	17.15	18.53	14.90	18.79	21.14	24.68	22.62	19.49
8	Concentration of SO ₂ (mg/Nm ³)	563.0	-	-	-	-	-	-	-
9	Concentration of NO _x (mg/Nm ³)	425.0	-	-	-	-	-	-	-
10	Oxygen (O ₂) (%)	10.0	11.5	7.0	9.4	9.2	9.7	9.9	9.4
E. Remarks									
Standard									
PM - 30 mg/Nm ³			SO ₂ - 1000 mg/Nm ³			NO _x - 800 mg/Nm ³			
Particulate Matter (PM), Sulphur di-oxide (SO ₂), Oxide of Nitrogen (Nox), Electro Static Precipitator (ESP)									
 Analysis by			 Checked by			 Authorized Signatory			

	STAR CEMENT LIMITED Lumshnong, Meghalaya		Document No.	SCL/EHS/Env/F-04
			Date of Issued	01-05-2019
			Revision No.	2
	FUGITIVE EMISSION MONITORING REPORT		Revision Date	01-01-2021
Ref: SCL/ENV/FUGITIVE/MONTHLY/2022-23/12				
Month - March 2023				
Date	Location	Fugitive Emission Results	As per CPCB/BIS Guideline	
			Limit	
		(in $\mu\text{g}/\text{m}^3$)	(in $\mu\text{g}/\text{m}^3$)	
04.03.2023	Coal Storage Section	1567	2000	
04.03.2023	Limestone Storage Section	2169	5000	
 Analyzed By  Checked by  Verified By				

	STAR CEMENT LIMITED Lumshnong, Meghalaya				Document No.	SCL/EHS/Env/F-03			
					Effective Date	01-05-2019			
	NOISE LEVEL MONITORING REPORT				Revision No.	04			
					Revision Date	01-01-2021			
Ref: SCL/ENV/NOISE/MONTHLY/2022-23/004									
Date: 02.03.2023									
Month -March									
S. No.	Location	Measured Values dB(A) Day time (6:00am to 10:00pm)			Norms In dB(A)	Measured Values dB(A) Night time (10:00pm to 6:00am)			Norms in dB(A)
		Min.	Max.	Avg.		Min.	Max.	Avg.	
A	Plant								
1	Kiln	53.2	61.0	57.1	75	51.9	59.7	55.8	70
2	Raw Mill	51.0	60.5	55.8		49.7	59.2	54.5	
3	Raw Mill WF	54.2	61.6	57.9		52.9	60.3	56.6	
4	Coal Mill	52.5	59.8	56.2		51.2	58.5	54.9	
5	Cement Mill	52.9	59.6	56.3		51.6	58.3	55.0	
6	Cement Mill WF	54.5	61.1	57.8		53.2	59.8	56.5	
7	Primary Crusher (Dump Hopper)	51.0	60.0	55.5		49.7	58.7	54.2	
8	Primary Crusher (Near BC-1)	53.5	61.8	57.7		52.2	60.5	56.4	
9	Secondary Crusher	51.0	62.2	56.6		49.7	60.9	55.3	
B.	DG House								
1	Control Room	50.5	63.2	56.9	75	49.2	61.9	55.6	70
C.	Offices								
1	CCR	41.0	51.5	46.3	75	44.5	55.0	49.8	70
2	Meeting Room	42.5	51.1	46.8		46.0	54.6	50.3	
3	VP'S Room	36.3	40.7	38.5		39.8	44.2	42.0	
4	Inst. Shift Room	41.5	44.3	42.9		45.0	47.8	46.4	
5	Drawing Office	41.0	50.5	45.8		44.5	54.0	49.3	
6	QC Department								
	a) Chemical Lab	52.1	54.2	53.1		48.7	50.8	49.7	
	b) Physical Lab	51.1	55.6	53.4		47.7	52.2	50.0	
	c) Shift Lab	46.3	51.0	48.7		42.9	47.6	45.3	
	d) Sample Preparation Room	43.4	50.9	47.1	40.0	47.5	43.7		
D.	Residential								
1	Bachelor Hostel	36.0	40.7	38.4	55	34.7	39.4	37.1	45
2	HOD'S Quater's	32.0	43.0	37.5		30.7	41.7	36.2	
3	650 Quater's	33.9	42.7	38.3		32.6	41.4	37.0	
4	250 Quater's	34.3	41.0	37.7		33.0	39.7	36.4	
5	Hut	33.3	41.4	37.4		32.0	40.1	36.1	
E.	Dispensary	33.0	40.0	36.5		31.7	38.7	35.2	
 Analyzed by  Checked By  Verified By									

	STAR CEMENT LIMITED Lumshnong, Meghalaya				Reference No.	SCL/EHS/F-04
					Issue No.	1
	WATER TESTING REPORT				Date of Issue:	24.08.2013
					Revision No.	3
					Date of Rev.	01.06.2019
Reference No.: SCL/ENV/WATER/MONTHLY/2022-23/12					Date of sample collection: 05.03.2023	
					Date of Analysis: 05.03.2023 to 08.03.2023	
Sl.No.	Parameter	Unit	STP Inlet	STP Outlet	Standard Norms For Discharge of Environment Pollution (Notification Date: - 19th May 1993) & Consent To Operate vide letter no. MPCB/TB-900 (Pt-II)/2014- 2015/34 - dated Shillong, the 3rd Sep,2014	
1	pH	-	7.6	7.9	5.5 to 9.0	
2	Colour	Hazen	Colourless	Colourless	-	
3	Odour	-	Odourless	Odourless	-	
4	Chloride	mg/L	32	37	-	
5	Total Hardness as CaCO ₃	mg/L	81	83	-	
6	Suspended Solids	mg/L	73	10	100	
7	Total Dissolve Solids	mg/L	312	364	-	
8	Chemical Oxygen Demand	mg/L	108	25	250	
9	Biochemical Oxygen Demand (For 3 days at 27 °C)	mg/L	48	6	30	
10	Oil & Grease	mg/L	8.5	< 3.0	10	
11	Temperature	° C	25	25	Shall not exceed 5.0°C above the receiving water temperature	
12	Conductivity	µS/cm	499	586	-	
 Analysis By  Checked By  Verified By						

	STAR CEMENT LIMITED Lumshnong, Meghalaya												Reference No.	SCL/EHS/F-04
													Issue No.	1
													Date of Issue:	24.08.2013
													Revision No.	3
	WATER TESTING REPORT												Date of Rev.	01.06.2019

Reference No.: SCL/ENV/WATER/MONTHLY/2022-23/12

Surface Water Analysis Results

Date of sample collection: 11.03.2023

Date of Analysis: 11.03.2023 to 14.03.2023

S.No.	Parameter	Unit	Umtyrngai Nallah		Umutha Nallah		Umso Nalah	Lunar	Lukha	Seshympa	Umbadoh	Tongseng	Lumshnong	Wahiajer	Standards norms as per IS 2296
			Up Stream	Down Stream	Up Stream	Down Stream	Down Stream				Seasonal Spring / Seasonal Nallah				
1	pH	-	7.8	8.3	8.0	8.2	7.9	6.9	6.5	6.7	7.6	7.3	7.2	7.9	6.5 - 8.5
2	Colour	Hazen	Colourless	Colourless	Colourless	Colourless	Colourless	Slightly Yellowish	Colourless	Colourless	Colourless	Colourless	Colourless	Colourless	10
3	Odour	-	Unobjectionable												Unobjectionable
4	Chloride	mg/L	23	32	17.7	20.6	46.1	40.2	8.3	21.3	35.5	17.7	24.8	23.2	250
5	Total Hardness as CaCO ₃	mg/L	40	60	80.0	84.0	79.5	130.2	15.0	39.6	20.0	6.8	10.0	48.1	300
6	Suspended Solids	mg/L	1.0	4.2	1.0	13.8	5.9	54.0	3.0	5.0	2.0	3.2	3.0	5.8	-
7	Total Dissolve Solids	mg/L	232	281	237	290	363	217	53	83	214	9.6	55.0	120.0	500
8	Biochemical Oxygen Demand (For 3 days at 27 °C)	mg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.0
9	Oil & Grease	mg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	-
10	Temperature	° C	25.0	25.0	25.0	25.0	25.0	25.0	25.0	25.0	25.0	25.0	25.0	25.0	-
11	Conductivity	µS/cm	422	515.0	431.0	523.0	679	205	110	165	396	16.3	100.3	300.0	-
12	Flow	L / Min	8232.3	10421.6	3433.6	3622.1	23568.2	139902.1	109995.6	356754.8	-	-	370.805	-	-



Analyzed by



Checked by



Verified by