

STAR CEMENT LIMITED

Ref: SCL/EHS/LUM/2022-23/38

Dated: 23/01/2023

To,

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

Subject : Submission of Environmental Monitoring Report for the month of Dec, 2022.

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

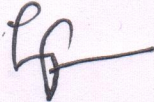
Dear Sir,

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 **December, 2022.**

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

Thanking you,

Yours truly,
For **Star Cement Limited**



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

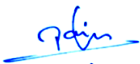


AN ISO 9001, ISO 14001 & ISO 45001 CERTIFIED COMPANY
CIN NO. L26942ML2001PLC006663

STAR CEMENT Solid Betting STAR CEMENT LIMITED Lumshnong, Meghalaya						
Date (DD-MM-YYYY)	Pressure (mmHg)	Relative Humidity (%)	Temp. (C)	Wind Direction (deg)	Wind Speed- (m/s)	Manual Rain (mm)
01-12-2022	961.8	49.95	24.8	178.3	1.91	0
02-12-2022	960.64	49.32	27.9	202.26	1.61	0
03-12-2022	959.5	48.69	22.7	131.51	1.68	0
04-12-2022	958.99	46.2	26.0	148.8	2.06	0
05-12-2022	958.89	69.95	22.8	319.17	2.58	0
06-12-2022	959.4	74.53	29.6	302.38	3.62	0
07-12-2022	962.5	49.32	23.5	154.44	1.28	0
08-12-2022	963.22	60.25	23.7	82.61	0.71	0
09-12-2022	959.5	48.69	27.9	131.51	1.68	0
10-12-2022	958.99	46.2	28.7	148.8	2.06	0
11-12-2022	958.89	69.95	23.6	319.17	2.58	0
12-12-2022	959.4	74.53	22.3	302.38	3.62	0
13-12-2022	962.5	49.32	23.5	154.44	1.28	0
14-12-2022	958.24	70.24	23.3	347.05	3.22	0
15-12-2022	957.91	71.48	22.6	247.63	1.28	0
16-12-2022	959.47	82.07	26.5	249.74	0.71	0
17-12-2022	962.91	95.86	23.5	269.57	3.22	0
18-12-2022	963.23	96.89	23.7	202.09	1.07	0
19-12-2022	959.4	74.53	22.7	302.38	3.62	0
20-12-2022	962.5	49.32	23.5	154.44	1.28	0
21-12-2022	958.24	70.24	23.3	347.05	3.22	0
22-12-2022	957.91	71.48	22.0	247.63	1.28	0
23-12-2022	959.47	82.07	22.7	249.74	0.71	0
24-12-2022	962.91	95.86	23.5	269.57	3.22	0
25-12-2022	963.23	96.89	23.7	202.09	1.07	0
26-12-2022	962.5	98.37	23.3	130.42	0.72	0
27-12-2022	962.5	49.32	23.5	154.44	1.28	7.7
28-12-2022	963.22	60.25	23.7	82.61	0.71	0
29-12-2022	976.35	64.98	21.9	85.64	0.71	0
30-12-2022	958.24	70.24	23.3	347.05	3.22	0
31-12-2022	963.22	60.25	23.7	82.61	0.71	0
					Total rain of this month	7.7

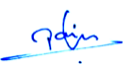
	STAR CEMENT LIMITED Lumshnong, Meghalaya		Reference No.	SCL/Env/F – 01
			Issue No.	1
	AMBIENT AIR QUALITY MONITORING REPORT		Date of Issue:	24.08.2013
			Revision No.	5
		Date of Rev.	01.12.2020	
Reference No.: SCL/ENV/AAQM/MONTHLY/2022-23/09			Month: December'22	
Location of Sampling: Near Star Club		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)
01.12.2022	35.48	22.48	7.07	15.18
03.12.2022	42.75	24.34	8.43	13.34
06.12.2022	38.55	20.09	9.85	15.09
09.12.2022	35.05	22.48	8.89	13.71
12.12.2022	41.80	21.34	8.00	15.11
14.12.2022	41.44	24.18	8.15	12.61
16.12.2022	38.58	23.29	9.92	13.10
19.12.2022	36.54	22.99	8.10	12.92
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/2022-23/09			Month: December'22	
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)
01.12.2022	49.15	32.01	10.35	15.41
03.12.2022	47.88	30.40	13.29	13.60
06.12.2022	48.27	31.76	10.85	14.88
09.12.2022	52.74	28.29	10.63	11.70
12.12.2022	47.90	27.38	9.90	14.63
14.12.2022	49.65	31.84	11.65	15.36
16.12.2022	50.10	30.25	9.17	10.85
19.12.2022	47.40	29.69	12.65	12.94
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/2022-23/09			Month: December'22	
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)
01.12.2022	72.70	41.64	19.20	24.67
03.12.2022	67.35	42.52	20.22	25.70
06.12.2022	69.58	43.18	20.68	23.68
09.12.2022	73.57	41.51	20.13	22.61
12.12.2022	70.90	39.34	18.65	21.86
14.12.2022	72.40	41.71	16.97	22.72
16.12.2022	74.15	43.09	19.13	21.69
19.12.2022	70.26	40.38	18.22	20.61
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 /2022-23/09			Month: December'22	
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)
19.11.2022	33.58	15.63	7.29	9.75
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/2022-23/09						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	04.12.2022	06.12.2022	04.12.2022	08.12.2022	10.12.2022	12.12.2022	07.12.2022	07.12.2022
2	Ambient Temp (°C)	32	30	38	20	19	20	23	24
3	Stack Gas Temp (°C)	220	66	335	33	27	27	34	30
4	Exit Velocity of Gas (m/sec.)	9.89	11.00	19.65	12.56	12.91	12.91	14.39	12.97
5	Flow Rate (Nm ³ / sec.)	39.84	10.33	57.05	17.62	21.14	11.53	14.76	9.46
6	Quantity of Emission (Nm ³ / Hr)	143423.34	37189.27	205380.52	63443.77	76109.11	41497.95	53128.05	34047.27
7	Concentration of PM (mg/Nm ³)	14.41	16.96	13.86	20.14	21.49	23.85	25.69	17.79
8	Concentration of SO ₂ (mg/Nm ³)	530.0	-	-	-	-	-	-	-
9	Concentration of NOx (mg/Nm ³)	325.4	-	-	-	-	-	-	-
10	Oxygen (O ₂) (%)	9.7	9.2	9.0	9.6	10.1	10.0	10.7	10.5
E. Remarks									
Standard									
PM - 30 mg/Nm ³			SO ₂ - 1000 mg/Nm ³			NOx - 800 mg/Nm ³			
<i>Particulate Matter (PM), Sulphur di-oxide (SO₂), Oxide of Nitrogen (Nox), Electro Static Precipitator (ESP)</i>									
 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/2022-23/009			
Month - December 2022			
Date	Location	Fugitive Emission Results	As per CPCB/BIS Guideline
			Limit
		(in $\mu\text{g}/\text{m}^3$)	(in $\mu\text{g}/\text{m}^3$)
02.12.2022	Coal Storage Section	1564	2000
02.12.2022	Limestone Storage Section	1924	5000
 Analyzed By  Checked by  Verified By			

	STAR CEMENT LIMITED Lumshnong, Meghalaya				Document No.		SCL/EHS/Env/F-03		
					Effective Date		01-05-2019		
					Revision No.		04		
	NOISE LEVEL MONITORING REPORT				Revision Date		01-01-2021		
Ref: SCL/ENV/NOISE/MONTHLY/2022-23/003								Date: 05.12.2022	
Month - December 2022									
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	55.9	63.7	59.8	75	54.6	62.4	58.5	70
2	Raw Mill	53.7	63.2	58.5		52.4	61.9	57.2	
3	Raw Mill WF	56.9	64.3	60.6		55.6	63.0	59.3	
4	Coal Mill	55.2	62.5	58.9		53.9	61.2	57.6	
5	Cement Mill	55.6	62.3	59.0		54.3	61.0	57.7	
6	Cement Mill WF	57.2	63.8	60.5		55.9	62.5	59.2	
7	Primary Crusher (Dump Hopper)	53.7	62.7	58.2		52.4	61.4	56.9	
8	Primary Crusher (Near BC-1)	56.2	64.5	60.4		54.9	63.2	59.1	
9	Secondary Crusher	53.7	64.9	59.3		52.4	63.6	58.0	
B.	DG House								
1	Control Room	53.2	65.9	59.6	75	51.9	64.6	58.3	70
2	Office	54.7	53.7	54.2		53.4	52.4	52.9	
C.	Offices								
1	CCR	43.7	54.2	49.0	75	42.4	52.9	47.7	70
2	Meeting Room	45.2	53.8	49.5		43.9	52.5	48.2	
3	VP'S Room	39.0	43.4	41.2		37.7	42.1	39.9	
4	Inst. Shift Room	44.2	47.0	45.6		42.9	45.7	44.3	
5	Drawing Office	43.7	53.2	48.5		42.4	51.9	47.2	
6	QC Department								
	a) Chemical Lab	54.8	56.9	55.8		53.5	55.6	54.5	
	b) Physical Lab	53.8	58.3	56.1		52.5	57.0	54.8	
	c) Shift Lab	49.0	53.7	51.4		47.7	52.4	50.1	
	d) Sample Preparation Room	46.1	53.6	49.8	44.8	52.3	48.5		
D.	Residential								
1	Bachelor Hostel	38.7	43.4	41.1	55	37.4	42.1	39.8	45
2	HOD'S Quater's	34.7	45.7	40.2		33.4	44.4	38.9	
3	650 Quater's	36.6	45.4	41.0		35.3	44.1	39.7	
4	250 Quater's	37.0	43.7	40.4		35.7	42.4	39.1	
5	Hut	36.0	44.1	40.1		34.7	42.8	38.8	
E.	Dispensary	35.7	42.7	39.2		34.4	41.4	37.9	
 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/2022-23/09
 Date of sample collection: - 06.12.2022
Date of Analysis: 06.12.2022 to 09.12.2022

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	-	7.1	7.8	5.5 to 9.0
2	Colour	Hazen	Colourless	Colourless	-
3	Odour	-	Odourless	Odourless	-
4	Chloride	mg/L	35	38	-
5	Total Hardness as CaCO ₃	mg/L	83.0	84.2	-
6	Suspended Solids	mg/L	65.5	8.7	100
7	Total Dissolve Solids	mg/L	283	371	-
8	Chemical Oxygen Demand	mg/L	135	27	250
9	Biochemical Oxygen Demand (For 3 days at 27 °C)	mg/L	70	6	30
10	Oil & Grease	mg/L	9	< 3.0	10
11	Temperature	° C	25	25	Shall not exceed 5.0°C above the receiving water temperature
12	Conductivity	µS/cm	502	672	-



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
Date of Rev.	01.06.2019

WATER TESTING REPORT

Reference No.: SCL/ENV/WATER/MONTHLY/2022-23/09

Surface Water Analysis Results

Date of sample collection: - 12.12.2022

Month: December-2022

Date of Analysis: 12.12.2022 to 15.12.2022

S.No.	Parameter	Unit	Umtyrngai Nallah		Umutha Nallah		Umso Nalah	Seshysmpa	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	-	7.5	7.4	7.3	7.5	7.8	7.1	7.7	7.8	Water Source not found		6.5 - 8.5	
2	Colour	Hazen	Colourless	Colourless	Colourless	Colourless	Colourless	Colourless	Colourless	Colourless			10	
3	Odour	-	Unobjectionable										Unobjectionable	
4	Chloride	mg/L	42.0	42.9	38.0	38.8	40.0	23.5	21.7	25.4			250	
5	Total Hardness as CaCO ₃	mg/L	67.8	70.4	74.1	74.8	78.9	42.6	68.7	38.1			300	
6	Suspended Solids	mg/L	9.0	8.7	4.7	6.4	4.2	6.0	6.0	4.4			-	
7	Total Dissolve Solids	mg/L	235	237	182	183	195	95.0	157.4	73.4			500	
8	Biochemical Oxygen Demand (For 3 days at 27 °C)	mg/L	ND	ND	ND	ND	ND	ND	ND	ND			2.0	
9	Oil & Grease	mg/L	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			-	
11	Conductivity	μS/cm	359	361	280	284	297	140	220	115			-	
12	Flow	L / Min	338.8	395.6	72.3	135.5	212.5	57954.5	-	-			-	

Analyzed by

Checked by

Verified by