

STAR CEMENT LIMITED

Ref: SCL/EHS/LUM/2023-24/16

Dated: 13/07/2023

To,

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

Subject : Submission of Environmental Monitoring Report for the month of June, 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 **June, 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



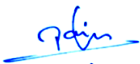
STAR CEMENT LIMITED

Lumshnong, Meghalaya

Date (DD-MM-YYYY)	Pressure (mmHg)	Relative Humidity (%)	Temp. (C)	Manual Rain (mm)
01-06-2023	762.5	60.1	32.7	0
02-06-2023	762.2	57.9	39.6	0
03-06-2023	761	59.7	40.7	0
04-06-2023	761.5	85.0	25.9	0
05-06-2023	760.9	65.7	29.8	0
06-06-2023	762.5	77.8	31.8	0
07-06-2023	762.2	66.9	33.4	0
08-06-2023	762.5	64.7	39.7	0
09-06-2023	761.4	61.8	32.5	15
10-06-2023	763	86.7	22.6	18.4
11-06-2023	762	75.9	38.9	163.4
12-06-2023	764	79.6	29.7	8.2
13-06-2023	760.6	54.7	37.6	8.4
14-06-2023	762.7	53.4	35.4	201
15-06-2023	764.8	76.1	33.7	304.8
16-06-2023	766	85.2	29.4	105.8
17-06-2023	764	59.7	33.6	138.2
18-06-2023	768	68.6	22.9	182.8
19-06-2023	764	64.9	23.8	180
20-06-2023	763.4	80.1	23.4	28.6
21-06-2023	761	82.6	20.7	89.4
22-06-2023	763.8	75.1	26.4	74.4
23-06-2023	760.9	84.6	25.7	60.6
24-06-2023	762.5	55.1	34.6	0
25-06-2023	762.2	55.0	35.0	8
26-06-2023	763	58.4	25.9	45.2
27-06-2023	761	87.6	22.9	12.6
28-06-2023	760	58.2	31.9	92.4
29-06-2023	762.5	52.9	32.4	96.2
30-06-2023	763	55.0	36.4	58.6
			Total	1892.0

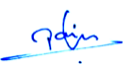
	STAR CEMENT LIMITED Lumshnong, Meghalaya		Reference No.	SCL/Env/F – 01
			Issue No.	1
	AMBIENT AIR QUALITY MONITORING REPORT		Date of Issue:	24.08.2013
			Revision No.	5
			Date of Rev.	01.12.2020
Reference No.: SCL/ENV/AAQM/MONTHLY/2023-24/03			Month: June	
Location of Sampling: Near Star Club		GPS 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)
01.06.2023	31.72	20.04	9.83	14.04
03.06.2023	38.99	21.90	10.80	12.20
06.06.2023	34.79	17.65	9.01	13.95
08.06.2023	31.29	20.04	8.80	12.57
10.06.2023	38.04	18.90	9.98	13.97
13.06.2023	37.68	21.74	8.83	11.47
-	No Monitoring Due to Heavy Rain fall			
-				
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/2023-24/03			Month: June	
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)
01.06.2023	67.15	40.12	16.88	22.73
03.06.2023	61.80	41.00	17.90	23.76
06.06.2023	64.03	41.66	18.36	21.74
08.06.2023	68.02	39.99	17.81	20.67
10.06.2023	65.35	37.82	16.33	19.92
13.06.2023	66.85	40.19	14.65	20.78
-	No Monitoring Due to Heavy Rain fall			
-				
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/2023-24/03			Month: June	
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)
01.06.2023	67.92	39.02	15.98	19.92
03.06.2023	62.57	39.90	17.00	20.95
06.06.2023	64.80	40.56	17.46	18.93
08.06.2023	68.79	38.89	16.91	17.86
10.06.2023	66.12	36.72	15.43	17.11
13.06.2023	67.62	39.09	13.75	17.97
-	No Monitoring Due to Heavy Rain fall			
-				
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 /2023-24/03			Month: June	
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)
10.06.2023	32.11	15.11	9.67	11.67
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/2023-24/03						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	13.06.2023	13.06.2023	13.06.2023	07.06.2023	07.06.2023	08.06.2023	20.06.2023	20.06.2023		
2	Ambient Temp (°C)	29	28	47	25	25	22	22	23		
3	Stack Gas Temp (°C)	154	83	237	32	37	34	34	30		
4	Exit Velocity of Gas (m/sec.)	18.41	13.55	9.99	13.02	14.03	12.09	14.39	14.13		
5	Flow Rate (Nm ³ / sec.)	86.03	12.13	34.58	18.23	22.29	10.54	14.73	10.31		
6	Quantity of Emission (Nm ³ / Hr)	309690.73	43651.63	124493.82	65638.45	80257.55	37959.43	53039.53	37098.09		
7	Concentration of PM (mg/Nm ³)	16.96	23.34	24.19	18.79	18.18	16.53	20.04	19.66		
8	Concentration of SO ₂ (mg/Nm ³)	629.0	-	-	-	-	-	-	-		
9	Concentration of NO _x (mg/Nm ³)	508.0	-	-	-	-	-	-	-		
10	Oxygen (O ₂) (%)	10.0	10.8	8.0	9.7	8.9	8.3	10.2	9.5		
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/2023-24/03			
Month - June			
Date	Location	Fugitive Emission Results	As per CPCB/BIS Guideline
			Limit
		(in $\mu\text{g}/\text{m}^3$)	(in $\mu\text{g}/\text{m}^3$)
10.06.2023	Coal Storage Section	1387	2000
10.06.2023	Limestone Storage Section	1864	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/2023-24/003									
Date: 06.06.2023									
Month -June									
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	52.7	60.5	56.6	75	52.0	59.8	55.9	70
2	Raw Mill	50.5	60.0	55.3		49.8	59.3	54.6	
3	Raw Mill WF	53.7	61.1	57.4		53.0	60.4	56.7	
4	Coal Mill	52.0	59.3	55.7		51.3	58.6	55.0	
5	Cement Mill	52.4	59.1	55.8		51.7	58.4	55.1	
6	Cement Mill WF	54.0	60.6	57.3		53.3	59.9	56.6	
7	Primary Crusher (Dump Hopper)	50.5	59.5	55.0		49.8	58.8	54.3	
8	Primary Crusher (Near BC-1)	53.0	61.3	57.2		52.3	60.6	56.5	
9	Secondary Crusher	50.5	61.7	56.1		49.8	61.0	55.4	
B.	DG House								
1	Control Room	50.0	62.7	56.4	75	49.3	62.0	55.7	70
2	Office	51.5	50.5	51.0		50.8	49.8	50.3	
C.	Offices								
1	CCR	40.5	51.0	45.8	75	44.5	55.0	49.8	70
2	Meeting Room	42.0	50.6	46.3		46.0	54.6	50.3	
3	VP'S Room	35.8	40.2	38.0		39.8	44.2	42.0	
4	Inst. Shift Room	41.0	43.8	42.4		45.0	47.8	46.4	
5	Drawing Office	40.5	50.0	45.3		44.5	54.0	49.3	
6	QC Department								
	a) Chemical Lab	51.6	53.7	52.6		48.8	50.9	49.8	
	b) Physical Lab	50.6	55.1	52.9		47.8	52.3	50.1	
	c) Shift Lab	45.8	50.5	48.2		43.0	47.7	45.4	
	d) Sample Preparation Room	42.9	50.4	46.6	40.1	47.6	43.8		
D.	Residential								
1	Bachelor Hostel	35.5	40.2	37.9	55	34.8	39.5	37.2	45
2	HOD'S Quater's	31.5	42.5	37.0		30.8	41.8	36.3	
3	650 Quater's	33.4	42.2	37.8		32.7	41.5	37.1	
4	250 Quater's	33.8	40.5	37.2		33.1	39.8	36.5	
5	Hut	32.8	40.9	36.9		32.1	40.2	36.2	
E.	Dispensary	32.5	39.5	36.0		31.8	38.8	35.3	
 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/2023-24/03					Date of sample collection: 05.06.2023	
					Date of Analysis: 05.06.2023 to 08.06.2023	
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	-	7.4	7.7	5.5 to 9.0	
2	Colour	Hazen	Colourless	Colourless	-	
3	Odour	-	Odourless	Odourless	-	
4	Chloride	mg/L	86.9	88.6	-	
5	Total Hardness as CaCO ₃	mg/L	48.0	54.0	-	
6	Suspended Solids	mg/L	77	12	100	
7	Total Dissolve Solids	mg/L	344	360	-	
8	Chemical Oxygen Demand	mg/L	110	29	250	
9	Biochemical Oxygen Demand (For 3 days at 27 °C)	mg/L	32	13	30	
10	Oil & Grease	mg/L	8.6	< 3.0	10	
11	Temperature	° C	25	25	Shall not exceed 5.0°C above the receiving water temperature	
12	Conductivity	µS/cm	550	576	-	
 Analysis By  Checked By  Verified By						



STAR CEMENT LIMITED

Lumshnong, Meghalaya

WATER TESTING REPORT

Reference No.	SCL/EHS/F-04
Issue No.	1
Date of Issue:	24.08.2013
Revision No.	3
Date of Rev.	01.06.2019

Reference No.: SCL/ENV/WATER/MONTHLY/2023-24/03

Surface Water Analysis Results

Date of sample collection: 14.06.2023

Date of Analysis: 14.06.2023 to 17.06.2023

S.No.	Parameter	Unit	Umtyrngai Nallah		Umutha Nallah		Umso Nalah	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	-	7.7	7.9	7.3	7.8	8.2	7.5	7.8	7.4	7.6	7.5	6.5 - 8.5
2	Colour	Hazen	Colourless	Colourless	Colourless	Colourless	Colourless	Colourless	Colourless	Colourless	Colourless	Colourless	10
3	Odour	-	Unobjectionable										Unobjectionable
4	Chloride	mg/L	25.9	33.7	22.2	28.0	51.4	23.0	40.1	21.3	26.6	28.4	250
5	Total Hardness as CaCO ₃	mg/L	41.7	60.2	79.4	79.4	84.0	40.0	20.2	14.0	16.0	46.0	300
6	Suspended Solids	mg/L	5.2	30.7	4.9	38.9	45.7	6.7	7.4	4.5	3.7	8.3	-
7	Total Dissolve Solids	mg/L	275.0	286.0	231.0	287.0	307.0	92.4	171.0	17.8	29.6	175.0	500
8	Biochemical Oxygen Demand (For 3 days at 27 °C)	mg/L	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	-
10	Temperature	° C	25.0	25.0	25.0	25.0	25.0	25.0	25.0	25.0	25.0	25.0	-
11	Conductivity	µS/cm	440.0	457.6	396.6	459.2	491.2	147.8	273.6	22.0	47.3	280.0	-
12	Flow	L / Min	151831.8	522386.8	109492.3	203892.3	627482.1	945912.2	-	-	1581.75	-	-

Analyzed by

Checked by

Verified by