

STAR CEMENT MEGHALAYA LIMITED

Ref: SCML/EHS/LUM/2023-24/25

Dated: 29/01/2024

To,

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

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

Reference : MPCB/TB-115/2009/Pt-II/2022-2023/119, Dtd: Shillong, the 23rd February, 2023.

Dear Sir,

This is in reference to above cited subject, we are hereby submitting the monthly Environmental monitoring reports of Ambient Air Quality monitoring including meteorological data, Stack Emission, Fugitive Emission, Waste monitoring (Surface, STP, ETP) reports of **Star Cement Meghalaya Limited** for the month of **December, 2023**.

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

Thanking You,

Yours truly,
For **STAR CEMENT MEGHALAYA LIMITED**



Laxmaiah Munjala
Unit Head

Enclosed: a/a

Copy To: The Regional Director, Central Pollution Control Board (CPCB), North Eastern Zonal Office, 'TUMSIR', Lower Motinagar, Shillong, Meghalaya-790314.

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 : U63090ML2005PLC008011



STAR CEMENT MEGHALAYA LIMITED

Lumshnong, Meghalaya

Date (DD-MM-YYYY)	Pressure (mmHg)	Relative Humidity (%)	Temp. (C)	Manual Rain (mm)
01-12-2023	722.8	70.2	22.7	0.0
02-12-2023	720.2	69.0	22.0	0.0
03-12-2023	719.9	69.8	22.9	0.0
04-12-2023	726.1	68.1	22.7	0.0
05-12-2023	723.4	67.9	22.6	0.0
06-12-2023	729.2	69.2	22.0	0.0
07-12-2023	723.8	68.0	20.0	13.4
08-12-2023	726.5	67.8	19.0	16.0
09-12-2023	728.1	68.0	22.5	0.0
10-12-2023	725.8	69.1	22.9	0.0
11-12-2023	723.8	72.3	23.0	0.0
12-12-2023	723.3	71.4	24.7	0.0
13-12-2023	723.7	75.6	22.8	0.0
14-12-2023	726.5	72.7	22.9	0.0
15-12-2023	726.7	72.9	23.8	0.0
16-12-2023	726.1	70.1	23.4	0.0
17-12-2023	724.5	76.4	20.6	0.0
18-12-2023	722.9	75.6	19.2	0.0
19-12-2023	720.5	68.6	20.9	0.0
20-12-2023	726.1	61.6	20.8	0.0
21-12-2023	726.6	64.6	22.3	0.0
22-12-2023	724.3	69.4	22.6	0.0
23-12-2023	726.5	68.9	22.7	0.0
24-12-2023	728.1	66.8	23.9	0.0
25-12-2023	726.5	69.5	22.7	0.0
26-12-2023	721.3	66.2	21.9	0.0
27-12-2023	728.0	69.1	22.4	0.0
28-12-2023	725.8	70.5	22.9	0.0
29-12-2023	724.6	72.6	19.6	0.0
30-12-2023	725.4	71.4	22.0	0.0
31-12-2023	725.8	70.5	22.9	0.0
			Total	29.4

	STAR CEMENT MEGHALAYA LIMITED Lumshnong, Meghalaya		Reference No.	SCML/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.: SCML/ENV/AAQM/MONTHLY/2023-24/09			Month : December	
Location of Sampling: Near Worker Colony		GPS Coordinate: 25°10'46"N 92°23'17"E 552 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)
01.12.2023	28.07	20.12	14.42	17.28
04.12.2023	30.24	19.98	13.47	15.85
09.12.2023	26.04	18.66	14.45	16.78
13.12.2023	32.37	18.12	13.65	16.15
15.12.2023	31.07	16.98	13.43	13.98
18.12.2023	28.93	19.82	14.25	15.95
20.12.2023	28.06	18.93	13.94	15.17
28.12.2023	31.07	18.63	12.46	14.78
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 MEGHALAYA LIMITED Lumshnong, Meghalaya		Reference No.	SCML/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.: SCML/ENV/AAQM/MONTHLY/2023-24/09			Month : December	
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)
01.12.2023	64.39	40.17	13.66	17.87
04.12.2023	59.04	41.05	15.86	19.09
09.12.2023	61.27	41.71	16.32	17.07
13.12.2023	65.26	40.04	15.77	16.00
15.12.2023	62.59	37.87	14.29	15.25
18.12.2023	64.09	40.24	12.61	16.11
20.12.2023	69.64	44.63	12.61	16.11
28.12.2023	65.75	41.92	12.61	16.11
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 MEGHALAYA LIMITED Lumshnong, Meghalaya		Reference No.	SCML/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.: SCML/ENV/AAQM/MONTHLY/2023-24/09			Month : December	
Location of Sampling: Near STP		GPS Coordinate: 25°10'49"N 92°23'58"E 947 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)
01.12.2023	28.38	21.80	14.15	18.79
04.12.2023	30.38	20.77	15.35	22.29
09.12.2023	31.70	23.10	12.67	14.92
13.12.2023	36.05	24.26	13.29	16.92
15.12.2023	33.67	22.62	13.97	18.79
18.12.2023	31.37	21.08	14.69	16.58
20.12.2023	35.60	18.61	13.97	17.82
28.12.2023	33.89	16.78	13.02	15.83
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 MEGHALAYA LIMITED Lumshnong, Meghalaya		Reference No.	SCML/Env/F – 01
			Issue No.	1
			Date of Issue:	24.08.2013
	AMBIENT AIR QUALITY MONITORING REPORT		Revision No.	5
			Date of Rev.	01.12.2020
Reference No.: SCML/ENV/AAQM/MONTHLY/2023-24/02			Month : December	
Location of Sampling: Near Raw Mill Hopper		GPS Coordinate: 25°10'45"N 92°23'26.65"E 947 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)
01.12.2023	47.78	25.61	13.33	16.44
04.12.2023	51.05	26.80	13.39	14.60
09.12.2023	43.41	22.97	11.60	16.35
13.12.2023	42.27	29.20	11.39	14.97
15.12.2023	48.61	25.50	12.57	16.37
18.12.2023	48.63	28.79	11.42	13.87
20.12.2023	51.27	30.87	12.18	15.37
28.12.2023	49.90	27.66	12.73	14.18
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 MEGHALAYA LIMITED Lumshnong, Meghalaya		Reference No.	SCML/Env/F – 01
			Issue No.	1
			Date of Issue:	24.08.2013
	AMBIENT AIR QUALITY MONITORING REPORT		Revision No.	5
			Date of Rev.	01.12.2020
Reference No.: SCML/ENV/AAQM/MONTHLY/2023-24/02			Month : December	
Location of Sampling: Near Water Reservoir		GPS Coordinate: 25°10'45"N 92°23'54"E 410 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)
01.12.2023	30.39	21.19	13.39	15.37
04.12.2023	37.66	23.05	13.45	13.53
09.12.2023	33.46	23.19	11.66	15.28
13.12.2023	29.96	21.19	11.45	13.90
15.12.2023	36.71	20.05	12.63	15.30
18.12.2023	36.35	22.89	11.48	12.80
20.12.2023	33.49	22.00	12.24	14.30
28.12.2023	31.45	20.55	12.79	13.11
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 MEGHALAYA LIMITED Lumshnong, Meghalaya				Reference No.	SCML/Env/F-02
					Issue No.	1
	STACK EMISSION MONITORING ANALYSIS REPORT				Date of Issue	01.05.2019
					Revision No.	5
					Date of Rev.	01.06.2021
Report No: SCML/ENV/STACK/MONTHLY/2023-24/09 Month: December						
Analysis Result						
A. General Information About Stack						
1	Stack Identification No	S-1	S-2	S-3	S-4	S-5
2	Stack Connected to	LS Crusher	Add Crusher	Kiln/Raw Mill	Coal Mill	Cooler
3	Material of Construction (Stack/Duct)	Mild Steel	Mild Steel	Mild Steel	Mild Steel	Mild Steel
4	Shape of duct	Circular	Circular	Circular	Circular	Circular
5	Whether duct is provided with permanent platform & ladder	Yes	Yes	Yes	Yes	Yes
B. Physical characteristic of stack						
1	Stack Height from ground level (meter)	24.2	21.0	70.0	59.5	50.0
2	Duct diameter at sampling point (meter)	1.6	1.2	5.8	1.8	4.0
3	Sampling height point from ground level (meter)	-	-	23.15	10.38	-
4	Cross sectional area of Duct/Stack (m ²)	2.01	1.13	26.41	2.54	12.56
C. Pollution Control Device						
1	Details of pollution control device attached to stack	Bag Filter	Bag Filter	Reverse Air Bag House	Bag Filter	ESP
D. Result of Sampling & Analysis of Gaseous Emission						
1	Date of Sampling	14.12.2023	14.12.2023	08.12.2023	09.12.2023	11.12.2023
2	Ambient Temp (°C)	22	25	27	29	30
3	Stack Gas Temp (°C)	28	27	132	72	125
4	Exit Velocity of Gas (m/sec.)	11.97	10.91	9.05	8.34	8.89
5	Flow Rate (Nm ³ / sec.)	22.69	11.43	165.52	17.40	80.58
6	Quantity of Emission (Nm ³ / Hr)	81694.35	41148.95	595875.39	62642.28	290082.23
7	Concentration of PM (mg/Nm ³)	17.6	20.2	19.8	28.2	16.8
8	Concentration of SO ₂ (mg/Nm ³)	-	-	420	-	-
9	Concentration of NOx (mg/Nm ³)	-	-	345	-	-
10	Oxygen (O ₂) (%)	9.3	9.7	9.5	10.0	8.2
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), Limestone (LS), Additive (Add)</i>						
 Analysis by		 Checked by		 Authorized Signatory		

	STAR CEMENT MEGHALAYA LIMITED Lumshnong, Meghalaya		Document No.	SCML/EHS/Env/F-04
			Date of Issued	01-05-2019
			Revision No.	2
	FUGITIVE EMISSION MONITORING REPORT		Revision Date	01-01-2021
Ref: SCML/ENV/FUGITIVE/MONTHLY/2023-24/09				
Month - December				
Date	Location	Fugitive Emission Results	As per CPCB/BIS Guideline	
			Limit	
		(in $\mu\text{g}/\text{m}^3$)	(in $\mu\text{g}/\text{m}^3$)	
11.12.2023	Coal Storage Section	1232	2000	
11.12.2023	Limestone Storage Section	1274	5000	
11.12.2023	Clinker Loading Section	1601	2000	
 Analyzed By  Checked By  Verified By				

	STAR CEMENT MEGHALAYA LIMITED Lumshnong, Meghalaya				Document No.	SCML/EHS/Env/F-03					
					Effective Date	01-05-2019					
	NOISE LEVEL MONITORING REPORT				Revision No.	04					
					Revision Date	01-01-2021					
Ref: SCML/ENV/NOISE/MONTHLY/2023-24/009											
Date: 13.12.2023											
Month - December											
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	65.1	72.2	68.7	75	63.4	65.1	64.3	70		
2	Vertical Raw Mill	66.3	72.8	69.5		61.7	67.7	64.7			
3	Raw Mill WF	62.2	73.8	68.0		63.4	66.0	64.7			
4	Coal Mill	65.6	72.5	69.1		61.4	67.5	64.5			
5	Limestone Crusher(Dump Hopper)	65.2	72.3	68.8		64.4	64.9	64.7			
6	Additive Crusher	65.5	73.8	69.6		59.4	66.9	63.2			
B.											
1	CCR	62.4	63.4	62.9		57.3	65.3	61.3			
2	Meeting Room	61.9	68.1	65.0		57.7	58.2	58.0			
3	VP'S Room	56.3	60.5	58.4		49.9	58.3	54.1			
4	Inst. Shift Room	58.6	69.3	64.0		54.8	57.8	56.3			
5	Electrical Office	64.7	70.5	67.6		50.1	62.3	56.2			
6	QC Department										
	a)Chemical Lab	66.5	65.7	66.1		52.5	56.5	54.5			
	b)Physical Lab	63.4	70.4	66.9	52.3	62.4	57.4				
	c)XRF Lab	64.9	68.1	66.5	49.9	55.7	52.8				
	d) Sample Preparation Room	62.3	64.9	63.6	52.5	58.5	55.5				
C.	Residential										
1	450 Quater's	46.4	50.7	48.6	55	41.6	40.7	41.2	45		
2	Worker's Colony	45.8	48.2	47.0		40.8	40.5	40.7			
 Analyzed by  Checked By  Verified By											

	STAR CEMENT MEGHALAYA LIMITED Lumshnong, Meghalaya				Reference No.	SCML/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.: SCML/ENV/WATER/MONTHLY/2023-24/09					Date of sample collection: 18.12.2023	
					Date of Analysis: 18.12.2023 to 21.12.2023	
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	-	7.5	7.9	5.5 to 9.0	
2	Colour	Hazen	Yellowish	Colourless	-	
3	Odour	-	Odourless	Odourless	-	
4	Chloride	mg/L	79.8	81.5	-	
5	Total Hardness as CaCO ₃	mg/L	55.8	57.0	-	
6	Suspended Solids	mg/L	78	20.0	100	
7	Total Dissolve Solids	mg/L	313	322	-	
8	Chemical Oxygen Demand	mg/L	124	41	250	
9	Biochemical Oxygen Demand (For 3 days at 27 °C)	mg/L	84	9.0	30	
10	Oil & Grease	mg/L	1.1	< 3.0	10	
11	Temperature	° C	25	25	Shall not exceed 5.0°C above the receiving water temperature	
12	Conductivity	µS/cm	483	492	-	
 Analysis By  Checked By  Verified By						

	STAR CEMENT MEGHALAYA LIMITED Lumshnong, Meghalaya				Reference No.	SCML/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.: SCML/ENV/WATER/MONTHLY/2023-24/09						Date of sample collection: 18.12.2023 Date of Analysis: 18.12.2023 to 21.12.2023
Sl.No.	Parameter	Unit	ETP Inlet	ETP 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	7.9	5.5 to 9.0	
2	Suspended Solids	mg/L	95	49	100	
3	Total Dissolve Solids	mg/L	412	320	-	
4	Chemical Oxygen Demand	mg/L	317	43	250	
5	Biochemical Oxygen Demand (For 3 days at 27 °C)	mg/L	90	25	30	
6	Oil & Grease	mg/L	4.7	< 3.0	10	
7	Dissolved Oxygen	mg/L	5.0	5.5	-	
8	Temperature	° C	25	25	Shall not exceed 5.0°C above the receiving water temperature	
 Analysis By  Checked By  Verified By						

	STAR CEMENT MEGHALAYA LIMITED Lumshnong, Meghalaya										Reference No.	SCML/EHS/F-04							
											Issue No.	1							
											Date of Issue:	24.08.2013							
	WATER TESTING REPORT										Revision No.	3							
Date of Rev.											01.06.2019								
Reference No.: SCML/ENV/WATER/MONTHLY/2023-24/09										Surface Water Analysis Results Date of sample collection: 20.12.2023 Date of Analysis: 20.12.2023 to 23.12.2023									
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	-	7.7	7.5	7.8	8.1	8.2	6.9	7.1	7.3	Water source not found				7.6	6.5 - 8.5			
2	Colour	Hazen	Colourless	Colourless	Colourless	Colourless	Colourless	Yellowish	Colourless	Colourless					Colourless			Colourless	10
3	Odour	-	Unobjectionable												Unobjectionable	Unobjectionable			
4	Chloride	mg/L	24.8	29.2	27.5	27.9	30.1	45.2	20.0	24.8					24.8	250			
5	Total Hardness as CaCO ₃	mg/L	52.8	68.0	76.0	84.0	88.0	125.0	24.0	49.2					47.2	300			
6	Suspended Solids	mg/L	1.0	1.5	2.1	8.96	10.0	23.0	3.9	1.4					2.0	-			
7	Total Dissolve Solids	mg/L	254.0	188.0	266.7	326.0	342.2	224.1	69.2	135.9					240.0	500			
8	Biochemical Oxygen Demand (For 3 days at 27 °C)	mg/L	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	-			
10	Temperature	° C	25.0	25.0	25.0	25.0	25.0	25.0	25.0	25.0					25.0	-			
11	Conductivity	µS/cm	447.0	329.0	433.2	526.5	547.4	353.4	107.2	218.6					424.0	-			
12	Flow	L / Min	2528.8	3026.0	367.9	1119.6	3060.0	10683.7	6247.5	132005.0					-	-			
 Analyzed by  Checked by  Verified by																			