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)
01-08-2022	956.5	90.14	25.23	207.87	0.37	19.8
02-08-2022	956.48	89.94	25.26	198.38	0.8	0.0
03-08-2022	956.39	90.98	25.07	212.02	1.23	4.2
04-08-2022	956.33	92.02	24.88	236.89	1.18	6.2
05-08-2022	956.21	93.11	24.53	207.29	1.24	0.0
06-08-2022	956.18	94	24.29	191.12	1.31	15.6
07-08-2022	956.27	94.71	24.2	185.44	1.25	0.0
08-08-2022	956.29	94.64	24.29	195.31	0.98	0.0
09-08-2022	956.31	93.8	24.46	220.29	0.64	0.0
10-08-2022	956.4	93.01	24.36	200.6	1.04	6.6
11-08-2022	956.5	93.23	24.3	186.6	0.82	0.0
12-08-2022	956.56	93.36	24.3	198.63	1.14	0.0
13-08-2022	956.64	94.08	24.19	296.7	0.86	4.5
14-08-2022	956.82	94.11	24.1	287.39	0.9	0.0
15-08-2022	956.91	94.48	24.03	320.33	0.96	5.0
16-08-2022	957.26	94.95	24	291.62	0.59	9.4
17-08-2022	957.56	94.99	24	235.74	0.68	0.0
18-08-2022	957.8	95.57	23.9	132.99	0.76	0.0
19-08-2022	958.03	96.16	23.9	200.91	1.1	0.0
20-08-2022	958.29	96.02	23.91	161.57	1.14	0.0
21-08-2022	958.64	96.37	23.92	143.62	0.72	0.0
22-08-2022	958.99	96.27	24	207.24	0.52	0.0
23-08-2022	959.27	96.23	23.98	187.07	1.72	4.2
24-08-2022	959.47	95.96	23.71	189.62	1.83	0.0
25-08-2022	959.68	96.21	23.45	135.26	1.14	4.9
26-08-2022	959.69	97.06	23.35	211.9	0.9	0.0
27-08-2022	959.6	97.48	23.4	230.67	0.93	15.2
28-08-2022	959.66	97.72	23.36	186.62	2.27	4.2
29-08-2022	959.76	97.93	23.3	203.92	1.24	7.5
30-08-2022	959.73	98.02	23.3	170.62	0.98	0.0
31-08-2022	959.69	98.1	23.27	174.98	1.8	0.0
					Total rain of this month	**107.3**

STAR CEMENT Solid Setting	**STAR CEMENT LIMITED** **Lumshnong, Meghalaya**	**Reference No.**	**SCL/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.: SCL/ENV/AAQM/MONTHLY/2022-23/14 | **Month: August'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/m³)**	**$PM_{2.5}$(µg/m³)**	**SO_2 (µg/m³)**	**NO_2 (µg/m³)**
03.08.2022	40.90	21.44	7.92	15.77
05.08.2022	42.75	23.30	9.28	13.93
08.08.2022	38.55	19.05	10.70	15.68
10.08.2022	45.40	21.44	9.74	14.30
16.08.2022	41.80	20.30	8.85	15.70
18.08.2022	41.44	23.14	9.00	13.20
22.08.2022	43.18	22.25	10.77	14.70
24.08.2022	44.67	21.95	8.95	13.51
NAAQS permissible limits for Rural, Industrial, Residential Area	**100 (µg/m³)**	**60 (µg/m³)**	**80 (µg/m³)**	**80 (µg/m³)**

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 Solid Setting	**STAR CEMENT LIMITED** **Lumshnong, Meghalaya**	**Reference No.**	**SCL/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.: SCL/ENV/AAQM/MONTHLY/2022-23/15 | **Month: August'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/m³)**	**$PM_{2.5}$(µg/m³)**	**SO_2 (µg/m³)**	**NO_2 (µg/m³)**
03.08.2022	49.15	30.97	11.20	16.00
05.08.2022	47.88	29.36	14.14	14.19
08.08.2022	48.27	30.72	11.70	15.47
10.08.2022	52.74	27.25	11.48	12.29
16.08.2022	47.90	26.34	10.75	15.22
18.08.2022	49.65	30.80	12.50	15.95
22.08.2022	50.10	29.21	10.02	12.45
24.08.2022	47.40	28.65	13.50	13.53
NAAQS permissible limits for Rural, Industrial, Residential Area	**100 (µg/m³)**	**60 (µg/m³)**	**80 (µg/m³)**	**80 (µg/m³)**

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 Solid Setting	**STAR CEMENT LIMITED** **Lumshnong, Meghalaya**	**Reference No.**	**SCL/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.: SCL/ENV/AAQM/MONTHLY/2022-23/16 — **Month: August'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/m³)**	**$PM_{2.5}$(µg/m³)**	**SO_2 (µg/m³)**	**NO_2 (µg/m³)**
03.08.2022	72.70	40.60	20.05	25.26
05.08.2022	67.35	35.80	21.07	26.29
08.08.2022	69.58	42.14	21.53	24.27
10.08.2022	73.57	40.47	20.98	23.20
16.08.2022	70.90	38.30	19.50	22.45
18.08.2022	72.40	40.67	17.82	23.31
22.08.2022	74.15	42.05	19.98	23.29
24.08.2022	70.26	39.34	19.07	21.20
NAAQS permissible limits for Rural, Industrial, Residential Area	**100 (µg/m³)**	**60 (µg/m³)**	**80 (µg/m³)**	**80 (µg/m³)**

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 Solid Setting	**STAR CEMENT LIMITED** **Lumshnong, Meghalaya**	**Reference No.**	**SCL/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.: Tongseng Village /2022-23/17	**Month: August'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/m³)**	**$PM_{2.5}$(µg/m³)**	**SO_2 (µg/m³)**	**NO_2 (µg/m³)**
27.08.2022	37.59	16.02	8.15	10.59
NAAQS permissible limits for Rural, Industrial, Residential Area	**100 (µg/m³)**	**60 (µg/m³)**	**80 (µg/m³)**	**80 (µg/m³)**

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

STACK EMISSION MONITORING ANALYSIS REPORT

Reference No.	SCL/Env/F-02
Issue No.	1
Date of Issue	01.05.2019
Revision No.	5
Date of Rev.	01.06.2021

Report No: SCL/ENV/STACK/MONTHLY/2022-23/05 **Month: August'22**

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	03.08.2022	03.08.2022	08.08.2022	01.08.2022	06.08.2022	06.08.2022	01.08.2022	01.08.2022
2	Ambient Temp (°C)	33	30	42	24	22	23	23	21
3	Stack Gas Temp (°C)	166	60	360	32	27	35	30	30
4	Exit Velocity of Gas (m/sec.)	14.28	13.05	19.55	13.82	13.64	13.01	13.66	13.38
5	Flow Rate (Nm^3/ sec.)	64.41	12.50	54.48	19.38	22.34	11.29	14.09	9.76
6	Quantity of Emission (Nm^3/ Hr)	231877.35	45011.51	196145.09	69784.09	80437.22	40660.19	50722.00	35122.97
7	Concentration of PM (mg/Nm^3)	15.08	18.12	14.58	16.97	22.01	23.37	24.44	20.79
8	Concentration of SO_2 (mg/Nm^3)	548.00	-	-	-	-	-	-	-
9	Concentration of NOx (mg/Nm^3)	228.00	-	-	-	-	-	-	-
10	Oxygen (O_2) (%)	10.2	9.2	9.50	9.12	10.78	9.64	10.84	11.58
E.	**Remarks**								

Standard		
PM - 30 mg/Nm^3	**SO_2 - 1000 mg/Nm^3**	**NOx - 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
	FUJITIVE EMISSION MONITORING REPORT	Revision Date	01-01-2021

Ref: SCL/ENV/FUGITIVE/MONTHLY/2022-23/005

Month - August 2022

Date	Location	Fugitive Emission Results	As per CPCB/BIS Guideline
			Limit
		(in µg/m^3)	(in µg/m^3)
04.08.2022	Coal Storage Section	1245	2000
04.08.2022	Limestone Storage Section	1485	5000

Analyzed 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
	WATER TESTING REPORT	Revision No.	3
		Date of Rev.	01.06.2019

Reference No.: SCL/ENV/WATER/MONTHLY/2022-23/05

Date of sample collection: - 05.08.2022
Date of Analysis: 05.08.2022 to 08.08.2022

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	-	7.4	7.84	5.5 to 9.0
2	Colour	Hazen	Colourless	Colourless	-
3	Odour	-	Odourless	Odourless	-
4	Chloride	mg/L	47.9	49.6	-
5	Total Hardness as $CaCO_3$	mg/L	92.0	98.0	-
6	Suspended Solids	mg/L	68.4	3.5	100
7	Total Dissolve Solids	mg/L	306	278	-
8	Chemical Oxygen Demand	mg/L	110	30.0	250
9	Biochemical Oxygen Demand (For 3 days at 27 °C)	mg/L	72.0	3.0	30
10	Oil & Grease	mg/L	6.6	< 3.0	10
11	Temperature	° C	25.0	25.0	Shall not exceed 5.0°C above the receiving water temperature
12	Conductivity	µS/cm	571.0	520	-

Analysis By

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STAR CEMENT Solid Setting	**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/2022-23/05

Surface Water Analysis Report
Month: August-2022

Date of sample collection: - 20.08.2022

Date of Analysis: 20.08.2022 to 23.08.2022

S.No.	Parameter	Unit	Umtyrngai Nallah		Umutha Nallah		Lumshnong	Umbadoh	Tongseng	Wahiajer	Standards norms as per IS 2296
			Up Stream	Down Stream	Up Stream	Down Stream	Seasonal Spring / Seasonal Nallah				
1	pH	-	7.80	7.76	7.70	7.80	7.45	7.3	7.5	7.36	6.5 - 8.5
2	Colour	Hazen	Colourless	Colourless	Colourless	Colourless	Colourless	Colourless	Colourless	Colourless	10
3	Odour	-	Unobjectionable								Unobjectionable
4	Chloride	mg/L	44	46	36	37	49	47	49	45	250
5	Total Hardness as $CaCO_3$	mg/L	70	78	74	80	20	15	20	13	300
6	Suspended Solids	mg/L	20	24	23	25	5	2	1	14	-
7	Total Dissolve Solids	mg/L	186	239	176	180	126	133	119	125	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	25	25	25	25	25	25	25	-
11	Conductivity	µS/cm	301	395	290	298	204	224	210	229	-
12	Flow	L/m	3833.5	12016.2	1143.2	7124.1	3690.8	-	-	-	-

Analyzed by | **Checked by** | **Verified by**