

# STAR CEMENT MEGHALAYA LIMITED

Ref: SCML-MLA/EHS/LUM/2024-25/13

Dated: 14/06/2024

To,

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

**Subject** : Submission of Environmental Monitoring Report for the month of May, 2024.

**Reference** : MPCB/ONLINE/RCTO(R-I)/2021/2023-2024/29, Dtd: Shillong, the 13<sup>th</sup> September, 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, Fugitive Emission, Surface water monitoring reports of **Shale Mining Lease (4.67 Ha) of Star Cement Meghalaya Limited** for the month of **May, 2024**.

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.



**STAR CEMENT LIMITED**  
Lumshnong, Meghalaya

| Date (DD-MM-YYYY) | Pressure (mmHg) | Relative Humidity (%) | Temp. (C) | Manual Rain (mm) |
|-------------------|-----------------|-----------------------|-----------|------------------|
| 01-05-2024        | 716.2           | 73.4                  | 20.2      | 45.8             |
| 02-05-2024        | 718.5           | 73.5                  | 20.4      | 97.0             |
| 03-05-2024        | 721.3           | 73.6                  | 20.6      | 0.0              |
| 04-05-2024        | 720.4           | 73.7                  | 20.8      | 6.2              |
| 05-05-2024        | 720.6           | 73.8                  | 21.0      | 27.4             |
| 06-05-2024        | 720.8           | 73.9                  | 21.2      | 16.2             |
| 07-05-2024        | 721.0           | 74.0                  | 21.4      | 0.0              |
| 08-05-2024        | 721.2           | 72.5                  | 21.6      | 0.0              |
| 09-05-2024        | 721.4           | 72.1                  | 21.8      | 0.0              |
| 10-05-2024        | 721.6           | 74.6                  | 22.0      | 0.0              |
| 11-05-2024        | 721.8           | 75.1                  | 22.2      | 8.2              |
| 12-05-2024        | 722.0           | 76.2                  | 21.5      | 0.0              |
| 13-05-2024        | 722.2           | 74.5                  | 22.1      | 0.0              |
| 14-05-2024        | 722.4           | 74.3                  | 22.6      | 0.0              |
| 15-05-2024        | 722.6           | 71.2                  | 21.3      | 0.0              |
| 16-05-2024        | 718.2           | 70.7                  | 20.2      | 0.0              |
| 17-05-2024        | 716.1           | 70.1                  | 20.4      | 0.0              |
| 18-05-2024        | 714.0           | 69.6                  | 19.8      | 6.2              |
| 19-05-2024        | 716.5           | 69.0                  | 19.7      | 0.0              |
| 20-05-2024        | 717.6           | 70.2                  | 19.5      | 0.0              |
| 21-05-2024        | 718.7           | 70.5                  | 19.3      | 0.0              |
| 22-05-2024        | 719.8           | 70.8                  | 19.1      | 0.0              |
| 23-05-2024        | 720.9           | 71.1                  | 18.9      | 0.0              |
| 24-05-2024        | 722.0           | 71.4                  | 18.7      | 0.0              |
| 25-05-2024        | 723.1           | 71.7                  | 21.3      | 0.0              |
| 26-05-2024        | 724.2           | 72.0                  | 22.4      | 12.6             |
| 27-05-2024        | 725.3           | 72.3                  | 23.5      | 55.0             |
| 28-05-2024        | 726.4           | 72.6                  | 24.6      | 148.2            |
| 29-05-2024        | 723.6           | 72.9                  | 25.7      | 155.0            |
| 30-05-2024        | 721.4           | 73.2                  | 24.3      | 198.3            |
| 31-05-2024        | 719.2           | 73.5                  | 22.9      | 43.8             |
|                   |                 |                       | Total     | 819.9            |

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                                                                               |                                       |                         |                         |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------|---------------------------------------|-------------------------|-------------------------|
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | <b>STAR CEMENT MEGHALAYA LIMITED</b><br>Shale Mining Lease ( 4.67 ha)<br>Lumshnong, Meghalaya |                                       | Reference No.           | SCML/Env/F – 01         |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                                                                               |                                       | Issue No.               | 1                       |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | <b>AMBIENT AIR QUALITY MONITORING REPORT</b>                                                  |                                       | Date of Issue:          | 24.08.2013              |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                                                                               |                                       | Revision No.            | 5                       |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                                                                               |                                       | Date of Rev.            | 01.12.2020              |
| Reference No.: SCML/ENV/AAQM/MONTHLY/2024-25/14                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                                                                               |                                       | May-24                  |                         |
| Location of Sampling: Mines Entrance Haul Road                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                                                                               | GPS Coordinate: 25°09'55"N 92°24'32"E |                         |                         |
| Sampling Duration:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | 24 Hrs.                                                                                       | 24 Hrs.                               | 24 Hrs.                 | 24 Hrs.                 |
| Date of Sampling                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | PM <sub>10</sub> (µg/m³)                                                                      | PM <sub>2.5</sub> (µg/m³)             | SO <sub>2</sub> (µg/m³) | NO <sub>2</sub> (µg/m³) |
| 26.05.2024                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | 56.44                                                                                         | 22.81                                 | 12.47                   | 21.84                   |
| 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.                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                                                                               |                                       |                         |                         |
| <div style="display: flex; justify-content: space-between; align-items: flex-end;"> <div style="text-align: center;"> <br/>           Analysed by         </div> <div style="text-align: center;"> <br/>           Checked By         </div> <div style="text-align: center;"> <br/>           Verified By         </div> </div> |                                                                                               |                                       |                         |                         |

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                                                                               |                                         |                                      |                                      |
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|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | <b>STAR CEMENT MEGHALAYA LIMITED</b><br>Shale Mining Lease ( 4.67 ha)<br>Lumshnong, Meghalaya |                                         | Reference No.                        | SCML/Env/F – 01                      |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                                                                               |                                         | Issue No.                            | 1                                    |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | <b>AMBIENT AIR QUALITY MONITORING REPORT</b>                                                  |                                         | Date of Issue:                       | 24.08.2013                           |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                                                                               |                                         | Revision No.                         | 5                                    |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                                                                               |                                         | Date of Rev.                         | 01.12.2020                           |
| Reference No.: SCML/ENV/AAQM/MONTHLY/2024-25/14                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                                                                               |                                         | May-24                               |                                      |
| Location of Sampling: Excavator Point                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                                                                               | GPS Coordinate: 25°10'00.6"N 92°24'34"E |                                      |                                      |
| Sampling Duration:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | 24 Hrs.                                                                                       | 24 Hrs.                                 | 24 Hrs.                              | 24 Hrs.                              |
| Date of Sampling                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | PM <sub>10</sub> (µg/m <sup>3</sup> )                                                         | PM <sub>2.5</sub> (µg/m <sup>3</sup> )  | SO <sub>2</sub> (µg/m <sup>3</sup> ) | NO <sub>2</sub> (µg/m <sup>3</sup> ) |
| 26.05.2024                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | 60.22                                                                                         | 32.15                                   | 7.49                                 | 25.48                                |
| NAAQS permissible limits for Rural, Industrial, Residential Area                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | 100 (µg/m <sup>3</sup> )                                                                      | 60 (µg/m <sup>3</sup> )                 | 80 (µg/m <sup>3</sup> )              | 80 (µg/m <sup>3</sup> )              |
| Remarks: All the analyzed parameters are well within the permissible limits of NAAQ Standards , Notification dated 18th November 2009.                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                                                                               |                                         |                                      |                                      |
| <div style="display: flex; justify-content: space-between; align-items: flex-end;"> <div style="text-align: center;"> <br/>           Analysed by         </div> <div style="text-align: center;"> <br/>           Checked By         </div> <div style="text-align: center;"> <br/>           Verified By         </div> </div> |                                                                                               |                                         |                                      |                                      |

|                                                                                                                                                                                                                                                                                                                                                        |                                                       |                           |                           |                     |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------|---------------------------|---------------------------|---------------------|
|                                                                                                                                                                                                                                                                       | STAR CEMENT MEGHALAYA LIMITED<br>Lumshnong, Meghalaya |                           | Reference No.             | SCML/Env/F – 07 (a) |
|                                                                                                                                                                                                                                                                                                                                                        |                                                       |                           | Issue No.                 | 1                   |
|                                                                                                                                                                                                                                                                                                                                                        |                                                       |                           | Date of Issue:            | 01.12.2018          |
|                                                                                                                                                                                                                                                                                                                                                        | FUGITIVE EMISSION REPORT                              |                           | Revision No.              | 2                   |
|                                                                                                                                                                                                                                                                                                                                                        |                                                       |                           | Date of Rev.              | 01.12.2020          |
| Ref: SCML/ENV/FUGITIVE/MONTHLY/2024-25/14                                                                                                                                                                                                                                                                                                              |                                                       |                           |                           |                     |
| Shale Minning Lease ( 4.67 ha)                                                                                                                                                                                                                                                                                                                         |                                                       |                           |                           |                     |
| Month - May                                                                                                                                                                                                                                                                                                                                            |                                                       |                           |                           |                     |
| Date                                                                                                                                                                                                                                                                                                                                                   | Location                                              | Fugitive Emission Results | As per CPCB/BIS Guideline |                     |
|                                                                                                                                                                                                                                                                                                                                                        |                                                       |                           | Limit                     |                     |
|                                                                                                                                                                                                                                                                                                                                                        |                                                       | (in µg/m <sup>3</sup> )   | (in µg/m <sup>3</sup> )   |                     |
| 20.05.2024                                                                                                                                                                                                                                                                                                                                             | Near Shale loading area                               | 1650                      | 5000                      |                     |
| <div><div><br/>Analyzed By</div><div><br/>Checked By</div><div><br/>Verified By</div></div> |                                                       |                           |                           |                     |

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | <b>STAR CEMENT MEGHALAYA LIMITED</b><br>(4.67 Ha)<br>Lumshnong, Meghalaya |                                                    | Document No.   |      | SCML/EHS/Env/F-03 |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------|----------------------------------------------------|----------------|------|-------------------|
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                                                                           |                                                    | Effective Date |      | 01-05-2019        |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                                                                           |                                                    | Revision No.   |      | 04                |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | <b>NOISE LEVEL MONITORING REPORT</b>                                      |                                                    | Revision Date  |      | 01-01-2021        |
| Ref: SCML/ENV/NOISE/MONTHLY/2024-25/14                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                                                           |                                                    |                |      | Date:- 30.05.2024 |
| <b>Shale Minning Lease ( 4.67 ha)</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                                                           |                                                    |                |      |                   |
| <b>Month - May</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                                           |                                                    |                |      |                   |
| S. No.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | Location                                                                  | Measured Values dB(A) Day time (6:00am to 10:00pm) |                |      | Norms In dB(A)    |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                                                                           | Min.                                               | Max.           | Avg. |                   |
| 1                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | Rock Breaker (10 mtr. Distance)                                           | 69.1                                               | 70.2           | 69.7 | <b>75</b>         |
| 2                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | Dozer (10 mtr. Distance)                                                  | 64.2                                               | 69.4           | 66.8 |                   |
| 3                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | Dumper (10 mtr. Distance)                                                 | 67.4                                               | 69.1           | 68.3 |                   |
| 4                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | Excavator                                                                 | 68.4                                               | 70.1           | 69.3 |                   |
| 5                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | <b>Dumper</b>                                                             |                                                    |                |      |                   |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | A) Empty Dumper                                                           |                                                    |                |      |                   |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | a) Open Window                                                            | 61.1                                               | 65.2           | 63.2 |                   |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | b) Close Window                                                           | 58.0                                               | 67.4           | 62.7 |                   |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | B) Loaded Dumper                                                          |                                                    |                |      |                   |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | a) Open Window                                                            | 66.2                                               | 68.4           | 67.3 |                   |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | b) Close Window                                                           | 60.3                                               | 62.2           | 61.3 |                   |
| <div style="display: flex; justify-content: space-between; align-items: flex-end;"> <div style="text-align: center;"> <br/>       Analyzed by     </div> <div style="text-align: center;"> <br/>       Checked By     </div> <div style="text-align: center;"> <br/>       Verified By     </div> </div> |                                                                           |                                                    |                |      |                   |



**Shale Minning Lease ( 4.67 ha)**

|              |            |
|--------------|------------|
| Date of Rev. | 01.06.2019 |
|--------------|------------|

**Reference No.: SCML/ENV/WATER/MONTHLY/2024-25/14**

## Surface Water

Date of sample collection: 15.05.2024

## Analysis Results

**Date of Analysis: 16.05.2024 to 20.05.2024**

| S.No. | Parameter                                          | Unit    | Umtyrngal Nallah |             | Umutha Nallah |             | Umso Nalah  | Umbadoh                           | Tongseng   | Lumshnong  | Wahiajer        | Standards norms<br>as per IS 2296 |
|-------|----------------------------------------------------|---------|------------------|-------------|---------------|-------------|-------------|-----------------------------------|------------|------------|-----------------|-----------------------------------|
|       |                                                    |         | Up Stream        | Down Stream | Up Stream     | Down Stream | Down Stream | Seasonal Spring / Seasonal Nallah |            |            |                 |                                   |
| 1     | pH                                                 | -       | 7.6              | 8.3         | 7.6           | 8.0         | 8.5         | 7.7                               | 7.2        | 7.6        | 7.5             | 6.5 - 8.5                         |
| 2     | Colour                                             | Hazen   | Colourless       | Colourless  | Colourless    | Colourless  | Colourless  | Colourless                        | Colourless | Colourless | Colourless      | 10                                |
| 3     | Odour                                              | -       | Unobjectionable  |             |               |             |             |                                   |            |            | Unobjectionable | Unobjectionable                   |
| 4     | Chloride                                           | mg/L    | 26.1             | 27.3        | 26.4          | 26.9        | 27.1        | 27.2                              | 27.4       | 27.5       | 27.7            | 250                               |
| 5     | Total Hardness as CaCO <sub>3</sub>                | mg/L    | 52.3             | 53.1        | 53.9          | 54.7        | 55.5        | 65.1                              | 80.2       | 82.3       | 45.2            | 300                               |
| 6     | Suspended Solids                                   | mg/L    | 5.3              | 8.4         | 2.5           | 5.4         | 14.0        | 6.0                               | 8.0        | 11.2       | 2.8             | -                                 |
| 7     | Total Dissolve Solids                              | mg/L    | 300.1            | 245.4       | 265.0         | 298.0       | 315.0       | 300.0                             | 323.0      | 350.0      | 225.0           | 500                               |
| 8     | Biochemical Oxygen Demand<br>(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        | 25.9                              | 25.9       | 25.9       | 25.0            | -                                 |
| 11    | Conductivity                                       | µS/cm   | 395.0            | 310.0       | 440.0         | 480.0       | 505.0       | 380.0                             | 460.0      | 490.0      | 350.0           | -                                 |
| 12    | Flow                                               | L / Min | 6504.5           | 16525.2     | 7132.4        | 6625.3      | 15690.4     | -                                 | -          | 520.1      | -               | -                                 |

Analyzed by

Checked by

Verified by