Ref: SCL/EHS/LUM/2022-23/13

Dated: 22/06/2022

To,

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

Subject

: Monthly Environmental Monitoring Report.

Reference

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

Dear Sir,

Please find enclosed herewith the monthly Environmental monitoring reports of Ambient Air Quality for plant and ESZ including meteorological data, Stack Emission, Fugitive Emission, Waste Water (STP) quality reports of M/s Star Cement Limited for the month of May, 2022.

This is for your kind information record please.

Thanking you,

Yours truly,

For Star Cement Limited

West

Surya Prakash Shrimali

President Works

Enclosed: As mentioned above

<u>Copy To</u>: 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.



legd. Office & Works: Lumshnong, P.O. - Khallehriat, Dist. - East Jaintia Hills, Meghalaya - 793 210, Ph. 03655-278215/16/18, Fax: 03655-278217, e-mail: lumshnong@starcement.co.in Vorks: Gopinath Bordoloi Road, Village - Chamatapathar, Distract - Kamrup (M), Guwahati - 782 402, Assam, e-mail: guwahati office: Mayur Garden, 2nd Floor, Opp. Rajiv Bhawan, G.S. Road, Guwahati - 781 005, Assam, Ph: 0361-2462215/16, Fax: 0361-2462217, e-mail: guwahati@starcement.co.in lelhi Office: 281, Deepali, Pitampura, Delhi-110 034, Ph: 011 - 2703 3821/22/27, Fax: 011 - 2703 3824, e-mail: delhi@starcement.co.in lolkata Office: 3, Alipore Road, Satyam Tower, 1st Floor, Unit No. 9B, Kolkata - 700 027, Ph: 033-2448 4169/4170,Fax: 033 - 2448 4168, e-mail: kolkata@starcement.co.in lurgapur Office: C/o - Ma Chandl Durga Cements Ltd., Bamunara Industrial Area, P.O. - Bamunara, P.S. - Kanksha, Dist. Burdwan, West Bengal - 713 212 illiguri Office: Village - Kartowa, P.O. - Mohanvita, District - Jalpaiguri, West Bengal - 735 135 / Top Plaza, 3rd Floor, Near City Plaza, Sevoke Road, Siliguri - 734 001, Ph: 0353 - 2643611/12 Benkura Office: Purandar Pur, District - Bankura, West Bengal - 722 155



Reference No.: SCL/ENV/AAQM/MONTHLY/2022-23/37

STAR CEMENT LIMITED

Lumshnong, Meghalaya

 Reference No.
 SCL/Env/F - 01

 Issue No.
 1

 Date of Issue:
 24.08.2013

 Revision No.
 5

AMBIENT AIR QUALITY MONITORING REPORT

Date of Rev. 01.12.2020 Month:May'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) | SO₂ (μg/m³) | NO₂ (μg/m³) |

No Monitoring Due To Heavy Rainfall

| 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



Lumshnong, Meghalaya

AMBIENT AIR QUALITY MONITORING REPORT

 Reference No.
 SCL/Env/F - 01

 Issue No.
 1

 Date of Issue:
 24.08.2013

 Revision No.
 5

Reference No.: SCL/ENV/AAQM/MONTHLY/2022-23/38

Month:May'22

Date of Rev.

01.12.2020

| 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. | | |
| Date of Sampling PM ₁₀ (μg/m³) | | PM ₂₋₅ (μg/m³) | SO₂ (μg/m³) | NO₂ (μg/m³) | |

No Monitoring Due To Heavy Rainfall

| 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



Lumshnong, Meghalaya

SCL/Env/F - 01 Reference No. Issue No. 24.08.2013 Date of Issue: Revision No.

AMBIENT AIR QUALITY MONITORING REPORT

01.12.2020 Month:May'22

Date of Rev.

| Location of Sampling: Near Security Gate - 3 | GPS Coordinate: 25°10′27″N 92°23′37″E 944 m |
|--|--|
| 20 Cation of Gamping. Wear Security Cate S | 0. 0 000. amater 23 10 27 11 32 23 37 2 3 1 1 11 |

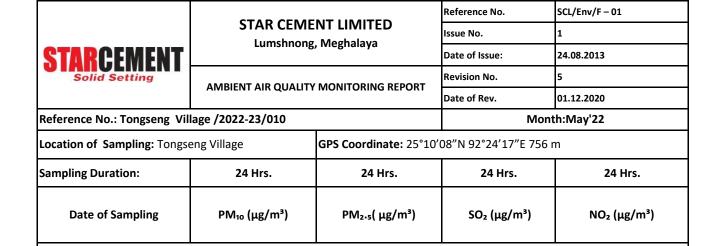
| Sampling Duration: | 24 Hrs. | 24 Hrs. | 24 Hrs. | 24 Hrs. |
|---|---------|----------------------------|-------------------------|-------------|
| Date of Sampling PM ₁₀ (μg/m³) | | PM ₂₋₅ (μg/m³) | SO ₂ (μg/m³) | NO₂ (μg/m³) |

No Monitoring Due To Heavy Rainfall

| 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



No Monitoring Due To Heavy Rainfall

 $60 (\mu g/m^3)$

 $80 (\mu g/m^3)$

 $80 (\mu g/m^3)$

Verified By

Remarks: All the analyzed parameters are well within the permissible limits of NAAQ Standards , Notification dated 18th November 2009.

Analysed by Checked by

 $100 (\mu g/m^3)$

NAAQS permissible limits for Rural, Industrial,

Residential Area

STARCEMENT Solid Setting

Report No: SCL/ENV/STACK/MONTHLY/2022-23/56

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

Month: May'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 |
| В. | | | Phy | sical charac | teristic of stac | k | | | |
| 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. | | | ı | Pollution Co | ntrol 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. | | R | esult of Sam | pling & Ana | lysis of Gaseou | us Emission | | | |
| 1 | Date of Sampling | 24.05.2022 | 27.05.2022 | 25.05.2022 | 07.05.2022 | 08.05.2022 | 08.05.2022 | 09.05.2022 | 09.05.2022 |
| 2 | Ambient Temp (°C) | 32 | 30 | 37 | 22 | 21 | 20 | 23 | 24 |
| 3 | Stack Gas Temp (°C) | 150 | 80 | 370 | 32 | 30 | 33 | 36 | 34 |
| 4 | Exit Velocity of Gas (m/sec.) | 14.07 | 13.23 | 20.66 | 14.00 | 13.65 | 13.04 | 13.56 | 12.63 |
| 5 | Flow Rate (Nm ³ / sec.) | 64.72 | 11.74 | 56.69 | 19.40 | 22.12 | 11.33 | 13.71 | 9.09 |
| 6 | Quantity of Emission (Nm ³ / Hr) | 232995.42 | 42258.73 | 204071.16 | 69849.82 | 79631.14 | 40789.14 | 49363.97 | 32716.66 |
| 7 | Concentration of PM (mg/Nm³) | 16.05 | 16.58 | 15.05 | 18.96 | 21.99 | 19.35 | 20.42 | 17.68 |
| 8 | Concentration of SO ₂ (mg/Nm ³) | 668.50 | - | - | - | - | - | - | - |
| 9 | Concentration of NOx (mg/Nm³) | 229.00 | - | - | - | - | - | - | - |
| 10 | Oxygen (O ₂) (%) | 9.68 | 7.35 | 9.40 | 9.25 | 11.34 | 10.44 | 9.48 | 10.57 |
| 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 $_{\rm 2}$), Oxide of Nitrogen (Nox), Electro Static Precipitator (ESP)

Analysis by

Checked by

Authorized Signatory



Lumshnong, Meghalaya

| Document No. | SCL/EHS/Env/F-04 |
|----------------|------------------|
| Date of Issued | 01-05-2019 |
| Revision No. | 2 |
| Revision Date | 01-01-2021 |

FUJITIVE EMISSION MONITORING REPORT

Ref: SCL/ENV/FUGITIVE/MONTHLY/2022-23/014

Month - May 2022

| Date | Location | Fugitive Emission Results | Limit |
|------------|---------------------------|---------------------------|------------|
| | | (in µg/m³) | (in µg/m³) |
| 06.05.2022 | Coal Storage Section | 1250 | 2000 |
| 06.05.2022 | Limestone Storage Section | 1500 | 5000 |

Analyzed By

. Checked by



STAR CEMENT LIMITED Reference No. Issue No. In Date of Issue: 24.08.2013 Lumshnong, Meghalaya Date of Issue: 24.08.2013 WATER TESTING REPORT Revision No. In Date of Rev. In

| Report | No 14 | Date of sample collection: - 20.05.2022 | | |
|--------|---|---|------------|--|
| Sr.No. | Parameter | Unit | STP Inlet | Date of Analysis: 20.05.2022 to 23.05.2022 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 | рН | - | 7.25 | |
| 2 | Colour | Hazen | Colourless | - |
| 3 | Odour | - | Odourless | - |
| 4 | Chloride | mg/L | 60.5 | - |
| 5 | Total Hardness as CaCO₃ | mg/L | 143.8 | - |
| 6 | Suspended Solids | mg/L | 79.5 | - |
| 7 | Total Dissolve Solids | mg/L | 235 | - |
| 8 | Chemical Oxygen Demand | mg/L | 181 | - |
| 9 | Biochemical Oxygen Demand (For 3 days at 27 °C) | mg/L | 94.0 | |
| 10 | Oil & Grease | mg/L | 8.5 | - |
| 11 | Temperature | ° C | 24.0 | - |
| 12 | Conductivity | μS/cm | 440.0 | - |

Analysis By

. Checked BY

Verified By

Mrath



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 | | |

Report No. - 14 Date of sample collection: - 20.05.2022

Date of Analysis: 20.05.2022 to 23.05.2022

| Sr.No. | Parameter | Unit | 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 | рН | - | 7.56 | 5.5 to 9.0 |
| 2 | Colour | Hazen | Colourless | - |
| 3 | Odour | - | Odourless | - |
| 4 | Chloride | mg/L | 48.2 | |
| 5 | Total Hardness as CaCO₃ | mg/L | 135.2 | - |
| 6 | Suspended Solids | mg/L | 7.5 | 100 |
| 7 | Total Dissolve Solids | mg/L | 305 | - |
| 8 | Chemical Oxygen Demand | mg/L | 27.4 | 250 |
| 9 | Biochemical Oxygen Demand (For 3 days at 27 °C) | mg/L | 4.5 | 30 |
| 10 | Oil & Grease | mg/L | < 3.0 | 10 |
| 11 | Temperature | ° C | 24.0 | Shall not exceed 5.0°C above the receiving water temperature |
| 12 | Conductivity | μS/cm | 455 | - |

Analysis By

Checked BY



Lumshnong, Meghalaya

Issue No. Date of Issue: 24.08.2013 Revision No. 3 Date of Rev. 01.06.2019

SCL/EHS/F-04

WATER TESTING REPORT

Report No. -14 Date of sample collection: -20.05.2022

Date of Analysis: 20.05.2022 to 23.05.2022

Reference No.

| | Date of Arialysis. 20.05.2022 to 25.05.2022 | | | | | | | | |
|--------|---|-------|-----------------|------------------|-----------------------------------|--|--|--|--|
| Sr.No. | Parameter | Unit | Nala Up Stream | Nala Down Stream | Standards norms as per IS 2296 | | | | |
| 1 | рН | - | 7.45 | 7.26 | 6.5 - 8.5 | | | | |
| 2 | Colour | Hazen | Colourless | Colourless | 300 | | | | |
| 3 | Odour | - | Unobjectionable | Unobjectionable | Unobjectionable | | | | |
| 4 | Chloride | mg/L | 140.2 | 143.9 | - | | | | |
| 5 | Total Hardness as CaCO₃ | mg/L | 14.6 | 12.8 | 300 | | | | |
| 6 | Suspended Solids | mg/L | 83.4 | 80.5 | - | | | | |
| 7 | Total Dissolve Solids | mg/L | 85 | 83.1 | 500 | | | | |
| 8 | Chemical Oxygen Demand | mg/L | ND | ND | - | | | | |
| 9 | Biochemical Oxygen Demand (For 3 days at 27 °C) | mg/L | ND | ND | 2.0 | | | | |
| 10 | Oil & Grease | mg/L | ND | ND | - | | | | |
| 11 | Temperature | ° C | 24.0 | 24.0 | - | | | | |
| 12 | Conductivity | μS/cm | 335.40 | 325.9 | - | | | | |

Analysis By

Checked BY

Mrath Verified By

VPO - Lumshnong, District - Jaintia Hills, Meghalaya - 793210