

O/C - Acknowledgement

ACL/EMD/F22/2014/358 7382/3

16.09.2014

Member Secretary,
Gujarat Pollution Control Board,
Paryavaran Bhavan,
Sector-10A,
Gandhinagar - 382010

Sub.: Environmental Statement of Solaj Limestone Mines (Captive Mine of Ambuja Cements Ltd.) for the year 2013-14.

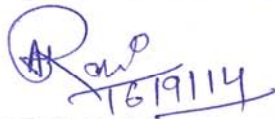
Sir,

This has reference to Rule 14 of Environment Protection Act 1986. We are submitting herewith Environmental Statement in prescribed Form-V of Solaj Limestone Mines (Captive Mine of Ambuja Cements Ltd.) for the financial year April 2013 to March 2014.

Kindly acknowledge receipt for the same.

Thanking You,

Yours truly,
For **Ambuja Cements Ltd.**


28/9/14

Dr. Anand K. Rai
HOD - Environment

Encl.: Form V with Annexure.

Copy to: Regional Officer,
Gujarat Pollution Control Board,
Opp. Saint Anne's Church
Station Road, Junagadh


28/9/14
Gujarat Pollution Control Board
Sector No. 10 A,
Gandhinagar - 382 010.

[FORM-V]
(See rule 14)

Environmental statement for the financial year ending the 31st March 2014

PART- A

- (i) Name and address of the owner/occupier of the industry operation or process:
Solaj Limestone Mines (A unit of Ambuja Cements Ltd.)
PO. Ambujanagar, Taluka- Kodinar,
District – Gir Somnath, Gujarat, 362715
- (ii) Industry category primary-(STC code) Secondary-(SIC Code) : Red
- (iii) Production capacity : Limestone – 1.0 Million ton per annum
Marl - 0.4 Million ton per annum
- (iv) Year of Establishment : 1996
- (v) Date of last environmental statement submitted : 25th Sep 2013

PART- B

Water and Raw Material Consumption

- (i) Water consumption m3/d
- | | | |
|----------|---|---|
| Process | } | 23.48 (Dust Suppression and Green Belt development) |
| Cooling | | |
| Domestic | | |

| Name of Products | Process water consumption per unit of product output. | |
|------------------|---|--------------------------------------|
| | During the previous Financial year | During the current Financial year |
| | (1) | (2) |

| | | |
|----------------------|-------------------|-------------------|
| (1) Limestone & Marl | 19.38 litre/ton * | 56.54 litre/ton * |
|----------------------|-------------------|-------------------|

* Water consumption for dust suppression and gardening

(ii) **Raw material consumption**

(As Solaj Limestone Mines is captive mines of Ambuja Cement, limestone & marl is being used for cement manufacturing. In mining operation there is no raw material consumption. Production figure of limestone is given below)

| * Name of raw Materials | Name of products | Consumption of raw material per unit of output | |
|-------------------------|-------------------|--|-----------------------------------|
| | | During the previous Financial year | During the current Financial year |
| (1) Not applicable | Limestone Marl | 157831 MT 303891 MT | 29888 MT 121698 MT |

* Industry may use codes if disclosing details of raw material would violate contractual Obligations, otherwise all industries have to name the raw materials used.

PART- C

**Pollution discharged to environment/unit of output
(Parameter as specified in the consent issued)**

| (1) Pollutants | Quality of pollutants discharged (mass/day) | Concentrations of pollutants discharges (Mass/volume) | Percentage of variation from prescribed standards with reasons. |
|----------------|--|---|---|
| (a) Water | No waste water discharge. Only domestic waste water generated is being disposed off through septic tank. | Not applicable | Not applicable |
| (b) Air | Pl. refer Annexure I for ambient air quality monitoring results. | | |

PART- D

HAZARDOUS WASTES

(As specified under Hazardous Waste Management, Handling & Transboundary movement rules 2008)

| Hazardous Wastes | Total Quantity | |
|---------------------------------------|------------------------------------|-----------------------------------|
| | During the previous financial year | During the current financial year |
| (a) From process | | |
| Used Oil | 2.24 MT | 5.66 MT |
| (c) From pollution control facilities | Nil | Nil |

PART- E

Solid Wastes

| | Total Quantity | |
|---|---------------------------------------|-----------------------------------|
| | During the previous financial year | During the current financial year |
| (a) From process | No solid waste generated from process | |
| (b) From pollution control facilities | Not applicable | |
| (c) (1) Quantity recycled or re-utilized within unit. (2) Sold (3) Disposed | Not applicable | |

PART- F

Please specify the characterization (In terms of composition of quantum) of hazardous as well as solid waste and indicate disposal practice adopted for both these categories of wastes.

➤ Hazardous waste

(1) **Used Oil – (Category - 5.1)**

Solaj Limestone Mines having proper storage & handling facility of used/waste oil. Used/waste oil generated from mining machineries is being stored at earmarked place in closed barrels provided with proper roofing and impervious flooring. Solaj Limestone Mines have been granted authorization by GPCB for collection, storage, transportation and disposal by selling to authorized recycler for used oil.

➤ Solid Waste

No solid waste generated from mining operation. Only top soil excavated from mine is being stored in systematic manner and used for mine reclamation.

PART- G

Impact of the pollution abatement measures taken on conservation of natural resources on the cost of production.

The entire limestone is being excavated for cement manufacturing by deploying state of art mining machinery viz. Surface miner. By deploying surface miner in place of drilling & blasting ground vibration, air borne dust & oversized boulders have been totally eliminated. Material excavated by surface miner, which does not require primary crushing as it is suitable for direct feed to the vertical roller mill. Pl. refer Annexure – II for measure taken for abatement of pollution.

PART- H

Additional measures/Investment proposal for environmental protection including abatement of pollution, prevention of pollution.

Pl. refer Annexure II

PART- I

Any other particulars for improving the quality of the environment.

ACL has well established Integrated Management System (IMS):

- ISO 14001:2004 (Environmental Management System),
- ISO-9001:2008 (Quality Management Systems)
- BS OHSAS 18001:2007 (Occupational Health & Safety).

Beyond that for self evaluation of environmental performance, ACL has PEP system (Plant Environmental Profile), through which we are evaluating our environmental performance on annual basis and sets new goal every year for continual improvement in all sphere of activities.

Ambuja Cements Ltd. has set milestone in the field of pollution control & environmental protection, which is reflected through the various awards won by the Ambuja Cement Ltd.

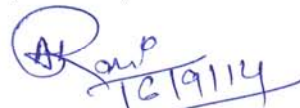
To impart the awareness among Employees, Workers, Students and community every year Ambuja Cement is Celebrating various Environment Awareness programs such as World Environment Day, Ozone Day, Water Day, Earth Hour, Earth Day, Biodiversity Day etc. Some glimpses of Celebrations are enclosed as Annexure III

For the socio-economic development of the surrounding areas, Ambuja Cement Foundation (ACF), a corporate social responsibility wing of Ambuja Cements Ltd. has left positive footprints by initiating and implementing various community developments works in the surrounding area. Major focus areas of ACF are Water Resource Development & Management, Integrated Agriculture Development, Women

Empowerment, Community Health, Animal Husbandry etc. Some glimpses of activities of Ambuja Cement Foundation are enclosed as **Annexure IV**

Ambuja Cements Ltd. has initiated Water Positive Mission under which various projects for rain water harvesting, minimization in water consumption & water recycling are implemented due to which ACL is Water Positive which was audited and certified by an independent agency DNV (Det Norske Veritas).

(Signature of a person carrying out an
Industry-operation or process)



Name : Dr Anand K Rai

Designation: DGM-Environment

Address : Ambuja Cements Ltd.
Ambujanagar, Taluka-Kodinar
District-GirSomnath (Gujarat)

Ambient Air Quality Monitoring Results (April 2013 - March 2014)

Annexure- I

| Month | Working place | | | | | Average Ambient Air Quality Monitoring Results | | | | | | | | | |
|------------|---|--|---|---|----------------------------|---|--|---|---|----------------------------|---|--|---|---|----------------------------|
| | | | | | | Solai Village | | | | | Khera Village | | | | |
| | PM _{2.5} ($\mu\text{g}/\text{m}^3$) | PM ₁₀ ($\mu\text{g}/\text{m}^3$) | SO ₂ ($\mu\text{g}/\text{m}^3$) | NO _x ($\mu\text{g}/\text{m}^3$) | CO (mg/m ³) | PM _{2.5} ($\mu\text{g}/\text{m}^3$) | PM ₁₀ ($\mu\text{g}/\text{m}^3$) | SO ₂ ($\mu\text{g}/\text{m}^3$) | NO _x ($\mu\text{g}/\text{m}^3$) | CO (mg/m ³) | PM _{2.5} ($\mu\text{g}/\text{m}^3$) | PM ₁₀ ($\mu\text{g}/\text{m}^3$) | SO ₂ ($\mu\text{g}/\text{m}^3$) | NO _x ($\mu\text{g}/\text{m}^3$) | CO (mg/m ³) |
| April 2013 | 24.00 | 42.00 | 12.10 | 18.60 | 0.40 | 28.00 | 44.00 | 12.30 | 20.80 | 0.30 | 30.00 | 45.00 | 11.70 | 21.30 | 0.40 |
| May 2013 | 28.00 | 46.00 | 12.90 | 22.10 | 0.40 | 24.00 | 42.00 | 10.60 | 19.60 | 0.30 | 27.00 | 49.00 | 11.20 | 19.90 | 0.40 |
| June 2013 | 22.00 | 40.00 | 11.60 | 19.50 | 0.40 | 23.00 | 46.00 | 12.90 | 18.40 | 0.50 | 27.00 | 42.00 | 13.20 | 20.70 | 0.30 |
| July 2013 | 24.00 | 44.00 | 12.50 | 21.60 | 0.50 | 26.00 | 43.00 | 11.10 | 19.80 | 0.50 | 30.00 | 51.00 | 13.20 | 19.60 | 0.60 |
| Aug. 2013 | 21.00 | 38.00 | 12.10 | 20.30 | 0.60 | 25.00 | 43.00 | 11.70 | 19.10 | 0.40 | 26.00 | 46.00 | 12.80 | 21.30 | 0.20 |
| Sept. 2013 | 23.00 | 42.00 | 12.10 | 20.80 | 0.40 | 24.00 | 40.00 | 11.60 | 19.40 | 0.30 | 27.00 | 46.00 | 12.30 | 19.20 | 0.40 |
| Oct. 2013 | 22.00 | 40.00 | 11.60 | 20.10 | 0.30 | 25.00 | 38.00 | 11.50 | 19.80 | 0.20 | 24.00 | 42.00 | 12.20 | 21.60 | 0.40 |
| Nov. 2013 | 22.00 | 38.00 | 12.20 | 20.30 | 0.40 | 23.00 | 41.00 | 11.90 | 19.20 | 0.50 | 25.00 | 45.00 | 11.70 | 21.30 | 0.30 |
| Dec. 2013 | 26.00 | 46.00 | 9.50 | 18.20 | 0.40 | 25.00 | 42.00 | 11.30 | 18.10 | 0.20 | 24.00 | 43.00 | 12.10 | 20.10 | 0.40 |
| Jan. 2014 | 27.00 | 45.00 | 13.40 | 17.80 | 0.30 | 28.00 | 48.00 | 12.80 | 16.10 | 0.40 | 25.00 | 45.00 | 11.70 | 18.40 | 0.30 |
| Feb. 2014 | 21.00 | 40.00 | 10.80 | 17.80 | 0.20 | 26.00 | 48.00 | 11.70 | 19.30 | 0.40 | 25.00 | 45.00 | 11.90 | 18.40 | 0.30 |
| March 2014 | 25.00 | 44.00 | 11.60 | 16.50 | 0.50 | 26.00 | 43.00 | 12.40 | 18.50 | 0.50 | 28.00 | 49.00 | 12.80 | 17.40 | 0.40 |
| Minimum | 21.00 | 38.00 | 9.50 | 15.50 | 0.20 | 20.00 | 38.00 | 10.50 | 16.10 | 0.20 | 21.00 | 11.30 | 11.20 | 0.20 | 0.20 |
| Maximum | 29.00 | 46.00 | 13.6 | 22.1 | 0.6 | 30.00 | 48.00 | 13.7 | 20.8 | 0.5 | 40.00 | 51.00 | 19.1 | 21.6 | 24 |
| Average | 24.33 | 42.13 | 12.11 | 18.21 | 0.42 | 25.25 | 43.50 | 12.11 | 18.08 | 0.38 | 27.13 | 43.35 | 12.62 | 18.15 | 1.35 |

ANNEXURE II

Additional measures taken for environmental protection at **captive mines** including abatement of pollution, prevention of pollution are as follows:

CONTROL AT SOURCE:

Environment-friendly Surface Miners are being used for mining, which have in-built water sprinklers facility to suppress dust generated during mining. Surface mining itself reduces dust generation substantially as compared to conventional drilling & blasting, further dust suppression is carried out by auto-water sprinklers in Surface miners, which results in negligible dusting during mining activities.

OPERATIONAL CONTROL:

Regular water is being sprinkled over haul road by water tankers. Frequency of water sprinkling is based on weather condition.

Limestone excavated from surface mining is transported to cement plant through fully covered vehicles through tarpaulin/ multicap covering mechanism, which prevents spillage & fugitive dusting during transportation.

GREEN BELT DEVELOPMENT:

Every year plantation activities is being undertaken for strengthening the existing green belt. The Dense plantation around the periphery of the plant and colony enhances the aesthetic environment of the area & greenery also helps in abatement of the fugitive emissions.

AIR QUALITY MONITORING:

Ambient air quality at established AAQM stations is being regularly monitored twice a month by GPCB approved third party. Results of monitoring are maintained well within the prescribed AAQ norms. AAQM results are being regularly submitted to GPCB.