

# JK Cement LTD.

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J.K. Cement Works, Mangrol  
C/o. Kailash Nagar-312617, Nimbahera  
Distt. Chittorgarh (Raj.) INDIA

CIN : L17229UP1994PLC017199

ISO 9001:2008, ISO 14001:2004 & OHSAS 18001 : 2007 CERTIFIED COMPANY

Ref. No.: MGR-PC -13/ 3652

20.09.2016

To,  
The Member Secretary  
Rajasthan State Pollution Control Board  
4, Industrial Area  
Jhalana Doongri  
**JAIPUR** – 302004 (Raj)

SUBJECT: **Environmental Statement for the year 2015-2016 (02 Copies)**

Dear Sir,

Kindly find herewith enclosed **Environment Statement Report of Tilakhera Limestone Mine** for the year **2015-2016** for your reference and record. We trust you will find the same in order.

Thanking You.

Yours Faithfully  
For J.K. Cement Works, Mangrol

S.K. Acharya  
Astt. V.P. (E & I)

Encl. : a / a

Copy to -

**The Regional Officer**, Rajasthan State Pollution Control Board, Near FCI Godown, Chanderia, Distt.- CHITTORGARH (RAJ)

**The Director**, Ministry of Environment and Forests, Regional office (Central Region), Kendriya Bhawan, 5th Floor, Sector 'H' , ALIGANJ, LUCKNOW- 226020 (U.P.)

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J. K. Cement Works, Nimbahera  
J. K. Cement Works Mangrol  
J. K. Cement Works, Gotan  
J. K. Cement Works, Jharli

J. K. Power, Bamania  
J. K. Cement Works, Muddapur  
J. K. White Cement Works, Gotan  
J. K. White, Katni



Government of India  
Ministry of Environment and Forest  
**" FORM – V "**  
( See rule 14 )

ENVIRONMENTAL STATEMENT FOR THE FINANCIAL YEAR ENDING THE  
31<sup>ST</sup> MARCH 2016

**Mangrol-Tilakhera Mine of M/s J.K. Cement works, MANGROL (Raj.)**

**PART – A**

|       |                                                                             |                                                                                                                                          |
|-------|-----------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------|
| (I)   | Name & Address of the Owner / Occupier of the Industry Operation or Process | <b>S.K. Rathore</b><br><b>Unit Head</b><br>J.K. Cement Works, <b>MANGROL</b><br>Kailash Nagar : 312 617<br>NIMBAHERA, Chittorgarh (Raj.) |
| (II)  | Industry Category<br>Primary ( STC CODE )<br>Secondary ( SIC CODE )         | Polluting (Non – Hazardous)<br>PRIMARY STC Category                                                                                      |
| (III) | Production Capacity                                                         | 1.6 MMTPA                                                                                                                                |
| (IV)  | Year of Establishment                                                       | Year 1979                                                                                                                                |
| (V)   | Date of last Environmental Statement Submitted                              | September, 2015                                                                                                                          |

**PART – B**

**Water & Raw Material Consumption**

**A. Water**

|     |                      |   |                                               |
|-----|----------------------|---|-----------------------------------------------|
| (i) | Over All Consumption | - | KLD                                           |
|     | Process              | - | 47.0 (Spray on Road / Mining , Drilling etc.) |
|     | Cooling:             | - | Nil                                           |
|     | Domestic             | - | 3.0                                           |
|     | <b>Total</b>         | - | <b>50.0</b>                                   |

(ii) Consumption per unit of production

| Name of the Product | Process Water Consumption per unit of Product Output |                                   |
|---------------------|------------------------------------------------------|-----------------------------------|
|                     | During the Previous Financial Year                   | During the Current Financial Year |
| Limestone           | 18.60 Ltrs / Unit                                    | 16.38 Ltrs / Unit                 |

**B. Raw Material Consumption**

| Name of the Raw Material | Name of Product | Consumption of Raw Material per Unit Product Output |                                   |
|--------------------------|-----------------|-----------------------------------------------------|-----------------------------------|
|                          |                 | During the Previous Financial Year                  | During the Current Financial Year |
| HSD                      | Limestone       | 0.484Ltrs. Per Ton                                  | 0.490 Ltrs. Per Ton               |

**PART - C****Pollutant Discharge To Environment / Unit of Output**

(Parameters as specified in the consent issued)

| (I)  | Pollutants   | Quantity of Pollutants Discharged ( Mass / day ) | Concentrations of Pollutants in discharged ( Mass / volume ) | Percentage of variation from prescribed standard with reasons |
|------|--------------|--------------------------------------------------|--------------------------------------------------------------|---------------------------------------------------------------|
| (a)  | <b>Water</b> |                                                  |                                                              |                                                               |
| (i)  | Colonial     |                                                  | NIL                                                          |                                                               |
| (ii) | Industrial   |                                                  | NIL                                                          |                                                               |

**WATER ANALYSES RESULTS**

Post Monsoon dated 02.11.2015

| SAMPLE PARTICULAR | MINE PITWATER   | TUBEWELL WATER  | HANDPUMP NEAR SHAHBAD |
|-------------------|-----------------|-----------------|-----------------------|
| COLOUR & ODOUR    | Clear & Natural | Clear & Natural | Clear & Natural       |
| Ph                | 7.78            | 7.88            | 7.20                  |
| TSS               | 30              | 16              | 24                    |
| TOTAL HARDNESS    | 196             | 184             | 792                   |
| Ca+ HARDNESS      | 160             | 152             | 648                   |
| Mg+ HARDNESS      | 36              | 32              | 144                   |
| CONDUTIVITY       | 406             | 420             | 2200                  |
| TDS               | 244             | 252             | 1320                  |
| CHLORIDES         | 24              | 26              | 228                   |
| TURBIDITY         | 2.09            | 1.40            | 1.18                  |

\*All the parameters are expressed in mg/ltr except PH.

J.K.CEMENT WORKS, MANGROL

Tilakhera MINE

AMBIENT AIR QUALITY MONITORING DATA FOR SPM  
(Monthly Average In MICROGRAMS / CUBIC METER)

Year : 2015-16

| Month  | NEAR MINE OFFICE | NEAR RAVANA OFFICE |
|--------|------------------|--------------------|
| Apr-15 | 325.0            | 362.0              |
| May-15 | 317.0            | 370.0              |
| Jun-15 | 322.0            | 355.0              |
| Jul-15 | 310.0            | 340.0              |
| Aug-15 | 320.0            | 351.0              |
| Sep-15 | 302.0            | 338.0              |
| Oct-15 | 313.0            | 342.0              |
| Nov-15 | 323.0            | 357.0              |
| Dec-15 | 311.0            | 332.0              |
| Jan-16 | 317.0            | 338.0              |
| Feb-16 | 327.0            | 352.0              |
| Mar-16 | 320.0            | 348.0              |

**PART – D**

(As specified under Hazardous Waste Management, Handling and Trans Boundary Movement rules-2008)

| Hazardous Waste |                                    | Total Quantity (Kgs.)              |                                   |
|-----------------|------------------------------------|------------------------------------|-----------------------------------|
|                 |                                    | During the Previous Financial Year | During the Current Financial Year |
| (a)             | From Process                       | Nil.                               | Nil.                              |
| (b)             | From Pollution Control Facilities. | N.A.                               | N.A.                              |

## PART - E

### SOLID WASTES

|     |                                                    | Total Quantity                        |                                      |
|-----|----------------------------------------------------|---------------------------------------|--------------------------------------|
|     |                                                    | During the Previous<br>Financial Year | During the Current<br>Financial Year |
| (a) | From Process                                       | N.A.                                  | N.A.                                 |
| (b) | From Pollution<br>Control facilities               | N.A.                                  | N.A.                                 |
| (c) | ( i ) Qty. recycled or reused<br>with in the unit. | NIL                                   | NIL                                  |
|     | ( ii ) Sold                                        | NIL                                   | NIL                                  |
|     | (iii) Disposed                                     | NIL                                   | NIL                                  |

## PART - F

PLEASE SPECIFY THE CHARACTERISATIONS (IN TERMS OF COMPOSITION AND QUANTUM) OF HAZARDOUS AS WELL AS SOLID WASTES AND INDICATES DISPOSAL PRACTICE ADOPTED FOR BOTH THESE CATEGORIES OF WASTES.

**There is no hazardous as well as Solid Waste produced.**

## PART - G

IMPACT OF THE POLLUTION ABATEMENT MEASURES TAKEN ON CONSERVATION OF NATURAL RESOURCES AND ON THE COST OF PRODUCTION.

### AIR

Mining operation and related activities are designated as potential sources as under:

- Emissions from Diesel operated earth moving machinery e.g. Sulphur Dioxide (SO<sub>2</sub>), Oxides of Nitrogen (NO<sub>x</sub>), Suspended Particulate Matter (SPM), Respirable Particulate Matter (RPM) etc.
- Local air borne dust due to excavation, drilling and blasting operations.
- Air borne dust pollution due to loading, unloading, transportation etc.

From the base line study the Air Quality near on going mining activities, the pollutants level was observed very low or below the detection limit except SPM and RPM.

There is no impact observed on vegetation & water bodies in the surrounding areas, as it will be suppressed at its generating sources.

The following measures are taken to suppress the dust at the source as well as to prevent the same, spreading in the atmosphere:

- Wet drilling system is provided on all drill machines.
- Regular water sprinkling on haul road during operation.
- Optimize blasting parameters for proper fragmentation to reduce dust generation.
- Plantation and development of Green Belt along the Haul Roads and Working Pits.

## **WATER**

Being Mechanised Limestone mine, it requires water mainly for Wet Drilling, Road Spraying, Green Belt Development, and Machineries Washing. Water consumption is around 50 KLD. The source of water is the accumulated rainwater in the lower most benches. There is no liquid effluent / waste water .

## **NOISE**

Noise is generated in the mine due to following mining activities:

- Excavation, drilling, blasting and operations of HEMM.
- Transportation and handling of material.

The results of base line noise level survey are well below the permissible limit except near machinery while operating. The noise generating sources are scattered within the whole mining area. All the sources will not generate the noise simultaneously hence; the noise level would not alter the noise environment significantly. The noise level reduces with increase in distance from the source.

The following measures are taken to reduce the noise level at the source as well as to prevent the same, spreading in the atmosphere:

1. Providing enclosures for noise sources to reduce dispersion of noise like cabin in HEMM.
2. Proper maintenance and lubrication of machinery rotating parts.
3. Use of non electric delay detonator (Nonel) on surface in place of detonating fuse.
4. Use of low quantity detonating fuse (8gm/m in place of 10gm/m).

5. By covering the detonating fuse as well as detonators under drill cutting or the fine material.
6. By providing earmuffs and earplugs to eligible miners.
7. Blasting between 12.00 noon to 3.00 PM when air density is low.
8. Use of Air Decking & sufficient column stemming in the blast holes.
9. Use of NONEL.

**J.K.CEMENT WORKS, MANGROL**

**Tilakhera MINE**

**NOISE LEVEL MONITORING DATA**

Monthly Average In dB(A)

Year : 2015-16

| Month  | NEAR MINE OFFICE |            | NEAR RAVANA OFFICE |            |
|--------|------------------|------------|--------------------|------------|
|        | Day Time         | Night Time | Day Time           | Night Time |
| Apr-15 | 67.1             | 56.2       | 68.4               | 59.4       |
| May-15 | 68.5             | 57.7       | 69.5               | 58.7       |
| Jun-15 | 69.0             | 58.9       | 67.5               | 58.2       |
| Jul-15 | 66.5             | 57.2       | 68.9               | 57.6       |
| Aug-15 | 67.5             | 59.0       | 69.1               | 60.0       |
| Sep-15 | 68.2             | 58.2       | 70.2               | 59.2       |
| Oct-15 | 66.9             | 57.3       | 68.2               | 58.0       |
| Nov-15 | 68.0             | 58.1       | 70.6               | 60.5       |
| Dec-15 | 67.0             | 57.0       | 69.0               | 59.0       |
| Jan-16 | 66.3             | 56.5       | 68.6               | 58.5       |
| Feb-16 | 68.6             | 57.9       | 70.4               | 59.6       |
| Mar-16 | 70.2             | 55.9       | 68.9               | 57.2       |

## GROUND VIBRATION

M/s IDL and CIMFR (CSIR) had carried out vibration study & recommended safe charge per delay at various distances for keeping the parameters of blasting well within the limit.

The following steps are taken to control ground vibration:

1. Optimize drilling parameters like spacing, burden and sub-grade drilling.

2. Optimize maximum charge per delay.
3. Use of Non Electric Detonator with delay-blasting technique.
4. Use of Sequential Blasting Machine.
5. Monitoring of ground vibration by "Mini-mate".

### PART – H

ADDITIONAL MEASURES / INVESTMENT PROPOSALS FOR ENVIRONMENTAL PROTECTION INCLUDING ABATEMENT POLLUTION, PREVENTION OF POLLUTION.

### EXPENDITURE INCURRED ON POLLUTION CONTROL SYSTEM

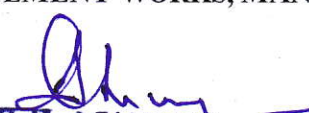
| S. No. | Activity                                                                                                             | Recurring Cost per Annum(2015-16)<br>(Rs in Lacs) |
|--------|----------------------------------------------------------------------------------------------------------------------|---------------------------------------------------|
|        | <u>Plantation</u>                                                                                                    |                                                   |
| 1.     | a) Green belt development around the mines out area, by way of aforestation & developing the patched of grass land . | 5.37                                              |
|        | b) Avenue plantation                                                                                                 | -                                                 |
|        | c) Barren lands                                                                                                      | -                                                 |
| 2.     | Dust control & suppression                                                                                           | 4.65                                              |
| 3.     | Compaction of Haul Roads, boulder pitching of bench edges, etc.                                                      | 3.79                                              |
| 4.     | Monitoring of environmental parameters                                                                               | 0.839                                             |
| 5.     | Organisational Set-up                                                                                                | 7.12                                              |
| 6.     | Socio-Economic Development                                                                                           | 38.70                                             |
|        | Total Expenditure                                                                                                    | 60.469                                            |

### PART – I

ANY OTHER PARTICULARS FOR IMPROVING THE QUALITY OF ENVIRONMENT.

Mine has planted 1400 plants in and around mining area during the period under review.

For JK CEMENT WORKS, MANGROL

  
**S.K. ACHARYA**  
 A.V.P. (E&I)  
 J.K. CEMENT WORKS  
 NIMBAHERA  
 Distt CHITTORGARH (Raj.)