

**INDIAN BUREAU OF MINES  
MINERALS DEVELOPMENT AND REGULATION DIVISION**

**MCDR INSPECTION REPORT**

**Nagpur regional office**

**Mine file No :** MAH/CND/LST-20/NGP

**Mine code :** 38MSH08021

- (i) Name of the Inspecting : M017 ) ASHISH MISHRA  
Officer and ID No.
- (ii) Designation : Assistant Controller Mine
- (iii) Accompanying mine : Shri R. R. Prasad  
Official with  
Designation
- (iv) Date of Inspection : 06/10/2017
- (v) Prev.inspection date : 26/09/2016

**PART-I : GENERAL INFORMATION**

1. (a) **Mine Name** : **MARATHA (880.31 HA)**
- (b) **Registration NO.** :
- (c) **Category** : A Mechanised
- (d) **Type of Working** : Opencast
- (e) **Postal address**
- State : MAHARASHTRA
- District : CHANDRAPUR
- Village : UPPARWAHI
- Taluka : RAJURA / KORPANA
- Post office : UPPARWAHI
- Pin Code : 442908
- FAX No. : 07173-40008
- E-mail :
- Phone : 40017-20
- (f) **Police Station** :
- (g) **First opening date** : 17/07/2001
- (h) **Weekly day of rest** :
2. **Address for correspondance** : P.O.- UPPARWAHI, TAH.- KORPANA,  
DISSTT.- CHANDRAPUR-442908  
STATE- MAHARASHTRA
3. (a) **Lease Number** : MSH0229
- (b) **Lease area** : 880.31
- (c) **Period of lease** : 50
- (d) **Date of Expiry** : 13/12/2050
4. **Mineral worked** : LIMESTONE Main

## 5. Name and Address of the

Lessee : M/S GUJARAT AMBUJA CEMENTS LTD.  
P.O.- UPPARWAHI, TAH.-  
KORPANA, DISSTT.-  
CHANDRAPUR(M.S.) CHANDRAPUR  
MAHARASHTRA  
Phone:40017-20  
FAX :07173-40008

Owner : SHRI A. L. KAPUR  
P.O.- UPPARWAHI, TAH.-  
KORPANA-442908, DISSTT.-  
CHANDRAPUR (M. S.  
CHANDRAPUR MAHARASHTRA  
Phone: 40017-20  
FAX : 07173-40008

|                               |   |                                |            |
|-------------------------------|---|--------------------------------|------------|
| 6. Date of approval of Mining | : | Modif.of approved Mining Plan  | 17/03/2005 |
| Plan/Scheme of Mining         | : | Renewal under rule 24 MCR1960  | 18/08/2005 |
|                               | : | Mining Scheme rule 12 MCDR1988 | 05/07/2006 |
|                               | : | Mining Scheme rule 12 MCDR1988 | 12/08/2011 |
|                               | : | FMCP under 23C(1)              | 31/07/2013 |
|                               | : | MP modif under MCR 1960        | 02/09/2016 |

## PART - II : OBSERVATION/COMMENTS OF INSPECTING OFFICERS

## Exploration :

| Sl.No. | Item                                                                | Proposals                              | Actual work                                       | Remarks                                                                                                                                                                                                                                                                                                                                                                                   |
|--------|---------------------------------------------------------------------|----------------------------------------|---------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1a     | Backlog of previous year                                            | Nil for 2016-17.                       | Nil                                               | During the last approved 5 year proposal period (2011-12 to 2015-16), 182 boreholes with meterage of 7770 m was proposed out of which actual achievement was 96 boreholes with meterage of 7337.62 m. Complete mineralized area has already been explored with boreholes at 100 m to 200 m grid spacing. Therefore, further exploration has not been proposed in the subsequent document. |
| 1b     | Exploration over lease area for geological axis 1 or 2              | G1 Level reserves already established. | G1 Level reserves already established.            |                                                                                                                                                                                                                                                                                                                                                                                           |
| 1c     | Exploration Agencies and Expenditure in lakh rupees during the year | Nil                                    | Nil                                               |                                                                                                                                                                                                                                                                                                                                                                                           |
| 1d     | Balance area to be explored to bring Geological axis in 1 or 2      | Nil                                    | Nil                                               | Around 311 ha area is mineralized and 569.31 ha area is non-mineralized. Entire mineralized area is already explored.                                                                                                                                                                                                                                                                     |
| 1e     | Balance reserve as on 01/04/20                                      | Balance reserves as on 01/04/2017 are: | 111-70 MT<br>211-65 MT<br>Total Resources: 135 MT |                                                                                                                                                                                                                                                                                                                                                                                           |

|    |                                                                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
|----|--------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1f | General remarks of inspecting officers on geology, exploration etc | A total of 560 bore holes have been drilled within the mining lease area, out of which, 416 holes were drilled by the lessee and rest 144 holes were drilled by DGM prior to grant of lease. Entire mineralized area has already been proved through exploration. Geologically the area is complex and lithology of the area is Soil, Cement Grade Limestone (less occurrence) with intercalated bands of clay and shale, Marginal and low grade Limestone, Shaly Limestone & Shale. |
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Development :

| Sl.No. | Item                                                           | Propasals                                                                                                      | Actual work                                                                                                                                                                   | Remarks |
|--------|----------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------|
| 2a     | Location of development w.r.t.lease area                       | Lease area is divided into two Blocks and Southern block is having development activities in form of two pits. | Location of the development is E310400 to E312500 & N2179400 to N2181500 and is spread in the southern block only. Mentioned location has two pits divided by a haulage road. |         |
| 2b     | Separate benches in topsoil, overburden and minerals (Rule 15) | Yes                                                                                                            | Yes, There are separate benches in top soil, overburden/waste and minerals.                                                                                                   |         |

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|----|-----------------------------------------|--------------------------------------------------------------------------------------------|------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 2c | Stripping ratio or ore to OB ratio      | 1:1.08 for the year 2016-17<br>(Total Ore=2.0 MT, Total OB + Waste=2.16 MT) approximately) | 1:0.14 for the year 2016-17 (Total Ore=1619950 T, Total OB + Waste=217340 T) | Less generation of waste/overburden happened actually due to swell of ore body and low grade generation which in turn blended with ROM and dispatched. For the mine, sub-grade material have been accounted in Waste and being dumped separately as presently, it cannot be readily used in the plant. |
| 2d | Quantity of topsoil generation in m3    | 0.15 MT for 2016-17                                                                        | Around 47000 T for 2016-17 (23539 cuM)                                       | Less generation of top soil occurred due to swell of orebody.                                                                                                                                                                                                                                          |
| 2e | Quantity of overburden generation in m3 | 2.01 MT                                                                                    | 170262 cuM                                                                   | Less generation of waste/overburden happened actually due to swell of ore body and low grade generation which in turn blended with ROM and dispatched. For the mine, sub-grade material have been accounted in Waste and being dumped separately as presently, it cannot be readily used in the plant. |

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| 2f | General remarks of inspecting officers on development of pit w.r.t. type of deposit etc | As the area has a swell of orebody, development appears to be less. But overall development in the lease area has been done as per the proposals. As working is divided into two blocks and proposals are for category A fully mechanized means, development of pits is suitable with respect to the type of deposit occurring in the area. Development is also extending in the adjoining lease areas of the same lessee with common boundary working. |
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#### Exploitation:

| Sl.No. | Item                                        | Proposals          | Actual work                | Remarks |
|--------|---------------------------------------------|--------------------|----------------------------|---------|
| 3a     | Number of pit proposed for production       | Two Pits           | As per the proposals.      |         |
| 3b     | Quantity of ROM mineral production proposed | 2.0 MT for 2016-17 | 1619950 T (1.62 MT approx) |         |

|    |                                                                   |                                                                                          |                                                                                                   |                                                                                                                                                                                                                                                                                                                                                                                                      |
|----|-------------------------------------------------------------------|------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 3c | Recovery of sailable/usable mineral from ROM production           | 100%                                                                                     | 100%                                                                                              | Less generation of waste/overburden happened actually due to swell of ore body and low grade generation which in turn blended with ROM and dispatched. For the mine, sub-grade material have been accounted in Waste and being dumped separately as presently, it cannot be readily used in the plant. Therefore, as ROM has been kept separate from sub-grade, recovery has been mentioned as 100%. |
| 3d | Quantity of mineral reject generation                             | Nil                                                                                      | Nil                                                                                               |                                                                                                                                                                                                                                                                                                                                                                                                      |
| 3e | Grade of mineral rejects generation and threshold value declared. | Not Applicable                                                                           | Nil, Threshold value is CaO>34%, MgO is not an issue for the mineral occurring in the lease area. |                                                                                                                                                                                                                                                                                                                                                                                                      |
| 3f | Quantity of sub grade mineral generation.                         | 0.30 MT for the year 2016-17                                                             | 200640 T for 2016-17                                                                              |                                                                                                                                                                                                                                                                                                                                                                                                      |
| 3g | Grade of sub grade mineral generation                             | CaO>34% but less than 40-44% with High Silica (more than 15%) and SO <sub>3</sub> >0.60% | As per the proposals.                                                                             | Sub-grade mineral generated is being stacked separately and as per the approved Mining Plan, it has not been accounted in the ROM.                                                                                                                                                                                                                                                                   |

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| 3h | Manual /<br>Mechanised<br>method adopted<br>for segregating<br>from ROM                                           | Mechanized<br>crushing.       | Mechanized crushing.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Crushing is being<br>done through<br>primary crusher of<br>1200 t/h rated<br>capacity. The<br>maximum input size<br>of the boulder is<br>1 m while the<br>output size is 70<br>mm. All the<br>crushed material<br>is directly<br>dispatched to the<br>plant by an<br>overland belt<br>conveying system.      |
| 3i | Any analysis or<br>beneficiation<br>study proposed<br>and carried out<br>for sub grade<br>mineral and<br>rejects. | Not proposed<br>for the year. | To upgrade the calcium<br>oxide content of high<br>silica and high SO <sub>3</sub><br>limestone, beneficiation<br>studies were undertaken<br>by Institute of Minerals<br>and Materials Technology<br>(Council of Scientific<br>and Industrial<br>Research), Bhubaneswar.<br>Dry beneficiation<br>techniques such as<br>preferential crushing<br>and screening, magnetic<br>separation,<br>electrostatic separation<br>and air classification<br>etc. were employed to<br>reduce the SiO <sub>2</sub> and SO <sub>3</sub><br>content earlier on lab<br>scale for two samples. | To enrich the CaO<br>content of by 2-3%<br>by simple<br>classification<br>beneficiation<br>techniques is<br>underway. In the<br>beneficiation of<br>calcium oxide,<br>values from the -1<br>mm fraction was<br>possible only by<br>flotation<br>technique after<br>grinding the<br>samples to finer<br>size. |

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|----|------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 3j | Provision of drilling and blasting in mineral benches                                                | Yes, through Rock Drill (ROC F8)-01 nos. with dia. 115 MM, Make-Atlas Copco, Capacity-339 HP<br>Rock Drill (ROC L8)-01 nos. with dia. 115 MM, Make-Atlas Copco, Capacity-310 HP                                                                   | Burden: 4-5 m<br>Spacing: 3-6 m<br>Stemming: 1/3 rd of hole depth.<br>Charge per hole: Bottom primer charge is kept 5.56 kg and column charge is 35-40 kg<br>Charge per delay: 40-50 kg<br>Maximum holes blasted per delay: 01<br>Average number of holes blasted in a round: 40<br>Powder factor in ore and overburden: 10 ton/kg and 7.5 ton/kg respectively<br>Manner and sequence of blasting: The non electric shock tube initiating system like EXEL and Noiseless Trunkline Delay (NTD) | To reduce the size of oversized boulders generated out of the primary blasting, hydraulic rock breaker is also being used and no secondary blasting is involved. |
| 3k | Provision of mining machineries in mineral benches                                                   | Hydraulic Shovels with 4 cuM capacity and Dumpers with 35 T and 55 T capacity are being used for excavation and transportation of mineral. Apart from this, Dozers, Road Graders, Water Tankers and other service machineries are being deployed. | As per the proposals.                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                                                                                                                                                  |
| 3l | Whether height of benches in overburden and mineral suitable for method of mining proposed in MP/SOM | The established bench height of 8 m will be maintained with occasional sub benches of 4 m wherever necessary due to undulation in the floor and limestone band behavior.                                                                          | As per the proposals.                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | Yes, based on the mechanization, bench height is suitable for working.                                                                                           |

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|----|--------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 3m | Total area covered under excavation/pits                                 | Additional Requirement of 72.95 ha area for the 5 years period of 2016-17 to 2020-21 resulting in net area under mining at the end of the proposal period to be 175.50 ha. | During 2016-17, addition area put to use under excavation is 3.49 ha and total area under excavation/pits at the end of year 2016-17 is 106.04 ha.                                                             |                                                                                                                                                                                                                                                                                                        |
| 3n | Ore to OB ratio for the pit/mine during the year.                        | 1:1.08 for the year 2016-17 (Total Ore=2.0 MT, Total OB + Waste=2.16 MT)                                                                                                   | 1:0.14 for the year 2016-17 (Total Ore=1619950 T, Total OB + Waste=217340 T approximately)                                                                                                                     | Less generation of waste/overburden happened actually due to swell of ore body and low grade generation which in turn blended with ROM and dispatched. For the mine, sub-grade material have been accounted in Waste and being dumped separately as presently, it cannot be readily used in the plant. |
| 3o | Total area put in use under different heads at the end of year           | Total area put to use under different heads at the end of year 2016-17 is given in 'actual work':                                                                          | Area under:<br>Mining: 106.04 ha<br>Mineral Storage: 2.0 ha<br>Roads: 2.71 ha<br>Infrastructure: 5.26 ha<br>OB/ Waste Dump: 15.96 ha<br>Top Soil Stacking: 6.31 ha<br>Plantation: 41.12 ha<br>Total: 177.40 ha |                                                                                                                                                                                                                                                                                                        |
| 3p | Production of ROM mineral during the last five year period as applicable | 2015-16: 2.0 MT<br>2014-15: 2.0 MT<br>2013-14: 2.0 MT<br>2012-13: 2.0 MT<br>2011-12: 2.0 MT                                                                                | 2015-16: 1.47 MT<br>2014-15: 1.51 MT<br>2013-14: 1.60 MT<br>2012-13: 1.74 MT<br>2011-12: 1.95 MT                                                                                                               |                                                                                                                                                                                                                                                                                                        |

3q General remarks  
of inspecting  
officers on  
method of mining  
etc.

Method of Mining  
is Category A  
fully mechanized  
which is justified  
through the  
capital  
investment, type  
of the deposit &  
geology of the  
area and  
requirement of  
Cement Plant to  
which the mine is  
captive. Bench  
height and width  
are being  
maintained as per  
MMR'1961 for safe  
and systematic  
working.

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Solid Waste Management - Dumping:

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| Sl.No. | Item                                                                         | Propasals                                                                                                                                                                                                                                                                           | Actual work                                                 | Remarks                                                                                                           |
|--------|------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------|
| 4a     | Separate dumping<br>of topsoil, OB<br>and mineral<br>rejects (Rule<br>32,33) | Yes                                                                                                                                                                                                                                                                                 | Yes                                                         |                                                                                                                   |
| 4b     | Location of<br>topsoil, OB and<br>mineral reject<br>dumps                    | Top Soil Dump: As per the proposals.<br>1 Dump at<br>N2179800 to<br>2180500 and<br>E311700 to<br>E312000<br>Waste Dump: 4<br>dumps at<br>N2180300 to<br>N2181500 &<br>E311300 to<br>E312500<br>Sub-grade<br>Dump: 2 dumps<br>at N2179300 to<br>N2179800 &<br>E312300 to E<br>312700 |                                                             |                                                                                                                   |
| 4c     | Number of dumps<br>within lease<br>area and outside<br>of lease area         | Top Soil Dump: 1 Dump<br>Waste Dump: 4<br>dumps<br>Sub-grade<br>Dump: 2 dumps<br>All dumps<br>within lease<br>area.                                                                                                                                                                 | Total 7 dumps of which<br>all are within the lease<br>area. | Top soil dump is<br>adjoining to<br>another top soil<br>dump in the<br>contiguous lease<br>of the same<br>lessee. |

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|----|--------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------|
| 4d | Location of dumps w.r.t. ultimate pit limit (Rule 16)              | 2 Waste dumps and one sub-grade dump is partially within UPL due to lease and infrastructure constraints. | 3 dumps are partially falling within UPL out of which two are waste dumps and one is sub-grade stack.          |                                                                                                                                                        |
| 4e | Number of active and alive dumps.                                  | All 7 dumps are active and alive.                                                                         | All 7 dumps are active and alive.                                                                              |                                                                                                                                                        |
| 4f | Number of dead dumps.                                              | Nil                                                                                                       | Nil                                                                                                            |                                                                                                                                                        |
| 4g | Number of dumps established.                                       | Not applicable.                                                                                           | Not applicable.                                                                                                |                                                                                                                                                        |
| 4h | Whether Retaining wall or garland drain all along dumps are there. | Yes                                                                                                       | Yes                                                                                                            |                                                                                                                                                        |
| 4i | Length of Retaining wall or garland drain all along dumps          | For the year 2016-17, construction of 125 m of garland drain was proposed.                                | 125 m Garland drain and 100 m retaining wall constructed along Northern side dump (located in southern block). | All along the dumps around 1500 m garland drain and retaining wall is already constructed.                                                             |
| 4j | Number of settling ponds                                           | Nil                                                                                                       | Nil                                                                                                            | Deeper part of the pits are converted into water reservoir during rainy season. Apart from this, settling ponds are not constructed within lease area. |

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|----|------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 4k | Specific comments of inspecting officer on waste dump management | Waste dump management part is satisfactory on the fact that the dumps are suitable located and stable. Also protective measures in form of garland drain and retaining wall all along the toe of the dumps are constructed and maintained. presently all dumps are active and upon reaching its full capacity, dumps are proposed to be stabilized through plantation. |
|----|------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

#### Solid Waste Management - Backfilling:

| Sl.No. | Item                                                                                          | Propasals                                                                           | Actual work                                                                                                                     | Remarks                                                                                                                          |
|--------|-----------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------|
| 5a     | Status of part or full extraction of mineral from mined out area before starting backfilling. | No backfilling proposals are made as the mineral has not been exhausted completely. | Nil                                                                                                                             |                                                                                                                                  |
| 5b     | Area under backfilling of mined out area                                                      | Nil                                                                                 | Nil                                                                                                                             |                                                                                                                                  |
| 5c     | Concurrent use of topsoil for restoration or rehabilitation of mineral out area (Rule 32)     | Not applicable.                                                                     | Not applicable as the mineral has not been exhausted and no such mined out area is available for restoration or rehabilitation. | Top soil is being stacked separately and if required, it is being used for plantation over the waste land within the lease area. |
| 5d     | Total area fully reclaimed and rehabilitated                                                  | Nil                                                                                 | Nil                                                                                                                             |                                                                                                                                  |

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|----|----------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|--|
| 5e | General remarks of inspecting officers on backfilling and reclamation etc. | No backfilling has been proposed upto the conceptual period and pits developed are proposed to be converted into water reservoir at conceptual stage. Further, waste dumps are proposed to be stabilized through plantation upon attaining maturity. Reclamation work is under process for non-mineralized barren land, waste lands, non-mining zone of 7.5 m etc. through green belt development. |  |  |
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Progressive Mine Closure Plan:

| Sl.No. | Item                                                                         | Proposals                  | Actual work                   | Remarks                                                                                                                                                                                                                                                                  |
|--------|------------------------------------------------------------------------------|----------------------------|-------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 6a     | Whether Annual report on PMCP submitted on time and correctly. Rule 23 E(2). | Yes                        | Yes                           | Compliance of Rule 26(2) of MCDR'2017                                                                                                                                                                                                                                    |
| 6b     | Area available for rehabilitation (ha) .                                     | Nil                        | Nil                           | Only waste land is being rehabilitated through green belt development which include -along the periphery of ultimate pit limit, haul roads, along the canal and in the southern part of the mine. Overall 41.12 ha area has been converted into Green belt till 2016-17. |
| 6c     | afforestation done (ha).                                                     | For the year 2016-17: 3 ha | For the year 2016-17: 0.72 ha | Total: 41.12 ha till 2016-17                                                                                                                                                                                                                                             |

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|----|-------------------------------------------------------------------------------------------------------------|-------------------------------------------------------|-----------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 6d | No. of saplings planted during the year                                                                     | 7500 saplings                                         | 800 saplings    | Area availability was an issue in plantation as most of the part is already covered under plantation in previous years. Lessee/Representative (GM, Mines) was advised to cover the backlog in the subsequent years. Alongwith 800 saplings plantation within the lease area, 9500 saplings have been planted outside the lease area also. Furthermore, the shortfall is being covered in the contiguous lease having 579.90 ha area. |
| 6e | Cumulative no .of plants                                                                                    | Not available                                         | 215567 saplings | Overall 215567 saplings have been planted within lease area and 159506 saplings have been planted outside the lease area.                                                                                                                                                                                                                                                                                                            |
| 6f | Any other method of rehabilitation                                                                          | No                                                    | Nil             |                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| 6g | Cost incurred on watch and care during the year                                                             | Rs 11.25 lakhs (Envirnment Monitoring cost not added) | Rs 105.58 Lakhs | Actual cost also includes expenses on SDF implementation.                                                                                                                                                                                                                                                                                                                                                                            |
| 6h | Compliance on reclamation and rehabilitation by backfilling (i) Voids available for backfilling ( L x B x D | Nil                                                   | Nil             |                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| 6i | Compliance on reclamation and rehabilitation by backfilling (ii) Voids filled by waste / tailings           | Nil                                                   | Nil             |                                                                                                                                                                                                                                                                                                                                                                                                                                      |

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|----|-----------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------|--------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 6j | Compliance on reclamation and rehabilitation by backfilling (iii) Afforestation on backfilled area        | Nil                                                                              | Nil                                                                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| 6k | Compliance on reclamation and rehabilitation by backfilling (iv) Rehabilitation by making water reservoir | Nil                                                                              | Nil                                                                | No backfilling has been proposed upto the conceptual period and pits developed are proposed to be converted into water reservoir at conceptual stage.                                                                                                                                                                                                                                                                                                                        |
| 6l | Compliance on reclamation and rehabilitation by backfilling (v) any other specific means.                 | Nil                                                                              | Nil                                                                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| 6m | Compliance of rehabilitation of waste land within lease (i) afforestation                                 | Plantation over 3.0 ha area with 7500 saplings was proposed for the year 2016-17 | Plantation has been done over around 1.0 ha land with 800 saplings | Backlog was advised to be covered in the remaining proposal period.                                                                                                                                                                                                                                                                                                                                                                                                          |
| 6n | Compliance of rehabilitation of waste land within lease (ii) Area rehabilitation (ha)                     | 3.0 ha                                                                           | Approximately 1.0 ha                                               | Actual work done is less than the proposals made in the approved Mining Plan but no violation is being issued as the lessee has excellent records for plantation in the past. More than the proposed saplings have been planted in the previous years and overall 41.12 ha are within lease has been converted into Green Belt with these efforts. Overall 215567 saplings have been planted within lease area and 159506 saplings have been planted outside the lease area. |

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| 6o | Compliance of rehabilitation of waste land within lease (iii)Method of rehabilitation             | Afforestation                                                                                                              | As per the proposals, green belt has been developed.                                                                                                                             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| 6p | Compliance of environmental monitoring (core zone and buffer zone)                                | Environment monitoring in the core zone and buffer zone shall be carried out as per the guidelines of MoEF in this regard. | Environment monitoring in the core zone and buffer zone is being carried out as per the guidelines of MoEF in this regard and real time data is being captured and send to MoEF. |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| 6q | General remarks of inspecting officers on PMCP compliance and progressive closure operations etc. |                                                                                                                            |                                                                                                                                                                                  | Afforestation and Environment Monitoring in the core zone and buffer zone are being done regularly. Further, afforestation done is beyond the proposals within the lease area and regarding Environment monitoring, real time data is being analyzed and source of pollution is removed or cured instantly. Also, protective measures are being maintained. Therefore, PMCP compliance is being ensured and progressive closure operations are being done well above in comparison to the proposals. |

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#### Mineral Conservation:

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| Sl.No. | Item | Propasals | Actual work | Remarks |
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|----|-----------------------------------------------------------------|------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 7a | ROM Mineral dispatch or grade-wise sorting within lease area    | Mineral is being dispatched after crushing the ROM. Therefore, grade-wise sorting within lease area. | As per the proposals.                                                                                                                                                                                                                                      |
| 7b | Method of grade-wise mineral sorting i.e. manual or mechanical. | Mechanical                                                                                           | Mechanical                                                                                                                                                                                                                                                 |
| 7c | Different grade of mineral sorted out at mines.                 | Cement Grade Limestone                                                                               | Cement Grade Limestone                                                                                                                                                                                                                                     |
| 7d | Any beneficiation process at mines .                            | Only crushing through mechanical means.                                                              | Crushing is being done through primary crusher of 1200 t/h rated capacity. The maximum input size of the boulder is 1 m while the output size is 70 mm. All the crushed material is directly dispatched to the plant by an overland belt conveying system. |

|    |                                                                                        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
|----|----------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 7e | General remarks of inspecting officer on Mineral conservation and beneficiation issues | Mineral with higher CaO is being blended with lower grade material and optimal grade is being maintained. Further, low CaO, higher Silica or high SO <sub>3</sub> containing mineral (above threshold value) is being stacked separately for future usage. Lab scale studies have been carried out with various techniques for beneficiation of these separate sub-grade stacks and depending upon feasibility in terms of costing, grade and yield the process may be adopted at plant level. |
|----|----------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

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Environment:

| Sl.No. | Item                                                  | Propasals                                                 | Actual work           | Remarks                                                                                                                                                                                                   |
|--------|-------------------------------------------------------|-----------------------------------------------------------|-----------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 8a     | Separate removal and utilization of topsoil (Rule 32) | Yes                                                       | Yes                   | Top soil is being removed separately by Dozing and scrapping and this top soil is being stacked separately. Further, as per the requirements for green belt development, top soil is also being utilized. |
| 8b     | Concurrent use or storage of topsoil                  | Stacking and partial utilization as per the requirements. | As per the proposals. |                                                                                                                                                                                                           |

|    |                                                                                                             |                    |                                                                                                                                |                                                                                                                                                                    |
|----|-------------------------------------------------------------------------------------------------------------|--------------------|--------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 8c | Separate dumps for overburden, waste rock, rejects and fines (Rule 33)                                      | Yes                | Separate dumps for Overburden (top soil), Waste rock and sub-grade is being maintained. There are no mineral rejects or fines. |                                                                                                                                                                    |
| 8d | Use of overburden, waste rock, rejects and fines dumps for restoring the land to its original use           | No such proposals. | Nil                                                                                                                            |                                                                                                                                                                    |
| 8e | Phased restoration, reclamation and rehabilitation of lands affected by mining operations (Pits, dumps etc) | No such proposals. | Nil                                                                                                                            | Land affected by mining is being actively used. therefore, no such restoration is being done, however, waste land available is being reclaimed through plantation. |
| 8f | Baseline information on existence of plantation and additional plantation done (Rule 41)                    | Yes                | Yes                                                                                                                            |                                                                                                                                                                    |
| 8g | Survival rate                                                                                               | -                  | 83%                                                                                                                            |                                                                                                                                                                    |
| 8h | Water sprinkling on roads to control airborne dust                                                          | Yes                | Yes                                                                                                                            | For waster sprinkling on roads, there is one water sprinkler with 20KL capacity, BEML make and 375HP power.                                                        |

|    |                                                                                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
|----|------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 8i | General remarks of inspecting officer on aesthetic beauty in and around mines area | As the waste land of 41.12 ha has been converted into green belt, apart from normal degradation due to mining activities, aesthetic beauty within the lease area is good. Also, around the mining lease, there are two contiguous mining leases of the same lessee and plantation done in the area is good. Alongwith plantation with the lease area, saplings have also been planted outside the lease area in the colony, nearby villages etc. |
|----|------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

#### Compliance of Rule 45:

| Sl.No. | Item                                                                                | Propasals                                                                                                                  | Actual work                                                                                                                | Remarks                                                                                                                                                                                                                                                                         |
|--------|-------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 9a     | Status of submission of Monthly and Annual returns                                  |                                                                                                                            | Annual return submitted online upto 2016-17<br>Monthly retruns submitted online upto Dec'2017                              | Compliance of Rule 45                                                                                                                                                                                                                                                           |
| 9b     | Scrutiny of Annual return for information on Mining Engineer, Geologist and Manager | Mining Engineer in charge: Shri R. R. Prasad<br>Geologist in charge: Shri J. B. Thapa<br>Manager: Shri Tripurari Choudhary | Mining Engineer in charge: Shri R. R. Prasad<br>Geologist in charge: Shri J. B. Thapa<br>Manager: Shri Tripurari Choudhary | Violation of Rule 55(1)(3) of MCDR'2017, as Mining Engineer and Geologist for Category 'A' mine should be full-time, whereas the same MINing Enginner and Geologist are reported in other two leases namely Maratha Limestone Mine (579.9 ha) & Maratha Limestone Mine (49 ha). |

|    |                                                                                               |                                                                                                                                                                       |                                                                                                             |                                                                                                         |
|----|-----------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------|
| 9c | Scrutiny of Annual return on land use pattern for area under pits, reclaimed area, dumps etc. |                                                                                                                                                                       | Correct information furnished.                                                                              |                                                                                                         |
| 9d | Scrutiny of Annual return on afforestation                                                    | Part-V, item 4.4: Plantation done (a) Within lease area-800, Survival Rate-83%, (b) Outside lease area-9500, Survival Rate-95%                                        | Correct information furnished.                                                                              |                                                                                                         |
| 9e | Scrutiny of Annual return on mineral reject generation (Grade and quantity)                   | Nil                                                                                                                                                                   | Nil                                                                                                         |                                                                                                         |
| 9f | Scrutiny of Annual return on ROM stock and/or graded ore                                      | ROM: Opening and Closing Stocks-Zero, Production-1619950 T<br>Graded Ore: Opening and Closing Stocks-Zero, Production and Dispatch-1619950 T (Cement Grade Limestone) | Correct information furnished.                                                                              |                                                                                                         |
| 9g | Scrutiny of Annual return on sale value, Ex. Mine price and production cost                   | Sale Value: Nil (Captive), Ex. Mine Price: 222.47 Rs / T, Cost of Production: 222.47 Rs/ T                                                                            | Correct information furnished.                                                                              |                                                                                                         |
| 9h | Scrutiny of Annual return on fixed assets                                                     | Not furnished.                                                                                                                                                        | Should have been furnished for All three leases of Maratha Limestone Mines-579.90 ha, 880.31 ha and 49.0 ha | Violation as returns are incomplete. Advise letter to the State Govt. in terms of Rule 45(7)(a) issued. |
| 9k | Scrutiny of Annual return on mining machineries                                               | Full details furnished under Part-V Section 6.                                                                                                                        | The details are as per the approved Mining Plan and actual deployment of machineries in the mine.           |                                                                                                         |

**Details of violations observed during current inspection and compliance position of violation pointed out**

| Violation observed              |           |               | Show cause position |           |               |
|---------------------------------|-----------|---------------|---------------------|-----------|---------------|
| Rule NO.                        | Issued on | Compliance on | Rule NO.            | Issued on | Compliance on |
| MCDR17 Rule 55(1)(3) 08/02/2018 |           |               |                     |           |               |

**Date :**
**(ASHISH MISHRA)**

Indian Bureau of Mines