

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

MCDR INSPECTION REPORT

Nagpur regional office

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

Mine code : 38MSH08024

- (i) Name of the Inspecting : **M017**) **ASHISH MISHRA**
Officer and ID No.
- (ii) Designation : Sr. Asst. Contrl. Mines
- (iii) Accompanying mine : Shri R.R.Prasad, GM
Official with
Designation
- (iv) Date of Inspection : 08/10/2017
- (v) Prev.inspection date : 26/09/2016

PART-I : GENERAL INFORMATION

1. (a) **Mine Name** : **MARATHA LIMESTONE (49.00**
- (b) **Registration NO.** : **IBM/447/2011**
- (c) Category : A Fully Mechanised
- (d) Type of Working : Opencast
- (e) Postal address :
State : MAHARASHTRA
District : CHANDRAPUR
Village :
Taluka :
Post office :
Pin Code :
FAX No. :
E-mail :
Phone :
- (f) Police Station :
- (g) First opening date : 01/01/2016
- (h) Weekly day of rest :
2. Address for :
correspondance :
3. (a) Lease Number : MSH0375
- (b) Lease area : 49
- (c) Period of lease : 50
- (d) Date of Expiry : 23/05/2056
4. Mineral worked : LIMESTONE Main

5. Name and Address of the

Lessee : M/S AMBUJA CEMENTS LTD.
ELEGANT BUSINESS PARK
GREATER BOMBAY MAHARASHTRA
Phone:
FAX :

6. Date of approval of Mining : Fresh under rule 22 MCR1960 15/10/2003
Plan/Scheme of Mining Mining Scheme rule 12 MCDR1988 12/08/2011
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	Nil	Complete area has been explored upto G1 level
1b	Exploration over lease area for geological axis 1 or 2	G1	G1	Exploration has been done 178 mRL out of which upto 210 mRL reserves are considered and below 178 mRL are resources as per present economic viability.
1c	Exploration Agencies and Expenditure in lakh rupees during the year	Nil	Nil	The expenditure incurred in exploration is Rs. 23.23 lakhs towards drilling, sampling and chemical analysis as up to the date. Total 43 bore holes have been drilled with 1700.97 meterage within the lease area out of which 29 holes were drilled by ACL and the rest 14 holes were drilled by DGM in the early 90s.
1d	Balance area to be explored to bring Geological axis in 1 or 2	Nil	Nil	
1e	Balance reserve as on 01/04/20		As on 31.03.2017: 111-9 MT 211- 12.99 MT Total: 21.99 MT	

1f	General remarks of inspecting officers on geology, exploration etc	The mineable reserves have been assessed based on the ultimate mining pit designed using block modeling techniques by using mining software Surpac and other associated software. In this ML area, reserves are assessed up to 178 MRL considering the mineability of the deposit up to the floor of lower limestone.
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Development :

Sl.No.	Item	Propasals	Actual work	Remarks
2a	Location of development w.r.t.lease area	It was proposed to undertake development work between N311000-N311700, E2179400-E2180500	As per the proposals	
2b	Separate benches in topsoil, overburden and minerals (Rule 15)	Yes	Yes	
2c	Stripping ratio or ore to OB ratio	1:0.8	1:0.67	
2d	Quantity of topsoil generation in m3	0.04 MT	As per the proposals	
2e	Quantity of overburden generation in m3	0.36 MT	0.18 MT	

2f	General remarks of inspecting officers on development of pit w.r.t. type of deposit etc	The limestone of the lease area is medium hard and is characterized by fine to occasionally medium grains material. The strata is traversed by numerous joints and fractures. The area has been mainly opened up from 258 to 242 MRLs levels. Development is adequate as per the type of deposit in the lease area.
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Exploitation:

Sl.No.	Item	Propasals	Actual work	Remarks
3a	Number of pit proposed for production	One pit	One pit is present	
3b	Quantity of ROM mineral production proposed	2016-17: 5 Lakh T	2016-17: 272050 T	
3c	Recovery of sailable/usable mineral from ROM production	100%	100%	Mineral rejects generated while crushing and screening (fines) with 39% CaO shall be blended with ROM and utilized.
3d	Quantity of mineral reject generation	Nil	Nil	
3e	Grade of mineral rejects generation and threshold value declared.	Not applicable	Nil	
3f	Quantity of sub grade mineral generation.	No such proposals	Nil	
3g	Grade of sub grade mineral generation	Not applicable	Nil	

3h	Manual / Mechanised method adopted for segregating from ROM	Mechanized crushing and screening	As per proposals	
3i	Any analysis or beneficiation study proposed and carried out for sub grade mineral and rejects.	No	Nil	Earlier, to upgrade the calcium oxide content of high silica and high SO ₃ limestone, beneficiation studies were undertaken by Institute of Minerals and Materials Technology (Council of Scientific and Industrial Research), Bhubaneswar. Dry beneficiation techniques such as preferential crushing and screening, magnetic separation, electrostatic separation and air classification etc. were also employed to reduce the SiO ₂ and SO ₃ content and to enrich the CaO content..
3j	Provision of drilling and blasting in mineral benches	Yes	Drilling has been carried out by deploying 115 mm dia. drill equipped with in-built arrangement of water sprinkling for dust suppression and separate dust extraction system. Spacing X Burden was kept at 4-5m X 3-6m depending upon the strata. NONEL is used for detonation. Powder factor in ore and overburden: 10 ton/kg and 7.5 ton/kg respectively	A well built magazine with license (License No. E/HQ/MH/22/679 (E34226)) to store 20 tons of explosives is present. An explosive van (License No. E/WC/MH/25/189 (E14193)) of 2.425 tons capacity is also deployed in the mine.

3k	Provision of mining machineries in mineral benches	Yes	2 Drill machines with 115 mm dia, 2 Dozers D355A and BD155, 4 Hydraulic excavators of 4 cuM capacity, 13 Dumpers having 35 T capacity and 6 Dumpers having 55 T capacity are the main machineries. Apart from these, Motor grader, Road compactor, Water tankers (3-20kL, 9kL & 6kL capacity), explosive van, Crane, One Backhoe (0.9 cuM capacity), Wheel loader and tyre handlers etc are also deployed in the mine.	
3l	Whether height of benches in overburden and mineral suitable for method of mining proposed in MP/SOM	Yes	Yes	Bench height has been selected as 8.0 m depending upon the mechanization and it is suitable as per the method of mining.
3m	Total area covered under excavation/pits	25.38 ha	21.15 ha	
3n	Ore to OB ratio for the pit/mine during the year.	1:0.8	1:0.6	
3o	Total area put in use under different heads at the end of year	Area under Mining: 25.38 ha Total: 25.38 ha	Area under Mining: 21.15 ha Area under Waste Dump: 2.88 ha Total Area: 24.03 ha	
3p	Production of ROM mineral during the last five year period as applicable	2015-16: 0.5 MT 2014-15: 0.5 MT 2013-14: 0.5 MT 2012-13: 0.5 MT 2011-12: 0.5 MT	2015-16: 0.29 MT 2014-15: 0.31 MT 2013-14: 0.32 MT 2012-13: 0.35 MT 2011-12: 0.47 MT	
3q	General remarks of inspecting officers on method of mining etc.			Method of mining is Category A mechanized which is as per the occurrence of mineral deposit and as per the capital expenditure.

Solid Waste Management - Dumping:

Sl.No.	Item	Proposals	Actual work	Remarks
4a	Separate dumping of topsoil, OB and mineral rejects (Rule 32,33)	Yes	Yes	Top soil is being utilized for plantation purpose.
4b	Location of topsoil, OB and mineral reject dumps	OB/ Waste Dump: N2179800 to N2189900, E3111000 to E311100	As per the proposals	
4c	Number of dumps within lease area and outside of lease area	One OB/Waste Dump	One OB/ Waste dump within the lease area	
4d	Location of dumps w.r.t. ultimate pit limit (Rule 16)	Within the pit limits	Within the pit limits as the area is mostly mineralized.	
4e	Number of active and alive dumps.	One OB/Waste Dump	As per the proposals	
4f	Number of dead dumps.	Nil	Nil	
4g	Number of dumps established.	Nil	Nil	
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	150 m	150 m	
4j	Number of settling ponds	Nil	Nil	

4k	Specific comments of inspecting officer on waste dump management	Previously dumping was carried on adjoining lease areas of the same lessee which has been stopped after the enactment of MCR 2016. Now waste is being dumped within the lease area and toe of the dump has been secured with garland drain and retaining wall. Top soil is being used for plantation (presently outside the lease area). Overall waste dump management aspect is satisfactory.
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Solid Waste Management - Backfilling:

Sl.No.	Item	Proposals	Actual work	Remarks
5a	Status of part or full extraction of mineral from mined out area before starting backfilling.	No such proposals	Not applicable	Post mining, once entire mineral is excavated, the mined out area is proposed for creating artificial reservoir through water harvesting.
5b	Area under backfilling of mined out area	No such proposals	Nil	
5c	Concurrent use of topsoil for restoration or rehabilitation of mineral out area (Rule 32)	No such proposals	Nil	
5d	Total area fully reclaimed and rehabilitated	No such proposals	Nil	

5e General remarks of inspecting officers on backfilling and reclamation etc.

As per the current available statutory clearances, limestone is mineable up to 210 mRL. Limestone below 210 mRL will be mineable subject to statutory clearance from MoEF and CGWA for deeper mining and mine dewatering. So the present economic depth is up to 210 mRL and conceptual depth of working shall be 178 mRL. Post mining, once entire mineral is excavated, the mined out area is proposed for creating artificial water reservoir and no backfilling is proposed as mineral is continuing.

Progressive Mine Clousre Plan:

Sl.No.	Item	Propasals	Actual work	Remarks
6a	Whether Annual report on PMCP submitted on time and correctly. Rule 23 E(2).	Yes	Yes	
6b	Area available for rehabilitation (ha) .	No proposals for rehabilitation in the lease area.	Nil	

6c	afforestation done (ha).	No proposals for afforestation in the lease area.	Nil	Previously, afforestation proposals were in the adjoining lease areas and accordingly afforestation has been carried out. In the year 2016-17, no plantation done in the lease area.
6d	No. of saplings planted during the year	Nil	Nil	
6e	Cumulative no .of plants	Nil	Nil	
6f	Any other method of rehabilitation	No proposals for rehabilitation in the lease area.	Nil	
6g	Cost incurred on watch and care during the year	24.45 Lakhs (including SDF expenditures)	21.12 Lakhs	
6h	Compliance on reclamation and rehabilitation by backfilling (i) Voids available for backfilling (Lx B x D	No proposals for rehabilitation in the lease area.	Nil	
6i	Compliance on reclamation and rehabilitation by backfilling (ii) Voids filled by waste / tailings	No proposals for rehabilitation in the lease area.	Nil	
6j	Compliance on reclamation and rehabilitation by backfilling (iii)Afforestation on on backfilled area	No proposals for rehabilitation in the lease area.	Nil	
6k	Compliance on reclamation and rehabilitation by backfilling (iv) Rehabilitation by making water reservoir	No such proposals	Nil	Post mining, once entire mineral is excavated, the mined out area is proposed for creating artificial reservoir through water harvesting.

6l	Compliance on reclamation and rehabilitation by backfilling (v)any other specific means.	No such proposals	Nil	
6m	Compliance of rehabilitation of waste land within lease (i)afforestation	No such proposals	Nil	
6n	Compliance of rehabilitation of waste land within lease (ii)Area rehabilitation (ha)	No such proposals	Nil	
6o	Compliance of rehabilitation of waste land within lease (iii)Method of rehabilitation	No such proposals	Nil	
6p	Compliance of environmental monitoring (core zone and buffer zone)	Yes	Yes	Environment monitoring in the core and buffer zone is being done and real time data is being send to MoEFCC.
6q	General remarks of inspecting officers on PMCP compliance and progressive closure operations etc.			Under PMCP work, only environment monitoring and protective works for dumps has been carried out which is satisfactorily done for the lease area.

Mineral Conservation:

Sl.No.	Item	Propasals	Actual work	Remarks
7a	ROM Mineral dispatch or grade-wise sorting within lease area	Grade-wise sorting and dispatch to Cement Plant for which the mine is captive.	Grade-wise sorting and dispatch	

7b	Method of grade-wise mineral sorting i.e. manual or mechanical.	Mechanical	Mechanical	A primary crusher of 1200 t/h rated capacity fed by apron feeder has been installed. 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.
7c	Different grade of mineral sorted out at mines.	Cement Grade Limestone	Cement Grade Limestone	
7d	Any beneficiation process at mines	Crushing and screening	Crushing and screening	
7e	General remarks of inspecting officer on Mineral conservation and beneficiation issues			All the generated ROM is being fed to the cement plant and size rejects generated while crushing and screening are blended and utilized. Regarding beneficiation of low grade and high SO3 content ore, studies have been carried out and implementation shall be done after economic evaluations.

Environment:

Sl.No.	Item	Propasals	Actual work	Remarks
8a	Separate removal and utilization of topsoil (Rule 32)	Yes	Yes	Top soil is scrapped by Dozers and utilized for plantation.

8b	Concurrent use or storage of topsoil	Concurrent usage	As per the proposals	
8c	Separate dumps for overburden, waste rock, rejects and fines (Rule 33)	Yes	Yes	
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	Previously generated waste was being dumped in the adjoining leases of the same lessee which has been stopped after enactment of MCR'2016. Now waste is being dumped within the lease area and it is active. As the dump hasn't reached maturity, no phased restoration has been proposed. Pit is also yet to attain economic depth.
8f	Baseline information on existence of plantation and additional plantation done (Rule 41)	Yes	Yes	
8g	Survival rate	No plantation has been done yet in the lease area, hence not applicable.	Nil	
8h	Water sprinkling on roads to control airborne dust	Yes	Yes	

8i	General remarks of inspecting officer on aesthetic beauty in and around mines area	Apart from normal degradation due to mining activities, overall aesthetic beauty is satisfactory within the lease area. Around the lease area, there are other two leases of the same lessee where extensive plantation has been carried out.
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Compliance of Rule 45:

Sl.No.	Item	Propasals	Actual work	Remarks
9a	Status of submission of Monthly and Annual returns		Annual and Monthly returns submission is up to date and the returns have been submitted online.	
9b	Scrutiny of Annual return for information on Mining Engineer, Geologist and Manager	Mining Engineer: Shri Sanjay Upare Geologist: Shri J. B. Thapa Manager: Shri T. Choudhary	Correct information furnished	
9c	Scrutiny of Annual return on land use pattern for area under pits, reclaimed area, dumps etc.	Area under Mining: 21.15 ha	Spot guidance given to furnish complete details for land use and area covered under waste dump should also be given.	
9d	Scrutiny of Annual return on afforestation	Within Lease Area: Nil Outside Lease Area: 9500 saplings with 95% survival	Correct information furnished	
9e	Scrutiny of Annual return on mineral reject generation (Grade and quantity)	Quantity: Nil	Correct information furnished	

9f	Scrutiny of Annual return on ROM stock and/or graded ore	ROM: Opening & Closing Stocks- Nil, Production- 272050 T Graded Ore: Opening & Closing Stocks- Nil, Production & Dispatch- 272050 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 consumption) Ex-mine price- Rs 222.47 per T Production Cost-Rs 222.47 per T	Correct information furnished
9h	Scrutiny of Annual return on fixed assets	Furnished in the Annual returns for the adjoining 880.31 ha lease area belonging to same lessee	Correct information furnished

9k	Scrutiny of Annual return on mining machineries	2 Drill machines with 115 mm dia, 2 Dozers D355A and BD155, 4 Hydraulic excavators of 4 cuM capacity, 13 Dumpers having 35 T capacity and 6 Dumpers having 55 T capacity are the main machineries. Apart from these, Motor grader, Road compactor, Water tankers (3-20kL, 9kL & 6kL capacity), explosive van, Crane, One Backhoe (0.9 cuM capacity), Wheel loader and tyre handlers etc are also deployed in the mine.	Correct information furnished
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Details of violations observed during current inspection and compliance position of violation pointed out

Violation observed		Show couse position	
Rule NO.	Issued on Compliance on	Rule NO.	Issued on Compliance on

Date :

(ASHISH MISHRA)

Indian Bureau of Mines