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

## MCDR inspection REPORT

## Bangalore regional office

**Mine file No :** KNT/GLB/LST/50/BNG **Mine code : 38KAR10016**

(i) Name of the Inspecting Officer and ID No. : **S21 ) H M Shivakumar**

(ii) Designation : Assistant Mining Engineer

(iii) Accompaning mine Official with Designation : Sri.V.Balasubramani-Manager, Sri.V.Rami Reddy-Mining

(iv) Date of Inspection : 30/12/2022

(v) Prev.inspection date : 25/02/2022

**PART-I : GENERAL INFORMATION**

1. (a) **Mine Name** : **KALLUR LIMESTONE MINE ML**

**(b) Registration NO.** : **IBM/170/2011**

(c) Category : A Fully Mechanised

(d) Type of Working : Opencast

(e) Postal address

State : KARNATAKA
District : GULBARGA
Village : KALLUR
Taluka : CHINCHOLI
Post office : KALLUR
Pin Code : 585305
FAX No. : 08475-295608, 9480827511
E-mail : subramani.v@chettinadcemen
Phone : 044-42988652 (O) 044-4298

(f) Police Station : Miryan

(g) First opening date : 07/03/2012

(h) Weekly day of rest : SUN

2. Address for correspondance : KALLUR VILLAGE, GARAGAPALLI POST,
CHANDAPUR, CHINCHOLI TALUK
GULBARGA - 585305

3. (a) Lease Number : KAR1677
(b) Lease area : 423.94
(c) Period of lease : 50
(d) Date of Expiry : 24/09/2060

4. Mineral worked : LIMESTONE Main

5. Name and Address of the

Lessee : CHETTINAD CEMENT CORPORATION LIMITED
KALLUR VILLAGE, GARAGAPALLI
POST CHANDAPUR, CHINCHOLI
TALUK GULBARGA - 585305
GULBARGA KARNATAKA
Phone:
FAX :

Owner : L.MUTHUKRISHNAN
Nominated owner, Rani
Seethai Hall Building,IV &
V 603, Anna Salai,
Chennai,Tamilnadu CHENGAI-
ANNA TAMIL NADU
Phone:
FAX :

Agent : Devesh Kumar Mishra
Kallur (Vil), Garagapalli
(Post), Chincholi (Tq),
Gulbarga Dist. KARNATAKA
GULBARGA KARNATAKA
Phone: 09480827525
FAX :

Mining Engineer

Name : V.Rami Reddy,Full Time

Qualification : B.TECH(MINING) SECOND CLASS MINES MANAGE

Appointment/ Termination date : 10/06/2013

Geologist

Name : M.Anandharaja,Full Time

Qualification : M.Sc GEOLOGY

Appointment/ Termination date : 12/11/2021

Manager

Name : V.BALASUBRAMANI

Qualification : D.MIN.ENGG.& 1st CLASS COMPETENCY CERTIF

Appointment/ Termination date : 07/03/2012

6. Date of approval of Mining Plan/Scheme of Mining :

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|---|---|
| Mining Scheme rule 12 MCDR1988 | 15/04/2014 |
| MP modif under 17(3) MCR 2016 | 02/08/2017 |
| MP review under 17(1) MCR 2016 | 20/11/2018 |
| MP modif under 17(3) MCR 2016 | 04/02/2021 |

PART - II : OBSERVATION/COMMENTS OF INSPECTING OFFICERS

## Exploration :

| Sl.No. | Item | Proposals | Actual work | Remarks |
|---|---|---|---|---|
| 1a | Backlog of previous year | No proposals | NA | |
| 1b | Exploration over lease area for geological axis 1 or 2 | No proposals | NA | The Mine is explored in G1 level during the year 2019-20. |
| 1c | Exploration Agencies and Expenditure in lakh rupees during the year | No proposals | NA | |
| 1d | Balance area to be explored to bring Geological axis in 1 or 2 | No proposals | NA | |
| 1e | Balance reserve as on 01/04/20 | 308168575 MT(as on 01.12.2020) | 303895968 MT | As per AR-2021-22. |
| 1f | General remarks of inspecting officers on geology, exploration etc | | The limestone deposit of this lease is horizontally bedded without any structural deformation and dip of 3° to 5° towards east. The limestone is traversed by three sets of joints in both NE and NW direction with dip North 70° to 80° to almost vertical angle. Horizontal joints are also seen. The limestone is grey to dark grey and pale brown & purple in color some places. | It is hard & compact. The entire lease area is explored under G1 level of exploration with core boreholes in the grid interval less than 200m x 200m. |

## Development :

| Sl.No. | Item | Propasals | Actual work | Remarks |
|---|---|---|---|---|

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|---|---|---|---|---|
| 2a | Location of development w.r.t.lease area | Block-A (C-C'-F-F') E760660-761285, N1922782-1923605, (470mtrs-434mtrs) Block-B (I-I'&J-J') E761099-761336 N1924018-1924383 (474mtrs-461mtrs) | Block-A (C-C'-F-F') E760660-761240, N1922782-1923597, & Block-B (I-I'&J-J') E761099-761331 N1924096-1924373 | Development work is carried within the proposed grid intervals. |
| 2b | Separate benches in topsoil, overburden and minerals (Rule 15) | Top soil in 1st bench & Mineral Block-A-4 benches(9mtrs) , Block-B-2 bench(9mtrs) | Top soil in 1stbench-1.5mtrs&Mineral Block-A-4benches(8mtrs), Block-B-2benches(5mtrs) | A-Block: OB-1 bench Mineral-4 benches. Block B: OB.1 bench Mineral-1 bench. |
| 2c | Stripping ratio or ore to OB ratio | 1:0.08 | 1:0.10 | 22% less production with excess development than proposed carried out deviating from the proposed stripping ratio. Violation issued. |
| 2d | Quantity of topsoil generation in m3 | 74,050$m^3$ | 51,943$m^3$ | Less advancement of development benches resulted in less Top Soil generation. |
| 2e | Quantity of overburden generation in m3 | 76,923M3 | 96,881M3 | Reportedly excess quantity of overburden generated due to more clay contaminated material encountered in 1st bench for winning High grade mineral from the bottom benches. |

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| 2f | General remarks of inspecting officers on development of pit w.r.t. type of deposit etc | The mine is developed with two separate pits and found to be suitably developed for this flat bedded limestone deposit. |

Exploitation:

| Sl.No. | Item | Propasals | Actual work | Remarks |
|---|---|---|---|---|
| 3a | Number of pit proposed for production | Block-A=1<br>Block-B=1 | Block-A=1<br>Block-B=1 | A - C-C' to F-F'<br>B - I-I'&J-J' |
| 3b | Quantity of ROM mineral production proposed | 40,00,000 | 31,49,255 | The total ROM Production proposed for the year 2021-22 is 40,00,000 Tonnes against which only 31,49,255tonnes of ROM production has been achieved. (-) 22% deviation from the proposed quantity reportedly due to less demand from the captive cement plant. Violation issued. |
| 3c | Recovery of sailable/usable mineral from ROM production | 40,00,000 | 31,49,255 | The entire ROM excluding intercalated waste/clay bands is crushed, suitably blended and consumed in the captive cement plant. |
| 3d | Quantity of mineral reject generation | NIL | NIL | NIL |
| 3e | Grade of mineral rejects generation and threshold value declared. | Cao-34% | Cao-34% | |
| 3f | Quantity of sub grade mineral generation. | NIL | NIL | No sub grade mineral generation, |
| 3g | Grade of sub grade mineral generation | NIL | NIL | NIL |

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| 3h | Manual / Mechanised method adopted for segregating from ROM | Mechanized method | Mechanized method | No segregation is carried out in the mine. The entire ROM from the mine is crushed and consumed in captive Cement Plant located outside the ML. |
| 3i | Any analysis or beneficiation study proposed and carried out for sub grade mineral and rejects. | NIL | NIL | NIL |
| 3j | Provision of drilling and blasting in mineral benches | Deep hole Drilling & Blasting | Drill dia-115mm | Provision of drilling and blasting is made in the mineral benches. |
| 3k | Provision of mining machineries in mineral benches | Hyd drill-4(150mm), Ex-9(6m3)&Dumper-24(50Tons) | Hyd drill-2(115mm), Ex-6 (2Nos:3.1cbm,3 Nos:2.8cbm &1No:1.1cbm) & Dumper25(10Nos:25Ton&15Nos:28Tons) | The machineries proposed are deployed in the mine. |
| 3l | Whether height of benches in overburden and mineral suitable for method of mining proposed in MP/SOM | Block-A(Bench Ht:9m) Block-B(Bench Ht:9m) | Block-A(Bench Ht:8m) Block-B(Bench Ht:5m) | Block-A: 4 Benches-mtrs (470 to 434msl) and Block-B: 2 Benches-mtrs(474 to 461msl) |
| 3m | Total area covered under excavation/pits | 105.59 at end of plan period | 64.717Ha. | The area under excavation is as on 31/03/2022. |
| 3n | Ore to OB ratio for the pit/mine during the year. | 1:0.08 | 1:0.10 | 22% less production and excess development carried out than proposed quantity affecting the proposed stripping ratio. Violation issued. |

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| 3o | Total area put in use under different heads at the end of year | Area of Excavation: 76.57, Storage of topsoil : 13.20, OB Soil dump : 4.12, Mineral Storage : 11.82, Infrastructure : 1.51, Roads : 15.00, Greenbelt/Afforestation:4.90, Others :2.40 Undisturbed area : 293.42 (At the end of plan period i.e 2023-24) | Area of Excavation : 64.717 Ha Storage of topsoil : 10.42 Ha, OB Soil dump : 2.04 Ha, Mineral Storage 11.82 Ha Infrastructure : 1.51 Ha Roads :12.00 Ha Greenbelt/Afforestation :4.30 Ha Others : 2.40 Ha Undisturbed area:313.16 Ha (At the end of 2021-22) | As per AR-2021-2022. |
| 3p | Production of ROM mineral during the last five year period as applicable | 2017-18: 99,00,000 2018-19: 99,00,000 2019-20: 39,99,500 2020-21:39,99,750 2021-22:40,00,000 ( in Tonnes) | 2017-18: 30,80,702 2018-19: 28,36,248 2019-20: 26,69,429 2020-21:23,98,243 2021-22:31,49,255 (in Tonnes) | |
| 3q | General remarks of inspecting officers on method of mining etc. | | | The mining is carried out by open pit Mechanized method of mining with two separate pits namely Block A & B. Method of mining is found to be suitable and economical for this flat bedded deposit of shallow depth. |

Solid Waste Management - Dumping:

| Sl.No. | Item | Propasals | Actual work | Remarks |
|---|---|---|---|---|
| 4a | Separate dumping of topsoil, OB and mineral rejects (Rule 32,33) | Top soil-1.32Ha (E-760294&N-1923966), OB-1.47Ha (E-762123&N-1923858 in Block-B and 0.09Ha (E-760306&N-1923344 in Block-A | Top soil-1.32Ha (E-760293 & N-1923928), OB-1.22Ha (E-762134& N-1923967 in Block-B and 0.68 Ha (E-760301& N-1923371 in Block-A and 0.65 Ha | Separate dumping as proposed is made in OB /Top soil. No Mineral rejects are generated in the mine. |
| 4b | Location of topsoil, OB and mineral reject dumps | Top soil-1.32Ha (E-760294 & N-1923966), OB-1.47Ha (E-762123 & N-1923858 in Block-B and 0.09Ha (E-760306 & N-1923344 in Block-A | Top soil-1.32Ha (E-760293 & N-1923928), OB-1.22 Ha (E-762134 & N-1923967 in Block-B and 0.68 Ha (E-760301 & N-1923371 in Block-A and 0.65 Ha | As per proposal. |
| 4c | Number of dumps within lease area and outside of lease area | Soil Dump-1 Waste Dump-2 | Soil Dump-1 Waste Dump-2 | As per proposal. |
| 4d | Location of dumps w.r.t. ultimate pit limit (Rule 16) | Proposed Dumps within UPL | Within UPL | Since the entire Mining Lease is mineral bearing, temporary dumping is made within the UPL. |
| 4e | Number of active and alive dumps. | Soil Dump-1 Waste Dump-2 | Soil Dump-1 Waste Dump-2 | |
| 4f | Number of dead dumps. | Not Proposed | NIL | |
| 4g | Number of dumps established. | Not Proposed | NIL | The 2 OB dumps and 1 Top soil dumps are active. |

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| 4h | Whether Retaining wall or garland drain all along dumps are there. | RW:Dimension(LxWxH): (365mx2mx2m) E-762108 to E-762160&N-1923826 to N-1924112 &GD:Dimension(LxWxH): (377mx1.5mx1.5m) E-762108 to E-762160&N-1923826 to N-1924112 | RW: Dimension (LxWxH): (450mx2mx2m) E-762119 to E-762068&N-1923768 to N-1924118 & GD: Dimension (LxWxH): (450mx1.5mx1.5m) E-762119 to E-762068&N-1923768 to N-1924118 | |
| 4i | Length of Retaining wall or garland drain all along dumps | RW:Dimension(LxWxH): (365mx2mx2m) E-762108 to E-762160&N-1923826 to N-1924112 &GD:Dimension(LxWxH): (377mx1.5mx1.5m) E-762108 to E-762160&N-1923826 to N-1924112 | RW: Dimension (LxWxH): (450mx2mx2m) E-762119 to E-762068&N-1923768 to N-1924118 & GD: Dimension (LxWxH): (450mx1.5mx1.5m) E-762119 to E-762068&N-1923768 to N-1924118 | |
| 4j | Number of settling ponds | Not Proposed | NIL | |
| 4k | Specific comments of inspecting officer on waste dump management | | | Since the entire Mining Lease is mineral bearing, temporary dumping is made within the UPL is made and all the proposed protective measures for dump management are taken up. |

## 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. | Not proposed | NIL | NIL |

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| 5b | Area under backfilling of mined out area | Not proposed | NIL | NIL |
| 5c | Concurrent use of topsoil for restoration or rehabilitation of mineral out area (Rule 32) | Not proposed | NIL | NIL |
| 5d | Total area fully reclaimed and rehabilitated | Not proposed | NIL | NIL |
| 5e | General remarks of inspecting officers on backfilling and reclamation etc. | | | No part of mine pits is fully exhausted and mineral exists beneath. Therefore no proposals of backfilling are made at this stage. |

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). | Annual report on PMCP submitted on time and correctly - Rule 23E (2) on or before 1st July every year | Annual report on PMCP submitted on time and correctly - Rule 23E (2) submitted on 23.06.2022. | |
| 6b | Area available for rehabilitation (ha) . | Not Applicable | Not Applicable | |
| 6c | afforestation done (ha). | 2.00 ha | 3.92 ha | Appears to be correct. |
| 6d | No. of saplings planted during the year | 3,000 No's | 5,875 No's | Appears to be correct. |
| 6e | Cumulative no .of plants | 47,000 No's | 53,267 No's | Appears to be correct. |
| 6f | Any other method of rehabilitation | Not Proposed | NIL | |
| 6g | Cost incurred on watch and care during the year | 2.4 Lakhs | 2.4 Lakhs | |

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| 6h | Compliance on reclamation and rehabilitation by backfilling (i) Voids available for backfilling ( Lx B x D | Not Proposed | NIL |
| 6i | Compliance on reclamation and rehabilitation by backfilling (ii) Voids filled by waste / tailings | Not Proposed | NIL |
| 6j | Compliance on reclamation and rehabilitation by backfilling (iii)Afforestation on backfilled area | Not Proposed | NIL |
| 6k | Compliance on reclamation and rehabilitation by backfilling (iv) Rehabilitation by making water reservoir | Not Proposed | NIL |
| 6l | Compliance on reclamation and rehabilitation by backfilling (v)any other specific means. | Not Proposed | NIL |
| 6m | Compliance of rehabilitation of waste land within lease (i)afforestation | Not Proposed | NIL |
| 6n | Compliance of rehabilitation of waste land within lease (ii)Area rehabilitation (ha) | Not Proposed | NIL |
| 6o | Compliance of rehabilitation of waste land within lease (iii)Method of rehabilitation | Not Proposed | NIL |

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| 6p | Compliance of environmental monitoring (core zone and buffer zone) | Proposed(Regular) | 1. Ambient air quality monitoring has been carried out with a frequency of two days per month in both core & buffer zone.<br>2. Quality of ground water as well as surface water sources within 10 kms radius of lease area has been studied for assessing the water environment.<br>3. Noise monitoring has been conducted for determination of noise levels at 4 villages in the study area.<br>4. Respirable air-borne dust survey conducting once in every six months. | All the environmental parameters are monitored on regular basis. The readings are found to be within the permissible limits. |
| 6q | General remarks of inspecting officers on PMCP compliance and progressive closure operations etc. | | | The proposed PMCP activities are satisfactorily carried out. Also all the environmental parameters are monitored on regular basis. The readings are found to be within the permissible limits. |

## Mineral Conservation:

| Sl.No. | Item | Propasals | Actual work | Remarks |
|---|---|---|---|---|
| 7a | ROM Mineral dispatch or grade-wise sorting within lease area | ROM mineral dispatch. | ROM mineral dispatch. | ROM is dispatched from the mine to crusher located outside ML and within Cement Plant. |
| 7b | Method of grade-wise mineral sorting i.e. manual or mechanical. | Not proposed | NIL | |
| 7c | Different grade of mineral sorted out at mines. | Not proposed | NIL | |

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| 7d | Any beneficiation process at mines . | Not proposed | NIL | |
| 7e | General remarks of inspecting officer on Mineral conservation and beneficiation issues | | | The entire ROM is consumed in the Captive Cement Plant outside the ML. No sub grade or rejects are generated and conservation of Mineral is fully taken care and beneficiation is not required. |

Environment:

| Sl.No. | Item | Propasals | Actual work | Remarks |
|---|---|---|---|---|
| 8a | Separate removal and utilization of topsoil (Rule 32) | 74,050 M3 | 51,943M3 | Block A Top Soil :1.32Ha (E-760294 & N-1923966) The topsoil generated is stored and utilized in plantation as and when required. |
| 8b | Concurrent use or storage of topsoil | YES | Stored and used as and when required. | The topsoil generated is stored and utilized in plantation as and when required. |
| 8c | Separate dumps for overburden, waste rock, rejects and fines (Rule 33) | Overburden, waste rock proposed | Separately maintaining overburden dumps. | Yes, Two separate waste dumps are formed in the mine as proposed No mineral rejects. |
| 8d | Use of overburden, waste rock, rejects and fines dumps for restoring the land to its original use | Not Proposed | NA | No part of mine pits is fully exhausted and mineral exists beneath. Therefore no proposals of backfilling / restoration of land are made at this stage. |

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| 8e | Phased restoration, reclamation and rehabilitation of lands affected by mining operations (Pits, dumps etc) | Not Proposed | NA | NIL |
| 8f | Baseline information on existence of plantation and additional plantation done (Rule 41) | 47,000 No's | 53,267 No's | Appears to be correct. |
| 8g | Survival rate | 70% | 70% | Appears to be correct. |
| 8h | Water sprinkling on roads to control airborne dust | Laid fixed water sprinklers all along the haul road to control airborne dust | Stationery water sprinklers in form of Rain Gun, Total No's: 42No's,Range :15mtrs) laid all along the haul road to suppress the fugitive dust emissions and apart from that sprinklers Ashok Leyland water tanker of capacity 12KL are deployed in mine areas especially where there is no possibility of water sprinklers. | The proposed dust suppression equipments and measures are deployed/ implemented in the mine. |
| 8i | General remarks of inspecting officer on aesthetic beauty in and around mines area | | | The aesthetics in and around the mine is found satisfactory. |

Compliance of Rule 45:

| Sl.No. | Item | Propasals | Actual work | Remarks |
|---|---|---|---|---|
| 9a | Status of submission of Monthly and Annual returns | M.R. Submitted for Nov 2022 within the stipulated time i.e on 05.12.2022. A.R. Submitted up to 28.06.2022. | | |

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|---|---|---|---|---|
| 9b | Scrutiny of Annual return for information on Mining Engineer, Geologist and Manager | V.Rami Reddy, M.Anandha Raja V.Balasubramani | All the statutory officials reported were present during inspection. | Notice of appointment of Geologist in Form-H of Sri. N. Srinivasulu sent on 24.11.2022. |
| 9c | Scrutiny of Annual return on land use pattern for area under pits, reclaimed area, dumps etc. | Area of Excavation : 64.717 Ha Storage of topsoil : 10.42 Ha, OB Soil dump : 2.04 Ha, Mineral Storage 11.82 Ha Infrastructure : 1.51 Ha Roads :12.00 Ha Greenbelt/Afforestation :4.30 Ha Others : 2.40 Ha<br><br>Undisturbed area:313.16 Ha (At the end of 2021-22) | As per AR-2021-22. | |
| 9d | Scrutiny of Annual return on afforestation | WML-5875&OML-4500, Survival Rate: 80%. | NIL | |
| 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 | OB: 0, Production:31,46,255, CS: 0. | NIL | |
| 9g | Scrutiny of Annual return on sale value, Ex. Mine price and production cost | COP:Rs.226.53/ Ton, Ex. Mine price:Rs.226.53/Ton. | Rs.10/- depreciation accounted for arriving at the cost of Production per tonne of Limestone not correlated with the figures provided under part-II A-Capital Structure. Violation issued. | |

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| 9h | Scrutiny of Annual return on fixed assets | Rs.2793838167 | Appears to be correct. |
| 9k | Scrutiny of Annual return on mining machineries | Shovel(Hyd)(3.1m3)=2No's, Shovel(Hyd)(2.8m3)=3No's, Shovel(Hyd)(1.1m3)=1No's, Tipper(16m3)=10No's, Tipper(18m3)=15No's, Dozer(175HP_)=01No, Drill(115mm)=02No's, Water Tanker(12KL)=01No, Explosive Van(10Ton)=01No, Wheel Loader(1.60m3)=02No, | The machineries proposed and declared were deployed in the mine. |

**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 |
| MCDR17 Rule 11(1) | 19/01/2023 | 06/03/2023 | MCDR17 Rule 45(7) | 19/01/2023 | 06/03/2023 |
| MCDR17 Rule 45(7)(a) | 19/01/2023 | 06/03/2023 | | | |

**Date :**

(**H M Shivakumar**)

Indian Bureau of Mines