

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

**Review and updation of Mining Plan REPORT**

**Chennai regional office**

**Mine file No :** TN/DGL/LST-41.MDS

**Mine code :** 38TMN33046

- (i) Name of the Inspecting : **K08** ) **G.SORNADURAI KANNAN**  
Officer and ID No.
- (ii) Designation : Senior Mining Geologist
- (iii) Accompanying mine : Thiru. Ramesh, DGM-Mines  
Official with  
Designation
- (iv) Date of Inspection : 30/09/2023
- (v) Prev.inspection date :

**PART-I : GENERAL INFORMATION**

1. (a) **Mine Name** : **KARIKALI(125.485)**
- (b) **Registration NO.** : **IBM/170/2011**
- (c) Category : A Fully Mechanised
- (d) Type of Working : Opencast
- (e) Postal address
- State : TAMIL NADU
- District : DINDIGUL
- Village : ALAMBADI
- Taluka : VEDASANDUR
- Post office : ALAMBADI
- Pin Code : 624703
- FAX No. : 04551-220666
- E-mail : mines\_slm@chettinadcement.co
- Phone : 04551-220720
- (f) Police Station : KARIKALI
- (g) First opening date : 01/03/1989
- (h) Weekly day of rest : SUN
2. Address for : SEETHAINAGAR LST MINE, ALAMBADI VILLAGE & POST,  
correspondance : DINDIGUL DIST., GUZILIAMPARAI PS, PIN-624703
3. (a) Lease Number : TMN1068
- (b) Lease area : 125.49
- (c) Period of lease : 50
- (d) Date of Expiry : 28/02/2039
4. Mineral worked : LIMESTONE Main

## 5. Name and Address of the

Lessee : M/s CHETTINAD CEMENT CORPN. LTD  
 4TH FLOOR, RANI SEETHAI  
 HALL BUILDING 603, ANNA  
 SALAI CHENNAI CITY TAMIL  
 NADU  
 Phone:044 - 8272727  
 FAX :044 - 8241416

Owner : CHETTINAD CEMENT CORPORATION LI MITED  
 ARIYALUR TRICHY ROAD  
 KEELAPALURVUR POST ARIYALUR  
 TALUK, PERAMBALUR DISTRICT  
 PERAMBALUR TAMIL NADU  
 Phone:  
 FAX :

Agent : V. KRISHNAN  
 Chettinad Cement Corp Pvt  
 Ltd Ariyalur Works,  
 Keelapalur Post Ariyalur  
 Taluk & Distt ARIYALUR  
 TAMIL NADU  
 Phone: 9788858216  
 FAX :

## Mining Engineer

Name : R Thamarai Kannan, Full Time  
 Qualification : B.E.(Mining)  
 Appointment/ : 02/07/2020  
 Termination date

## Geologist

Name : M Karthick Kumar, Full Time  
 Qualification : M.Sc.(Geo)  
 Appointment/ : 02/07/2020  
 Termination date

6. Date of approval of Mining	:	Fresh under rule 22 MCR1960	05/05/2005
Plan/Scheme of Mining		Mining Scheme rule 12 MCDR1988	15/05/2014
		Modif.approved Mining Scheme	19/05/2015
		MP review under 17(1) MCR 2016	14/11/2018

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

## Exploration :

Sl.No.	Item	Proposals	Actual work	Remarks
1a	Backlog of previous year	No Boreholes has been proposed during 2022-2023.	18 Boreholes has drilled	Form-J has been submitted.
1b	Exploration over lease area for geological axis 1 or 2	No Additional exploration was been proposed over the lease area during 2022-2023	18 nos of Additional exploration were carried out in the lease area during 2022-2023.	Entire 125.485 hectares of lease area is under G-1 category.
1c	Exploration Agencies and Expenditure in lakh rupees during the year	No Own drilling and/or Contract drilling machines were proposed for Exploration.	Contract drilling machines	Spend around 19.77 lakhs for exploration during 2022-2023
1d	Balance area to be explored to bring Geological axis in 1 or 2	Entire lease area covers under G-1 Category.	Additional boreholes are drilled to prove the existence of limestone availability at deeper level.	Total 67 boreholes have been drilled so far with 3507 meterage.
1e	Balance reserve as on 01/04/20	As on 01.04.2023 Proved Mineral Reserves (111) = 6760823 tons Probable Mineral Reserves (111) = 3278000 tons Feasibility Mineral Resources (222) = 14635000 tons	As on 01.04.2023 Proved Mineral Reserves (111) = 8285480 tons Probable Mineral Reserves (111) = 3278000 tons Feasibility Mineral Resources (222) = 14635000 tons	The available grade of Limestone in this lease area is High Grade. R & R are updated based on recent exploration.
1f	General remarks of inspecting officers on geology, exploration etc	Area belongs to metamorphosed crystalline sediments of Khondalite group, Archaean age	The area comprises of meta-sedimentary rocks, such as quartzites, calc granulites, garnet bearing meta-pelites and crystalline limestones.	Limestone is white to off-white in color, medium grained, hard and compact rock. L.st thickness varies from 0.45 to 58.25m

## Development :

Sl.No.	Item	Propasals	Actual work	Remarks
2a	Location of development w.r.t.lease area	During 2022-2023, working proposal was in 4 Nos of pits.	Working was not carried out as per proposal. Only 2 pits have been worked.	Violation has been issued under Rule 11(1)
2b	Separate benches in topsoil, overburden and minerals (Rule 15)	Overburden - 2 Benches Minerals - 7 Benches	Overburden - 2 Benches Minerals - 6 Benches	Violation has been issued under Rule 11(1) for not achieving the production & development.
2c	Stripping ratio or ore to OB ratio	1 : 0.91	1 : 0.46	Stripping Ratio deviation is due to less development.
2d	Quantity of topsoil generation in m3	No topsoil Proposal during 2022-2023	No topsoil has generated.	Topsoil utilized for afforestation.
2e	Quantity of overburden generation in m3	OB waste is only Intercalated waste. During 2022-2023 it is proposed to remove 257884 cum.	110536 cum of waste generation in 2022-2023	Violation has been issued under Rule 11(1)
2f	General remarks of inspecting officers on development of pit w.r.t. type of deposit etc	OB waste is only Intercalated waste. During 2022-2023 it is proposed to remove 257884 cum.	110536 cum of waste has generated against 257884 cum of proposal during 2022-2023	Ore to OB ratio has reduced due to less development.

### Exploitation:

Sl.No.	Item	Propasals	Actual work	Remarks
3a	Number of pit proposed for production	Development and production was proposed in 4 Nos of pits.	Development and production are not carried out in 2 pit as per proposal.	Violation has pointed out under Rule 11(1)
3b	Quantity of ROM mineral production proposed	The total target of Production proposed was 1262266 tons during 2022-2023.	Achieved Production is 844722 tons during 2022-2023.	Violation has been issued under Rule 11(1).

3c	Recovery of sailable/usable mineral from ROM production	80% Recovery	80% Recovery	Nil
3d	Quantity of mineral reject generation	252453 tons of Mineral Reject generation is proposed.	71849 tons of Mineral Reject generated.	Violation has been issued under Rule 11(1) for production.
3e	Grade of mineral rejects generation and threshold value declared.	CaO < 34	CaO < 34	Nil
3f	Quantity of sub grade mineral generation.	No Sub Grade Generation	No Sub Grade Generation	Nil
3g	Grade of sub grade mineral generation	There is No Generation of Subgrade Mineral	There is No Generation of Subgrade Mineral	Nil
3h	Manual / Mechanised method adopted for segregating from ROM	Mechanised method	Mechanised method	Nil
3i	Any analysis or beneficiation study proposed and carried out for sub grade mineral and rejects.	No Beneficiation Study is Proposed	Nil	Outside the lease area beneficiation plant is present.
3j	Provision of drilling and blasting in mineral benches	Spacing - 3.5 m Burden - 2.5 m It is Proposed to drill by 115mm dia, crawler mounted down hole drill.	Drilling & Blasting are done as per proposal.	Control Blasting is done by using Shock Tube Detonators along with Noiseless Truck Delays
3k	Provision of mining machineries in mineral benches	Back Hoe Excavators Hitachi Wheel Loader Tippers Compressor Jack Hammer Water Tanker	As per proposal the machineries are there during inspection.	Available machinery are shown in Annual Returns

3l	Whether height of benches in overburden and mineral suitable for method of mining proposed in MP/SOM	In 2022-2023, Bench height of 10m was proposed in Mineral.	As per proposal benches are formed.	Nil
3m	Total area covered under excavation/pits	51.85 hect area is proposed for Pit during 2022-2023	51.85 hect areas are under Pit only.	Nil
3n	Ore to OB ratio for the pit/mine during the year.	1 : 0.91	1 : 0.46	Stripping Ratio deviation is due to less development.
3o	Total area put in use under different heads at the end of year	Land use Pattern as on 01.04.2023. Mines = 51.85 hect Dump = 13.00 hect Road = 0.16 hect	Land use Pattern as on 01.04.2023. Mines = 51.85 hect Dump = 8.00 hect Road = 0.16 hect	Landuse pattern is differ from proposal due to less development.
3p	Production of ROM mineral during the last five year period as applicable	2022-2023 = 1009813 tons 2021-2022 = 1000884 tons 2020-2021 = 1259663 tons 2019-2020 = 1000937 tons 2018-2019 = 1500000 tons	2022-2023 = 772873 tons 2021-2022 = 491453 tons 2020-2021 = 345893 tons 2019-2020 = 394615 tons 2018-2019 = 438943 tons	Achieved ROM Production is 772873 tons during 2022- 2023.
3q	General remarks of inspecting officers on method of mining etc.	Development and production was proposed in 4 Nos of pits.	Achieved Production is 772873 tons during 2022-2023 against proposal of 1009813 tons.	Stripping Ratio deviation is due to less development.

#### Solid Waste Management - Dumping:

Sl.No.	Item	Propasals	Actual work	Remarks
4a	Separate dumping of topsoil, OB and mineral rejects (Rule 32,33)	There is proposal for dumping existing dump during 2022-2023.	As per proposal the dumping are carried out with less quantity.	Violation has been issued under Rule 11(1) for less development.

4b	Location of topsoil, OB and mineral reject dumps	It is proposed to advance the existing dump-15 during 2022-2023. Located in central portion of lease.	As per proposal the dumping is done in dump-15 on central side of lease area.	Nil
4c	Number of dumps within lease area and outside of lease area	Lease area = 1	Lease area = 1	Nil
4d	Location of dumps w.r.t. ultimate pit limit (Rule 16)	Outside the UPL	Outside the UPL	Nil
4e	Number of active and alive dumps.	Active Dump=1 within lease area Alive Dump = Nil (within lease area)	As per proposal 1 active dump are present within lease area.	Nil
4f	Number of dead dumps.	No Proposal	Nil	Nil
4g	Number of dumps established.	No Dumps have been established.	No Dumps have been established.	Nil
4h	Whether Retaining wall or garland drain all along dumps are there.	No Proposal	Nil	Nil
4i	Length of Retaining wall or garland drain all along dumps	No Proposal	Nil	Nil
4j	Number of settling ponds	No Proposal	Nil	Nil
4k	Specific comments of inspecting officer on waste dump management	It is proposed to advance the existing dump-15 during 2022-2023. Located in central portion of lease.	As per proposal the dumping is done in dump-15 on central side of lease area.	As per proposal 1 active dump are present within lease area.

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**Solid Waste Management - Backfilling:**

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Sl.No.	Item	Propasals	Actual work	Remarks
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5a	Status of part or full extraction of mineral from mined out area before starting backfilling.	No proposal for backfilling during 2022-2023	No backfilling has done during 2022-2023	The mine was not worked upto the proved depth and no backfilling were proposed during 2022-2023.
5b	Area under backfilling of mined out area	No Proposal	Nil	Nil
5c	Concurrent use of topsoil for restoration or rehabilitation of mineral out area (Rule 32)	No Proposal	Nil	Nil
5d	Total area fully reclaimed and rehabilitated	No Proposal	Nil	Nil
5e	General remarks of inspecting officers on backfilling and reclamation etc.	There is no proposal for backfilling during 2022-2023	The mine was not worked upto the proved depth and no backfilling were proposed during 2022-2023.	No backfilling has done during 2022-2023

#### 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).	It should be on or before 1st July every year.	Submitted for the year 2022-2023.	Submitted within time limit.
6b	Area available for rehabilitation (ha) .	No Proposal	Nil	Nil
6c	afforestation done (ha).	No Proposal	Nil	Nil
6d	No. of saplings planted during the year	No Proposal	Nil	Nil
6e	Cumulative no .of plants	No Proposal	Nil	Nil
6f	Any other method of rehabilitation	No Proposal	Nil	Nil
6g	Cost incurred on watch and care during the year	No Proposal	Nil	Nil



6h	Compliance on reclamation and rehabilitation by backfilling (i) Voids available for backfilling ( Lx B x D	No Proposal	Nil	Nil
6i	Compliance on reclamation and rehabilitation by backfilling (ii) Voids filled by waste / tailings	No Proposal	Nil	Nil
6j	Compliance on reclamation and rehabilitation by backfilling (iii)Afforestation on on backfilled area	No Proposal	Nil	Nil
6k	Compliance on reclamation and rehabilitation by backfilling (iv) Rehabilitation by making water reservoir	No Proposal	Nil	Nil
6l	Compliance on reclamation and rehabilitation by backfilling (v)any other specific means.	No Proposal	Nil	Nil
6m	Compliance of rehabilitation of waste land within lease (i)afforestation	1800 saplings proposed along 7.5m safety barrier of mining lease area 2022-2023.	Total 1850 saplings has achieved during 2022-2023 along 7.5m safety barrier of mining lease area.	Cumulatively 13900 saplings planted upto 2022-2023.
6n	Compliance of rehabilitation of waste land within lease (ii)Area rehabilitation (ha)	Proposed 1.800 hect along 7.5m safety barrier of mining lease area 2022-2023	1.80 hect achieved along 7.5m safety barrier of mining lease area during 2022-2023	Nil
6o	Compliance of rehabilitation of waste land within lease (iii)Method of rehabilitation	Green Belt development along 7.5m safety barrier and dump area.	Plantation has been done as per proposal along the safety barrier.	Nil

6p	Compliance of environmental monitoring (core zone and buffer zone)	Bi-Annually Survey	Environment monitoring is carried out through Government as well as private agency.	Lessee is conducting Environmental monitoring and all are within permissible limit
6q	General remarks of inspecting officers on PMCP compliance and progressive closure operations etc.	1800 saplings proposed along 7.5m safety barrier of mining lease area 2022-2023	Total 1850 saplings has achieved during 2022-2023 along 7.5m safety barrier of mining lease area.	Plantation has been done as per proposal along the safety barrier

### Mineral Conservation:

Sl.No.	Item	Propasals	Actual work	Remarks
7a	ROM Mineral dispatch or grade-wise sorting within lease area	The total target of Production proposed was 1262266 tons during 2022-2023.	Achieved Production is 844722 tons during 2022-2023.	Violation has been issued under Rule 11(1).
7b	Method of grade-wise mineral sorting i.e. manual or mechanical.	There is no proposal for grade wise mineral sorting in the lease area.	Entire production is useable and sent to outside lease area crusher.	The available grade of Limestone in this lease area is High Grade.
7c	Different grade of mineral sorted out at mines.	The Limestone of the lease area is High grade. CaO varies from 44% to 52%	The Limestone of the lease area is High grade. CaO varies from 44% to 52%	Entire production is sent to outside lease area crusher to get the desired plant feed materials.
7d	Any beneficiation process at mines .	Crushing & Screening process at outside the lease area	Inside the lease area there is no beneficiation process.	Entire production is transported to crusher installed outside lease area.
7e	General remarks of inspecting officer on Mineral conservation and beneficiation issues	Entire production is transported to crusher installed outside lease area.	Achieved Production is 844722 tons during 2022-2023 against proposal of 1262266 tons.	Entire production is sent to outside lease area crusher to get the desired plant feed materials.

### Environment:

Sl.No.	Item	Propasals	Actual work	Remarks
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8a	Separate removal and utilization of topsoil (Rule 32)	No Proposal during 2022-2023	No topsoil has been generated.	Nil
8b	Concurrent use or storage of topsoil	No Proposal during 2022-2023	No topsoil has been generated.	Nil
8c	Separate dumps for overburden, waste rock, rejects and fines (Rule 33)	There is proposal for dumping in existing dumps-15 during 2022-2023.	As per proposal the dumping are carried out with less quantity.	Violation has been issued under Rule 11(1) for less development.
8d	Use of overburden, waste rock, rejects and fines dumps for restoring the land to its original use	No Proposal	Nil	The mine was not worked upto the proved depth and no backfilling were proposed during 2022-2023.
8e	Phased restoration, reclamation and rehabilitation of lands affected by mining operations (Pits, dumps etc)	No Proposal	Nil	Nil
8f	Baseline information on existence of plantation and additional plantation done (Rule 41)	1800 saplings proposed along 7.5m safety barrier of mining lease area 2022-2023	Total 1850 saplings has achieved during 2022-2023 along 7.5m safety barrier of mining lease area.	Plantation has been done as per proposal along the safety barrier
8g	Survival rate	No Proposal in the document.	85%	Same has shown in annual return
8h	Water sprinkling on roads to control airborne dust	Yes, it is proposed for water sprinkling on haul roads.	Daily Water tanker is spraying water on mines roads side to control airborne dust.	During Inspection, water sprinkling on mines roads has been noticed.
8i	General remarks of inspecting officer on aesthetic beauty in and around mines area	Scanty vegetation, bushes, neem are observed in lease area	There is no prominent river or stream running in this area.	Outside lease area, agriculture is done with rainfed.

Sl.No.	Item	Propasals	Actual work	Remarks
9a	Status of submission of Monthly and Annual returns	MR Submitted up to = Sep 2022 AR Submitted up to = 2022-2023	Returns are submitted within time limit.	Both Annual & Monthly returns are submitted in online
9b	Scrutiny of Annual return for information on Mining Engineer, Geologist and Manager	Full time Mining Engineer & Mining Geologist has shown	During inspection Mining Engineer & Geologist were present.	Nil
9c	Scrutiny of Annual return on land use pattern for area under pits, reclaimed area, dumps etc.	Land use Pattern as on 01.04.2023. Mines = 51.85 hect Dump = 8.00 hect Road = 0.16 hect	Landuse Pattern is filled as per approved Mining Plan	Nil
9d	Scrutiny of Annual return on afforestation	Lessee has planted 1850 saplings during 2022-2023.	Plantation has been done as per proposal along 7.5m safety barrier of mining lease area.	Cumulatively 13900 saplings planted upto 2022-2023.
9e	Scrutiny of Annual return on mineral reject generation (Grade and quantity)	71849 tons of Mineral Reject generated.	Nil	Nil
9f	Scrutiny of Annual return on ROM stock and/or graded ore	Limestone stock as on 01.04.2023 ROM opening stock = Nil ROM closing stock = Nil	Mine has produced 772873 tons of production during 2022-2023.	It is captive mine of M/s. Chettinad Cement Corporation Limited.
9g	Scrutiny of Annual return on sale value, Ex. Mine price and production cost	Cost of Production & Ex. Mine price has shown	It is captive mine of M/s. Chettinad Cement Corporation Limited.	Nil
9h	Scrutiny of Annual return on fixed assets	Fixed Assets is given	Fixed Assets is filled	Nil
9k	Scrutiny of Annual return on mining machineries	Machineries details given	As available in field	Nil

**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 11(1)	06/10/2023			
MCDR17	Rule 33	06/10/2023			

**Date :****(G.SORNADURAI KANNAN)**

Indian Bureau of Mines