INDIAN BUREAU OF MINES
MINERALS DEVELOPMEMT AND REGULATION DIVISION

Mining Plan Modification REPORT

Chennai regional office

Mine file No : TN/ALR/LST-13.MDS **Mine code : 38TMN38036**

(i) Name of the Inspecting Officer and ID No. : **M017) Matiul Islam**

(ii) Designation : Assistant Controller Mine

(iii) Accompaning mine Official with Designation : R Ravikumar, DGM(Mines) & K Shankar, QP

(iv) Date of Inspection : 07/03/2024

(v) Prev.inspection date : 17/10/2016

PART-I : GENERAL INFORMATION

1. (a) **Mine Name** : **KARUPPUR-KEELAPALUR**

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

(c) Category : A Mechanised

(d) Type of Working : Opencast

(e) Postal address

State : TAMIL NADU
District : ARIYALUR
Village : KARUPPUR-KEELAPALUR
Taluka : ARIYALUR
Post office : KEELAPALUR
Pin Code : 621707
FAX No. : 04329-250011
E-mail : arymines@chettinadcement.c
Phone : 04329-250011

(f) Police Station : Kilapaluvur

(g) First opening date : 01/01/2015

(h) Weekly day of rest : SUN

2. Address for correspondance : Shri. L.Muthukrishnan,

3. (a) Lease Number : TMN1596
(b) Lease area : 4
(c) Period of lease : 20
(d) Date of Expiry : 21/04/2033

4. Mineral worked : LIMESTONE Main

5. Name and Address of the

Lessee : CHETTINAD CEMENT CORPORATION LIMITED
4TH FLOOR, RANI SEETHAI
HALL BLDG 603, ANNA SALAI
CHENNAI CITY TAMIL NADU
Phone:044-28292727, 42149955
FAX :044 - 28291558

Owner : Mohan Muthukaruppan
M/s. Chettinad Cement Corpn
(P) Ltd 4th Floor, Sigappi
Aachi Building 18/3
RukmaniLakshipathyRoad,Egmo
re CHENNAI CITY 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 : P ALAGUKANNAN,Full Time

Qualification : B E (MINING ENGINEERING)

Appointment/ Termination date : 02/08/2021

Geologist

Name : R RAVIKUMAR,Full Time

Qualification : M SC (GEOLOGY)

Appointment/ Termination date : 02/08/2021

Manager

Name : R.Ravi Kumar

Qualification :

Appointment/ Termination date : 02/08/2021

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

Fresh under rule 22 MCR1960	25/04/2012
MP modif under 17(3) MCR 2016	11/11/2016
MP review under 17(1) MCR 2016	15/12/2017
MP review under 17(1) MCR 2016	10/12/2020

PART - II : OBSERVATION/COMMENTS OF INSPECTING OFFICERS

Exploration :

Sl.No.	Item	Proposals	Actual work	Remarks
1a	Backlog of previous year	Nil	Nil	Nil
1b	Exploration over lease area for geological axis 1 or 2	Nil	Nil	Mine already fully explored upto G1 level.
1c	Exploration Agencies and Expenditure in lakh rupees during the year	-	-	Nil
1d	Balance area to be explored to bring Geological axis in 1 or 2	Nil	Nil	Nil
1e	Balance reserve as on 01/04/20	-	Lst - 360677 Tons Marl - 296251 Tons	As per Annual Return for FY 2022-23 submitted online.
1f	General remarks of inspecting officers on geology, exploration etc	-	-	The geology & exploration of the lease was found satisfactory.

Development :

Sl.No.	Item	Propasals	Actual work	Remarks
2a	Location of development w.r.t.lease area	N-1223270 to N-1223410 E-289840 to E-290100	N-1223270 to N-1223650 E-289840 to E-290302	Violation already pointed by last inspecting officer for development carried out beyond the proposed grid intervals.
2b	Separate benches in topsoil, overburden and minerals (Rule 15)	1stBench in Topsoil, 2nd bench in OB,3rdBench in Limestone and Marl.	1stBench in Topsoil, 2nd bench in OB,3rdBench in Limestone and Marl.	Nil
2c	Stripping ratio or ore to OB ratio	1:0.65	1:0.56	Nil
2d	Quantity of topsoil generation in m3	54175	54030.15	Top soil considered as a overburden for calculation of Ore to OB ratio.

2e	Quantity of overburden generation in m3	54175	54030.15	Top soil considered as a overburden for calculation of Ore to OB ratio.
2f	General remarks of inspecting officers on development of pit w.r.t. type of deposit etc	-	-	Violation already pointed by last inspecting officer for development carried out beyond the proposed grid intervals.

Exploitation:

Sl.No.	Item	Propasals	Actual work	Remarks
3a	Number of pit proposed for production	2	2 (merged into 1)	Violation already pointed by last inspecting officer for merger of two working pits into a single pit with lateral excavation extending beyond approved grid intervals.
3b	Quantity of ROM mineral production proposed	1,99,375 tons Lst - 1,67,200 tons Marl - 32,175 tons	1,43,252 tons Lst - 1,17,361.26 tons Marl - 25,890.66 tons	Nil
3c	Recovery of sailable/usable mineral from ROM production	100%	100%	-
3d	Quantity of mineral reject generation	Nil	Nil	Nil
3e	Grade of mineral rejects generation and threshold value declared.	NA	NA	Nil
3f	Quantity of sub grade mineral generation.	Nil	Nil	Nil
3g	Grade of sub grade mineral generation	NA	NA	Nil
3h	Manual / Mechanised method adopted for segregating from ROM	NA	NA	Entire ROM is consumed by blending with limestone from other mines.

3i	Any analysis or beneficiation study proposed and carried out for sub grade mineral and rejects.	NA	NA	Nil
3j	Provision of drilling and blasting in mineral benches	Nil	Nil	Non-conventional mining practiced without drilling & blasting.
3k	Provision of mining machineries in mineral benches	Back hoe - 1.5 Cu.m-3Nos Rock Breaker - 1 Nos Tipper -20 T- 8 Nos	Back hoe - 0.9 Cu.m-1 Nos Rock Breaker -1 Nos Tipper -25 T- 3 Nos	Machinery proposal was in view of peak production requirement during the year 2021-22. Production for the concerned year, being lower, was achieved with lesser machinery deployment.
3l	Whether height of benches in overburden and mineral suitable for method of mining proposed in MP/SOM	In 1st bench) Top Soil - 3.0 m Waste -3.0 m 3rd bench Lst -5.5 m Marl - 5.5 m	In 1st bench) Top Soil - 3.0 m Waste -3.0 m 3rd bench Lst -5.5 m Marl - 5.5 m	Suitable
3m	Total area covered under excavation/pits	18.43 Ha (Till 2025-2026)	9.56 Ha	Nil
3n	Ore to OB ratio for the pit/mine during the year.	1:0.65	1:0.56	Nil
3o	Total area put in use under different heads at the end of year	24.765 Ha	20.93 Ha	Nil
3p	Production of ROM mineral during the last five year period as applicable	2018-19 - Nil 2019-20-758517 Ts 2020-21-707890 Ts 2021-22-759500 Ts 2022-23-199375 Ts	2018-19- Nil 2019-20-596157.06 Ts 2020-21-680742.07 Ts 2021-22-581138 Ts 2022-23-143252 Ts	Nil

3q	General remarks of inspecting officers on method of mining etc.	-	-	Violation already pointed by last inspecting officer for merger of two working pits into a single pit with lateral excavation extending beyond approved grid intervals.

Solid Waste Management - Dumping:

Sl.No.	Item	Propasals	Actual work	Remarks
4a	Separate dumping of topsoil, OB and mineral rejects (Rule 32,33)	No External Top Soil & Over Burden dumps were proposed	Top Soil utilized for Afforestation and remaining utilized for bund formation	Top soil temporarily stacked in 2 locations for utilisation in afforestation activities.
4b	Location of topsoil, OB and mineral reject dumps	No External Top Soil & Over Burden dumps were proposed	Top Soil utilized for Afforestation and remaining utilized for bund formation	Top soil temporarily stacked in 2 locations for utilisation in afforestation activities.
4c	Number of dumps within lease area and outside of lease area	Nil	Nil	Nil
4d	Location of dumps w.r.t. ultimate pit limit (Rule 16)	NA	NA	Nil
4e	Number of active and alive dumps.	NA	NA	Nil
4f	Number of dead dumps.	NA	NA	Nil
4g	Number of dumps established.	NA	NA	Nil
4h	Whether Retaining wall or garland drain all along dumps are there.	NA	NA	Nil
4i	Length of Retaining wall or garland drain all along dumps	NA	NA	Nil
4j	Number of settling ponds	NA	NA	Nil

4k	Specific comments of inspecting officer on waste dump management	-	-	No waste dump was proposed or present in the lease. Top soil temporarily stacked in 2 locations for utilisation in afforestation activities.

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.	Mineral to be fully extracted before commencing backfilling	Mineral to be fully extracted before commencing backfilling	Nil
5b	Area under backfilling of mined out area	1.26 Ha	1.376 Ha	To fulfill of Back lack of 2021-22
5c	Concurrent use of topsoil for restoration or rehabilitation of mineral out area (Rule 32)	Top soil used for restoration and rehabilitation of area at pit-1	Top soil used for restoration and rehabilitation of area at pit-1	Top soil temporarily stacked in 2 locations for utilisation in afforestation activities.
5d	Total area fully reclaimed and rehabilitated	0.45 Ha	1.10 Ha	(Cumulative area Till 2022-23 6.63 Ha)
5e	General remarks of inspecting officers on backfilling and reclamation etc.	-	-	Backfilling and reclamation was found satisfactory.

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).	-	Submitted	Along with AR

6b	Area available for rehabilitation (ha) .	Nil	Nil	Nil
6c	afforestation done (ha).	3.05 Ha	3.15 Ha	As proposed
6d	No. of saplings planted during the year	5250	5300	-do-
6e	Cumulative no .of plants	15,550	15,720	-do-
6f	Any other method of rehabilitation	Nil	Nil	Nil
6g	Cost incurred on watch and care during the year	75,000	1,42,500	Nil
6h	Compliance on reclamation and rehabilitation by backfilling (i) Voids available for backfilling (Lx B x D	1.26 Ha	1.376 Ha	Additional area backfilled to clear backlog of previous year
6i	Compliance on reclamation and rehabilitation by backfilling (ii) Voids filled by waste / tailings	1.26 Ha	1.376 Ha	-do-
6j	Compliance on reclamation and rehabilitation by backfilling (iii)Afforestation on backfilled area	0.45 Ha	1.10 Ha	Additional area afforested to clear backlog of previous year
6k	Compliance on reclamation and rehabilitation by backfilling (iv) Rehabilitation by making water reservoir	Nil	Nil	Nil
6l	Compliance on reclamation and rehabilitation by backfilling (v)any other specific means.	Nil	Nil	Nil

6m	Compliance of rehabilitation of waste land within lease (i)afforestation	Nil	Nil	Nil
6n	Compliance of rehabilitation of waste land within lease (ii)Area rehabilitation (ha)	Nil	Nil	Nil
6o	Compliance of rehabilitation of waste land within lease (iii)Method of rehabilitation	NA	NA	Nil
6p	Compliance of environmental monitoring (core zone and buffer zone)	Periodic monitoring proposed	Periodic monitroing carried out	All parameters within norms
6q	General remarks of inspecting officers on PMCP compliance and progressive closure operations etc.	-	-	PMCP Compliance & progressive closure operations were found satisfactory.

Mineral Conservation:

Sl.No.	Item	Propasals	Actual work	Remarks
7a	ROM Mineral dispatch or grade-wise sorting within lease area	No sorting proposed	No sorting carried out	Entire ROM dispatched to plant for blending with limestone from other leases
7b	Method of grade-wise mineral sorting i.e. manual or mechanical.	NA	NA	Nil
7c	Different grade of mineral sorted out at mines.	NA	NA	Nil
7d	Any beneficiation process at mines .	Nil	Nil	Nil

7e	General remarks of inspecting officer on Mineral conservation and beneficiation issues	-	-	No issues observed with mineral conservation. No beneficiation proposed or carried out. Entire ROM is consumed by the lessee.

Environment:

Sl.No.	Item	Propasals	Actual work	Remarks
8a	Separate removal and utilization of topsoil (Rule 32)	Separate removal & utilisation of topsoil proposed	Top Soil utilized for Afforestation and remaining utilized for bund formation as well as stacked temporarily for future use.	As proposed
8b	Concurrent use or storage of topsoil	Concurrent use & storage proposed	Top Soil utilized for afforestation and remaining utilized for bund formation as well as stacked temporarily for future use.	-do-
8c	Separate dumps for overburden, waste rock, rejects and fines (Rule 33)	No dumping proposed	No dumping carried out	-do-
8d	Use of overburden, waste rock, rejects and fines dumps for restoring the land to its original use	Backfilling proposed	Backfilling carried out	-do-
8e	Phased restoration, reclamation and rehabilitation of lands affected by mining operations (Pits, dumps etc)	Afforestation on backfilled area proposed	Afforestation on backfilling area carried out	-do-

8f	Baseline information on existence of plantation and additional plantation done (Rule 41)	Saplings planted Following native species are selected for plantation. a. Neem b. Pongan c. Vembu d. Pouvarasa e. Illupai f. Teak g. Tamrind Greenbelt development is being carried out progressively. Herbs and shrubs will also be developed.	Totally 15720 Nos of Plantation done	-do-
8g	Survival rate	80%	90%	-do-
8h	Water sprinkling on roads to control airborne dust	Water sprinkling proposed	Water sprinkling carried out	-do-
8i	General remarks of inspecting officer on aesthetic beauty in and around mines area	-	-	The aesthetic beauty in and around mines area is found satisfactory.

Compliance of Rule 45:

Sl.No.	Item	Propasals	Actual work	Remarks
9a	Status of submission of Monthly and Annual returns	Given	Submitted in time	Nil
9b	Scrutiny of Annual return for information on Mining Engineer, Geologist and Manager	Manager : R.Ravikumar Mining Engineer in charge: G.Raghavendra Geologist in charge : R.Ravikumar	Given in Part I, Sl 7-9	Nil

9c	Scrutiny of Annual return on land use pattern for area under pits, reclaimed area, dumps etc.	(i) Already exploited and abandoned by opencast (O-C) mining 0.000 0.000 0.000 (ii) Covered under current (O-C) Workings 0.000 9.880 9.880 (iii) Reclaimed-rehabilitated 0.000 6.630 6.630 (iv) Used for waste disposal 0.000 0.000 0.000 (v) Occupied by plant, buildings, residential, welfare buildings and roads 0.000 1.000 1.000 (vi) Used for any other purpose (specify) Safety Zone 0.000 5.210 5.210 (vii) Work done under progressive mine closure plan during the year 0.000 0.270 0.270	Given in Part I, Sl 12	Nil
9d	Scrutiny of Annual return on afforestation	i) Number of trees planted during the year 5300 0 ii) Survival rate in percentage 90 0 iii) Total no. of trees at the end of the year 15720 0	Given in Part V, Sl 5	Nil

9e	Scrutiny of Annual return on mineral reject generation (Grade and quantity)	Nil	Given in Part V, Sl 3	Nil
9f	Scrutiny of Annual return on ROM stock and/or graded ore	Category Opening stock Production Closing stock (a) Open Cast workings 0.000 117361.260 0.000	Given in Part VI, Sl 2	Nil
9g	Scrutiny of Annual return on sale value, Ex. Mine price and production cost	Rs 276.30 per tonne	Given in Part VI, Sl 3	Nil
9h	Scrutiny of Annual return on fixed assets	Value of Fixed Assets - Rs 87,16,33,642/-	Given in Part II A	Nil
9k	Scrutiny of Annual return on mining machineries	Type of machinery Capacity of each type of machinery Unit (in which capacity is reported) No. of machinery Electrical Non-electrical (specify) Used in opencast underground (specify) BACK HOE 0.900 CUM 1 Non Electrical Opencast OTHER HEM MACHINERY 125.000 1 Non Electrical Opencast TIPPER 14.000 CUM 3 Non Electrical Opencast	Given in Part V, Sl 6	Nil

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 :

(**Matiul Islam**)

Indian Bureau of Mines