

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

**MCDR INSPECTION REPORT**

**Chennai Regional Office**

<b>Mine file No. TN/ALR/LST-12.MDS</b>		<b>Mine code - 38TMN38039</b>
	Name of the inspecting officer Designation	<b>Mr. Matiul Islam, Assistant Controller of Mines</b>
	Date of inspection:	<b>10/08/2024</b>
	Accompanied mine official and designation	<b>Mr. R. Ravikumar, DGM (Mines), Mr. G. Raghavendra, Mines Manager, Mr. P. Alagukannan, Mining Engineer, Mr. N. Balkannan, Geologist.</b>
<b>PART-I: General Information</b>		
1	Name of the Mine	<b>Arungal Limestone Mine</b>
2	Total Lease Area (Ha) with breakup of Non-forest and forest land	67.73 Ha(No Forest Land)
3	Mine code	170/38TMN38039
4	IBM Registration Number under rule 45 of MCDR, 1988	IBM/170/2011
5	Name of the lessee, Address, phone, email and fax number	Arungal Limestone Mines Chettinad Cement Corpn (P) Ltd, Trichy-Ariyalur Road, Kilapaluvur - 621707 PhNo. 04329-250011 Email- arymines@chettinadcement.com Fax: 04329-250011
6	Village	Arungal
7	Taluk/Mandal	Ariyalur
8	District	Ariyalur
9	Pin code	621707
10	State	Tamilnadu
11	Post office	Kilapaluvur
12	Nearest police station	Kilapaluvur
13	Nearest Railway station	Ariyalur
14	Date of Grant of Mining Lease	19.03.2012
15	Date of Execution	18.09.2012
16	Date of opening of Mine	02.08.2019
17	Date of first Renewal, if applicable and its period & expiry	NA
18	Date of second Renewal, if applicable and its period & expiry	NA
19	Date of submission of renewal application if Mining Operations are continuing under deemed extension	NA
20	Name of the Nominated Owner with Address, phone, email, fax number and date of appointment	Shri. Mohan Muthukaruppan M/s. Chettinad Cement Corporation Private Ltd, 4th Floor, Sigappi Aachi Building, 18/3, Rukmani Lakshmipathy Road, Egmore, Chennai -08 Date of appointment :01.04.2022
21	Name of the Mine Agent with Address, phone, email, fax number and date of appointment	Shri. R.P.Muthiah M/s Chettinad Cement Corporation (P) Ltd, Trichy-Ariyalur Road, Keelapalur, Ariyalur - 621707 Date of appointment :01.12.2022
22	Name of the Mines Manager with Address, phone, email, fax number and date of appointment in mines	Shri.G.Raghavendra Mines Manager, with 1st class DGMS certificate. Trichy-Ariyalur Road Kilapaluvur - 621707, 20825@chettinadcement.com Ph No. 9043787795

		Date of Appointment :27.11.2023
23	Name of the Mining Engineer, Qualification and total experience with Address, phone, email, fax number and date of appointment in mine	Shri.P.Alagukannan B.E (Mining) Mining Engineer, Chettinad Cement Corpn (P) Ltd, Trichy-Ariyalur Road Kilapaluvur – 621707, Ph.No 9790874940 Date of Appointment : 10.05.2023
24	Whether Geologist and Mining Engineer appointed in mines satisfy the rule 42 & carrying out their duties as per rule 43 & 44.	Shri. N.Balakannan M.sc(Applied Geology) Geologist Chettinad Cement Corpn (P) Ltd, Trichy-Ariyalur Road Kilapaluvur – 621707, Ph.No 9025283414 Date of Appointment : 09.09.2022
25	Date of Approval of Mining Plan/Modified Mining Plan with five-year period and specific condition in approval letter, if any.	Mining Plan: TN/ALR/MP/LST & MARL-1742/SZ Dated : 18.08.2009.
26	Date of Approval of Scheme of Mining/Modified Scheme of Mining with five-year period and specific condition in approval letter, if any.	Review of Mining Plan: ROMP-1664.MDS Dt:01.11.2021 Five-year period 2022-23 To 2026-27
27	Mineral(s) granted in lease and proved for mining	Limestone & Marl
28	Method of Mining(Opencast, Underground)	Open cast
29	Category (Fully Mechanized, Others or Manual)	Fully Mechanized
30	Captive/ Non captive	Captive

**II - OBSERVATION AND COMMENT OF INSPECTING OFFICER**

**Exploration**

S.N.	Item	Proposals	Actual work	Remarks
1a	Backlog of previous year	Nil	Nil	Nil
1b	Exploration over lease area for Geological axis 1 or 2.	G 1 Level	G 1 Level	28 Bore holes were drilled for a metreage of 494.35 m during 2008-09 and 2018-19.
1c	Exploration Agency & Expenditure in lakh Rupees during the year	Nil	Nil	Nil
1d	Balance area to be explored to bring Geological axis in 1 or 2	Fully Explored	Fully Explored	Nil
1e	Balance reserves as on 01.04.2024	Lst- 28,57,320 Marl -18,46,206 Total - 47,03,526 T	Lst- 29,90,947.26 Marl -18,98,813.27 Total - 48,89,760.53 T	Nil
1f	General remarks of inspecting officer on geology, exploration etc.	-	-	Geology & Exploration of the lease were found satisfactory.

**Development**

S.N.	Item	Proposals	Actual work	Remarks
2a	Location of development w.r.t. lease area	N-1218320 to N-1219280 E-290980 to E-291620	N-1218300 to N-1219220 E-290970 to E-291360	As proposed
2b	Separate benches in topsoil, overburden and mineral (Rule 15)	Top Bench in Topsoil, 2 <sup>nd</sup> bench in Limestone and Marl	Top Bench in Topsoil, 2 <sup>nd</sup> bench in Limestone and Marl	As proposed
2c	Stripping ratio or ore to OB ratio in m3	1:0.44	1:0.48	Within acceptable range
2d	Quantity of topsoil generation in m3	133570 m3	133540 m3	As proposed
2e	Quantity of overburden generation in m3	224940 m3	224775 m3	As proposed
2f	General remarks of inspecting officer on development of pit w.r.t. type of deposit etc.	-	-	The development of the pit was found satisfactory.

**Exploitation**

S.N.	Item	Proposals	Actual work	Remarks
3a	Number of pits proposed for production	1	1	As proposed
3b	Quantity of ROM mineral production proposed	2023-24-516560 Ts Limestone-340700 Ts Marl-175860 T	2023-24-469346.58 Ts Limestone-340528.12 T Marl- 128818.46 T	Within limits
3c	Recovery of salable/usable mineral from ROM production	100%	100%	As proposed
3d	Quantity of mineral reject generation	Nil	Nil	No Mineral reject generation
3e	Grade of mineral reject generation and threshold value declared	NA	NA	No Mineral reject generation
3f	Quantity of sub-grade mineral generation	NA	NA	No Sub grade Mineral generation

3g	Grade of sub-grade mineral generation	NA	NA	No Sub grade Mineral generation
3h	Manual / Mechanized method adopted for segregating from ROM	Mechanized	Mechanized	Nil
3i	Any analysis or beneficiation study proposed & carried out for sub-grade mineral and reject	NA	NA	Nil
3j	Provision of drilling & blasting in mineral benches	No Drilling and Blasting proposed	No Drilling and Blasting carried out	Non-Conventional method of Mining using Rock Breaker
3k	Provision of mining machineries in mineral benches	Rock Breaker, Tippers & Dozer proposed	Rock Breaker, Tippers & Dozer proposed Provided	As proposed
3l	Whether height of benches in overburden and mineral suitable for method of mining proposed in MP/SOM	6 m high & wide benches proposed	6 m high & wide benches maintained	As proposed
3m	Total area covered under excavation/pits	27.59 Ha	24.39 Ha	Within limits
3n	Ore to OB ratio for the pit/mine during the year	1:0.44	1:0.48	Within acceptable range
3o	Total area put in use under different heads at the end of year	34.09 Ha	33.58 Ha	Within limits
3p	Production of ROM mineral during last five-year period, as applicable	2019-20: 400100 Ts 2020-21: 450110 Ts 2021-22-500500 Ts 2022-23-513800 Ts 2023-24-516560 Ts	2019-20-Nil 2020-21:209117 Ts 2021-22-301043 Ts 2022-23-261276 Ts 2023-24-469346 Ts	Within limits
3q	General remarks of inspecting officer on method of mining etc.	-	-	The method of mining was found satisfactory.

#### Solid Waste Management-Dumping

S.N.	Item	Proposals	Actual work	Remarks
4a	Separate dumping of topsoil, OB & mineral reject (Rule 32, 33)	Top Soil & OB proposed to be dumped separately	Top Soil & OB dumped separately	As proposed
4b	Location of topsoil, OB & mineral reject dumps	<b>Top soil dump - 1</b> N-1219005 to N-1219300 E-291190 to E- 291780 <b>Top soil dump - 2</b> N-1218175 to N-1218300 E-291070 to E- 291140	<b>Top soil dump - 1</b> N-1219005 to N-1219300 E-291190 to E-291780 <b>Top soil dump - 2</b> N-1218175 to N-1218300 E-291070 to E-291140	As proposed
4c	Number of dumps within lease area and outside lease area	Within ML: 2 Outside ML: Nil	Within ML -2 Outside ML: Nil	As proposed
4d	Location of dumps w.r.t. ultimate pit limit (Rule 16)	Inside Ultimate pit only	Inside Ultimate pit only	Dumps will be re-handled in future for mining underneath
4e	Number of active & alive dumps	2	2	Topsoil Dumps
4f	Number of dead dumps	Nil	Nil	Nil
4g	Number of dumps stabilized	Nil	Nil	Nil
4h	Whether Retaining wall or garland drain all along dumps are there	No Proposal for year.	Nil	700 m Garland drain constructed previously Northern side

4i	Length of Retaining wall or garland drain all along dump	No Proposal for year.	Nil	700 m Garland drain constructed previously
4j	Number of settling ponds	Nil	Nil	2 Settling pond constructed previously
4k	Specific comments of inspecting officer on waste dump management.	-	-	Waste dump management was found satisfactory.

#### Solid Waste Management-Backfilling

S.N.	Item	Proposals	Actual work	Remarks
5a	Status on part or full extraction of mineral from mined out area before starting backfilling	Backfilling proposed after full exhaustion of Mineral.	Backfilling done after full exhaustion of Mineral.	As proposed
5b	Area under backfilling of mined out area	0.2 Ha	0.21 ha	As proposed
5c	Concurrent use of topsoil for restoration or rehabilitation of mined out area (Rule 32)	Proposed	Top Soil utilized for Afforestation purpose	As proposed
5d	Total area fully reclaimed & rehabilitated	1.0	1.05	As proposed
5e	General remarks of inspecting officer on backfilling, reclamation etc	-	-	Backfilling & Reclamation were found satisfactory

#### Progressive Mine Closure Plan

S.N.	Item	Proposals	Actual work	Remarks
6a	Whether Annual report on PMCP submitted on time and correctly - Rule 23E (2). Details should be given in the format as given in Annexure-20.	Nil	Submitted	Along with AR
6b	Area available for rehabilitation (ha)	1.0	1.05	As proposed
6c	Afforestation done (ha)	1.0	1.05	As proposed
6d	No. of saplings planted during the year	2000	2100	As proposed
6e	Cumulative no. of plants	7000	8725	As proposed
6f	Any other specific method of rehabilitation	Nil	Nil	Nil
6g	Cost incurred on watch & care during the year	50000	275100	Nil
6h	Compliance on reclamation and rehabilitation by backfilling (i) Voids available for backfilling (L x B x D)	0.2 Ha	0.21 Ha	As proposed
6i	Compliance on reclamation and rehabilitation by backfilling (ii) Void filled by waste/tailings	Nil	Nil	Nil
6j	Compliance on reclamation and rehabilitation by backfilling (iii) Afforestation on the backfilled area	1 Ha	1.05 Ha	As proposed
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 rehabilitated (ha)	Nil	Nil	Nil
6o	Compliance of Rehabilitation of waste land within lease (iii) Method of rehabilitation	Nil	Nil	Nil
6p	Compliance of Environmental monitoring (core zone & buffer zone)	Nil	Periodically Monitored	All parameters within norms
6q	General remarks of inspecting officer on PMCP compliance & progressive closure operations	-	-	PMCP Compliance & Closure operations were found satisfactory.

#### Mineral Conservation

S.N.	Item	Proposals	Actual work	Remarks
7a	ROM Mineral dispatch or grade-wise sorting within lease area	No sorting proposed	No sorting carried out	Nil
7b	Method of grade-wise mineral sorting i.e. manual or mechanical	Not applicable	Not applicable	Nil
7c	Different grade of mineral sorted out at mines	Nil	Nil	Nil
7d	Any beneficiation process at mines	Nil	Nil	Nil
7e	General remarks of inspecting officer on Mineral conservation & beneficiation issues	-	-	No issues were observed with mineral conservation. No beneficiation was proposed or carried out.

#### Environment

S.N.	Item	Proposals	Actual work	Remarks
8a	Separate removal and utilization of topsoil (Rule 32)	Separate removal & utilization of top soil proposed	Separate removal & utilization of top soil carried out	As proposed
8b	Concurrent use or storage of topsoil	Concurrent use proposed	Concurrently used	As proposed
8c	Separate dumps for overburden, waste rock, rejects and fines (Rule 33)	OB proposed to be backfilled	OB backfilled into mined out benches	As proposed
8d	Use of overburden, waste rock, rejects and fines dumps for restoring the land to its original use	Yes, backfilling proposed	Backfilling carried out	As proposed
8e	Phased restoration, reclamation and rehabilitation of lands affected by mining operations (Pits, dumps etc)	Yes	Yes	As proposed
8f	Baseline information on existence of plantation & additional plantation done (Rule 41)	7000	8725	As proposed
8g	Survival rate	80%	80%	As proposed
8h	Water sprinkling on roads to control airborne dust	Water sprinkling on haul roads proposed.	Water sprinkling on haul roads carried out.	As proposed
8i	General remarks of inspecting officer on aesthetic beauty in and around mines area	-	-	Aesthetic beauty in and around mines area was found satisfactory.

**Compliance of Rule 45**

<b>S.N.</b>	<b>Item</b>	<b>Details GIVEN in A.R.</b>	<b>Observations</b>	<b>Remarks</b>
9a	Status of submission of Monthly and Annual returns	Nil	MR & AR Submitted	Nil
9b	Scrutiny of Annual return for information on Mining Engineer, Geologist and Manager	Shri.G.Raghavendra - Manager Shri.P.Alagukannan - Mining Engineer Shri. N.Balakannan - Geologist	Given in Annual return part (I) section (3) Serial No -7, 8,9	Nil
9c	Scrutiny of Annual return on land use pattern for area under pits, reclaimed area, dumps etc.	Pit-19.09 Ha Reclaimed-rehabilitated-5.30 Ha Waste Disposal-0.0 Ha Roads-0.15 Ha Afforestation Safety Zone- 9.04 Ha	Given in Annual return part (I) (12)	Nil
9d	Scrutiny of Annual return on afforestation	Afforestation -2100 trees	PART-V (General Geology & Mining Section 5	Nil
9e	Scrutiny of Annual return on mineral reject generation (Grade & quantity)	Mineral Reject- Nil	PART-V (General Geology & Mining Section 3	Nil
9f	Scrutiny of Annual return on ROM stock and/or graded ore	Opening & Closing Stocks - Nil	PART-VI (PRODUCTION, DESPATCHES AND STOCKS) (LIMESTONE) Section 2	Nil
9g	Scrutiny of Annual return on sale value, Ex. Mine price & production cost	Ex-mine Price -205.13	PART-VI (Production, despatches and stocks) (limestone) section 3	Nil
9i	Scrutiny of Annual return on fixed assets	GFA- Rs 916410542/-	PART-II A (Capital Structure) Section 1	Nil
9k	Scrutiny of Annual return on mining machineries	Back Hoe 1.1 CUM 2 Other HEM Machinery 125kW 1 Tipper 16 MT 5	PART-V (General Geology & Mining) Section 6	Nil

<b>Details of violations observed during current inspection and compliance position of violations pointed out</b>					
Violation observed			Show cause position		
Rule No.	Issued on	Compliance on	Rule No.	Issued on	Compliance on

**Date:**

**(Matiul Islam)**  
Indian Bureau of Mines