

<b>INDIAN BUREAU OF MINES</b> <b>MINERAL DEVELOPMENT AND REGULATION DIVISION</b> <b>MCDR INSPECTION REPORT</b> <b>Chennai Regional Office</b>		
<b>Mine file No. TN/ALR/LST-13.MDS</b>		<b>Mine code - 38TMN38036</b>
(i)	Name of the inspecting officer & Designation	<b>KUMERESH A</b> Senior Assistant Controller of Mines
(ii)	Accompanied mine official and designation	Shri. G.Ragavendra (Manager – Mines),  Shri. S.Srinivasan (Geologist )
(iii)	Date of inspection	<b>20.09.2024</b>
<b>PART-I: General Information</b>		
1.	Mine Name	Karuppur Keelapalur Limestone Mine
(b)	Registration Number	IBM/170/2011
(c)	Category	A
(d)	Type of Working	Opencast
(e)	Postal Address State District Village Taluka Post Office Pin Code FAX No. E-mail Phone	Shri. Mohan Muthukaruppan, Chettinad Cement Corpn (P) Ltd, 4th Floor, SigappiAachi Building,18/3 Rukmani Lakshipathy Road,Egmore,Chennai-08. Email-arymines@chettinadcement.com. Fax: 04329-250011. 01.04.2022
(f)	Police Station	Keelapalur
(g)	First opening date	01.01.2015
(h)	Weekly day of rest	Sunday
2.	Address for correspondence	Karuppur Keelapalur Limestone Mines Chettinad Cement Corpn (P) Ltd, Trichy-Ariyalur Road, Kilapaluvur – 621707, Ariyalur Dt. Ph.No. 04329-250011 Email-arymines@chettinadcement.com Fax: 04329-250011
3.	Lease Number	TMN1596
	Lease Area	26.145 Ha (No Forest Land)
	Period of lease	20 years

	Date of expiry	21.04.2033
4.	Mineral worked	Limestone
5.	<p>Name and address of the Lessee:</p> <p>Owner:</p> <p>Agent:</p> <p>Manager:</p> <p>Engineer:</p> <p>Geologist:</p>	<p>M/s ChettinadCement Corporation Limited</p> <p>Shri. Mohan Muthukaruppan, Chettinad Cement Corpn (P) Ltd, 4th Floor, SigappiAachi Building,18/3 Rukmani Lakshipathy Road,Egmore,Chennai-08. Email-arymines@chettinadcement.com. Fax: 04329-250011. 01.04.2022</p> <p>Shri.R.P.Muthiah Chettinad Cement Corpn (P) Ltd, Trichy-Ariyalur Road Keelapalur – 621707. Ph.No. 04329-250011 Email-arymines@chettinadcement.com. Fax: 04329-250011. 01.12.2022.</p> <p>Shri. R Ravikumar Chettinad Cement Corpn (P) Ltd, Trichy-Ariyalur Road Keelapalur – 621707, ravikumar.r@chettinadcement.com Ph No. 97888 58243. 02.08.2021</p> <p>Shri.K.Karthikeyan BE(Mining), Mining Engineer, Chettinad Cement Corpn (P) Ltd, Trichy-Ariyalur Road Keelapalur– 621707, 20825@chettinadcement.com Ph.No:9043787795.</p> <p>Shri. R Ravikumar.M.Sc (Geology) Geologist Chettinad Cement Corpn (P) Ltd, Trichy-Ariyalur Road Keelapalur – 621707,</p>

		Ph: 97888 58243.
6	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-1846-SZ/944 Dated: 08.07.2013.
	Date of Approval of Scheme of Mining/Modified Scheme of Mining with five – year period and specific condition in approval letter, if any.	Modified Mining Plan: TN/ALR/LST/MMP-2058.MDS Dated: 27.08.2019. Review of Mining Plan: TN/DGL/LST/ROMP-1617.MDS Dated:14/12/2020 Modified Mining Plan: No. TN/ALR/LST/MMP-2111. MDS Dated :28/03/2024

**PART-II : OBSERVATION / COMMENTS OF INSPECTING OFFICER**  
**EXPLORATION**

S. 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 fully Explored in G1 Level.
1c	Exploration Agency & 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 reserves as on 01.04.2024 (111 Category)	Lst - 2,16,710.16 Tons Marl- 2,81,041.58 Tons		
1f	General comments of inspecting officer on geology, exploration etc.	-	-	Total Exploration carried out so far-184 m drilled with 10 Boreholes

**DEVELOPMENT**

S. No.	Item	Proposals	Actual Work	Remarks
2a	Location of development w.r.t. lease area	N-1223270 to N-1223500 / E-289815 to E-290200	N-1223270 to N-1223410 E-289840 to E-290100	Nil
2b	Separate benches in topsoil, overburden and minerals (Rule 13 of MCDR-2017)	1 <sup>st</sup> Bench in Topsoil, 2 <sup>nd</sup> bench in Marl, 3 <sup>rd</sup> Bench in Limestone .	1 <sup>st</sup> Bench in Topsoil, 2 <sup>nd</sup> bench in Marl, 3 <sup>rd</sup> Bench in Limestone .	Nil
2c	Stripping ratio or ore to OB ratio	1:0.65	1:0.68	Nil
2d	Quantity of topsoil generation in m3	28440	27866	Nil
2e	Quantity of overburden generation in m3	56880	56175	Nil
2f	General remarks of inspecting officers on development of pit w.r.t. type of deposit etc.	--	--	--

**EXPLOITATION**

S. No.	Item	Proposals	Actual Work	Remarks
3a	Number of Pit proposed for production	2	2	
3b	Quantity of ROM mineral production proposed	205320.000 Ts LSt - 162300 Ts Marl - 43020 Ts	184098.820 Ts LSt - 148333Ts Marl - 35766 Ts	
3c	Recovery of salable/usable mineral from ROM production	100%	100%	
3d	Quantity of mineral reject generation	Nil	Nil	No Mineral reject generation
3e	Grade of mineral rejects 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	NA	NA	-
3i	Any analysis or beneficiation study proposed and carried out for sub grade mineral and rejects.	NA	NA	-
3j	Provision of drilling and blasting in mineral benches	NA	NA	Non-Conventional Mining by Rock breaker
3k	Provision of mining machineries in mineral benches	Hydraulic excavator - 1.5 Cu.m-3Nos Rock Breaker - 1 Nos Tipper - 20 T- 8 Nos	Hydraulic excavator - 0.9 Cu.m-1 Nos Rock Breaker - 1 Nos Tipper - 25 T- 3 Nos	Page No 45 of Romp
3l	Whether height of benches in overburden and mineral suitable for method of mining proposed in RoMP	In 4th Pit  In 1st bench) Top Soil - 3.0 m Waste - 3.0 m  3rd bench Lst - 5.5 m Marl - 5.5 m	Actual Provided	-
3m	Total area covered under excavation/pits	18.43 Ha (Till 2025-2026)	17.349 Ha	-
3n	Ore to OB ratio for the pit/mine during the year.	1:0.65	1:0.68	-
3o	Total area put in use under different heads at the end of year	24.765 Ha	24.389 Ha	-

3p	Production of ROM mineral during the last five-year period as applicable	2019-20-758517 Ts 2020-21-707890 Ts 2021-22-759500 Ts 2022-23-199375 Ts 2023-24- 205320 Ts	2019-20-596157.06 Ts 2020-21-680742.07 Ts 2021-22-581138 Ts 2022-23-143252 Ts 2023-24- 184098 Ts	
3q	General remarks of inspecting officers on method of mining etc.	-	-	The method of mining was found satisfactory.

**SOLID WASTE MANAGEMENT-DUMPING**

S. No.	Item	Proposals	Actual Work	Remarks
4a	Separate dumping of topsoil, OB and mineral rejects (Rule 36,37)	1.No External Top Soil & Over Burden dumps were proposed	1.No External Top Soil & Over Burden dumps were present. 2. Top Soil utilized for Afforestation and remaining utilized for bund formation	Top soil temporarily stocked were being utilized for plantation as and when required
4b	Location of topsoil, OB and mineral reject dumps	1.No External Top Soil & Over Burden dumps were proposed	1.No External Top Soil & Over Burden dumps were present. 2. Top Soil utilized for Afforestation and remaining utilized for bund formation	Top soil temporarily stocked were being utilized for plantation as and when required
4c	Number of dumps within lease area and outside of lease area	NA	NA	-
4d	Location of dumps w.r.t. ultimate pit limit (Rule 16)	NA	NA	-
4e	Number of active and alive dumps.	NA	NA	-
4f	Number of dead dumps.	NA	NA	-
4g	Number of dumps established.	NA	NA	-
4h	Whether Retaining wall or garland drain all along dumps are there.	NA	NA	-
4i	Length of Retaining wall or garland drain all along dumps	NA	NA	-
4j	Number of settling ponds	NA	NA	-
4k	Specific comments of inspecting officer on waste dump management	--	--	Waste dump management was found satisfactory.

**SOLID WASTE MANAGEMENT-BACKFILLING**

S. No.	Item	Proposals	Actual Work	Remarks
5a	Status of part or full extraction of mineral from mined out area before starting backfilling.	Will be Fully Extracted	Mineral was Extracted completely before starting backfilling	-
5b	Area under backfilling of mined out area	1.26 Ha	0.884 Ha	-
5c	Concurrent use of topsoil for restoration or rehabilitation of mined 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	-
5d	Total area fully reclaimed and rehabilitated	0.45 Ha	2.82 Ha	-
5e	General remarks of inspecting officers on backfilling and reclamation etc	--	--	Complete extraction of Mineral was ensured before backfilling in to the mined out area.

**PROGRESSIVE MINE CLOSURE PLAN**

S. No.	Item	Proposals	Actual Work	Remarks
6a	Whether Annual report on PMCP submitted on time and correctly. Rule 26 (2)	Periodic Submission before due date	Being submitted before due date	-
6b	Area available for rehabilitation (ha).	Nil	Nil	-
6c	Afforestation done (ha).	1.25 Ha	2.11Ha	-
6d	No. of saplings planted during the year	5250	5285	-
6e	Cumulative no. of plants	15750	15985	From 2021-22 Onwards
6f	Any other method of rehabilitation	Nil	Nil	-
6g	Cost incurred on watch and care during the year	5,10,000	3,01,245.	-
6h	Compliance on reclamation and rehabilitation by backfilling (i) Voids available for backfilling (Lx B x D)	1.25 Ha	20.884	-
6i	Compliance on reclamation and rehabilitation by backfilling (ii) Voids filled by waste / tailings	0.45 Ha	2.82 Ha	Total 6.80 ha area reclamation & Rehabilitation done
6j	Compliance on reclamation and rehabilitation by backfilling (iii) Afforestation backfilled area	Nil	Nil	-
6k	Compliance on reclamation and rehabilitation by backfilling (iv) Rehabilitation by making water reservoir	Nil	Nil	-

6l	Compliance on reclamation and rehabilitation by backfilling (v)any other specific means.	Nil	Nil	-
6m	Compliance of rehabilitation of waste land within lease (i)afforestation	Nil	Nil	-
6n	Compliance of rehabilitation of waste land within lease (ii)Area rehabilitation (ha)	Nil	Nil	-
6o	Compliance of rehabilitation of waste land within lease (iii)Method of rehabilitation	Nil	Nil	-
6p	Compliance of environmental monitoring (core zone and buffer zone)	Periodic Monitoring	Periodically Monitored	
6q	General remarks of inspecting officers on PMCP compliance and progressive closure operations etc.	-	-	The proposed progressive closure activities were satisfactorily carried out during the reporting year

#### **MINERAL CONSERVATION**

S. No.	Item	Proposals	Actual Work	Remarks
7a	ROM Mineral dispatch or grade-wise sorting within lease area	ROM Mineral Dispatched	ROM Mineral Dispatched to it's captive plant	The ROM from the mine is directly dispatched to it's plant where it is crushed and suitably blended with the limestone from other mines.
7b	Method of grade wise mineral sorting i.e. manual or mechanical.	Nil	Nil	-
7c	Different grade of mineral sorted out at mines.	Nil	Nil	-
7d	Any beneficiation process at mines	Nil	Nil	-
7e	General remarks of inspecting officer on Mineral Conservation & beneficiation issues	-	-	The total ROM produced from the mine is directly dispatched to it's plant where it is crushed and suitably blended with the limestone from other mines to achieve the required cement grade thereby ensuring Mineral conservation

**ENVIRONMENT**

S. No.	Item	Proposals	Actual Work	Remarks
8a	Separate removal and utilization of topsoil (Rule 32)	Afforestation and bund formation	Top Soil utilized for Afforestation and remaining utilized for bund formation	-
8b	Concurrent use or storage of topsoil	Top Soil utilized for afforestation and remaining utilized for bund formation.	Top Soil utilized for afforestation and remaining utilized for bund formation.	-
8c	Separate dumps for overburden, waste rock, rejects and fines (Rule 33)	NA	NA	-
8d	Use of overburden, waste rock, rejects and fines dump for restoring the land to its original use	For backfilling	0.884 Ha	-
8e	Phased restoration, reclamation and rehabilitation of lands affected by mining operations (Pits, dumps etc)	For Backfilling	6.80 Ha	Cumulative reclamation Area Given
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. Pouvarasan e. Illupai f. Teak g. Tamrind Greenbelt development is being carried out progressively. Herbs and shrubs will also be developed.	Totally 21005 Nos of Plantation done	-
8g	Survival rate	80%	90%	-
8h	Water sprinkling on roads to control airborne dust	Water sprinkling on haul roads.	Water sprinkling being done on haul roads.	
8i	General remarks of inspecting officer on aesthetic beauty in and around mines area	--	--	The aesthetic beauty in and around mines area was found satisfactory.



**COMPLIANCE UNDER RULE-45**

S. No.	Item	Proposals	Actual Work	Remarks
9a	Status of submission of Monthly and Annual returns	M.R. Submitted upto Aug -24. Date. 08.08.2024 Annual Returns- 20.06.2024		
9b	Scrutiny of Annual return for information on Mining Engineer, Geologist and Manager	Manager Shri. R Ravikumar,DGM(Mines) Chettinad Cement Corpn (P) Ltd, Trichy-Ariyalur Road Keelapalur – 621707, ravikumar.r@chettinadcement.com Ph No. 97888 58243. Mining Engineer Shri.K.Karthikeyan BE(Mining),Mining Engineer, Chettinad Cement Corpn (P) Ltd, Trichy-Ariyalur Road Keelapalur– 621707, Ph.No:7708085800. Geologist Shri.R.Ravikumar.Geologist, Chettinad Cement Corpn (P) Ltd, Trichy-Ariyalur Road Keelapalur – 621707, Ph: 97888 58243	Given in Annual return part  (I) section (3) Serial No -7, 8,9	-
9c	Scrutiny of Annual return on land use pattern for area under pits, reclaimed area, dumps etc.	(i) Already Exploited and abandoned by Opencast mining = 5.50.0 Ha (ii) Covered under (O-C) workings = 48.74.0 Ha (iii) Reclaimed-rehabilitated = 20.53.0 Ha (iv) Used for waste disposal = 3.74.0 Ha (v) Occupied by plant ,buildings, residential, welfare building and roads = 2.30.0 Ha (vi) Used for any other purpose (Specify) Green belt & Peripheral bund = 19.55.0 Ha (vii) work done under progressive mine closure plan during the year = 0.000	Given in Annual return part (I) (12)	
9d	Scrutiny of Annual return on afforestation	Afforestation - 5285 trees	Afforestation appears to be correct	
9e	Scrutiny of Annual return on mineral reject generation (Grade and quantity)	Mineral Reject-Nil	--	

9f	Scrutiny of Annual return on ROM stock and/or graded ore	ROM-205320 Ts LSt – 162300 Ts Marl – 43020 Ts			--	
9g	Scrutiny of Annual return on sale value, Ex. Mine price and production cost	Ex-Mine Price & Production Cost- 228.15			--	
9h	Scrutiny of Annual return on fixed assets	GFA- 916410542			--	--
9i	Scrutiny of Annual return on mining machineries	Type of Machinery	Capacity of each unit	No.of Units	PART-IV (6)	
		Back Hoe	1.00 CUM	1		
		Other HEM Machinery	125	1		
		Tipper	16.0 CUM	3		

Details of violations observed during current inspection and compliance position of violations pointed out					
Violation observed			Show cause position		
Rule No.	Issued on	Compliance on	Rule No.	Issued on	Compliance on
11(1)	23.10.2024				

Date:

**KUMERESH A**  
**SrAsst Controller of Mines**  
 Indian Bureau of Mines