

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

Review and updation of Mining Plan REPORT

Chennai regional office

Mine file No : TN/PBRLST-56.MDS

Mine code : 38TMN24056

- (i) Name of the Inspecting : **K08**) **G.SORNADURAI KANNAN**
Officer and ID No.
- (ii) Designation : Senior Mining Geologist
- (iii) Accompanying mine : Thiru. Duraimurugan, DGM-Mines
Official with
Designation
- (iv) Date of Inspection : 20/10/2022
- (v) Prev.inspection date :

PART-I : GENERAL INFORMATION

1. (a) **Mine Name** : **MANAKUDIYAN MINE (GO.76)**
- (b) **Registration NO.** : **IBM/638/2011**
- (c) **Category** : **A Fully Mechanised**
- (d) **Type of Working** : **Opencast**
- (e) **Postal address**
- State : **TAMIL NADU**
- District : **PERAMBALUR**
- Village :
- Taluka :
- Post office :
- Pin Code :
- FAX No. : **04329-248303**
- E-mail : **minesalr@madrascements.co.:**
- Phone : **04329-248305, 248306**
- (f) **Police Station** : **SENDURAI**
- (g) **First opening date** : **30/12/2008**
- (h) **Weekly day of rest** : **SUN**
2. **Address for correspondance** : **AURAS CORPORATE CENTRE,**
5 TH FLOOR, 98-A, DR RADHA KRISHNAN ROAD,
MYLAPORE, CHENNAI-600004
3. (a) **Lease Number** : **TMN1045**
- (b) **Lease area** : **44.81**
- (c) **Period of lease** : **50**
- (d) **Date of Expiry** : **29/12/2058**
4. **Mineral worked** : **LIMESTONE** **Main**

5. Name and Address of the

Lessee : MADRAS CEMENTS LIMITED
 Auras Corporate Center Vth
 Floor, 98 A Dr.Radha
 Krishnan salai, Mylapore
 CHENNAI CITY TAMIL NADU
 Phone:044-28478666
 FAX :044-28478676

Owner : P.R.RAMA SUBRAMANYA RAJA
 AURAS CORPORATE CENTRE
 VFLOOR, 98A, RADAKRISHNAN R
 MYLAPORE, CHENNAI CHENNAI
 CITY TAMIL NADU
 Phone: 044-8555815
 FAX : 044-830248

Agent : ASHISH KUMAR SRIVASTAVA
 ALATHIYUR CEMENT WORKS
 CEMENT NAGAR POST ARIYALUR
 DT. ARIYALUR TAMIL NADU
 Phone:
 FAX :

Mining Engineer

Name : Mooli Madhu Mohan Reddy, Full Time
 Qualification : B.TECH-MINING
 Appointment/ : 09/04/2019
 Termination date

Geologist

Name : K.Elansuriyan, Full Time
 Qualification : M Sc Geology
 Appointment/ : 01/04/2019
 Termination date

Manager

Name : A.Santhosh
 Qualification : B.E Mining
 Appointment/ : 10/07/2015
 Termination date

6. Date of approval of Mining	:	Fresh under rule 22 MCR1960	21/04/2006
Plan/Scheme of Mining		Mining Scheme rule 12 MCDR1988	06/06/2013
		Modif.approved Mining Scheme	09/07/2015
		MP review under 17(1) MCR 2016	06/11/2017
		MP modif under 17(3) MCR 2016	11/01/2021

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 2020-2021.	No Boreholes has drilled during 2020-2021.	No Boreholes has drilled during 2020-2021.
1b	Exploration over lease area for geological axis 1 or 2	No additional exploration was proposed during 2021-2022 in the lease area.	No additional exploration was carried out in the lease area during 2021-2022	Entire lease area 44.805 hectares are under G-1 category.
1c	Exploration Agencies and Expenditure in lakh rupees during the year	No Proposal for exploration during 2021-2022	No Exploration during 2021-2022 and 15 boreholes were drilled during 2015-2018. Total Rs. 15.0 lakhs was spent on exploration during 2015-2018.	So far 42 boreholes have been drilled with 2380 meterage in the lease. Total expenditure towards exploration is 31.34 Lakhs
1d	Balance area to be explored to bring Geological axis in 1 or 2	Exploration was not proposed during 2021-2022.	No Exploration has been carried out during 2021-2022.	Entire area has been explored under G-1 category with 100m X 100m grid interval.
1e	Balance reserve as on 01/04/20	As on 01.04.2022 Proved Mineral Reserves (111) = 4020257 tons Feasibility Mineral Resources (211) = 5463600 tons Inferred Mineral Resources (333) = 3387957 tons.	As on 01.04.2022 Proved Mineral Reserves (111) = 5355317 tons Feasibility Mineral Resources (211) = 5463600 tons Inferred Mineral Resources (333) = 3387957 tons.	The available grade of Limestone in this lease area is CaO=40% Grade.
1f	General remarks of inspecting officers on geology, exploration etc	It is part of Cretaceous formations	The formation is belongs to Niniyur stage. The deposit is un-conformably overlain by Cuddalore sandstone.	Limestone beds carry inclusions of marl, clay & sand stone.

Development :

Sl.No.	Item	Proposals	Actual work	Remarks
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2a	Location of development w.r.t.lease area	During 2021-2022, working proposal was in ML-1 to 3.	Working was not carried out as per proposal. Working depth has not reached as per the proposal	Violation has been issued under Rule 11(1)
2b	Separate benches in topsoil, overburden and minerals (Rule 15)	Topsoil - 1 Bench Overburden - 1 Benches Minerals - 7 Benches	Topsoil - 1 Bench Overburden - 1 Benches Minerals - 6 Benches	Nil
2c	Stripping ratio or ore to OB ratio	1 : 1.50	1 : 1.53	Stripping Ratio deviation is due to less production.
2d	Quantity of topsoil generation in m3	82700 m3 of topsoil has proposed during 2021-2022	76678 m3 of topsoil has generated.	Topsoil has dumped separately.
2e	Quantity of overburden generation in m3	OB waste includes Marl, Sandstone. During 2021-2022 it is proposed to remove 744999 m3.	732390 m3 of waste generation in 2021-2022	OB is used for backfilling.
2f	General remarks of inspecting officers on development of pit w.r.t. type of deposit etc	OB waste includes Marl, Sandstone. During 2021-2022 it is proposed to remove 744999 m3.	1318303 tons of waste has generated against 1340998 tons of proposal during 2021-2022	Ore to OB ratio has reduced due to less production has excavated.

Exploitation:

Sl.No.	Item	Propasals	Actual work	Remarks
3a	Number of pit proposed for production	Production was proposed in between ML-1 to 3 of lease area.	Productions are not carried out as per proposal.	Violation has pointed out under Rule 11(1)
3b	Quantity of ROM mineral production proposed	The total target of ROM Production proposed was 977000 tons during 2021-2022.	Achieved ROM Production is 942173 tons during 2021- 2022.	Nil

3c	Recovery of sailable/usable mineral from ROM production	100% Recovery	100% Recovery	Entire ROM is useable and sent to crusher.
3d	Quantity of mineral reject generation	There is no Mineral Reject generation	There is no Mineral Reject generation	Nil
3e	Grade of mineral rejects generation and threshold value declared.	No Proposal	Nil	Nil
3f	Quantity of sub grade mineral generation.	No Sub Grade Generation	No Sub Grade Generation	No Proposal
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	Entire ROM is useable and sent to crusher.
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	No Drilling & Blasting are proposal.	Drilling & Blasting are not done.	Surface miner & Rock breakers are used for production.
3k	Provision of mining machineries in mineral benches	Surface Miner Excavators Rock Breakers Tippers Shovel Dozer	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 2021-2022, Bench height of 5m was proposed in Mineral.	As per proposal benches are formed.	Nil
3m	Total area covered under excavation/pits	18.19 hect area is proposed for Pit during 2021-2022	15.21 hect areas are under Pit only.	Due to less development & production, proposed area is not achieved.

3n	Ore to OB ratio for the pit/mine during the year.	1 : 1.50	1 : 1.53	Stripping Ratio deviation is due to less production.
3o	Total area put in use under different heads at the end of year	Land use Pattern as on 01.04.2022. Mines = 18.19 hect Dump = 4.00 hect Mineral storage = 1.00 hect Road = 0.25 hect	Land use Pattern as on 01.04.2022. Mines = 15.21 hect Dump = 4.00 hect Mineral storage = 1.25 hect Road = 0.25 hect	Landuse pattern is same as per proposal except mines area & dump due to less production & development achieved. Violation has been issued under Rule 11(1) for mineral stock.
3p	Production of ROM mineral during the last five year period as applicable	2021-2022 = 977000 tons 2020-2021 = 982000 tons 2019-2020 = 992000 tons 2018-2019 = 998000 tons 2017-2018 = 987000 tons	2021-2022 = 942173 tons 2020-2021 = 887228 tons 2019-2020 = 932424 tons 2018-2019 = 729787 tons 2017-2018 = 109328 tons	Achieved ROM Production is 942173 tons during 2021- 2022.
3q	General remarks of inspecting officers on method of mining etc.	Production was proposed in between ML-1 to 3 of lease area.	Achieved ROM Production is 942173 tons during 2021- 2022 against proposal of 977000 tons.	Entire ROM is useable and sent to crusher.

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 of Topsoil, OB in existing dumps during 2021-2022	As per proposal the dumping are not carried out.	Violation has been issued under Rule 11(1).
4b	Location of topsoil, OB and mineral reject dumps	It is proposed to dump topsoil from ML-1 to 3 and OB dump from ML-2 to 4 during 2021-2022.	As per proposal dumping is not carried out during 2021-2022.	Violation has been issued under Rule 11(1).
4c	Number of dumps within lease area and outside of lease area	Lease area = 2 Non Lease area = Nil	Lease area = 2 Non Lease area = Nil	Nil

4d	Location of dumps w.r.t. ultimate pit limit (Rule 16)	Outside the UPL and above backfilled area.	As per proposal dumps are outside UPL.	One Topsoil dump and one OB dump.
4e	Number of active and alive dumps.	Active Dump = 2 Alive Dump = Nil	As per proposal 2 active dumps are present within lease area.	1 Topsoil dump and 1 OB dumps
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.	Garland drainage is proposed.	As per proposal Garland drain are constructed.	Garland drainage has made along the dump toe & safety barrier.
4i	Length of Retaining wall or garland drain all along dumps	420m of Garland drainage is proposed.	420m of Garland drainage has been constructed.	Garland drainage has made along the dump toe & safety barrier.
4j	Number of settling ponds	One proposal	1 No of settling tanks has made.	Existing settling ponds are desilted.
4k	Specific comments of inspecting officer on waste dump management	It is proposed to dump topsoil from ML-1 to 3 and OB dump from ML-2 to 4 during 2021-2022.	Existing settling ponds are desilted.	420m of Garland drainage has made along the dump toe & safety barrier.

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.	Partly backfilling has proposed in the mineral extracted area during 2021-2022	As per proposal backfilling has not done as per proposed RL during 2021-2022	Violation has been issued under Rule 11(1).
5b	Area under backfilling of mined out area	Area proposed for backfilling is 4.10 hectares	Area backfilled so far as 4.03 hectares, whereas RL has not achieved as per proposal.	Violation has been issued under Rule 11(1).

5c	Concurrent use of topsoil for restoration or rehabilitation of mineral out area (Rule 32)	Restoration of topsoil	Restoration of topsoil	Topsoil has been dumped separately for using in backfilled area in future.
5d	Total area fully reclaimed and rehabilitated	Area proposed for backfilling is 4.10 hectares	Area backfilled so far as 4.03 hectares	Violation has been issued under Rule 11(1).
5e	General remarks of inspecting officers on backfilling and reclamation etc.	Partly backfilling has proposed in the mineral extracted area during 2021-2022	Area backfilled so far as 4.03 hectares	Topsoil has been dumped separately for using in backfilled area in future.

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 2021-2022.	Submitted within time limit.
6b	Area available for rehabilitation (ha) .	4.10 hectares	4.03 hectares	Nil
6c	afforestation done (ha).	0.80 hectares	0.80 hectares	Nil
6d	No. of saplings planted during the year	2000 saplings	2100 saplings	Nil
6e	Cumulative no .of plants	20010 saplings	21000 saplings	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	250m x 250m x 39m	250m x 250m x 24m	Nil

6i	Compliance on reclamation and rehabilitation by backfilling (ii) Voids filled by waste / tailings	1340998 tons of waste proposed for backfilling/ dumping	1318303 tons of waste consume for backfilling/ dumping.	Nil
6j	Compliance on reclamation and rehabilitation by backfilling (iii) Afforestation 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	2000 saplings proposed in safety zone and waste land for 2021-2022	Total 2100 saplings has achieved during 2021-2022 along safety zone and waste area.	Cumulatively 21000 saplings have been planted upto 2021-2022.
6n	Compliance of rehabilitation of waste land within lease (ii) Area rehabilitation (ha)	Proposed 0.80 hect in safety zone and waste land for 2021-2022	0.80 hect achieved in safety zone and waste land area during 2021-2022	Nil
6o	Compliance of rehabilitation of waste land within lease (iii) Method of rehabilitation	Green Belt development along 7.5m safety barrier.	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.	2000 saplings have proposed during 2021-2022 along dump and waste area.	Total 2100 saplings has achieved during 2021-2022 along dump and waste area.	Plantation has been done as per proposal along the safety barrier and waste area.
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Mineral Conservation:

Sl.No.	Item	Propasals	Actual work	Remarks
7a	ROM Mineral dispatch or grade-wise sorting within lease area	The total target of ROM Production proposed was 977000 tons during 2021-2022.	Achieved ROM Production is 942173 tons during 2021- 2022.	Nil
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 ROM is useable and sent to outside lease area crusher.	The available grade of Limestone in this lease area is 40% CaO.
7c	Different grade of mineral sorted out at mines.	The Limestone of the lease area varies from 40% CaO.	The Limestone of the lease area is 40% CaO	Entire ROM 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 ROM is transported to crusher installed outside lease area.
7e	General remarks of inspecting officer on Mineral conservation and beneficiation issues	Entire ROM is transported to crusher installed outside lease area.	942173 tons of ROM has been achieved during 2021- 2022 against 977000 tons of proposal.	Entire ROM 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)	82700 m3 of topsoil is Proposed to generate during 2021-2022	76678 m3 of topsoil has generated during 2021-2022.	Separate topsoil dump is there for storage only.
8b	Concurrent use or storage of topsoil	Storage of topsoil	Storage of topsoil	76678 m3 of topsoil has been removed and separately store during 2021-2022.
8c	Separate dumps for overburden, waste rock, rejects and fines (Rule 33)	There is proposal for dumping of Topsoil, OB in existing dumps during 2021-2022	As per proposal the dumping are not carried out.	Violation has been issued under Rule 11(1).
8d	Use of overburden, waste rock, rejects and fines dumps for restoring the land to its original use	Partly backfilling has proposed in the mineral extracted area during 2021-2022	As per proposal backfilling has not done as per proposed RL during 2021-2022	Violation has been issued under Rule 11(1).
8e	Phased restoration, reclamation and rehabilitation of lands affected by mining operations (Pits, dumps etc)	Partly backfilling has proposed in the mineral extracted area during 2021-2022	As per proposal backfilling has not done as per proposed RL during 2021-2022	Violation has been issued under Rule 11(1).
8f	Baseline information on existence of plantation and additional plantation done (Rule 41)	2000 saplings have proposed during 2021-2022 along dump and waste area.	Total 2100 saplings has achieved during 2021-2022 along dump and waste area.	Plantation has been done as per proposal along the safety barrier and waste area
8g	Survival rate	No Proposal in the document.	88%	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.

Compliance of Rule 45:

Sl.No.	Item	Propasals	Actual work	Remarks
9a	Status of submission of Monthly and Annual returns	MR Submitted up to = September 2022 AR Submitted up to = 2021-2022	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 are present.	Nil
9c	Scrutiny of Annual return on land use pattern for area under pits, reclaimed area, dumps etc.	Land use Pattern as on 01.04.2022. Mines = 15.21 hect Reclaimed = 4.03 hect Dump = 6.88 hect	Landuse Pattern is filled as per approved Mining Plan	Nil
9d	Scrutiny of Annual return on afforestation	Lessee has planted 2100 saplings during 2021-2022.	Plantation has been done as per proposal along the safety zone and waste area.	Cumulatively 21000 saplings have been planted upto 2021-2022.
9e	Scrutiny of Annual return on mineral reject generation (Grade and quantity)	There is no Mineral Rejects Generation	There is no Mineral Rejects Generation	Nil
9f	Scrutiny of Annual return on ROM stock and/or graded ore	Limestone stock as on 01.04.2022 ROM opening stock = Nil ROM closing stock = Nil	Mine has produced 942172 tons of ROM and 962004 tons as dispatches during 2021-2022.	It is captive mine of M/s. The Ramco Cements 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. The Ramco Cements Limited.	Nil
9h	Scrutiny of Annual return on fixed assets	Fixed Assets is not given	It is advice to fill the fixed assets.	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)	04/11/2022			
MCDR17	Rule 33	04/11/2022			

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

Indian Bureau of Mines