

REPORT ON CHECK INSPECTION OF ARUNGAL LIMESTONE MINES

Name & Designation of Inspecting officer: **Shri. V.J.K. Babu**
Controller of Mines (SZ), IBM

Date of Inspection: **12.07.2024**

1. General information of the mine:

i) Name of the mine :	Arungal Limestone Mines
ii) Owner :	M/s. Chettinad Cement Corporation Pvt. Ltd.,
iii) Nominated Owner	Shri. Mohan Muthukaruppan
iv) Mining Engineer	Shri. P. Alagu Kannan
v) Agent	Shri. R. P. Muthiah
vi) Mine Manager	Shri. G. Raghavendra
vii) Lease Area	67.73 Ha
viii) Location	Village : Arungal District : Ariyalur State : Tamil Nadu
ix) Lease Period	20 Years
x) Date of Expiry	18.09.2032
xi) Date of Approval of Mining Plan	18.08.2009
xii) Date of Approval of Scheme	01.11.2021
xiii) Period of Mining Plan/ Scheme of Mining G.O. 305	5 Years (upto 2026-27)
xiv) Production (Year 02 to 03) – 2023-24	4,69,346.58 MT
Mineral Rejects generated	NIL
Dispatches	4,69,346.58 MT

2. Brief Description of the mine:

a) A brief description of the mine covering location, geology, problems Associated with mining of the deposit etc. may be given.

PHYSIOGRAPHY:

Physiographically the area is a flat terrain with a gentle slope towards east with a maximum and minimum elevation of about 63.0 above MSL on the eastern side to 68.50 above MSL on the western side. The trend of the limestone deposit formation (Strike) is NNE and SSW and gentle dip of 5 - 7° towards SE. The lands are supported only seasonal dry crops. The limestone is overlain by top soil, kankar/ marl and underlain by conglomerate beds which form the base of the limestone formation. The general drainage pattern in this area is towards NE.

REGIONAL GEOLOGY:

This limestone deposit, in the area under reference, forms a part of Sillakudi limestone formations of Middle Ariyalur stage of Cretaceous beds in South India. These deposits are geologically called the Maastrichtian Limestone. It can be traced continuously for more than

9 Kms in the north -south direction starting from north through Karuppur Keelapalur further south up to Arungal on the banks of Marudaiyar river.

The formation is generally flat striking northeast –south west and dipping at a gentle angle of 5 to 8°. The limestone is yellowish brown in color with well-preserved shells at places. Study of the working area this lease gives a fair idea of the limestone deposit. It reveals a thickness ranging between 1.0 to 3.0 m of black cotton soil and the thickness of limestone and marl is 8 to 12 m.

Sillakudi Limestone formation:

The Sillakudi limestone band is located NNE – SW direction of Keelapaluvur villages covers NW to SE with 3 to 4 faulted structure which from Mallur to Arungal villages. The depth of ore varies from 5 to 8 mts. Our Arungal Limestone mines comes under Sillakudi Formation.

b) Description on deployment of mining machinery given in the following format:

Sl. No.	Machineries Deployed	Capacity	No. of Units	In Use	Idle	% of utilization	Brief Description	Remarks
1	2	3	4	5	6	7	8	9
1	Hydraulic Excavator	1.1 Cu.m	2	2	0	100%	Loading Machine	Out of 3 2.5 Cu.m excavators proposed, only 2 of 1.1 Cu.m is deployed.
2	Hydraulic Rock Breaker	125 T/Hr	1	1	0	100%	Breaking Machine	As proposed in the approved MP.
3	Tipper	16 Cu.m	5	5	0	100%	Hauling Vehicle	Out of 19 tippers proposed of 12.5cbm capacity, Only 5 tippers of 16Cu.m is deployed.

3. Implementation of Mining Plan or Scheme of Mining:

Sl. No.	Proposal in the approved Mining Plan or Scheme of Mining (period from 2023 to 2024)	Observations regarding implementation of proposals given in approved Mining Plan or Scheme of Mining	Remarks
1	CONSERVATION OF MINERALS		
a)	Exploration	No Exploration proposed DURING 2023-2024. Entire Mining Lease Area Explored in G1 scale.	No Exploration proposed DURING 2023-2024. Entire Mining Lease Area Explored in G1 scale.
b)	Utilization of Sub- Grade Mineral:	Sub Grade mineral not available	Sub Grade mineral not available
c)	Any other proposal for monitoring	NIL	No proposal for monitoring
2	SCIENTIFIC MINING		
a)	Mine Development and method of mining- Production:	Non-conventional method of mining by engaging rock breaker and hydraulic excavator with tipper combination Qty:4,69,346.58 MT	Out of proposed total 516560 tonnes of Limestone & Marl production 469346 tonnes is achieved i.e 91% achieved and no violation issued.
b)	Handling of Waste/ Subgrade material	Qty: 5,73,304 MT (Overburden and waste included)	Out of 333516.6 Cu.m of proposed OB and waste generation, 318502.2 Cu.m is achieved i.e 96% is achieved. However, it is wrongly reported in the AR-23_24. Violation issued.
c)	Area reclamation & rehabilitation:	Reclaimed Area : 2.10 Ha(2023-24) Rehabilitated Area: 1.05 Ha(2023-24)	In line with the proposals.
3	PROTECTION OF ENVIRONEMNT		
a)	Afforestation	No. of saplings: 2100 Nos. Extent:1.05 Ha Total no. of saplings:8725 Nos.	As per proposals.
b)	Quality of air	As proposed monitoring of environmental parameters are regularly being carried out.	All the environmental parameters measured are within the permissible limits as verified during site inspection.
c)	Quality of water		
d)	Noise Level		

e)	Vibration	NA	No Blasting Operation
f)	Any other proposal for monitoring	Water level monitoring by piezometer	Being deployed.

4. History of Violations after approval of Mining Plan or Scheme of Mining:

Sl. No.	Date of Inspection	Name of Inspecting Officer	Violations of MCDR, 88 Observed and pointed out	Rectification of violations	Remarks
1	10.08.2021	Shri. S.S. Kujur DCOM, Chennai	Rule 11 (1): "No holder of a mining lease shall commence or carry out mining operations in any area except in accordance with the mining plan approved, modified or reviewed by the Indian Bureau of Mines- The following violation were observed under this rule- The backfilling in 1.63 Ha area has not been completed during the year 2019-20"	We have obtained consent to operation (CTO) on 11.09.2020 from TNPCB. After that, mines production commencement from 14.09.2020 for the financial year (2020-21). Hence we have not carried out backfilling during the year 2019-20	Violation is compiled and closed.
2	07.10.2021	Shri. S.S. Kujur DCOM, Chennai	Rule 45 (7) : "If it is found that the holder of a mining lease or the person or company engaged in trading or storage or end-use or export of minerals, as the case may be, has submitted incomplete or wrong or false information in daily or monthly or annual returns or fails to submit a return within the date specified- The annual return Submitted for the year 2020-21 in form - H8 under items: 1.In part-IV Consumption of Explosives - Quantity generated as 220298 Mt of OB but no explosive consumption is shown. 2.In part VII the proposal for the year 2020-21 was shown as zero but production has been reported during the year 2020-21. The deficiencies found in the above annual returns amounts to incomplete/wrong submission."	"In our Arungal Mines, we are adopting Non-conventional method of mining by engaging Heavy Earth Moving equipment for breaking the limestone. Also, the OB in Ariyalur sector is of black cotton soil which can directly be loaded into trucks without breaking. Very soft in nature and it does not require any blasting. Hence requirement of explosives will not arise both in case of Limestone breaking & Overburden handling. Quantity handled by non-conventional method for the year is as follows. Limestone- 209117.490T Overburden-220298T We have submitted	Violation is compiled and closed.

				<p>our approved mining plan quantity to IBM, regional office, Chennai online. IBM, Chennai needs to approve the proposal as per mining plan that already submitted online to represent the production proposal with that.</p> <p>Hence, we request RCOM to instruct concerned to kindly do the needful in respect of production proposal to represent the same online. Once it has been rectified from IBM end, the negative figure will automatically will change into actual proposal submitted by us."</p>	
3	16.12.2022	Shri. A.S. Sanjeeva Rao JMG, Chennai	<p>Rule 11 (1) :"Mining operations have not been carried out in accordance with the approved mining plan approved vide letter No.TN/ALR/LST/ROMP/1556.MDS dated 22.07.2019 to the extent as mentioned below:</p> <p>1. There was a proposal to produce 350350 tonnes of Limestone and 150150 tonnes of Marl during the year 2021-22 against the approved proposal 216209 tonnes of Limestone and 84834 tonnes of Marl has been generated in the year.</p> <p>2. There was a proposal to generate 699560 tonnes of waste during the year 2021-22, against the approved proposal only 85,365 tonnes of waste has been generated in the year."</p>	<p>"Due to poor quality of limestone and marl from the pit, the demand from plant was reduced. The same will be corrected in the current year 2022-23.</p> <p>Due to less production from the mine, the planned quantity of waste was not removed and the same will be corrected in the current year 2022-23."</p>	Violation is compiled and closed.

5. Socio Economic Development Plans:

Sl. No.	Proposed Action plan towards socio economic Development	Expenditure Proposed (In Lakh Rs.)	Expenditure Incurred (In Lakh Rs.)	Remarks
1	General Development in the area			
	i) Housing	NA	NA	NA
	ii) Water Supply	-	0.07	-
	iii) Sanitation	-	0.15	-
	iv) Health, Safety and Medical Facilities	-	4.30	-
2	Education and Training	-	3.00	-
3	Employment to Local inhabitants	-	1.20	-
4	Public Transportation and Communication	-	10.70	-
5	Recreation and Other Sports Activities	-	3.56	-
6	Expenditure for environment management	-	11.30	-
7	Other old age pensions	NA	NA	NA
8	Total		34.28	

Sd/-
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