

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

MCDR inspection REPORT

Chennai regional office

Mine file No : TN/PBR/LST-47.MDS

Mine code : 38TMN24046

- (i) Name of the Inspecting : **C010**) **C.PARAMESHWARAN**
Officer and ID No.
- (ii) Designation : Deputy Controller Mines
- (iii) Accompanying mine : Shri Ramesh. MM, Mining Engineer & Mines manager.
Official with
Designation
- (iv) Date of Inspection : 28-FEB-19
- (v) Prev.inspection date : 12-FEB-18

PART-I : GENERAL INFORMATION

1. (a) **Mine Name** : **UNJINI_20.965HA**
- (b) **Registration NO.** : **IBM/4681/2011**
- (c) Category : A Mechanised
- (d) Type of Working : Opencast
- (e) Postal address
State : TAMIL NADU
District : PERAMBALUR
Village :
Taluka :
Post office :
Pin Code :
FAX No. : NIL
E-mail : arymines@chettinadcement.co
Phone : 04329250011
- (f) Police Station : Sendurai
- (g) First opening date : 20-SEP-05
- (h) Weekly day of rest : SUN
2. Address for : Shri. G. Raghunath Singh, Vice President
correspondance Ariyalur Road, Trichy, Kilapaluvur.
621707, Tamil nadu
3. (a) Lease Number : TMN0985
- (b) Lease area : 20.96
- (c) Period of lease : 20
- (d) Date of Expiry : 19-SEP-25
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 : SP.ST.PALANIAPPAN , MD
 RANISEETHAI HALL ANNASALAI
 CHENNAI CITY TAMIL NADU
 Phone: 044- 28292727
 FAX : 04428291558

Agent : K. KASIRAJAN
 603, Anna Salai, Chettinad
 cements Corp Ltd CHENNAI
 CITY TAMIL NADU
 Phone: 9788858200, 04329-247726
 FAX : 04329-247726

Mining Engineer

Name : GANESHA BOOPATHY.P,Full Time
 Qualification : DME, MINING,
 Appointment/ : 02-JUL-12
 Termination date

Geologist

Name : N BALAKANAN,Full Time
 Qualification : M.SE GEOLOGY
 Appointment/ : 16-OCT-13
 Termination date

6. Date of approval of Mining	:	Fresh under rule 22 MCR1960	12-JAN-04
Plan/Scheme of Mining	:	Modif.of approved Mining Plan	05-JUN-09
	:	Mining Scheme rule 12 MCDR1988	05-JUL-11
	:	Mining Scheme rule 12 MCDR1988	24-FEB-16

PART - II : OBSERVATION/COMMENTS OF INSPECTING OFFICERS

Exploration :

Sl.No.	Item	Proposals	Actual work	Remarks
1a	Backlog of previous year	No proposals.	Nil	Nil, since exploration has been already completed.
1b	Exploration over lease area for geological axis 1 or 2	No proposals as on date.	Already exploration completed.	Yes already completed.
1c	Exploration Agencies and Expenditure in lakh rupees during the year	No proposals for the present.	Yes undertaken by the private companies, expenditure not included.	yes undertaken by the private agency.
1d	Balance area to be explored to bring Geological axis in 1 or 2	Not given in the present proposals.	Already completed in the ML area.	yes completed with 12 bore holes with 219m ...proved 18m depth of the deposits.in G1 axis.
1e	Balance reserve as on 01/04/20	0.39MMT	0.39MMT of ore	yes as on date reported reserves.
1f	General remarks of inspecting officers on geology, exploration etc	Given proposaka in the year 2014-15.	completed during the year 2014-15 itself.	yes completed.

Development :

Sl.No.	Item	Proposals	Actual work	Remarks
2a	Location of development w.r.t.lease area	Given in the NE of ML area.	Same location is followed.	yes it is being followed,
2b	Separate benches in topsoil, overburden and minerals (Rule 15)	Proposals drawn	Proposals is being carried out in the mine.	Separate benches are being followed.
2c	Stripping ratio or ore to OB ratio	1:0.12	same is being acheived. 1:0.12	Slight changes in the quantity of development.
2d	Quantity of topsoil generation in m3	No proposals.	yes it is being followed.	Yes it is followed,
2e	Quantity of overburden generation in m3	45721ts.	37850ts.	7871t less than the proposed production.

2f	General remarks of inspecting officers on development of pit w.r.t. type of deposit etc	Given proposals,	yes it is being followed.	Development is being followed as per the proposals.
----	---	------------------	---------------------------	---

Exploitation:

Sl.No.	Item	Proposals	Actual work	Remarks
3a	Number of pit proposed for production	Single pit is proposed.	Single pit is in operations.	same pit, no changes.
3b	Quantity of ROM mineral production proposed	3lakhs tons.	299604t produced.	396t less against the targets.
3c	Recovery of sailable/usable mineral from ROM production	70% proposals.	97.50% achievements.	as above.
3d	Quantity of mineral reject generation	No proposals.	same nil.	Nil generation, except black cotton soil.
3e	Grade of mineral rejects generation and threshold value declared.	<35%CaO.	<35%CaO.	same.
3f	Quantity of sub grade mineral generation.	No proposals.	Nil	Nil
3g	Grade of sub grade mineral generation	No proposals.	Nil	Nil
3h	Manual / Mechanised method adopted for segregating from ROM	Mechanized.	Mechanized.	No change.
3i	Any analysis or beneficiation study proposed and carried out for sub grade mineral and rejects.	No proposals.	Nil	Nil
3j	Provision of drilling and blasting in mineral benches	No proposals.	Without drilling & blasting, using rock breakers for eco friendly method. Non conventional method.	Yes method is workingly comfortably.

3k	Provision of mining machineries in mineral benches	Yes proposed machineries.	yes it is followed using the machineries.	yes used relevant machineries for loading & transportations.
3l	Whether height of benches in overburden and mineral suitable for method of mining proposed in MP/SOM	proposed for 6m in ore & OB.	proposed for 6m in ore & less in the OB.	Yes it is maintained.
3m	Total area covered under excavation/pits	11.98 ha	same 11.98 ha only	no changes.
3n	Ore to OB ratio for the pit/mine during the year.	1:0.12	same 1:0.12	no changes.
3o	Total area put in use under different heads at the end of year	20.965 ha	20.965 ha.	within the proposed extent.
3p	Production of ROM mineral during the last five year period as applicable	2013-14=3 Lt, 2014-15=3Lt, 2015-16=3Lt, 2016-17=280698Lt, & 2017-18=280596Lt.	2013-14=299980.90t, 2014-15=280045t, 2015-16=251778t, 2016-17=296382, & 2017-18=299602.	Production are within the proposals, except last two having 15350t more, which is not significant changes.
3q	General remarks of inspecting officers on method of mining etc.	Given proposals.	Development & production are within the proposals.	Need to improve further to maintain systematic

Solid Waste Management - Dumping:

Sl.No.	Item	Propasals	Actual work	Remarks
4a	Separate dumping of topsoil, OB and mineral rejects (Rule 32,33)	Given proposals.	Yes it is being followed.	For OB & TS & not for MR.
4b	Location of topsoil, OB and mineral reject dumps	Given proposals	Within the ML area, OB on the southern end.TS on the NNE, and the marl dump one on the southern side & also another on the western side.	As observed on the day of inspections.

4c	Number of dumps within lease area and outside of lease area	Given proposals.	Two Marl dumps, which is almost like subgrade type dumped on the west & one on the southern side.	same as given.
4d	Location of dumps w.r.t. ultimate pit limit (Rule 16)	Given in the approved Mining Plan.	It was observed that the OB dump & Marl on the southern end falls under the Mineralized zone, which needs to be removed and whatever the ore found in the Marl dump need to be segregated and consumed and the waste need to be dumped in the back filled area.	It was advised on the day of inspections.
4e	Number of active and alive dumps.	Given in the proposals.	Presently the waste is being dumped as back filling within the lease on the western side of the ML area.	One top soil dump is created on the NNE which is falls within the UPL.
4f	Number of dead dumps.	Given in the approved document.	Reported two dead dumps.	Given as two dead dumps, which is not correct. OB dump need to be removed from the existing location & moved to back filling area.
4g	Number of dumps established.	Given in the proposals.	Given in the inspection report data sheet as two, but one is stabilized, which also required to be shifted to back filling area, since the OB is on the mineralized area.	Yes it should be removed to work that mineralized area on the conservation point of view/
4h	Whether Retaining wall or garland drain all along dumps are there.	Given	provided at present, but need to be moved.	It should be moved in phased wise.
4i	Length of Retaining wall or garland drain all along dumps	Given in te document.	585m against 600m.	yes present in the mine.
4j	Number of settling ponds	Not given in the proposals.	nil	nil
4k	Specific comments of inspecting officer on waste dump management	Given in the proposals.	Whatever the dumps created in the ML area need to be altered by shifting to suitable location or back filling.	Yes it was advised to the concerned officers to take actions.

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.	Given proposals for back filling on the western side of the ML area, where the marl dump is present.	proposals drawn in part on the western side after extraction of the ore beneath before commencing the back filling.	Part of back filling is in progress.
5b	Area under backfilling of mined out area	given in the document	0.5 ha under progress.	0.5 ha progress.
5c	Concurrent use of topsoil for restoration or rehabilitation of mineral out area (Rule 32)	given in the proposals.	It is yet to be started, top soil is getting stacked.	It is being carried out.
5d	Total area fully reclaimed and rehabilitated	1.50 ha	1.50 ha under progress	yes it is under progress.
5e	General remarks of inspecting officers on backfilling and reclamation etc.	Proposals given	It is under progress.	Instruction given to the Mining engineer to go for continous back filling, also to re-handled the OB dump & Marl dump dump appropriately.

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.	Submitted to the office.	yes received in this office.
6b	Area available for rehabilitation (ha) .	Proposals drawn	As on date 1.5 ha is reclaimed. This is in progress and continuing in the mine.	The process of BF will continue as the mine is working in the bottom of the pit to exploit the ore to the complete extent.
6c	afforestation done (ha).	No proposals at present.	Not now, since the BF is in progress & also will raise the height with terracing.	Yes this is in progress.

6d	No. of saplings planted during the year	Given proposals 1250 nos during the year.	Nil	Not ready go for simultaneousl saplings.
6e	Cumulative no .of plants	Given in the proposals.	Not accomplished due to the area is not matured.	Not yet commenced.
6f	Any other method of rehabilitation	Given for back filling	Under progress in rehabilitation through OB waste only.	Whatever the waste available can be used for back filling.
6g	Cost incurred on watch and care during the year	No proposals.	nil	Usual watch ward are present.
6h	Compliance on reclamation and rehabilitation by backfilling (i) Voids available for backfilling (Lx B x D	Proposals drawn.	Yes it is being carried out as proposed in the approved document.	The same is being undertaken in the mine.
6i	Compliance on reclamation and rehabilitation by backfilling (ii) Voids filled by waste / tailings	Proposed	Yes as per the voids created after mining are being used for back filling.	As already reported in the previous paras.
6j	Compliance on reclamation and rehabilitation by backfilling (iii)Afforestation on backfilled area	Proposals is there in the approved document.	The present back filled is not completely ready for rehabilitation. The present area further need to be terraced after attaining the present level.	
6k	Compliance on reclamation and rehabilitation by backfilling (iv) Rehabilitation by making water reservoir	No proposals at present.	The conversion of water reservoir is not yet started. However, rain water is getting collected in the bottom of the non working area.	Not possible at present.
6l	Compliance on reclamation and rehabilitation by backfilling (v)any other specific means.	No proposals as such	Nil	No such proposals.
6m	Compliance of rehabilitation of waste land within lease (i)afforestation	No proposals.	Nil	May be at the end of the lease period.

6n	Compliance of rehabilitation of waste land within lease (ii)Area rehabilitation (ha)	No proposals.	Nil	Nil
6o	Compliance of rehabilitation of waste land within lease (iii)Method of rehabilitation	No proposals.	Nil	Nil
6p	Compliance of environmental monitoring (core zone and buffer zone)	proposed for quarterly report.	This has been undertaken quarterly through the consultant regularly and submitted the report.	yes it is followed.
6q	General remarks of inspecting officers on PMCP compliance and progressive closure operations etc.	proposed as applicable.	Yes it is being done.	Work of reclamation is in progress.

Mineral Conservation:

Sl.No.	Item	Propasals	Actual work	Remarks
7a	ROM Mineral dispatch or grade-wise sorting within lease area	No proposals.	The excavated ore has been sent directly to the plant, without sorting.	The ore is processed at the plant to the required product.
7b	Method of grade-wise mineral sorting i.e. manual or mechanical.	No proposals.	Yes no such process at the site.	Yes directly fed to the plant for finalprocessing.
7c	Different grade of mineral sorted out at mines.	No proposals.	However, Cao=40.39, Sio2=18.34, Al2o3=4.47, Fe2o3=1.50.	as above.
7d	Any beneficiation process at mines	No proposals	Nil	Nil
7e	General remarks of inspecting officer on Mineral conservation and beneficiation issues	Proposals drawn as applicable presently in the mine.	Yes same is followed.	Yes followed.

 Environment:

Sl.No.	Item	Propasals	Actual work	Remarks
8a	Separate removal and utilization of topsoil (Rule 32)	proposed for stacking.	Yes it being stacked on the NNE for future use.	yes which is not as per the proposals in the document.
8b	Concurrent use or storage of topsoil	Proposals for storage & also for use in plants/ saplings.	Yes storage is present & whenever any usage required has been utilized.	yes it is followed.
8c	Separate dumps for overburden, waste rock, rejects and fines (Rule 33)	proposed for OB dumps, Marl, and not for MR & fines.	Yes Old OB dump is present, Besides, Marl also, presently waste is being used for worked out are for back filling.	Now mainly OB waste is used for back filling. No waste dump is active. Also, marl dump is being segregated to collected the saleable ore present in the old stacks.
8d	Use of overburden, waste rock, rejects and fines dumps for restoring the land to its original use	Given proposals.	OB waste only is used for Back filling to restore the pit.	yes it is followed in the mine.
8e	Phased restoration, reclamation and rehabilitation of lands affected by mining operations (Pits, dumps etc)	proposals drawn.	Yes work is under progress.	Yes it is under progress.
8f	Baseline information on existence of plantation and additional plantation done (Rule 41)	Given	1000 nos of trees.	1250 trees planted., species of Samanea, Albizialebbek, indica, Tamaarindus, Pungamia, pinada.
8g	Survival rate	given	90%	80-90% as seen from the site condition.

8h	Water sprinkling on roads to control airborne dust	Yes proposed.	Yes water spraying is practiced in the mine.	yes is it being done.
8i	General remarks of inspecting officer on aesthetic beauty in and around mines area	Given in the proposals.	yes it is being followed in the mine both in & around.	Yes it being done satiafactory.

Compliance of Rule 45:

Sl.No.	Item	Propasals	Actual work	Remarks
9a	Status of submission of Monthly and Annual returns	Submitted AR & MR	Yes submitted to the satisfaction.	yes submitted .
9b	Scrutiny of Annual return for information on Mining Engineer, Geologist and Manager	Given as per the format.	Mining Engineer in charge Mr.M.Kalishkumar 9. Geologist in charge Mr.Vaithiyanathan	presently, mine manager & the Mining Engineer is Shri. M. M. ramesh has been appointed & in place vaidhyanathan, other geologist shri.. Stalin Prakash has been appointed.
9c	Scrutiny of Annual return on land use pattern for area under pits, reclaimed area, dumps etc.	Given as per the format.	Reclamation & rehabilitation given as 1ha, whereas in the data sheet submitted during the inspection for the year 2017-18, wherein given for 1.5 ha. The reason for the difference is not justified.	Violation letter given.
9d	Scrutiny of Annual return on afforestation	Given in the format.	Given only for outside the lease area i.e. 1000 nos with 80% survival rate. & nil in within the lease area.	yes as above.
9e	Scrutiny of Annual return on mineral reject generation (Grade and quantity)	Given nil	Nil	But in the approved document it is 23383t.

9f	Scrutiny of Annual return on ROM stock and/or graded ore	Given in the format as per the document.	299602t produced & sent to the plant, stack of fresh production only seen in the field. of cement grade.	No stock could be seen as reported.
9g	Scrutiny of Annual return on sale value, Ex. Mine price and production cost	Given as per the format.	Rs. 356/t for ex-mine price & the cost of production/t of ore.	same as above.
9h	Scrutiny of Annual return on fixed assets	Given in the format as applicable.	Rs. 3lakhs only.	same as above
9k	Scrutiny of Annual return on mining machineries	Given in the format.	yes as per the approved document, details of machineries are given.	yes all the machineries.

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)	26-MAR-19			
	Rule 45(7)	26-MAR-19			

Date :

(C.PARAMESHWARAN)

Indian Bureau of Mines