

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

MCDR INSPECTION REPORT

Bangalore regional office

Mine file No : KRL/PAL/LST/1/BNG

Mine code : 38KRL08001

- (i) Name of the Inspecting : **P005**) **C.PARAMESHWARAN**
Officer and ID No.
- (ii) Designation : Deputy Controller Mines
- (iii) Accompanying mine : Shri. Jose Mine manager
Official with
Designation
- (iv) Date of Inspection : 16/12/2015
- (v) Prev.inspection date : 11/03/2015

PART-I : GENERAL INFORMATION

1. (a) **Mine Name** : **PANDARATHU**
- (b) **Registration NO.** :
- (c) **Category** : A Fully Mechanised
- (d) **Type of Working** : Opencast
- (e) **Postal address**
- State : KERALA
- District : PALAKKAD
- Village : PUDUSSERY
- Taluka : PALAKKAD
- Post office : WALAYAR
- Pin Code : 678624
- FAX No. : 0491-2862230
- E-mail : jtkmcl@yahoo.com
- Phone : 0491-2862250
- (f) **Police Station** : WALAYAR
- (g) **First opening date** : 04/06/1980
- (h) **Weekly day of rest** : SUN
2. **Address for** :
- correspondance** MALABAR CEMENTS LTD , WALAYAR POST, PALAKKAD,
KERALA-678624.
3. (a) **Lease Number** : KRL00003
- (b) **Lease area** : 245.69
- (c) **Period of lease** : 20
- (d) **Date of Expiry** : 20/11/2022
4. **Mineral worked** : LIMESTONE Main

5. Name and Address of the

Lessee : MALABAR CEMENTS LTD
 WALAYAR POST, PALAKKAD,
 PALAKKAD KERALA
 Phone:0491-2862373
 FAX :0491-2862230

Owner : K. PADMAKUMAR
 M/s MALABAR CEMENTS LIMITED
 WALAYAR DIST-PALAKKAD
 PALAKKAD KERALA
 Phone: 0491-2862373
 FAX : 0491-2862230

Agent : JOSEPH FRANCIS
 WALAYAR DIST-PALAKKAD
 PALAKKAD KERALA
 Phone: 0491-2862373; 09446004748
 FAX : 0491-2862230

Mining Engineer
 Name : SONNY KURIA KOSE, Full Time
 Qualification : B.E.MINING
 Appointment/ : 12/12/2005
 Termination date

Manager
 Name : JOSE THOMAS
 Qualification :
 Appointment/ : 01/02/1986
 Termination date

6. Date of approval of Mining	:	Existing rule 11 MCDR1988	09/11/1995
Plan/Scheme of Mining	:	Renewal under rule 22 MCR1960	29/05/2002
	:	Mining Scheme rule 12 MCDR1988	21/04/2006
	:	Mining Scheme rule 12 MCDR1988	28/11/2011

PART - II : OBSERVATION/COMMENTS OF INSPECTING OFFICERS

Exploration :

Sl.No.	Item	Proposals	Actual work	Remarks
1a	Backlog of previous year	22 bore holes proposed from 2011-12 to 2015-16(3,4,5,5,5 respectively) . 30-50m each depth of the hole, within the lease area.	Not undertaken due to forest clearance problems, since the area is completely reserve forest.	The present ML area is in forest & the work is restricted within the forest & no new area is involved in mining work.
1b	Exploration over lease area for geological axis 1 or 2	yes 22 bore holes were proposed to undertake within the lease area during the previous approved document for the period 2011-12 to 2015-16.	It is in obedience, due to forest clearance.	Mainly with the present excavations, the geological axis has been considered for the present document.
1c	Exploration Agencies and Expenditure in lakh rupees during the year	Not given details..	nothing on explorations.	Not fixed due to non clearance.
1d	Balance area to be explored to bring Geological axis in 1 or 2	60% of the balance area to undertake.	same could not undertaken due to forest area.	yes due to forest proplem, the proposed work is not undertaken.
1e	Balance reserve as on 01/04/20	10.33 million as per the previous approved document.	to increase the reserves, though the drill holes were proposed, but not undertaken.	same as above, the reserves were same as per the document. However, the lessee submitted another document for approval and the present reserve would have changed.

1f	General remarks of inspecting officers on geology, exploration etc	In the previous approved document though lot of information furnished, but to obtain new information.	due to non accomplishing, the bore holes, the existing pit/quarry is considered for calculations.	no changes, except the existing pit is put to operations.
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Development :

Sl.No.	Item	Propasals	Actual work	Remarks
2a	Location of development w.r.t.lease area	On the NNW of the ML area.	The same location is being followed as on date.	The location is being maintained since begining of the mine.
2b	Separate benches in topsoil, overburden and minerals (Rule 15)	Yes proposed for sytematic benches in OB & in ore.	The systematic working proposals have been made and following in the mine as observed in the mine.	systematic workings are being maintained.
2c	Stripping ratio or ore to OB ratio	1:1.37	1:0.7	from the previous approved document, the present field infomaton is more inmation and appreciable.
2d	Quantity of topsoil generation in m3	No top soil	Yes no top soil present the the M lease area	many area reveals, some area not., however, soil be developeped as iet is occursveloped.
2e	Quantity of overburden generation in m3	30,26,225 m3 of waste proposed for five years from 2011-12 to 2015-16.	14,98,375 t achieved from 2011-12 to 2015-16 till submission for the approval.	Approximately 25% will be less from the total target till the final targets.
2f	General remarks of inspecting officers on development of pit w.r.t. type of deposit etc	The development is proposed as per the five years proposals.	As per the proposals in the development plate, the development is being developed in the mine.	The development is being made as per the proposals in the approved document.s

Exploitation:

Sl.No.	Item	Propasals	Actual work	Remarks
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3a	Number of pit proposed for production	one pit only.	one pit is in operations.	Complete operation is maintained within one pit only.
3b	Quantity of ROM mineral production proposed	33,01,986 tonnes for the five years.	25,22,821 tonnes for the five years.	The production is nearing the targets till the final production.
3c	Recovery of sailable/usable mineral from ROM production	75-80% recovery of ROM	almost 75-80 % recovery is achieved.	Because of the intercalated waste present in between the ore body.
3d	Quantity of mineral reject generation	Nil	Nil	nil
3e	Grade of mineral rejects generation and threshold value declared.	nil	nil	nil
3f	Quantity of sub grade mineral generation.	nil	nil	nil
3g	Grade of sub grade mineral generation	nil	nil	nil
3h	Manual / Mechanised method adopted for segregating from ROM	mechanical	mechanical	same as indicated in the above column.
3i	Any analysis or beneficiation study proposed and carried out for sub grade mineral and rejects.	nil	nil	nil
3j	Provision of drilling and blasting in mineral benches	machineries are proposed wagons drill, hudraulic excvator, hyd. excvator, rock breaker.	machineries as mentioned.	Above machines are in use for developing & achiveing the production.
3k	Provision of mining machineries in mineral benches	yes as indicated in the previous paragraphs.	yes same machines are in use for the developing & produtions.	Yes the above machineries are in use for working for both floor & in the benches.

3l	Whether height of benches in overburden and mineral suitable for method of mining proposed in MP/SOM	9m bench height & width will not less than bench height. Also in other place it is given the width will not be less than 30m	At places the width of the bench was more than the height and more than 20m	benches are maintained systematically.
3m	Total area covered under excavation/pits	30.90ha is only covered	presently the work is within the above 30.90 ha only.	Yes lessee company is working within the broken up area only.
3n	Ore to OB ratio for the pit/mine during the year.	1:1.37 to 1.4	1:0.6 to 0.7	as above.
3o	Total area put in use under different heads at the end of year	47.050 ha	47.050 ha only	same as above
3p	Production of ROM mineral during the last five year period as applicable	2011-12=660420t, 2012-13=660974t, 2013-14=660342t, 2014-15=660067t & 2015-16=660183t	2011-12=576189t, 2012-13=555517t, 2013-14=538044t, 2014-15=549346t & 2015-16=303725t(upto october,2015)	in all the three years the production limit is not crossed.
3q	General remarks of inspecting officers on method of mining etc.	systematic working & scientific way.	systematic working & scientific way.	systematic working & scientific way.

Solid Waste Management - Dumping:

Sl.No.	Item	Propasals	Actual work	Remarks
4a	Separate dumping of topsoil, OB and mineral rejects (Rule 32,33)	No proposal for top soil, but for OB(intercalated waste) and mineral rejects.	Yes no mineral rejects and top soil, but only OB waste, which is of intercalated waste.	yes as mentioned above.
4b	Location of topsoil, OB and mineral reject dumps	As per the approved document it is on the S & SW for OB waste.	As mentioned above is followed in the mine found during the mine inspections.	same as above.

4c	Number of dumps within lease area and outside of lease area	One dump continued from south S E & SSW	the above loation the watse dump is continued.	as above the waste dump is continued.
4d	Location of dumps w.r.t. ultimate pit limit (Rule 16)	For the present the waste dump is very close to the main working pit.	Yes the waste is located within the UPL for the present, this may change, depends on future plan, if the company desures to advance the mining operations beyond this limit, if they able to obtain the FC from MOEF. Otherwise, this may be retained.	
4e	Number of active and alive dumps.	Main waste dump is located on the south east & SW, wherein part on the SSE is partly planted and on the SSW is alive and continuing the operations.	Main waste dump is located on the south east & SW, wherein part on the SSE is partly planted and on the SSW is alive and continuing the operations.	as above is present situations.
4f	Number of dead dumps.	one dump partly.	one dump is part, in continuation of the same area.	one dump in part.
4g	Number of dumps established.	one dump in partly stabilized.	one dump is stabilized in part.	one dump in partly.
4h	Whether Retaining wall or garland drain all along dumps are there.	yes retaining wall is provided along the waste dump.	yes provided retaining wall all along the waste dump.	yes provided.
4i	Length of Retaining wall or garland drain all along dumps	more than 150 to 200m along the waste dump.	on the day of inspection, it was aobserved that the retaing wall is provided with dry masanary wall.	yes provided olang the dump.
4j	Number of settlling ponds	one at a distance onthe western side of the dump and the pit.	yes one is situated away from the main working pit.	yes one is in working conditions.
4k	Specific comments of inspecting officer on waste dump management	proposal made to dump along the SSE & SSW is followed.	the proposal is being followed in the mine.	waste dump is maintained through terracing method, with advancing method.

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.	No proposals is made, since no area is matured for back filling.	no proposals	nil
5b	Area under backfilling of mined out area	none	none	none
5c	Concurrent use of topsoil for restoration or rehabilitation of mineral out area (Rule 32)	none	none	none
5d	Total area fully reclaimed and rehabilitated	nil	nil	nil
5e	General remarks of inspecting officers on backfilling and reclamation etc.	no area is matured for back filling & rehabilitation s.	nil	nil

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).	Not submitted	nil	nil
6b	Area available for rehabilitation (ha) .	nil	nil	nil
6c	afforestation done (ha).	afforestation in green belt area 0.5 / ha & 1000 saplings/ annum	4000 nos. of saplings for five years period from 2006-07 to 2010-11. also 5200 nos. of plantations against 5000 nos. of plantation for the period 2011-12 to 2015-16(up to october,15).	The area reveals complete dense forest, some additional plantations were carried out in the old waste dump area on SSE side.
6d	No. of saplings planted during the year	1000/ha were proposed,	1020 nos/ ha against the proposals.	carrying out the proposals.

6e	Cumulative no .of plants	100,000 nos		
6f	Any other method of rehabilitation	No proposals as such, since there is no scope for rehabilitation work	except one waste dump area where afforestation undertaken after the dumping.	since the waste dump area stopped to certain heights, later undertaken afforestations.
6g	Cost incurred on watch and care during the year	There is no special watch & care, regular watch and ward and care unit is present.	There is no special watch & care, regular watch and ward and care unit is present.	The mine is operating normally and will run for some more years.
6h	Compliance on reclamation and rehabilitation by backfilling (i) Voids available for backfilling (L x B x D	No proposals and no voids available.	no voids available for back filling as such.	No chance for such work.
6i	Compliance on reclamation and rehabilitation by backfilling (ii) Voids filled by waste / tailings	no proposals as on date for such voids.	no such work undertaken.	no such work is possible as on date.
6j	Compliance on reclamation and rehabilitation by backfilling (iii)Afforestation on on backfilled area	No proposals	nil	nil
6k	Compliance on reclamation and rehabilitation by backfilling (iv) Rehabilitation by making water reservoir	no proposals as on date	no such work	nil
6l	Compliance on reclamation and rehabilitation by backfilling (v)any other specific means.	no proposals	no such work in the ML area	nil

6m	Compliance of rehabilitation of waste land within lease (i)afforestation	no proposals a nil such	nil	nil
6n	Compliance of rehabilitation of waste land within lease (ii)Area rehabilitation (ha)	No such proposals.	nil	nil
6o	Compliance of rehabilitation of waste land within lease (iii)Method of rehabilitation	no such proposals.	no such work	nil
6p	Compliance of environmental monitoring (core zone and buffer zone)	yes proposed to carry out in the mine	copy submitted in the approved document, while approving the mining plan/ scheme of mining.	report enclosed.
6q	General remarks of inspecting officers on PMCP compliance and progressive closure operations etc.	The proposed details are available in the previous documents.	The report sent to this office after undertaking the work.	The proposals made in the PMCP are being carried out in the mine.

Mineral Conservation:

Sl.No.	Item	Propasals	Actual work	Remarks
7a	ROM Mineral dispatch or grade-wise sorting within lease area	The mineral excavated from the mine is sent to crusher plant and from there it is sent to plant/ mill for further proceesing.	No separate sorting, execept segrgating the mineral and the intercalated waste and the mineral is sent to crusher through dumpers for crushing in the plant.	Sorting is made in the pit itself before the ore is sent to the crusher
7b	Method of grade-wise mineral sorting i.e. manual or mechanical.	mechanical method inside the working pit.	identifying the waste and the mineral, excvating and the loading mineral in the dumpers itself.	yes sorting is made to segrgate the ore & waste before it is sent to the waste dump.

7c	Different grade of mineral sorted out at mines.	main ore & the intercalated waste are separately for sending to the mill & the waste dump.	main ore & the intercalated waste are separately for sending to the mill & the waste dump.	as above is followed in the mine.
7d	Any beneficiation process at mines .	Except crusher at mines, no other processing is present in the mine.	Yes, the crusher is mainly to reduce the materials and sent to cement plant for reducing and also for processing.	cement plant is located at approximately 30-40km from the mine.
7e	General remarks of inspecting officer on Mineral conservation and beneficiation issues	Single pit is in operation with minimum production and the mine is operating with minimum productions.	conservation is satisfactory. there is no mineral beneficiation process at the mine, which away from the mine.	both conservation & process are satisfactory.

Environment:

Sl.No.	Item	Proposals	Actual work	Remarks
8a	Separate removal and utilization of topsoil (Rule 32)	In the beginning of the mining operation only, when the new area is tent to open, but not presently.	working within the broken up area.	nil
8b	Concurrent use or storage of topsoil	Not applicable at present.	At the time of opening the mine, but the lessee operating in the broken up area/ already in the working pit.	Not applicable.
8c	Separate dumps for overburden, waste rock, rejects and fines (Rule 33)	Proposal is made for OB waste dumping only and not for the others	waste dumping is being carried out in the ear marked place.	Only waste dump is found to be exist in the SSE & SSW respectively.
8d	Use of overburden, waste rock, rejects and fines dumps for restoring the land to its original use	no such proposals.	no such work undertaken, except waste.	no such work undertaken in the ML area.

8e	Phased restoration, reclamation and rehabilitation of lands affected by mining operations (Pits, dumps etc)	no proposals for working pit, but for dumps only.	Not in the present working after.1	the mine is not approached such situation to undertake any restoration work.
8f	Baseline information on existence of plantation and additional plantation done (Rule 41)	Yes the ML area comes under complete reserve forest, hence addition of plantations is undertaken in the office, waste dump area.	waste dump area & office , workshop areas were planted appropriately.	Though the area reveals forest & natural growth were present in dense.
8g	Survival rate	75%	70%	almost as indicated.
8h	Water sprinkling on roads to control airborne dust	water tanker were deployed to suppress the dust.	water tankers were present in the mining area for suppressing the dust.	yes water tankers were present to control the dust.
8i	General remarks of inspecting officer on aesthetic beauty in and around mines area	proposed to maintain the aesthetic beauty in around the mines area.	The ML area were maintained without dust and the environment was very much appreciable.	The cement plant is very much away from the lease area, and the mine is operated in a single pit from top to bottom and the airborne dust is controlled and the aesthetic beauty is well maintained.

Compliance of Rule 45:

Sl.No.	Item	Proposals	Actual work	Remarks
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9a	Status of submission of Monthly and Annual returns	Yes monthly & annual returns for the year 2014-15 submitted by the lessee company. Mine manager, mining engineer, lease mater, emplyment & wages. Capital structures, consumption of materials, taxes & cesses. explosives, geology & mining for limestone, and reserves, machineries, production of limestone and the waste. Opening & closing stock. dispatch, closing stock & ex-mine price, cost of production.	Jose Thomas & Sony Kuriyakose, Manager & Ming engr. 234.94 ha in forest land.out of which 83.50 ha under mining & other allied activities. 218 persons employed in the mine. salary amount was for the year Rs. 6,735,423. Depreciation cost on fixed asset is Rs.10,55,000/-The proved mineral reserve of Limestone 81,13,529t. The waste for the year was 211189 m3 & cumulative in the mine is 24,413,093m3. The production for the year was 549,346t & opg & closg stock are 58,180t & 67844t	
9b	Scrutiny of Annual return for information on Mining Engineer, Geologist and Manager	Shri Jose Thomas & Sony Kuriyakose, mines Manager & Mining engineer.	Yes both the persons present during the inspections.	appointed on regular basis.
9c	Scrutiny of Annual return on land use pattern for area under pits, reclaimed area, dumps etc.	31 ha as exploited & abandoned, 52 ha is current workings, waste disposal 11 ha, buildings, plant & roads etc., 5 ha, & 2 ha for work progress under PMCP.	The 31 ha area reported is not corect, which is come to know that the area where waste dumped and planted on that and that was informed the mine manager to correct it and resend the same.	The mine manager was advised to rectify and explainedthe way what is meaning of the same(i.e 12(i).

9d	Scrutiny of Annual return on afforestation	200 nos. of trees planted during the year with 75% survival rate within the lease area.	it was observed in the mine on afforestation.	though it is given as within the lease area, but not specified the locations.
9e	Scrutiny of Annual return on mineral reject generation (Grade and quantity)	nil, however, no proposal given.	nil reported.	In the approved MP/SOM it is very clear no generation of mineral rejects.
9f	Scrutiny of Annual return on ROM stock and/or graded ore	58180 as opening stock, 549346t of production & closing stock of 67844t with cement grade.	stocks were kept near the mine working & will be shifted regularly to the crusher plant tp mill processing.	The grade of the mineral is not indicated except cement grade.
9g	Scrutiny of Annual return on sale value, Ex. Mine price and production cost	Th sale value is Rs. not given, since it is captive plant , The ex-mine price is Rs. 531/-, The production cost is Rs. 531/t	The sale value is not given, atleast the price of the bags should be given for the clarity of the value.	Though captive plant, the sale value should be declared.
9h	Scrutiny of Annual return on fixed assets	Rs. 1055000 is the depreciation on fixed assets.	the details of the assests not given.	nil
9k	Scrutiny of Annual return on mining machineries	various machineries are given, for drilling, loading & transportation etc., were given, which are under use in the mining.	Back hoe, dozer, rock drills, shovel hydraulic, water tanker, dumpers, pumps, crusher & blast holes drill machines.	All the above machines are used in the open cast mine.

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
Rule 45(1)	18/03/2016				

Date :
(C.PARAMESHWARAN)

Indian Bureau of Mines