

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

MCDR inspection REPORT

Goa regional office

Mine file No : GOA/FE/13/3

Mine code : 30GOA02051

- (i) Name of the Inspecting : **K03**) **G. S. KANNAN**
Officer and ID No.
- (ii) Designation : Junior Mining Geologist
- (iii) Accompanying mine : S/Shri. Jayesh Bandodkar-MM, Viraj- Geologist
Official with
Designation
- (iv) Date of Inspection : 23/08/2017
- (v) Prev.inspection date : 29/12/2011

PART-I : GENERAL INFORMATION

1. (a) **Mine Name** : **FARATEMBO DONGURLI**
- (b) **Registration NO.** : **IBM/197/2011**
- (c) **Category** : **A Mechanised**
- (d) **Type of Working** : **Opencast**
- (e) **Postal address**
- State : **GOA**
- District : **SOUTH GOA**
- Village : **COSTI**
- Taluka : **SANGUEM**
- Post office : **KALAY**
- Pin Code : **403704**
- FAX No. :
- E-mail :
- Phone :
- (f) **Police Station** : **SANGUEM**
- (g) **First opening date** : **01/01/1950**
- (h) **Weekly day of rest** : **SUN**
2. **Address for** : **VILLAGE: COSTI, TQ: SANGUEM**
correspondance : **DIST: SOUTH GOA**
: **GOA**
3. (a) **Lease Number** : **GOA0033**
- (b) **Lease area** : **62.75**
- (c) **Period of lease** :
- (d) **Date of Expiry** : **21/11/2027**
4. **Mineral worked** : **IRON ORE** **Main**

5. Name and Address of the

Lessee : CHOWGULE & CO. LTD.
Marmugao Harbour Chowgule
House Vasco-da-gama SOUTH
GOA GOA
Phone:0832-343228,343223
FAX :

Owner : R. L. CHOWGULE
Owner of Costi Mine,
Chowgule House, Mormugao
Harbour, Goa. SOUTH GOA GOA
Phone:
FAX :

6. Date of approval of Mining : Renewal under rule 24 MCR1960 10/10/2007
Plan/Scheme of Mining : MP modif under MCR 1960 01/09/2015

PART - II : OBSERVATION/COMMENTS OF INSPECTING OFFICERS

Exploration :

Sl.No.	Item	Proposals	Actual work	Remarks
1a	Backlog of previous year	The lessee company proposed for 3 bore holes for the year 2016-2017.	Lessee has drilled 5 Boreholes	
1b	Exploration over lease area for geological axis 1 or 2	For G2 axis.	G-2 axis	
1c	Exploration Agencies and Expenditure in lakh rupees during the year	Own drilling and/or contract drilling machines were used for exploration in the past.	During 2016-2017, 5 borehole were drilled using diamond drill rigs. Rs. 5.5 lacs were spent on exploration.	Cumulatively 137 were drilled using diamond drill rigs. Total Rs. 65.00 lacs were spent on exploration.
1d	Balance area to be explored to bring Geological axis in 1 or 2	Exploration was proposed in G-3 area.	G-3 area has been reduced to G-2 by additional exploration.	
1e	Balance reserve as on 01/04/20	As on 01.04.2017 Proved Mineral Reserves (111) =1039000 Tons	As on 01.04.2017 Proved Mineral Reserves (111) =1445326 Tons	
1f	General remarks of inspecting officers on geology, exploration etc	The deposit is of Costi-Quirlapale Deposit	Stikes are folded into anticlines and Synclines with medium to gentle dips	

Development :

Sl.No.	Item	Proposals	Actual work	Remarks
2a	Location of development w.r.t.lease area	N234-N516/ E283-E603	N234-N516/ E283-E603	
2b	Separate benches in topsoil, overburden and minerals (Rule 15)	Topsoil is not present in area. Separate benches in waste and ore are planned.	Topsoil is not present in area. 8-Separate benches in waste and 4 benches in ore are developed	
2c	Stripping ratio or ore to OB ratio	1:1.60	1:1.85	

2d	Quantity of topsoil generation in m3	No proposal	No proposal
2e	Quantity of overburden generation in m3	235185 Cu.m/ 540925 Tons	243995 Cu.m/ 578270 Tons
2f	General remarks of inspecting officers on development of pit w.r.t. type of deposit etc	Nil	Nil

Exploitation:

Sl.No.	Item	Propasals	Actual work	Remarks
3a	Number of pit proposed for production	Development and production are proposed in single pit.	Development and production is carried out as per in proposed area.	
3b	Quantity of ROM mineral production proposed	The total target of ROM production was 339000 tons during 2016-2017 as per distribution from lessee on capping on Environment clearance quantity.	Total 311815 tons of ROM production was reported during the year 2016-2017.	
3c	Recovery of sailable/usable mineral from ROM production	The recovery of ore from ROM was planned 100% after screening.	100%	
3d	Quantity of mineral reject generation	No Proposal	Nil	
3e	Grade of mineral rejects generation and threshold value declared.	No Proposal	Nil	
3f	Quantity of sub grade mineral generation.	No Proposal	Nil	
3g	Grade of sub grade mineral generation	No Proposal	Nil	

3h	Manual / Mechanised method adopted for segregating from ROM	Dry screening was proposed for grade-wise production.	Dry screening was used for grade-wise production.
3i	Any analysis or beneficiation study proposed and carried out for sub grade mineral and rejects.	Nil	Except Crushing, no other beneficiation activity has been carried out only
3j	Provision of drilling and blasting in mineral benches	Drilling and blasting was not proposed.	Drilling and blasting is not carried out and ripper dozer is used for excavation.
3k	Provision of mining machineries in mineral benches	xcavator- 3 Nos Ripper Dozer - 1 No Tipper - 30 Nos W/ Loader - 4 No Dozer - 1 No Water tanker - 1 No Artic Dumper - 2 Nos Motor Grader - 1 No	Excavator- 3 Nos Ripper Dozer -1 No Tipper - 30 Nos W/ Loader - 4 No Dozer - 1 No Water tanker - 1 No Artic Dumper - 2 Nos Motor Grader - 1 No
3l	Whether height of benches in overburden and mineral suitable for method of mining proposed in MP/SOM	Bench height of 6m was proposed in waste and Ore.	As per the Proposal bench height is maintained
3m	Total area covered under excavation/pits	21.97 Hectares proposed	21.97 Hectares achieved
3n	Ore to OB ratio for the pit/mine during the year.	1 : 1.60	1 : 1.85

3o	Total area put in use under different heads at the end of year	Land use Pattern as on 01.04.2017. Mines = 21.97 hect Backfilled = 7.71 hect Dump = 2.70 hect Mineral Storage = 2.60 hect Infrastructure = 2.31 hect Mine road = 1.80 hect Unused = 12.20 hect	Land use Pattern as on 01.04.2017. Mines = 21.97 hect Backfilled = 7.71 hect Dump = 2.70 hect Mineral Storage = 2.60 hect Infrastructure = 2.31 hect Mine road = 1.80 hect Unused = 12.20 hect
3p	Production of ROM mineral during the last five year period as applicable	2016-2017 = 339000 tons 2015-2016 = 189000 tons 2014-2015 = Nil 2013-2014 = Nil 2012-2013 = 370000 tons	2016-2017 = 311815 tons 2015-2016 = 51823 tons 2014-2015 = Nil 2013-2014 = Nil 2012-2013 = 101188 tons
3q	General remarks of inspecting officers on method of mining etc.	Nil	Nil

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 no Topsoil and Mineral rejects, only OB is proposed as temporary backfilling inside the bottom of pit.	Entire developed quantity of 578270 tons has been backfilled in the proposed the area	

4b	Location of topsoil, OB and mineral reject dumps	There is no generation of Topsoil and Mineral rejects. Temporary backfilling of OB waste was proposed inside the Pit in Location of S-95-N-82/ E-388 to E- 594	There is no generation of Topsoil and Mineral rejects. Temporary backfilling of OB waste was done inside the Pit in Location of S-95-N-82/ E-388 to E- 594
4c	Number of dumps within lease area and outside of lease area	Within Lease = 2	Within Lease = 2
4d	Location of dumps w.r.t. ultimate pit limit (Rule 16)	No external dumping was proposed; however temporary backfilling was proposed, Old dumping is outside the UPL	Backfilling has Carried out as per proposed area outside the UPL Dump no.1 S125-S430/ E315-E580 Dump no.2 N390-N280/ E130-W110
4e	Number of active and alive dumps.	There is no active and alive dump.	There is no active dump within lease area for waste dumping.
4f	Number of dead dumps.	Within Lease = 2	Within Lease = 2
4g	Number of dumps established.	Within Lease = 2	Within Lease = 2
4h	Whether Retaining wall or garland drain all along dumps are there.	Yes Proposed	Achieved as per proposal
4i	Length of Retaining wall or garland drain all along dumps	Trench/ Drain (Existing) - 500m cleaning Trench/ Drain (New) -100m	Dump no.1- 950m trench/drain; 210m murrum bund; Dump no.2- 100m trench; afforestation 10,000 nos.
4j	Number of settling ponds	Nil	Nil

4k	Specific comments of inspecting officer on waste dump management	Nil	2 - Old dump are established. There is no generation of Topsoil and Mineral rejects. OB waste has temporary backfilled inside the Pit. Trenchs, Settling Pond are maintained and cleaning were done to avoid washoff.
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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.	Due to non-availability of area, it is proposed for temporary backfilling within Pit.	Temporary backfilling has been carry out as per proposal	
5b	Area under backfilling of mined out area	2.14 Hectares	2.15 Hectares reclaimed	Cumulative area 6.53 hectares
5c	Concurrent use of topsoil for restoration or rehabilitation of mineral out area (Rule 32)	Nil	Nil	
5d	Total area fully reclaimed and rehabilitated	6.53 hectares reclaimed	6.53 hectares reclaimed	
5e	General remarks of inspecting officers on backfilling and reclamation etc.	Nil	Due to non availability of area, temporary backfilling has done within Pit for 2.15 hectares	

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).	To be submitted before 30th July of Every Year	Submitted within time limit	

6b	Area available for rehabilitation (ha) .	Mineral is persisting in pit bottom and temporary backfilling is proposed in it for Void available in this pit	Temporary backfilling is carried out in and area covered is almost 2.15ha.	
6c	afforestation done (ha).	Gap Plantation	Gap Plantation	
6d	No. of saplings planted during the year	1,000 Nos.	1,000 Nos.	Gap Plantation on Dump-1
6e	Cumulative no .of plants	46,000 Nos.	46,000 Nos.	
6f	Any other method of rehabilitation	Nil	Nil	
6g	Cost incurred on watch and care during the year	95,000/-	120,000/-	
6h	Compliance on reclamation and rehabilitation by backfilling (i) Voids available for backfilling (Lx B x D	160m x 134m x 30m 2.14ha.	160m x 134m x 30m 2.15ha.	
6i	Compliance on reclamation and rehabilitation by backfilling (ii) Voids filled by waste / tailings	Nil	Nil	
6j	Compliance on reclamation and rehabilitation by backfilling (iii)Afforestation on on 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)	Quarterly environment monitoring is required and report has to be sent to IBM Regional office.	Quarterly environment monitoring is carried out through own as well as private agency in Core & Buffer Zone as per guidelines.
6q	General remarks of inspecting officers on PMCP compliance and progressive closure operations etc.	Nil	Nil

Mineral Conservation:

Sl.No.	Item	Propasals	Actual work	Remarks
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7a	ROM Mineral dispatch or grade-wise sorting within lease area	As per approved mining plan proposed ROM was classified as +60% Fe, +58-60% Fe, +55-58% Fe, +50-55% Fe, +45-50% Fe and below 45% Fe is considered as mineral reject due to low market price.	The ROM ore was processed in dry screening and thereafter gradewise production and despatch is reported
7b	Method of grade-wise mineral sorting i.e. manual or mechanical.	Mechanical processing i.e. dry screening was proposed for grade-wise production.	Mechanical processing i.e. dry screening was used for grade-wise production.
7c	Different grade of mineral sorted out at mines.	As per approved mining plan proposed ROM was classified as +60% Fe, +58-60% Fe, +55-58% Fe, +50-55% Fe, +45-50% Fe and below 54% Fe is considered as mineral reject due to low market price.	As per approved mining plan proposed ROM was classified as Powdery ore +60% Fe, Friable Ore +55-59% Fe, Low-Grade Ore +45-54% Fe, below 54% is considered as mineral reject due to low market price.
7d	Any beneficiation process at mines .	Mechanical processing i.e. dry screening was proposed for grade-wise production.	Dry Screening has been used in mines
7e	General remarks of inspecting officer on Mineral conservation and beneficiation issues	Nil	Nil

Sl.No.	Item	Propasals	Actual work	Remarks
8a	Separate removal and utilization of topsoil (Rule 32)	No Proposal	Nil	
8b	Concurrent use or storage of topsoil	Nil	Nil	
8c	Separate dumps for overburden, waste rock, rejects and fines (Rule 33)	Proposal was to temporary backfill the waste inside the pit due to nonavailability of other area for dumping and mineral is persisting in the pits.	Temporary backfilling is started during the year for 2.15 hectares	
8d	Use of overburden, waste rock, rejects and fines dumps for restoring the land to its original use	Nil	Nil	
8e	Phased restoration, reclamation and rehabilitation of lands affected by mining operations (Pits, dumps etc)	Nil	Dump are restored with plantation and temporary backfilling is started in pit. The mining lease will remain in operation upto 2027.	
8f	Baseline information on existence of plantation and additional plantation done (Rule 41)	Existence of plantation is there on slopes of the dump, along the road and other part of lease area. Additional plantation is not proposed during the year.	46,000 nos. saplings planted so far.	
8g	Survival rate	No proposal	Survival rate is around 65% for previous plantation	

8h	Water sprinkling on roads to control airborne dust	Yes, it is proposed for water sprinkling on haul roads.	Water tankers are used for roads to control dust
8i	General remarks of inspecting officer on aesthetic beauty in and around mines area	Nil	Surrounding area beyond lease area is lush green and lessee has carried out plantation on dump, along road etc.

Compliance of Rule 45:

Sl.No.	Item	Propasals	Actual work	Remarks
9a	Status of submission of Monthly and Annual returns	Both Annual & Monthly returns are submitting in online system.	Submitted within the time limit	
9b	Scrutiny of Annual return for information on Mining Engineer, Geologist and Manager	All the technical persons are appointed.	Surveyour is working as part time in other Non-working mines also.	Now the lessee has been amalgamated
9c	Scrutiny of Annual return on land use pattern for area under pits, reclaimed area, dumps etc.	Area under pit 21.97ha, Reclaimed/ Rehabilitated 6.530ha, Dump 2.70ha and plant 4.590ha, Others 3.20ha.	Land use pattern are as per approved modified mining plan	
9d	Scrutiny of Annual return on afforestation	1000 plants	Gap plantaion has carried out in dump area	
9e	Scrutiny of Annual return on mineral reject generation (Grade and quantity)	No Proposal	Nil	
9f	Scrutiny of Annual return on ROM stock and/or graded ore	ROM Stack = 311815 tons Grade +55%	As per proposal the ROM has been carried out	
9g	Scrutiny of Annual return on sale value, Ex. Mine price and production cost	Cost of production = Rs.704/ton. Sale value & Ex.Mine Price = Rs.434/ton	Nil	

9h	Scrutiny of Annual return on fixed assets	Fixed assets has been filled	As per present land value the Fixed assets has been filled
9k	Scrutiny of Annual return on mining machineries	Backhoe, wheel loader, dozer, truck & Pump	All machineries are available in site

Details of violations observed during current inspection and compliance position of violation pointed out

Violation observed		Show couse position	
Rule NO.	Issued on Compliance on	Rule NO.	Issued on Compliance on

Date :

(G. S. KANNAN)

Indian Bureau of Mines