

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

MCDR inspection REPORT

Goa regional office

Mine file No : GOA/FE/200/1

Mine code : 30GOA02071

- (i) Name of the Inspecting : **K03**) **G. S. KANNAN**
Officer and ID No.
- (ii) Designation : Junior Mining Geologist
- (iii) Accompanying mine : S/shri.Bandodkar, MM & Hegde, Geologist
Official with
Designation
- (iv) Date of Inspection : 01/09/2017
- (v) Prev.inspection date : 12/06/2017

PART-I : GENERAL INFORMATION

1. (a) **Mine Name** : **PUNDAVANGAVORIL**
- (b) **Registration NO.** : **IBM/524/2011**
- (c) Category : A Mechanised
- (d) Type of Working : Opencast
- (e) Postal address :
State : GOA
District : SOUTH GOA
Village : DUDAL
Taluka : SANGUEM
Post office : KALAY
Pin Code : 403704
FAX No. :
E-mail :
Phone :
- (f) Police Station : COSTI
- (g) First opening date : 01/01/1951
- (h) Weekly day of rest : SUN
2. Address for : VILLAGE: COSTI, TQ: SANGUEM
correspondance : DIST: SOUTH GOA, GOA
3. (a) Lease Number : GOA0179
- (b) Lease area : 82
- (c) Period of lease :
- (d) Date of Expiry : 22/11/2027
4. Mineral worked : IRON ORE Main

5. Name and Address of the

Lessee : V D Chowgule
 Chowgule House Mormugao
 Harbour, Goa SOUTH GOA GOA
 Phone:512157 To 59, 513261 To 63 & 512431
 FAX :(0832) 513818(HQ)/343223 (MinesContloff)

Owner : V.D.Chowgule (R.N. Shetty, Power of Attorney)
 Chowgule House Mormugao
 Harbour, Goa SOUTH GOA GOA
 Phone:
 FAX :

6. Date of approval of Mining	:	Renewal under rule 24 MCR1960	18/06/2007
Plan/Scheme of Mining		MP modif under MCR 1960	14/08/2015
		MP modif under 17(3) MCR 2016	15/09/2016
		MP modif under 17(3) MCR 2016	28/02/2017

PART - II : OBSERVATION/COMMENTS OF INSPECTING OFFICERS

Exploration :

Sl.No.	Item	Proposals	Actual work	Remarks
1a	Backlog of previous year	There is no Proposal of Exploration in approved MP	Nil	
1b	Exploration over lease area for geological axis 1 or 2	For G2 axis.	For G2 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.	Total 162 boreholes were drilled. Total Rs. 65.24 lac was spent on exploration.	
1d	Balance area to be explored to bring Geological axis in 1 or 2	Exploration was carried out at 50m X 50m grid interval. Additional exploration was not proposed	Exploration was carried out at 50m X 50m grid interval. Balance area of 9 hect area has to be explored for availability of ore from G-3 to G-2/1.	
1e	Balance reserve as on 01/04/20	As on 01.04.2017 Proved Mineral Reserves (111) = 5.269 Million Tons Indicated Mineral Resources (332) = 0.607 Million Tons	As on 01.04.2017 Proved Mineral Reserves (111) = 5.456 Million Tons Indicated Mineral Resources (332) = 0.607 Million 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
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2a	Location of development w.r.t.lease area	N-725 to N-511/ E-174 to E-489	N-700 to N-515/ E-200 to E-489
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. 6-Separate benches in waste and 4 benches in ore are developed
2c	Stripping ratio or ore to OB ratio	1 : 1.02	1 : 0.99
2d	Quantity of topsoil generation in m3	No proposal	No proposal
2e	Quantity of overburden generation in m3	156521 m3 360000 Tons	148154 m3 340755 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 350000 tons during 2016-2017 as per distribution from lessee on capping on Environment clearance quantity.	Total 343425 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	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	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	26 Ha.	26 Ha.
3n	Ore to OB ratio for the pit/mine during the year.	1 : 1.02	1 : 0.99

3o	Total area put in use under different heads at the end of year	Land use Pattern as on 01.04.2017. Mines = 26 hect Backfilled = 10.50 hect Dump = 10.43 hect Infrastructure / Mine road = 3.70 hect Unused = 26.530hect	Land use Pattern as on 01.04.2017. Mines = 26 hect Backfilled = 10.43 hect Dump = 10.43 hect Infrastructure/ Mine road = 3.70 hect Unused = 26.530hect
3p	Production of ROM mineral during the last five year period as applicable	2013-2014 = Nil 2014-2015 = Nil 2015-2016 = 210200 tons 2016-2017 = 350000 tons	2013-2014 = Nil 2014-2015 = Nil 2015-2016 = 86787 tons 2016-2017 = 343425 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 340755 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 N-1041 to N-800/ E-385 to E-155	There is no generation of Topsoil and Mineral rejects. Temporary backfilling of OB waste was done inside the Pit in Location of N-1041 to N-800/ E-385 to E-155	

4c	Number of dumps within lease area and outside of lease area	Within Lease = 1	Within Lease = 1	Lease is amalgamated
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 been carried out as per proposed area Dump no.1 N-845 to N-530/ E-530 to E-800 Dump no.2 N-1500 to N-900/ W-330 to W-1000 Dump no.3 N-780 to N-725/ E-120 to E-280	
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.	2 Dumps	2 Dumps	
4g	Number of dumps established.	2 Dumps	2 Dumps	
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 (New) -487m	Trench/ Drain (New) - 500m	
4j	Number of settling ponds	No Proposal	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.	

Solid Waste Management - Backfilling:

Sl.No.	Item	Propasals	Actual work	Remarks
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5a	Status of part or full extraction of mineral from mined out area before starting backfilling.	Due to nonavailability 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	2.15 Hectares	2.00 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	10.5 hectares reclaimed	10.43 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 10.63 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	
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 10.63 ha.	
6c	afforestation done (ha).	Gap Plantation	Gap Plantation	
6d	No. of saplings planted during the year	500 Nos	500 Nos	
6e	Cumulative no .of plants	120000 Nos	143000 Nos. Mainly on dump area and part of back filled area	Combain of Both Leases

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	10.50 hec	10.63 hec
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	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
7a	ROM Mineral dispatch or grade-wise sorting within lease area	As per approved mining plan proposed ROM was classified as Lumpy ore +55% Fe, Friable ore +55-60% Fe, Powdery Ore +60% Fe, Lowgradea Ore +45-55% 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 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.	As per approved mining plan 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

Environment:

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 1.50 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.	
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.	143000 saplings planted	Mainly on dump area and part of back filled area afforested
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.	Surveyor is working as part time in other 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 26.150ha, Reclaimed/ Rehabilitated 10.43ha, Dump 10.430ha, Office/Plant 3.70ha, Others 26.530ha.	Land use pattern are as per approved modified mining plan	
9d	Scrutiny of Annual return on afforestation	500 Nos	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 = 54735 tons Grade +50%	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.988/ton. Ex.Mine Price = Not Given	Nil	
9h	Scrutiny of Annual return on fixed assets	Fixed assets has been not filled	It is adviced to filled the assets value properly	
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 cause position	
Rule NO.	Issued on Compliance on	Rule NO.	Issued on Compliance on

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

Indian Bureau of Mines