

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

MCDR inspection REPORT

Goa regional office

Mine file No : Goa/Fe/15

Mine code : 30GOA01052

- (i) Name of the Inspecting : **K03**) **G. S. KANNAN**
Officer and ID No.
- (ii) Designation : Junior Mining Geologist
- (iii) Accompanying mine : S/Shri. A.N.Shetye, S.M.Hedge
Official with
Designation
- (iv) Date of Inspection : 19/08/2017
- (v) Prev.inspection date : 23/02/2011

PART-I : GENERAL INFORMATION

1. (a) **Mine Name** : **CAZEHEURAM E OUTROS TERR**
- (b) **Registration NO.** :
- (c) Category : A Mechanised
- (d) Type of Working : Opencast
- (e) Postal address
State : GOA
District : NORTH GOA
Village : ONDA
Taluka : SATTARI
Post office : ONDA
Pin Code :
FAX No. :
E-mail : export@chowgulegoa.com
Phone : 0832-343228,343223
- (f) Police Station :
- (g) First opening date :
- (h) Weekly day of rest : SUN
2. Address for : At-Onda
correspondance Po-Pratap Nagar
Tq-Sattari, North Goa , Goa
3. (a) Lease Number : GOA0031
(b) Lease area : 74.61
(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.P.P. Alvenkar, Power of Att.(M/s Chowgule & Co.
 Chowgule House Mormugao
 Harbour Goa SOUTH GOA GOA
 Phone: 0832-343228,343
 FAX :

Agent : R.P. Alvenkar
 M/s Chowgule & Co. Ltd.
 Mines Central Office Post-
 Pale NORTH GOA GOA
 Phone: 372230
 FAX : 0832-372228

Geologist
 Name : Abhijeet Nailk,Full Time
 Qualification :
 Appointment/ : 01/06/2016
 Termination date

Manager
 Name : RAGHAVENDRA D KAMATH
 Qualification : BE (mining) & 1st Class MM Certi.
 Appointment/ : 28/03/2009
 Termination date

6. Date of approval of Mining	:	Existing rule 11 MCDR1988	05/11/1997
Plan/Scheme of Mining		Mining Scheme rule 12 MCDR1988	21/05/2004
		Renewal under rule 24 MCR1960	09/05/2007
		MP modif under MCR 1960	27/10/2015
		MP modif under 17(3) MCR 2016	17/10/2016

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	4 BH was proposed in modified mining plan for 2017-2018	1 BH has completed and stoped the exploration because of GSPCB Constent issue.	No exploration from 2012.
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 146 boreholes were drilled. Total Rs. 63.97 lacs 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 11.0 hect area has to be explored for availability of ore from G-3/G-2 to G-1.	
1e	Balance reserve as on 01/04/20	As on 01.04.2017 Proved Mineral Reserves (111) = 1.239 Million Tons Probable Mineral Reserves (121) = 1.998 Million Tons Feasibility Mineral Reserves (211) = 0.081 Million Tons Indicated Mineral Resource (332) = 0.597 Million Tons Inferred Mineral Resource (333) = 1.768 Million Tons	As on 01.04.2017 Proved Mineral Reserves (111) = 1.253 Million Tons Probable Mineral Reserves (121) = 1.998 Million Tons Feasibility Mineral Reserves (211) = 0.081 Million Tons Indicated Mineral Resource (332) = 0.597 Million Tons Inferred Mineral Resource (333) = 1.768 Million Tons	

1f	General remarks of inspecting officers on geology, exploration etc	The deposit is of overturned anticline type and is part of Sonshi-Pissurlem Deposit	The Plunging anticline type deposit is explored and operating	For the presently, no exploration proposals drawn.
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Development :

Sl.No.	Item	Propasals	Actual work	Remarks
2a	Location of development w.r.t.lease area	W 762 to W 500/ N118 to S 34	W 762 to W 500/ N118 to S 34	
2b	Separate benches in topsoil, overburden and minerals (Rule 15)	Topsoil is not present in area. Proposed 7 benches in waste and 3 benches in ore.	Topsoil is not present in area. 5 benches in waste and 2 benches in ore are developed.	
2c	Stripping ratio or ore to OB ratio	1 : 0.71	1 : 0.77	
2d	Quantity of topsoil generation in m3	Nil	Nil	
2e	Quantity of overburden generation in m3	61,451 M3 150,000 Tons	62,122 M3 152,200 Tons	
2f	General remarks of inspecting officers on development of pit w.r.t. type of deposit etc	Proposed for 150000 Tons from 7 benches	Achieved only 152200 tons from 5 benches	

Exploitation:

Sl.No.	Item	Propasals	Actual work	Remarks
3a	Number of pit proposed for production	Development and production was proposed in Pit-1.	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 210,000 tons during 2016-2017 as per distribution from lessee on capping on EC limit.	Total 196,999 tonnes of ROM production was reported during the year 2016-2017.
3c	Recovery of sailable/usable mineral from ROM production	100 %	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	Nil
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- 1 No Ripper Dozer - 1 No Tipper - 25 Nos W/ Loader - 1 No Dozer - 1 No Water tanker - 1 No Motor Grader - 1 No	Excavator- 1 No Ripper Dozer - 1 No Tipper - 25 Nos W/ Loader - 1 No Dozer - 1 No Water tanker - 1 No 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 all bench height is maintained
3m	Total area covered under excavation/pits	14.29 hect proposed	14.29 hect achieved
3n	Ore to OB ratio for the pit/mine during the year.	1 : 0.71	1 : 0.77
3o	Total area put in use under different heads at the end of year	Land use Pattern as on 01.04.2017 Mines/ Pit = 14.29 Hect Backfilled & Rehabiltated = 6.20 Hect Dump = 7.20 Hect Road = 1.58 Hect Infrastructure = 0.06 Hect	Land use Pattern as on 01.04.2017 Mines/ Pit = 14.29 Hect Backfilled & Rehabiltated = 6.20 Hect Dump = 7.20 Hect Road = 1.58 Hect Infrastructure = 0.06 Hect
3p	Production of ROM mineral during the last five year period as applicable	2016-2017 = 210000 tons 2015-2016 = Nil 2014-2015 = Nil 2013-2014 = Nil 2012-2013 = 300000 tons	2016-2017 = 196999 tons 2015-2016 = Nil 2014-2015 = Nil 2013-2014 = Nil 2012-2013 = 142200 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. Proposed area was 2.0 hect.	Entire developed quantity of 152200 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 E-160 to E-398/ N-96 to N-205	There is no generation of Topsoil and Mineral rejects. Temporary backfilling of OB waste was done inside the Pit in Location of E-160 to E-398/ N-96 to N-205	
4c	Number of dumps within lease area and outside of lease area	Within Lease = 2 Outside Lease = 1	Within Lease = 2 Outside Lease = 1	
4d	Location of dumps w.r.t. ultimate pit limit (Rule 16)	No external dumping was proposed; however temporary backfilling was proposed, Outside UPL	Backfilling has Carried out as per proposed area outside the UPL	
4e	Number of active and alive dumps.	Active Dump = Nil Alive Dump = Nil	There is no active dump within lease area for waste dumping.	
4f	Number of dead dumps.	Within Lease = 2 Outside Lease = 1	Within Lease = 2 Outside Lease = 1	
4g	Number of dumps established.	Nil	Nil	
4h	Whether Retaining wall or garland drain all along dumps are there.	Garland drain, Settling Pond was proposed on different terraces of backfilled area to avoid wash-off.	Trenches, Settling Pond is maintenances and cleaning were done to avoid wash-off.	

4i	Length of Retaining wall or garland drain all along dumps	Trench & Settling Pond maintenances and cleaning	Total 3542m retaining wall, 1300m bund and 4500m trench provided.
4j	Number of settling ponds	Nil	Nil
4k	Specific comments of inspecting officer on waste dump management	Nil	Old dump-3 is 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
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	E160 - E398/ N96 - N205 for 2.0 hect area	E160 - E398/ N96 - N205 for 2.0 hect area	
5c	Concurrent use of topsoil for restoration or rehabilitation of mineral out area (Rule 32)	Nil	Nil	
5d	Total area fully reclaimed and rehabilitated	6.0 hect	6.0 hect	
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 2.0 hect.	

Progressive Mine Clousre Plan:

Sl.No.	Item	Propasals	Actual work	Remarks
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6a	Whether Annual report on PMCP submitted on time and correctly. Rule 23 E(2).	It should be submitted on or before 1st July 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 2.0ha.	
6c	afforestation done (ha).	Gap Plantation	Gap Plantation	
6d	No. of saplings planted during the year	1000 nos.	1000 nos.	
6e	Cumulative no .of plants	60,500 Nos.	60,500 Nos.	Mainly on Dumps
6f	Any other method of rehabilitation	Nil	Nil	
6g	Cost incurred on watch and care during the year	Nil	Nil	
6h	Compliance on reclamation and rehabilitation by backfilling (i) Voids available for backfilling (Lx B x D	Void available for temporary backfilling is 300m x 100m x 30m	152200 tons has backfilled in 200m x 100m x 5m	
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.
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 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.	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 proposed 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 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 2.0 hect	
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	Dumps 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 proposed in gap plantation.	1000 plants has planted as gap plantation during the year 2016-2017.	
8g	Survival rate	No proposal.	Survival rate is around 80% 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 greenery 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	Dip.M.E, Geologist & Surveyor only shown as technical persons.	During Inspection it was noticed that Mining Engineer & Mines Manager are Present in mines but not shown in Returns.	
9c	Scrutiny of Annual return on land use pattern for area under pits, reclaimed area, dumps etc.	Area under pit 14.29 hect, Backfilled 6.00 hect, Dump 7.20 hect, Infrastructure 1.58 hect, other purpose 1.49 hect.	Land use pattern as per approved modified mining plan and AR are coinciding	Due to Production, development & backfilling are in existng pit, there is no changes in landuse pattern
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 = 196999 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	ROM has stocked and there is no Sales. Ex.Mine Price & Production cost is Zero	Due to market conditions & GSPCB consent issue the ore has not dispatch
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