

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

MCDR inspection REPORT

Goa regional office

Mine file No : Goa/Fe/114

Mine code : 30GOA01031

- (i) Name of the Inspecting : **K03**) **G. S. KANNAN**
Officer and ID No.
- (ii) Designation : Junior Mining Geologist
- (iii) Accompanying mine : S/Shri.S.Bhat, Leo Chirsty
Official with
Designation
- (iv) Date of Inspection : 18/07/2017
- (v) Prev.inspection date : 22/12/2016

PART-I : GENERAL INFORMATION

1. (a) **Mine Name** : **CAZREACHEM CULNA (CUDNEM)**
- (b) **Registration NO.** :
- (c) Category : A Fully Mechanised
- (d) Type of Working : Opencast
- (e) Postal address
State : GOA
District : NORTH GOA
Village : CUDNEM
Taluka : BICHOLIM
Post office : SANQUELIM
Pin Code : 403505
FAX No. :
E-mail :
Phone : 2370312
- (f) Police Station :
- (g) First opening date :
- (h) Weekly day of rest : SUN
2. Address for : Cudnem Mine of M/s R.S.Gharse
correspondance At-Cudnem,Tq-Bicholim
Dist-NorthGoa,Goa
3. (a) Lease Number : GOA0107
(b) Lease area : 79.53
(c) Period of lease :
(d) Date of Expiry : 21/11/2027
4. Mineral worked : IRON ORE Main

5. Name and Address of the

Lessee : KUNDA R. GHARSE
P.B.No.204, Kadar Manzil,
Near Municipal
Building,Margao SOUTH GOA
GOA
Phone:
FAX :

Owner : Smt. Kunda R. Gharse
Post Box No. 204 Kadar
Manzil, Near Municipal
Building Margao, SOUTH GOA
GOA
Phone: (0832) 731036/7
FAX : 738826

Agent : R Subramanian
C/o V.M. Salgaocar & Bro.
Pvt. Ltd, Surla Post-
Sanquelim-Goa NORTH GOA GOA
Phone:
FAX :

Mining Engineer

Name : PAVAN KUMAR DESHMUKH, Full Time
Qualification : B.E (MINING)
Appointment/ : 23/01/2007
Termination date

Manager

Name : G. Shirish
Qualification : D.M.E., F.C.C.
Appointment/ : 03/07/2004
Termination date

6. Date of approval of Mining	:	Mining Scheme rule 12 MCDR1988	17/10/2002
Plan/Scheme of Mining		Modif.approved Mining Scheme	20/06/2005
		Renewal under rule 24 MCR1960	09/05/2007
		Modif.of approved Mining Plan	04/06/2009
		Modif.of approved Mining Plan	14/02/2012
		MP modif under MCR 1960	12/08/2015

PART - II : OBSERVATION/COMMENTS OF INSPECTING OFFICERS

Exploration :

Sl.No.	Item	Proposals	Actual work	Remarks
1a	Backlog of previous year	The lessee has proposed for 3 bore holes for the year 2016-2017.	4 borehoels were drilled as per proposal	
1b	Exploration over lease area for geological axis 1 or 2	Additional exploration was not proposed in modified mining plan.	Additional exploration is not carried out after re-commencement of mining operations from September 2015. Area explored under G-1 category is 52.9 Hect. Total 243 boreholes were drilled with 21,140m drilling.	
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 243 boreholes were drilled. Total Rs. 3.45 crores 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 26 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) = 11.471 Million Tons Pre-Feasibility Mineral Resources (222) = 2.231 Million Tons	As on 01.04.2017 Proved Mineral Reserves (111) = 11.48 Million Tons Pre-Feasibility Mineral Resources (222) = 2.231 Million Tons	
1f	General remarks of inspecting officers on geology, exploration etc	The deposit is doublr plunging type	Iron Ore deposit occurs in form of Five ore bands. One towards north and four towards south	Presently, exploration has stopped due to Consent issue

Development :

Sl.No.	Item	Propasals	Actual work	Remarks
2a	Location of development w.r.t.lease area	N550-900/ E1370-1800 N130-400/ E1440-1640	N550-900/ E1370-1800 N130-400/ E1440-1640	
2b	Separate benches in topsoil, overburden and minerals (Rule 15)	Topsoil is not present in area. 6 benches in waste and ore are Proposed	Topsoil is not present in area. 6 benches are found in waste and ore	
2c	Stripping ratio or ore to OB ratio	1 : 1.47	1 : 1.21	
2d	Quantity of topsoil generation in m3	Nil	Nil	No Top Soil is Existing
2e	Quantity of overburden generation in m3	279200 Cu.m/ 698000 tons	225629 Cu.m/ 564072 tons	
2f	General remarks of inspecting officers on development of pit w.r.t. type of deposit etc	Proposed 279200 cu.m from 6 benches	Achieved 225629 cu.m from 6 benches in location N550-900/ E1370-1800 N130-400/ E1440-1640	

Exploitation:

Sl.No.	Item	Propasals	Actual work	Remarks
3a	Number of pit proposed for production	Development and production was proposed in Single Pit in two differenet direction	Development and production is carried out in two different places of single pit as per proposal	
3b	Quantity of ROM mineral production proposed	The total target of ROM Production was 475000 tons during 2016-2017 as per distribution from lessee on capping on EC limit.	Total 466250 tons of ROM production was reported during the year.	
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.	60000 tons	60304 tons	
3g	Grade of sub grade mineral generation	Fe +50% - 55%	Fe +50% - 55%	
3h	Manual / Mechanised method adopted for segregating from ROM	Dry screening was proposed for grade-wise production.	Electric operated mechanical screen plants are in use for grade wise production of iron ore in lumps and fines	
3i	Any analysis or beneficiation study proposed and carried out for sub grade mineral and rejects.	Nil	Except Mobile 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- 4 No Ripper Dozer - 1 No Dozer - 2 No Articulated Dumper - 3 No W/ Loader - 2 No Water tanker - 2 No Water Pump - 2 No	Excavator- 4 No Ripper Dozer - 1 No Dozer - 2 No Articulated Dumpers -13 No W/ Loader - 2 No Water tanker - 2 No Water Pump - 2 No	Backhoe excavators were proposed for excavation of ROM material. Dozer with ripper attachment is used in hard strata.
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	It is within existing pit and total 66.11ha area was proposed under pit.	Total 66.11ha area is put in use under pit and additional area is not reported for degradation under pit.	

3n	Ore to OB ratio for the pit/mine during the year.	1 : 1.47	1 : 1.21	
3o	Total area put in use under different heads at the end of year	Land use Pattern as on 01.04.2017. Mines = 66.118 hect Dump = 2.150 hect Mine road = 0.598 hect Infrastructure = 1.850 hect	Land use Pattern as on 01.04.2017. Mines = 66.118 hect Dump = 2.150 hect Mine road = 0.598 hect Infrastructure = 1.850 hect	There are no Changes in land use Pattern
3p	Production of ROM mineral during the last five year period as applicable	2016-2017 = 475000 tons 2015-2016 = 326000 tons 2014-2015 = Nil 2013-2014 = Nil 2012-2013 = 723000 tons	2016-2017 = 466250 tons 2015-2016 = 225125 tons 2014-2015 = Nil 2013-2014 = Nil 2012-2013 = 131598 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.	Separate temporary backfilling of waste inside the Southern side of pit is carried out during the year 2016-2017.	
4b	Location of topsoil, OB and mineral reject dumps	N220-650/ E1870-1960	N220-650/ E1890-1950	
4c	Number of dumps within lease area and outside of lease area	No Proposal	Lease area = 4 Dumps Non Lease area = 1 Dump	Old Dumps are exisiting since 1986 and fully rehabilitated by plantation

4d	Location of dumps w.r.t. ultimate pit limit (Rule 16)	No external dumping was proposed; however temporary backfilling was proposed, which is within UPL	No proposal for dumping of waste and temporary backfilling is carried out in Southern side of pit due to limited area available for dumping.
4e	Number of active and alive dumps.	There is no active and alive dump.	There is no active and alive dump.
4f	Number of dead dumps.	4-Dumps are dead dump within lease.	4-Dumps are dead dump within lease.
4g	Number of dumps established.	Nil	one
4h	Whether Retaining wall or garland drain all along dumps are there.	No proposal for 2016-2017 for external dumping. Retaining wall & Garland drain was proposed on different terraces of backfilled area to avoid wash-off.	Retaining wall & Garland drain is made backfilled area to avoid wash-off.
4i	Length of Retaining wall or garland drain all along dumps	Proposed length was 270m	Actual length is 342m.
4j	Number of settling ponds	2 Nos Settling Ponds proposed for desilting	3 nos of Settling ponds has been cleaned
4k	Specific comments of inspecting officer on waste dump management	Nil	4-Old dump are dead dumps. 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 paucity of area and restriction to dump the waste within lease area, it is proposed for temporary backfilling within Southern side of Pit.	Temporary backfilling has been carry out as per proposal on south side
5b	Area under backfilling of mined out area	Not proposal	Not applicable as the Pit is active
5c	Concurrent use of topsoil for restoration or rehabilitation of mineral out area (Rule 32)	Nil	Nil
5d	Total area fully reclaimed and rehabilitated	Nil	Nil
5e	General remarks of inspecting officers on backfilling and reclamation etc.	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).	It should be on or before 1st July every year.	Submitted within time	
6b	Area available for rehabilitation (ha) .	Mineral is persisting in pit bottom and temporary backfilling is proposed on upper benches	Temporary backfilling is carried out in southern side pit in two terraces upto surface level.	
6c	afforestation done (ha).	Nil	2.00 hect	
6d	No. of saplings planted during the year	Nil	3200 Gap Filling	

6e	Cumulative no .of plants	4011	7211
6f	Any other method of rehabilitation	Nil	Nil
6g	Cost incurred on watch and care during the year	Rs.35,000/-	Rs.41,700/-
6h	Compliance on reclamation and rehabilitation by backfilling (i) Voids available for backfilling (Lx B x D	Void available for temporary backfilling in Upper side is 320m X 200m x 15m.	Temporary backfilling is carried out in South end upto surface level. Total 225629 cu.m waste was backfilled.
6i	Compliance on reclamation and rehabilitation by backfilling (ii) Voids filled by waste / tailings	Tailing disposal in pit was not proposed.	There is no Tailing disposal in pit.
6j	Compliance on reclamation and rehabilitation by backfilling (iii)Afforestati 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	Mineral is persisiting in depth of the pit and temporary backfilling is proposed on upper side. Production planning is in E & W side of pit.

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 +62% Fe, +62-60% Fe, +60-58% Fe, +58-55% Fe, +55-45% Fe and below 45% Fe is considered as waste	The ROM ore was processed in dry screening and thereafter 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 done for grade-wise production.	

7c	Different grade of mineral sorted out at mines.	As per approved mining plan proposed ROM was classified as +62% Fe, +62-60% Fe, +60-58% Fe, +58-55% Fe, +55-45% Fe and below 45% Fe is considered as waste	As per approved mining plan proposed ROM was classified as +62% Fe, +62-60% Fe, +60-58% Fe, +58-55% Fe, +55-45% Fe and below 45% Fe is considered as waste
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)	Nil, Topsoil generation is not planned in the area.	Nil, Topsoil generation is not there.	
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.	

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.	4023 plants has planted as gap plantation during the year 2016-2017.
8g	Survival rate	75%.	Survival rate is around 50%.
8h	Water sprinkling on roads to control airborne dust	Yes, it is proposed for waster sprinkling on haul roads.	Water sprinkling on road is observed during the inspection.
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	MR Submitted up to = September 2017 AR Submitted up to = 2016-2017	Both Annual & Monthly returns are submitting in online system.	

9b	Scrutiny of Annual return for information on Mining Engineer, Geologist and Manager	All are appointed	During Inspection it was noticed that Mining Engineer & Mines Manager are Present in mines	
9c	Scrutiny of Annual return on land use pattern for area under pits, reclaimed area, dumps etc.	Area under pit 66.118ha, area under dump 2.448ha, Infrastructure 2.448ha	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	800 Plants proposed	4023 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 = 475000 tons	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 is 874.	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 cause position	
Rule NO.	Issued on Compliance on	Rule NO.	Issued on Compliance on

Date :

(G. S. KANNAN)

Indian Bureau of Mines