

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

MCDR INSPECTION REPORT

Goa regional office

Mine file No : Goa/Fe/100

Mine code : 30GOA02007

- (i) Name of the Inspecting Officer and ID No. : J003) JANGID G K
- (ii) Designation : Deputy Controller Mines
- (iii) Accompanying mine Official with Designation : Shri Shrikant V Hegde, Mines Manager
- (iv) Date of Inspection : 01/06/2016
- (v) Prev.inspection date : 31/12/2011

PART-I : GENERAL INFORMATION

1. (a) **Mine Name** : BONDRA ADVONA (CODLI)
- (b) **Registration NO.** : IBM/169/2011
- (c) **Category** : A Fully Mechanised
- (d) **Type of Working** : Opencast
- (e) **Postal address**
- State : GOA
- District : SOUTH GOA
- Village : CODLI
- Taluka : SANGUEM
- Post office : KIRLAPAL
- Pin Code : 403727
- FAX No. : 0832-2732587
- E-mail : homines@ptigroup.co.in
- Phone : 0832-6628000
- (f) **Police Station** : DHARBANDORA
- (g) **First opening date** : 03/07/1953
- (h) **Weekly day of rest** : SUN
2. **Address for correspondance** : Codli iron Ore Mine of M/s Pandurang Timblo Indu
Po-Kirlapal-Dabal
Tq-Sanguem, Goa
3. (a) **Lease Number** : GOA0422
- (b) **Lease area** : 96.27
- (c) **Period of lease** : 10
- (d) **Date of Expiry** : 21/11/1997
4. **Mineral worked** : IRON ORE Main

5. Name and Address of the

Lessee : PANDURONGA TIMBLO INDUSTRIES
 SUBHAS TIMBLO BHAVAN
 ISIDORA BAPTISTA ROAD,
 MARGAO, GOA. SOUTH GOA GOA
 Phone:0832-721151,720987, 732511
 FAX : (91) 0832-732587

Owner : Pramod Pandurang Timblo
 Subhash Timblo Bhavan Post
 Box No.--242 Margao, Goa
 SOUTH GOA GOA
 Phone: 720987,732511,7
 FAX : 732587

Agent : TAPAS CHATTOPADHYAY
 CODLI MINE, M/S. SESA GOA
 LTD. P.O. KIRLAPAL, DABAL-
 GOA SOUTH GOA GOA
 Phone:
 FAX :

Mining Engineer

Name : RAMESH KUMAR SINGH, Full Time
 Qualification : AMIE & Ist Class Mine Mgr. Cert.
 Appointment/ : 31/05/2016
 Termination date

Geologist

Name : AVINASH R. MOREY, Full Time
 Qualification : M.Sc Geology
 Appointment/ : 31/05/2016
 Termination date

Manager

Name : SHRIKANT V. HEGDE
 Qualification : DIP MINING, FCMM
 Appointment/ : 02/12/2013
 Termination date

6. Date of approval of Mining	:	Mining Scheme rule 12 MCDR1988	28/10/2002
Plan/Scheme of Mining	:	Modif.approved Mining Scheme	02/09/2004
	:	Renewal under rule 24 MCR1960	10/10/2007
	:	MP modif under MCR 1960	07/09/2015
	:	MP modif under MCR 1960	30/03/2016

PART - II : OBSERVATION/COMMENTS OF INSPECTING OFFICERS

Exploration :

Sl.No.	Item	Proposals	Actual work	Remarks
1a	Backlog of previous year	Nil, Mining operations were temporary closed as per Supreme Court Order in WP 435/2012.	Nil	
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 in January 2016. Area explored under G-1 and G-2 axis is 34.25ha and 15.20ha. Remaining area falls under Village road, river etc.	
1c	Exploration Agencies and Expenditure in lakh rupees during the year	Nil	Nil	
1d	Balance area to be explored to bring Geological axis in 1 or 2	Nil	Nil. Exploration below Dump-1 was not carried out in the past and it is over 7.87ha area without any geological information. Dump-1 has been established with plantation.	
1e	Balance reserve as on 01/04/20	Reserves as on 01.04.2015 were 9276963 tonnes.	Reserves as on 01.04.2015 are 9276963 tonnes as per modified mining plan dated 07.09.2015.	

1f	General remarks of inspecting officers on geology, exploration etc	Nil	Khandepar river is passing within lease area and it covers 14.68ha within lease. Exploration below Dump-1 was not carried out in the past and it is over 7.87ha area without any geological information. The exploration work carried out so far is upto -60m depth and sufficient upto lease period. However, additional exploration for quality control and to convert G-2 into G-1 is required.
----	--	-----	--

Development :

Sl.No.	Item	Propasals	Actual work	Remarks
2a	Location of development w.r.t.lease area	Development and production for insitu mining was proposed in south-western face of southern pit. ROM production from dump rehandling was also proposed from dump-2.	Development and production for insitu mining is carried out in south-western face of southern pit. ROM production from dump rehandling is also achieved from dump-2.	
2b	Separate benches in topsoil, overburden and minerals (Rule 15)	Topsoil is not present in area. Separate benches in waste and ore are planned in southern pit.	Topsoil is not present in area. Separate benches in waste and ore are developed.	
2c	Stripping ratio or ore to OB ratio	Planned Ore to OB ratio is 0.9.	Ore to OB ratio is 2.48 for the year 2015-16.	
2d	Quantity of topsoil generation in m3	Nil	Nil	
2e	Quantity of overburden generation in m3	Waste generation of 1.24 lacs m3 was planned.	Waste generation of 0.63 lacs m3 was achieved.	

2f	General remarks of inspecting officers on development of pit w.r.t. type of deposit etc	Nil	Actual recovery from dump working was 91% as against proposed 30%. Therefore waste handling was less. Further, less advancement of faces in waste decreased the quantity of waste handling.
----	---	-----	---

Exploitation:

Sl.No.	Item	Proposals	Actual work	Remarks
3a	Number of pit proposed for production	Development and production in one pit was proposed.	Development and production in southern pit is carried out. Lease area is having two separate blocks divided by Khandepar river. Both blocks are having one developed pit each.	
3b	Quantity of ROM mineral production proposed	The total target of ROM production was 477,318t (insitu 363,000t & dump working 114,318t) during 2015-16. Total 392240 tonnes ROM production was allowed as per capping on Environment clearance quantity. Quantity was increased during the year by DMG and therefore, modified mining plan was approved on 30.03.2016 for additional quantity.	Total 392000 tonnes of ROM production was reported during the year. Total 94,730t ROM production from dump working was also achieved, but not reported in monthly returns.	
3c	Recovery of sailable/usable mineral from ROM production	The recovery of ore from ROM was planned 100% after screening.	The recovery of ore from ROM was 100% after screening and total production was reported under -55% Fe grade.	

3d	Quantity of mineral reject generation	Mineral reject of 94769t of +45-55% Fe was proposed.	Nil, total ROM ore was despatched.
3e	Grade of mineral rejects generation and threshold value declared.	Mineral reject of +45-55% Fe grade was proposed.	Grade-wise production was reported in -55% Fe slab for lumps and fines.
3f	Quantity of sub grade mineral generation.	Nil	Nil
3g	Grade of sub grade mineral generation	Nil	Nil
3h	Manual / Mechanised method adopted for segregating from ROM	Diesel operated mechanical screen plants for dry process making lumps and fines was proposed. Further, wet process beneficiation is also proposed within lease area.	Diesel operated mechanical screen plants (three numbers) are in use for grade wise production of iron ore in lumps and fines. One is own and two on contract basis and all are of 200 TPH capacity. Wet process beneficiation is not carried out during the year.
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	Nil	Nil
3k	Provision of mining machineries in mineral benches	Yes, backhoe excavators were proposed for excavation of ROM material. Dozer with ripper attachment is also used in hard strata.	Backhoe excavators of 1.1m ³ to 3.9 cum bucket capacity are used for excavation of ROM material. Development in waste is also without drilling & blasting with the use of dozers. There are two dozers of 200TPH, 5 backhoe of 0.6m ³ & 0.9m ³ , 4 wheel loaders of 1.7m ³ & 3.0m ³ , 10 dumpers of 25t.

3l	Whether height of benches in overburden and mineral suitable for method of mining proposed in MP/SOM	Bench height of 7m was proposed in waste and Ore.	Yes, maximum bench height is upto 6-7m. There are 7 benches in waste/OB and 5 benches in ore of which few are common due to trend of mineralisation. Working Pit top RL is 52m and bottom RL is -32m.
3m	Total area covered under excavation/pits	It is within existing pit and total 43.66ha area was proposed under different pits.	Total 43.66ha 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.	Planned Ore to OB ratio is 0.9.	Ore to OB ratio is 2.48 for the year 2015-16. Total 90% recovery was achieved from dump working against target of 30% given in modified mining plan.
3o	Total area put in use under different heads at the end of year	Area under pit- 43.66ha, area under dump-7.87ha, roads - 0.00ha.	Area under pit- 43.66ha, area under dump-7.87ha, plants 0.94ha, mineral stacks- 3.68ha and roads - 0.0a at the end of 2015-16.
3p	Production of ROM mineral during the last five year period as applicable	Proposed production was 462000t, 638000t, 0t, 392240t from 2011-12 to 2015-16 respectively.	Actual production was 599924t, 241996t, 0t, 0t, 392000t from 2011-12 to 2015-16 respectively.
3q	General remarks of inspecting officers on method of mining etc.	Nil	Total 94,730t salable grade ore of +51% Fe was recovered by handling 104,000t dump quantity and achieving 91% recovery from dump working. Modified mining plan dated 30.03.2016 was approved with no recovery from dump working during 2016-17 and 2017-18; however recovery from dump-2 working is still continued during 2016-17.

Sl.No.	Item	Propasals	Actual work	Remarks
4a	Separate dumping of topsoil, OB and mineral rejects (Rule 32,33)	Separate temporary backfilling of waste inside the southern pit was proposed.	Separate temporary backfilling of waste inside the southern pit is carried out during the year 2015-16; however it is started from southern face of pit instead of proposed northern face to reduce the transport distance. Old mineral stacks were taken in possession by State Government for e-auction and shifted to northern block for smooth working in southern pit.	
4b	Location of topsoil, OB and mineral reject dumps	Topsoil generation was not anticipated. Waste dumping was proposed within pit as temporary backfilling.	Waste has been temporary backfilled within southern pit during 2015-16. It is to divide the pit for water reservoir in eastern part and smooth working in other part of pit.	
4c	Number of dumps within lease area and outside of lease area	There is one dump within lease area and it is rehabilitated with plantation. Dump-2 is partly within and partly outside lease area and dump-2 working was proposed for recovery of salable ore. Temporary backfilling is proposed for waste management.	Dump-2 is partly within and partly outside lease area and dump-2 working was proposed for recovery of salable ore. However, explration was not carried out before starting dumping at Dump-1 location and geology below dump is not known.	
4d	Location of dumps w.r.t. ultimate pit limit (Rule 16)	Proposal was to temporary backfill the waste inside the southern pit to divide for water reservoir and smooth working.	Total waste generated was 148,000t & 10000t from insitu and dump working and it is temporary backfilled inside the southern pit from south face.	

4e	Number of active and alive dumps.	There is no active and alive dump. Dump-2 is being re-handled for recovery of salable ore and to advance the working pit.	There is no active dump within lease area for waste dumping.
4f	Number of dead dumps.	Dump-1 is matured and plantation has been done.	Dump-1 is matured and plantation has been done. Dump-2 working is carried for recovery of salable ore and still continued.
4g	Number of dumps established.	Dump-1 has been established.	Dump-1 has been established.
4h	Whether Retaining wall or garland drain all along dumps are there.	There is no proposal for retaining wall or garland drain.	Dump-1 is located beyond 50m safety distance but within 100m distance from Khandepar river flowing within lease area. Retaining wall is made all along the dump in west and south direction. Garland drain is also made all along the dump-1. Total 2687m retaining wall is made.
4i	Length of Retaining wall or garland drain all along dumps	Retaining wall of 2687m length and garland drain of 1270m has been constructed all along dump-1 and further proposala was not there during 2015-16.	No proposal for retaining wall or garland drain.
4j	Number of settling ponds	In all, 12 settling ponds are there and further proposal is not there for the year 2015-16.	In all, 12 settling ponds are there.

4k	Specific comments of inspecting officer on waste dump management	Proposal was to carry out additional afforestation on dump-1 with 1500 nos sapling over 1.5ha area.	Additional plantation is not carried out after resumption of mining operations.
----	--	---	---

Solid Waste Management - Backfilling:

Sl.No.	Item	Proposals	Actual work	Remarks
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 within lease area, it is proposed for temporary backfilling within Southern Pit.	Temporary backfilling has been carry out in Southern pit.	
5b	Area under backfilling of mined out area	It is temporary in nature, as mineral is persisting in depth. The area proposed was 1.37ha.	The temporary backfilling is carried out over 0.25ha area due to less waste generation.	
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	Proposals	Actual work	Remarks
--------	------	-----------	-------------	---------

6a	Whether Annual report on PMCP submitted on time and correctly. Rule 23 E(2).	There was no working in 2014-15 and PMCP report is submitted. It should be on or before 1st July every year.	PMCP report of 2015-16 is not became due as on date of report writing.
6b	Area available for rehabilitation (ha) .	Nil	PMCP report of 2015-16 is not became due as on date of report writing.
6c	afforestation done (ha).	Proposal was to carry out additional afforestation on dump-1 with 1500 nos sapling over 1.5ha area.	PMCP report of 2015-16 is not became due as on date of report writing. No plantation is carried out during 2015-16.
6d	No. of saplings planted during the year	Proposal was to carry out additional afforestation on dump-1 with 1500 nos sapling over 1.5ha area.	Around 400nos sapling has been reported during the year.
6e	Cumulative no .of plants	Total 21938 planted as on 01.04.2015.	Total 21938 trees were planted as on 01.04.2015.
6f	Any other method of rehabilitation	NA	Waste dump-1 has been covered under plantation.
6g	Cost incurred on watch and care during the year	Rs 50000/-.	Nil
6h	Compliance on reclamation and rehabilitation by backfilling (i) Voids available for backfilling (Lx B x D	Nil	Nil, temporary backfilling is proposed over mineralised area.
6i	Compliance on reclamation and rehabilitation by backfilling (ii) Voids filled by waste / tailings	Nil	Nil, temporary backfilling is proposed over mineralised area. Quantity is 158000t.

6j	Compliance on reclamation and rehabilitation by backfilling (iii) Afforestation on backfilled area	Nil	Nil
6k	Compliance on reclamation and rehabilitation by backfilling (iv) Rehabilitation by making water reservoir	Nil	Waste has been temporary backfilled within southern pit during 2015-16. It is to divide the pit for water reservoir in eastern part and smooth working in other part of pit.
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	The land within lease area is having natural plantation. Additional afforestation was proposed on dumps.	The land within lease area is having natural plantation. Plantation over Dump-1 was carried out. Additional afforestation was carried out on dump-1.
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 private agency from Mineral Engineering Services.

6q General remarks Nil Nil
of inspecting
officers on PMCP
compliance and
progressive
closure
operations etc.

Mineral Conservation:

Sl.No.	Item	Proposals	Actual work	Remarks
7a	ROM Mineral dispatch or grade-wise sorting within lease area	As per approved mining plan proposal ROM was classified as +60% Fe, +58-60% Fe, +55-58% Fe, +50-55% Fe, +45-50% Fe.	ROM is being sorted & dispatched as below 55 % Fe.	
7b	Method of grade-wise mineral sorting i.e. manual or mechanical.	Three mechanical screens are proposed for use for grade-wise and size segregation of ore.	Three mechanical screens are used for grade-wise and size segregation of ore.	
7c	Different grade of mineral sorted out at mines.	Proposal was for ROM to classified as +60% Fe, +58-60% Fe, +55-58% Fe, +50-55% Fe, +45-50% Fe.	The mineral is despatched for -55% Fe during the year 2015-16.	
7d	Any beneficiation process at mines .	Wet and dry process beneficiation was proposed for lumps and fines as well as to upgrade low grade ore.	Wet process is not used during the year and screened ore is despatched of -55% Fe content.	
7e	General remarks of inspecting officer on Mineral conservation and beneficiation issues	Nil, tailing was proposed to store in Pit-1 (North Pit)	Wet Beneficiation plant was not operated during the year 2015-16, as ore of -55 %Fe was marketable.	

Environment :

Sl.No.	Item	Proposals	Actual work	Remarks
8a	Separate removal and utilization of topsoil (Rule 32)	Nil, Topsoil generation is not there 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 to divide the pit in two parts.	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	Dump-1 has been planted with trees and not being used for additional waste dumping.	
8f	Baseline information on existence of plantation and additional plantation done (Rule 41)	Existence of plantation is there on slopes of the hillocks, along the road and all part of lease area. Total 21938 trees were planted as on 01.04.2015 on Dump slopes, exhausted benches and village roads.	Existence of plantation is there on slopes of the hillocks, along the road and all part of lease area. Species like Accacia, Gulmohar, Ashok, Cashew, Coconut, Mango, Jackfruit, etc were planted.	
8g	Survival rate	Survival rate is 60-70%. Additional 1500 nos were proposed on dump-1.	Survival rate is 60-70%. Additional 400 nos were planed as gap filling.	

8h	Water sprinkling on roads to control airborne dust	Proposal is there for water sprinkling on the haul road within lease area and connecting tar road is nearby.	Regular water sprinkling is carried out inside the mine roads with one water tankers of 10000 liters.
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, near office building etc.

Compliance of Rule 45:

Sl.No.	Item	Propasals	Actual work	Remarks
9a	Status of submission of Monthly and Annual returns	Annual return of mine for year 2014-15 submitted in online system on 16.07.2015. Monthly returns are submitted in online system upto April 2016.	All the monthly returns and annual returns are submitted online.	
9b	Scrutiny of Annual return for information on Mining Engineer, Geologist and Manager	The mine was closed during 2014-15 since last two years. Annual return of 2015-16 not yet became due and not received for scrutiny.	Shri Ramesh K. Singh is mining engineer since 31.05.2016. Shri Avinash R Morey is geologist since 31.05.2016 and Shri Shrikant V Hegde is Mines manager since 02.12.2013. Previously Shri manju Nath Bhat was geologist in mines as per AR 2014-15.	
9c	Scrutiny of Annual return on land use pattern for area under pits, reclaimed area, dumps etc.	Area under pit 47.665ha, area under dump 8.85ha and plant 2.76ha.	Land use pattern changed in approved modified mining plan. Area under pit 47.23ha, area under dump 7.87ha and plant 0.94ha.	
9d	Scrutiny of Annual return on afforestation	It was nil during 2014-15.	Total 400 nos saplings were planted as gap filling.	

9e	Scrutiny of Annual return on mineral reject generation (Grade and quantity)	Nil	Nil
9f	Scrutiny of Annual return on ROM stock and/or graded ore	ROM opening stock from opencast workings - 200629t, Production - 0t and closing stock - 200629t. Grade-wise opening stock of all grades was zero as per AR 2014-15.	Stock lying at mines became State property and all stocks were made zero at the time of re-commencement of mining operations in January 2016.
9g	Scrutiny of Annual return on sale value, Ex. Mine price and production cost	Nil	AR of 2015-16 is not received. Monthly return is having following discrepancy. (a) Production from dump working is not separately reported in the monthly returns submitted from January 2016 to April 2016. (b) There was despatch of 15423t and 75235t of fines below 55% Fe in March & April 2016 and 50000t only shown to Royalline Resources Limited in the month of April 2016. EX mine price is indicated as Rs 788 for lumps and Rs 418 for fines of -55% Fe.
9h	Scrutiny of Annual return on fixed assets	AR of 2014-15 is having Fixed assests detail is given for industrial building and machineris and own capital as source of finance is indicated Rs. 0/-.	AR of 2015-16 is not received.

9k Scrutiny of Annual return on mining machineries AR 2014-15 has given 2 backhoe, 1 motor grader, 4 wheel loader. Following machineries are in use at mines. Dozer 2 Nos. of 200 T/hr (contract), Back Hoe 5 Nos. of 0.6m³& 0.9m³ 1 (own), 4 (Contract), Wheel loader 4 Nos. of 1.7m³& 3.0m³ 1 (own), 3 (Contract), Dumper 10 Nos. of 25 tonner 6 (own), 4 (Contract), Water Tanker 1 Nos. of 10000 ltrs (Contract), Utility Vehicle 2 Nos. 2 (Contract) and Crushing/screening 3 Nos. of 200 TPH 1 (own), 2 (Contract)

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 13(1)	15/06/2016				
Rule 45(5)	15/06/2016				

Date :

(JANGID G K)

Indian Bureau of Mines