

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

**MCDR inspection REPORT**

**Goa regional office**

**Mine file No :** GOA/FEMN/229

**Mine code :** 30GOA01198

- (i) Name of the Inspecting : **K03** ) **G. S. KANNAN**  
Officer and ID No.
- (ii) Designation : Junior Mining Geologist
- (iii) Accompanying mine : S/Shri. Prasad-GM, Ashwini Kumar-MM  
Official with  
Designation
- (iv) Date of Inspection : 14/09/2017
- (v) Prev.inspection date : 01/06/2017

**PART-I : GENERAL INFORMATION**

1. (a) **Mine Name** : **CORMOLEM -E-BOG**
- (b) **Registration NO.** : **IBM/510/2011**
- (c) **Category** : **A Mechanised**
- (d) **Type of Working** : **Opencast**
- (e) **Postal address**
- State : **GOA**
- District : **NORTH GOA**
- Village : **CORMOLEM**
- Taluka : **BICHOLIM**
- Post office : **CUDNEM B.O**
- Pin Code : **403505**
- FAX No. :
- E-mail :
- Phone :
- (f) **Police Station** :
- (g) **First opening date** : **01/01/1952**
- (h) **Weekly day of rest** : **SUN**
2. **Address for** : **VILLAGE :HARVALEM**  
**correspondance** : **TQ; BICHOLIM**  
: **NORTH GOA,GOA**
3. (a) **Lease Number** : **GOA0118**
- (b) **Lease area** : **73.73**
- (c) **Period of lease** :
- (d) **Date of Expiry** : **22/11/2027**
4. **Mineral worked** : **IRON ORE** **Main**

## 5. Name and Address of the

Lessee : SOCIEDADE TIMBLO IRMAOS LTD.  
 SUBHASH TIMBLO BHAVAN  
 ISIDORA, BAPTISTA ROAD,  
 MARGAO, GOA SOUTH GOA GOA  
 Phone:(0832) 2736307  
 FAX :(0832) 2714462

Owner : M/S. SOCIEDADE TIMBLO IRMAOS LIMITADA.  
 POST BOX NO. 31 MARGAO -  
 GOA (403 602) SOUTH GOA  
 GOA  
 Phone: 91 (834) 273234  
 FAX : 91 (834) 273065

Agent : ANURAG MISHRA  
 VILLA FLORES DA  
 SILVA,ERASMO CARVAL  
 STREET,POST BOX NO-31  
 MARGAO,GOA SOUTH GOA GOA  
 Phone:  
 FAX :

|                               |   |                               |            |
|-------------------------------|---|-------------------------------|------------|
| 6. Date of approval of Mining | : | Renewal under rule 24 MCR1960 | 27/07/2007 |
| Plan/Scheme of Mining         |   | MP modif under MCR 1960       | 07/08/2015 |
|                               |   | MP modif under 17(3) MCR 2016 | 07/10/2016 |
|                               |   | MP modif under 17(3) MCR 2016 | 03/02/2017 |

## PART - II : OBSERVATION/COMMENTS OF INSPECTING OFFICERS

## Exploration :

| Sl.No. | Item  | Proposals  | Actual work  | Remarks  |
|--------|---|--|--|--|
| 1a     | Backlog of previous year  | 4 Boreholes has proposed with 290 meterage for 2016-2017   | No Boreholes has drilled because of delay in mobilization of drilling machine  | Because of nil boreholes, mining plan has modified |
| 1b     | Exploration over lease area for geological axis 1 or 2              | Geological Axis -1   | Geological Axis -1   |  |
| 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 147 boreholes were drilled with 7981 meterage. Total Rs. 119 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 proposed  | Exploration was carried out at 50m X 50m grid interval. Balance area of 17 hect area has to be explored for availability of ore from G-2 to G-2/G-1.   |  |
| 1e     | Balance reserve as on 01/04/20                                      | As on 01.04.2017<br>Proved Mineral Reserves (111) = 2.48 Million Tons<br>Pre-Feasibility Mineral Resources (221) = 2.76 Million Tons<br>Feasibility mineral Resources (211) = 0.386 Million Tons<br>Pre-Feasibility mineral Resources (221) = 1.40 Million Tons<br>Inferred mineral Resources (333) = 2.515 Million Tons | As on 01.04.2017<br>Proved Mineral Reserves (111) = 2.23 Million Tons<br>Pre-Feasibility Mineral Resources (221) = 2.56 Million Tons<br>Feasibility mineral Resources (211) = 0.386 Million Tons<br>Pre-Feasibility mineral Resources (221) = 1.40 Million Tons<br>Inferred mineral Resources (333) = 2.515 Million Tons |  |

|    |  |                                     |   |
|----|--|-------------------------------------|---|
| 1f | General remarks of inspecting officers on geology, exploration etc | The deposit is Bicholim - Pale Band | Ore Body of N-130 to N-310 and or body id folded into anticline and synclines |
|----|--|-------------------------------------|---|

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Development :

| Sl.No. | Item  | Propasals   | Actual work  | Remarks |
|--------|---|---|--|---------|
| 2a     | Location of development w.r.t.lease area  | N-1719694 to N-1719274/<br>E-395741 to E-396158                                   | N-1719694 to N-1719274/<br>E-395741 to E-396158  |         |
| 2b     | Separate benches in topsoil, overburden and minerals (Rule 15)                          | Topsoil is not present in area. Proposed 6 benches in waste and 4 benches in ore. | Topsoil is not present in area. 6 benches in waste and 4 benches in ore are developed. |         |
| 2c     | Stripping ratio or ore to OB ratio  | 1 : 1.39  | 1 : 1.09   |         |
| 2d     | Quantity of topsoil generation in m3  | Nil   | Nil  |         |
| 2e     | Quantity of overburden generation in m3   | 695099 tons   | 519708 tons  |         |
| 2f     | General remarks of inspecting officers on development of pit w.r.t. type of deposit etc | Proposed 695099 Tons from 6 benches during 2016-2017                              | Achieved 519708 Tons from 6 benches during 2016-2017                                   |         |

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Exploitation:

| Sl.No. | Item                                  | Propasals  | Actual work   | Remarks |
|--------|---------------------------------------|--|---|---------|
| 3a     | Number of pit proposed for production | Development and production are proposed in Pit-2 & Pit-3 | Development and production was carried out in both Pits as per Proposal |         |

|    |   |   |   |
|----|---|---|---|
| 3b | Quantity of ROM mineral production proposed   | The total target of ROM Production was 499990 tons during 2016-2017 as per distribution from lessee on capping on EC limit. | Total 474985 tons of ROM production was reported during the year.   |
| 3c | Recovery of sailable/usable mineral from ROM production   | The recovery of ore from ROM was planned 100% after screening.  | ROM quantity of 474985 tons was despatched for processing and 474985tons of gradewise production is reported after dry process screening. The recovery of ore from ROM is 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.   | 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. | No Proposal   | 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.   |

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| 3k | Provision of mining machineries in mineral benches   | Excavator- 4 No<br>Ripper Dozer - 1 No<br>Tipper - 250 Nos<br>W/ Loader - 4 No<br>Dozer - 1 No<br>Water tanker - 1 No<br>2 No<br>Motor Grader - 1 No<br>Crusher - 1 No<br>Mobile Screening Plant - 1 No | Excavator- 4 No<br>Ripper Dozer - 1 No<br>Tipper - 250 Nos<br>W/ Loader - 4 No<br>Dozer - 1 No<br>Water tanker - 2 No<br>Motor Grader - 1 No<br>Crusher - 1 No<br>Mobile Screening Plant - |
| 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   | 21.49 hect  | 21.19 hect   |
| 3p | Production of ROM mineral during the last five year period as applicable                             | 2016-2017 = 499990 tons<br>2015-2016 = 225000 tons<br>2014-2015 = Nil<br>2013-2014 = Nil<br>2012-2013 = 329000 tons   | 2016-2017 = 474985 tons<br>2015-2016 = 42808 tons<br>2014-2015 = Nil<br>2013-2014 = Nil<br>2012-2013 = 498993 tons   |
| 3q | General remarks of inspecting officers on method of mining etc.                                      | Nil   | Nil  |

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Solid Waste Management - Dumping:

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| Sl.No. | Item | Propasals | Actual work | Remarks |
|--------|------|-----------|-------------|---------|
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|----|--|--|---|-----------------------------|
| 4a | Separate dumping of topsoil, OB and mineral rejects (Rule 32,33)   | There is no Topsoil and Mineral rejects, only OB is proposed as backfilling in the existing pit area temporary surface dumping | Separate temporary backfilling of waste inside the bottom pit and surface dumping is carried out during the year 2016-2017. |                             |
| 4b | Location of topsoil, OB and mineral reject dumps                   | N-1719074 to N-1719216/<br>E-395947 to E-396158  | N-1719074 to N-1719216/<br>E-395688 to E-396158   |                             |
| 4c | Number of dumps within lease area and outside of lease area        | Lease area = 6 Dumps<br>Non Lease area = 1 Dump  | Lease area = 6 Dumps<br>Non Lease area = 1 Dump   | Both are old existing dumps |
| 4d | Location of dumps w.r.t. ultimate pit limit (Rule 16)              | No external dumping was proposed; however temporary backfilling/ Dumping was proposed, which is within UPL                     | Backfilling has Carried out as per proposed area  |                             |
| 4e | Number of active and alive dumps.                                  | Active Dump = Nil<br>Alive Dump = Nil  | There is no active dump within lease area for waste dumping.  |                             |
| 4f | Number of dead dumps.  | Within Lease = 6<br>Outside Lease = 1  | Within Lease = 6<br>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 53m retaining wall, 4136m <sup>3</sup> bund and 661m trench provided.   |                             |
| 4j | Number of settling ponds   | One  | 85m x 55m x 7m  |                             |

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|----|--|-----|--|
| 4k | Specific comments of inspecting officer on waste dump management | Nil | There is no generation of Topsoil and Mineral rejects. OB waste has temporary backfilled inside the Pit/ temporary Surface dumping. 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  | N-1719085 to N-1719251/<br>E-395947 to E-396137                                       | N-1719085 to N-1719251/<br>E-395947 to E-396137                            |         |
| 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   | Due to non availability of area, temporary backfilling has done within Pit |         |

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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 submitted on or before 1st July every year. | Submitted within time limit |         |



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|----|--|--|--------------------------------------|
| 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 |
| 6c | afforestation done (ha).   | 1.0 hect   | 2.0 hect                             |
| 6d | No. of saplings planted during the year  | 2000 Nos   | 2000 Nos                             |
| 6e | Cumulative no .of plants   | 15000 Nos  | 12000 Nos                            |
| 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 | Nil  | Nil                                  |
| 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. |
| 6q | General remarks of inspecting officers on PMCP compliance and progressive closure operations etc. | Nil  | Nil  |

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#### 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 +63% Fe, +60-63% Fe, +55-60% Fe, +50-55% Fe, +45-50% Fe, below 45% 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 +63% Fe, +60-63% Fe, +55-60% Fe, +50-55% Fe, +45-50% Fe, below 45% is considered as mineral reject due to low market price. | As per approved mining plan proposed ROM was classified as +63% Fe, +60-63% Fe, +55-60% Fe, +50-55% Fe, +45-50% Fe, below 45% 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  |

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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  |
| 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 is 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. | 2000 plantation is carried out during the year 2016-2017.   |
| 8g | Survival rate   | 80%   | 70%   |
| 8h | Water sprinkling on roads to control airborne dust  | Yes, it is proposed for water 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 lush green and lessee has carried out plantation on dump, along road etc. |

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## 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           | M.E, Dip M.E, Geological appointed   | Nil   |         |
| 9c     | Scrutiny of Annual return on land use pattern for area under pits, reclaimed area, dumps etc. | Area under pit 21.199ha, area under dump 5.197ha, InfraStructure 2.470ha, other purpose 9.648ha. | Land use pattern as per approved modified mining plan |         |
| 9d     | Scrutiny of Annual return on afforestation  | 2000 plants  | Forest & Fruit Bearing Plant                          |         |
| 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 Stack =130578 tons   | As per proposal the ROM has been carried out          |         |
| 9g     | Scrutiny of Annual return on sale value, Ex. Mine price and production cost                   | Ex.Mine Price = Rs.197/- & Production cost is Rs.483/-   | Nil   |         |
| 9h     | Scrutiny of Annual return on fixed assets   | Fixed assets have filled   | Fixed asset have filled 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