

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

**Review and updation of Mining Plan REPORT**

**Goa regional office**

**Mine file No :** GOA/FEMN/231

**Mine code :** 30GOA01195

- (i) Name of the Inspecting : **K03** ) **G. S. KANNAN**  
Officer and ID No.
- (ii) Designation : Junior Mining Geologist
- (iii) Accompanying mine : S/Shri.Vikil (Mines Manager), A.K.Dask (Geologist)  
Official with  
Designation
- (iv) Date of Inspection : 10/10/2017
- (v) Prev.inspection date :

**PART-I : GENERAL INFORMATION**

1. (a) **Mine Name** : **BOTAVADICHO DONGOR**
- (b) **Registration NO.** :
- (c) **Category** : **A Fully Mechanised**
- (d) **Type of Working** : **Opencast**
- (e) **Postal address**
- State : **GOA**
- District : **NORTH GOA**
- Village : **PISSURLEM**
- Taluka : **SATTARI**
- Post office :
- Pin Code :
- FAX No. :
- E-mail : **baskara.k@vedanta.co.in**
- Phone : **7798984626**
- (f) **Police Station** : **Valpoi**
- (g) **First opening date** : **01/05/1979**
- (h) **Weekly day of rest** : **SUN**
2. **Address for** : **VILLAGE : PISSURLEM**  
**correspondance** **TQ: SATARI**  
**NORTH GOA,GOA**
3. (a) **Lease Number** : **GOA0335**
- (b) **Lease area** : **23.96**
- (c) **Period of lease** :
- (d) **Date of Expiry** : **21/11/2007**
4. **Mineral worked** : **IRON ORE** **Main**

## 5. Name and Address of the

Lessee : VEDANTA LIMITED  
 P.O.Box 125 Sesa Ghor, 20  
 EDC Complex Patto Plaza,  
 Panajim NORTH GOA GOA  
 Phone:0832-6713600  
 FAX :0832-6713721

Owner : D. D. JALAN  
 SESA GHOR, 20 EDC COMPLEX  
 PATTO PLAZA, PANJIM NORTH  
 GOA GOA  
 Phone: 9892800505, 083  
 FAX : 0832-2460690

Agent : SAUVICK MAJUMDAR  
 M/s V. S. DEMPO & CO. PVT.  
 LTD DEMPO HOUSE, PANAJI GOA  
 NORTH GOA GOA  
 Phone:  
 FAX :

Manager  
 Name : SRINIVAS RAO  
 Qualification : DIP IN MINING ,FCMM  
 Appointment/ : 04/04/2007 01/12/2007  
 Termination date

Manager  
 Name : HANIF SALASKAR  
 Qualification : DIP MINING,FCMM  
 Appointment/ : 16/12/2009  
 Termination date

Manager  
 Name : D.RAMANJANEYA REDDY  
 Qualification : DIP IN MINING  
 Appointment/ : 01/12/2007 16/12/2009  
 Termination date

Manager  
 Name : CLETUS D' SOUZA  
 Qualification : DIP MINING ENGG,II ND CLASS M M  
 Appointment/ : 16/09/2004 20/12/2004  
 Termination date

6. Date of approval of Mining Plan/Scheme of Mining : Mining Scheme rule 12 MCDR1988 21/04/2005  
 Renewal under rule 24 MCR1960 15/05/2007  
 Modif.of approved Mining Plan 26/09/2008  
 MP modif under MCR 1960 21/09/2015  
 MP modif under MCR 1960 13/07/2016

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

## Exploration :

Sl.No.	Item	Proposals	Actual work	Remarks
1a	Backlog of previous year	The proposal was to drill 15 boreholes with 840m in Previous approved Plan	15 Boreholes has been drilled during 2008-2013 with 720 meterage.	Form-J has been submitted
1b	Exploration over lease area for geological axis 1 or 2	Additional exploration of 5 was proposed in modified mining plan during 2015-2016 & 2016-2017.	Additional exploration is not carried out after re-commencement of mining operations in September 2015. Total 39 boreholes were drilled with 1852m drilling.	Violation has been issued in Previous Inspection 12.06.2017
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 39 boreholes were drilled. Total Rs. 8.33 lacs were spent on exploration.	24 no of Rotary Core with 1132m & 15 nos of DTH holes with 720m
1d	Balance area to be explored to bring Geological axis in 1 or 2	Exploration was carried out at 100m X 100m grid interval. Additional exploration was proposed during 2016-2017	As per proposal, no exploration has been carried out.	

1e	Balance reserve as on 01/04/20	As on 01.04.2017 Proved Mineral Reserves (111) = 0.646 Mill Tons Probable Mineral Reserves (121) = 0.291 Mill Tons Feasibility Mineral Reserves (211) = 0.399 Mill Tons Pre-Feasibility Mineral Resources (221) = 2.071 Mill Tons	As on 01.04.2017 Proved Mineral Reserves (111) = 0.893 Mil Tons Probable Mineral Reserves (121) = 0.291 Mill Tons Feasibility Mineral Reserves (211) = 0.399 Mill Tons Pre-Feasibility Mineral Resources (221) = 2.071 Mill Tons	Hence there is less mining activity; R & R has not been changed.
1f	General remarks of inspecting officers on geology, exploration etc	This deposit falls under Pissurlem Deposit.	Shallow Deposit, True thickness of Iron Ore in 30 to 35m.	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	In between Section 2 to 6. From Level 74m to 46m	Worked as per in the proposed area.	Due to surface right issue, the mine has produced lesser quantity.
2b	Separate benches in topsoil, overburden and minerals (Rule 15)	4 Bench's Proposal in OB & Minerals	4 Benches of OB & Minerals has been worked.	
2c	Stripping ratio or ore to OB ratio	1 : 2.39	1 : 1.85	
2d	Quantity of topsoil generation in m3	Nil	Nil	No Top Soil is Existing
2e	Quantity of overburden generation in m3	94215 Tons	51458 Tons	

2f	General remarks of inspecting officers on development of pit w.r.t. type of deposit etc	Proposed 94215 Tons from 4 benches during 2016-2017	Developed 51458 Tons from 4 benches during 2016-2017
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### Exploitation:

Sl.No.	Item	Propasals	Actual work	Remarks
3a	Number of pit proposed for production	Only Development has proposed in Pit-1.	As per proposed the working was carried out in Pit-1	
3b	Quantity of ROM mineral production proposed	224836 Tons of ROM Proposed. (Ore-163885 Tons + Mineral Rejects 60951 Tons)	95420 Tons of ROM achieved. (Ore-74040 Tons + Mineral Rejects 21380 Tons)	
3c	Recovery of sailable/usable mineral from ROM production	No Proposal	Nil	
3d	Quantity of mineral reject generation	60951 Tons	21380 Tons	
3e	Grade of mineral rejects generation and threshold value declared.	<54% Fe	<54% Fe	
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 Mobile screening was proposed for grade-wise production.	Dry Mobile screening was using 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.	Nil	Drilling and blasting is not carried out and ripper dozer is Proposed for excavation.
3k	Provision of mining machineries in mineral benches	Excavator- 2 No Ripper Dozer - 1 No Truck - 20 No W/ Loader - 1 No Water tanker - 1 No	Machineries are present as per proposal	
3l	Whether height of benches in overburden and mineral suitable for method of mining proposed in MP/SOM	Bench height of 7m and 8-10m of width was proposed.	Bench height & width are maintain as per proposal	
3m	Total area covered under excavation/pits	3.7029 hect area is under Pit and additional 0.4087 hect is required	4.00 hect areas are under Pit only.	
3n	Ore to OB ratio for the pit/mine during the year.	1 : 2.39	1 : 1.85	
3o	Total area put in use under different heads at the end of year	Land use Pattern as on 01.04.2017. Mines = 4.116 hect Dump = 2.8390 hect Infrastructure = 0.250 hect Road = 0.750 hect Unused = 15.785 hect	Land use Pattern as on 01.04.2017. Mines = 4.00 hect Dump = 0.50 hect Mine road = 0.205 hect Unused = 19.03 hect	There are no Changes in land use Pattern because of Non-Working and surface right issue.
3p	Production of ROM mineral during the last five year period as applicable	2016-2017 = 224836 tons 2015-2016 = Nil 2014-2015 = Nil 2013-2014 = Nil 2012-2013 = 329000 tons	2016-2017 = 95420 Tons 2015-2016 = Nil 2014-2015 = Nil 2013-2014 = Nil 2012-2013 = Nil	During the Period Sep 2012 to Oct 2015, the Mine was not working due to statutory order

3q General remarks Nil Nil  
of inspecting  
officers on  
method of mining  
etc.

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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 Top soil, only Mineral rejects is proposed to stock and OB is proposed to backfill in working pit as temporary.	Mineral reject is stock and used as beneficiation and OB has backfilled for 50m.	
4b	Location of topsoil, OB and mineral reject dumps	No Proposal	In between Section 3 & 5	Mineral rejects have stock temporary in Pit in between Section-3 & 5.
4c	Number of dumps within lease area and outside of lease area	Lease area = Nil Non Lease area = Nil	Lease area = Nil Non Lease area = Nil	
4d	Location of dumps w.r.t. ultimate pit limit (Rule 16)	No Proposal	Nil	
4e	Number of active and alive dumps.	Active Dump = Nil Alive Dump = Nil	Active Dump = Nil Alive Dump = Nil	
4f	Number of dead dumps.	Nil	Nil	
4g	Number of dumps established.	Nil	Nil	
4h	Whether Retaining wall or garland drain all along dumps are there.	No Proposal	Nil	
4i	Length of Retaining wall or garland drain all along dumps	No Proposal	Nil	
4j	Number of settling ponds	No proposal	Nil	

4k	Specific comments of inspecting officer on waste dump management	Nil	There is no dump in the Mines area.
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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.	Backfilling in the working pit from Section 2 to 3	Backfilling has done in between Section 2 to 3	
5b	Area under backfilling of mined out area	Nil	Nil	Backfilling is temporary backfilling and re-handled in the subsequent years
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	Backfilling is temporary backfilling and re-handled in the subsequent years	

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



6b	Area available for rehabilitation (ha) .	Mining Lease area is entirely virgin, now there is no proposal for rehabilitation .	Nil
6c	afforestation done (ha).	Nil	Nil
6d	No. of saplings planted during the year	Nil	Nil
6e	Cumulative no .of plants	Nil	Nil
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	They have afforested in nearby lease and taken protective measures as per PMCP

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#### Mineral Conservation:

Sl.No.	Item	Propasals	Actual work	Remarks
7a	ROM Mineral dispatch or grade-wise sorting within lease area	224836 Tons of ROM Proposed. (Ore-163885 Tons >54% Fe + Mineral Rejects 60951 Tons <54% Fe)	95420 Tons of ROM achieved. (Ore-74040 Tons >54% Fe + Mineral Rejects 21380 Tons <54% Fe)	
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.	The grade wise mineral has sorted as >54% Fe as ore and <54% Fe as Mineral Rejects	As per proposal the grades are sorted
7d	Any beneficiation process at mines .	Mechanical processing i.e. dry screening was proposed for grade-wise production.	Mechanical processing i.e. dry screening was proposed for grade-wise production.
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	No Proposal	Nil	
8c	Separate dumps for overburden, waste rock, rejects and fines (Rule 33)	No Proposal	Nil	
8d	Use of overburden, waste rock, rejects and fines dumps for restoring the land to its original use	Mineral rejects are used after beneficiation	Mineral rejects are used after beneficiation	

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8e	Phased restoration, reclamation and rehabilitation of lands affected by mining operations (Pits, dumps etc)	Nil	Nil
8f	Baseline information on existence of plantation and additional plantation done (Rule 41)	Existence of plantation is there along the road and other part of lease area.	Existence of plantation is there along the road and other part of lease area.
8g	Survival rate	60%	60%
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 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	MR & AR Submitted	Both Annual & Monthly returns are submitting in online system.	
9b	Scrutiny of Annual return for information on Mining Engineer, Geologist and Manager	Total employment is one	It is advised to appoint technical persons in full time	
9c	Scrutiny of Annual return on land use pattern for area under pits, reclaimed area, dumps etc.	Land use Pattern is given	Land use pattern as per approved modified mining plan and AR are coinciding	
9d	Scrutiny of Annual return on afforestation	Within Lease = Nil Outside Lease = Nil	Within Lease = Nil Outside Lease = Nil	

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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	95420 Tons	Due to Surface right issue the production would not achieved.
9g	Scrutiny of Annual return on sale value, Ex. Mine price and production cost	ROM has stocked and there is no Sales.	Cost of production is wrongly given. Its advice to rectifiy and give correct data and final A.R
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	Mining Machineries are given	Mining Machineries as per approved modified mining plan and AR are coinciding

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**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