

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

Mining Plan Modification REPORT

Goa regional office

Mine file No : GOA/FE/146-1

Mine code : 30GOA02048

- (i) Name of the Inspecting : **SP01() SURESH PRASAD**
Officer and ID No.
- (ii) Designation : Deputy Controller Mines
- (iii) Accompanying mine : SHRI MAHESH PATANKAR
Official with
Designation
- (iv) Date of Inspection : 07/09/2017
- (v) Prev.inspection date : 05/07/2017

PART-I : GENERAL INFORMATION

1. (a) **Mine Name** : **GADIA SODO**
- (b) **Registration NO.** : **IBM/327/2011**
- (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. :
- E-mail : vijay.mehta@vedanta.co.in
- Phone : 832-2617200, 9923597238
- (f) Police Station : DHARBANDORA
- (g) First opening date : 01/01/1973
- (h) Weekly day of rest : SUN
2. Address for : Village: Codli, Post: Kirlapale, Dabal,
correspondance Taluka: Sanguem
Dist.: South Goa
3. (a) Lease Number : GOA0124
- (b) Lease area : 82.28
- (c) Period of lease :
- (d) Date of Expiry : 22/11/2027
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 : SAUVICK MAZUMDAR
 SESA GHOR, 20, EDC COMPLEX,
 PATTO, PANAJI-GOA NORTH
 GOA GOA
 Phone:
 FAX :

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

Mining Engineer
 Name : DHIRAJKUMAR NAMDEV JAGDISH, Full Time
 Qualification : B.E (MINING)
 Appointment/ : 29/02/2016
 Termination date

Geologist
 Name : MAHESH S. PATANKAR, Full Time
 Qualification : M. Sc. Geology
 Appointment/ : 01/08/2012
 Termination date

Manager
 Name : VIJAY MEHTA
 Qualification : B Tech (Mining)
 Appointment/ : 01/04/2012
 Termination date

6. Date of approval of Mining Plan/Scheme of Mining	:	Renewal under rule 24 MCR1960	24/01/2007
		Modif.of approved Mining Plan	19/05/2008
		Modif.of approved Mining Plan	17/11/2009
		MP modif under MCR 1960	10/07/2015
		MP modif under MCR 1960	23/03/2016
		MP modif under 17(3) MCR 2016	10/02/2017

PART - II : OBSERVATION/COMMENTS OF INSPECTING OFFICERS

Exploration :

Sl.No.	Item	Proposals	Actual work	Remarks
1a	Backlog of previous year	NIL	NIL	
1b	Exploration over lease area for geological axis 1 or 2	NIL	NIL	
1c	Exploration Agencies and Expenditure in lakh rupees during the year	NA	NA	
1d	Balance area to be explored to bring Geological axis in 1 or 2			11.7174 HA AREA TO BE EXPLORED.
1e	Balance reserve as on 01/04/20		6.635 Million Tons	
1f	General remarks of inspecting officers on geology, exploration etc			Suggested to explore entire mineralized area under G1 level.

Development :

Sl.No.	Item	Proposals	Actual work	Remarks
2a	Location of development w.r.t.lease area	E/W: 405886 to 406600 & N/S:- 1696480 to 1697160	E/W: 405882 to 406600 & N/S:- 1696475 to 1697155	
2b	Separate benches in topsoil, overburden and minerals (Rule 15)	yes	available	
2c	Stripping ratio or ore to OB ratio	1:1.58	1:1.14	Disposal of Overburden as in temporary backfilling
2d	Quantity of topsoil generation in m3	NIL	NIL	
2e	Quantity of overburden generation in m3	2812593	1924418	

2f	General remarks of inspecting officers on development of pit w.r.t. type of deposit etc	overbuden disposing as temprory backfilling.
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Exploitation:

Sl.No.	Item	Propasals	Actual work	Remarks
3a	Number of pit proposed for production	1	1	
3b	Quantity of ROM mineral production proposed	3.896MT	3.800MT	
3c	Recovery of sailable/usable mineral from ROM production	nil	nil	
3d	Quantity of mineral reject generation	983162 t	782160 t	
3e	Grade of mineral rejects generation and threshold value declared.	TLV:- Normal Ore-+45% Fe & Silicious Ore +35%Fe	46.68%Fe	
3f	Quantity of sub grade mineral generation.		-	
3g	Grade of sub grade mineral generation		na	
3h	Manual / Mechanised method adopted for segregating from ROM	mechanised	mechanised	
3i	Any analysis or beneficiation study proposed and carried out for sub grade mineral and rejects.			not in the RY.
3j	Provision of drilling and blasting in mineral benches			For hard waste material only.

3k	Provision of mining machineries in mineral benches	yes	Yes	
3l	Whether height of benches in overburden and mineral suitable for method of mining proposed in MP/SOM	yes	yes	At places width of benches to be maintained.
3m	Total area covered under excavation/pits	54.74ha	54.74ha	
3n	Ore to OB ratio for the pit/mine during the year.	1:1.58	1:1.14	less w.r.t.proposed.
3o	Total area put in use under different heads at the end of year		98.43ha	
3p	Production of ROM mineral during the last five year period as applicable	2015-16 - 3.99MT 2016-17 - 3.89MT	2013-14- nil 2014-15- nil 2015-16 - 3.46MT 2016-17 - 3.80 MT	
3q	General remarks of inspecting officers on method of mining etc.			Actual Ore production exceeded with respect to proposal in the year 2016-17. Whereas ROM production was within proposal.

Solid Waste Management - Dumping:

Sl.No.	Item	Propasals	Actual work	Remarks
4a	Separate dumping of topsoil, OB and mineral rejects (Rule 32,33)	yes	yes	
4b	Location of topsoil, OB and mineral reject dumps	MR - E/W : 405800 To 406370 :1696415 to 1697200	MR - E/W : 405800 To 406370 N/S to 1697200	

4c	Number of dumps within lease area and outside of lease area		1(within lease)	
4d	Location of dumps w.r.t. ultimate pit limit (Rule 16)	Within & Outside UPL	Within & Outside UPL	
4e	Number of active and alive dumps.		0	temprory backfilling only.
4f	Number of dead dumps.		0	
4g	Number of dumps established.		1	
4h	Whether Retaining wall or garland drain all along dumps are there.	no proposal	Yes(Old)	
4i	Length of Retaining wall or garland drain all along dumps	no propoal		
4j	Number of settling ponds	no proposal		
4k	Specific comments of inspecting officer on waste dump management			Iron ore stacked adjacent to the approach haul road to the crushing/screening plant without securing the garland drain or retaining wall.

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.	Part extraction of mineral. proposed temporary backfilling	Part extraction of mineral. proposed temporary backfilling	
5b	Area under backfilling of mined out area	E/W : 405600 To 406100 N/S :1697200 to 1697655	E/W : 405600 To 406100 N/S :1697200 to 1697655	Close monitoring of stability required.

5c	Concurrent use of topsoil for restoration or rehabilitation of mineral out area (Rule 32)	No top soil encountered	No top soil encountered	
5d	Total area fully reclaimed and rehabilitated	31.7366	16.5054	combined area for all the three leases
5e	General remarks of inspecting officers on backfilling and reclamation etc.			temprory backfilling uder process.

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).	Annual report on PMCP submitted	Annual report on PMCP submitted	
6b	Area available for rehabilitation (ha) .			Afforestation done No. of saplings planted during the year = 361
6c	afforestation done (ha).	i) 435*175*32	i) 435*175*32	temprory backfilling
6d	No. of saplings planted during the year		361samples	
6e	Cumulative no .of plants			temprory backfilling
6f	Any other method of rehabilitation			
6g	Cost incurred on watch and care during the year			temprory backfilling
6h	Compliance on reclamation and rehabilitation by backfilling (i) Voids available for backfilling (Lx B x D		i) 435*175*32	temprory backfilling

6i	Compliance on reclamation and rehabilitation by backfilling (ii) Voids filled by waste / tailings	nil	
6j	Compliance on reclamation and rehabilitation by backfilling (iii) Afforestation on backfilled area		temporary backfilling
6k	Compliance on reclamation and rehabilitation by backfilling (iv) Rehabilitation by making water reservoir		temporary backfilling
6l	Compliance on reclamation and rehabilitation by backfilling (v) any other specific means.	na	temporary backfilling
6m	Compliance of rehabilitation of waste land within lease (i) afforestation		temporary backfilling
6n	Compliance of rehabilitation of waste land within lease (ii) Area rehabilitation (ha)	na	temporary backfilling
6o	Compliance of rehabilitation of waste land within lease (iii) Method of rehabilitation		temporary backfilling
6p	Compliance of environmental monitoring (core zone and buffer zone)	yes	

6q	General remarks of inspecting officers on PMCP compliance and progressive closure operations etc.	temprory backfilling is under process.
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Mineral Conservation:

Sl.No.	Item	Propasals	Actual work	Remarks
7a	ROM Mineral dispatch or grade-wise sorting within lease area	ROM Mineral dispatch	ROM Mineral dispatch	
7b	Method of grade-wise mineral sorting i.e. manual or mechanical.		na	
7c	Different grade of mineral sorted out at mines.	Siliceous ore- +35%Fe Mineral Reject=+45% to -54% Fe Normal ore- +45% Fe	Siliceous ore-+35%Fe Mineral Reject=+45% to -54% Fe Normal ore- +45% Fe	
7d	Any beneficiation process at mines .			Adjoining lease having dry &wet beneficiations
7e	General remarks of inspecting officer on Mineral conservation and beneficiation issues			Dry &wet beneficiations plant installed in the adjoining lease.

Environment:

Sl.No.	Item	Propasals	Actual work	Remarks
8a	Separate removal and utilization of topsoil (Rule 32)	nil	nil	
8b	Concurrent use or storage of topsoil	nil	nil	

8c	Separate dumps for overburden, waste rock, rejects and fines (Rule 33)	yes	yes	
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	Temprory backfilling
8f	Baseline information on existence of plantation and additional plantation done (Rule 41)			
8g	Survival rate		73%	
8h	Water sprinkling on roads to control airborne dust	yes	yes	
8i	General remarks of inspecting officer on aesthetic beauty in and around mines area			satisfactory.

Compliance of Rule 45:

Sl.No.	Item	Propasals	Actual work	Remarks
9a	Status of submission of Monthly and Annual returns	M.R. Submitted upto -June 2017 A.R. submitted upto- 2016-17		

9b	Scrutiny of Annual return for information on Mining Engineer, Geologist and Manager	yes	yes	
9c	Scrutiny of Annual return on land use pattern for area under pits, reclaimed area, dumps etc.			reclaimed and rehabilitated area-nil
9d	Scrutiny of Annual return on afforestation		submitted	
9e	Scrutiny of Annual return on mineral reject generation (Grade and quantity)		above THLV	
9f	Scrutiny of Annual return on ROM stock and/or graded ore	859942Tons	yes	
9g	Scrutiny of Annual return on sale value, Ex. Mine price and production cost			1. Ex mine not furnished. 2. Cost of production=1603 Rs/T, Major components are a) Over head cost- 530, b) Interest - 440, c) Royalty- 239, d) Direct cost- 314.
9h	Scrutiny of Annual return on fixed assets		available	
9k	Scrutiny of Annual return on mining machineries			Production cost seems to be high. This is due to high value of overhead cost and interest.

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 :

(SURESH PRASAD)

Indian Bureau of Mines