

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

Mining Plan Modification REPORT

Bangalore regional office

Mine file No : KNT/CTD/FE/4/BNG

Mine code : 30KAR07013

- (i) Name of the Inspecting : **A101**) **ARUN KUMAR**
Officer and ID No.
- (ii) Designation : Deputy Controller Mines
- (iii) Accompanying mine :
Official with
Designation
- (iv) Date of Inspection : 30/01/2018
- (v) Prev.inspection date : 19/03/2016

PART-I : GENERAL INFORMATION

1. (a) **Mine Name** : **A. NARRAIN**
- (b) **Registration NO.** : **IBM/327/2011**
- (c) **Category** : **A Fully Mechanised**
- (d) **Type of Working** : **Opencast**
- (e) **Postal address**
- State** : **KARNATAKA**
- District** : **CHITRADURGA**
- Village** : **MEDEKERIPURA**
- Taluka** : **CHITRADURGA**
- Post office** : **BHEEMASAMUDRA**
- Pin Code** : **577501**
- FAX No.** : **0832-6713721 (F), Jayavel.G**
- E-mail** : **MK.Reddy@vedanta.co.in**
- Phone** : **0832-6713600 (O),**
- (f) **Police Station** : **Baramasagara**
- (g) **First opening date** : **03/10/1955**
- (h) **Weekly day of rest** : **SUN**
2. **Address for correspondance** : **Vedanta Limited(formerly Sesa sterlite/Sesa Goa
Sesa Ghor, 20 EDC Complex,
Patto, Panaji, Goa- 403001**
3. (a) **Lease Number** : **KAR1020**
- (b) **Lease area** : **163.5**
- (c) **Period of lease** : **20**
- (d) **Date of Expiry** : **13/05/2013**
4. **Mineral worked** : **IRON ORE** **Main**

5. Name and Address of the

Lessee : VEDANTA LIMITED
 Sesa Ghor, EDC Complex,
 Patto- Panaji, Tiswadi,
 North Goa, Goa. NORTH GOA
 GOA
 Phone:08194238101, 9483211966
 FAX :08194238170

Owner : SAUVICK MAZUMDAR
 M/S VEDANTA LTD., SESA
 GHOR, EDC CO PATTO, PANAJI,
 TISWADI, NORTH GOA, 403001
 NORTH GOA GOA
 Phone: 08194238101
 FAX : 08194238170

Agent : M. Krishna Reddy
 Megalahalli Office Complex
 Bheemasamudra ,
 Chitradurga, Karnataka
 CHITRADURGA KARNATAKA
 Phone: 08194-238101
 FAX : 0832-2460612

Mining Engineer

Name : Y.M.MAHESH, Full Time
 Qualification : B.E. MINING
 Appointment/ : 20/01/2007
 Termination date

Geologist

Name : Somshekhar Dhodkunde, Full Time
 Qualification : M.Sc, Applied Geology
 Appointment/ : 11/01/2016
 Termination date

Manager

Name : G.JAYAVELU
 Qualification : B.E MINING, FCC
 Appointment/ : 01/01/2013
 Termination date

6. Date of approval of Mining Plan/Scheme of Mining	:	Renewal under rule 22 MCR1960	03/04/1992
		Renewal under rule 22 MCR1960	04/03/1998
		Modif.of approved Mining Plan	02/07/2001
		Mining Scheme rule 12 MCDR1988	06/03/2003
		Modif.approved Mining Scheme	18/08/2005
		Mining Scheme rule 12 MCDR1988	26/04/2007
		Mining Scheme rule 12 MCDR1988	19/08/2008
		Modif.approved Mining Scheme	25/02/2010
		Mining Scheme rule 12 MCDR1988	29/02/2012
		Mining Scheme rule 12 MCDR1988	03/09/2012
		Renewal under rule 24 MCR1960	19/11/2012
		Modif.of approved Mining Plan	10/05/2016
		MP review under 17(1) MCR 2016	15/12/2016

PART - II : OBSERVATION/COMMENTS OF INSPECTING OFFICERS

Exploration :

Sl.No.	Item	Proposals	Actual work	Remarks
1a	Backlog of previous year	No proposal	Nil	Entire 90.25Ha mineralized area has been explored in G-1 stage of exploration
1b	Exploration over lease area for geological axis 1 or 2	No proposal	Entire mineralized area has been explored in G-1 stage of exploration	604 boreholes ,Total meterage - 59062.25 m
1c	Exploration Agencies and Expenditure in lakh rupees during the year	No proposal	Not applicable	-
1d	Balance area to be explored to bring Geological axis in 1 or 2	-	Entire mineralized area has been explored in G-1 stage of exploration	No future proposal for exploration
1e	Balance reserve as on 01/04/20	-	103334715 Tons as on 01.09.2016	-
1f	General remarks of inspecting officers on geology, exploration etc			Entire mineralized area has been explored in G-1 stage of exploration with 604 boreholes ,Total meterage - 59062.25 m

Development :

Sl.No.	Item	Proposals	Actual work	Remarks
2a	Location of development w.r.t.lease area	North & south block of the ML area	Development was carried out as per proposal	-
2b	Separate benches in topsoil, overburden and minerals (Rule 15)	Separate benches are proposed in OB and Mineral	Separate benches in OB and Mineral developed	Ore-7 Benches,OB-11 Benches
2c	Stripping ratio or ore to OB ratio	1 : 0.79	1 : 0.71	-
2d	Quantity of topsoil generation in m3	No proposal	nil	No generation of top soil

2e	Quantity of overburden generation in m3	1.82 Million Tons	1.563 Million Tons	-
2f	General remarks of inspecting officers on development of pit w.r.t. type of deposit etc			The development of the benches was as per approved document.

Exploitation:

Sl.No.	Item	Propasals	Actual work	Remarks
3a	Number of pit proposed for production	Two pits proposed, North & South Block	Working in two pits done	No change
3b	Quantity of ROM mineral production proposed	2.29 Million Tons	2.29 Million Tons	-
3c	Recovery of sailable/usable mineral from ROM production	100%	100%	-
3d	Quantity of mineral reject generation	Nil	Nil	-
3e	Grade of mineral rejects generation and threshold value declared.	No proposals	Nil	No generation of mineral rejects
3f	Quantity of sub grade mineral generation.	No proposals	Nil	There is no generation of sub grade
3g	Grade of sub grade mineral generation	NA	nil	-
3h	Manual / Mechanised method adopted for segregating from ROM	Mechanized method proposed	Mechanized method adopted	-
3i	Any analysis or beneficiation study proposed and carried out for sub grade mineral and rejects.	No such proposals	Beneficiation study for siliceous ore has been carried out in IBM, Bng Lab	-

3j	Provision of drilling and blasting in mineral benches	No proposal of drilling and blasting	Ripper Dozer & excavator were used	-
3k	Provision of mining machineries in mineral benches	Provision of mining machineries proposed in mineral benches	Back hoe (1.6 to 4 Cum) & tipper (31 Tonner) combination deployed with dozer	-
3l	Whether height of benches in overburden and mineral suitable for method of mining proposed in MP/SOM	Yes, Bench Height-7 m & bench width 10m	In few benches height & the width of the benches were not maintained.	Corrective action were in progress
3m	Total area covered under excavation/pits	62.45 Ha	62 Ha	-
3n	Ore to OB ratio for the pit/mine during the year.	1: 0.79	1 : 0.71	Due to erratic & heterogeneous chracter
3o	Total area put in use under different heads at the end of year	Pit-62 Ha , reclaimed-23.24 Ha, waste disposal-40.25 Ha, Infrastructure & roads- 25.61 Ha,Stacks-9.49 Ha	Pit-62 Ha , reclaimed-23.24 Ha, waste disposal-40.25 Ha, Infrastructure & roads-25.61 Ha,Stacks-9.49 Ha	-
3p	Production of ROM mineral during the last five year period as applicable	2012-13:1.72 2013-14: 2.29 2014-15: 2.29 2015-16: 2.29 2016-17: 2.29	2012-13: Nil 2013-14:2.06 2014-15: 1.03 2015-16: 2.29 2016-17: 2.29	Unit: Million Tons
3q	General remarks of inspecting officers on method of mining etc.			Corrective actions were in progress to rectify the bench height & width.

Solid Waste Management - Dumping:

Sl.No.	Item	Propasals	Actual work	Remarks
4a	Separate dumping of topsoil, OB and mineral rejects (Rule 32,33)	Separate stacking for OB proposed	Separate stacking for OB done	-

4b	Location of topsoil, OB and mineral reject dumps	Dumping of OB proposed in D3 dump, south Block	Actual dumping in D3 dump, as per the proposal	-
4c	Number of dumps within lease area and outside of lease area	Within ML-04 Outside ML-Nil	within ML-04 Outside ML-Nil	No waste dumps outside the ML area
4d	Location of dumps w.r.t. ultimate pit limit (Rule 16)	Dumps proposed outside the UPL	Dumps outside the UPL	-
4e	Number of active and alive dumps.	02	02	-
4f	Number of dead dumps.	02	02	One dump each in Northern & Southern Block
4g	Number of dumps established.	Two dumps-D1 & D2, one each in North & South Block	Two dumps D1 & D2 are stabilized by plantation & coir matting	-
4h	Whether Retaining wall or garland drain all along dumps are there.	Yes, Retaining wall or garland drain proposed all along the dumps	Constructed retaining wall & garland drain all along the dumps	-
4i	Length of Retaining wall or garland drain all along dumps	D1-1311m, D2-320m, D3-1251m & D4-672m	Retaining wall: D1-819m, D2-256m, D3-1055m & D4-478m	Garland drain: D1-769m, D2-95m, D3-734m & D4-288m
4j	Number of settling ponds	05	09 nos of settling pond constructed	All settling ponds falls outside the lease area
4k	Specific comments of inspecting officer on waste dump management			The waste dump management was found to be satisfactory. Retaining wall & garland drain were constructed all along the dump

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.	No Proposal	Nil	No area is matured for backfilling

5b	Area under backfilling of mined out area	No Proposal	Nil	-
5c	Concurrent use of topsoil for restoration or rehabilitation of mineral out area (Rule 32)	No proposal	No generation of top soil	No area is devoid of mineral
5d	Total area fully reclaimed and rehabilitated	No Proposal	NIL	-
5e	General remarks of inspecting officers on backfilling and reclamation etc.			There is no proposal of backfilling as the mineral exist at depth. Also no area is matured for backfilling.

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).	To be submitted before 1st july of every year	AR on PMCP submitted	-
6b	Area available for rehabilitation (ha) .	No proposal	2.76 Ha within ML	-
6c	afforestation done (ha).	No proposal	WML-22000 nos	-
6d	No. of saplings planted during the year	NA	WML-22000 nos@80% survival OML-5000 nos@75% survival	-
6e	Cumulative no .of plants	NA	Nil	-
6f	Any other method of rehabilitation	No proposal	Nil	-
6g	Cost incurred on watch and care during the year	No proposal	Nil	-

6h	Compliance on reclamation and rehabilitation by backfilling (i) Voids available for backfilling (Lx B x D	No proposal	Nil	-
6i	Compliance on reclamation and rehabilitation by backfilling (ii) Voids filled by waste / tailings	No proposal	Nil	-
6j	Compliance on reclamation and rehabilitation by backfilling (iii)Afforestation on on backfilled area	No proposal	Nil	-
6k	Compliance on reclamation and rehabilitation by backfilling (iv) Rehabilitation by making water reservoir	No proposal	Nil	-
6l	Compliance on reclamation and rehabilitation by backfilling (v)any other specific means.	No proposal	Nil	-
6m	Compliance of rehabilitation of waste land within lease (i)afforestation	No proposal	WML are-2.76 Ha,OML-2.00 Ha	-
6n	Compliance of rehabilitation of waste land within lease (ii)Area rehabilitation (ha)	No proposal	Nil	-
6o	Compliance of rehabilitation of waste land within lease (iii)Method of rehabilitation	No proposal	Nil	-

6p	Compliance of environmental monitoring (core zone and buffer zone)	Season wise environmental monitoring of ambient air quality, water quality, soil sample analysis & noise level	Season wise environmental monitoring of ambient air quality, water quality, soil sample analysis & noise level are being carried out regularly.	All parameters are within limits
6q	General remarks of inspecting officers on PMCP compliance and progressive closure operations etc.			There is no totally mined out area to carry out the PMCP activities except for afforestation.

Mineral Conservation:

Sl.No.	Item	Propasals	Actual work	Remarks
7a	ROM Mineral dispatch or grade-wise sorting within lease area	Grade wise sorting proposed within the lease area	Grade wise sorting done within the lease area	Sizing & sorting done
7b	Method of grade-wise mineral sorting i.e. manual or mechanical.	Mechanical sorting proposed	Dry crushing & screening is used	-
7c	Different grade of mineral sorted out at mines.	Lumps: Below 55%Fe, 55-58%Fe, 58-60%fe, 60-62%Fe, 62-65%Fe, & 65% Fe and above Fines: Below 55%Fe, 58-60, 60-62, 62-65 & 65% Fe and above	No change	As per given in the approved document
7d	Any beneficiation process at mines	No proposal	Only crushing & sizing is done	-
7e	General remarks of inspecting officer on Mineral conservation and beneficiation issues			Mineral conservation is done by sorting different grades of lumps & Fines. Dry crushing & sizing practiced.

Environment:

Sl.No.	Item	Propasals	Actual work	Remarks
8a	Separate removal and utilization of topsoil (Rule 32)	Proposal given for separate stacking if encountered	No top soil is encountered	-
8b	Concurrent use or storage of topsoil	No proposal	Nil	-
8c	Separate dumps for overburden, waste rock, rejects and fines (Rule 33)	Separate dumps for OB & stacking of fines proposed	Separate dumping of OB & stacking of fines is being carried out	-
8d	Use of overburden, waste rock, rejects and fines dumps for restoring the land to its original use	No Proposal	Nil	-
8e	Phased restoration, reclamation and rehabilitation of lands affected by mining operations (Pits, dumps etc)	Afforestation on old dumps proposed	Afforestation carried out on old dumps	Except old dumps ,no areas in the pit is available for reclamation and rehabilitation
8f	Baseline information on existence of plantation and additional plantation done (Rule 41)	Plantation on old dumps-9650 saplings	WML-22000 nos@80% survival OML-5000 nos@75% survival	-
8g	Survival rate	80-90%	75%-80%	-
8h	Water sprinkling on roads to control airborne dust	Proposed	Sprinklers are provided & water tanker is used to suppress the airborne dust on haul roads in mines.	-
8i	General remarks of inspecting officer on aesthetic beauty in and around mines area			The aesthetic beauty in & around the mine is good as lessee has carried out afforestation & environmental protective measures have been taken as per the approved document.

Compliance of Rule 45:

Sl.No.	Item	Propasals	Actual work	Remarks
9a	Status of submission of Monthly and Annual returns		M.R. Submitted up to Jan - 2018. A.R. submitted up to year 2016-2017	AR due on 1st July for 2017-18
9b	Scrutiny of Annual return for information on Mining Engineer, Geologist and Manager	Mining Engineer- Mahesh YM Geologist- S D Somshekhar Manager Mining-G Jayavel	Same as given in AR	-
9c	Scrutiny of Annual return on land use pattern for area under pits, reclaimed area, dumps etc.	Pit area-62 Ha, Reclaimed & rehabilitated- 23.24 Ha, Infrastructure including road area-25.61 Ha Waste disposal-40.25 Ha Mineral Stacking-9.49 Ha	Appears to be correct	
9d	Scrutiny of Annual return on afforestation	WML-22000 nos@80% survival OML-5000 nos@75% survival	Appears to be correct	
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	OS-28228 Tons, Production-2289541 Tons, CS-27467 Tons	Appears to be correct	
9g	Scrutiny of Annual return on sale value, Ex. Mine price and production cost	Sale value=Rs.1485/ton Ex-mine price=Rs. 1236/ton(avg), cost of production=Rs. 426/ton	Appears to be correct	
9h	Scrutiny of Annual return on fixed assets	Rs.1227572608/ -	Appears to be correct	

9k Scrutiny of Hyd.Excavator- Same as mentioned in the
Annual return on 11nos,Wheel AR
mining loaders-9 no,
machineries 31 T dumpers-
35 nos,dozer-2
no, water
tankers-4 nos

Details of violations observed during current inspection and compliance position of violation pointed out

Violation observed		Show couse position	
Rule NO.	Issued on Compliance on	Rule NO.	Issued on Compliance on

Date :

(ARUN KUMAR)

Indian Bureau of Mines