

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

MCDR inspection REPORT

Bangalore regional office

Mine file No : KNT/BLR/FE/414/BNG/VOL-I

Mine code : 30KAR03138

- (i) Name of the Inspecting : **S47**) **DR. Sudhakara T.L**
Officer and ID No.
- (ii) Designation : Senior Mining Geologist
- (iii) Accompanying mine : Shanmukhappa Mandal (Manager),
Official with
Designation
- (iv) Date of Inspection : 14/03/2023
- (v) Prev.inspection date : 24/08/2022

PART-I : GENERAL INFORMATION

1. (a) **Mine Name** : **RAMANMALAI**
- (b) **Registration NO.** : **IBM/178/2011**
- (c) **Category** : **A Other than Fully Mech.**
- (d) **Type of Working** : **Opencast**
- (e) **Postal address**
- State : **KARNATAKA**
- District : **BELLARY**
- Village : **RAMGAD**
- Taluka : **SANDUR**
- Post office : **SANDUR**
- Pin Code : **583119**
- FAX No. : **NIL**
- E-mail : **vescosdr@yahoo.com,Vescopd(**
- Phone : **9611786655, 08395260183**
- (f) **Police Station** : **SANDUR**
- (g) **First opening date** : **19/08/2002**
- (h) **Weekly day of rest** : **SUN**
2. **Address for** : **VESCO HOUSE 2/138**
correspondance **BALLARI Rd SANDUR**
583119
3. (a) **Lease Number** : **KAR0344**
- (b) **Lease area** : **18.62**
- (c) **Period of lease** : **20**
- (d) **Date of Expiry** : **18/10/2012**
4. **Mineral worked** : **IRON ORE** **Main**

5. Name and Address of the

Lessee : VEERABHADRAPPA SANGAPPA & COMPANY
 # 2/138, BELLARY ROAD,
 HOSPET, BELLARY KARNATAKA
 Phone:08395-260120
 FAX :08395-260676

Owner : K S VINAYAK NOMINATED OWNER
 VESCO HOUSE 2/138, BELLARY
 RD SANDUR BELLARY KARNATAKA
 Phone: 08395260183
 FAX :

Agent : K S VINAYAK
 VESCO HOUSE 2/138, BELLARY
 RD SANDUR BELLARY KARNATAKA
 Phone: 08395260183
 FAX :

Mining Engineer

Name : IMRAN SHAIK, Full Time
 Qualification : BE MINING
 Appointment/ : 01/03/2013
 Termination date

Geologist

Name : S.MANDAL, Full Time
 Qualification : M.SC(MINERAL EXPLORATION)
 Appointment/ : 01/07/2012
 Termination date

Manager

Name : NANDAKUMAR H M
 Qualification : DIPLOMA IN MINING FCC
 Appointment/ : 26/09/2013
 Termination date

6. Date of approval of Mining Plan/Scheme of Mining	:	Fresh under rule 22 MCR1960	08/12/1995
		Modif.of approved Mining Plan	06/03/2003
		Mining Scheme rule 12 MCDR1988	28/07/2006
		Mining Scheme rule 12 MCDR1988	01/10/2012
		Modif.approved Mining Scheme	31/12/2013
		Modif.of approved Mining Plan	24/02/2016
		Modif.of approved Mining Plan	16/09/2016
		MP modif under 17(3) MCR 2016	31/03/2022

PART - II : OBSERVATION/COMMENTS OF INSPECTING OFFICERS

Exploration :

Sl.No.	Item	Proposals	Actual work	Remarks
1a	Backlog of previous year	No proposals	NIL	As per approved RUMP dated 31/03/2022, lessee has carried out 84 core boreholes with a total meterage of 5906.5m from 2003-04 to 2014-15 .
1b	Exploration over lease area for geological axis 1 or 2	No proposal	Out of 43.63Ha mineralized area, lessee has explored under G1 level - 40.73 Ha, G2 level - 1.86 Ha	As per approved document, 43.63 Ha is mineralized area. During the site visit the proposed exploration of 2022-23 was observed and the work was in progress.
1c	Exploration Agencies and Expenditure in lakh rupees during the year	No proposals	NIL	1.47 Cr spent on exploration in the past.
1d	Balance area to be explored to bring Geological axis in 1 or 2	G2 - 1.86 Ha G3 - 1.84 Ha	G2 & G3 area 3.70 Ha needs to be explored to bring into G1 level	As per Modification of RMP approved on dtd. 31.03.2022 all area under G2, G3 will be brought under G1 level of Exploration.
1e	Balance reserve as on 01/04/20		33,109,953 MT of reserves with average quality of 62.50 % Fe	As per AR submitted for FY 2021-22 (includes Iron Ore & HSIO)

1f	General remarks of inspecting officers on geology, exploration etc			Out of 53.16 Ha lease area, 43.63Ha is mineralized exploration and remaining area of 8.73Ha is non-mineralized. Lessee has proposed 31 boreholes with a total meterage of 1550m in the approved RUMP to bring the entire mineralized area into G1 level also to prove the ore body 3-dimensionally.
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Development :

Sl.No.	Item	Propasals	Actual work	Remarks
2a	Location of development w.r.t.lease area	N-1668730-1669100 & E-659730-659830	N-1668730-1669100 & E-659730-659830	Development is carried out within the proposed limit.
2b	Separate benches in topsoil, overburden and minerals (Rule 15)	Separate benches in overburden and mineral proposed	Separate benches maintained in overburden and mineral	OB: 1 benches MB: 14 benches As per AR 2021-22 Separate benches maintained as proposed.
2c	Stripping ratio or ore to OB ratio	1:0.38	1:0.31	During previous violation issued by inspecting officer, lessee justified that the less OB development is due to BHQ (Fe 35 to 45 %) considered as Ore & blended with high grade iron ore.
2d	Quantity of topsoil generation in m3	No proposal	NIL	No top soil is generated during the year as the mining work is carried out in the already broken up area.

2e	Quantity of overburden generation in m3	4,16,230 tonnes	3,33,400 tonnes	Bulk density of Waste-1.8. Violation issued for deviation in development quantity. During previous violation issued by inspecting officer, lessee justified that the less OB development is due to BHQ (Fe 35 to 45 %) considered as Ore & blended with high grade iron ore.
2f	General remarks of inspecting officers on development of pit w.r.t. type of deposit etc			Development works are carried out within the proposed grid limits and Benches are systematically maintained as per the approved proposals.

Exploitation:

Sl.No.	Item	Propasals	Actual work	Remarks
3a	Number of pit proposed for production	1 Pit proposed N-1668850 to 1669720 E- 659100 to 659750	Working carried out in 1 pit only N-1668850 to 1669720 E- 659100 to 659750	Approximate dimension of the pit L- 1380m, Width-190m, Depth-95 m
3b	Quantity of ROM mineral production proposed	11,00,000 tonnes	10,76,400 tonnes	The actual produced quantity is as per the capping fixed by DMG.
3c	Recovery of sailable/usable mineral from ROM production	95%	98%	NIL

3d	Quantity of mineral reject generation	No Proposal	NIL	No generation of Mineral Rejects during 2021-22. Lessee has staked 16130 tonnes of BHQ (Fe: 35 % to <45%) generated during FY 2018-19 separately in mines
3e	Grade of mineral rejects generation and threshold value declared.	No Proposal	NIL	NIL
3f	Quantity of sub grade mineral generation.	No Proposal	NIL	NIL
3g	Grade of sub grade mineral generation	No Proposal	NIL	NIL
3h	Manual / Mechanised method adopted for segregating from ROM	Mechanized method proposed for segregating from ROM	Mechanized method adopted for segregating from ROM	The segregating of ROM Ore is by mechanized method. Dry Crushing (150 TPH) & Screening (250TPH)
3i	Any analysis or beneficiation study proposed and carried out for sub grade mineral and rejects.	No Proposal	NIL	NIL
3j	Provision of drilling and blasting in mineral benches	Drilling & blasting proposed in mineral benches	10% of production & development is used for drilling & blasting, mostly in BHQ.	The formations are mostly soft in nature & drilling blasting is done only in hard stratum. Only 10% of the total volume proposed for drilling & blasting.
3k	Provision of mining machineries in mineral benches	Hydraulic excavator & tipper combination proposed	Mining operation carried out using excavator & tipper combination (10/20 tonnes)	Machineries as proposed are engaged in the mineral benches

3l	Whether height of benches in overburden and mineral suitable for method of mining proposed in MP/SOM	Height- 7 to 7.5m, Width- 8m	YES Height- 7 to 7.5m, Width- 8 to 10m	The Benches are systematically developed as per the proposals by maintaining the proposed height and width as per the approved Mining Plan.
3m	Total area covered under excavation/pits	30.502 Ha at the end of plan period as per Approved RMP dtd: 11.12.2020	30.100 Ha at the end of reporting year (2021-22)	As per AR 2021-22 and Modified RMP Approved on dtd: 31.03.2022. Appears to be correct .
3n	Ore to OB ratio for the pit/mine during the year.	1:0.38	1:0.31	Violation issued for deviation in development quantity.
3o	Total area put in use under different heads at the end of year	Pit- 28.16 Ha Dump- 7.61 Ha Buildings & roads -1.27 Ha Others-16.12 Ha As per Approved RMP dtd: 11.12.2020	Pit- 30.100 Ha Dump- 5.917 Ha Buildings -0.74 Ha Others-16.403 Ha (including green belt) As per AR 2021-22	Lease area utilization as at the end of Plan Period. As per the AR for 2021-2022.
3p	Production of ROM mineral during the last five year period as applicable	2017-18: 1.10 MT 2018-19: 1.10 MT 2019-20: 1.10 MT 2020-21: 1.10 MT 2021-22: 1.10 MT	2017-18: 1.10 MT 2018-19: 1.10 MT 2019-20: 1.10 MT 2020-21: 1.10 MT 2021-22: 1.0764 MT	(For the FY 2021-22) Ore quantity is reduced as per the direction of monitoring committee on pro-rata basis. Production Proposals & achieved figures are as per the online submitted Annual Returns of the respective years.

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

The Mine is a fully mechanized mine and machineries as proposed are engaged for development, Production and segregation of ore. The mine is systematically developed by maintaining the bench height and width as proposed.

Solid Waste Management - Dumping:

Sl.No.	Item	Propasals	Actual work	Remarks
4a	Separate dumping of topsoil, OB and mineral rejects (Rule 32,33)	Separate dumping for OB proposed	Separate dumping for OB carried out	Dumping of waste/OB is carried out at the proposed location by forming terraces. Topsoil generated in the past has been utilized in for plantation in the Mine. No Mineral reject or top soil generated during 2021-2022.
4b	Location of topsoil, OB and mineral reject dumps	N-1668730-1669100 & E-659730-659830	N-1668730-1669100 & E-659730-659830	Dumping of waste is done within the earmarked area. Apart from this dump, BHQ generated in the past is separately dumped temporarily within the UPL. All dumps are located within the ML.
4c	Number of dumps within lease area and outside of lease area	WML : 1 dump OML : NIL	WML : 1 dump OML : NIL	1(one) Dump. Apart from this dump, BHQ generated in the past is separately dumped temporarily within the UPL.

4d	Location of dumps w.r.t. ultimate pit limit (Rule 16)	OB Dump proposed outside the UPL	OB dumped outside the UPL on the south-eastern side of the ML area	South eastern side away from UPL. Apart from this, BHQ generated in the past is separately dumped temporarily within the UPL.
4e	Number of active and alive dumps.	1 No'	1 No'	There is only one active dump.
4f	Number of dead dumps.	No proposal	NIL	
4g	Number of dumps established.	No proposal	NIL	Non active Part of the Active dump is stabilized by coir mat and plantation.
4h	Whether Retaining wall or garland drain all along dumps are there.	75m Retaining wall. 75 m garland drain proposed along dumps.	Retaining wall- 75m. Garland drain-75m	In the approved RUMP dated 31/03/2022, during the year 2022-23, there was a proposal to construct 220m retaining wall at southern part of the active waste dump, same has been not constructed, violation pointed out.
4i	Length of Retaining wall or garland drain all along dumps	RW-75 mtrs GD- 75 mtrs	RW-79 mtrs GD- 0 mtrs	(For the FY 2021-22)
4j	Number of settling ponds	No proposal	NIL	3 SST constructed in the past & is maintained.
4k	Specific comments of inspecting officer on waste dump management			There is one active dump and inactive part of it is stabilized by plantation and geo-textiling. In the RMP approved dated 31/03/2022 it was advised lessee to carryout integrated slope stability of the waste dumps, same has not carried out, violation pointed out.

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	Since the Mineral exists beneath and no part of the mineral bearing zone is fully exploited.
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	NIL	Topsoil generated is utilized in safety zone and dump for afforestation and sapling preparation.
5d	Total area fully reclaimed and rehabilitated	No proposal	NIL	
5e	General remarks of inspecting officers on backfilling and reclamation etc.			Since the Ore persists at depth and the ore is not fully extracted, backfilling at this stage not recommendable.

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).	PMCP report to be submitted by 1st July every year	PMCP report for the year 2021-22 is submitted.	Submitted within stipulated time.
6b	Area available for rehabilitation (ha) .	No proposal	0.30 Ha Part of active Dump is rehabilitated by coir matting and plantation.	Part of dump area rehabilitated by coir matting and plantation.
6c	afforestation done (ha).	0.40 Ha	0.312 ha on active dump and green belt & 0.50 Ha. Avenue plantation	

6d	No. of saplings planted during the year	500 No's	Saplings: 40 No's and 3000 seedlings(Agave suckers) inside ML 277 No's outside ML Total: 3317 No's	(For the FY 2021-22) Saplings: 40 No's and 3000 seedlings(Agave suckers) inside ML 277 No's outside ML Total: 3317 No's as per AR and appears to be correct.
6e	Cumulative no .of plants	--	7909 no's of seedlings 50100 no's of Agave suckers	Appears to be correct as reported.
6f	Any other method of rehabilitation	No proposal	NIL	NIL
6g	Cost incurred on watch and care during the year	No proposal	Rs. 1,10,462.00	Appears to be correct.
6h	Compliance on reclamation and rehabilitation by backfilling (i) Voids available for backfilling (L x B x D	No proposal	NIL	NIL
6i	Compliance on reclamation and rehabilitation by backfilling (ii) Voids filled by waste / tailings	No proposal	NIL	NIL
6j	Compliance on reclamation and rehabilitation by backfilling (iii)Afforestation on on backfilled area	No proposal	NIL	NIL
6k	Compliance on reclamation and rehabilitation by backfilling (iv) Rehabilitation by making water reservoir	No proposal	NIL	NIL

6l	Compliance on reclamation and rehabilitation by backfilling (v)any other specific means.	No proposal	NIL	NIL
6m	Compliance of rehabilitation of waste land within lease (i)afforestation	No proposal	NIL	NIL
6n	Compliance of rehabilitation of waste land within lease (ii)Area rehabilitation (ha)	No proposal	NIL	NIL
6o	Compliance of rehabilitation of waste land within lease (iii)Method of rehabilitation	No proposal	NIL	NIL
6p	Compliance of environmental monitoring (core zone and buffer zone)	Environmental monitoring proposed in Core & Buffer zone	Environmental monitoring carried out in Core & Buffer zone. Monitoring carried out by Cosmo Laboratory Ballari.	<p>Buffer Zone Air-(So2-13.53, No2-13.37 mg/m3) Pm10-51.22 Pm2.5- 14.59</p> <p>Core Zone Air- (So2-14.16, No2- 12.58 mg/m3) Pm10-50.54 Pm2.5- 15.16</p> <p>S. Water- (TDS- 732mg/l) G. Water- (TDS- 1382.8mg/l)</p> <p>Soil-(pH-6.90)</p> <p>Noise-dB(A) Max'- 71.00 Min'- 65.25 Readings are observed to be within the permissible limits.</p>

6q	General remarks of inspecting officers on PMCP compliance and progressive closure operations etc.	As proposed the afforestation is done in the safety zone as gap filling and also along the inactive slope part of the dump. PMCP activities are carried out in accordance with the Approved Mining Plan. However the proposed construction of Retaining wall during the year 2022-23 not done till the date of inspection.
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Mineral Conservation:

Sl.No.	Item	Propasals	Actual work	Remarks
7a	ROM Mineral dispatch or grade-wise sorting within lease area	Grade wise sorting proposed in the lease area	Grade wise sorting done in the lease area	The Grade /size wise sorting of ROM is done by crushing and screening within the lease area dispatched after segregating.
7b	Method of grade-wise mineral sorting i.e. manual or mechanical.	Mechanical sorting proposed	Mechanical method adopted for grade wise sorting (physical specification)	Mechanical method adopted for grade wise sorting by engaging Dry Crushing (150 TPH) & Screening (250TPH)
7c	Different grade of mineral sorted out at mines.	Crushing & screening proposed to separate lumps & fines	Lumps: +10mm to -40mm Fe: 60-64.5% & Fines: -10mm Fe: 55-63.5%	Sorting of lumps and fines done at site by crushing & screening.
7d	Any beneficiation process at mines	No proposal	NIL	No beneficiation is done. Only sorting by size is done by Mobile dry crushing & screening plant.

7e	General remarks of inspecting officer on Mineral conservation and beneficiation issues		No beneficiation is carried out. The ore is segregated grade wise and size wise into lumps and fines at mine site by engaging mobile crusher & screening
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Environment:

Sl.No.	Item	Propasals	Actual work	Remarks
8a	Separate removal and utilization of topsoil (Rule 32)	No proposal	NIL	Working are at broken up area, no top soil generated.
8b	Concurrent use or storage of topsoil	No proposal	NIL	No storage of top soil
8c	Separate dumps for overburden, waste rock, rejects and fines (Rule 33)	Separate dump proposed	Separate dump of overburden maintained	
8d	Use of overburden, waste rock, rejects and fines dumps for restoring the land to its original use	No proposal	NIL	Waste (OB) and BHQ generated in the past is dumped separately in the locations as proposed.
8e	Phased restoration, reclamation and rehabilitation of lands affected by mining operations (Pits, dumps etc)	No proposal	NIL	NIL
8f	Baseline information on existence of plantation and additional plantation done (Rule 41)	500 saplings	(For the FY 2021-22) 40 no's of seedlings planted inside ML & 277 No's Avenue plantation outside lease. 3000 no's of Agave suckers on waste dump. Total: 3317 No's	Total of 7909 no's of seedlings 50100 no's of Agave suckers has been planted so far

8g	Survival rate	85 %	80%	As per AR-2021-22 WML 85% and OML 60%
8h	Water sprinkling on roads to control airborne dust	Water sprinklings on haul roads proposed to control air borne dust	Regular water sprinkling is carried out by water tankers and water mist to control the air borne dust on haul roads & screening plant	5 no' of water tanker of capacity 6000, 8000 litres and 12000 litres capacity of water mist is used.
8i	General remarks of inspecting officer on aesthetic beauty in and around mines area			Aesthetic beauty in and around the mine is good and all efforts are taken in its maintenance.

Compliance of Rule 45:

Sl.No.	Item	Propasals	Actual work	Remarks
9a	Status of submission of Monthly and Annual returns	M.R. Submitted upto Feb 2023 A.R. Submitted upto 2021-22		Returns are submitted within stipulated time
9b	Scrutiny of Annual return for information on Mining Engineer, Geologist and Manager	Mines Manager: Nandakumar HM Mining Engineer: Imran Shaik Geologist: Shanmukhappa Mandal	Verified and found to be in order	
9c	Scrutiny of Annual return on land use pattern for area under pits, reclaimed area, dumps etc.	Pit - 30.100 Ha Dump - 5.917 Ha Buildings - 0.740 Ha Others - 16.403 Ha	Appears to be correct	
9d	Scrutiny of Annual return on afforestation	NIL	NIL	

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 Balance- NIL Production: 10.0764 lakhs tonnes Closing balance- NIL Dump Working: Opening Balance- 1575(t) Production: NIL Closing balance- 1575 (t) Production Lumps: 55-58% Fe- 16000.00 (t) 58-60% Fe- 44000.00 (t) 60-62% Fe- 80000.00 (t) 62-65% Fe- 88400.00 (t) Fines: < 55% Fe- 176000.00 (t) 55-58% Fe- 364000.00 (t) 58-60% Fe- 16000.00 (t) 60-62% Fe- 208000.00 (t) 62-65% Fe- 84000.00 (t)	Appears to be in order.	NIL

9g	Scrutiny of Annual return on sale value, Ex. Mine price and production cost	Sale Value Lumps -5824.88 Rs/ton, Fines -3513.90 Rs/ton Ex-mine price Lumps - 55-58% Fe-4341.25 Rs/ton 58-60% Fe-3622.50 Rs/ton 60-62% Fe-4097.19 Rs/ton 62-65% Fe-5091.00 Rs/ton Fines - < 55% Fe-1141.00 Rs/ton 55-58% Fe-2505.00 Rs/ton, 58-60% Fe-4100.00 Rs/ton 60-62% Fe-4282.76 Rs/ton 62-65% Fe-3967.50 Rs/ton Cost of Production 912.06 Rs/ ton	Appears to be in order.	In the previous inspection officer has pointed out violation pointed out for cost of production, lessee has rectified the Annual returns.
9h	Scrutiny of Annual return on fixed assets	527.47417 Lacs	Appears to be correct as per AR submitted.	NIL
9k	Scrutiny of Annual return on mining machineries	Excavator - 5 No's Wheel loader - 3 No's Tipper - 11 No's Rock Drill - 1 No' Crusher - 1 No' Back Hoe - 1 No'	Verified during inspection and found to be in order.	NIL

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
MCDR17	Rule 11(1)	24/03/2023			

Date :

(DR. Sudhakara T.L)

Indian Bureau of Mines