l/27553/2024

#### MCDR-MiFLOFE/20/2023-BNG-IBM\_RO\_BNG INDIAN BUREAU OF MINES MINERALS DEVELOPMENT AND REGULATION DIVISION

### MCDR inspection REPORT

### Bangalore regional office

	Mine	file No : KNT/BLR/FE/3	76,	/BNG Mine code : 30KAR03	103
	(i)	Name of the Inspecting Officer and ID No.	:	S21 ) H M Shivakumar	
	(ii)	Designation	:	Assistant Controller Mine	
	(iii)	Accompaning mine Official with Designation	:	Shri.H.J.Basavarajappa , Mines Manager	
	(iv)	Date of Inspection	:	09/11/2023	
	(v)	Prev.inspection date	:	19/01/2023	
		PAI	۲ <b>۲</b> -	I : GENERAL INFORMATION	
1.	(a)	Mine Name	:	THIMMAPPANAGUDI	
	(b)	Registration NO.	:	IBM/4369/2011	
	(c) (d) (e) (f) (g)	Category Type of Working Postal address State District Village Taluka Post office Pin Code FAX No. E-mail Phone Police Station First opening date	: : : : : : : : : : : : : : : : : : :	A Fully Mechanised Opencast KARNATAKA BELLARY KRISHNA NAGAR SANDUR VIDYA NAGAR 080-25583172 (F),ningappaas info.mml@nic.in,hdrajuchnas 080-25580373, 9845300022 (I Sandur 27/12/1985	
	(h)	Weekly day of rest	:	SUN	
2.	Addre	ess for espondance	:	Karnataka State Minerals Corp. Ltd TTMC BUILDING A BLOCK 5th FLOOR BMTC SHANTINAGAR BANGALORE - 560027.	
3.	(a) (b) (c) (d)	Lease Number Lease area Period of lease Date of Expiry	••••••••	KAR0200 136.94 50 26/12/2035	
4.	Mine	ral worked	:	IRON ORE Main	

5.	Name and Address of	the		
	Lessee	:	Karnataka State Minerals Corp. Ltd	
			TTMC, A Block, 5th Floor,	
			BMTC Building, K.H.Road,	
			Shanthinagar Bengaluru	
			Phone: $0.80 - 2.2278813 - 14 - 15 - 16$	
			FAX :080-22213172	
	Owner	:	JayavibhavaSwamy, I.A.S, Managing Directo	r
			Karnataka State Minerals	
			Corporatio BMTC	
			A" Block, 5th Floor.	
			Shanthinagar BANGALORE	
			KARNATAKA	
			Phone: 080-22278813/14	
			FAX : 08022213172	
	Agent	:	MALLIKARJUN SARAPUR	
			BMTC Shanthinagar, TTMC	
			Building, "A" Block, 5th	
			Floor, Snanthinagar, Bengaluru Karnataka	
			BANGLORE URBAN KARNATAKA	
			Phone: 8763673728	
			FAX : 08022213172	
	Mining Engine	er		
	Name	:	H.J.BASAVARAJAPPA.,Full Time	
	Qualification	:		
	Appointment/	:	17/03/2022	
	Termination da	ate		
	Geologist			
	Name	:	YOGANANDA KS,Full Time	
	Qualification	:	M.Sc GEOLOGY	
	Appointment/	:	17/03/2022	
	Termination da	ate		
	Manager			
	Name	:	H.J.BASAVARAJAPPA	
	Qualification	:		
	Appointment/ Termination da	: ate	12/06/2020	
б.	Date of approval of	Mini	.ng : Renewal under rule 22 MCR1960	29/02/2000
	Plan/Scheme of Minir	ng	Modif.of approved Mining Plan	27/12/2001
			Modif approved Mining Scheme	12/09/2004
			Mining Scheme rule 12 MCDR1988	23/03/2006
			Modif.approved Mining Scheme	02/12/2008
			Mining Scheme rule 12 MCDR1988	10/08/2012
			Modif.approved Mining Scheme	06/01/2015
			Modif.approved Mining Scheme	16/05/2010
			MP modif under 17(3) MCR 2016	22/01/2021

MP review under 17(1) MCR 2016

01/02/2021

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PART - II : OBSERVATION/COMMENTS OF INSPECTING OFFICERS

Exploration :

Sl.No.	Item	Proposals	Actual work	Remarks
1a	Backlog of previous year		4Nos. Reverse Circulation BoreHoles	From 14.12.2020 to 31.03.2021 lessee has drilled 27 No's of Core Bore Holes. Further from 01.04.2021 to 13.04.2021, drilled 9 No's of Core Bore Holes. Then 4 No's of Reverse Circulation bore holes drilled in the year 2022-23 upto the end of ore body. As pointed out in the violation letter dt09.02.23, Form-I submitted on 7.3.23 for drilling Exploratory Boreholes vide BH No. KTB-50, KTB- 51, KTB-47 & KTB- 35. vertically beyond the mineralized zone. The exploration RC Drilling work has been completed
1b	Exploration over lease area for geological axis 1 or 2	G1-43.93Ha	G1-43.93Ha., G2-2.00 Ha., G3 - Nil	Mineralized area 43.93Ha, non- mineralized area- 91.01Ha. as per approved document, Mining Area- 136.94Ha.
1c	Exploration Agencies and Expenditure in lakh rupees during the year	No Proposal	Reverse Circulation Drilled boreholes total 4 No's with Meterage of 103Mtrs completed Rs.7200perMeter	Exploration completed on 10.03.2023&cost incurred Rs.7.41 Lakhs as reported in the AR-22-23.
1d	Balance area to be explored to bring Geological axis in 1 or 2	-	_	Mineralized area 43.93Ha, non- mineralized area- 91.01Ha. as per approved document, Mining FC Area- 136.94Ha.

1e Balance reserve as on 01/04/20

1f General remarks of inspecting officers on geology, exploration etc 3005809 Tonnes

As per AR-2022-23.

The Iron deposit occurs as pocket type deposit with Banded Ferruginous Quartzite's Phyllite. The ore body is exposed over a length of 1850m and width of 80m towards NW to SE. Dip varies b/w 60 to 750 NE. The ore occurs both in powdery & lumpy form with grade ranging from 45%Fe to 65% Fe. Out of 136.94 FC area of Mining Lease, 43.93 is explored in G1 level, 2 Ha in G2 Level and 91.01 Ha is unexplored mineralized as per the Approved MP.

#### Development :

Sl.No.	Item	Propasals	Actual work	Remarks
2a	Location of development w.r.t.lease area	Development was proposed in grids N - 1673725to 1674340 E -663738 to 665155 The benches were proposed to be formed between 956&872 above MSL	Development was Achieved in grids N - 1673732 to 1674330 E - 663745 to 665148 The benches were Achieved 960& 878 above MSL.	Working carried out within the proposed grid intervals.
2b	Separate benches in topsoil, overburden and minerals (Rule 15)	Separate benches for overburden & mineral proposed	Separate benches of overburden & Mineral are Maintained as per proposal.	There are no top soil benches, Over burden benches are of 3Nos. and Mineral benches are 9nos.

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2c	Stripping ratio or ore to OB ratio	1:2.57(in Tonnes)	1:2.15 (in	Tonnes)	(Bulk Density considered for ore is 2.88 & waste 2.5 tons/Cum). Violation issued for not achieving the proposed stripping ratio.
2d	Quantity of topsoil generation in m3	No proposal	NIL		No top soil was generated in reporting year
2e	Quantity of overburden generation in m3	6,75,499 in m3 (16,88,747 in Tonnes)	4,93,953in (12,34,882	m3 in Tonnes)	Violation issued for not achieving the proposed quantity of Development/ Waste generation.
2f	General remarks of inspecting officers on development of pit w.r.t. type of deposit etc				The entire mine is developed as one single pit opening along the entire strike length of 1500m X 260m Width X 82m depth with bench height of 8m and width of 10m. The bench advances are along and across the strike of the deposit. However, during inspection it was observed that bench height and width are not maintainedas proposed at section 17-17' for which violations are issued.

# Exploitation:

Sl.No.	Item	Propasals	Actual work	Remarks
3a	Number of pit proposed for production	One pit proposed	Working is carried out in onlyone pit	Approximate dimension of the pit in meters L-1500m, W-260m, D-82m
3b	Quantity of ROM mineral production proposed	6,50,000 MTs	5,73,000MTs	Violation issued for not achieving the proposed production.

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3c	Recovery of sailable/usable mineral from ROM production	Recovery 100%	Recovery 100%	-
3d	Quantity of mineral reject generation	No Proposal	NIL	-
3e	Grade of mineral rejects generation and threshold value declared.	+35% Fe for Hematite Siliceous	NIL	-
3f	Quantity of sub grade mineral generation.	No proposal	Not Applicable	-
3g	Grade of sub grade mineral generation	No proposal	Not Applicable	-
3h	Manual / Mechanised method adopted for segregating from ROM	Mechanized method proposed for segregating from ROM	Mechanized method adopted for segregating from ROM	Crushing & Screening was done for segregation.
3i	Any analysis or beneficiation study proposed and carried out for sub grade mineral and rejects.	No proposal	Not Applicable	-
3j	Provision of drilling and blasting in mineral benches	Deep hole Drilling & Blasting is proposed for removal of hard strata in overburden & mineral benches.	Drilling & Blasting carried out in hard strata. Direct excavation is carried in fines ore and clay benches.	90% of the total material handled by blasting.

3k	Provision of mining machineries in mineral benches	<pre>Mining Machineries proposed: 1)Excavator- 10Nos., 2)Wheel loader - 7Nos., 3)Dumper/Tippe rs-33Nos., 4)water Tankers- 10Nos., 5)Crushingunit -1No. 6)Screening unit- 2Nos., 7)Drilling Machine- 3Nos.</pre>	<pre>Mining Machineries 1)Excavator- 6Nos., 2)Wheel loader -3Nos 3)Dumpers/Tippers - 19Nos., 4)water Tankers -6Nos., 5)Crushing unit -1No. 6)Drilling Machine-2Nos.</pre>	The reported machineries were found deployed on the day of inspection.
31	Whether height of benches in overburden and mineral suitable for method of mining proposed in MP/SOM	Bench Height 8Mtrs& Width 10Mtrs proposed	Bench height and width is maintained as per the proposal.	Suitable. However, during inspection it was observed that bench height and width are not maintained at section 17-17' as proposed for which violations are issued.
3m	Total area covered under excavation/pits	Mining - 46.25 Ha. Waste dump - 19.54Ha.	Mining - 46.25 Ha. Waste dump - 19.54Ha.	As per the AR- 2022-23.
3n	Ore to OB ratio for the pit/mine during the year.	1:2.57	1:2.15	Violation issued for not achieving the proposed stripping ratio.

30	Total area put in use under different heads at the end of year	<pre>1) Opencast working - 44.31Ha., 2) R&amp;R -17.75Ha, 3)Active Dump3- 3.00Ha. 4)OB Dumps- 18.00Ha. 5)Mineral Storage - 3.00Ha. 6) Re-handling Dump D1-3.40 Ha. 7) Infrastructure &amp;Roads-3.70Ha. " 8) Others - (RW,GD,ST etc.,)7.41Ha. 9) Untouched area- 36.37Ha.</pre>	<pre>1)Opencast working- 46.25Ha 2)R&amp;R 17.75Ha. 3)Road 3.00Ha. 4)Infrastructure 0.70Ha. 5)Waste Disposal - 19.54Ha. 6)Others 7.79Ha. 7)Untouched Area - 36.37Ha.</pre>	- - -	As per the AR- 2022-23.
3p	Production of ROM mineral during the last five year period as applicable	( in tonnes) 2017-18 650000 2018-19 650000 2019-20 650000 2020-21 650000 2021-22 650000 2022-23 650000	( in tonnes) 2017-18 492845 2018-19 101778 2019-20 421483 2020-21 650000 2021-22 636050 2022-23 573000		As per the Annual Returns submitted
3q	General remarks of inspecting officers on method of mining etc.				The method of Mining is by opencast mechanized method with combination of heavy earth moving machineries like excavators, Wheel Loaders with dumpers/Trucks. Also deep hole drilling & blasting is adopted both in hard Waste and Mineral Strata.

Solid Waste Management - Dumping:

Sl.No.

Item

Actual work

Remarks

4a Separate dumping Generated OB OB & mineral reject has No top soil of topsoil, OB is proposed to backfilled in proposed generated and and mineral be backfilled. (Dump-D4) overburden dumped rejects (Rule in back filled 32,33) area (Dump - D4)4b Location of Back filling area (Dump-The entire Back filling area (Dump-D4) D4) topsoil, OB and overburden was mineral reject N - 1674420 to N - 1674435 to 1674658 dumped in proposed dumps 1674662 E - 663396 to 664172 back filled area E - 663388 to Active Dump (D3) - Nil (Dump D4) 664180 Active Dump (D3) N - 1674190 to 1674360 E - 665115 to 665220 Number of dumps 4 dumps within 4 dumps within lease 4cwithin lease lease area area area and outside No dumps are No dumps outside lease proposed of lease area area outside lease area 4d Location of Dumps are Dumping was done outside In the reporting year only, dumps w.r.t. the UPL proposed ultimate pit outside the backfilling is limit (Rule 16) UPL carried out. Number of active 2 Dumps are 2 Dumps are active 4e and alive dumps. active (D3& D4) (D3& D4) 4f Number of dead 2 Dumps are 2 Dumps are inactive dumps. inactive (D1& D2) (D1& D2) Number of dumps 4g 2 Dumps (D1& 2 Dumps (D1& D2) Stabilized with established. D2) plantation and partially coir matting RW- 300.00 Mtrs. 4h Whether RW= 300.00 Violation issued Retaining wall Mtrs. GD -200 Mtrs for not Remaining 100 Mtrs yet or garland drain GD= 300.00 constructing the all along dumps Mtrs. to be construct proposed full are there. length of garland drain.

4i	Length of Retaining wall or garland drain all along dumps	ProposedRetent ion wall 300.00 Mtrs. & Garland Drain 300.00 Mtrs. at Dump-D4	Achieved Retention wall of 300.00 Mtrs. & Garland Drain -200 Mtrs Constructed Remaining 100 Mtrs yet to be construct	Retention walltotal length 678Mtrs& Garland drain 500Mts.
4j	Number of settling ponds	No proposal	Nil	One settling tankis constructed as per R&R ICFRE.
4k	Specific comments of inspecting officer on waste dump management			Waste dump is satisfactorily managed by stabilizing them with plantation and coir matting along with the engineering structures like retaining wall and garland drains at the toe. However, lacking a small quantity of garland drain construction for which violation is issued.

## 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 backfilling proposed	Before starting of backfilling, the area was fully extracted of available mineral in 17.75Ha. area is already back filled in dump D2.	Backfilling as per the IBM approval.
5b	Area under backfilling of mined out area	0.77 На.	0.67 На.	Mineral stacks available in the proposed backfilling area and therefore lacking. Violation issued.
5c	Concurrent use of topsoil for restoration or rehabilitation of mineral out area (Rule 32)	No proposal	No top soil was generated.	Mining operations were proposed to work within the broken-up area. Hence no top soil was generated.

17.75Ha. 5d Total area Under progress. \_ fully reclaimed and rehabilitated 5e General remarks Backfilling is of inspecting carried out within officers on the locations as backfilling and per proposals. reclamation etc. However, not fully achieved due to availability of Mineral Stacks for which violation is issued.

Progressive Mine Clousre Plan:

Sl.No.	Item	Propasals	Actual work	Remarks
ба	Whether Annual report on PMCP submitted on time and correctly. Rule 23 E(2).	Yes	Submitted (28.06.2023)	-
6b	Area available for rehabilitation (ha) .	No Proposal	NIL	-
6c	afforestation done (ha).	0.50 Ha	2.20 Ha	-
6d	No. of saplings planted during the year	312Nos.	1,500 saplings plantedinside the lease 500 saplings planted Outside the lease	Appears to be correct.
бе	Cumulative no .of plants	No Proposal	45050Nos.	(Inside and outside the lease area)
6f	Any other method of rehabilitation	No Proposal	-	-
бд	Cost incurred on watch and care during the year	Rs.1,00,000	Rs.1,30,100	Appears to be correct.
6h	Compliance on reclamation and rehabilitation by backfilling (i) Voids available for backfilling ( Lx B x D	792x242x10	590X230X10	Violation issued for not fully achieving the proposals.

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6i	Compliance on reclamation and rehabilitation by backfilling (ii) Voids filled by waste / tailings	12,70,998 MTs	12,34,882 MTs
6j	Compliance on reclamation and rehabilitation by backfilling (iii)Afforestati on on backfilled area	No proposal	1.50Ha.
6k	Compliance on reclamation and rehabilitation by backfilling (iv) Rehabilitation by making water reservoir	No proposal	NIL
61	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	NIL
бn	Compliance of rehabilitation of waste land within lease (ii)Area rehabilitation (ha)	No proposal	NIL
60	Compliance of rehabilitation of waste land within lease (iii)Method of rehabilitation	No proposal	NIL

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бр	Compliance of environmental monitoring (core zone and buffer zone)	Environmental monitoring proposed in the core zone & buffer zone	Environmental monitoring carried out in the core zone & buffer zone. Location Core zone: Air- 03 Noise - 03 Fugitive -02 Location Buffer zone: Air-3, Noise-3 Ground water-6 Surface water-2	Regular Environment Monitoring carried out by MSV Analytical Laboratories, Ballari -583103
6q	General remarks of inspecting officers on PMCP compliance and progressive closure operations etc.			All the proposed PMCP activities are carried out satisfactorily except for not achieving the proposed full length of garland drain construction and a small extent of backfilling for which violations are issued for the same.

## 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 lease area	Grade wise sorting done within lease area	-10mm of Fines, 10-40mm of Lumps with a grade of +52%Fe
7b	Method of grade- wise mineral sorting i.e. manual or mechanical.	Mechanical Sorting and sizing proposed	Mechanical Sorting and sizing done within the ML area	Crushing & Screening adopted
7c	Different grade of mineral sorted out at mines.	Different grade of mineral sorted (Fe): 45%-50%, 50%-55%, 55% -60%, 60% -65% +65% +45% & - 65%	Different grade of mineral sorted (Fe) at the mine: 45% -51%, 51%-55%, 55%-60%, +65%	_

7d No Proposal Not Applicable Any \_ beneficiation process at mines . 7e General remarks Low grade ore is suitably blended of inspecting with higher grade officer on ores to achieve Mineral the marketable conservation and grade thereby beneficiation taking care of issues mineral conservation aspects.

Environment:

Sl.No.	Item	Propasals	Actual work	Remarks
8a	Separate removal and utilization of topsoil (Rule 32)	No proposal	No top soil was generated for its usage.	Working in the broken area.
8b	Concurrent use or storage of topsoil	No proposal	No top soil was generated	Proposed to work within the broken- up area for plan period.
8c	Separate dumps for overburden, waste rock, rejects and fines (Rule 33)	Separate waste dump proposed for OB & backfilling, Stacking of fines & lumps separately	Over burden/waste dumped in the D4(proposed backfilling area)	2 dump yards identified/propose d for dumping of waste material namely D3&D4(backfilling)
8d	Use of overburden, waste rock, rejects and fines dumps for restoring the land to its original use	OB/Waste generated is proposed for back filling inore exhausted pit.	OB/Waste generated is used for back filling in ore exhausted pit.	Back filling is under progress.
8e	Phased restoration, reclamation and rehabilitation of lands affected by mining operations (Pits, dumps etc)	No proposals in this plan period	NIL	_

8f	Baseline information on existence of plantation and additional plantation done (Rule 41)	-	-	45,050Nos. sapling arereportedly planted so far and appears to be correct.
8g	Survival rate	-	-	80%
8h	Water sprinkling on roads to control airborne dust	Sprinkling on haul roads proposed to control the air borne dust	Sprinkling on haul roads is carried out regularly to control the dust generated during various mining activities.	6 Tankers with a capacity of 10,000 Kiloliters were utilized for sprinkling of water for dust suppression, plantation & drinking purpose.
8i	General remarks of inspecting officer on aesthetic beauty in and around mines area			Aesthetic beauty in and around the mine is satisfactorily maintained by way of plantation.

Compliance of Rule 45:

Sl.No.	Item	Propasals	Actual work	Remarks
9a	Status of submission of Monthly and Annual returns	Monthly Returns submitted up to October- 2023(08.11.202 3) Annual Returns is submitted for the year 2022-23 on 28/06/2023.	Annual Report submitted on 28.06.2023	
9b	Scrutiny of Annual return for information on Mining Engineer, Geologist and Manager	Manager:Sri.H. J.Basavarajapp a Geologist:Sri. Dr.Yogananda K.S. MiningEngineer :Sri.H.J.Basav arajappa	The reported statutory officials were present on the day of inspection.	

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9c Scrutiny of Area Covered Annual return on under current Verified to be correct. land use pattern (O/C) Opencast working=46.25H for area under pits, reclaimed a., area, dumps etc. R&R= 17.75Ha, Waste Disposal (DumpD3,D1&D4) =19.54Ha. Infrastructure &Roads= 3.70Ha. Others(Mineral Storage, untouched area ,RW,GD&ST etc.,)=44.15Ha 9d Scrutiny of Within ML-Appears to be correct. Annual return on 1500Nos.& Outside MLafforestation 500Nos. Plants are planted. 9e Scrutiny of NIL

9e Scrutiny of NIL Annual return on mineral reject generation (Grade and quantity)

9£	Scrutiny of Annual return on ROM stock and/or graded ore	ROM: Opening stock = 72970Tons. Production= 573000Tons. Total = 645970 Tons Processed (L & F) = 573000 Tons Closing Stock
		=
		72970 Tons
		Dump working :
		Opening stock-
		1465547Tons.
		- Nil
		Closing Stock-
		1465547Tons.
		Lumps
		processed
		51% to 55% Fe
		93000 558 to 588 Fo
		22000
		58% to 60% Fe
		10000
		60% to 62% Fe
		0 628 ± 0 658 0
		Total 125000
		Fines
		processed
		51% to 55% Fe
		274000
		55% to 58% Fe
		111000 58% to 60% Fe
		30000
		60% to 62% Fe
		0
		62% to 65% Fe
		U Watal 440000
		100al 448000

9g	Scrutiny of Annual return on sale value, Ex. Mine price and production cost	Cost of Production- Rs.905.79 per Ton Lumps: Ex-mine Price- Rs. 1507/Ton 45-51% Fe Rs. 2234/Ton 51-55% Fe Rs.2906/Ton 55-58% Fe Rs.3295/Ton 58-60% Fe Rs.4799/Ton 60-62% Fe	
		Fines Rs. 2020/Ton 51-55% Fe Rs.2596/Ton 55-58% Fe Rs.3867/Ton 58-60% Fe Rs.3314/Ton 60-62% Fe Rs.3466/Ton 62-65% Fe	
9h	Scrutiny of Annual return on fixed assets	10.22Crores	Appears to be in order
9k	Scrutiny of Annual return on mining machineries	<pre>1)Excavator- 06Nos., 2)Wheel Loader-3Nos., 3)Dumper/Tippe r- 19Nos., 4)Water Tanker-6Nos., 5)Screening- 1No., 6)Drilling Machine-2Nos.</pre>	The Reported machineries were found deployed on the day of inspection.

Details of violations observed during current inspection and compliance position of violation pointed out					
Violation	observed	S	Show couse position		
Rule NO.	Issued on Compla	iance on Rule M	NO. Issued on	Compliance on	
MCDR17 Rule 11(1)	21/11/2023 12/01	/2024			

Date :

#### (H M Shivakumar)

Indian Bureau of Mines