

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

Review and updation of Mining Plan REPORT

Bangalore regional office

Mine file No : KNT/BLR/FE/375/BNG

Mine code : 30KAR03069

- (i) Name of the Inspecting : 130) PRASHANT S HEGDE
Officer and ID No.
- (ii) Designation : Senior Mining Geologist
- (iii) Accompanying mine : S/Shri Shankarlingaiah GM & Agent, M.R.K. Bagawan, Mi
Official with
Designation
- (iv) Date of Inspection : 21/02/2019
- (v) Prev.inspection date :

PART-I : GENERAL INFORMATION

1. (a) **Mine Name** : SUBBARAYANAHALLI
- (b) **Registration NO.** : IBM/4369/2011
- (c) **Category** : A Fully Mechanised
- (d) **Type of Working** : Opencast
- (e) **Postal address**
- State : KARNATAKA
- District : BELLARY
- Village : SUBBARAYANAHALLI
- Taluka : SANDUR
- Post office : NANDIHALLI
- Pin Code :
- FAX No. : 080-22213172,
- E-mail : info.mml@nic.in,mmliodsandur
- Phone : 080-22278814 / 15 /16
- (f) **Police Station** : SANDUR
- (g) **First opening date** : 01/01/1980
- (h) **Weekly day of rest** : SUN
2. **Address for correspondance** : M/s Karnataka State Minerals Corporation Limited
Vaishnavi Farm House, Doulathpur Road
Iron ore Sector, Sandur-583 119 Karnataka
3. (a) **Lease Number** : KAR0199
- (b) **Lease area** : 80.93
- (c) **Period of lease** : 20
- (d) **Date of Expiry** : 12/04/2019
4. **Mineral 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
 BANGALORE KARNATAKA
 Phone:080-22278813-14-15-16
 FAX :080-22213172

Owner : Naveen Raj Singh, IAS & MD
 Karnataka State Minerals
 Corp. Ltd TTMC, A Block,
 5th Floor, BMTC Building,
 K.H. Road, Shanthinagar,
 BANGALORE KARNATAKA
 Phone: 080-22278813-14
 FAX : 080-22213172

Agent : Shankarlingaiah
 Karnataka State Minerals
 Corp. LTD TTMC Building, A
 blcok,5th Floor BMTC Bus
 station, Shanthinagar
 BANGALORE KARNATAKA
 Phone: 080-22278813-14-15-16
 FAX : 080-22213172

Mining Engineer

Name : Dhruvaraj S, Full Time
 Qualification : BE (Mining)
 Appointment/ : 01/04/2017
 Termination date

Geologist

Name : T. Ramakrishna, Full Time
 Qualification : MSc (Geology)
 Appointment/ : 01/07/2015
 Termination date

Manager

Name : M.R.K.Bagawan
 Qualification : Dip. In Mining,
 Appointment/ : 04/03/2016
 Termination date

6. Date of approval of Mining Plan/Scheme of Mining	:	Existing rule 11 MCDR1988	22/12/1992
		Existing rule 11 MCDR1988	29/11/1995
		Renewal under rule 22 MCR1960	20/12/2002
		Mining Scheme rule 12 MCDR1988	23/04/2007
		Modif.of approved Mining Plan	14/09/2010
		Modif.of approved Mining Plan	27/09/2013
		Modif.of approved Mining Plan	31/10/2014
		Mining Scheme rule 12 MCDR1988	16/04/2015

PART - II : OBSERVATION/COMMENTS OF INSPECTING OFFICERS

Exploration :

Sl.No.	Item	Proposals	Actual work	Remarks
1a	Backlog of previous year	NIL	NIL	NIL
1b	Exploration over lease area for geological axis 1 or 2	NIL	G-1: 71.69 Ha and G-2: 1.37 Ha so far	NIL
1c	Exploration Agencies and Expenditure in lakh rupees during the year	NIL	NIL	NIL
1d	Balance area to be explored to bring Geological axis in 1 or 2	NIL	G-1: 71.69 Ha and G-2: 1.37 Ha so far.	Entire area covers under exploration except 7 Ha area which falls under temp. dumps and same was proposed to be reviewed in next RMP.
1e	Balance reserve as on 01/04/20	-----	72.28 million tonnes as on 11/2/2019 (+45 % Fe)	Based on approved modified RMP dated 4/3/2019.
1f	General remarks of inspecting officers on geology, exploration etc	-----	-----	55 nos of core boreholes drilled with 3501 total metrage so far. No exploration in present modification. However, the requirement of exploration in existing temp. dumps location may be reviewed in next RMP.

Development :

Sl.No.	Item	Proposals	Actual work	Remarks
2a	Location of development w.r.t.lease area	Within the existing single pit.	Carried out as per the proposals.	NIL

2b	Separate benches in topsoil, overburden and minerals (Rule 15)	Separate benches in OB (one nos) and 12 nos benches in ore/mineral (No topsoil bench)	As per the approved proposals.	Total 24 nos benches.
2c	Stripping ratio or ore to OB ratio	1: 0.11	1: 0.11	Based on tonnage data.
2d	Quantity of topsoil generation in m3	NIL	NIL	NIL
2e	Quantity of overburden generation in m3	168036 m3 (336,072 tonnes)	92,151 m3 (184,302 tonnes)	BD of 2 considered.
2f	General remarks of inspecting officers on development of pit w.r.t. type of deposit etc	-----	-----	The development of pit is being carried out as per approved RMP and their modifications.

Exploitation:

Sl.No.	Item	Propasals	Actual work	Remarks
3a	Number of pit proposed for production	One	One	Existing pit dimension is 1050 m X500 m X 192 m with total of 24 nos of benches.
3b	Quantity of ROM mineral production proposed	3 million tonnes	1,685,498 tonnes	The Monitoring Committee had reduced production target to 1.35 MTPA for year 2017-18 on 14/12/2017 & 0.41 MTPA for subsequent period. However, at that time the lessee had already achieved the production of 1.68 million tonnes for year 2017-18.
3c	Recovery of sailable/usable mineral from ROM production	90 % Recovery	90 % Recovery	NIL

3d	Quantity of mineral reject generation	NIL	NIL	NIL
3e	Grade of mineral rejects generation and threshold value declared.	NA	NIL	+45 % Fe grade ore being utilised after blending with high grade as per market condition.
3f	Quantity of sub grade mineral generation.	NIL	NIL	NIL
3g	Grade of sub grade mineral generation	NA	NIL	NIL
3h	Manual / Mechanised method adopted for segregating from ROM	Mechanised method.	Mechanised method.	NIL
3i	Any analysis or beneficiation study proposed and carried out for sub grade mineral and rejects.	No such proposals.	NIL	NIL.
3j	Provision of drilling and blasting in mineral benches	20 % overall handling requires the drilling and blasting. Blasting with 20 % slurry and 80 % ANFO in conjunction with MS delay detonators and detonating Fuse.	Carried out as per proposals.	For year 2017-18 proposals.
3k	Provision of mining machineries in mineral benches	Mechanised open cast mining method with excavators and dumpers.	Carried out as per proposals.	NIL
3l	Whether height of benches in overburden and mineral suitable for method of mining proposed in MP/SOM	8 m height with 10 m width.	As per the proposals.	NIL
3m	Total area covered under excavation/pits	Pit: 47.24 Ha	Pit: 47.24 Ha	NIL

3n	Ore to OB ratio for the pit/mine during the year.	1: 0.11	1: 0.11	Based on tonnage data.
3o	Total area put in use under different heads at the end of year	Pit: 47.24 Ha Dumps: 3.43 Ha Green belt: 3.05 Ha Road: 0.5 Ha	Pit: 47.24 Ha Dumps: 2.79 Ha Green belt: 3.05 Ha Road: 0.5 Ha	NIL
3p	Production of ROM mineral during the last five year period as applicable	2013-14: 0.41 2014-15: 3 2015-16: 3 2016-17: 3 2017-18:3	2013-14: 0.21 2014-15: 2.7 2015-16: 1.6 2016-17: 2.16 2017-18: 1.68	Unit: In Million tonnes
3q	General remarks of inspecting officers on method of mining etc.	-----	-----	Mining operation is being carried out as per the approved RMP and their modifications. Modified RMP approved on 4/3/2019 with enhancement of production from 0.41 MTPA to 1.34 MTPA as per the CEC. As on date of inspection (21/2/19), the lessee had achieved production of 0.41 million tonnes for year 2018-19.

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 of OB wastes proposed.	Carried out as per the proposals.	NIL
4b	Location of topsoil, OB and mineral reject dumps	Proposed to dump in 4 nos of temp. dump yards (D-1, D-4,D-1A, & D-5A)	Carried out in D-1A (Northern side of ML)	Subsequently RMP modified on 5/6/2018 and 4/3/2019 for dumping on south-western side as per observations of CEC and entire ML area was mineralised.

4c	Number of dumps within lease area and outside of lease area	4nos within ML	Carried out in one at Northen side as per the quantity of generation.	Subsequently RMP modified on 5/6/2018 and 4/3/2019 for dumping on south-western side as per observations of CEC and entire ML area was mineralised. Moreover, the quantity of generation of waste was also reduced.
4d	Location of dumps w.r.t. ultimate pit limit (Rule 16)	ALL within the UPL	As per the proposals.	Entire ML area was mineralised.
4e	Number of active and alive dumps.	4 nos	3 nos	NIL
4f	Number of dead dumps.	NIL	NIL	NIL
4g	Number of dumps established.	NIL	NIL	Temp. dumps.
4h	Whether Retaining wall or garland drain all along dumps are there.	NIL	Yes. The retaining wall & garland drain constructed all along the dumps.	NIL
4i	Length of Retaining wall or garland drain all along dumps	NIL	NIL	Cum. of 1491 m of retaining wall & 1420 m of garland drain constructed so far.
4j	Number of settling ponds	NIL	NIL	5 nos so far.
4k	Specific comments of inspecting officer on waste dump management	-----	-----	Waste dump management is being carried out as per the proposals in approved modified RMP.

Solid Waste Management - Backfilling:

Sl.No.	Item	Propasals	Actual work	Remarks
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5a	Status of part or full extraction of mineral from mined out area before starting backfilling.	NIL	NIL	Pit was not matured for backfilling as ore not exhausted.
5b	Area under backfilling of mined out area	NIL	NIL	NIL
5c	Concurrent use of topsoil for restoration or rehabilitation of mineral out area (Rule 32)	NIL	NIL	NIL
5d	Total area fully reclaimed and rehabilitated	NIL	NIL	NIL
5e	General remarks of inspecting officers on backfilling and reclamation etc.	-----	-----	Entire ML area was mineralised. Moreover, any part of pit was not matured for backfilling as ore not exhausted.

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).	Before 1st July of every year.	Submitted on 11/7/2018.	NIL
6b	Area available for rehabilitation (ha) .	NIL	NIL	NIL
6c	afforestation done (ha).	NIL	NIL	Existing dumps were temp. in nature and entire ML was mineralised.
6d	No. of saplings planted during the year	NIL	NIL	NIL
6e	Cumulative no .of plants	NIL	5051 nos of saplings within ML so far.	NIL

6f	Any other method of rehabilitation	NIL	NIL	NIL
6g	Cost incurred on watch and care during the year	NIL	0.11 lakhs during year.	NIL
6h	Compliance on reclamation and rehabilitation by backfilling (i) Voids available for backfilling (Lx B x D	NIL	NIL	Pit was not matured for backfilling as ore not exhausted.
6i	Compliance on reclamation and rehabilitation by backfilling (ii) Voids filled by waste / tailings	NIL	NIL	NIL
6j	Compliance on reclamation and rehabilitation by backfilling (iii)Afforestation on on backfilled area	NIL	NIL	Not applicable.
6k	Compliance on reclamation and rehabilitation by backfilling (iv) Rehabilitation by making water reservoir	NIL	NIL	Not applicable.
6l	Compliance on reclamation and rehabilitation by backfilling (v)any other specific means.	NIL	NIL	NIL
6m	Compliance of rehabilitation of waste land within lease (i)afforestation	NIL	250 nos of saplings	NIL
6n	Compliance of rehabilitation of waste land within lease (ii)Area rehabilitation (ha)	NIL	NIL	NIL

6o	Compliance of rehabilitation of waste land within lease (iii)Method of rehabilitation	NIL	NIL	NIL
6p	Compliance of environmental monitoring (core zone and buffer zone)	Season-wise environmental monitoring of ambient air quality, water quality, dust fall rate, soil sample analysis and noise level.	Season-wise environmental monitoring of ambient air quality, water quality, dust fall rate, soil sample analysis and noise level are being carried out and all parameters are within limit.	NIL
6q	General remarks of inspecting officers on PMCP compliance and progressive closure operations etc.	-----	-----	PMCP is being implemented as per the approved proposals in modified RMP.

Mineral Conservation:

Sl.No.	Item	Propasals	Actual work	Remarks
7a	ROM Mineral dispatch or grade-wise sorting within lease area	No ROM mineral dispatch and grade-wise mechanical sorting ore into fines (-10mm size) and lumps (10-20 mm and 20 to 40 mm sizes) within lease area.	Carried out as per the proposals.	NIL
7b	Method of grade-wise mineral sorting i.e. manual or mechanical.	Mechanical.	Mechanical.	NIL
7c	Different grade of mineral sorted out at mines.	Grade-wise sorting ore into fines and lumps of various grade as per the market requirement though dry screening and crushing.	Carried out as per the proposals.	NIL

7d	Any beneficiation process at mines .	No beneficiation process except dry crushing and screening within ML.	Carried out as per the proposals.	NIL
7e	General remarks of inspecting officer on Mineral conservation and beneficiation issues	-----	-----	Mineral conservation aspects are being carried out as per the approved proposals.

Environment:

Sl.No.	Item	Propasals	Actual work	Remarks
8a	Separate removal and utilization of topsoil (Rule 32)	No top soil generation.	NIL	NIL
8b	Concurrent use or storage of topsoil	NIL	NIL	No top-soil generation.
8c	Separate dumps for overburden, waste rock, rejects and fines (Rule 33)	Separate temp. dumping of OB wastes proposed in northern side of the ML (total 4 nos of loactions)	Carried out as per the proposals considering quantity of generation.	Subsequently RMP modified on 5/6/2018 and 4/3/2019.
8d	Use of overburden, waste rock, rejects and fines dumps for restoring the land to its original use	NIL	NIL	Entire ML area was mineralised. Moreover, any part of pit was not matured for backfilling as ore not exhausted.
8e	Phased restoration, reclamation and rehabilitation of lands affected by mining operations (Pits, dumps etc)	NIL	NIL	Protective & safety measures are being carried for management of temp. dumps as per approved R & R Plan.

8f	Baseline information on existence of plantation and additional plantation done (Rule 41)	NIL	Entire ML area falls under Forest. 250 nos sapling planted during year 2017-18 with cum. plantation of 5150 nos of saplings within ML.	NIL
8g	Survival rate	NIL	70 %	NIL
8h	Water sprinkling on roads to control airborne dust	Proposed	The regular dust suppression by water tankers in the mine and roads.	NIL
8i	General remarks of inspecting officer on aesthetic beauty in and around mines area	-----	-----	The aesthetic beauty in and around mine is good as lessee had carried out afforestation and other environmental protective measures as per approved modified RMP and R & R plan.

Compliance of Rule 45:

Sl.No.	Item	Propasals	Actual work	Remarks
9a	Status of submission of Monthly and Annual returns	MRs submitted upto Jan-2019 (as on date ofinspection) AR 2017-18 received.	on-line submission of MRs and ARs were regular.	NIL
9b	Scrutiny of Annual return for information on Mining Engineer, Geologist and Manager	Mines Manager: Sri. M.R.K. Bagawan, Mining Engineer: Sri R.B. Raghunandan Geologsit: Sri. T. Ramakrishna	Mines Manager: Sri. M.R.K. Bagawan, Mining Engineer: Sri Dhruvaraj S. Geologsit: Sri. T. Ramakrishna	V/L issued for Rule 46.
9c	Scrutiny of Annual return on land use pattern for area under pits, reclaimed area, dumps etc.	Pit area: 47.24 Ha Dumps: 3.43 Ha Infrastructure , plants, building & road: 4.9 Ha	Actual also same.	NIL

9d	Scrutiny of Annual return on afforestation	250 nos saplings planted with 70 % survival rate.	Actual also same.	NIL
9e	Scrutiny of Annual return on mineral reject generation (Grade and quantity)	NIL	Actual also same.	Except OB wastes of below 45 % Fe grade
9f	Scrutiny of Annual return on ROM stock and/or graded ore	ROM stock of 1,93,142 tonnes	Actual also reported to same at that time.	As per MR Jan-2019 and as reported by the lessee, there were stock of 34,644 tonnes of ROM and 1.3 million tonnes of graded/sorted ore due to no buyers for rate quoted by the company in e-auction.
9g	Scrutiny of Annual return on sale value, Ex. Mine price and production cost	Ex-mine price per tonne Lumps 55 to 58 % Fe: Rs 2774/-- Lumps 58 to 60 % Fe: Rs 2276/-- Lumps 60 to 62 % Fe: Rs 2523/-- Lumps 62 to 65 % Fe: Rs 2835/-- Fines 58 to 60 % Fe: Rs 2047/-- Fines 60 to 62 % Fe: Rs 2373/-- Fines 62 to 65 % Fe: Rs 2778/-- Cost of production per tonne: Rs 173/---	Actual also same on calculation except cost of production.	V/L letter issued for rule 45(7).
9h	Scrutiny of Annual return on fixed assets	Rs 8,63,88,920	Actual also appear to be same.	NIL

9k	Scrutiny of Annual return on mining machineries	Shovel (Hydraulic) of 0.9 cum: 8 nos Shovel (Hydraulic) of 1.7 cum: 9 nos Wheel loader of 1.8 cum: 11 nos Crushers (250 T/H) : 6 nos Dumpers (16 tonnes) : 42 nos Water Tanker (8000 litre): 11 nos Drilling Machine: 2 nos	Actual also same.	NIL
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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
MCDR17	Rule 35(2)	28/02/2019	01/07/2019				
MCDR17	Rule 46(a)	28/02/2019	01/07/2019				
MCDR17	Rule 45(7)(a)	28/02/2019	01/07/2019				

Date :

(PRASHANT S HEGDE)

Indian Bureau of Mines