

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

**Inspection under SDF for star rating of mines REPORT**

**Bangalore regional office**

**Mine file No :** KNT/BLR/FE/397/BNG

**Mine code :** 30KAR03092

- (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 : 12/11/2018
- (v) Prev.inspection date : 09/01/2017

**PART-I : GENERAL INFORMATION**

1. (a) **Mine Name** : **KUMARASWAMY**
- (b) **Registration NO.** : **IBM/270/2011**
- (c) **Category** : **A Fully Mechanised**
- (d) **Type of Working** : **Opencast**
- (e) **Postal address**
- State : **KARNATAKA**
- District : **BELLARY**
- Village : **KAMMADARUVU**
- Taluka : **SANDUR**
- Post office : **DEOGIRI**
- Pin Code : **583112**
- FAX No. : **040-23538711 (F)**
- E-mail : **kiom.nmdc@gmail.com,bsahoo@**
- Phone : **040-23538713 (O) 083952746**
- (f) **Police Station** : **SANDUR**
- (g) **First opening date** : **18/11/1991**
- (h) **Weekly day of rest** : **SUN**
2. **Address for** : **NMDC Limited, Donimalai**  
**correspondance** **Bellary, Karnataka. Pin-583 118**
3. (a) **Lease Number** : **KAR0212**
- (b) **Lease area** : **647.5**
- (c) **Period of lease** : **30**
- (d) **Date of Expiry** : **17/10/2002**
4. **Mineral worked** : **IRON ORE** **Main**

## 5. Name and Address of the

Lessee : NATIONAL MINERAL DEV. CORPN. LTD  
 10-3-311/A, CASTLE HILLS,  
 MASAB TANK, HYDERABAD  
 TELANGANA  
 Phone:3538706  
 FAX :3538705

Owner : P K Sathpathy  
 NMDC Limited, 10-3-311/A,  
 Castle Hills, Masab Tank  
 Hyderabad, HYDERABAD  
 TELANGANA  
 Phone: 040-23538706/07  
 FAX : 04023538711

Agent : B SAHOO  
 NMDC LIMITED PO DONIMALAI  
 BELLARY KARNATAKA  
 Phone:  
 FAX : 08395274624

## Mining Engineer

Name : S. N. Singh, Full Time  
 Qualification : B.TECH (MINING)  
 Appointment/ : 11/08/2015  
 Termination date

## Geologist

Name : Dr. D. N. Subramanyam, Full Time  
 Qualification : M.SC. Geology  
 Appointment/ : 02/07/2016  
 Termination date

## Manager

Name : Dhiren Bhushan  
 Qualification : B.TECH (MINING)  
 Appointment/ : 20/06/2016  
 Termination date

6. Date of approval of Mining Plan/Scheme of Mining	:	Existing rule 11 MCDR1988	29/07/1992
		Mining Scheme rule 12 MCDR1988	21/04/1998
		Renewal under rule 22 MCR1960	29/10/2002
		Modif.of approved Mining Plan	06/02/2007
		Mining Scheme rule 12 MCDR1988	17/09/2007
		Mining Scheme rule 12 MCDR1988	16/08/2012
		Modif.approved Mining Scheme	23/06/2014
		MP modif under 17(3) MCR 2016	26/08/2016
		MP review under 17(1) MCR 2016	03/11/2016
		MP modif under 17(3) MCR 2016	06/07/2017
		MP modif under 17(3) MCR 2016	13/07/2018

## PART - II : OBSERVATION/COMMENTS OF INSPECTING OFFICERS

## Exploration :

Sl.No.	Item	Proposals	Actual work	Remarks
1a	Backlog of previous year	48 nos. of holes, 3610.00 m	31 nos. of holes, 2644.00 m	Exploration work in progress against the violation dt 21.06.2018,19 CBH drilled till date of inspection
1b	Exploration over lease area for geological axis 1 or 2	G1 = 30 Ha	G1=19.38 Ha	Exploration work in progress
1c	Exploration Agencies and Expenditure in lakh rupees during the year	Global Exploration Center, (GEC) Raipur, M/s. NMDC Limited.	Global Exploration Center, (GEC) Raipur, M/s. NMDC Limited. Incurred cost of Rs: 2.96 Crores.	Expenditure incurred includes cost of drill machine, depreciation, running and maintenance cost etc.
1d	Balance area to be explored to bring Geological axis in 1 or 2	70 Ha (upto March'22)	81 Ha (upto March'22)	-
1e	Balance reserve as on 01/04/20		140.57 MT as on 01-04-2018	Based on AR
1f	General remarks of inspecting officers on geology, exploration etc			293 no of core boreholes with total meterage of 19161 drilled so far. 81 Ha is proposed for exploration by 2021-22.

## Development :

Sl.No.	Item	Proposals	Actual work	Remarks
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2a	Location of development w.r.t.lease area	B-Block-Pit-1: Between cross sections B-6M to B-10 Pit-2: Between cross sections B-4 to B-7M,Pit-3: Between cross sections B-10 to B11M C-Block-Pit-1: Between cross sections C-17 1/2 to C-24 3/8 Pit-2: Between cross sections C-9 3/8 to C-13 1/8	Development carried out in as per proposal in 2017-18	50000 MT proposed to be excavated from pit-3 of 'C' block as per the Modification to the approved RMP dated 13.07.2018. It was observed that excavation has not started so far. Violation pointed out.
2b	Separate benches in topsoil, overburden and minerals (Rule 15)	Top soil-NA B-block=13 benches & C-Block=8 benches containing both mineral and OB to be maintained	As per approved proposals.	-
2c	Stripping ratio or ore to OB ratio	1: 0.11	1: 0.13	Based on Cu.M
2d	Quantity of topsoil generation in m3	No proposal	Nil	-
2e	Quantity of overburden generation in m3	2.01 Lakh cu.m	2.39 Lakh cu.m	BD of 2.63 considered.
2f	General remarks of inspecting officers on development of pit w.r.t. type of deposit etc			Developments are being carried out as per the approved proposals.

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**Exploitation:**


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Sl.No.	Item	Propasals	Actual work	Remarks
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3a	Number of pit proposed for production	5 nos. B-Block: Pit-1,Pit2 & Pit3 C-Block: Pit-1 & Pit-2	Actual as per the approved proposals in 2017-18	78% of production from C Block
3b	Quantity of ROM mineral production proposed	60 LT	59.99 LT	No change
3c	Recovery of saleable/usable mineral from ROM production	100%	100%	-
3d	Quantity of mineral reject generation	No proposal	Nil	-
3e	Grade of mineral rejects generation and threshold value declared.	Grade of mineral reject generation: NA	Nil	No proposals for the mineral rejects for the F.Y.2017-18.
3f	Quantity of sub grade mineral generation.	No proposal	Nil	Incidental sub grade ore being encountered is being blended with high grade ore and fed to the plant
3g	Grade of sub grade mineral generation	No proposal	Nil	-
3h	Manual / Mechanised method adopted for segregating from ROM	Mechanized mining using shovel dumper combination and deephole blasting	As per proposal	-
3i	Any analysis or beneficiation study proposed and carried out for sub grade mineral and rejects.	No proposal	Nil	-

3j	Provision of drilling and blasting in mineral benches	Yes.For 4 to 4.5 " dia Burden = 2.5 to 2.8 m,Spacing =2.5 to 3 m Max.Charge/delay=180 to 210 Kg For 6 " dia- Burden = 4 to 5 m,Spacing =5 to 6 m,Max.Charge/delay=275 Kg	As per proposals	4 to 4.5" dia. and 6" dia. holes are being utilized for drilling & blasting.
3k	Provision of mining machineries in mineral benches	Fully Mechanized opencast mining using shovel dumper combination and deephole blasting	Fully Mechanized opencast mining using shovel dumper combination and deephole blasting	-
3l	Whether height of benches in overburden and mineral suitable for method of mining proposed in MP/SOM	6-12 mts bench ht proposed	6-8 mts bench height maintained	Bench height is in conformity with the permission granted by DGMS under Reg. 106(2)(b) MMR,1961 vide letter no. H.no. II/2081dated : 25.11.1992
3m	Total area covered under excavation/pits	69.04 Ha	74.84 Ha	-
3n	Ore to OB ratio for the pit/mine during the year.	1: 0.11	1: 0.13	No significant change
3o	Total area put in use under different heads at the end of year	Mining-69.04 Ha,OB dumps-6.75 Ha,Mineral storage-10.64 Ha,Infrastructure-4.65 Ha,Roads-11.36 Ha,Green Belt-4.4 Ha	Mining-74.84 Ha,OB dumps-6.62 Ha,Mineral storage-6.47 Ha,Infrastructure-4.65 Ha,Roads-11.36 Ha,Green Belt-2 Ha	-
3p	Production of ROM mineral during the last five year period as applicable	Year Quantity in LT 13-14 45.00 14-15 60.00 15-16 65.00 16-17 60.00 17-18 60.00	Year Quantity in LT 13-14 40.38 14-15 50.35 15-16 56.60 16-17 59.91 17-18 59.99	Actual production within the proposed limits

3q	General remarks of inspecting officers on method of mining etc.	Mining operation is carried out as per the approved modified MP. Lessee had modified approved RMP on 13/7/2018 with production enhancement of 7 MTA.
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## 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 in AD-2in B Block & AD-1 dump in C Block	Dumping of OB carried out as per proposal	No top soil & mineral reject
4b	Location of topsoil, OB and mineral reject dumps	Top soil: NA OB dumps:AD-2: Between Cross Sections B-8 & B-9 AD-1: Between Cross Section C-26 1/4 & C-28 3/4 Mineral Reject dumps:NA	As per the approved proposals	Nil
4c	Number of dumps within lease area and outside of lease area	Within lease area Active dumps: 02 nos. Outside lease area Nil	WML-Active dumps: 02 nos. OML-Nil	-
4d	Location of dumps w.r.t. ultimate pit limit (Rule 16)	Outside pit limits	Dumping carried out ,Outside pit limits	-
4e	Number of active and alive dumps.	Active: 02 nos.	Active: 02 nos.	-
4f	Number of dead dumps.	NIL	NIL	-

4g	Number of dumps established.	NIL	NIL	Coir matting has been done on the slope of the dumps partially
4h	Whether Retaining wall or garland drain all along dumps are there.	Retaining wall & garland drain all along dumps proposed as per approved R & R Plan	Carried out as proposed	-
4i	Length of Retaining wall or garland drain all along dumps	Total 185 mtrs of Toe wall and 158 mts garland drain	370 mts of Toe wall & 400 mts. of garland drain	-
4j	Number of settling ponds	1 no.	03 nos.	-
4k	Specific comments of inspecting officer on waste dump management			Waste dump management is being carried out as per approved modified MP

#### 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 proposals of Backfilling & minerals is not exhausted
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	-
5d	Total area fully reclaimed and rehabilitated	No proposal	Nil	-
5e	General remarks of inspecting officers on backfilling and reclamation etc.			Pits are not matured for backfilling as mineral from these pits are not exhausted so far.



## 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 on 10.10.2017.	-
6b	Area available for rehabilitation (ha) .	0.3 Ha	0.3 Ha	-
6c	afforestation done (ha).	0.3 Ha	0.3 Ha	-
6d	No. of saplings planted during the year	1000 nos	1000 nos	-
6e	Cumulative no .of plants	1000 nos	1000 nos	-
6f	Any other method of rehabilitation	No proposal	Nil	-
6g	Cost incurred on watch and care during the year	No proposal	2.35 Lakhs	-
6h	Compliance on reclamation and rehabilitation by backfilling (i) Voids available for backfilling ( Lx B x D	No proposal	Nil	Pits were not matured for backfilling as mineral is not exhausted
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)Afforestati 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	15000 no of saplings	7000 nos of saplings	Plantation done in compliance to the violation dt 21.06.2018
6n	Compliance of rehabilitation of waste land within lease (ii)Area rehabilitation (ha)	6 Ha	2 Ha	Area covered in compliance to the violation dt 21.06.2018
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 air, water, soil & noise proposed	Season wise environmental monitoring of air, water, soil & noise is carried out	All environmental parameters within the limits
6q	General remarks of inspecting officers on PMCP compliance and progressive closure operations etc.			PMCP proposals are being implemented as per the R & R plan

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#### Mineral Conservation:

Sl.No.	Item	Propasals	Actual work	Remarks
7a	ROM Mineral dispatch or grade-wise sorting within lease area	Dry crushing & screening of ROM proposed	Dry crushing & screening of ROM is carried out at different location of the mine	nil
7b	Method of grade-wise mineral sorting i.e. manual or mechanical.	Mechanical	Mechanical	-

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7c	Different grade of mineral sorted out at mines.	Lumpy ore:40mm to +10 mm, Sized lumps: -20mm to +10mm * Fines:-10mm	As per proposal	Only crushing & screening done
7d	Any beneficiation process at mines	No proposal	Nil	-
7e	General remarks of inspecting officer on Mineral conservation and beneficiation issues			Mineral conservation aspects are being followed as per the proposals

## Environment:

Sl.No.	Item	Propasals	Actual work	Remarks
8a	Separate removal and utilization of topsoil (Rule 32)	No proposal	Nil	No top soil available as the surface is covered with lateritic ore.
8b	Concurrent use or storage of topsoil	No proposal	Nil	-
8c	Separate dumps for overburden, waste rock, rejects and fines (Rule 33)	Separate dumping of OB waste proposed	Separate dumping carried out as per proposal	-
8d	Use of overburden, waste rock, rejects and fines dumps for restoring the land to its original use	No backfilling proposals & afforestation of 6000 no saplings proposed on dumps	2000 nos of saplings planted	Plantation done in compliance to the violation dt 21.06.2018
8e	Phased restoration, reclamation and rehabilitation of lands affected by mining operations (Pits, dumps etc)	No proposal	Nil	No pits & benches are completely exhausted, hence, no proposal in this regard are made

8f	Baseline information on existence of plantation and additional plantation done (Rule 41)	Forest area: 480.79 Ha, Revenue land:159.01 Ha. Plantation of 24075 no of saplings proposed in 2017-18	10000 no of saplings were planted in 2017-18.Cummulative afforestation in the mine so far:85000nos of saplings	Plantation done in compliance to the violation dt 21.06.2018
8g	Survival rate	NA	85%	-
8h	Water sprinkling on roads to control airborne dust	Water sprinkling to be done on 10 km stretch from Malliamma temple to Mudkulpenta Road Junctions	Two separate contracts each for 5Kms covering total 10Km dispatch roadhas been awarded for water sprinkling from Junction near maliamma temple to Kammathuru and Kammathuru to Mudugal penta junction.	-
8i	General remarks of inspecting officer on aesthetic beauty in and around mines area			Aesthetic beauty in and around the mine is satisfactory as the lessee had carried out environmental protective and safety measures as per approved MP

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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 Oct, 2018. Annual Return submitted for the year 2017-18.	AR submitted on 27.06.2018	
9b	Scrutiny of Annual return for information on Mining Engineer, Geologist and Manager	Geologist: Dr. D. N. Subramanyam, Mining Engineer: Shri. S. N. Singh Manager: Shri. Dhiren Bhushan	Same as mentioned	

9c	Scrutiny of Annual return on land use pattern for area under pits, reclaimed area, dumps etc.	Open cast workings: 74.84 Ha, Waste disposal: 6.62 Ha, Infrastructure-16.01 Ha, Other purposes (mineral storage): 6.47Ha	Appears to be correct	-
9d	Scrutiny of Annual return on afforestation	WML-7000 saplings@ 85% survival rate	Appears to be correct	-
9e	Scrutiny of Annual return on mineral reject generation (Grade and quantity)	Nil	No mineral reject	
9f	Scrutiny of Annual return on ROM stock and/or graded ore	ROM: OB-Nil, Production: 5999899.980 Tons, CB-Nil. Dump Workings: OB & CB =4191.04 Tons	Appears to be correct	
9g	Scrutiny of Annual return on sale value, Ex. Mine price and production cost	Cost of production: Rs. 793.39/Ton Ex Mine Price:Lumps (55- 58% Fe)- Rs.2630/ton, (60 to 62% Fe)- Rs.3010.76/Ton, ( 62 to 65% Fe)- Rs.3309.72/Ton, 65% Fe & above- Rs.3464.69/Ton Fines: (55- 58% Fe)- Rs.2212.72/ton, (58- 60% Fe)- Rs.2677.06/ton (60 to 62% Fe)- Rs.2638.08/Ton, ( 62 to 65% Fe)- Rs.3003.21/Ton	Appears to be correct	

9h Scrutiny of Annual return on fixed assets Rs.3367958798/ Appears to be correct

9k Scrutiny of Annual return on mining machineries Blast Holl Drill: 01 no. Truck 25 T : 51 nos. Dumper 85T: 03 nos. Water Tanker: 3 nos. Wheel loader: 13 nos. Crusher: 2 nos. Back hoe excavator: 30 nos. Grader: 01 Crane: 03 Conveyor: 01 Generator: 10 Others (Non-Elec): 245 Appears to be correct

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**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)	30/11/2018			

**Date :**

**(ARUN KUMAR)**

Indian Bureau of Mines