

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

MCDR INSPECTION 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 : Shri S.N. Singh, AGM(Min), Shri D.N. Subramanyam, Ma
Official with
Designation
- (iv) Date of Inspection : 11/10/2017
- (v) Prev.inspection date : 13/08/2015

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,kkbasu@
- 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 correspondance** : SRI.SUBIMAL BOSE DIRECTOR(P), NOMINATED OWNER,
NMDC, KHANIJ BHAVAN, MUSAB TANK, CASTLE HILLS,
HYDERBAD - 500028
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 : S.BOSE
 NMDC LTD, HYDERABAD, 10-3-
 311/A, CASTLE HILLS MASAB
 TANK, HYDERABAD HYDERABAD
 TELANGANA
 Phone:
 FAX :

Agent : L.N.MATHUR
 DONIMALAI TOWNSHIP
 BELLARY KARNATAKA
 Phone: 8395274618
 FAX :

Mining Engineer

Name : VINAY KUMAR,Full Time
 Qualification : B.E IN MINING
 Appointment/ : 22/08/2011
 Termination date

Mining Engineer

Name : DHIREN BHUSAN,Full Time
 Qualification : B.E MINING
 Appointment/ : 18/07/2012
 Termination date

Geologist

Name : D.S.S.REDDY,Full Time
 Qualification : MSc GEOLOGY
 Appointment/ : 20/02/2013
 Termination date

6. Date of approval of Mining	:	Existing rule 11 MCDR1988	29/07/1992
Plan/Scheme of Mining		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

PART - II : OBSERVATION/COMMENTS OF INSPECTING OFFICERS

Exploration :

Sl.No.	Item	Proposals	Actual work	Remarks
1a	Backlog of previous year	6 nos. of holes, 600 m	20 nos. of holes, 1731.30m	No backlog
1b	Exploration over lease area for geological axis 1 or 2	Axis-1, G1 = 02 Ha	Axis-1, G1=12.50 Ha	Exploration carried out, increasing in G1 level area
1c	Exploration Agencies and Expenditure in lakh rupees during the year	Global Exploration Center, (GEC) Raipur, M/s NMDC Limited Phone :07782 265347	Global Exploration Center, (GEC) Raipur, M/s NMDC Limited. Phone :07782 265347 Incurred cost of Rs.2.58 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	94 Ha	89 Ha	Total Exploration carried out in lease area is 164.47 Ha.
1e	Balance reserve as on 01/04/20	108.45 MT	147.07 MT as on 01-05-2017	Reserves enhanced due to carrying out of exploration
1f	General remarks of inspecting officers on geology, exploration etc			The exploration has been carried out as per proposal. 20 no of boresholes drilled with 100X62.5 Mts grid covering 1731 mts. Total Exploration carried out in lease area is 164.47 Ha.

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-8M to B-10 Pit-2: Between cross sections B-4 to B-6 Pit-3: Between cross sections B-6M to B-10 C-Block Pit-1: Between cross sections C-18 1/8 to C-25 Pit-2: Between cross sections C-10 to C-12 1/2	Dumping carried out as per proposal.	Complied
2b	Separate benches in topsoil, overburden and minerals (Rule 15)	Yes, Separate benches proposed in OB & mineral	B-block=13 benches & C-Block=7 benches containing both mineral and OB are being maintained	No top soil is generated.
2c	Stripping ratio or ore to OB ratio	1: 0.13	1: 0.14	
2d	Quantity of topsoil generation in m3	No proposal	Nil	No top soil generated
2e	Quantity of overburden generation in m3	3.05 Lakh cu.m	3.25 Lakh cu.m	Extra developement done due to increase in production capacity, as per approved modified mining paln
2f	General remarks of inspecting officers on development of pit w.r.t. type of deposit etc			Development worked was carried out as per proposal in both the B & C Block with stripping ratio of 1:0.14.

Exploitation:

Sl.No.	Item	Propasals	Actual work	Remarks
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3a	Number of pit proposed for production	Five nos. of pits proposed Three pits in B-Block Two pits in C-Block	Five nos. of pits proposed B-Block(LXWXH)(in metres) Pit 1=800X176X76 Pit2 = 467 X 161 X52 Pit3 = 356 X 188 X 60 C-Block(LXWXH)(in metres) Pit-1 = 757 X 282 X 46 Pit-2 = 361 X 241 X 22	1. Till first modification in Approved Scheme of Mining, 04 nos. of Pits were proposed and worked. 2. During 2nd modification 5th pit was included.
3b	Quantity of ROM mineral production proposed	65 LT	59.91 LT	Actual production within the limits of proposed quantity
3c	Recovery of sailable/usable mineral from ROM production	65 LT	59.91 LT	No losses are being encountered during handling of Ore.
3d	Quantity of mineral reject generation	No proposal	Nil	
3e	Grade of mineral rejects generation and threshold value declared.	No proposal	Grade of mineral reject generation :NA Threshold value is ? 45 % of Fe	No proposals for the mineral rejects in the F.Y.2016-17, as per the approved plan. Accordingly, no Mineral rejects have not been generated.
3f	Quantity of sub grade mineral generation.	3.32 Lakh Cu.M has been planned	3.32 Lakh Cu.M has been done	All the sub grade ore being produced is being blended with high grade ore and fed to the plant.
3g	Grade of sub grade mineral generation	45-55% of Fe	45-55% of Fe	
3h	Manual / Mechanised method adopted for segregating from ROM	Mechanized mining using shovel dumper combination and deephole blasting	As per proposal	Complied
3i	Any analysis or beneficiation study proposed and carried out for sub grade mineral and rejects.	No proposal	NA	No beneficiation study proposed & carried out for sub-grade mineral and reject.

3j	Provision of drilling and blasting in mineral benches	Yes, provision is made for drilling & blasting	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 = 2.5 to 2.8 m Spacing =2.5 to 3 m Max.Charge/delay=180 to 210 Kg	4 to 4.5" dia. and 6" dia. holes are being utilized for drilling & blasting.
3k	Provision of mining machineries in mineral benches	Yes Provision of mining machineries in mineral benches	Yes, Equipment used are: Drills-10 nos. Truck 35 T- 50 nos. Truck 40T-10 Water Tanker 7 nos. Wheel loader-15 nos. Crusher-4 nos. Back hoe excavator-17 nos.	Complied
3l	Whether height of benches in overburden and mineral suitable for method of mining proposed in MP/SOM	Yes, Height of benches =6 metres	In pit No.2, the bench height is more than proposed	In pit No.2, the bench height is more than 7 mts.Violation pointed out
3m	Total area covered under excavation/pits	60.96 Ha	69.54 Ha	Includes 36.59 Ha area under forest & 32.95 Ha in revenue land. Till first modification in Approved Scheme of Mining, 04 nos. of Pits were proposed and worked. During 2nd modification 5th pit was included.
3n	Ore to OB ratio for the pit/mine during the year.	1: 0.13	1: 0.14	
3o	Total area put in use under different heads at the end of year	124.361 Ha	100.10 Ha, -Current Open cast workings:69.54 Ha -Used for waste disposal:8.73 Ha -Occupied by plant, buildings, residential, welfare buildings & roads: 14.33 Ha Mineral storage:7.5 Ha	

3p	Production of ROM mineral during the last five year period as applicable	12-13 30.00 LT 13-14 45.00 LT 14-15 60.00 LT 15-16 65.00 LT 16-17 60.00 LT	12-13 39.08 Lt 13-14 40.38 LT 14-15 50.35 LT 15-16 56.60 LT 16-17 59.91LT	Actual production within the limits of proposed production.
3q	General remarks of inspecting officers on method of mining etc.			The mineral is worked from 5 pits from two blocks as per proposal. Drilling & blasting is carried out. The bench height is more than the proposed in pit 2 at some places. All the sub grade ore being produced is being blended with high grade ore and fed to the plant

Solid Waste Management - Dumping:

Sl.No.	Item	Propasals	Actual work	Remarks
4a	Separate dumping of topsoil, OB and mineral rejects (Rule 32,33)	Top soil -NA Separate dumping of OB proposed	Top soil -NA OB dumps AD-2 (0.85 Ha)in B- block & AD-1 (3.90 Ha)in C- block Mineral reject- NA	Major chunk of surface area is totally covered with hard float ore. No proposals for mineral rejects as per approved Mining Plan.
4b	Location of topsoil, OB and mineral reject dumps	OB dumps: AD-2: Between Cross Sections B-8 & B-9 AD-1: Between Cross Section C-233/4 & C-28 3/4	OB dumping was carried in the earmarked location	Complied
4c	Number of dumps within lease area and outside of lease area	Within lease area Active dumps: 02 nos Outside lease area: Nil	Within lease area Active dumps: 02 nos. Outside lease area Nil	As per proposal

4d	Location of dumps w.r.t. ultimate pit limit (Rule 16)	Outside pit limits	Location of dumps Outside UPL	
4e	Number of active and alive dumps.	Active/Alive dumps: 02 nos.	Active/Alive dumps: 02 nos	Two dumps are active & alive
4f	Number of dead dumps.	No proposal	NA	No dead dumps
4g	Number of dumps established.	No proposal	NA	No dead dumps for stabilization
4h	Whether Retaining wall or garland drain all along dumps are there.	Yes	Yes, constructed	
4i	Length of Retaining wall or garland drain all along dumps	06 nos. of retaining walls have been proposed for AD-1(C-Block) & AD-2(B-Block)	06 nos. Total length of retaining wall 182 mts.	Retaining wall constructed
4j	Number of settling ponds	No proposal	Nil	
4k	Specific comments of inspecting officer on waste dump management			The dumping and location of solid waste was done as per the proposal. Six no of retaining wall has been constructed of around 182 mts. The total area covered by dumping is 4.75 Ha.

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 proposals	NIL	Mines are in developing stage. Hence, following measures have not been proposed in approved mining plan
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	No top soil generated
5d	Total area fully reclaimed and rehabilitated	No proposal	Nil	Mines are in developing stage. Hence, following measures have not been proposed in approved mining plan
5e	General remarks of inspecting officers on backfilling and reclamation etc.			None of the areas of mined out pits were matured for backfilling due to occurrence of mineral at depth.

Progressive Mine Closure Plan:

Sl.No.	Item	Proposals	Actual work	Remarks
6a	Whether Annual report on PMCP submitted on time and correctly. Rule 23 E(2).	Yes	Annual Report on PMCP not submitted.	Violation pointed out
6b	Area available for rehabilitation (ha) .	No proposal	Not applicable	
6c	afforestation done (ha).	2Ha	2Ha	complied
6d	No. of saplings planted during the year	5000 saplings	5000 saplings	Planted
6e	Cumulative no .of plants	85,000 saplings	87,000 saplings	
6f	Any other method of rehabilitation	2000 saplings in dump	2000 saplings in dump ,safety zone	Plantation done in safety zone & part of the dump
6g	Cost incurred on watch and care during the year	18.39 Lakhs	18.39 Lakhs	

6h	Compliance on reclamation and rehabilitation by backfilling (i) Voids available for backfilling (Lx B x D	No proposal	Not applicable	Mines are in developing stage. Hence, following measures have not been proposed in approved mining plan
6m	Compliance of rehabilitation of waste land within lease (i)afforestation	No proposal	Not applicable	Such area not available and no proposal in the approved Scheme and subsequent modifications.
6p	Compliance of environmental monitoring (core zone and buffer zone)	Air, Surface & Ground Water Sampling, Noise & Vibration monitoring proposed.	Air, Water monitoring done in Summer & Winter seasons along with Noise & Noise Vibration analysis performed by NABL accredited laboratory. Air monitoring stations:06 Water monitoring stations:05 Noise monitoring station:06 Surface monitoring-03 Ground water monitoring-02	Environmental monitoring values are within the permissible limits.
6q	General remarks of inspecting officers on PMCP compliance and progressive closure operations etc.			PMCP activities were carried out as per the approved plan and plantation done, Environmental monitoring were carried out in core zone & buffer zone. Values found within the permissible limits.

Mineral Conservation:

Sl.No.	Item	Propasals	Actual work	Remarks
7a	ROM Mineral dispatch or grade-wise sorting within lease area	Yes, proposed	Sorting done as per proposal	Cimplied

7b	Method of grade-wise mineral sorting i.e. manual or mechanical.	Mechanical sorting proposed	Sorting done mechanically with the help of crushing & screening plant	Only, processed ore being sold out from KIOM.
7c	Different grade of mineral sorted out at mines.	1.Lump Ore:-61 to 65% Fe 2. Sized Lump Ore: 63 to 65% Fe Fine Ore: 58 to 64% Fe	Lump, sized lump ore & fines are the different grade of mineral sorted	Verified
7d	Any beneficiation process at mines	No proposal	Not applicable	
7e	General remarks of inspecting officer on Mineral conservation and beneficiation issues			All the ROM is crushed and screened. The fines and Lumps are segregated and sold in the domestic market. Only, processed ore being sold out from KIOM

Environment:

Sl.No.	Item	Propasals	Actual work	Remarks
8a	Separate removal and utilization of topsoil (Rule 32)	No proposal	NA	No top soil generated
8b	Concurrent use or storage of topsoil	No proposal	Not applicable	
8c	Separate dumps for overburden, waste rock, rejects and fines (Rule 33)	Separate OB dumps proposed	Separate OB dumps maintained	
8d	Use of overburden, waste rock, rejects and fines dumps for restoring the land to its original use	No proposal	-OB & waste are dumped and later will be used for restoration. -Small quantity of waste used for road preparation.	Presently only stacked

8e	Phased restoration, reclamation and rehabilitation of lands affected by mining operations (Pits, dumps etc)	No proposal	Not applicable	No pits & benches are completely exhausted, hence, no proposal in this regard are made in approved Scheme of Mining for the period 2012-13 to 2016-17.
8f	Baseline information on existence of plantation and additional plantation done (Rule 41)	Available	Available & maintained in abound page book	
8g	Survival rate	85%	85%	As per AR
8h	Water sprinkling on roads to control airborne dust	Proposed	Dust suppression arrangements in place including crusher hopper. Two separate contracts awarded for water sprinkling on PWD on a stretch of 5 km each.	Water sprinkling to be done on 10 km stretch from Malliamma temple to Mudkulpenta Road Junctions
8i	General remarks of inspecting officer on aesthetic beauty in and around mines area			The aesthetic beauty is maintained in & around the mine area. Dust suppression measures in place. Part of the waste rock is used for making roads within mining lease area.

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 August, 2017. Annual Return submitted for the year 2016-17.	

9b	Scrutiny of Annual return for information on Mining Engineer, Geologist and Manager	Geologist:Shri D.N. Subramanyam, Mining Engineer:Shri S.N. Singh Manager: Shri Dhiren Bhushan	Mining Engineer, Geologist and Manager as per the given details
9c	Scrutiny of Annual return on land use pattern for area under pits, reclaimed area, dumps etc.	-Current Open cast workings:69.54 Ha -Used for waste disposal:8.73 Ha -Occupied by plant, buildings, residential, welfare buildings & roads: 14.33 Ha Mineral storage:7.5 Ha	Appeared to be correct
9d	Scrutiny of Annual return on afforestation	5000 saplings with 85% survival rate	Appeared to be correct
9e	Scrutiny of Annual return on mineral reject generation (Grade and quantity)	Nil	No mineral reject generated
9f	Scrutiny of Annual return on ROM stock and/or graded ore	Opening Stock: Nil, Production: 5990607 tons, closing stock: Nil	Appeared to be correct
9g	Scrutiny of Annual return on sale value, Ex. Mine price and production cost	Cost of production: Rs.484.40 Ex Mine Price: Rs.212.33	Appeared to be correct
9h	Scrutiny of Annual return on fixed assets	Rs. 74,21,38,262/-	Appeared to be correct

9k Scrutiny of Drills-10 nos. Appeared to be correct
Annual return on Truck 35 T- 50
mining nos.
machineries Truck 40T-10
 Water Tanker 7
 nos.
 Wheel loader-
 15 nos.
 Crusher-4 nos.
 Back hoe
 excavator-17
 nos.

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 11(1)	10/11/2017			
MCDR17	Rule 19(1)	10/11/2017			
	Rule 26(2)	10/11/2017			

Date :**(ARUN KUMAR)**

Indian Bureau of Mines