

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

Mining Plan Modification REPORT

Bangalore regional office

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

Mine code : 30KAR03092

- (i) Name of the Inspecting : **P005**) **C.PARAMESHWARAN**
Officer and ID No.
- (ii) Designation : Deputy Controller Mines
- (iii) Accompanying mine : Shri Dhiren Bhushan, Mines Manager, Dr. D.N.Subramany
Official with
Designation
- (iv) Date of Inspection : 07/11/2019
- (v) Prev.inspection date : 08/06/2018

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	the proposal of 42 nos. of Core bore holes, the proposal of 2777.00 mts.	51 nos. of Corebore holes were drilled against Total meterage drilled 3553.00 mts against	Adequate drilling with more meterage drilled against the targets.
1b	Exploration over lease area for geological axis 1 or 2	G1 = 241.605 Ha proposed to be covered in the plan period	G1=194.105 Ha covered till the end of F.Y.2018-19	It is under progress.
1c	Exploration Agencies and Expenditure in lakh rupees during the year	Global Exploration Center, (GEC) Raipur, M/s. NMDC Limited. Phone:07782 265347 Incurred cost of Rs.3.77 Crores.	Global Exploration Center, (GEC) Raipur, M/s. NMDC Limited. Phone:07782 265347 Incurred cost of Rs.3.77 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	Proposed.	47.5 Ha to be covered in the remaining mine plan period, Balance period from 2019-22.	It is under progress for future drilling.
1e	Balance reserve as on 01/04/20		155.64 Million Tonas on 01-04-2019 As per the IBM Annual Returns submitted for the F.Y.2018-19.	As per the IBM Annual Returns submitted for the F.Y.2018-19.
1f	General remarks of inspecting officers on geology, exploration etc	Proposals drawn	It is under progress for the future .	Lessee is undertaking as per the proposals.

Development :

Sl.No.	Item	Propasals	Actual work	Remarks
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2a	Location of development w.r.t.lease area	<p>Location of development proposed in B-Block& C-block:</p> <p>C-Block: Pit-1: E76100 to E77000, N-76150 to 76500 Pit-2: E75400 to E75600, N-76400 to 76750 Pit-3: E74650 to E74800, N-76750 to 76800</p> <p>B-Block: Pit-1:E78300 to E78600, N76600 to 76750 Pit-2: E77850 to E78400, N76100 to 76250 Pit-3: E78450 to E78800, N76300 to 76500</p>	<p>Actual development carried out in B-block & C-block:</p> <p>C-Block: Pit-1: E75900 to E77000, N-76200 to 76550 Pit-2: E75350 to E75650, N-76400 to 76750 Pit-3: E74700 to E74800, N-76750 to 76800</p> <p>B-Block: Pit-1:E78300 to E78200, N76600 to 76700 Pit-2: E77850 to E78200, N76100 to 76250 Pit-3: E78450 to E78800, N76300 to 76450.</p>	<p>B-Block Pit-1: Between cross sections B-7 to B-9M Pit-2: Between cross sections B-3M to B-6M Pit-3: Between cross sections B-8M to B11M</p> <p>C-Block Pit-1: Between cross sections C-16 7/8 to C-26 1/4 Pit-2: Between cross sections C-10 to C-12 ½ Pit-3: Between cross sections C-3 to C-4</p>
2b	Separate benches in topsoil, overburden and minerals (Rule 15)	<p>No separate benches in Ore body and Overburden are proposed.</p> <p>Pit-2: Between cross sections B-3M to B-6M Pit-3: Between cross sections B-8M to B11M</p> <p>C-Block Pit-1: Between cross sections C-16 7/8 to C-26 1/4 Pit-2: Between cross sections C-10 to C-12 ½ Pit-3: Between cross sections C-3 to C-4</p>	<p>All the benches consisting of ore and waste are simultaneously worked.</p>	<p>No Top soil generated. B-block=13 benches & C-Block=8 benches containing both mineral and OB.</p>
2c	Stripping ratio or ore to OB ratio	1: 0.14	1: 0.12	Handled 8.72 Lakh Ton of OB against the proposal of 10 LT of OB.

2d	Quantity of topsoil generation in m3	No proposal	NIL	No top soil generated.
2e	Quantity of overburden generation in m3	10 Lakh Ton	8.726 Lakh Ton	violation issued by the previous inspecting officers.
2f	General remarks of inspecting officers on development of pit w.r.t. type of deposit etc	Given certain proposals.	It is being carried out satisfactorily.	Yes it is done.

Exploitation:

Sl.No.	Item	Propasals	Actual work	Remarks
3a	Number of pit proposed for production	Three Pits in B-block and three pits in C-block proposed.	Actual working in 6 pits, three each in B & C Block., Approx dimension of the pits : B-Block(LXWXH)(in metres) Pit 1= 803X188X76 Pit2 = 829X141X60 Pit3 = 433X227X60 C-Block(LXWXH)(in metres) Pit-1 = 1442X258X67 Pit-2 = 383X303X42 Pit-3= 50X25X5	Yes the proposals are being followed.
3b	Quantity of ROM mineral production proposed	70 LT	69.99 LT	Almost to the targets. Details given are for the F.Y. 2018-19. 100 % recovery. No losses are being encountered during handling of Ore.
3c	Recovery of sailable/usable mineral from ROM production	100 %	100 %	No changes.
3d	Quantity of mineral reject generation	No proposal	Nil	No generation of mineral reject.

3e	Grade of mineral rejects generation and threshold value declared.	No proposals.	Not Applicable	No proposals for the mineral rejects are there for the F.Y.2018-19, as per the approved plan.
3f	Quantity of sub grade mineral generation.	No proposals	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 proposals	Nil	Nil
3h	Manual / Mechanised method adopted for segregating from ROM	Mechanized method proposed for segregated from ROM.	Mechanized method adopted for segregated from ROM.	05 units of Integrated dry crushing & screening plants of each 450 TPH capacity.
3i	Any analysis or beneficiation study proposed and carried out for sub grade mineral and rejects.	No Proposal	No such beneficiation study carried out.	Nil
3j	Provision of drilling and blasting in mineral benches	Provision of drilling & blasting is proposed. Drilling& blasting is done in combination with slurry & NONEL	Drilling& blasting is done in combination with slurry & NONEL, 4 to 4.5" dia. and 6" dia. holes are being utilized for drilling & blasting. For 4 to 4.5 " diaBurden = 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	Yes as above.

3k	Provision of mining machineries in mineral benches	Provision of Mining Machinery is made. Drills-8 nos. Truck 30 T-57nos. Dumper 85/100T-04 Wheel loader-11 nos. Excavator- 18 nos.	Mechanised Opencast Mining using Shovel Dumper Combination and deep hole drilling and blasting. Drills-10 nos. Truck 30 T- 51nos. Dumper 85T-05 Dumper 100T-03 Wheel loader-15 nos. Excavator- 30 nos.	Yes the proposed machineries are being used for their work.
3l	Whether height of benches in overburden and mineral suitable for method of mining proposed in MP/SOM	Proposed bench height =6 metres, Proposed avg. bench width 15-20 mts	Bench height of 6 mts and avg width of 15-20 mts maintained as per the proposal.	No changes.
3m	Total area covered under excavation/pits	94.96 Ha proposed at the end of the Plan Period.	85.34 Ha	Within the proposals limit.
3n	Ore to OB ratio for the pit/mine during the year.	1: 0.14	1: 0.12	slight difference.
3o	Total area put in use under different heads at the end of year	Proposed total area at the end of the Plan Period. Area under Mining-94.96 Ha. Overburden Dump- 14.75 Ha. Mineral storage -10.34 Ha Roads- 16.36 Ha, Green Belt- 14.03 Ha Mineral separation plant- 1.7 Ha Others (virgin area planted)- 29 Ha	Actual total area at the end of the F.Y.2018-19. Area under Mining-85.34 Ha. Overburden Dump- 8.35 Ha. Mineral storage - 7.88 Ha Occupied Plant, building residential area, Roads 19.38 Ha.	within the limit of the proposals.

3p	Production of ROM mineral during the last five year period as applicable	Year Quantity in Tonnes 14-15 6000000 15-16 6500000 16-17 6000000 17-18 6000000 18-19 7000000 Total 31500000	Year Quantity in Tonnes 14-15 5035025 15-16 5659667 16-17 5990607 17-18 5999900 18-19 6999940 Total 29685139	Actual production is within the proposed limits.
3q	General remarks of inspecting officers on method of mining etc.	proposed with better planning.	The development need to be straightened by removing the existing stacks of fines/ C ores, which is indrance for the better systematic.	Yes the stacks of fines and the c-ore location need to be shifted suitably.

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 proposed for the OB dumps	Separate dumping is being carried out in B & C blocks. AD-2 (2.69 Ha)in B-block &AD-1 (4.39 Ha)in C- block	OB dumping is being done in the earmarked area.
4b	Location of topsoil, OB and mineral reject dumps	OB dumps: AD-2: N-768102 to N-76960 E-78357 to E-78636 AD-1:N-76473 to N-76797 E-77013 to E-77272	OB dumps: AD-2: N-768102 to N-76960 E-78357 to E-78636 AD-1: N-76473 to N-76797 E-77013 to E-77272 Coordinates of haul road for retreating method of dumping: E76500 TO 76700 N76700 TO 76800	AD-2: Between Cross Sections B-8 & B-9 AD-1: Between Cross Section C-26 1/4 & C-28 3/4
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	same as above.
4d	Location of dumps w.r.t. ultimate pit limit (Rule 16)	Location of dumps proposed outside the UPL	Dumps are located outside the UPL.	no changes.
4e	Number of active and alive dumps.	Active: 02 nos.	Active: 02 nos.	No changes.

4f	Number of dead dumps.	No proposals.	Nil	Nil
4g	Number of dumps established.	No Proposal Coir matting has been done on the top terrace of AD-1 partially.	Nil	Coir matting has been done on the top terrace of AD-1 partially.
4h	Whether Retaining wall or garland drain all along dumps are there.	Retaining wall and garland drain all along dumps have been proposed.	Constructed Retaining wall and garland drain all along dumps as per the approved R & R Plan of KIOM.	Done as per the proposals.
4i	Length of Retaining wall or garland drain all along dumps	RW - 370X 3X3 mts GD- 400X3X3 mts	GD- 370X 1.5X1 mts RW - 400X3X3 mts	same as above.
4j	Number of settling ponds	No proposals.	Nil	03 nos.Silt Settling Ponds have been constructed as per the approved R & R Plan
4k	Specific comments of inspecting officer on waste dump management	Proposals drawn appropriately	As per the approved proposals things were in progress.	work is going on satisfactorily.

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	Nil
5b	Area under backfilling of mined out area	No proposals	Nil	No proposals
5c	Concurrent use of topsoil for restoration or rehabilitation of mineral out area (Rule 32)	No proposals	Nil	Nil

5d	Total area fully reclaimed and rehabilitated	No proposals	Nil	Nil
5e	General remarks of inspecting officers on backfilling and reclamation etc.	No proposals	Nil	No Proposal of back filling and mineral is 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).	To be submitted by 1st July every year.	Annual Report on PMCP submitted on 21.06.2019.	nuil
6b	Area available for rehabilitation (ha) .	i) 2.6 HA ii) 7000 nos. of saplings iii) 7000 nos. of saplings iv) 9000 nos. of saplings v) No proposal vi) 19.1 Lakhs Rupees.	i) 23.7 HA ii) nos. of saplings iii) 78000 nos. of saplings iv) 78000 nos. of saplings v) No proposal vi) 213 Lakhs Rupees.	as above.
6c	afforestation done (ha).	No proposals	nil	Mines are in developing stage. Hence, following measures have not been proposed in approved mining plan.
6d	No. of saplings planted during the year	No proposals	nil	nil
6e	Cumulative no .of plants	No proposals	nil	nil
6f	Any other method of rehabilitation	no proposals	nil	nil
6g	Cost incurred on watch and care during the year	no proposals	nil	nil

6h	Compliance on reclamation and rehabilitation by backfilling (i) Voids available for backfilling (Lx B x D	no proposals	nil	nil
6i	Compliance on reclamation and rehabilitation by backfilling (ii) Voids filled by waste / tailings	no proposals	nil	nil
6j	Compliance on reclamation and rehabilitation by backfilling (iii)Afforestation on on backfilled area	no proposals	nil	nil
6k	Compliance on reclamation and rehabilitation by backfilling (iv) Rehabilitation by making water reservoir	no proposals	nil	nil
6l	Compliance on reclamation and rehabilitation by backfilling (v)any other specific means.			
6m	Compliance of rehabilitation of waste land within lease (i)afforestation			
6n	Compliance of rehabilitation of waste land within lease (ii)Area rehabilitation (ha)	no proposals	NIL	NIL
6o	Compliance of rehabilitation of waste land within lease (iii)Method of rehabilitation	no proposals	NIL	NIL

6p	Compliance of environmental monitoring (core zone and buffer zone)	Environmental monitoring proposed in core zone & buffer zone	Environmental monitoring is being carried on quarterly basis in core zone & buffer zone for Air, Water, noise and soil	Air monitoring stations:06 Water monitoring stations:05 Noise monitoring stations:06 Monitoring is being done by M/s Pragathi Labs Consultant, Hyderabad. Parameters were observed to be within the permissible limits.
6q	General remarks of inspecting officers on PMCP compliance and progressive closure operations etc.	PROPOSED	not done anything	nil

Mineral Conservation:

Sl.No.	Item	Propasals	Actual work	Remarks
7a	ROM Mineral dispatch or grade-wise sorting within lease area	Dry crushing and screening of ROM proposed.	Dry crushing and screening of ROM is carried out at different locations of the mines.	05 Nos. of integrated crushing & screening plants.
7b	Method of grade-wise mineral sorting i.e. manual or mechanical.	Mechanical method proposed for sorting	Mechanical method adopted for sorting.	same as above.
7c	Different grade of mineral sorted out at mines.	Lump - +10-40 mm Sized lump -20 to +10 mm Fines -10mm	Mineral sorted as per the proposal	as above.
7d	Any beneficiation process at mines	No proposal	NA	No beneficiation process.

7e	General remarks of inspecting officer on Mineral conservation and beneficiation issues	Given proposals.	Yes done as per the proposals in the mine.	satisfactory.
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Environment:

Sl.No.	Item	Propasals	Actual work	Remarks
8a	Separate removal and utilization of topsoil (Rule 32)	No proposal	nil	nil
8b	Concurrent use or storage of topsoil	No proposal	nil	nil
8c	Separate dumps for overburden, waste rock, rejects and fines (Rule 33)	Separate dumps for OB proposed	02 nos. of Separate dumps i.e. AD-1 at C-block & AD-2 at B Block are maintained for OB.	No generation of mineral rejects in the F.Y.2018-19.
8d	Use of overburden, waste rock, rejects and fines dumps for restoring the land to its original use	No proposal	OB dumped will be used at the conceptual stage for restoration.	nil
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)	Baseline information on existence of plantation is available.	Within the mining lease area 78,000 nos. of saplings have been planted and 22,000 nos. of sapling outside the lease area.	Yes existance of plantations are there & also the lessee done additional plantations.
8g	Survival rate	given	85%	as above.
8h	Water sprinkling on roads to control airborne dust	given proposals.	yes done	satisficatorily done the water sproinkling.

8i	General remarks of inspecting officer on aesthetic beauty in and around mines area	given for aesthetic beauty	done improvement to maintain the aesthetic beauty in the mine area.	yes done, still need to be maintained.
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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 July, 2019. Annual Return submitted for the year 2018-19.	Annual return submitted on 29.06.2019.	no changes.
9b	Scrutiny of Annual return for information on Mining Engineer, Geologist and Manager	Mining Engineer: Shri. R. K. Tekam Geologist:Dr. D.N. Subramanyam, Manager: Shri. Dhiren Bhushan	Mines Manager & Mine Geologist have accompanied during the course of inspection.	yes no chnages.
9c	Scrutiny of Annual return on land use pattern for area under pits, reclaimed area, dumps etc.	Covered under current Open cast workings:85.34 Ha -Used for waste disposal:8.35 Ha -Occupied by plant, buildings, residential, welfare buildings & roads: 19.38 Ha Other purposes(mineral storage):7.88Ha	almost appropriate.	yes no changes.

9d	Scrutiny of Annual return on afforestation	Within ML - 78,000saplings @ 85 % survival, Outside ML- 22,000 @85 % survival	yes it was observed in the fields.	yes it is almost appropriate.
9e	Scrutiny of Annual return on mineral reject generation (Grade and quantity)	No proposal in the Approved Mining Plan period.	Nil	Nil
9f	Scrutiny of Annual return on ROM stock and/or graded ore	ROM- Opening stock NIL Production - 6999900.65 Tons Closing stock Nil Dump workings: opening & closing stock 4191.04 Tons	Found to be appropriate.	Yes appropriate.
9g	Scrutiny of Annual return on sale value, Ex. Mine price and production cost	Given in the return as per the format	Ex Mine Price: Fines 3016 Rs/Ton Lump 3670 Rs/Ton Sale value : Fines 3016 Rs/Ton Lump 3670 Rs/Ton Cost of production: Rs.780.68 per Ton	yes appropriate.
9h	Scrutiny of Annual return on fixed assets	given as per the format	Rs. 347,41,96,326/- including land, machinery, plant and transportation machinery.	appropriate.
9k	Scrutiny of Annual return on mining machineries	Given in the format	Drills-10 nos. Truck 30 T- 5lnos. Dumper 85T-05 Dumper 100T-03 Wheel loader-15 nos.	Appropriate.

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)	07/02/2020			
MCDR17	Rule 45(5)(k	07/02/2020			

Date :

(C.PARAMESHWARAN)

Indian Bureau of Mines