

**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 : **P005**) **C.PARAMESHWARAN**
Officer and ID No.
- (ii) Designation : Deputy Controller Mines
- (iii) Accompanying mine : **SHRI VINAY KUMAR. DGM(MINING)**
Official with
Designation
- (iv) Date of Inspection : 13/08/2015
- (v) Prev.inspection date : 16/03/2013

PART-I : GENERAL INFORMATION

1. (a) **Mine Name** : **KUMARASWAMY**
- (b) **Registration NO.** :
- (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. : 08395- 274649
- E-mail : kiom.nmdc@gmail.com
- Phone : 08395-271051
- (f) Police Station : SANDUR
- (g) First opening date : 18/11/1991
- (h) Weekly day of rest : SUN
2. Address for : SRI.SUBIMAL BOSE DIRECTOR(P), NOMINATED OWNER,
correspondance 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

PART - II : OBSERVATION/COMMENTS OF INSPECTING OFFICERS

Exploration :

Sl.No.	Item	Proposals	Actual work	Remarks
1a	Backlog of previous year	No back log proposal as such as on date. However, proposals were made in the present modified scheme of mining to undertake exploration from the year 2014- 17 in 94 ha area within the lease. But not specified the details of exploration that are intent to undertake in the ML area.	As per the annual report 2014-15, no exploration reported.	The lessee company is not undertaken any exploration work as envisaged in the approved documents between 2014-17.
1b	Exploration over lease area for geological axis 1 or 2	No specific proposals, except exploration will be undertaken in the financial year 2014-17.	No any exploration, except development work.	Not following the proposals in the approved documents.
1c	Exploration Agencies and Expenditure in lakh rupees during the year	None	NA	NA
1d	Balance area to be explored to bring Geological axis in 1 or 2	94 ha	yet to start the proposed work.	Not followed.
1e	Balance reserve as on 01/04/20	As on 1.4.2015.	120.11 million tons.	The above reserve is reported during the inspection.

1f	General remarks of inspecting officers on geology, exploration etc	Though the geology of the area is established though mine workings and also through exploration undertaken in the past. various types of ores like lateritic, powdery, soft laminated, and hard ores are present in the area.	The lessee company need to undertake the exploration work as envisaged in the documents.	Not strictly following the proposals by the lessee company. Violation need to be issued for not carrying the proposals.
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Development :

Sl.No.	Item	Proposals	Actual work	Remarks
2a	Location of development w.r.t. lease area	In "B" block, pit No.1 & 2 and 'C' Block N-76000 to N-76500 & E-76000 to E-77000.	As above, in addition to the above proposals, another pit has been opened on the western part of ML area (i.e further west of CLO stock piles & fines stock piles i.e N 75500 to N 76000 & E77000 to E 76000), which is not in the proposals.	Though the lessee company is a central Govt. public sector undertaking, they are not serious about the proposals and the commitments made in the modification of approved scheme of mining.
2b	Separate benches in topsoil, overburden and minerals (Rule 15)	There is no top soil as such in the pits, but there are interburden, over burden and mineral benches in each pits.	Benches are developed systematically using HEMM for drilling and loading and hauling.	As per rule 15, development benches are well maintained.
2c	Stripping ratio or ore to OB ratio	1: .0.23	almost the same, the deposits exhibits good iron content and less waste in the mine.	very appreciable stripping ratio.
2d	Quantity of topsoil generation in m3	Nil	nil	Majority workings are in the developed benches and not in a fresh virgin area.

2e	Quantity of overburden generation in m ³	5.05 +0.30 lakh tonnes of waste proposed in the last year & in the current year 2015-16 it is 15.15 + 0.35 lakhs tonnes.	4,72,538 tonnes of waste was generated during the year 2014-15. There is no top soil, during the course of mining, top soil is used for plantations within the lease area.	There is no top soil as such, workings are concentrated beneath surface. waste & intrecalated waste are segregated and dumped separetely.
2f	General remarks of inspecting officers on development of pit w.r.t. type of deposit etc			

Exploitation:

Sl.No.	Item	Propasals	Actual work	Remarks
3a	Number of pit proposed for production	Three pits are proposed for production.	Fourth pit is also in operation as indicated in the previous chapter development & the location, where it is not proposed for neither development nor production for this year.	violation will be issued for carrying out production in additional pits, for working without approval. However, the production are carrying mainly from C block, & B block.
3b	Quantity of ROM mineral production proposed	6.5 million tonnes/ annum, at 63% Fe content mineral was proposed.	49,06,248.40(main workings) + 132967.50 (from dump) lakhs tonnes for the year 2014-15. for the year 2015-16=	Production are maintained within the limits.
3c	Recovery of sailable/usable mineral from ROM production	No proposal made in the approved documents.	It is reported that the some of the rejects and subgrade ores are together blended and make it saleable to the requirements of the consumers needs.	The majority of the ores are blended with the high grade ores for saleable to the need of the consumers.
3d	Quantity of mineral reject generation	0.35 lakhs tonnes.	reported for the year 2014-15=472,538 tonnes at 18.25% grade Fe. for the year 2015-16= 0.34 lakh tonnes.	Mineral rejects are not keeping separetely, along with the waste it is dumped and stacked.

3e	Grade of mineral rejects generation and threshold value declared.	Not proposed in the approved documents.	But as per the annual returns it is given as 18-25% Fe.	Some rejects are blended as reported by the DGM(Mines), along with the subgrade ore. Some are dumped together with waste.
3f	Quantity of sub grade mineral generation.	1.02 lakhs tonnes.	Nothing reported as such separately.	Whatever subgrade ores are excavated from the mine are blended and sold.
3g	Grade of sub grade mineral generation	52%Fe.	As above.	All the ores of such category are stored and blended.
3h	Manual / Mechanised method adopted for segregating from ROM	mechanised method only.	same as above.	Yes, since the mine is a A(FM), produced 6.5million tonnes of ores, only machanically sorted.
3i	Any analysis or beneficiation study proposed and carried out for sub grade mineral and rejects.	No proposals.	Same no work to process. except blending.	No proposals, since subgrades are and some rejects are planned for blending.
3j	Provision of drilling and blasting in mineral benches	Yes provision are made for drilling and blasting.	Based on the production, wagon drills-4.1/2 inch dia, and the high explosives of convenetional slurry explosives in cartridge form, d-cord will be used for trunk line connections. 6-7 kg/t of explosives powder factor.	Those things are well planned and systematic and scientific.
3k	Provision of mining machineries in mineral benches	Back hoes, dumpers, bull dozer, wheel dozer, water sprinkler etc.	same as above were in use for carrying out the desired production through A(FM) methods.	HEMM are in use for carrying out the proposed method of mining to achieve the targets.
3l	Whether height of benches in overburden and mineral suitable for method of mining proposed in MP/SOM	Bench height of 6m x 18-20m width in C block, whereas in Block -B, the height is same, but the widt is 8-10m.	The same Bench height of 6m x 18-20m width in C block, whereas in Block -B, the height is same, but the widt is 8-10m is maintained in the mine.	The development in ore and over burden are suitable for the method of mining proposed in the approved modified scheme of mining.

3m	Total area covered under excavation/pits	37.78 ha as per the approved document.	During the inspection, it was observed that the additional pit is opened as indicated in the development chapter on the western part of CLO & Fines stacks. (Approximately 2-3 Ha area).	In addition to the proposed working pits, there is another pit in contrary to the approved document, which is not in the proposal of 2015-16, which is a violation.
3n	Ore to OB ratio for the pit/mine during the year.	1:0.23	Reported for 1:0.16	More or less very little difference.
3o	Total area put in use under different heads at the end of year	Though it is not proposed exactly for the year, but given for next five years, i.e. 37.22 ha only in mining, and 69.569 ha for total area required for the different heads.	reported as 49.85 ha.	Other than the excavation area, remaining proposals are within the proposed area.
3p	Production of ROM mineral during the last five year period as applicable	2010-11 & 2011-12= 0t, 2012-13=4MT, 2013-14=4.5MT, 2014-15=6MT & 2015-16=6.5MT respectively.	2010-11=0t, 2011-12=1.6MT, 2012-13=3.908033MT, 2013-14=4.038354MT, 2014-15=0.505000MT & 2015-16=1.974991MT.	Against the proposals, the actual production is within the approved limit, except 2011-12.
3q	General remarks of inspecting officers on method of mining etc.	A(FM), OC with systematic benches and width to develop and to produce the desired targetted productions.	Systematic workings are maintained in the working pits in both the blocks.	Yes, systematic and scientific workings are maintained.

Solid Waste Management - Dumping:

Sl.No.	Item	Propasals	Actual work	Remarks
4a	Separate dumping of topsoil, OB and mineral rejects (Rule 32,33)	Except OB, no proposal for top soil & rejects.	yes, except OB, no proposal for top soil & rejects.	OB is dumped in the ear marked place.

4b	Location of topsoil, OB and mineral reject dumps	North east of C & B blocks respectively.	Same is followed in both the blocks.	Same is followed.
4c	Number of dumps within lease area and outside of lease area	One dump each in B & C block respectively.	Yes, it was observed during the inspection, same one dump each in respective blockk.	same as reported above.
4d	Location of dumps w.r.t. ultimate pit limit (Rule 16)	NE in both the both the blocks w.r.t. UPL.	Same as above.	No change.
4e	Number of active and alive dumps.	two dumps as indicated.	2 dumps only.	No change as above.
4f	Number of dead dumps.	Nil	Nil	Nil
4g	Number of dumps established.	Nil	Nil	Nil
4h	Whether Retaining wall or garland drain all along dumps are there.	Yes proposed and erected in the respective dumps.	Yes maintained.	Yes maintained adequetely.
4i	Length of Retaining wall or garland drain all along dumps	250m for both blocks.	250m for both the blocks.	Yes for both the blocks.
4j	Number of settling ponds	Nil	NIL	Through the retaining wall & garland drain the water flow is controlled.
4k	Specific comments of inspecting officer on waste dump management	Yes proposal is given in both blocks appropriately.	In block -B, the dumping is carried out in slightly with level ground, in compared to C block.	C block dumping is carried out in a steep sloping dumping, however, the lessee company taken care through retaining for protections.

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.	NOt applicable.	NIL	NO comments.

5b	Area under backfilling of mined out area	NIL	NIL	The mining operations reveals, no chance of any area to be mined out/ exhausted soon.
5c	Concurrent use of topsoil for restoration or rehabilitation of mineral out area (Rule 32)	Not applicable.	NIL	Not applicable, no area is matured for rehabilitations.
5d	Total area fully reclaimed and rehabilitated	Not applicable	Nil	Nil
5e	General remarks of inspecting officers on backfilling and reclamation etc.	No proposal as such	Nil	Since, the mining operation is in progress and no area as such is mined out/ matured, back filling matter does not arise.

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).	Yes, submitted. Not having any area for management of worked/ mined out benches.	NIL	No area for carrying out reclmation or rehabilitations.
6b	Area available for rehabilitation (ha) .	NIL	Nil	NIL
6c	afforestation done (ha).	NIL	Nil	It is reported 30 ha area & 10000 nos. of plantatiuons in other areas within the lease, but not in the mined out area.
6d	No. of saplings planted during the year	NIL	Nil	10000 nos in 30 ha area, within the lease, but not in the mined out as rehabilitations.

6e	Cumulative no .of plants	Nil	Nil	36700 nos of plants reported as cumulative, in other areas.
6f	Any other method of rehabilitation	Nil	Nil	Nil
6g	Cost incurred on watch and care during the year	Nil	Nil	1.25 lakhs for other areas, not for rehabilitated areas.
6h	Compliance on reclamation and rehabilitation by backfilling (i) Voids available for backfilling (Lx B x D	Not applicable.	Nil	Nil
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)Afforestati on on backfilled area	Nil	Nil	Nil
6k	Compliance on reclamation and rehabilitation by backfilling (iv) Rehabilitation by making water reservoir	Nil	Nil	Nil
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	30 ha outside the UPL and almost non mineralized area.	30 ha area, 10000 nos of plantations for the year and 36700 nos for the cumulative.	The above datas pertaining to the waste land outside the UPL.

6n	Compliance of rehabilitation of waste land within lease (ii)Area rehabilitation (ha)	30 ha	30ha	30 ha area rehabilitated outside UPL.
6o	Compliance of rehabilitation of waste land within lease (iii)Method of rehabilitation	Only through plantations.	yes only through plantations.	as above.
6p	Compliance of environmental monitoring (core zone and buffer zone)	4 seasons per year.	4 per year, 4-in buffer & 2 in core zone. Water, noise & ambient air analysis report is furnished and found satisfactory. readings are reported, found to be within the limits.	yes report for the year was submitted.
6q	General remarks of inspecting officers on PMCP compliance and progressive closure operations etc.	There is no area is matured for PMCP activities, proposals given only for the waste land & those areas outside the UPL.	same as above	Presently there is no proposals on PMCP except afforestation in the waste land areas.

Mineral Conservation:

Sl.No.	Item	Proposals	Actual work	Remarks
7a	ROM Mineral dispatch or grade-wise sorting within lease area	No proposals.	<55%=0t 55-58%=533428t 58-60%=762482.86 60-62%=1620381.05t 62-65%=1159875.27t 65% & above=0t total= 4076167.41 tonnes.	reported by the lessee company.
7b	Method of grade-wise mineral sorting i.e. manual or mechanical.	Mechanical.	Mechanical.	As above was observed during the inspections.
7c	Different grade of mineral sorted out at mines.	From 55-65%Fe.	From 55-65%Fe.	as above

7d	Any beneficiation process at mines .	Only crushing and screening to differnt customer requirements.	Only crushing and screening to differnt customer requirents. No beneficiation at present.	No beneficiation at present inthe mine / mining area. Pellatizing plant construction is in progress.
7e	General remarks of inspecting officer on Mineral conservation and beneficiation issues	No beneficiation proposals as such as on date.	Only with mobile crushing and screening for sorting & sizing of different grades to the consumers needs.	Managing only mobile crushing and screening for sorting & sizing of different grades to the consumers needs.

Environment:

Sl.No.	Item	Propasals	Actual work	Remarks
8a	Separate removal and utilization of topsoil (Rule 32)	No proposals as such.	Whenever any top soil encounters in the working areas, are utilized for useful plantations purposes.	Presently the workings area concentrated within the OB & ore zone, hence no chance for top soil.
8b	Concurrent use or storage of topsoil	Not applicable.	if any such top soil come across, the same is used for plantations.	very rarely.
8c	Separate dumps for overburden, waste rock, rejects and fines (Rule 33)	Yes proposals for waste, but not for rejects and fines stacks are given.	Yes same is followed.	waste dump is in the respective blocks. CLO & fines are stacked in the C blocks.
8d	Use of overburden, waste rock, rejects and fines dumps for restoring the land to its original use	Yes given in the proposals.	Wherever it is required during the course of construction work in the mining for various activities, such materials are used.	Same as above, as observed during the inspections.
8e	Phased restoration, reclamation and rehabilitation of lands affected by mining operations (Pits, dumps etc)	Yes given.	At present, no such work is not started, since no area is matured or mined out to carry out such work.	Yes, noarea is matured for such work.

8f	Baseline information on existence of plantation and additional plantation done (Rule 41)	Yes,, proposals are given.	AS on date 30 ha areas has been planted within the lease area, away from UPL in the waste land. The area is falls in the forest area, and there are bushes and shrubs and plantations are present in the ML area.	Naturally, the area is forest and lot of growth of plantations are observed in the area.
8g	Survival rate	80%	80%	The survival rate is maintained by the company.
8h	Water sprinkling on roads to control airborne dust	Yes it is proposed to water sprinkling in the main roads.	yes it is maintained by the company.	water sprinkling is satisfactory to control the air borne dust.
8i	General remarks of inspecting officer on aesthetic beauty in and around mines area	yes proposals are given.	Yes it is maintained.	Still some construction of infrastructure are in progress, office & administrative buildings are finished and yet to start function in the Kumarasamy site. Over all aesthetic beauty appreciable.

Compliance of Rule 45:

Sl.No.	Item	Propasals	Actual work	Remarks
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9a	Status of submission of Monthly and Annual returns	Yes received the AR for the year 2014-15. The MR for the month of August,15.	AS per AR, the renewals not furnished, in Sl.No.12, the area under current workings is reported as 49.85 ha, whereas in the approved plan it is given as 34.78 ha. similarly, the other area shown are not matching. The value of assets are not given. The future exploration proposals are not given. In part-VI, dump workings it is reported o. stock of 132967.55tonnes , production of 128776.5 tonnes & c. stock of 4191 ts is not clear. No reasons given for more production.	Lessee company need to take care in furnishing the correct information, in related to the approved MP/MS.
9b	Scrutiny of Annual return for information on Mining Engineer, Geologist and Manager	Shri. Vinay Kumar-Manager, Shri V. Kaushal-Geologist. Though SHri. Vinay Kumar is Mining Engineer, but reported for manager. Shri S.N. Singh, B.Sc.Mining(as Mining Engineer.	Shri. Vinay Kumar-is a mining engineer cum Manager, Shri V. Kaushal-Geologist. Shri S.N. Singh, is B.Sc.Mining(as Mining Engineer.).	All the technical officers are present in the mine during the inspections.
9c	Scrutiny of Annual return on land use pattern for area under pits, reclaimed area, dumps etc.	pit -24.98 + 24.87=49.85 ha(F+NF), waste=3.34+1.4 l=4.75(F+NF), plant+building s, roads=9.12 + 3.82(F+NF), mineral storage=4.93 +7.9(F+NF), all the figures are in Ha.	As per approved modified SOM, mining=34.78 ha, OB=8.94, mineral storage=10.64, buildings =4.651 & roads=11.36 ha.	The returns for the year 2014-15 figures varies with the approved document. Figures are not tallying.

9d	Scrutiny of Annual return on afforestation	In 30 ha area , 10000 nos. during the year 14-15 with 85% survival within the lease area, 72000 nos. with same survival, outside the lease area.	It is reported 30 ha area with 10000 nos of plantations within the ML area. Remaining plantations in other areas.	Work done on afforestations are satisfactory.
9e	Scrutiny of Annual return on mineral reject generation (Grade and quantity)	472538 tonnes with 18-22% Fe.	It was reported, some subgrade & rejects were blended with high grade ore and consumed and some are dumped along with the waste dump yard.	Company is taking care of the different category of ores, especially the mineral rejects, some are blended and used as reported by the lessee company.
9f	Scrutiny of Annual return on ROM stock and/or graded ore	The production of ROM is 4906248.4 tonnes, dump workings opening stock is 132967.55 tonnes, production from dump workings is 128776.510 and closing stock is 4191.04 tonnes respectively.	Though the production reported is from B & C blocks from the respective working pits, the dump workings production are reported from the excavations made for construction of Pelletizing plant, which was accumulated in the past.	Production reported from the mine are satisfactory.

9g	Scrutiny of Annual return on sale value, Ex. Mine price and production cost	The ex-mine price in Rs. on Lump ore of 55-<58%Fe=3519.50 , 58- <60=3504.82, 60- <62%Fe=3279.79 , 62- <65%Fe=3410.74 . For Fines 55- <58%Fe=1819.78 , 58- <60=2087.43, 60- <62%Fe=2189.21 , 62- <65%Fe=2517.94 . The sale value in Rs. for the lumps is 62- <65%=3077/-, 60- <62%Fe=3377/-, 58-<60%=3884/- =3623/-. for fines 62- <65%=2885/-, 60-<62%=2564/- & 58- <60%=2370/-, 55-<58%=2135/- respectively. The production cost is Rs. 719/t.	The ex-mine price, sale value & the cost of production are varies from time to time.	No any adverse comments.
9h	Scrutiny of Annual return on fixed assets	In part-IIA, the value of fixed assets is given as zero. In part-III, the depreciation on fixed assets is Rs. 17809197/-	NIL	Nil

9k	Scrutiny of Annual return on mining machineries	Blast hole drills 110mm - 10nos, Truck 35t, 21t, 40t- 50 +6+16, water tanker 8000- 10000lt=8, wheel loader=1.7 -2- 3.1-3.5cum=24 nos. crusher500- 650t/h=4 nos. generator 4kwh-480kwh=15 nos. shovel mech= 1.2-1.6- 1-3.2-2.1 cum capacity=24 nos.	Various machineries are in use in the mine for drilling, excavations, blasting loading and transporting, crushing , screening etc.	Yes, the said machineries are in use for the mining operation to produce the targetteed productions.
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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
Rule 13(1)	21/09/2015	19/10/2015	Rule 13(1)	21/09/2015	
Rule 45(7)	21/09/2015	19/10/2015	Rule 45(7)	21/09/2015	
Rule 27(4)	21/09/2015	19/10/2015	Rule 27(4)	21/09/2015	

Date :

(C.PARAMESHWARAN)

Indian Bureau of Mines