

**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/331/BNG

Mine code : 30KAR03011

- (i) Name of the Inspecting : **M003**) **G C MEENA**
Officer and ID No.
- (ii) Designation : Regional Controller Mines
- (iii) Accompanying mine : Sh. S.K. JAIN.JGM, Sh. RANA GEOLOGIST,
Official with
Designation
- (iv) Date of Inspection : 11/10/2018
- (v) Prev.inspection date : 09/01/2017

PART-I : GENERAL INFORMATION

1. (a) **Mine Name** : **DONIMALAI**
- (b) **Registration NO.** : **IBM/270/2011**
- (c) **Category** : **A Fully Mechanised**
- (d) **Type of Working** : **Opencast**
- (e) **Postal address**
- State : **KARNATAKA**
- District : **BELLARY**
- Village : **DONIMALA TOWNSHIP**
- Taluka : **SANDUR**
- Post office : **DONIMALAI TOWNSHIP**
- Pin Code : **583118**
- FAX No. : **08395-274687**
- E-mail : **diommining@nmdc.co.in, kior**
- Phone : **08395-274649,274624, 94498'**
- (f) **Police Station** : **SANDUR**
- (g) **First opening date** : **18/10/1972**
- (h) **Weekly day of rest** : **SUN**
2. **Address for** : **SRI.SATPATHY, DIRECTOR(PRODUCTION)**
correspondance **NMDC LTD, MASAB TANK, HYDERABAD,**
ANDHRAPRADESH - 500028. P-040- 23538711
3. (a) **Lease Number** : **KAR0211**
- (b) **Lease area** : **608**
- (c) **Period of lease** : **20**
- (d) **Date of Expiry** : **03/11/2008**
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 : SATPATHY
 10-3-311/A, KHANIJ BHAVAN,
 CASTLE HILLS, MASAB TANK,
 HYDERABAD HYDERABAD ANDHRA
 PRADESH
 Phone: 04023538752
 FAX : 08395274649

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

Mining Engineer

Name : S.K.JAIN,Full Time
 Qualification : BE MINING
 Appointment/ :
 Termination date

Mining Engineer

Name : C.B.P.SINHA,Full Time
 Qualification : B.E.MINING
 Appointment/ :
 Termination date

Geologist

Name : D.N.SHIVASHANKARAPPA,,Full Time
 Qualification : M.SC GEOLOGY
 Appointment/ : 01/12/2008
 Termination date

6. Date of approval of Mining Plan/Scheme of Mining	:	Renewal under rule 22 MCR1960	05/06/1989
		Mining Scheme rule 12 MCDR1988	25/07/1995
		Renewal under rule 22 MCR1960	29/05/2000
		Mining Scheme rule 12 MCDR1988	20/10/2004
		Modif.approved Mining Scheme	16/03/2007
		Renewal under rule 22 MCR1960	18/08/2008
		Mining Scheme rule 12 MCDR1988	18/09/2012
		MS modif under MCR 1960	17/02/2014
		MP modif under 17(3) MCR 2016	08/09/2016
		MP modif under 17(3) MCR 2016	16/05/2017

PART - II : OBSERVATION/COMMENTS OF INSPECTING OFFICERS

Exploration :

Sl.No.	Item	Proposals	Actual work	Remarks
1a	Backlog of previous year	15 Boreholes	15 Boreholes	
1b	Exploration over lease area for geological axis 1 or 2	To undertake as per G1 axis.	Undertaken as per G1 axis.	
1c	Exploration Agencies and Expenditure in lakh rupees during the year	By NMDC itself.	Done by NMDC ,expenditure occurred 2.59 Crores(provisional).	
1d	Balance area to be explored to bring Geological axis in 1 or 2	27.58 Ha(5.78 Ha from G3 to G2 & 22.0 Ha from G2 to G1)	27.58 Ha(5.78 Ha from G3 to G2 & 22.0 Ha from G2 to G1)	
1e	Balance reserve as on 01/04/20	NA	132.65 million tons	
1f	General remarks of inspecting officers on geology, exploration etc	NA	The deposit is continuing from N-S and dipping E-W at depth.	The exploration work completed during 17-18 as proposed.

Development :

Sl.No.	Item	Proposals	Actual work	Remarks
2a	Location of development w.r.t.lease area	Proposed in the five year development plan & sections. (Easting:78900-81300Northing:79000-84900)	Development work done at proposed pits & locations. Easting:78900-84900 .Whatever the proposals drawn in the plan and in section are being followed systematically.But during the year 2017-18 quantity of overburden generation is less compare to proposals.	

2b	Separate benches in topsoil, overburden and minerals (Rule 15)	Proposed during the year 2017-18 Top soil =0, overburden =4 (SB-02),(2E-01),(3E-01) Mineral (South Block =9, 2E=6, MMX=13, 2W=5, 3E=7 and 3W=5)	The bench configuration observed in the pits are as proposed in the approved document, Top soil =0, overburden =4 (SB-02),(2E-01),(3E-01) Mineral (South Block =9, 2E=6, MMX=13, 2W=5, 3E=7 and 3W=5)	
2c	Stripping ratio or ore to OB ratio	1:2.91	1:1.25	The developement /overburden removal is almost 60% less than proposed for the year 2017-18.
2d	Quantity of topsoil generation in m3	Nil	Nil	
2e	Quantity of overburden generation in m3	67.30 lakh M3	29.02 lakh M3	The developemen/ overburden removal is almost 60% less than proposed for the year 2017-18.Violation of rule 11(1) has been pointed out.
2f	General remarks of inspecting officers on development of pit w.r.t. type of deposit etc	Developement proposed in all 6 pits namely SB,BMMX,2W,2E, 3W & 3E.	The developement work carried out as proposed but the developemen/ overburden removal is almost 60% less than proposed for the year 2017-18.Violation of rule 11(1) has been pointed out.	

Exploitation:

Sl.No.	Item	Propasals	Actual work	Remarks
3a	Number of pit proposed for production	06	06	
3b	Quantity of ROM mineral production proposed	6000000	5999907	The production of ROM is almost same as proposed for the year 2017-18.
3c	Recovery of sailable/usable mineral from ROM production	100%	100%	

3d	Quantity of mineral reject generation	Nil	1012747 tonnes .The reject generation is not proposed but the all generated reject is were blended with high grade ironore during ROM at mine face itself.	During excavation 1012747 tonnes mineral reject of less than 45% Fe was generated & the same were blended with high grade ironore.
3e	Grade of mineral rejects generation and threshold value declared.	<45% Fe. Threshold greater than or equal to 45% Fe.	<45% Fe. Threshold greater than or equal to 45% Fe.	
3f	Quantity of sub grade mineral generation.	300000.	707315. The subgrade generation is more than proposals but the all generated subgrade is were blended with high grade ironore during ROM at mine face itself.	During excavation subgrade of 45% to 55% Fe was generated & the same were blended with high grade ironore.
3g	Grade of sub grade mineral generation	45% to 55% Fe	45% to 55% Fe	
3h	Manual / Mechanised method adopted for segregating from ROM	Mechanised.	Mechanised.	
3i	Any analysis or beneficiation study proposed and carried out for sub grade mineral and rejects.	Nil	NA	
3j	Provision of drilling and blasting in mineral benches	Proposed for drilling & blasting in ore & o/b.	Drilling & blasting is carried out for extraction of ore & o/b.	
3k	Provision of mining machineries in mineral benches	Deployment of machineries proposed being mechanised means of mining.	Deployment of machineries done as proposed for extraction of ore & o/b.	
3l	Whether height of benches in overburden and mineral suitable for method of mining proposed in MP/SOM	12m. hight of mineral & o/b benches with 12-15 m width.	Same as proposed.	
3m	Total area covered under excavation/pits	218.73 ha.	218.73 ha.	

3n	Ore to OB ratio for the pit/mine during the year.	1:2.91	1:1.25	The development/overburden removal is almost 60% less than proposed for the year 2017-18.
3o	Total area put in use under different heads at the end of year	458.56	469.54	
3p	Production of ROM mineral during the last five year period as applicable	2013-14: 5000000, 2014-15: 5000000, 2015-16: 4500000, 2016-17: 6000000, 2017-18: 6000000 (in tonnes)	2013-14: 5313000, 2014-15: 5249000, 2015-16: 6031000, 2016-17: 6009206, 2017-18: 5999907 (in tonnes)	
3q	General remarks of inspecting officers on method of mining etc.	Proposed for systematic & scientific mining.	Same as proposed.	

Solid Waste Management - Dumping:

Sl.No.	Item	Proposals	Actual work	Remarks
4a	Separate dumping of topsoil, OB and mineral rejects (Rule 32,33)	yes proposals for OB dumping.	yes it is being followed in the mine.	

4b	Location of topsoil, OB and mineral reject dumps	No proposal for top soil, OB waste for north block on the south of 3E deposits, for south block on the east of south workings. (Easting :79000-80000,Northing :83000-84000 & Easting : 81000-81500, Northing :80500-81500 & Easting :79800-80500 , Northing : 81000-81800	As proposed in the approved document is being followed.
4c	Number of dumps within lease area and outside of lease area	within the ML there are 03 active & 05 inactive dumps and outside, two extension of inactive dumps from the ML areas and not exclusively outside the ML areas.	Three active dumps within the ML areas. and five inactive dumps within the ML areas. No outside the ML areas.
4d	Location of dumps w.r.t. ultimate pit limit (Rule 16)	Considering the UPL, waste dumps were started and is being carried out in the Ml area.	For the present it is found to be appropriate, but in the future mining, things may not be suitable, possible to change.
4e	Number of active and alive dumps.	Three active and alive dumps.	Same as proposed.
4f	Number of dead dumps.	Five inactive and dead dumps.	Same as proposed.five inactive dead dump present in the area.
4g	Number of dumps established.	Dead dumps are (five) which are established	Above five dumps are stabilized.

4h	Whether Retaining wall or garland drain all along dumps are there.	Retaining wall and the garland drain is proposed around the waste dumps.	yes ,retaining wall and the garland drain is constructed around the waste dumps.
4i	Length of Retaining wall or garland drain all along dumps	1450mt. garland drain during 2017-18.	Work done as proposed, cumulative 3842+1450m of retaining wall as per the report and 4692m of garland drain undertaken as on date.
4j	Number of settling ponds	Nil	NA
4k	Specific comments of inspecting officer on waste dump management	Proposals for systematic waste dump management	The lessee company undertaken terracing method of waste dumping it needs improvement so that apart from stability of dumps asthetic beauty of the area may be increased.

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 drawn.	There is no proposals of backfilling for the year 2017-18, but during 2017-18 backfilling work was started (400x215x23m. partially backfilled) in northern portion of Pit No. 2W were mineral exhausted .	Violation of rule 11(1)has been pointed out.
5b	Area under backfilling of mined out area	Not proposed.	There is no proposals of backfilling for the year 2017-18, but during 2017-18 backfilling work was started (400x215x23m. partially backfilled) in northern portion of Pit No. 2W were mineral exhausted .	
5c	Concurrent use of topsoil for restoration or rehabilitation of mineral out area (Rule 32)	Not proposed.	Top soil not available.	
5d	Total area fully reclaimed and rehabilitated	Not proposed.	8.70ha.(partially backfilled)	

5e	General remarks of inspecting officers on backfilling and reclamation etc.	No backfilling proposals for the current year.	There is no proposals of backfilling for the year 2017-18, but during 2017-18 backfilling work was started (400x215x23m. partially backfilled) in northern portion of Pit No. 2W were mineral exhausted .
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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	yes submitted but during inspection it was observed that the details furnished in the report is not correct .As backfilling of 8.70 ha. in the exhusted pit was done during the year 2017-18 but the same was not reported.Also some other details like coir matting area is also not correctly reported. Hence violation of rule 26(2) of MCDR 2017 has been pointed out.	Hence violation of rule 26(2) of MCDR 2017 has been pointed out.
6b	Area available for rehabilitation (ha) .	Proposed nil	Yes as above.	
6c	afforestation done (ha).	No proposals	NA	
6d	No. of saplings planted during the year	No Proposals	NA	
6e	Cumulative no .of plants	No Proposals	Nil	
6f	Any other method of rehabilitation	No proposals.	Nil	
6g	Cost incurred on watch and care during the year	No proposals.	Nil	
6h	Compliance on reclamation and rehabilitation by backfilling (i) Voids available for backfilling (Lx B x D	No proposals.	backfilling of 8.70 ha. in the exhusted pit was done during the year 2017-18 .	

6i	Compliance on reclamation and rehabilitation by backfilling (ii) Voids filled by waste / tailings	No proposals.	backfilling of 8.70 ha. in the exhausted pit was done during the year 2017-18 .
6j	Compliance on reclamation and rehabilitation by backfilling (iii)Afforestation on on backfilled area	No proposals.	Afforestation nil, only backfilling of 8.70 ha. in the exhausted pit was done during the year 2017-18 .
6k	Compliance on reclamation and rehabilitation by backfilling (iv) Rehabilitation by making water reservoir	No proposals.	Nil
6l	Compliance on reclamation and rehabilitation by backfilling (v)any other specific means.	No proposals.	only backfilling of 8.70 ha. in the exhausted pit was done during the year 2017-18 .
6m	Compliance of rehabilitation of waste land within lease (i)afforestation	No proposals.	Nil
6n	Compliance of rehabilitation of waste land within lease (ii)Area rehabilitation (ha)	No proposals.	Nil
6o	Compliance of rehabilitation of waste land within lease (iii)Method of rehabilitation	No proposals.	Nil
6p	Compliance of environmental monitoring (core zone and buffer zone)	No proposals.	Nil

6q	General remarks of inspecting officers on PMCP compliance and progressive closure operations etc.	No proposals.	Yes the mine is having still potential and the reserves/ resources to produce and the PMCP stage is not appropriate at this stage.
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Mineral Conservation:

Sl.No.	Item	Proposals	Actual work	Remarks
7a	ROM Mineral dispatch or grade-wise sorting within lease area	No proposals.	No sorting of any sort of minerals.	
7b	Method of grade-wise mineral sorting i.e. manual or mechanical.	Sorting mainly on segregating the waste through mechanical means. also fines and the lumps.	Yes, the same is done as proposed.	
7c	Different grade of mineral sorted out at mines.	Lump Ore : Fe 60.00 - 65.50 % Fine Ore : Fe =56 -62 %	Lump Ore : Fe 60.00 - 65.50 % Fine Ore : Fe =56 -62 %	
7d	Any beneficiation process at mines .	Yes proposed for wet screening in the plant.	yes it is followed in the screening plant.	
7e	General remarks of inspecting officer on Mineral conservation and beneficiation issues	Proposals made for systematic operations, including the beneficiation.	Yes, it is followed.	

Environment:

Sl.No.	Item	Proposals	Actual work	Remarks
8a	Separate removal and utilization of topsoil (Rule 32)	No top soil proposals.	No top soil encountered to remove.	
8b	Concurrent use or storage of topsoil	No proposals.	Nil	

8c	Separate dumps for overburden, waste rock, rejects and fines (Rule 33)	Proposed for separate dumps.	Same as proposed.
8d	Use of overburden, waste rock, rejects and fines dumps for restoring the land to its original use	No proposals.	There is no proposals of backfilling for the year 2017-18, but during 2017-18 backfilling work was started in mineral exhausted pit & 29.02 lakh m3 waste/ OB utilised .
8e	Phased restoration, reclamation and rehabilitation of lands affected by mining operations (Pits, dumps etc)	No proposals.	No pit and dump is proposed for stabilization
8f	Baseline information on existence of plantation and additional plantation done (Rule 41)	yes proposed 45000 trees plantation.	During the year 60000 trees planted within lease area. plantation done so for Within lease area=234236 Outside lease area=247500
8g	Survival rate	85%	85%
8h	Water sprinkling on roads to control airborne dust	yes proposed for water sprinkling.	water sprinkling adopted.
8i	General remarks of inspecting officer on aesthetic beauty in and around mines area	proposals made.	Within the lease need to improve, compared to outside lease.

Compliance of Rule 45:

Sl.No.	Item	Proposals	Actual work	Remarks
9a	Status of submission of Monthly and Annual returns	Submitted monthly and the annual returns for the year 2017-18 as per the format.	All the entries and the information were furnished appropriately.	

9b	Scrutiny of Annual return for information on Mining Engineer, Geologist and Manager	S/Shri. B. Sahoo GM, S.K. Jain, JGM-DIOM, Suraj Kumar Sr. Mgr, D.Somshekhar Readdy Geologist, DIOM.	S/Shri. S.K. Jain, JGM-DIOM, Suraj Kumar Sr. Geologist, DIOM. all were present.	
9c	Scrutiny of Annual return on land use pattern for area under pits, reclaimed area, dumps etc.	Covered under current OC working=218.73 0 ha, Recl & reha=8.03ha, waste disposal=121.6 0 ha, plant, buildings residential buidings etc.,=27.50ha & other purpose like afforestation=62.12 ha, , green belt=13.42 ha, tailings dam =13.15 ha, & unused area=150.44 ha.	The above land use pattern are present in the ML area and are found to be correct.	
9d	Scrutiny of Annual return on afforestation	60000 trees in 24ha area is allotted for afforestation.	It is reported that during the year 2017-18=60000 nos of plantation done within the lease area & survival rate is 86 %.	the reported plantation within & outside ML area are found to be present in the colony, mining areas, dumps etc.
9e	Scrutiny of Annual return on mineral reject generation (Grade and quantity)	Proposed Nil generation of mineral rejects.	During excavation 1012747 tonnes mineral reject of less than 45% Fe was generated & the same were blended with high grade ironore.	
9f	Scrutiny of Annual return on ROM stock and/or graded ore	6000000 tonnes of ore.	During the year 5999907 tonnes.	
9g	Scrutiny of Annual return on sale value, Ex. Mine price and production cost	All the details mentioned in the AR.	Different grades of fines and the lumps are varies in price, which is reported accordingly.	

9h	Scrutiny of Annual return on fixed assets	All the details mentioned in the AR.	The details on fixed assets given correctly.
9k	Scrutiny of Annual return on mining machineries	All the machineries details furnished in the column, Shovel Hydraulic, front end loader, back hoe, blast host drill, air compressor, dumper, water tanker, dozer, motor grader, crane & other non electric machineries.	All the machineries are under use in the mine and in the other plant area for different purposes.

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)	25/10/2018			
MCDR17	Rule 26(2)	25/10/2018			

Date :

(G C MEENA)

Indian Bureau of Mines