

MCDR INSPECTION REPORT

1.0 GENERAL

SL.N	PARTICULARS	DETAILS
1	File No.	CHG/BST/FE-15/30MPR48001
2	Name & Designation of the inspecting officer	Shri Arun Kumar, DCOM & OIC Shri Rudra N. Mishra, Senior Mining Geologist
3	Date of Inspection	08/12/2021 (MCDR)
4	Accompanying mine personnel	Shri B Venkateswarlu, CGM (Production) / Mines Manager Shri R.C. Onker, B. E(Mining)
5	Date of Last Inspection & Officer	07/01/2021, Shri Rudra N. Mishra (SMG)
6	Name of the Mine	Bailadila Deposit-10 Iron Ore Mines, Bacheli complex,
7	Total Lease Area (Ha) with breakup of non-forest and forest land	Forest Land: 309.340 Ha Non-Forest Land: Nil Total Land: 309.340 Ha
8	Mine code	30MPR48001
9	IBM Registration Number under rule 45 of MCDR, 2017	IBM/270/2011
10	Name of the lessee, Address, phone, email and fax number	NMDC Ltd, 10-3-311/A, Castle hills, Masab tank, Hyderabad, Telangana Ph.no: 040-23538704 e-mail: nmdchyd@hd1.vsnl.net, dkmohanty123@nmdc.co.in fax: 040-23538705
	Village	Bacheli
	Taluka/Mandal	Bade Bacheli
	District	Dantewada
	Pin code	494553
	State	Chhattisgarh
	Post office	Bacheli
11	Nearest police station	Bacheli
12	Nearest Railway station	Bacheli
13	Date of Grant of Mining Lease	11.09.1965
14	Date of Execution	11.09.1965
15	Date of opening of Mine	16.08.1996
16	Date of first Renewal, if applicable and its period & expiry	11.09.1995, period 20 years from 11.09.1995 to 10.09.2015 Lease validity extended up to 10/09/2035 as per rule 8A (8) of MMDR(Amendment) 2015 Act. Dated 10/01/2020, Raipur.

17	Date of submission of renewal application if Mining Operations are continuing under deemed extension	NA
18	Name of the Nominated Owner with Address, phone, email, fax number and date of appointment	Shri D K Mohanty, Director (Production) NMDC Ltd, 10-3-311/A, Castle hills, Masab tank, Hyderabad Ph.no: 040-23538704 e-mail ID: dkmohanty123@nmdc.co.in fax:040-23538705 Date of appointment: 8.10.2021
19	Name of the Mine Agent with Address, phone, email, fax number and date of appointment	Shri P K Mazumdar, Chief General Manager, BIOM, Bacheli complex, Ph.no: 07857 230323/230356 e-mail: pranab@nmdc.co.in fax: 07857 - 230423, Date of appointment: 21.06.2021
20	Name of the Mines Manager with Address, phone, email, fax number and date of appointment in mines	Shri B Venkateswarlu, CGM (Production) /Mines Manager BIOM, Bacheli complex, Ph.no: 07857 230223 e-mail: bvenkat@nmdc.co.in fax: 07857 230423 Date of appointment: 31.08.2021
21	Name of the Mining Engineer, Qualification and total experience with Address, phone, email, fax number and date of appointment in mine	Shri R.C. Onker, B.E(Mining), 25years, DGM(Mining), Deposit 10&11A, B.I.O.M, Bacheli complex, Phone- 07857-230588 rconkar@nmdc.co.in , date of appointment: 04.09.2016
22	Whether Geologist and Mining Engineer appointed in mines satisfy the rule 42 & carrying out their duties as per rule 43 & 44.	Yes, Joydeep Sen, MSc (Applied Geology), 12years, Manager (Geo.), Deposit 10&11A, B.I.O.M. Bacheli Complex, Ph.No. 07857-230336, Email- jsen@nmdc.co.in , Date of appointment: 15.05.2020
23	Date of Approval of Mining Plan/Modified Mining Plan with five-year period and specific condition in approval letter, if any.	Mining Plan approval letter no.- 314(3)/95/MCCM(C)/MP-07 Dated 31/05/1996 proposal period: 1995-2000. Mining Plan approval letter no.- 314(3)/2000/MCCM(C)/MP/NR-Gen Dated 26-03-2004 proposal period: 2000-2005. Scheme of Mining Plan approval letter no.- 314(3)/2005/MCCM(CZ)/S-20/NR Dated 05/07/2006 proposal period: 2005-2010. Scheme of Mining Plan approval letter no.- 314(3)/2010/MCCM(CZ)/S-64/NR Dated

		18/11/2011 proposal period: 2010-2015, Review of Mining plan: DNT/FE/MPLN-1218/2019 Raipur, dated 16/12/2019. proposal period: 2020-2025
24	Date of Approval of Scheme of Mining/Modified Scheme of Mining with five-year period and specific condition in approval letter, if any.	Modified Scheme of Mining Plan approval letter no.-BST/FE/MPLN-455/NGP-15, Raipur Dated 17/03/2016 proposal period: 2015-2020
25	Mineral(s) granted in lease and proved for mining	Iron Ore (Hematite)
26	Method of Mining (Opencast, Underground)	Opencast
27	Category (Fully Mechanized, Others or Manual)	Fully Mechanised
28	Captive/Non-Captive	Captive mine
29	EC for ROM Prod: Date of Issue:	6.0 million tones
30	FA amount Rs Valid up to:	FA amount Rs :698.52 lakh Valid up to: 31/03/2025

Scientific Mining: Compliance of proposals of approved mining plan/scheme of mining. –

1.0 EXPLORATION

SN	ITEM	PROPOSALS (2020-21)	ACTUAL WORK (2020-21)	REMARKS
1a	Backlog of previous year	13 BH's proposed with 910 Mtr.	13 BH's with total meterage of 1093.50 Mtr drilled	Violation pointed out for deviating the location of the exploratory bore holes from the proposal.
1b	Exploration over lease area for Geological axis 1 or 2.	G1& G2	G1-178.502 Ha. G2-97.360 Ha G3-33.478 Ha	309.34 Ha is mineralized as per approved plan
1c	Exploration Agency & Expenditure in lakh Rupees during the year	Exploration proposed by GEC Raipur (In house) 110 Lakhs expected expenditure on exploration	Exploration carried out in House (GEC Raipur)	Total Expenditure on exploration: Rs. 135.43 Lakhs including sampling& analysis.
1d	Balance area to be explored to bring Geological axis in 1 or 2	13 BH's proposed to convert G2 into G1	130.83 Ha needs to be explored	13 BH drilled in G1 area
1e	Balance reserves as 01.04.2021	Nil	201 million Tons with average quality of 64.64 % Fe	As per AR submitted for the year 2020-21.
1f	General remarks of inspecting officer on geology, exploration etc.	The Iron ore of Biladila range belong to the Biladila series which are associated with slightly metamorphosed iron ore bearing sedimentary rocks of pre-cambrian age. These hill ranges comprise		

		shale, banded hematite quartzite and conglomerates containing pebbles of quartzite and shale. BHQ is occurring as mother rock, usually parallel bands along the strike direction. Iron ore is formed due to enrichment of iron by leaching of silica from BHQ by supergene enrichment occurring as a main ore type” Hematite” in soft (as Blue Dust) and homogeneous, massive and hard and compact steel grey and hard to medium hard blue hematite form. Mineral deposit is meta-sedimentary stratiform deposit. Violation pointed out for deviation in location.
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2.0 DEVELOPMENT

SN	ITEM	PROPOSALS (2020-21)	ACTUAL WORK (2020-21)	REMARKS
2a	Location of development w.r.t. lease area	5238950E -5238950E 2067300N–2068950N Bench MRL: 1164MRL, 1152MRL, 1140MRL, 1128MRL, 1116MRL, 1104MRL. 1092MRL	5238950E -5238950E 2067400N–2068950N Bench MRL: 1164MRL 1152MRL, 1140MRL, 1128MRL, 1116MRL, 1104MRL, 1092MRL.	Violation pointed out. No development was carried out in between CS18M & CS 16 on 1140 MB near the crusher
2b	Separate benches in topsoil, overburden and mineral (Rule 15)	Separate benches proposed in overburden and mineral	Separate benches maintained in overburden and mineral	Overburden-7 Mineral-7
2c	Stripping ratio of ore to OB ratio (t / t)	1:0.016	1:0.047	
2d	Quantity of topsoil generation in m ³	No proposal	Nil	
2e	Quantity of overburden generation in m ³	100,000 Tons	231864 Tons	Bulk Density t/m ³ : Ore: 3.2(avg) OB: 2.5(avg)
2f	General remarks of inspecting officer on development of pit wrt. type of deposit etc.	Mining carried out by fully mechanized open cast bench mining method with deployment of HEMM and in conjunction with deep hole drilling & blasting. Production activity is scheduled in three shifts in rotation Violation pointed out.		

3.0 EXPLOITATION

S.N.	ITEM	PROPOSAL (2020-21)	ACTUAL WORK (2020-21)	REMARK
3a	Number of pits proposed for production	1pit proposed	Working in one pit only	.
3b	Quantity of Iron Ore production	6,000,000 Tonnes	4902020 Tonnes	Within the

	proposed			proposed limit
3c	Recovery of saleable/usable mineral from Iron Ore production	100%	100%	No change
3d	Quantity of mineral reject generation	No proposal	Nil	No Generation of Mineral Reject
3e	Grade of mineral reject generation and threshold value declared	No proposal	Not applicable	Nil
3f	Quantity of sub-grade mineral generation	200000 Tonnes	1044685 Tonnes	Subgrade blended with Saleable ore
3g	Grade of sub-grade mineral generation	45-55 Fe%	45-55 Fe%	
3h	Manual / Mechanised method adopted for segregating from ROM	Mechanized method proposed for segregating from ROM	Mechanized method adopted for segregating from ROM	Dry Crushing (8.8 MTPA) & Screening (1500Tph)
3i	Any analysis or beneficiation study proposed & carried out for sub-grade mineral and reject	No study Proposed	No such study carried out	Nil
3j	Provision of drilling & blasting in mineral benches	Provision of Drilling and blasting is made in Mineral benches for hard strata	Drilling and blasting carried out by combination of slurry and Nonel Detonators	Drill m/c of 250mm dia. & 150mm dia. with spacing -6mts, burden 5.5mts & depth of 12 mts
3k	Provision of mining machineries in mineral benches	Hydraulic excavators and Dumper combination Proposed	Mining is carried out by using Hydraulic excavators and 100 Tonner Dumper.	Drill Machine: 01 No, Dumpers: 05 Nos. (100 Tonner), Front End Loader:02 No., Dozers:05 Nos, Water Tankers:05 Nos
3l	Whether height of benches in overburden and mineral suitable for method of mining proposed in MP/SOM	Bench height of 12 m and width of 40-50 m proposed	Average Bench height of 12 m and bench width of 40-45 m maintained	Bench height of more than 20m (CS18M & CS 16 near the crusher). Violation pointed out
3m	Total area covered under excavation/pits	147 Ha at the end of plan period	64.63 Ha at the end of reporting year	Nil
3n	Stripping ratio of ore to OB ratio (tonnes /tonnes)	1:0.016	1:0.047	Nil
3o	Total area put in use under different heads at the end of year	Area Under Pit: 147 ha, Waste dump-27.88 Ha, Mineral storage-11.45 Ha, Infrastructure-	Covered under working pit-64.63 Ha, Use for waste disposal: 15.15 ha Occupied by plant, building residential,	Nil

		46.510 Ha at the end of plan period	welfare building and roads:46.510ha at the end of reporting year	
3p	Production of Iron Ore during last Five -year period, as applicable	2016-17-6000000 Tons	2016-17- 4064260 Tons	Actual production within the proposed limits
		2017-18-6000000 Tons	2017-18- 4645158 Tons	
		2018-19-6000000 Tons	2018-19- 5338185 Tons	
		2019-20-6000000 Tons	2019-20- 5007721 Tons	
		2020-21-6000000 Tons	2020-21- 4902020 Tons	
3q	General remarks of inspecting officer on method of mining etc.	Method of mining is Open cast mechanized mining with shovel dumper combination. Subgrade mineral blended with Saleable ore.		

4.0 SOLID WASTE MANAGEMENT-DUMPING

SN	ITEM	PROPOSALS (2020-21)	ACTUAL WORK (2020-21)	REMARKS
4a	Separate dumping of topsoil, OB & mineral reject (Rule 32, 33)	Separate dumping for OB proposed	Separate dump of OB maintained	Nil
b	Location of topsoil, OB & mineral reject dumps	E/W- 523020-523230 N/S- 2068360-2068610	E/W- 523030-523230 N/S- 2068360-2068650	Waste is being dump at earmarked place as per approved documents.
4c	Number of dumps within lease area and outside lease area	Within lease area-2 Nos. Outside lease area- Nil	Within lease area-2 Nos Outside lease area- Nil	
4d	Location of dumps w.r.t. ultimate pit limit (Rule 16)	Outside ultimate pit	Outside ultimate pit	
4e	Number of active & alive dumps	1 dump proposed	1	
4f	Number of dead dumps	1	1	
4g	Number of dumps stabilized	1	1	Stabilized partially by coir matting & plantation
4h	Whether Retaining wall or garland drain all along dumps are there	RW Proposed	Retaining wall constructed all along dump	

4i	Length of Retaining wall or garland drain all along dump	RW- 125 meters	RW- 125 meters constructed	
4j	Number of settling ponds	No Proposal	Nil	Nil
4k	Specific comments of inspecting officer	No top soil encountered at this stage. Waste is being dump at earmarked place as per approved documents.		

5.0 SOLID WASTE MANAGEMENT-BACKFILLING

SN	ITEM	PROPOSALS (2020-21)	ACTUAL WORK (2020-21)	REMARKS
5a	Status on part or full extraction of mineral from mined out area before starting backfilling	No Proposal	Nil	Area is not matured for backfilling
5b	Area under backfilling of mined out area	No Proposal	Nil	
5c	Concurrent use of topsoil for restoration or rehabilitation of mined out area (Rule 32)	No Proposal	Nil	
5d	Total area fully reclaimed & rehabilitated	No Proposal	Nil	
5e	General remarks of inspecting officer on backfilling, reclamation etc	The Mineral is not exhausted and the area is not matured for backfilling.		

6.0 PROGRESSIVE MINE CLOSURE PLAN

SN	ITEM	PROPOSALS (2020-21)	ACTUAL WORK (2020-21)	REMARKS
6a	Whether Annual report on PMCP submitted on time and correctly - Rule 23E (2). Details should be given in the format as given in Annexure-20.	PMCP report to be submitted by 1 st of July every year.	PMCP report submitted.	
6b	Management of worked/mined out benches i) Area available for rehabilitation (ha) ii) Afforestation done (ha) iii) No. of saplings planted during the year iv) Cumulative no. of plants v) Any other specific method of rehabilitation vi) Cost incurred on watch & care during the year	No Proposal	Nil	

6c	Compliance on reclamation and rehabilitation by backfilling i) Voids available for backfilling (L X B X D) ii) Void filled by waste/tailings iii) Afforestation on the backfilled area iv) Rehabilitation by making water reservoir v) Any other specific means	No Proposal	Nil	
6d	Compliance of Rehabilitation of waste land within lease i) Afforestation ii) Area rehabilitated (ha) iii) Method of rehabilitation	No Proposal	Nil	
6e	Compliance of Environmental monitoring (core zone & buffer zone)	Proposed Environmental monitoring in core and Buffer Zone.	Environmental monitoring in core and Buffer Zone is carried out regularly.	Monitoring carried out by M/s Pragati Lab consultant Pvt.Ltd, Hyderabad. All the parameters were observed to be within the permissible limits.
6f	General remarks of inspecting officer on PMCP compliance & progressive	PMCP activities were carried out as per proposal.		

7.0 MINERAL CONSERVATION

SN	ITEM	PROPOSALS (2020-21)	ACTUAL WORK (2020-21)	REMARKS
7a	ROM Mineral dispatch or grade-wise sorting within lease area	Grade-wise sorting proposed within the lease area	Grade-wise sorting done within the lease area	Subgrade mineral generated is blended simultaneously with high grade mineral during feeding to the crushing plant.
7b	Method of grade-wise mineral sorting i.e., manual or mechanical	Mechanical sorting	Mechanical method adopted for grade	

		proposed.	wise sorting.	
7c	Different grade of mineral sorted out at mines	Below 55 Fe%, 55 to 58 Fe%, 58 to 60 Fe%, 60 to 62 Fe%, 62 to 65 Fe% 65%and above	Below 55 Fe%, 55 to 58 Fe%, 58 to 60 Fe%, 60 to 62 Fe%, 62 to 65 Fe% 65%and above	
7d	Any beneficiation process at mines	No proposal	Nil	
7e	General remarks of inspecting officer on Mineral conservation & beneficiation issues	Crushing is being done for sizing of ore. Partially Mineral rejects are disposed onto Dynamic Stockpile and blended with high grade ore		

8.0 ENVIRONMENT

SN	ITEM	PROPOSALS (2020-21)	ACTUAL WORK (2020-21)	REMARKS
8a	Separate removal and utilization of topsoil (Rule 32)	No proposal	Nil	No top soil generated
8b	Concurrent use or storage of topsoil	No proposal	Nil	
8c	Separate dumps for overburden, waste rock, rejects and fines (Rule 33)	Separate dumping for OB proposed	Separate dump for OB maintained	
8d	Use of overburden, waste rock, rejects and fines dump for restoring the land to its original use	No proposal	Nil	
8e	Phased restoration, reclamation and rehabilitation of lands affected by mining operations (Pits, dumps etc.)	No proposal	Nil	
8f	Baseline information on existence of plantation & additional plantation done (Rule 41)	700 saplings proposed	7715 saplings planted	Plantation carried out in 7.5 Mts safety zone
8g	Survival rate	No proposal	85% survival rate	Nil
8h	Water sprinkling on roads to control airborne dust	Water sprinkling on haul roads proposed to control airborne dust.	Water Tankers were deployed to control the airborne dust on haul roads and screening plants.	5 nos of water tankers of 28000 Lt to each of 9000 Litres capacity deployed.
8i	General remarks of inspecting officer	The aesthetic beauty in and around the mine is well		

	on aesthetic beauty in and around mines are	maintained
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9.0 COMPLIANCE OF RULE 45

S. N.	Item	Comments	Remarks
9a	Status of submission of monthly and Annual returns	M.R. Submitted upto–Nov -2021 A.R. submitted for the year 2020-21	AR Submitted on 29.06.2021
9b	Scrutiny of Annual return for information on Mining Engineer, Geologist and Manager	Mines Manager- Shri K C Gupta Mining Engineer- Shri R C Onker Geologist-Shri. Joy deep Sen	Same Mining Engineer & Geologist were present during the course of inspection. Notice of appointment of Mines Manager Shri.B Venkateswarlu received.
9c	Scrutiny of Annual return on land use pattern for area under pits, reclaimed area, dumps etc.	Area Under Pit: 64.630 Ha, Use for waste disposal: 15.46 Ha Occupied by plant, building residential, welfare building and roads:46.51 Ha	Appears to be correct
9d	Scrutiny of Annual return on afforestation	WML- 7715 saplings @85% Survival Rate, OML-Nil	Appears to be correct
9e	Scrutiny of Annual return on mineral reject generation (Grade & Quantity)	Nil	Nil
9f	Scrutiny of Annual return on ROM stock and/or grade ore	ROM Stock: Opening Stock: 208731.00T Production: 4902020.00 T. Closing stock: 31450.00 T Dump working: OB, Production & CB- Nil	Appears to be correct
9g	Scrutiny of Annual return on sale value, Ex. Mine price & production costs	Lumps Ex Mine Price:62% to below 65%: Rs 4678.00/Ton Ex Mine Price:65% and above: Rs 4678.00/Ton Fines: Ex Mine Price:55% to below 58%: Rs 2985.00/Ton Ex Mine Price:58% to below 60%: Rs 3473.00/Ton Ex Mine Price:60% to below 62%: Rs 4091.00/Ton Ex Mine Price:62% to below 65%: Rs 4129.00/Ton Ex Mine Price:65% and above: Rs 4107.00/Ton	Violations Pointed out

		Cost of production: Rs.1126.15/Ton	
9i	Scrutiny of Annual return on Fixed assets	Value of Fixed Assets: Rs 0.00 (As per reported in AR)	
9k	Scrutiny of Annual return on mining Machineries	Drill Machine: 01 No, Dumpers: 05 Nos. (100 Tonner), Front End Loader:02 No., Dozers:05 Nos, Water Tankers:05 Nos.	

10- Details of violations observed during current inspection and compliance position of earlier violation pointed out: -Violations Pointed-out during Inspections below

नियम	उल्लंघन के प्रकार का विस्तृत ब्यौरा
Rule 11(1)	<p>RMP along with PMCP was approved vide letter no. DNT/FE/MPLN-1218/2019 dated 16.12.2019 for a period of 2020-21 to 2024-25. The deviation observed in mining operation vis-a-vis approved document are given below</p> <p>1) As per approved Mining Plan, 13 boreholes were proposed to be drilled in the year 2020-21. Although the same number of boreholes has been drilled during the year but in different locations which was not as per the proposal thereby Nil increase of area under G1 category.</p> <p>2) Production & development was proposed in between CS18M & CS 16 on 1140 MB near the crusher location during the year 2020-21, which was not carried out in accordance with the approved plan.</p> <p>3) During inspection, it was observed that the bench height was more than 20m against the proposal of 12 Mts in between section line CS18 M & CS16 near the crusher.</p>
Rule- 45 (5) (c)	<p>Following deficiencies were observed in the Annual Returns submitted:</p> <p>i) In Part V, section 3 under the reserves & resource estimated at the end of the year may be given in Metric Tons.</p> <p>ii) In part VI, under grade wise production & dispatch, Ex mine price of Fe 65% and above is lower than 62% to 65% of Fe.</p> <p>ii) As per part VII in the cost of production table, DMF & NMET details have not been furnished.</p>

Earlier violation pointed out have been complied. Five stars during self-appraisal. It's also validated after inspection.

Date: 06/01/2022

Shri Arun Kumar

DCOM & OIC