

MCDR INSPECTION REPORT

General:

S.N.	Particulars	Details
1	Name of inspecting officer & designation	Shri Debadurllav Dash, Senior Mining Geologist
2	Date of inspection	07.12.2022
3	Name of the Mine	DEP-11 ML, Bailadila Iron Ore Mines, Kirandul Complex,
4	Name of official accompanying inspection	Shri S.K Kochar, General Manager
5	Last date of Inspection & Officer	09.12.2021 by Shri Rudra Narayan Mishra, Senior Mining Geologist
6	Total Lease Area (Ha) with breakup of non-forest and forest land	Forest Land: 874.924 Hact. Non-Forest Land: NIL
7	Mine code	30CHG03002
8	IBM Registration Number under rule 45 of MCDR,1988	IBM/270/2011
9	Name of the Lease, Address, Phone, email and fax number	NMDC Ltd, Masab Tank, Hyderabad, PIN-500028, Telangana., Email: dirprod@nmdc.co.in , Fax no: 040-27172569, Phone 040-23538713-23538723 & 23538767
10	Village	Kirandul
11	Taluka/Mandal, District	Bade Bacheli, Dantewada
12	State	Chhattisgarh
13	Post Office& PIN	Kirandul, 494556
14	Nearest Police Station	Kirandul
15	Nearest Railway Station	Kirandul
16	Weekly day rest	Wednesday
17	Date of Grant of Mining Lease	27/12/1966
18	Date of Execution	11.09.1967
19	Date of opening of Mine	September-1987
20	Date of First Renewal, if applicable and its period & expiry	F: 3-124/96/12/02 dated 29.06.2002
21	Date of Second Renewal, if applicable and its period & expiry	As per section 8(A) of MMDR Act, 1957 (as amended in 2015), the period of mining leases, including existing mining leases, of Government companies or corporations shall be such as may be prescribed by the Central Government. Accordingly, the lease period of ML 11 was extended till 10.09.2037 vide Govt of Chhattisgarh order No.: F:4-55/2017/XII dated 03.05.2018.
22	Date of submission of renewal application if Mining Operations are continuing under deemed extension	NA
23	Name of the Nominated Owner with Address, phone, email, fax number and date of appointment	Shri Dilip Kumar Mohanty, Director (Production) NMDC Ltd., Hyderabad - 500 028, dirprod@nmdc.co.in 040-23538706/07, DOA:08/10/2021
24	Name of the Mine Agent with Address, phone, email, fax number and date of appointment	Shri Vinay Kumar, Chief General Manager, NMDC Ltd, Kirandul, B.I.O.M., Kirandul Complex, Dantewada PIN-494556, Chhattisgarh, vinaykumar@nmdc.co.in Fax no: 07857-255227, Phone 07857-255222, Mobile No.: 9449871010, DOA:31.07.2022

25	Name of the Mine Manager with Address, phone, email, fax number and date of appointment in mines	Shri S.K Kochar, General Manager, (Mines), NMDC Ltd, Kirandul, Kirandul Complex, Dantewada PIN-494556, Chhattisgarh, Fax no: 07857-255226, Phone 07857-255232, Mobile No.: 9449871025 DOA:31.07.2022
26	Name of the Mining Engineer, Qualification and total experience with address, phone, email, fax number and date of appointment in the mine	Shri Vivek Kumar, Dy. General Manager, B.E (Mining) FCC (R), 23Years Approximately, NMDC Ltd, Kirandul, B.I.O.M., Kirandul Dantewada, Email: vivekkumar@nmdc.co.in , Phone No.:9589332446 PIN-494556, Chhattisgarh, DOA:13/08/2021
27	Whether Geologist and Mining Engineer appointed in mines satisfy the rule 55 & carrying out their duties as per rule 56 & 57 of MCDR, 2017.	Yes. Ritayan Goswami, M.Sc(Applied Geol), Experience: +16 years approximately, NMDC Ltd, Kirandul, B.I.O.M. Kirandul Complex, Dantewada, Email: gritayan@nmdc.co.in , Phone No.:9406289240 PIN-494556, Chhattisgarh, DOA:07.05.2017
28	Date of Approval of Mine Plan/Modified Mine Plan with five- year period and specific condition in approval letter, if any.	Review of Mining Olan approved Vide letter No.: DANTEWADA/FE/MP-1215/2019-RAIPUR/546 dated 11.12.2019 for the period from 2020-21 to 2024-25
29	Date of Approval of Scheme of Mining/Modified Scheme of Mining with five- year period and specific condition in approval letter, if any.	NA
30	Mineral(s) granted in lease and approved for Mining	Iron Ore
31	Method of Mining (Opencast, Underground)	Opencast
32	Category (Fully Mechanised, Others or Manual)	Fully Mechanized
33	Captive/Non-Captive	Non-Captive
34	EC for ROM Prod: Date of Issue:	11,30,0000 tonnes
35	Status of Financial Assurance as	Bank Guarantee of Rs.43,068,9500/- valid up to 31.03.2025

Scientific Mining: Compliance of proposal of approved mining plan/scheme of mining.

1.0 Exploration

S.N.	Item	Proposals 2021-22	Actual Work 2021-22	Remark
1a	Backlog of previous year	2020-21- 99	2020-21- 74	Violation of 11(1) of MCDR, 2017 was pointed out during previous inspection and violation is outstanding.
1b	Exploration over lease area for Geological axis 1 or 2.	113BH/5115Mts	68BH/6231Mts	During current inspection, Violation of 11(1) of MCDR, 2017 is pointed out. Reason for non-compliance cited as due to security threat.
1c	Exploration Agency & Expenditure in Lakh Rupees during the year	Through NMDC In-house exploration team Tentative expenditure on drilling: Rs.	Through NMDC In-house exploration team. Expenditure during:	

		5,63,46,840/-	Rs.7,07,77,729 /-	
1d	Balance area to be explored to bring Geological axis in 1 or 2.	392.22 Ha	310.515 Ha	
1e	Balance reserves as on 01.04.2022	111 : 285.366 122 : 39.68	111 : 293.8 122 : 39.68	Reserve & Resources as on 01.04.2022
1f	General remarks of Inspecting officer on geology, exploration etc.	Violation of 11(1) of MCDR, 2017 was pointed out during previous inspection for non-compliance in respect to exploration proposals during the year 2020-21 and violation is outstanding. During the current inspection, Violation of 11(1) of MCDR is pointed out for not carrying proposed exploration during the year 2021-22. Security threat is the reason cited for non-compliance of the proposal.		

2.0 Development

S.N	Item	Proposals 2021-22	Actual Work 2021-22	Remarks
2a	Location of Development w.r.t. lease area	Dep-11A 523288 E -523438 E 206509 N – 206534 N Dep-11B 523896 E -524535 E 206223 N – 203001 N Dep-11C 524774 E – 524652 E 206001 N – 205992 N	Dep-11A 523288 E -523438 E 206509 N – 206534 N Dep-11B 523896 E -524535 E 206223 N – 203001 N Dep-11C 524774 E – 524652 E 206001 N – 205992 N	Location of development is per proposal.
2b	Separate benches in topsoil overburden and mineral (Rule 13 of MCDR 2017)	Dep-11A Ore - 03 Waste – 02 Dep - 11B Ore - 05 Waste - Nil Dep - 11C Ore - 10 Waste – 01	Dep-11A Ore -03 Waste- 0 Dep-11B Ore -04 Waste- Nil Dep-11C Ore - 10 Waste- 01	Benches maintained as per proposal.
2c	Stripping ratio or ore to OB ratio	1:0.08	1:0.057	Marginally lower than proposed.
2d	Quantity of topsoil generation in m ³	Not in proposal	Nil	No top soil available.
2e	Quantity of overburden generation in m ³	Dep-11A = 137037 Dep-11B = 530741 Dep-11C = 271111 Total : 938889	Dep-11A = 3467 Dep-11B = 290931 Dep-11C = 85545 Total : 379942	Overburden generation is proportionate to production achieved.
2f	General remarks of Inspecting officer on development of pit w.r.t type of deposit etc.	The location of proposed development of pits are as per proposal in approved Mining Plan.		

3.0 Exploitation

S.N.	Item	Proposals 2021-22	Actual Work 2021-22	Remarks
3a	Number of pits proposed for	Pit-3	Pit-3	As per proposal.

	production			
3b	Quantity of ROM mineral production proposed	11300000 Ton	6593962 Ton	About 58% of targeted production achieved.
3c	Recovery of Salable/usable mineral from ROM production	97%	97 %	As envisaged in approved Mining Plan.
3d	Quantity of mineral reject generation	Not in proposal	Not in proposal	
3e	Grade of mineral reject generation and threshold value declared	NA	NA	
3f	Quantity of sub-grade mineral generation	294000 Ton	30000 Ton	
3g	Grade of sub-grade mineral generation	50 - 55 Fe %	52 -55 % Fe	
3h	Manual/Mechanised method adopted for segregation from ROM	Mechanised	Mechanised	
3i	Any analysis or beneficiation study proposed & carried out for sub-grade mineral and reject	Not in proposal	Not in proposal	
3j	Provision of drilling & blasting in mineral benches	As per Rule 106 (2)(b) MMR-1961, doing drilling and blasting	As per Rule 106 (2)(b) MMR-1961, doing drilling and blasting	
3k	Provision of mining machineries in mineral benches	As per Rule 106 MMR-1961,	As per Rule 106 MMR-1961,	
3l	Whether height of benches in overburden and mineral suitable for method of mining proposed in MP/SOM	Bench height in OB & Ore = 12 mtr	Yes, as per proposal	
3m	Total area covered under excavation /pits	Not specific	94.590 Ha.	
3n	Ore to OB ratio for the pit/mine during the year	1:0.08	1:0.057	Marginally lower than proposed.
3o	Total area put in use under different heads at the end of year	Not specific	226.545 Ha	
3p	Production of ROM mineral during last five-years period, as Applicable (tonnes)	2015-16: 9300000 2016-17: 9300000 2017-18:3800000 2018-19: 4800000 2019-20: 6800000 2020-21:9500000 2021-22:11300000	2319706 1310508 2618285 3468280 5029112 5773993 6593962	Achieved Production is on lower side due to lack of market demand and local law & order situation.
3q	General remarks of inspecting officer on method of mining etc	About 58% of targeted production achieved during the year 2021-22. During the last five years, the production is on lower side due to lack of market demand and local law and order situation.		

4.0 Solid Waste Management-Dumping

S.N.	Item	Proposals 2021-22	Actual Work 2021-22	Remarks
4a	Separate dumping of topsoil, OB & mineral reject (Rule 36, 37 of MCDR 2017)	OB :3 NOS	OB: 4 NOS	
4b	Location of topsoil, OB &	Dep-11A	Dep-11A	In 11C, a new

	mineral reject dumps	523288 E-523428 E 206509 N- 206534 N Dep-11B 523896 E-524535 E 206223 N – 203001 N Dep-11C 524774 E – 524652 E 2060015 N – 205992 N	523288 E-523428 E 206509 N- 206534 N Dep-11B 523896 E-524535 E 206223 N – 203001 N Dep-11C 524774 E – 524652 E 2060015 N – 205992 N & 524698 E – 524758 E 2060710 N - 2060840 N	waste dump has been developed on adjacent to (eastern side of ML area) existing subgrade stack . Violation of 11(1) of MCDR, 2017 is pointed out.
4c	Number of Dumps within lease area and outside lease area	3 NOS within lease area	4 NOS within lease area	As detailed above.
4d	Location of Dumps w.r.t. ultimate pit limit (Rule 14 of MCDR 2017)	Out Side UPL based on present exploration level	Out Side UPL based on present exploration level	
4e	Number of Active & Alive dumps	Active & Alive: 3 NOS	Active & Alive: 4 NOS	
4f	Number of dead dumps	NIL	NIL	
4g	Number of dumps stabilized	NIL	NIL	
4h	Whether Retaining wall or garland drain all along dumps are there	Both garland drain and retaining wall proposed	Not done	Violation of 11(1) of MCDR, 2017 is pointed out.
4i	Length of Retaining wall or garland drain all along dump	Garland drian: 2000 mtrs , Retaining wall: 200 Mtrs	NIL	-do-
4j	Number of settling ponds	Not in proposal	Not in proposals.	
4k	Specific commends of inspecting officer on waste dump management	The location of waste dump are mostly in proposed locations. However, in Deposit 11 C, a new waste dump has been developed adjacent to existing sub-grade stack on eastern side of ML area against no such proposal. The waste dump was reportedly developed during the year 2022-23. Both garland drain of 2000 mtrs and retaining wall of 200 mtrs were proposed around waste dump during the year 2021-22, however, no work has been done against the proposal. Violation of 11 (1) of MCDR, 2017 for non-compliance with respect to waste dump, garland drain and retaining wall is pointed out.		

5.0 Solid Waste Management-Backfilling

S.N.	Item	Proposals 2021-22	Actual Work 2021-22	Remarks
5a	Status on part or full extraction of mineral from mined out area before starting backfilling	Not in proposal	Nil	No area is mined out.
5b	Area under backfilling of mined out area	Not in proposal	Nil	-do-
5c	Concurrent use of topsoil for restoration or rehabilitation of mined out area (Rule 36)	Not in proposal	Nil	-do-
5d	Total area fully reclaimed & rehabilitated	Not in proposal	Nil	-do-
5e	General remarks of inspecting officer on backfilling, reclamation etc	No area is mined out and as such no backfilling was proposed in approved Mining Plan.		

6.0 Progressive Mine Closer Plan

S.N	Item	Proposals 2021-22	Actual Work 2021-22	Remarks
6a	Whether Annual report on PMCP submitted on time and correctly-Rule 26(2) of MCDR 2017. Details should be given in the format as given in Annexure-20	For 2020-21 PMCP proposed	PMCP compliance 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	Nil- Nil Nil Nil Nil Nil	Nil Nil Nil Nil Nil Nil	No area is mined out.
6c	Compliance on reclamation and rehabilitation by backfilling i) Voids available for backfilling (L*B*D) ii) Void filled by waste/tailings iii) Afforestation on the backfilling iv) Rehabilitation by making water reservoir v) Any other specific means	No proposal No proposal No proposal No proposal	Nil -	No area is mined out.
6d	Compliance of Rehabilitation of waste land within lease i) Afforestation ii) Area rehabilitation iii) Method of rehabilitation	Not proposed	Nil	All dumps are active.
6e	Compliance of Environment monitoring (core zone & buffer zone)	As proposed	Complied.	
6f	General remarks of inspecting officer on PMCP compliance & progressive closer operations	Yearly report on Progressive Mine Closure is submitted. No area is mined out. The against proposed plantation of 4000 saplings in 7.5 safety barrier zone, 4600 saplings have been planted.		

7.0 Mineral Conservation

S.N.	Item	Proposals 2021-22	Actual Work 2021-22	Remarks
7a	ROM mineral dispatch or grade wise sorting within lease area	Above 55 Fe% direct dispatch	Above 55 Fe% are directly dispatched	No sorting done within leasehold.
7b	Method of grade-wise mineral sorting i.e. manual or mechanical	Mechanical	mechanical	
7c	Different grade of mineral sort out at mine	Not in proposal	Not done.	Different grades are blended and fed directly from mine benches
7d	Any beneficiation process at mines	Not in proposal	Nil	
7e	General remarks of inspecting officer on Mineral conservation & beneficiation issues	The run of mine ore is directly dispatched after sizing in crusher without any grade-wise sorting. Different grades are blended and fed directly from mine benches		

8.0 Environment

S.N.	Item	Proposals 2021-22	Actual Work 2021-22	Remarks
8a	Separate removal and utilization of topsoil (Rule 32)	Not in proposal	-	No top soil exist
8b	Concurrent use or storage of topsoil	-	-	-
8c	Separate dumps for overburden waste rock, rejects and fines (Rule 33)	03 dumps of waste	04 dumps	Violation of 11(1) of MCDR, 2017 is pointed out.
8d	Use of overburden, waste rock, rejects and fines dumps for restoring the land to its original use	Not in proposal	Nil	No area is mined out.
8e	Phased restoration, reclamation and rehabilitation of lands affected by mining operations (Pits, dumps etc)	Not in proposal	Nil	-do-
8f	Baseline information on existence of plantation & additional plantation done (Rule 44 of MCDR 2017)	During the year: 4000 saplings Cumulative during the planned period: 8000	4600 Nos (safety zone) 12033 Nos	
8g	Survival rate	90 %	86%	
8h	Water sprinkling on roads to control airborne dust	Proposed	done	Water sprinkling is done by water tankers.
8i	General remarks of inspecting officer on aesthetic beauty in and around mine area	Against proposed development of 03 waste dumps, 04 waste dumps have been developed. The new waste dump is reportedly developed during the year 2022-23. Against proposed plantation of 4000 saplings in 7.5 safety barrier zone during the year 2021-22, 4600 saplings have been planted with 86% survival.		

9.0 Compliance of Rule 45

S.N.	Item	Comments	Remarks	
9a	Status of submission of monthly and Annual returns	Monthly Return in Form F1 & Annual Return for the year 2021-22 is submitted regularly as per MCDR guidelines		
S.N.	Item	Details given in A.R.	Observation of I/Officer	Remarks
9b	Scrutiny of Annual return for information on Mining Engineer, Geologist and Manager	Mining Engineer: Vivek Kumar, Geologist: Ritayan Goswami Mines Manager: S.K Kochar	Officials were present during the visit.	
9c	Scrutiny of Annual return on land use pattern for area under pits, reclaimed area, dumps etc.	Mining: 94.59 Ha Infrastructure: 71.989 Ha waste Dump: 46.058 Ha	Appears to be correct.	
9d	Scrutiny of Annual return on afforestation	4600 saplings with 86% survival.	Appears to be correct.	
9e	Scrutiny of Annual return on mineral reject generation (Grade & Quantity)	30, 000 tonnes (Grade: 45-55% Fe)	Sub-grade are cited as mineral rejects.	

9f	Scrutiny of Annual return on ROM stock and/or grade ore	Opening stock: 395618 tonnes Production: 6593962 tonnes Closing stock: 816379 tonnes	Appears to be correct.	
9g	Scrutiny of Annual return on sale value, Ex-Mine price & production costs	Ex-Mine price: (Rs) <u>Lump Ore</u> : > 65% : Rs 7045.71 62 to 65 – Rs 6681.54 <u>Fine Ore</u> : 60 to 62 - Rs 5436.47 62 to 65 - Rs 5441.67 65% and above- Rs 6262.30 <u>Production Cost</u> : Rs.3091.99/ Per Tonne	Appears to be correct.	
9h	Scrutiny of Annual return on Fixed assets	Rs. 4020780287/-	Appears to be correct.	
9i	Scrutiny of Annual return on mining Machineries	Blast hole drill: 03, Shovel : 03 Dumper: 05, Water tanker: 03 Dozer: 03, Grader: 01 Air compressor: 01, Locomotive: 01, Generator: 01	The machinery found is use in the mines.	

10. Details of Validations observed during current inspection and compliance position of earlier violation pointed out: -

During the previous inspection on dated 09.12.2021 by Shri Rudra Narayan Mishra, SMG, violation of 11(1), 19 and 45 (5) (c) of MCDR, 2017 was pointed out. All violations except violation of 11(1) of MCDR, 2017 for non-compliance of exploration proposal have been complied.

During the current inspection, following violations are pointed out:

नियम	उल्लंघन के प्रकार का ब्यौरा
11(1)	<p>The mining operations are required to be carried out in accordance with the Mining Plan approved, modified or reviewed by Indian Bureau of Mines. However, the mining operations have not been observed carried out in accordance with Review & updation of Mining Plan approved vide letter No. Dantewada/Iron/SI.No.-1215/2019/Raipur-546 dated 11.12.2019 for the period from 2020-21 to 2024-25 to the extent indicated below:</p> <p>Exploration in form of drilling of 74 boreholes have been reported carried out during the year 2020-21 against approved drilling of 99 boreholes. Similarly, drilling of 113 boreholes were approved during the period from 2021-22. However, drilling of only 68 boreholes has been reported carried out.</p> <p>Violation in this respect was pointed out vide this office letter dated 11.01.2022 for non-compliance of exploration proposals as per approved Review of Mining Plan during the year 2020-21. Yet, the same has not been complied with so far.</p> <p>In Deposit 11 C, a new waste dump has been developed adjacent to existing sub-grade stack on eastern side of the ML area without such approval in Review of Mining Plan.</p> <p>Garland drain of 2000 mtrs and retaining wall of 200 mtrs were proposed during the year 2021-22 around waste dump, against which no work has been done.</p> <p>Hence, the above are observed to be against systematic and scientific development of mines and protection of environment.</p>

Date:

(Debadurllav Dash)

Regional Mining Geologist