

MCDR INSPECTION REPORT OF DEPOSIT-5 MINE INSPECTED ON 05.12.2022

General

Sl. No.	Particular	Details
1	Name of Mine	Deposit 5, Bacheli Complex
2	Date of Inspection	05.12.2022
3	Name of Inspecting Officer	D. Dash, Senior Mining Geologist
4	Name of official accompanying inspection	Mr. B. VENKATESWARLU, CGM (Mines)
5	Last date of Inspection & Officer	22.08.2021 by Shri D.Dash, Senior Mining Geologist
6	Total Lease Area (Ha) with breakup of Non-forest and forest land	540.05 Ha of forest land
7	Mine code	30MPR02005
8	IBM Registration Number under rule 99 of MCDR, 1999	IBM/270/2011
9	Name of the lessee, Address, phone, email and fax number	NMDC Ltd, 10-3-311/A, Castle hills, Masab tank, Hyderabad Ph.no: 040-23538704 e-mail: nmdchyd@hd1.vsnl.net fax:040-23538705
10	Village	Bacheli
11	Taluka/Mandal	Bacheli
12	District	South Bastar Dantewada
13	Pincode	494553
14	State	Chhattisgarh
15	Post Office	Bacheli
16	Nearest Police Station	Bacheli
17	Nearest Railway Station	Bacheli
18	Date of Grant of Mining Lease	11.02.1965
19	Date of Execution	11.09.1965
20	Date of opening of Mine	27.01.1968
21	Weekly day of rest	
22	Date of first Renewal, if applicable and its period & expiry	11.09.1995; period - 20 years, (11.09.1995 to 10.09.2015)
23	Date of Second Renewal, if applicable and its period & expiry	10.09.2015; 5 years upto 31.03.2020 10.01.2020; period 20 years (11.09.2015 to 10.09.2035)
24	Date of submission of renewal application if Mining Operation are continuing under deemed extension	NA
25	Name of Nominated Owner with Address, phone, email, fax number and date of appointment	D.K. MOHANTY NMDC Ltd, 10-3-311/A, Castle hills, Masab tank, Hyderabad, Ph.no: 040-23538704 e-mail: dkmohanty123@nmdc.co.in fax:040-23538705 Date of appointment:08.10.2021
26	Name of the Mines Agent with Address, phone, email, fax number and date of appointment	P.K. MAZUMDAR BIOM, Bacheli complex, Ph.no: 07857 230323, e-mail: pranab@nmdc.co.in fax: 07857 - 230423 date of appointment: 21.06.2021
27	Name of the Mines Manager with Address, phone, email, fax number and date of appointment in mines.	B. VENKATESWARLU BIOM, Bacheli complex, Ph.no: 07857 230223, e-mail: bvenkat@nmdc.co.in fax: 07857 230423 date of appointment: 31.08.2021

28	Name of the Mining Engineer, Qualification and total experience with Address, phone, e mail, fax number and date of appointment in mine	S.N.SINGH Qualification: B.Tech Total experience: 30 years BIOM, Bacheli complex, Ph.no: 7587485735 e-mail: snsingh@nmdc.co.in date of appointment: 25.05.2019
29	Name of the Mining Geologist, Qualification and total experience with Address, phone, e mail, fax number and date of appointment in mine	JANARDAN VERMA Qualification: M.Tech (Applied Geology) Total experience: 28 years BIOM, Bacheli complex, Ph.no: 9425591178 e-mail: jverma@nmdc.co.in date of appointment: 15.11.2021
30	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
31	Date of approval of Mining Plan/Modified Mining Plan with five-year period and specific condition in approval letter, if any.	Review of Mining Plan was approved vide letter no. Dantewada/Iron/Khoya-1217/2019 dated 16.12.2019 for the period from 1.04.2020 to 31.03.2025.
32	Date of approval of Scheme of Mining/Modified Scheme of Mining with five-year period and specific condition in approval letter, if any.	NA
33	Mineral(s) granted in lease and proved for mining	Hematite
34	Method of Mining (Opencast, Underground)	Opencast
36	Category (Fully Mechanised, Other or Manual)	Fully Mechanised & category "A"
37	Captive/ Non Captive	Non Captive

Scientific Mining: Compliance of proposals of approved mining Plan/Scheme of Mining. (Duplication of information in existing TMIS data sheets and draft write up has been avoided.)

Exploration

S.N.	Item	Proposals	Actual Work	Remarks
1a	Backlog of previous year (2021-22)	2300mtrs (18 boreholes)	4102 mtrs (23 boreholes)	Exploration has been carried out in excess of proposal.
1b	Exploration over lease area for Geological axis 1 or 2	G1	G1	
1c	Exploration Agency & Expenditure in lakh Rupees during the year 2021-22	NMDC Rs. 3.45 crores	NMDC Rs. 4.34 crores	Drilling cost Rs. 10587 / m (approximately)
1d	Balance area to be explored to bring Geological axis in 1 or 2	Not specific	20.25	Based on draft review of MP submitted.
1e	Balance reserves	111: 68.659 121: 199.897	111: 72.294 121: 199.897	Balance reserves is on higher side

				due to less depletion.
1f	General remarks of inspecting officer on geology, exploration etc.	During the planned period from 2020-21 to 2021-22, exploration in form of 37 boreholes have been proposed against which, 56 boreholes have been drilled. Remaining area of 20.25 ha has been proposed for exploration in form of boreholes in form of boreholes in draft modification of approved Review of Mining Plan submitted to this office.		

Development

S.N.	Item	Proposals	Actual Work	Remarks
2a	Location of development w.r.t. lease area	Bench MRL: S1008, S1020, S1080, S1092, C1116, C1128, C1140, C1164, C1176,	Bench MRL: S1008, S1020, S1032, S1104, S1128, S1140, S1152, C1128 C1140, C1152 NW1092	Development is as per proposed location.
2b	Separate benches in topsoil, overburden and mineral (Rule 13 of MCDR, 2017)	Topsoil: NIL OB: 2 Mineral: 9	Topsoil: NIL OB: 2 Mineral: 11	As per proposal.
2c	Stripping ratio or ore to OB ratio (OB/Ore)	0.15	0.06	Waste handling is on lower side.
2d	Quantity of topsoil generation in m ³	NIL	NIL	No generation of top soil.
2e	Quantity of overburden generation in m ³	1538500	530769	The OB generation is on lower side proportionate to production achieved.
2f	General remarks of inspecting officer on development of pit w.r.t. type of deposit etc.	Development of 03 pits were proposed in approved plan, however, due to lack of forest clearance, only 2 pits (south & central) could be worked during the period. The production is on lower side due to lack of market & statutory clearance issue.		

Exploitation details for the year 2021-22

S.N.	Item	Proposals	Actual Work	Remarks
3a	Number of pits proposed for production	3	2	Tree felling permission not granted by State Forest Deptt. in North Block
3b	Quantity of ROM mineral production proposed (2021 - 22)	100 LT	83.24 LT	Due to lack of market and reason as cited above.
3c	Recovery of salable/usable mineral from ROM Production	100%	100%	However, sub-grade is generated which is 100% utilized by blending with higher grade ores.
3d	Quantity of mineral reject generation	Nil	Nil	Nil
3e	Grade of mineral reject generation and threshold value declared	Nil	Nil	Nil
3f	Quantity of sub-grade mineral generation	811000	1911477	The entire generated subgrade is claimed to be utilized during the year as per information furnished in Star rating template.
3g	Grade of sub-grade mineral generation	45 - 55 % Fe Threshold value - 45% Fe	45 - 55 % Fe Threshold value - 45% Fe	The ores referred are defined as sub-grade ore in approved Mining Plan.
3h	Manual/Mechanised method adopted for segregating from ROM	Mechanised	Mechanised	
3i	Any analysis or beneficiation study proposed & carried out for sub-grade mineral and reject	NIL	NIL	
3j	Provision of drilling & blasting in mineral benches	YES	YES	
3k	Provision of mining machineries in mineral benches	YES	YES	
3l	Whether height of benches in overburden and mineral suitable for method of mining proposed in MP/SOM	YES	YES	
3m	Total area covered under excavation/pits	Not specific.	167.48 Ha	
3n	Ore to OB ratio for the pit/mine during the year (OB/Ore)	0.15	0.06	Indicates that development is on lower side.
3o	Total area put in use under different	370.39	253.38	

	heads at the end of year			
3p	Production of ROM mineral during last five-year period, as applicable	2020-21: 10000000 2021-22: 10000000	8040430 8324300	Production is on lower side due to lack of market demand.
3q	General remarks of inspecting officer on method of mining etc.	The mining operations were proposed on 03 pits, however, due to lack of forest clearance, only 2 pits could be worked during the period. The production is on lower side than proposed. Sub-grade are generated during the mining operations, which are claimed to be blended with higher grade ore and made saleable.		

Solid Waste Management - Dumping

S.N.	Item	Proposals	Actual Work	Remarks
4a	Separate dumping of topsoil, OB & mineral reject (Rule 36, 37 of MCDR, 2017)	YES	YES	
4b	Location of topsoil, OB & mineral reject dump: -	WDY-2: 18041'11" to 18 ⁰ 40'52" and 81 ⁰ 10'54" to 81 ⁰ 11'13" WDY- 3: 18040'39" to 18 ⁰ 40'25" and 81 ⁰ 11'25" to 81 ⁰ 11'38" WDY- 4: 18041'01" to 18 ⁰ 40'49" , 81 ⁰ 111'46" to 81 ⁰ 11'59" Sub grade : 18041'13" to 18 ⁰ 41'01" 81 ⁰ 11'51"81 ⁰ 12'02"	WDY- 3: 18040'39" to 18 ⁰ 40'25" and 81 ⁰ 11'25" to 81 ⁰ 11'38" Subgrade: 18 ⁰ 41'13" to 18 ⁰ 41'01" and 81 ⁰ 11'51" to 81 ⁰ 12'02"	Proposed waste dumping in waste dump 2 & 4 could not be carried out due to lack of forest clearance.
4c	Number of dumps within lease area and outside lease area	4 within ML and NIL outside ML	2 within ML and NIL outside ML	Reasons as above.
4d	Location of dumps w.r.t. ultimate pit limit (Rule 14 of MCDR, 2017)	Beyond ultimate pit limit	Beyond ultimate pit limit	
4e	Number of active & alive dumps	03	01	Waste dump no. 3
4f	Number of dead dumps	01	01	Located south of south

				block.
4g	Number of dumps established	03	01	Reasons cited as above.
4h	Whether Retaining wall or garland drain all along dumps are there	YES	YES	Observed during the visit.
4i	Length of Retaining wall or garland drain all along dump	950	840	Observed during the visit.
4j	Number of settling pond	NIL	NIL	Not applicable
4k	Specific comments of inspecting officer on waste dump management	Against proposal of dumping at 03 locations, waste dumping could be carried out in 01 location i.e. waste dump no3 due to lack of forest clearance.		

Solid Waste Management - Backfilling

S.N.	Item	Proposals	Actual Work	Remarks
5a	Status on part of full extraction of mineral from mined out area before starting backfilling	NIL	NIL	Not applicable
5b	Area under backfilling of mined out area	NIL	NIL	-do-
5c	Concurrent use of topsoil for restoration or rehabilitation of mined out area (Rule 36 of MCDR, 2017)	NIL	NIL	-do-
5d	Total area fully reclaimed & rehabilitated	NIL	NIL	-do-
5e	General remarks of inspecting officer on backfilling, reclamation etc.	No backfilling is proposed since no area is mined out.		

Progressive Mine Closure Plan

S.N.	Item	Proposals	Actual Work	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.	YES	YES	Annual Report submitted.
6b	Management of worked/mined out benches i) Area available for	NIL	NIL	Not applicable since no area is mined out.

	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			
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 back filled area. iv) Rehabilitation by making water reservoir v) Any other specific means.	NIL	NIL	Reasons as above.
6d	Compliance of Rehabilitation of waste land within lease i) Afforestation ii) Area rehabilitated (ha) iii) Method of rehabilitation	NIL	NIL	
6e	Compliance of Environmental monitoring (core zone & buffer zone)	To be Complied	Complied	Environmental monitoring for air, water, noise & vibration area carried out season-wise.
6f	General remarks of inspecting officer on PMCP compliance & progressive closure operation.	Environmental monitoring for air, water, noise and ground vibrations are carried out on regular basis. Monitoring reports were checked during the visit and all parameters were found to be within limit.		

Mineral Conservation

S.N.	Item	Proposals	Actual Work	Remarks
7a	ROM Mineral dispatch or grade-wise sorting within lease area	Subgrade mineral to be blended simultaneously with high grade mineral during feeding to the crushing plant	Subgrade mineral blended simultaneously with high grade mineral during feeding to the crushing plant	The generated sub-grade are temporarily stacked and blended with high grade ore and made saleable.
7b	Method of grade-wise mineral sorting i.e. manual or mechanical	Mechanical	Mechanical	
7c	Different grade of mineral sorted out at mines.	45 - 55 % Fe	45 - 55 % Fe	No manual sorting done. The sub-grade ores are mechanically removed and

				temporarily stacked for blending with high grade ores.
7d	Any beneficiation process at mines	Crushing, washing and screening	Crushing, washing and screening	
7e	General remarks of inspecting officer on Mineral conservation & beneficiation issues.	The sub-grade ores (45-55% Fe) ores are temporarily stacked and blended with high grade ore and made saleable.		

Environment

S.N.	Item	Proposals	Actual Work	Remarks
8a	Separate removal and utilization of topsoil (Rule 36 of MCDR, 2017)	NIL	NIL	No generation of top soil.
8b	Concurrent use or storage of topsoil.	NIL	NIL	
8c	Separate dumps for overburden, waste rock, rejects and fines (Rule 37 of MCDR, 2017)	YES	YES	
8d	Use of overburden, waste rock, rejects and fines dumps for restoring the land to its original use	NIL	NIL	No area is mined out.
8e	Phased restoration, reclamation and rehabilitation of lands affected by mining operations (Pits, dumps etc)	NIL	NIL	
8f	Baseline information on existence of plantation & additional plantation done (Rule 44 of MCDR, 2017)	5000	In 2021-22, 5010 nos. trees were planted by Chhattisgarh Rajya Van Vikas Nigam Ltd Jagdalpur along lease boundary within safety zones.	CGRVVN is the executing agency for the plantation work of NMDC, BIOM, Bachel Complex.
8g	Survival rate	100 %	85 %	
8h	Water sprinkling on road to control airborne dust	YES	YES	
8i	General remarks of inspecting officer on aesthetic beauty in and around mines area	During the year 2021-22, 5010 nos. trees were planted by Chhattisgarh Rajya Van Vikas Nigam Ltd Jagdalpur along lease boundary within safety zones against proposed plantation of 500 saplings. CGRVVN is the executing agency for the plantation work of NMDC, BIOM, Bachel Complex.		

Compliance of Rule 45

S.N.	Item	COMMENTS		Remarks
9a	Status of submission of Monthly and Annual return	M.R. Submitted up to October'22 A.R. Submitted upto 2021-22		
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	Mining Engineer: Shri S.N.Singh, Geologist: Shri Janardhan Verma	Both were present during the visit.	

	Manager			
9c	Scrutiny of Annual return on land use pattern for area under pits, reclaimed area, dumps etc.	Covered under current (O/C) Workings : 167.48 ha, Used for waste disposal : 21 ha, Occupied by plant, buildings, residential, welfare buildings & roads : 27.6 ha, Other purpose: 34.980	The figures cited appears to be correct.	
9d	Scrutiny of Annual return on afforestation	5010 saplings planted with 86% survival	Appears to be correct.	
9e	Scrutiny of Annual return on mineral reject generation (Grade & quantity)	Nil	Appears to be correct.	
9f	Scrutiny of Annual return on ROM stock and / or graded ore	Opening stock: 220846 tonnes, Production: 324300 tonnes, Closing stock: 279776 tonnes	Appears to be correct.	
9g	Scrutiny of Annual return on sale value, Ex, Mine price & production cost	Ex mine price: Lumps >65% Fe: Rs 9283.00, Fines >65% Fe: Rs 6569.00 , Cost of production: Rs3467.34	Appears to be correct.	
9h	Scrutiny of Annual return on fixed assets	RS 3768901029	Appears to be correct.	
9i	Scrutiny of Annual return on mining machineries	BACK HOE 0.960 CUM: 0 1 Non Electrical Opencast BLAST HOLE DRILL (ELEC.) 250.000 MM: 0 4 Electrical Opencast BLAST HOST DRILL 165.000 MM : 01 Non Electrical Opencast CRANE 30.000 TONNE : 05 Non Electrical Opencast CRANE 20.000 TONNE: 0 2 Non Electrical Opencast CRANE 14.000 TONNE: 01 Non Electrical Opencast CRANE 12.000 TONNE : 01 Non Electrical Opencast CRANE 11.000 TONNE: 0 1 Non Electrical Opencast CRANE 9.000 TONNE: 02 Non Electrical Opencast CRUSHER 3000.000 T/H: 0 2 Electrical Opencast CRUSHER 1500.000 T/H : 0 2 Electrical Opencast CRUSHER 800.000 T/H : 03 Electrical Opencast DOZER 416.000 HP: 0 5 Non Electrical Opencast DOZER 485.000 HP: 0 1 Non Electrical Opencast DOZER 860.000 HP: 0 1 Non Electrical Opencast DUMPER 85.000 TONNE: 0 5 Non Electrical Opencast DUMPER 100.000 TONNE: 0 9 Non Electrical Opencast EXPLOSIVE VAN 1.100 TONNE : 01 Non Electrical Opencast EXPLOSIVE VAN 3.890 TONNE : 01 Non Electrical Opencast EXPLOSIVE VAN 2.280 TONNE : 0 1 Non Electrical Opencast FRONT END LOADER 8.000 CUM : 01 Non Electrical Opencast	Appears to be correct.	

		MOTOR GRADER 280.000 HP : 02 Non Electrical Opencast PUMPS (ELEC.) 5000.000 L/MN : 02		
--	--	--	--	--

Details of violations observed during current inspection and compliance position of earlier violation pointed out:-

During previous inspection dated 22.08.2021, no serious violation was observed. During current inspection, no serious violation was observed.

Dated :

(Debadurllav Dash)
Regional Mining Geologist