

File No.CHG/DNT/FE-1/RPR/SEC-2
MCDR INSPECTION REPORT

General

S.N.	Particulars	Details
1	Name of inspecting office & designation	Shri Rajesh Kumar Das (Senior ACOM)
2	Date of inspection & Accompany Person	03.03.2021 - 05.03.2021, Shri Vinay Kumar (Mine Manager), Shri Vinayak Tiwari (GM Geology)
3	Name of the Mine	Bailadila Iron Ore Mines, Kirandul Complex, DEP-11 ML
4	Total Lease Area (Ha) with breakup of Non-forest and forest land	Forest Land: 874.924HA Non-Forest Land: NIL
5	Mine code	30CHG03002
6	IBM Registration Number under rule 45 of MCDR, 1988	IBM/270/2011
7	Name of the Lease, Address, Phone, email and fax number	NMDC Ltd, Masab Tank, Hyderabad, PIN-500028, Telangana. pksatpathy@nmdc.co.in Fax no: 040-27172569, Phone 040-23538713-21, 23538723 & 23538767
8	Village	Kirandul
9	Taluka/Mandal, District	Bade Bacheli, Dantewada
10	State	Chhattisgarh
11	Post Office & PIN	Kirandul, 494556
12	Nearest Police Station	Kirandul
13	Nearest Railway Station	Kirandul
14	Date of Grant of Mining Lease	27/12/1966
15	Date of Execution	12/09/1967
16	Date of opening of Mine	In the year 1987
17	Date of First Renewal, if applicable and its period & expiry	12/09/1997, 20 Years, Expiry-11/09/2017
18	Date of Second Renewal, if applicable and its period & expiry	Under Rule 3(3) of Mineral (Mining by Government Company) Rules, 2015, the Mining Lease has been extended for 20 years from 11.09.2017 to 10.09.2037 by Mineral Resource Department, Govt of Chhattisgarh via Office Order No. f 4-55/2017/XII Naya Raipur, dated 11.05.2018.
19	Date of submission of renewal application if Mining Operations are continuing under deemed extension	NA
20	Name of the Nominated Owner with Address, phone, email, fax number and date of appointment	Shri P.K.Satpathy Director (Prodn.), NMDC Ltd, Masab Tank, Hyderabad, PIN-500028, Telangana. pksatpathy@nmdc.co.in Fax no: 040-27172569, Phone No: 040- 23538701, 23538704. DOA: 13/12/2014
21	Name of the Mine Agent with Address, phone, email, fax number and date of appointment	Shri R.Govindarajan, Executive Director, NMDC Ltd, Kirandul, B.I.O.M. Kirandul Complex, Dantewada PIN-494556, Chhattisgarh, rgovindarajan@nmdc.co.in Fax no: 07857-255227, Phone 07857-255222,

		DOA:31/12/2019
22	Name of the Mine Manager with Address, phone, email, fax number and date of appointment in mines	Shri Vinay Kumar, General Manager (Prod), NMDC Ltd, Kirandul, B.I.O.M. Kirandul Complex, Dantewada PIN-494556, Chhattisgarh, Fax no: 07857-255226, Phone 07857-255232 DOA:30/09/2018
23	Name of the Mining Engineer, Qualification and total experience with address, phone, email, fax number and date of appointment in the mine	Shri Sanjay Kumar Kochar, Dy.General Manager, B.E (Mining) FCC (R), Experience: 28Years Approximately NMDC Ltd, Kirandul, B.I.O.M. Kirandul Complex, Dantewada PIN-494556, Chhattisgarh, DOA:22/06/2020
24	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, appointed under Rule-55 and carrying out duties as per rule 56 & 57 of MCDR-2017.
25	Date of Approval of Mine Plan/Modified Mine Plan with five- year period and specific condition in approval letter, if any.	Vide Letter No: 314(3)/96- MCCM (c) /MP-7, Dated: 23.07.1997. Vide Letter No: 314(3)/2005 MCCM (cz) /MP-7, Dated: 15.10.2005. Vide Letter No: Dantewada/FE/MPLN- 1055/2016/Raipur/724, Dated:09.12.2016 Vide Letter No: Dantewada /Fe/Khanij- 1203/2018/-Raipur/72 dated 08-05-2019 Vide letter No.: DANTEWADA/FE/MP- 1215/2019-RAIPUR/546, 11.12.2019
26	Date of Approval of Scheme of Mining/Modified Scheme of Mining with five- year period and specific condition in approval letter, if any.	Vide Letter No: 314(3)/2007 - MCCM (CZ) /S-7, Dated:29.11.2007 Vide Letter No: 314(3)/2012 - MCCM (CZ) /MS-18, Dated:11.03.2013
27	Mineral(s) granted in lease and approved for Mining	Hematite
28	Method of Mining (Opencast, Underground)	Opencast
29	Category (Fully Mechanised, Others or Manual)	Fully Mechanised
30	Captive/Non-Captive	Non-Captive

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

1.0 Exploration

S.N.	Item	Proposals	Actual Work	Remarks
1a	Backlog of previous year	NIL	NIL	
1b	Exploration over lease area for Geological axis 1 or 2.	14BH/910Mts	44BH/4422 Mts	
1c	Exploration Agency & Expenditure in Lakh Rupees during the year	Applicant itself is the exploration Agency.	Applicant itself is the exploration Agency. Expenditure during 2019-20: 240.53 Lakh	

1d	Balance area to be explored to bring Geological axis in 1 or 2.	80.59Ha	35.59 Ha																																																					
1e	Balance reserves as on 01.04.2020	<table border="1"> <thead> <tr> <th>Code</th> <th>Quantity (MT)</th> </tr> </thead> <tbody> <tr> <td colspan="2">A. Mineral Reserve</td> </tr> <tr> <td>111</td> <td>239.43</td> </tr> <tr> <td>121</td> <td>-</td> </tr> <tr> <td>122</td> <td>80.45</td> </tr> <tr> <td colspan="2">B. Remaining Resources</td> </tr> <tr> <td>211</td> <td>46.06</td> </tr> <tr> <td>221</td> <td>-</td> </tr> <tr> <td>222</td> <td>32.99</td> </tr> <tr> <td>331</td> <td>-</td> </tr> <tr> <td>332</td> <td>-</td> </tr> <tr> <td>333</td> <td>212.04</td> </tr> <tr> <td>334</td> <td>-</td> </tr> </tbody> </table>	Code	Quantity (MT)	A. Mineral Reserve		111	239.43	121	-	122	80.45	B. Remaining Resources		211	46.06	221	-	222	32.99	331	-	332	-	333	212.04	334	-	<table border="1"> <thead> <tr> <th>Code</th> <th>Quantity (MT)</th> </tr> </thead> <tbody> <tr> <td colspan="2">A. Mineral Reserve</td> </tr> <tr> <td>111</td> <td>306.17</td> </tr> <tr> <td>121</td> <td>-</td> </tr> <tr> <td>122</td> <td>39.68</td> </tr> <tr> <td colspan="2">B. Remaining Resources</td> </tr> <tr> <td>211</td> <td>41.80</td> </tr> <tr> <td>221</td> <td>-</td> </tr> <tr> <td>222</td> <td>9.34</td> </tr> <tr> <td>331</td> <td>18.06</td> </tr> <tr> <td>332</td> <td>6.87</td> </tr> <tr> <td>333</td> <td>128.06</td> </tr> <tr> <td>334</td> <td>16.951</td> </tr> </tbody> </table>	Code	Quantity (MT)	A. Mineral Reserve		111	306.17	121	-	122	39.68	B. Remaining Resources		211	41.80	221	-	222	9.34	331	18.06	332	6.87	333	128.06	334	16.951	Reserves and Resources Re-estimated as on 01.04.2020
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1f	General remarks of Inspecting officer on geology, exploration etc.	Bailadila hills represents the type area of southern most part of Kotri-Dongargarh orogen of Bastar craton known as Bailadila group. The Strike direction of Bailadila group are N-S trending and dip direction NW to NE subvertical folded meta sedimentary bedded formations.																																																						

2.0 Development

S.N	Item	Proposals	Actual Work	Remarks
2a	Location of Development w.r.t. lease area	Dep-11A 523583 E -523447 E 2065069 N – 2065263 N Dep-11B 524586 E -523988 E 2063441 N – 2062632N Dep-11C 525057 E -525423 E 2061050 N – 2060634N	Dep-11A 523583 E -523475 E 2065171N – 2065263 N Dep-11B 524495 E -523930 E 2063314 N – 2062623N Dep-11C 525116 E -525407 E 2060930 N – 2060630N	
2b	Separate benches in topsoil overburden and mineral (Rule 13 of MCDR 2017)	Separate benches in overburden and mineral	Separate benches in overburden and mineral	Top soil not available
2c	Stripping ratio or ore to OB ratio	1:0.14	1:0.06	
2d	Quantity of topsoil generation in m ³	Top soil is not available	Top soil is not available	
2e	Quantity of overburden generation in m ³	337037 Dep-11A 18519 Dep-11B 277778 Dep-11C 40741	117834 Dep-11A NIL Dep-11B 107,977 Dep-11C 9,857	
2f	General remarks of Inspecting officer on development of pit w.r.t type of deposit etc.	The development is very less w.r.t proposal given and it is only 355 of Proposal		

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3.0 Exploitation

S.N.	Item	Proposals	Actual Work	Remarks
3a	Number of pits proposed for production	Pit-3	Pit-3	
3b	Quantity of ROM mineral production proposed	TOTAL:6800000Tonne Dep-11A 300000 Dep-11B 5000000 Dep-11C 1500000	TOTAL: 5029112 Tonne Dep-11A 104863 Dep-11B 3989390 Dep-11C 934859	
3c	Recovery of Salable/usable mineral from ROM production	100 %	100 %	
3d	Quantity of mineral reject generation	NIL	NIL	
3e	Grade of mineral reject generation and threshold value declared	NA	NA	
3f	Quantity of sub-grade mineral generation	124000Tonne	105000Tonne	
3g	Grade of sub-grade mineral generation	45-55 Fe %	45-55 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	No study Proposed	No study Proposed	
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: 12Mtr and Over Burden Bench Height: 30Mtr	Bench Height: 12Mtr and Over Burden Bench Height: 30Mtr	
3m	Total area covered under excavation /pits	94.590 HA	94.590 HA	
3n	Ore to OB ratio for the pit/mine during the year	1:0.13	1:0.06	
3o	Total area put in use under different heads at the end of year	212.637 HA	212.637 HA	
3p	Production of ROM mineral during last five-years period, as Applicable	2015-16: 9300000Tonne 2016-17: 9300000 Tonne 2017-18:3800000 Tonne 2018-19: 4800000 Tonne 2019-20: 6800000 Tonne	2015-16: 2319706 Tonne 2016-17: 1310508 Tonne 2017-18:2618285 Tonne 2018-19: 3468280 Tonne 2019-20: 5029112 Tonne	
3q	General remarks of inspecting officer on method of mining etc	The method of mining is broadly as per proposal by opencast using HEMM and deep hole drilling and blasting.		

4.0 Solid Waste Management-Dumping

S.N.	Item	Proposals	Actual Work	Remarks
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4a	Separate dumping of topsoil, OB & mineral reject (Rule 36, 37 of MCDR 2017)	OB :3 NOS	OB:3 NOS	
4b	Location of topsoil, OB & mineral reject dumps	Dep-11A 523320 E-523304 E 2065162 N- 2065269 N Dep-11B 524018 E-524135 E 2062861 N – 2062950 N Dep-11C 524531 E – 524904 E 2060015 N – 2060460 N	Dep-11A 523320 E-523304 E 2065162 N- 2065269 N Dep-11B 524018 E-524135 E 2062861 N – 2062950 N Dep-11C 524531 E – 524904 E 2060015 N – 2060460 N	
4c	Number of Dumps within lease area and outside lease area	3 NOS with in lease area	3 NOS with in lease area	
4d	Location of Dumps w.r.t. ultimate pit limit (Rule 14 of MCDR 2017)	Out Side UPL	Out Side UPL	
4e	Number of Active & Alive dumps	Active & Alive: 3 NOS	Active & Alive: 3 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	Yes	Constructed/Repaired.	
4i	Length of Retaining wall or garland drain all along dump	200Mtrs	591 Mtrs Retaining wall / Buttress wall constructed along the bottom of the dump.	
4j	Number of settling ponds	03 Nos	03Nos	
4k	Specific comments of inspecting officer on waste dump management	The waste dump management is not proper and the retaining wall also not constructed as per proposal.		

5.0 Solid Waste Management-Backfilling

S.N.	Item	Proposals	Actual Work	Remarks
5a	Status on part or full extraction of mineral from mined out area before starting backfilling	Back Filling not proposed	Back Filling not proposed	
5b	Area under backfilling of mined out area	Back Filling not proposed	Back Filling not proposed	
5c	Concurrent use of topsoil for restoration or rehabilitation of mined out area (Rule 36)	Top soil storage not proposed	Topsoil not available	
5d	Total area fully reclaimed & rehabilitated	Reclaimed & Rehabilitated not proposed	Reclaimed & Rehabilitated not available	
5e	General remarks of inspecting officer on backfilling, reclamation etc	No such proposal of backfilling.		

6.0 Progressive Mine Closer Plan

S.N	Item	Proposals	Actual Work	Remarks
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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 2019-20 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	i) Nil- ii) As per availability iii) As per availability iv) - v) - vi) Departmental	i) Nil ii) 0.3Ha iii) 819 nos iv) 413319 nos v) - vi) Departmental	
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	Not proposed	PMCP report submitted	
6d	Compliance of Rehabilitation of waste land within lease i) Afforestation ii) Area rehabilitation iii) Method of rehabilitation	Not proposed	PMCP report submitted	
6e	Compliance of Environment monitoring (core zone & buffer zone)	As per PMCP	Complied.	
6f	General remarks of inspecting officer on PMCP compliance & progressive closer operations	Broadly complied		

7.0 Mineral Conservation

S.N.	Item	Proposals	Actual Work	Remarks
7a	ROM mineral dispatch or grade wise sorting within lease area	Above 55 Fe%	Above 55 Fe%	
7b	Method of grade-wise mineral sorting i.e. manual or mechanical	mechanical	mechanical	
7c	Different grade of mineral sort out at mine	Nil	Nil	Different grades are blended and fed directly from mine benches or from stock.
7d	Any beneficiation process at mines	As per mining plan	Beneficiation processes doing at SP-1 and SP-2 screening plant	
7e	General remarks of inspecting officer on Mineral conservation & beneficiation issues	No such beneficiation except crushing and screening.		

8.0 Environment

S.N.	Item	Proposals	Actual Work	Remarks
8a	Separate removal and utilization of topsoil (Rule32)	Top soil not available	Top soil not available	No top soil exist
8b	Concurrent use or storage of topsoil	Top soil not available	Top soil not available	No top soil exist
8c	Separate dumps for overburden waste rock, rejects and fines (Rule 33)	OB dump proposed	As per Proposed waste dump available	
8d	Use of overburden, waste rock, rejects and fines dumps for restoring the land to its original use	Not Proposed	NA	
8e	Phased restoration, reclamation and rehabilitation of lands affected by mining operations (Pits, dumps etc)	Not proposed as no voids available for R&R	NA	
8f	Baseline information on existence of plantation & additional plantation done (Rule 44 of MCDR 2017)	Not proposed	Lease Safety zone area.	
8g	Survival rate	100 %	80%	
8h	Water sprinkling on roads to control airborne dust	As per proposal	Water sprinkling on road to control the air bore dust, Wet Drilling.	
8i	General remarks of inspecting officer on aesthetic beauty in and around mine area	No adverse impact observed during mine visit due to mining on aesthetic beauty.		

9.0 Compliance of Rule 45

S.N.	Item	Comments	Remarks	
9a	Status of submission of monthly and Annual returns	Monthly Return Form F1 for the month January-2021 submitted and Annual Return for the year 2019-20 submitted		
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: Shri Sunil Kumar, Geologist: Shri Ritayan Goswami Mines Manager: Shri Vinay Kumar		
9c	Scrutiny of Annual return on land use pattern for area under pits, reclaimed area, dumps etc.	Mining:94.59 Ha Overburden Dump:71.989Ha Infrastructure:46.058Ha	Broadly as per field condition.	
9d	Scrutiny of Annual return on afforestation	Total area is forest area	Total area is forest area	
9e	Scrutiny of Annual return on mineral reject generation (Grade & Quantity)	Mineral Reject 105000 tons, Grade 52.8 % fe reported		
9f	Scrutiny of Annual return on ROM stock and/or grade ore	ROM stock Closing Balance: 350805Tonne		As on 01.04.2020
9g	Scrutiny of Annual return on sale value, Ex-Mine price & production costs		Ex-Mine price: Lump 65% and above- 3851.90 Fines :62% to below 65-3059.37,above 65%	

			3300.30 Production Cost: 1232.76 PMT, Sale value also furnished and it varies from grade to grade and different for different customer	
9h	Scrutiny of Annual return on Fixed assets		Rs. 6,50,22,21,865/-	For Kirandul complex
9i	Scrutiny of Annual return on mining Machineries	Given in Annual Return Form-H1	Given in Annual Return Form-H1	

10. Details of Validations observed during current inspection and compliance position of earlier violation pointed out:- The earlier violations taken complied and during present inspection the following violations pointed out:

Rule	Nature of Violation observed
11(1)	<p>Mining operations should have been undertaken in accordance with the approved Mining Plan.</p> <p>The Modified Mining Plan was approved vide letter no. दांतेवाड़ा / लौह /खयो/1203/2018-रायपुर dated 08.05.2019 and following deviation was observed during inspection</p> <ol style="list-style-type: none"> 1. During the mine visit it was observed that material of other leases (Deposit 5 & deposit 10) is stacked in lease area and more than lakh tons material has been stacked of different grades. 2. The proposal was given for development of 337037 m³ of overburden in 2019-20 but actually achievement is only 117834 m³. The development is only 35% of proposal. 3. It was proposed to construct buttress wall at the toe of dump 200 m in 2017-18 & 200 m in 2018-19 but during mine visit it was observed that proper retaining wall to arrest washed fines and rolling boulders not constructed. 4. It was observed during mine visit that the bench parameters are not proper in non-working area and bench are merged with top or bottom benches and stability is also not proper..
37(2)	<p>The dumps shall be properly secured to prevent escape of material there from in harmful quantities which may cause degradation of environment and to prevent causation of floods. It was observed that there is no proper terracing and the OB/waste dump is near to lease boundary but still no proper retaining wall is constructed nor any control measures for dump stability and extended outside lease area between.</p>

(Rajesh Kumar Das, Senior Assistant Controller of Mines)