

MCDR INSPECTION REPORT 2021-22

General:

Sl .No.	Particulars	Details
1	Name of the Mine	Mahamaya-Dulki Lease (Mahamaya Iron Ore Mine & Dulki Iron Ore Mine)
2	Date of Inspection:	25-08-2022
3	Name of Inspecting Officer	Shri D Upadhyay, Sr. Assistant Controller of Mines
4	Name of official accompanying inspection	Shri Arun Kumar, Agent (Mahamaya & Dulki Mines)
5	Last date of Inspection & Officer	08-03-2022, Shri Arun Kumar, Regional Controller of Mine
6	Total Lease Area (Ha) with breakup of Non-forest and forest land	Total Lease Area -1522.67 Ha. Forest area-1522.67 Ha.
7	Mine code	30MPR13004
8	IBM Registration Number under rule 45 of MCDR, 1988/2017	5662/IBM/2011
9	Name of the Lease, Address, Phone, email and fax number	Steel Authority of India Limited, Bhilai Steel Plant
10	Village	Mahamaya-Dulki
11	Taluka/Mandal	Mahamaya/Manpur
12	District	Balod and Rajnandgaon
13	Pin code	491228
14	State	Chhattisgarh
15	Post Office	Mahamaya/Manpur
16	Nearest Police Station	Mahamaya
17	Nearest Railway Station	Dalli- Rajhara
18	Date of Grant of Mining Lease	04.11.1971
19	Date of Execution	04.11.1971
20	Weekly day of rest	Wednesday
21	Date of opening of Mine	04.11.1971
22	Date of First Renewal, if applicable and its period & expiry	04-11-2001 to 03-11-2021 Letter No. F-3-47/2003/khanij dated 13/02/2006
23	Date of Second Renewal, if applicable and its period & expiry	04-11-2021 to 03-11-2041 Letter No. 2804/2019/XII/Nava Raipur ,Atal Nagar Date 26/06/2021
24	Date of submission of renewal application if Mining Operations are continuing under deemed extension	Not applicable
25	Name of the Nominated Owner with Address, phone, email, fax number and date of appointment	Shri Anirban Dasgupta Director Incharge Bhilai Steel Plant, Ispat Bhawan Bhilai, Dist.-Durg, Chhattisgarh Date of apponitment : 30/09/2020
26	Name of the Mine Agent with Address, phone, email, fax number and date of appointment	Shri Arun Kumar GM cum Agent (Mahamaya & Dulki Mines),

		Off Address: IOC Administrative Building, Dalli-Rajhara, Dist.-Balod, Pin- 491228(C.G) Phone-9407982920 Email: arunkumar2@sail.in Date of appointment- : 01/01/2022
27	Name of the Mine Manager with Address, phone, email, fax number and date of appointment in mines	Shri Kumar Shivesh Mine Manager, Mahamaya Iron Ore Mine Mines Office, Iron Ore Complex. Phone No. 9407982883, Email: kumarshivesh@sail.in Date of appointment: 18/09/2016 Shri Ajay Kumar Chaturvedi Mine Manager, Dulki Mine Mines Office, Iron Ore Complex. Phone No. 9407980837 Email: akchaturvedi@sail.in Date of appointment: 15/02/2016
28	Name of the Mining Engineer, Qualification and total experience with address, phone, email, fax number and date of appointment in the mine	Manish Jaiswal B Tech. (Mining Engg.), 15 years' experience, Mines Office, Iron Ore Complex. Phone No. 9407982884, Email: manishjaisawal@sail.in Date of appointment: 01/01/2013
29	Whether Geologist and Mining Engineer appointment in mines satisfy the rule 42 & carrying out their duties as per rule 43 & 44.	Geologist is appointed Geologist: Shri R K Umre, M.Sc. Geology Date of appointment:19/06/2018
30	Date of Approval of Mine Plan/Modified Mine Plan with five- year period and specific condition in approval letter, if any.	Review of Mining Plan – 05/04/2021
31	Date of Approval of Scheme of Mining/Modified Scheme of Mining with five- year period and specific condition in approval letter, if any.	Proposal period; 2021-22 to 2025-26
32	Mineral(s) granted in lease and approved for Mining	HEMATITE (IRON ORE)
33	Method of Mining (Opencast, Underground)	OPENCAST
34	Category (Fully Mechanized, Others or Manual)	FULLY MECHANISED
35	Captive/Non-Captive	CAPTIVE
36	Present EC Status	EC is granted for capacity 1.46 MTPA
37	Status of Financial Assurance	Rs. 97500000/- (Rupees Nine Crore Seventy Five Lakhs Only), Validity- 31.03.2026

Scientific Mining: Compliance of proposals of approved Mining Plan/Review of Mining Plan:

1.0 Exploration:

S.N.	Item	Proposals (2021-22)	Actual Work (2021-22)	Remarks
1a	Backlog of previous year Proposals (2020-21)	32 Holes proposed in 2021-22	47 Holes completed in 2021-22	Backlog of 2020-21 has been drilled in 2021-22
1b	Exploration over lease area for Geological axis 1 or 2.	G1 Level	G1 Level	G1 Level of exploration
1c	Exploration Agency & Expenditure in Lakh Rupees during the year	Rs. 18966491/-	Exploration agency- M/s R K drilling. Expenditure, Rs. 18966491/-	Exploration agency- M/s R K drilling
1d	Balance area to be explored to bring Geological axis in 1 or 2.	Not specified.	44.36 ha G2 area drilled under G1 level of exploration.	44.36 ha G2 area drilled under G1 level of exploration.
1e	Balance reserves as on 01.04.2022	Balance reserves as on 01.04.2022, Total- 12.19 MT		
1f	General remarks of Inspecting officer on geology, exploration etc.	In response to 32 proposed bore holes, lessee has drilled total 47 no. of bore holes.		

2.0 Development:

S.N	Item	Proposals (2021-22)	Actual Work (2021-22)	Remarks
2a	Location of Development w.r.t. lease area	Mahamaya Mine: Easting 498510-499725 Northing 2263940-2266960 Dulki Mine: Easting 498660-497485 Northing 2261660-2261545-	Mahamaya Mine: Easting 498510-499725 Northing 2263940-2266960 Dulki Mine: Easting 498660-497485 Northing 2261660-2261545	Development is as per proposal.
2b	Separate benches in topsoil overburden and mineral (Rule 15)	Separate benches in OB & mineral.	Separate benches in OB & mineral are maintained.	Separate benches in OB & mineral are maintained.
2c	Stripping ratio or ore to OB ratio (Ton/Cum)	1: 0.34T/cu.m	1:0.23T/cu.m	1:0.23T/cu.m
2d	Quantity of topsoil generation in m ³	Not proposed.	Nil	Topsoil not generated.
2e	Quantity of overburden generation in m ³	491325cu.m	308736cu.m	
2f	General remarks of Inspecting officer on development of pit w.r.t type of deposit etc.	Development is carried out as per proposal.		

3.0 Exploitation:

S.N	Item	Proposals (2021-22)	Actual Work (2021-22)	Remarks
3a	Number of pits proposed for production	4 Pits	4 Pits	Mahamaya Mine- M1,M2 and M3 pits & Dulki Mine-D3 Pit

3b	Quantity of ROM mineral production proposed	1460000.00	1361367.22	ROM production consumes to its captive plant
3c	Recovery of Salable/usable mineral from ROM production	100%	100%	
3d	Quantity of mineral reject generation	Not proposed	Nil	
3e	Grade of mineral reject generation and threshold value declared	Not proposed	Nil	
3f	Quantity of sub-grade mineral generation	Not proposed	Nil	
3g	Grade of sub-grade mineral generation	Not proposed	Nil	
3h	Manual/Mechanized method adopted for segregation from ROM	Mechanized	Mechanized	Mechanized
3i	Any analysis or beneficiation study proposed & carried out for sub-grade mineral and reject	Not proposed	Nil	
3j	Provision of drilling & blasting in mineral benches	Drilling and blasting is proposed,	Drilling and blasting is carried out as per proposal.	Drilling and blasting is carried out as per proposal.
3k	Provision of mining machineries in mineral benches	Shovel and dumper combination	Shovel and dumper combination	Excavator, Loader and Dumper are equipped to winning out the mineral.
3l	Whether height of benches in overburden and mineral suitable for method of mining proposed in MP/SOM	Yes	Yes	Bench height is suitably matched with the excavator.
3m	Total area covered under excavation /pits	113.10 Ha (During approved mine plan period)	59.20 Ha	Area covered under pits 59.20 Ha
3n	Ore to OB ratio for the pit/mine during the year	1: 0.34T/cu.m	1:0.23T/cu.m	1:0.23T/cu.m
3o	Total area put in use under different heads at the end of year	Mining 113.10 ha, Waste dump site 31.19 Ha Mineral Storage 2.34 ha, Infrastructure : 0.69 Ha Roads: 39.04 ha, Mineral separation plant: 8.36 Ha Total area 194.72 Ha Area not in use : 1327.95 Ha	Mining 59.20 ha, Waste dump site 9.81 Ha Mineral Storage 2.34 ha, Infrastructure : 0.69 Ha Roads: 18.04 ha, Mineral separation plant: Nil Total area 90.08 Ha Area not in use : 1432.59 Ha	
3p	Production of ROM mineral during last five-years period, as Applicable (tonne)	2017-18 1240000.00 T	2017-18 1143010.88 T	
		2018-19 1460000.00 T	2018-19 1437343.00 T	

		2019-20 2500000.00 T	2019-20 1456253.28 T	
		2020-21 2500000.00 T	2020-21 1421242.66 T	
		2021-22 1460000.00 T	2021-22 1361367.22 T	
3q	General remarks of inspecting officer on method of mining etc	The ROM production has been carried out from 4 pits as per proposal.		

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 32,33)	Top Soil- not proposed Mineral Reject- Not proposed Waste/OB- to be utilized in back filling	Top Soil- not proposed Mineral Reject- Not proposed Waste/OB- utilized in back filling	M1 area backfill location: N 498587 to 498695 E 2266680 to 2266680 N 498596 to 498640 E- 2266525 to 2266515 M2 area backfill location: N 498760 to 498830 E 2265430 to 2265265 N 498870 to 498770 E- 2265355 to 2265280
4b	Location of topsoil, OB & mineral reject dumps	Top Soil- not proposed Mineral Reject- Not proposed Only backfilling M1 area backfill location: N 498587 to 498695 E 2266680 to 2266680 N 498596 to 498640 E- 2266525 to 2266515 M2 area backfill location: N 498760 to 498830 E 2265430 to 2265265 N 498870 to 498770 E- 2265355 to 2265280	Backfilling in M1 area and M2 area as proposed M1 area backfill location: N 498587 to 498695 E 2266680 to 2266680 N 498596 to 498640 E- 2266525 to 2266515 M2 area backfill location: N 498760 to 498830 E 2265430 to 2265265 N 498870 to 498770 E- 2265355 to 2265280	Backfilling in M1 area and M2 area as proposed
4c	Number of Dumps within lease area and outside lease area	Only backfilling	Backfilling in M1 area and M2 area as proposed	Backfilling in M1 area and M2 area as proposed
4d	Location of Dumps w.r.t. ultimate pit limit (Rule 16)	Only backfilling	Backfilling in M1 area and M2 area	Backfilling in M1 area

			as proposed	and M2 area as proposed
4e	Number of Active & Alive dumps	Not proposed.	Nil	Backfilling in M1 area and M2 area as proposed
4f	Number of dead dumps	01	01	Dead dumps established
4g	Number of dumps established	01	01	Dead dumps established
4h	Whether Retaining wall or garland drain all along dumps are there	Yes	Retaining wall exists along M2 area backfilling. Retaining wall also exists near old dump. Drainage prepared along the road and dumping area.	Retaining wall exists along M2 area backfilling. Retaining wall also exists near old dump. Drainage prepared along the road and dumping area.
4i	Length of Retaining wall or garland drain all along dump	Not proposed in 2021-22	Nil	Retaining wall exists along M2 area backfilling. Retaining wall also exists near old dump. Drainage prepared along the road and dumping area.
4j	Number of settling ponds	Not proposed	Nil	Existing check dams: 20 Numbers
4k	Specific comments of inspecting officer on waste dump management	Backfilling in M1 area and M2 area as proposed is under progress.		

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	Backfilling is proposed in exhausted area of M1 Pit and M2 Pit	Backfilling is in exhausted area of M1 Pit and M2 Pit	Backfilling is in exhausted area of M1 Pit and M2 Pit
5b	Area under backfilling of mined out area	M1 pit- 2.90 Ha M2 Pit- 2.60 Ha Total area under backfilling- 5.50 Ha	M1 pit- 2.90 Ha M2 Pit- 2.60 Ha Total area under backfilling- 5.50 Ha	Mined out area is being backfilled.
5c	Concurrent use of topsoil for restoration or rehabilitation of mined out area (Rule 32)	Not proposed.	Old Top soil stack is used for plantation in existing dump in south eastern slope	Old Top soil stack is used for plantation in existing dump in south eastern slope
5d	Total area fully reclaimed & rehabilitated	0.4 Ha in old dump	0.4 Ha of old dump rehabilitated by plantation.	0.4 Ha of old dump rehabilitated by plantation.
5e	General remarks of inspecting officer on backfilling, reclamation etc	Backfilling in exhausted area of M1 Pit and M2 Pit is under progress as per proposal.		

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)	As per provision of MCDR 2017.	Annual report on PMCP submitted.	Annual report on PMCP submitted.
6b	Management of worked/mined out benches	Not proposed	Benches not matured of rehabilitation	Backfilling in exhausted area of M1 Pit and M2 Pit is under progress as per proposal.
	Area available for rehabilitation (Ha)	Not proposed	Benches not matured of rehabilitation	Backfilling in exhausted area of M1 Pit and M2 Pit is under progress as per proposal.
	Afforestation done (ha)	0.4 Ha in old dump	0.4 Ha in old dump	0.4 Ha in old dump
	No. of saplings planted during the year	250 no.	250 no.	250 no. of plantation in old dump.
	Cumulative no. of plants	Not specified	41281 no. of plantation	Cumulative 41281 no. of plantation
	Any other specific method of rehabilitation	Backfilling in exhausted area of M1 Pit and M2	Backfilling in exhausted area of M1 Pit and M2 Pit is under progress as per proposal.	Backfilling in exhausted area of M1 Pit and M2 Pit is under progress as per proposal.
	Cost incurred on watch & care during the year	Not specified.	Rs 4.5 lakh Cost incurred on watch & care	Rs 4.5 lakh Cost incurred on watch & care
6c	Compliance on reclamation and rehabilitation by backfilling Voids available for backfilling (L*B*D) Void filled by waste/tailings Afforestation on the backfilling Rehabilitation by making water reservoir Any other specific means	M1-170*240*32 (area- 2.90 Ha) M2-185*200*35 (area-2.60 ha) Void filling by waste	M1-170*240*32 (area- 2.90 Ha) M2-185*200*35 (area-2.60 ha) Void filling by waste	Backfilling in exhausted area of M1 Pit and M2 Pit is under progress as per proposal.
6d	Compliance of Rehabilitation of waste land within lease i. Afforestation ii. Area rehabilitation (ha) iii. Method of rehabilitation	Not proposed	Nil	Nil
6e	Compliance of Environment monitoring (core zone & buffer zone)	Quarterly monitoring	Quarterly monitoring	Quarterly monitoring
6f	General remarks of inspecting officer on PMCP compliance & progressive	Backfilling in exhausted area of M1 Pit and M2 Pit is under progress as per proposal.		

	closer operations	
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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	Dry Screening and crushing of ROM	Dry Screening and crushing of ROM	Dry Screening and crushing of ROM
7b	Method of grade-wise mineral sorting i.e. manual or mechanical	Mechanical	Mechanical	Mechanical
7c	Different grade of mineral sort out at mine	Fe- 45% to 55% Fe- above 55%	Fe- 45% to 55% Fe- above 55%	Fe- 45% to 55% Fe- above 55%
7d	Any beneficiation process at mines	Dry Screening and crushing of ROM	Dry Screening and crushing of ROM	Dry Screening and crushing of ROM
7e	General remarks of inspecting officer on Mineral conservation & beneficiation issues	Dry Screening and crushing of ROM is practiced.		

8.0 Environment:

S.N.	Item	Proposals (2021-22)	Actual Work (2021-22)	Remarks
8a	Separate removal and utilization of topsoil (Rule32)	Not proposed	Nil	Old stack of top soil utilized in plantation
8b	Concurrent use or storage of topsoil	Not proposed	Nil	Old stack of top soil utilized in plantation
8c	Separate dumps for overburden waste rock, rejects and fines (Rule 33)	There is no reject.	There is no reject	Top Soil- Nil Mineral reject- Nil Waste/OB- backfilling
8d	Use of overburden, waste rock, rejects and fines dumps for restoring the land to its original use	Back filling	Backfilling in exhausted area of M1 Pit and M2 Pit is under progress as per proposal.	Backfilling in exhausted area of M1 Pit and M2 Pit is under progress as per proposal.
8e	Phased restoration, reclamation and rehabilitation of lands affected by mining operations (Pits, dumps etc)	Back filling	Backfilling in exhausted area of M1 Pit and M2 Pit is under progress as per proposal.	Backfilling in exhausted area of M1 Pit and M2 Pit is under progress as per proposal.
8f	Baseline information on existence of plantation & additional plantation done (Rule 41)	Not specified.	Total no. of plantation- 41281.	Total no. of plantation- 41281.
8g	Survival rate	Not specified.	Survival rate 90%	Survival rate 90%
8h	Water sprinkling on roads to control airborne dust	Water sprinkling by water tankers	Water sprinkling is being done by water tankers	Water sprinkling is being done by water tankers
8i	General remarks of inspecting officer on aesthetic beauty in and	Backfilling in exhausted area of M1 Pit and M2 Pit is under progress as per proposal.		

	around mine area	
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9.0 Compliance of Rule 45:

SN	Item	Comments		Remarks
9a	Status of submission of monthly and Annual returns	AR & MR submitted regularly.		AR & MR submitted regularly.
SN	Item	Details Given in A.R.	Observation of I/Officer	
9b	Scrutiny of Annual return for information on Mining Engineer, Geologist and Manager	Mining Engineer and Geologist furnished.	Mining Engineer and Geologist employed	Mining Engineer and Geologist employed
9c	Scrutiny of Annual return on land use pattern for area under pits, reclaimed area, dumps etc.	Mining - 59.20 ha, Reclaimed/Rehabilitated - 2.00 Ha Used for waste disposal- 9.81 Ha Occupied by plants/buildings/ residential, welfare building & roads- 18.73 Ha Other purpose (mineral storage)- 2.34 Ha Work done under progressive mine closure plan during 2021-22 - 0.4 Ha	Mining - 59.20 ha, Reclaimed/Rehabilitated - 2.00 Ha Used for waste disposal- 9.81 Ha Occupied by plants/buildings/ residential, welfare building & roads- 18.73 Ha Other purpose (mineral storage)- 2.34 Ha Work done under progressive mine closure plan during 2021-22 - 0.4 Ha	Found in order.
9d	Scrutiny of Annual return on afforestation	250 numbers of plants	250 numbers of plants has been planted in 2021-22	250 numbers of plants has been planted in 2021-22
9e	Scrutiny of Annual return on mineral reject generation (Grade & Quantity)	Nil	Nil	Nil
9f	Scrutiny of Annual return on ROM stock and/or grade ore	Closing stock of ROM- 179706.661 Ton	Closing stock of ROM- 179706.661 Ton	
9g	Scrutiny of Annual return on sale value, Ex. Mine price & production costs	Ex-mine price. 2410.59 Rs/T	Since it is captive mines, cost of production (2410.59 Rs/T) is taken as ex-mine price.	Since it is captive mines, cost of production (2410.59 Rs/T) is taken as ex-mine price.
9i	Scrutiny of Annual return on Fixed assets	Value of fixed assets: Rs. 181191673.00	Value of fixed assets: Rs. 181191673.00	Value of fixed assets: Rs. 181191673.00
9k	Scrutiny of Annual return on mining Machineries	Shovel (0.9 Cum)- 04 No. Shovel (1.5 cum)-5 No. Tipper (8 cum) - 82 No. Blast Hole drill (105mm) - 01 No. Water Tanker (10 KL)- 05 No.	Shovel (0.9 Cum)- 04 No. Shovel (1.5 cum)-5 No. Tipper (8 cum)- 82 No. Blast Hole drill (105mm) - 01 No. Water Tanker (10 KL)- 05 No	Shovel (0.9 Cum)- 04 No. Shovel (1.5 cum)- 5 No. Tipper (8 cum)- 82 No. Blast Hole drill (105mm) - 01 No. Water Tanker (10 KL)- 05 No

10- Details of violations observed during inspection and the compliance status.

During current inspection violation of Rule 34(A) is pointed out.

Date: 23/09/2022

Signature:
Name: Dayanand Upadhyay
Designation: Sr. ACOM