

## MCDR INSPECTION REPORT 2022-23

### 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:	27-07-2023
3	Name of Inspecting Officer	Shri Debadurllav Dash, Regional Mining Geologist
4	Name of official accompanying inspection	Shri Arun Kumar, GM cum Agent (Mahamaya & Dulki Mines)
5	Last date of Inspection & Officer	25-08-2022, Shri Dayanand Upadhyay, Sr. Assistant Controller of Mines, IBM
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 Mohla–Manpur-Ambagarh-Chouki
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	Shri Arun Kumar GM cum Agent (Mahamaya &

	Address, phone, email, fax number and date of appointment	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 Manish Jaiswal, Mine Manager, Dulki Iron Ore Mine, Mines Office, Iron Ore Complex. Phone No. 9407982884, Email: <a href="mailto:manishjaiswal@sail.in">manishjaiswal@sail.in</a> , Date of appointment: 12/10/2022
28	Name of the Mining Engineer & Geologist Qualification and total experience with address, phone, email, fax number and date of appointment in the mine	Shri Manish Jaiswal, B Tech. (Mining Engg.), 15 years' experience, Mines Office, Iron Ore Complex. Phone No. 9407982884, Email: <a href="mailto:manishjaiswal@sail.in">manishjaiswal@sail.in</a> , Date of appointment: 01/01/2013 Geologist: Shri R K Umre, M.Sc. Geology Date of appointment: 19/06/2018
29	Whether Geologist and Mining Engineer appointment in mines satisfy the rule 42 & carrying out their duties as per rule 43 & 44.	Geologist and Mining Engineer are appointed
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 approved vide letter no. Balod/Lauh/Kh.Yo/1074/2017/Rpr, dated 07.04.2017 for the period from 2016-17 to 2020-21.
31	Date of Approval of Scheme of Mining/Modified Scheme of Mining with five- year period and specific condition in approval letter, if any.	Review of Mining Plan approved on 05/04/2021 vide letter no. BLD/Fe/MPLN/1269/2020-RPR for the period from 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 (2022-23)	Actual Work (2022-23)	Remarks
1a	Backlog of previous year Proposals (2020-21)	15 Holes ( in Mahamaya at grid interval of 100x100m) 06 boreholes (Dulki at grid interval of 200x200m) during the year 2022-23. Further, 69 boreholes (entire lease area at grid interval of 400x400m) during the year 2021-23.	NIL	Violation of Rule 11(1) of MCDR, 2017 is pointed out.
1b	Exploration over lease area for Geological axis 1 or 2.	G1 Level	G1 Level	
1c	Exploration Agency & Expenditure in Lakh Rupees during the year	Not specified.	NIL as there is no drilling	
1d	Balance area to be explored to bring Geological axis in 1 or 2.	1403.66 Ha	-	Surface area of G1- 74.65 Ha Surface area of G2- 44.36 Ha Non-mineralized - 0 Total-119.01 Ha Balance area to be explored= 1522.67- 119.01=1403.66 Ha
1e	Balance reserves as on 01.04.2023	Mahamaya Mine – 5.15 MT Dulki Mine -5.80 MT Total- 10.95 MT		As per Annual Return for 2022-23.
1f	General remarks of Inspecting officer on geology, exploration etc.	Exploration in form of 15 bore holes in Mahamaya block at grid interval of 100x100m) and 06 boreholes in Dulki block at grid interval of 200x200m) were proposed during the year 2022-23. Further, 69 boreholes in entire lease area at grid interval of 400x400m were proposed during the year 2021-23. Violation of 11(1) of MCDR, 2017 is pointed out for noncompliance of exploration proposal.		

**2.0 Development:**

S.N.	Item	Proposals (2022-23)	Actual Work (2022-23)	Remarks
2a	Location of Development w.r.t. lease area	Mahamaya Mine: Easting 498600-498900 Northing 2264200-2266000	Mahamaya Mine: Easting 498600-498900	The quarry development is as per proposal

		Dulki Mine: Easting 498600-497850 Northing 2261525-2261625	Northing 2264200-2266000  Dulki Mine: Easting 498600-497850 Northing 2261525-2261625	
2b	Separate benches in topsoil overburden and mineral (Rule 15)	Proposed	Being maintained	
2c	Stripping ratio or ore to OB ratio (Ton/Cum)	1: 0.36	1:0.18	Indicates less development during the year.
2d	Quantity of topsoil generation in m <sup>3</sup>	Nil	Nil	
2e	Quantity of overburden generation in m <sup>3</sup>	527339	248216	
2f	General remarks of Inspecting officer on development of pit w.r.t type of deposit etc.	The quarry development is within the proposed area. The stripping ratio is on lower side due to less development reportedly due to local disturbances.		

### **3.0 Exploitation:**

S.N	Item	Proposals (2022-23)	Actual Work (2022-23)	Remarks
3a	Number of pits proposed for production	4	4	Mahamaya Mine- M1,M2 and M3 pits Dulki Mine- D3 Pit. As proposed.
3b	Quantity of ROM mineral production proposed	1460000.00	1374446.67	The production is on lower side due to local disturbances.
3c	Recovery of Salable/usable mineral from ROM production	100%	100%	
3d	Quantity of mineral reject generation	Nil	Nil	As per proposal.
3e	Grade of mineral reject generation and threshold value declared	There is no mineral reject Threshold value: Fe 45%	There is no mineral reject Threshold value: Fe 45%	As per proposal.
3f	Quantity of sub-grade mineral generation	Nil	Nil	-do-
3g	Grade of sub-grade mineral generation	No sub-grade mineral	No sub-grade mineral	-do-
3h	Manual/Mechanized method adopted for segregation from ROM	Mechanized	Mechanized	-do-
3i	Any analysis or	Nil	Nil	

	beneficiation study proposed & carried out for sub-grade mineral and reject			
3j	Provision of drilling & blasting in mineral benches	Mahamaya-Yes  Dulki-No	Mahamaya-Yes (Rock Breaker is also used in addition to drilling)  Dulki-No (Through Rock Breaker)	Blasting is done on limited occasion due to security concern.
3k	Provision of mining machineries in mineral benches	Excavator, Pay loader, Tipper, Rock Breaker, Drill Machine, water Tanker	Excavator, Pay loader, Tipper, Rock Breaker, Drill Machine, water Tanker	
3l	Whether height of benches in overburden and mineral suitable for method of mining proposed in MP/SOM	Bench Height- up to 5.0 m	Bench Height- up to 5.0 m	As proposed.
3m	Total area covered under excavation /pits	Not specified	59.60 Ha	
3n	Ore to OB ratio for the pit/mine during the year (Ton/Cum)	1: 0.36	1:0.18	On lower side.
3o	Total area put in use under different heads at the end of year	Not specified	Mining 59.60 ha, Waste dump site 9.81 Ha Mineral Storage 2.34 ha, Infrastructure : 0.69 Ha Roads: 18.04 ha, Mineral separation plant: 0.8 Ha Total area 91.28 Ha Area not in use : 1431.39 Ha	As per Annual Return for the year 2022-23
3p	Production of ROM mineral during last five-years period, as Applicable	2018-19:14,60,000.00	14,37,343.00	Production from the mine is on lower
		2019-20: 25,00000.00	14,56,253.28	

	(tonne)	2020-21: 25,00000.00	14,21,242.66	side due to local disturbances and security concern.
		2021-22:14,60,000.00	13,61,367.22	
		2022-23: 14,60,000.00	13,74,446.67	
3q	General remarks of inspecting officer on method of mining etc	The pit development is as proposed. The production from the mine is on lower side due to local disturbances and security concern.		

#### **4.0 Solid Waste Management-Dumping:**

S.N.	Item	Proposals (2022-23)	Actual Work (2022-23)	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	<b>M1 area backfill location:</b> N 498550 to 498650 E 2266350 to 2266500 <b>M2 area backfill location:</b> N 498700 to 498850 E 2265250 to 2265450 As per proposal.
4b	Location of topsoil, OB & mineral reject dumps	backfilling	backfilling in M1 area and M2 area	As proposed.
4c	Number of Dumps within lease area and outside lease area	backfilling	backfilling	No external dump proposed.
4d	Location of Dumps w.r.t. ultimate pit limit (Rule 16)	backfilling	backfilling	-do-
4e	Number of Active & Alive dumps	Nil	Nil	
4f	Number of dead dumps	01	01	
4g	Number of dumps established	01	01	
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.	
4i	Length of Retaining wall or garland drain all along dump	200 m length Retaining Wall	95 m length Retaining Wall has been constructed.	Violation of Rule 11(1) of MCDR, 2017 is pointed out.
4j	Number of settling ponds	Nil	Nil	Existing check dams: 20 Numbers
4k	Specific comments of inspecting officer on waste dump management	Backfilling of mined out land is proposed during the year 2022-23 and being done as proposed. Against proposed construction of 200m retaining wall along waste dump during the year 2022-23, only 95m of retaining wall have been constructed. Violation of Rule 11(1) of MCDR, 2017 is pointed out.		

#### **5.0 Solid Waste Management-Backfilling:**

S.N.	Item	Proposals (2022-23)	Actual Work (2022-23)	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	Done as proposed.
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 as per proposal.
5c	Concurrent use of topsoil for restoration or rehabilitation of mined out area (Rule 32)	NIL	Top soil 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 in old dump	
5e	General remarks of inspecting officer on backfilling, reclamation etc	Backfilling is proposed in exhausted area of M1 Pit and M2 Pit within the lease area during the year 2022-23 and backfilling is carried out as proposed.		

## 6.0 Progressive Mine Closer Plan:

S. N.	Item	Proposals (2022-23)	Actual Work (2022-23)	Remarks
6a	Whether Annual report on PMCP submitted on time and correctly-Rule 26 (2)	Yes	Yes	
6b	Management of worked/mined out benches			
	Area available for rehabilitation (Ha)	Nil	Nil	
	Afforestation done (ha)	0.4 Ha in old dump	0.4 Ha in old dump	
	No. of saplings planted during the year	250	250	
	Cumulative no. of plants	NA	34075	
	Any other specific method of rehabilitation	No	No	
	Cost incurred on watch & care during the year	Nil	Nil	
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	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	
6e	Compliance of Environment monitoring (core zone & buffer zone)	Maintained	Maintained	
6f	General remarks of inspecting officer on PMCP compliance & progressive closer operations	Plantation of 250 saplings done in old dump area during the year 2022-23 as per proposal. Backfilling of mined out area is being done as per proposal.		

## 7.0 Mineral Conservation:

S.N.	Item	Proposals (2022-23)	Actual Work (2022-23)	Remarks
7a	ROM mineral dispatch or grade wise sorting within lease area	Dry Screening and crushing of ROM	Dry Screening and crushing of ROM	As per proposal.



7b	Method of grade-wise mineral sorting i.e. manual or mechanical	Mechanical	Mechanical	-do-
7c	Different grade of mineral sort out at mine	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	As per proposal.
7e	General remarks of inspecting officer on Mineral conservation & beneficiation issues	Dry Screening and crushing of Run of mine ore is being done as per proposal in a 250TPH crusher.		

### 8.0 Environment:

S.N.	Item	Proposals (2022-23)	Actual Work (2022-23)	Remarks
8a	Separate removal and utilization of topsoil (Rule32)	2125 cum	2000 cum	Top soil stacked and utilized in plantation
8b	Concurrent use or storage of topsoil	Utilized in plantation	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	Back filling	As per proposal.
8e	Phased restoration, reclamation and rehabilitation of lands affected by mining operations (Pits, dumps etc)	Back filling	Back filling	-do-
8f	Baseline information on existence of plantation & additional plantation done (Rule 41)	Total no. of plantation- 37861	Total no. of plantation- 34075	
8g	Survival rate		90%	
8h	Water sprinkling on roads to control airborne dust	Water sprinkling	Water sprinkling is being done by water tankers	
8i	General remarks of inspecting officer on aesthetic beauty in and around mine area	The generated top soil is stacked separately and utilized for plantation purpose. During the year 2022-23, 250 saplings have been planted with cumulative planation of 34,075 saplings. The		

		aesthetic beauty in surrounding area is undisturbed, since mining activities are mostly confined to already broken up land.
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### 9.0 Compliance of Rule 45:

SN	Item	Comments		Remarks
9a	Status of submission of monthly and Annual returns	MR submitted up to June-2023.		
		AR submitted for the year 2022-23 on time.		
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 employed	Mining Engineer and Geologist employed	Both were present during the inspection.
9c	Scrutiny of Annual return on land use pattern for area under pits, reclaimed area, dumps etc.	Mining - 59.60 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 2022-23 - 0.4 Ha	Mining - 59.60 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 2022-23 - 0.4 Ha	Appears to be correct.
9d	Scrutiny of Annual return on afforestation	250 numbers of plants has been planted in 2022-23	250 numbers of plants has been planted in 2022-23	
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	Opening stock- 1,79,706.661 ton, Closing stock of ROM- 1,38,706.661 Ton	Appears to be correct.	
9g	Scrutiny of Annual return on sale value, Ex. Mine price & production costs	Since it is captive mines, cost of production (2796.30 Rs/T) is taken as ex-mine price.	Appears to be correct.	

9i	Scrutiny of Annual return on Fixed assets	Value of fixed assets: Rs. 170810123.00	-do-	
9k	Scrutiny of Annual return on mining Machineries	Shovel (0.9 Cum)- 09 No. Shovel (1.5 cum)-5 No. Tipper (8 cum) - 78 No. Blast Hole drill (105mm) - 01 No. Water Tanker (10 KL)- 05 No.	Shovel (0.9 Cum)-09 No. Shovel (1.5 cum)-5 No. Tipper (8 cum)- 78 No. Blast Hole drill (105mm) - 01 No. Water Tanker (10 KL)- 05 No	Found in operation during the inspection.

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

During the previous inspection of the mine on dated 25.08.2022 by Shri Dayanand Upadhaya violation of Rule 34 A of MCDR, 2017 was pointed out. The party has submitted drone survey image and data on dated 14.11.2022 and thus the violation is complied.

During the current 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 &amp; updation of Mining Plan(RMP) approved vide letter No. BLD/Fe/MPLN/1269/2020-RPR dated 05/04/2021 of the aforesaid mine for the year 2021-22 to 2025-26 to the extent indicated below:</p> <p>(i) Against the proposed exploration of drilling of 15 Holes in Mahamaya block at grid interval of 100x100m and 06 boreholes in Dulki block at grid interval of 200x200m during the year 2022-23 and 69 boreholes in entire lease area at grid interval of 400x400m during the year 2021-23, no exploration has been carried out.</p> <p>(ii) Against the proposal of construction of 200 m length of retaining wall around waste dump, only 95 m length of Retaining Wall has been constructed during the year 2022-23. Thus, environment protection measures has not been undertaken as envisaged.</p> <p>Hence, the above are observed to be against systematic and scientific development of mines and protection of environment in the said mine.</p>

Date:

Signature:

Name: (Debadurllav Dash)

Designation: Regional Mining Geologist

