

MCDR INSPECTION REPORT

1.0 GENERAL

SLN	PARTICULARS	DETAILS
1	File No.	CHG/BLD/FE-6/NGP/30MPR13004
2	Name & Designation of the inspecting officer	Shri Arun Kumar, Regional Controller of Mines & Shri Rudra N Mishra Senior Mining Geologist.
3	Date of Inspection	07/03/2022 (MCDR)
4	Accompanying mine personnel	Shri Arun Kumar GM cum Agent (Mahamaya & Dulki Mines), Shri Kumar Shivesh Mine manager,
5	Date of Last Inspection & Officer	12/03/2021, Shri R.K. Das (Sr. ACOM)
6	Name of the Mine	Mahamaya-Dulki Lease (Mahamaya Iron Ore Mine & Dulki Iron Ore Mine)
7	Total Lease Area (Ha) with breakup of non-forest and forest land	Forest Land: 1522.67 Ha Non-Forest Land: Nil Total Land: 1522.67 Ha
8	Mine code	30MPR13004
9	IBM Registration Number under rule 45 of MCDR, 2017	IBM/5662/2011
10	Name of the lessee, Address, phone, email and fax number	Steel Authority of India Limited (SAIL) Bhilai Steel Plant Ispat Bhawan, Lodhi Road, New Delhi -110003.
	Village	Mahamaya-Dulki
	Taluka/Mandal	Mahamaya/Manpur
	District	Balod and Rajnandgaon
	Pin code	491228
	State	Chhattisgarh
	Post office	Mahamaya/Manpur
11	Nearest police station	Mahamaya
12	Nearest Railway station	Dalli- Rajhara
13	Date of Grant of Mining Lease	04-11-1971
14	Date of Execution	04-11-1971
15	Date of opening of Mine	Mahamaya-04/11/1971, Dulki- 24/06/2017
16	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
17	Date of submission of renewal application if Mining Operations are continuing under deemed extension	04-11-2021 to 03-11-2041 Letter No. 2804/2019/XII/Nava Raipur, Atal Nagar Date 26/06/2021

18	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 appointment : 30/09/2020
19	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
20	Name of the Mines 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
21	Name of the Mining Engineer, Qualification and total experience with Address, phone, email, fax number and date of appointment in mine	Manish Jaiswal B Tech. (Mining Engg.), Experience-15 years, Mines Office, Iron Ore Complex. Phone No. 9407982884, Email: manishjaisawal@sail.in Date of appointment: 01/01/2013
22	Whether Geologist and Mining Engineer appointed in mines satisfy the rule 42 & carrying out their duties as per rule 43 & 44.	Geologist is appointed Geologist: Shri R K Umare (MM) M.Sc. Geology Date of appointment:19/06/2018
23	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 – LetterNo.Balod/Lauh/Kh.Yo./1074/2017/ Rpr, dt 07-04-2017 Plan Period: 2016-17 to 2020-21
24	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 – BLD/FE/MPLN/1269/2020-RPR, dt 05/04/2021 Plan Period: 2021-22 to 2025-26
25	Mineral(s) granted in lease and proved for mining	Hematite
26	Method of Mining (Opencast, Underground)	Opencast
27	Category (Fully Mechanized, Others or Manual)	Fully Mechanized
28	Captive/Non-Captive	Captive
29	EC for ROM Prod:	1.46 million tonnes
30	FA amount Rs Valid up to:	5.85 Crore Valid Upto 31.03.2026

1.0 EXPLORATION

SN	ITEM	PROPOSALS (2020-21)	ACTUAL WORK (2020-21)	REMARKS
1a	Backlog of previous year	Mahamaya - 03BH/150m, and Dulki-19BH/1900m	22 Bore Hole Drilled in 2021-22.	Back log of 2019- 20 and 2020-21, total 32 holes, have been drilled in year 2021-2022 due to covid 19 delayed in drilling.
1b	Exploration over lease area for Geological axis 1 or 2.	G2: 44.36 ha area Converted in to & G1 Category	G1 area:74.65 ha G2-44.36Ha G4 – 1403.66 Ha	Analysis report is awaited of the 32- bore hole drilled in 2021-22.
1c	Exploration Agency & Expenditure in lakh Rupees during the year	Rs. 15200000/-	Final expenditure not yet submitted.	Final expenditure will be submitted with Annual return of 2021-22.
1d	Balance area to be explored to bring Geological axis in 1 or 2	G1 area:119.01 ha G4 area-1445.02 ha	G2 Level of explored area- 44.36ha and G4 area-1445.02 ha needs to be explored, only 74.65 ha converted in G1 area	32 BH drilled in G1 and G2 area
1e	Balance reserves as 01.04.2021	No proposal	Mineral Reserves (111): 9216040 tonnes,	As per AR submitted for the year 2020-21.
1f	General remarks of inspecting officer on geology, exploration etc.	32 BH drilled in G2 Level (44.36ha) of exploration area to converted in G1 Category & G4 area-1445.02 ha needs to be explored; Analysis report is awaited of the 32-bore hole drilled in 2021-22.		

2.0 DEVELOPMENT

SN	ITEM	PROPOSALS (2020-21)	ACTUAL WORK (2020-21)	REMARKS
2a	Location of development w.r.t. lease area	N 2263950 – 2266850 E 498500 - 499300 N 2261900 – 2262200 E 498950 - 499150 N 2261900– 2262200 E 498950 - 499150	As per proposal	

2b	Separate benches in topsoil, overburden and mineral (Rule 15)	Separate benches proposed in overburden and mineral	Separate benches maintained in overburden and mineral	Overburden-10 Mineral-15
2c	Stripping ratio of ore to OB ratio (t / t)	1: 0.51	1: 0.50	
2d	Quantity of topsoil generation in m ³	No proposal	1250 m ³	
2e	Quantity of overburden generation in m ³	866717.00 T	711979.44 T	Bulk Density t/m ³ : Ore: 3.5(avg) OB: 2.7(avg)
2f	General remarks of inspecting officer on development of pit wrt. type of deposit etc.	Mining carried out by fully mechanized open cast bench mining method with deployment of HEMM and in conjunction with deep hole drilling & blasting.		

3.0 EXPLOITATION

S.N.	ITEM	PROPOSAL (2020-21)	ACTUAL WORK (2020-21)	REMARK
3a	Number of pits proposed for production	3 Pit proposed in Mahamaya & 2 Pit proposed in Dulki Total – 5 pits proposed	3 Pit developed in Mahamaya & 2 Pit developed in Dulki Total – 5 pits developed	As per proposal
3b	Quantity of Iron Ore production proposed	2500000 T	1421242.66 T	Within the EC limit
3c	Recovery of saleable/usable mineral from Iron Ore production	100%	100%	No change
3d	Quantity of mineral reject generation	No proposal	Nil	As per AR submitted for the year 2020-21.
3e	Grade of mineral reject generation and threshold value declared	Threshold value: Fe 45%	Threshold value: Fe 45%	As per AR submitted for the year 2020-21.
3f	Quantity of sub-grade mineral generation	No proposal	Nil	
3g	Grade of sub-grade mineral generation	45-55 Fe %	50 Fe %	
3h	Manual / Mechanised method adopted for segregating from ROM	Mechanized method proposed for segregating from ROM	Mechanized method adopted for segregating from ROM	
3i	Any analysis or beneficiation study proposed & carried out for sub-grade mineral and reject	No study Proposed	No such study carried out	Nil

3j	Provision of drilling & blasting in mineral benches	Provision of Drilling and blasting is made in Mineral benches for hard strata	Drilling and blasting carried out by combination of slurry and Nonel Detonators	Drill m/c of 115mm dia. with spacing -7.0 – 6.0mts, burden 5.5 -4.5 mts & depth of 5 to 6 mts
3k	Provision of mining machineries in mineral benches	Hydraulic excavators and Dumper combination Proposed	Mining is carried out by using Hydraulic excavators and Dumper.	Drill Machine: 01 No, Tippers: 82 Nos. Shovel:09No., Wheel Loader:04 Nos, Water Tankers:05 Nos
3l	Whether height of benches in overburden and mineral suitable for method of mining proposed in MP/SOM	Bench height of 6 m and width of 5.5 m proposed	Average Bench height of 6 m and bench width of 5.5 m maintained	
3m	Total area covered under excavation/pits	194.72 Ha at the end of plan period	92.08 Ha at the end of reporting year	Nil
3n	Stripping ratio of ore to OB ratio (tonnes /tonnes)	1: 0.51	1: 0.50	Nil
3o	Total area put in use under different heads at the end of year	Area Under Pit: 113.10 ha, Waste dump-31.19 Ha, Mineral storage: 2.34, Infrastructure-0.69 Ha, roads and old workings-39.04 ha, Mineral separation Plant: 8.36 Ha at the end of plan period	Covered under working pit-59.20 Ha, Use for waste disposal: 9.810 ha Occupied by plant, building residential, welfare building and roads:18.730 ha and Mineral storage: 2.34 ha at the end of reporting year	Nil
3p	Production of Iron Ore during last Five -year period, as applicable	2016-17- 908629.60 Tons	2016-17- 908629.60 Tons	Actual production within the proposed limits
		2017-18- 1240000 Tons	2017-18- 1143010.88 Tons	
		2018-19- 1460000 Tons	2018-19- 1437343.00 Tons	
		2019-20- 2500000 Tons	2019-20- 1456253.28 Tons	
		2020-21- 2500000 Tons	2020-21- 1421242.66 Tons	
3q	General remarks of inspecting officer on method of mining etc.	Method of mining is Open cast mechanized mining with shovel dumper combination. Subgrade mineral blended with Saleable ore.		

4.0 SOLID WASTE MANAGEMENT-DUMPING

SN	ITEM	PROPOSALS (2020-21)	ACTUAL WORK (2020-21)	REMARKS
4a	Separate dumping of topsoil, OB & mineral reject (Rule 32, 33)	Separate dumping for OB proposed	Separate dump of OB maintained	Nil
b	Location of topsoil, OB & mineral reject dumps	Top soil: At the entrance of M3 waste Dump OB & Mineral reject dump: M1 & M2 backfill	Top soil: At the entrance of M3 waste Dump OB & Mineral reject dump: M1 & M2 backfill	Waste is being dump at earmarked place as per approved documents.
4c	Number of dumps within lease area and outside lease area	Within lease area-01 Nos. Outside lease area- Nil	Within lease area-01 Nos Outside lease area- Nil	
4d	Location of dumps w.r.t. ultimate pit limit (Rule 16)	Outside of ultimate pit limit N-2264550-2264900 E-499300-499600	Outside of ultimate pit limit N-2264550-2264900 E-499300-499600	
4e	Number of active & alive dumps	No proposal	Nil	
4f	Number of dead dumps	01	01	
4g	Number of dumps stabilized	01	01	
4h	Whether Retaining wall or garland drain all along dumps are there	No proposal	Nil	
4i	Length of Retaining wall or garland drain all along dump	Retaining wall - Nil	Retaining wall - 45m constructed	
4j	Number of settling ponds	13	20	Check Dams constructed
4k	Specific comments of inspecting officer	Waste is being dump at earmarked place as per approved documents.		

5.0 SOLID WASTE MANAGEMENT-BACKFILLING

SN	ITEM	PROPOSALS (2020-21)	ACTUAL WORK (2020-21)	REMARKS
5a	Status on part or full extraction of mineral from mined out area before starting backfilling	Backfilling is proposed in non-mineralized zone of M1 pit.	Non-mineralized zone of M1 pit is back-filled.	
5b	Area under backfilling of mined out area	2.0 Ha.	1.36 Ha.	

5c	Concurrent use of topsoil for restoration or rehabilitation of mined out area (Rule 32)	No proposal	Top soil is used for plantation in existing dump in south eastern slope	
5d	Total area fully reclaimed & rehabilitated	0.4 Ha	0.4 Ha	
5e	General remarks of inspecting officer on backfilling, reclamation etc	Top soil is used for plantation in existing.		

6.0 PROGRESSIVE MINE CLOSURE PLAN

SN	ITEM	PROPOSALS (2020-21)	ACTUAL WORK (2020-21)	REMARKS
6a	Whether Annual report on PMCP submitted on time and correctly - Rule 23E (2). Details should be given in the format as given in Annexure-20.	PMCP report to be submitted by 1 st of July every year.	PMCP 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	No Proposal	i) Nil ii) Nil iii) Nil Departmental	
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 backfilled area iv) Rehabilitation by making water reservoir v) Any other specific means	M1-160*85*30 M2-185*35*30 Waste NA NA NA	M1-160*85*30 M2-185*35*30 Waste NA NA NA	
6d	Compliance of Rehabilitation of waste land within lease i) Afforestation ii) Area rehabilitated (ha) iii) Method of rehabilitation	0.4 Ha. (500 Plants to be planted)	0.4 Ha. (500 Plants have been planted)	Waste dump

6e	Compliance of Environmental monitoring (core zone & buffer zone)	Proposed Environmental monitoring in core and Buffer Zone.	Environmental monitoring in core and Buffer Zone is carried out regularly.	Monitoring carried out by M/s SAIL. All the parameters were observed to be within permissible limits.
6f	General remarks of inspecting officer on PMCP compliance & progressive	PMCP activities were carried out as per proposal.		

7.0 MINERAL CONSERVATION

SN	ITEM	PROPOSALS (2020-21)	ACTUAL WORK (2020-21)	REMARKS
7a	ROM Mineral dispatch or grade-wise sorting within lease area	Grade-wise sorting proposed within the lease area	Grade-wise sorting done within the lease area	Subgrade mineral generated is blended simultaneously with high grade mineral during feeding to the crushing plant.
7b	Method of grade-wise mineral sorting i.e., manual or mechanical	Mechanical sorting proposed.	Mechanical method adopted for grade wise sorting.	ROM dispatch to Rajhara/Dalli Crushing Plant for processing
7c	Different grade of mineral sorted out at mines	Below 55 Fe%, 55 to 58 Fe%, 58 to 60 Fe%, 60 to 62 Fe%, 62 to 65 Fe% 65% and above	Below 55 Fe%, 55 to 58 Fe%, 58 to 60 Fe%, 60 to 62 Fe%, 62 to 65 Fe% 65% and above	
7d	Any beneficiation process at mines	No proposal	Nil	
7e	General remarks of inspecting officer on Mineral conservation & beneficiation issues	Crushing is being done for sizing of ore.		

8.0 ENVIRONMENT

SN	ITEM	PROPOSALS (2020-21)	ACTUAL WORK (2020-21)	REMARKS
8a	Separate removal and utilization of topsoil (Rule 32)	No proposal	1250 m ³	No top soil generated

8b	Concurrent use or storage of topsoil	No proposal	Nil	
8c	Separate dumps for overburden, waste rock, rejects and fines (Rule 33)	Separate dumping for OB proposed	Separate dump for OB maintained	
8d	Use of overburden, waste rock, rejects and fines dump for restoring the land to its original use	No proposal	Nil	
8e	Phased restoration, reclamation and rehabilitation of lands affected by mining operations (Pits, dumps etc.)	No proposal	Nil	
8f	Baseline information on existence of plantation & additional plantation done (Rule 41)	0.4 ha /500 saplings proposed	Cumulative 41031 plants have been planted within mining lease up to 31.03.2021. 500 saplings planted	Plantation carried out in 7.5 Mts safety zone,
8g	Survival rate	No proposal	Survival rate 90 %	Nil
8h	Water sprinkling on roads to control airborne dust	Water sprinkling on haul roads proposed to control airborne dust.	Water Tankers were deployed to control the airborne dust on haul roads and screening plants.	5 nos of water tankers of 10000 lt capacity deployed.
8i	General remarks of inspecting officer on aesthetic beauty in and around mines are	The aesthetic beauty in and around the mine is maintained		

9.0 COMPLIANCE OF RULE 45

S. N.	Item	Comments	Remarks
9a	Status of submission of monthly and Annual returns	M.R. Submitted upto-Feb -2021 A.R. submitted for the year 2020-21	AR Submitted on 30.06.2021
9b	Scrutiny of Annual return for information on Mining Engineer, Geologist and Manager	Mines Manager- Shri Kumar Shivesh Mining Engineer-Shri Manish Jaiswal Geologist- Shri R K Umare	Same Mining Engineer & Geologist were present during the course of inspection.
9c	Scrutiny of Annual return on land use pattern for area under pits, reclaimed area, dumps etc.	Covered under working pit-59.20 Ha, Use for waste disposal: 9.810 ha Occupied by plant, building residential, welfare building and roads:18.730 ha and Mineral storage: 2.34 ha at the end of reporting year	Appears to be correct
9d	Scrutiny of Annual return on afforestation	Within Lease area- 500 saplings @90% Survival Rate, OML-Nil	

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	ROM Stock: Opening Stock: 216206.661T Production: 1421242.660T. Closing stock: 192206.661T	Appears to be correct
9g	Scrutiny of Annual return on sale value, Ex. Mine price & production costs	Lumps & Fines: Cost of production: Rs.1218.41/Ton Captive use, Ex-Mine price and Cost of production same.	
9i	Scrutiny of Annual return on Fixed assets	Value of Fixed Assets: Rs 6205841108 (As per reported in AR)	
9k	Scrutiny of Annual return on mining Machineries	Drill Machine: 01 No, Tippers: 82 Nos. Shovel:09No., Wheel Loader:04 Nos, Water Tankers:05 Nos	

10- Details of violations observed during current inspection and compliance position of earlier violation pointed out: -No Serious Violations observed during Inspections.

Earlier violation pointed out have been complied. Four stars rated during self-appraisal. It's also validated after inspection.

Date: 04/04/2022

Shri Arun Kumar
Regional Controller of Mines