

MCDR INSPECTION REPORT

1.0 GENERAL

SLN	PARTICULARS	DETAILS
1	File No.	CHG/BLD/FE-1/NGP/30MPR13005
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	08/03/2022 (MCDR)
4	Accompanying mine personnel	Shri Chintala Srikant, Agent cum GM (Mines), Shri Rakesh Singh Mine manager,
5	Date of Last Inspection & Officer	01/02/2021, Shri R.K. Das (Sr. ACOM)
6	Name of the Mine	Rajhara Mech Mine
7	Total Lease Area (Ha) with breakup of non-forest and forest land	Forest Land: 100.76 Ha Non-Forest Land: 119.66 Ha Total Land: 220.42 Ha
8	Mine code	30MPR13005
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	Pandridalli
	Taluka/Mandal	Dondi
	District	Balod
	Pin code	491228
	State	Chhattisgarh
	Post office	Dalli Rajhara
11	Nearest police station	Dalli Rajhara
12	Nearest Railway station	Dalli Rajhara
13	Date of Grant of Mining Lease	01.06.1958
14	Date of Execution	05.03.1962
15	Date of opening of Mine	31.12.1959
16	Date of first Renewal, if applicable and its period & expiry	01.06.1988 to 31.05.1998
17	Date of submission of renewal application if Mining Operations are continuing under deemed extension	01.06.1998 to 27.04.2003 28.04.2003 to 27.04.2023
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 apponitment : 30/09/2020

19	Name of the Mine Agent with Address, phone, email, fax number and date of appointment	Shri Chintala SRIKANT, Agent cum GM (Mines), IOC Add-Room no-53, Administrative Building, IOC, Rajhara Post- Dalli Rajhara, Dist- Balod, Pin- 491228(C.G) Ph-9407982915 Email- schintala@sail.in Date of appointment- 04/08/2020
20	Name of the Mines Manager with Address, phone, email, fax number and date of appointment in mines	Shri Rakesh Singh Add-Room no-51, Administrative Building, IOC, Rajhara Post- Dalli Rajhara, Dist- Balod, Pin- 491228(C.G) Ph- 9407982855 Email- rakeshsingh1@sail.in Date of appointment- 18/10/2018
21	Name of the Mining Engineer, Qualification and total experience with Address, phone, email, fax number and date of appointment in mine	Shri Rakesh Singh Qualification-Degree in Mining Engineering, Experience- 15 yrs Add-Room no-51, Administrative Building, IOC, Rajhara Post- Dalli Rajhara, Dist- Balod, Pin- 491228(C.G) Ph- 9407983618 Email-rakeshsingh1@sail.in Date of appointment- 18/10/2018
22	Whether Geologist and Mining Engineer appointed in mines satisfy the rule 42 & carrying out their duties as per rule 43 & 44.	Yes, Shri S K Shrivastava (Geologist) Shri Rakesh Singh Mining Engineer
23	Date of Approval of Mining Plan/Modified Mining Plan with five-year period and specific condition in approval letter, if any.	MiningPlan:314(3)/2004-MCCM(CZ)/MP-23, dated 9.01.2006 Modified Mining Plan: No 314(3)/2007-MCCM(CZ)/MP-23/1209 dated 28/03/2008
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 -11/08/2016 (2013-14 to 2017-18), No. Durg / Iron/MPLN-60/NGP/7-Raipur dated 11-08- 2016 Review of Mining Plan -25/05/2018 Balod / Iron/MPLN-1146/2018-Raipur
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:	3.5 million tones EC applied for enhancement of Production.
30	FA amount Rs Valid up to:	Rs 5.55 Crore Valid Up to 31.03.2023

Scientific Mining: Compliance of proposals of approved mining plan/scheme of mining. –

1.0 EXPLORATION

SN	ITEM	PROPOSALS (2020-21)	ACTUAL WORK (2020-21)	REMARKS
1a	Backlog of previous year	5 Bore Hole Purposed in 2019 to 2020 & 5 bore hole in 2020-21.	Nil	10 Bore holes proposed in 2019-2020 and 2020-2021 Violation Pointed out
1b	Exploration over lease area for Geological axis 1 or 2.	G4 Category: 50.82ha to determine the potential mineralised zone	Nil	G4 Level of exploration not yet done in 50.82 ha.
1c	Exploration Agency & Expenditure in lakh Rupees during the year	No proposal	Nil	Exploration not yet done.
1d	Balance area to be explored to bring Geological axis in 1 or 2	G1 Category: 169.60ha G4 Category: 50.82ha	Nil	Balance Area remain same
1e	Balance reserves as 01.04.2021	Nil	Mineral Reserves (111): 21522509 tonnes,	As per AR submitted for the year 2020-21.
1f	General remarks of inspecting officer on geology, exploration etc.	Grade of Iron from 62 to 68% Fe. Violation pointed out due to not carried out the exploration. Mineable reserve considers up to 283Mrl.		

2.0 DEVELOPMENT

SN	ITEM	PROPOSALS (2020-21)	ACTUAL WORK (2020-21)	REMARKS
2a	Location of development w.r.t. lease area	Co-ordinates E9855, N7690 E9950, N7350 E10660, N7450 E10710, N8050	Actual work has been performed Within Proposed Area	
2b	Separate benches in topsoil, overburden and mineral (Rule 15)	yes	Being maintained	Overburden-16 Mineral-16
2c	Stripping ratio of ore to OB ratio (t / t)	1:2.44	1:3.59	Bulk Density t/m ³ : Ore: 3.5 (avg)

				OB: 2.7(avg)
2d	Quantity of topsoil generation in m ³	NIL	NIL	
2e	Quantity of overburden generation in m ³	6240943 T	Nil	as per Annual Return
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	2 Pit proposed Total – 2 pits proposed	2 Pit developed Total – 2 pits developed	As per proposal
3b	Quantity of Iron Ore production proposed	2556754 T	1325773.44 T	
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 152mm dia. with spacing -3.0 – 4.0mts, burden 5.5 -4.5 mts & depth of 11 to 12 mts
3k	Provision of mining machineries in mineral benches	Hydraulic excavators and Dumper	Mining is carried out by using Hydraulic	Drill Machine: 03 Nos, Dumpers: 10 Nos. Shovel:08

		combination Proposed	excavators and 50 to 60 Tonner Dumper.	No, Dozer :04 Nos, Water Tankers:02 Nos
3l	Whether height of benches in overburden and mineral suitable for method of mining proposed in MP/SOM	Bench height of 10 m and width of 11.91 m proposed	Average Bench height of 10m and bench width of 11.00 m	
3m	Total area covered under excavation/pits	220.42 Ha at the end of plan period	220.42Ha at the end of reporting year	Nil
3n	Stripping ratio of ore to OB ratio (tones /tones)	1: 0.51	1: 0.50	Nil
3o	Total area put in use under different heads at the end of year	Area Under Pit: 121.09 ha, Waste dump-46.18 Ha, Mineral storage: 2.34, Infrastructure-0.32 Ha, roads and old workings-6.00ha, other purpose: 11.15 Ha at the end of plan period	Covered under working pit-111.970 Ha, Reclaimed and Rehabilitated area: 24.480 ha Use for waste disposal: 38.260 ha Occupied by plant, building residential, welfare building and roads:3.820 ha and other purpose: 41.890 ha at the end of reporting year	Nil
3p	Production of Iron Ore during last Five -year period, as applicable	2016-17-2100000.00Tons	2016-17-1497000.00Tons	Actual production within the proposed limits
		2017-18-3353000 Tons	2017-18-1717000.00Tons	
		2018-19-2200000 Tons	2018-19-1459000.00 Tons	
		2019-20-2200000 Tons	2019-20-1248000.00Tons	
		2020-21-2555000 Tons	2020-21-1325000.00Tons	
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	No proposal	Nil	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	Outside of ultimate pit limit	
4e	Number of active & alive dumps	1	1	
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	Yes	
4i	Length of Retaining wall or garland drain all along dump	Nil	Nil	
4j	Number of settling ponds	1	1	
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	No Proposal	Nil	Area is not matured for backfilling.
5b	Area under backfilling of mined out area	No Proposal	Nil	
5c	Concurrent use of topsoil for restoration or rehabilitation of mined out area (Rule 32)	No Proposal	Nil	
5d	Total area fully reclaimed & rehabilitated	No Proposal	Nil	
5e	General remarks of inspecting officer on backfilling, reclamation etc	The Mineral is not exhausted and the area is not matured for backfilling.		

6.0 PROGRESSIVE MINE CLOSURE PLAN

SN	ITEM	PROPOSALS (2020-21)	ACTUAL WORK (2020-21)	REMARKS
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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	No Proposal Waste NA NA NA	Nil Waste NA NA NA	
6d	Compliance of Rehabilitation of waste land within lease i) Afforestation ii) Area rehabilitated (ha) iii) Method of rehabilitation	No Proposal NA NA	Nil NA NA	
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 report submitted and Environmental monitoring Compliance done.		

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	Grade-wise sorting done within the lease area	Subgrade mineral generated is blended

		within the lease area		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	Nil	
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)	6225 Sapling	Within lease area-155 saplings, Outside Lease area: 1898 saplings.	VL Pointed Out
8g	Survival rate	Survival rate 90%	Survival rate 95 %	Nil
8h	Water sprinkling on roads to control airborne dust	Water sprinkling on haul roads proposed to	Water Tankers were deployed to control the airborne dust on	2 nos of water tankers of

		control airborne dust.	haul roads and screening plants.	28000 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 up to-Feb -2021 A.R. submitted for the year 2020-21	AR Submitted on 02/07/2021
9b	Scrutiny of Annual return for information on Mining Engineer, Geologist and Manager	Yes, Shri S K Shrivastava (Geologist) Shri Rakesh Singh Mining Engineer	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-111.970 Ha, Reclaimed and Rehabilitated area: 24.480 ha Use for waste disposal: 38.260 ha Occupied by plant, building residential, welfare building and roads:3.820 ha and other purpose: 41.890 ha at the end of reporting year	Appears to be correct
9d	Scrutiny of Annual return on afforestation	Within lease area-155 saplings, Survival rate 95 % Outside Lease area: 1898 saplings. Survival rate 90 %	
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: 118583.800T Production: 1325773.440T. Closing stock: 54704.200T	Appears to be correct
9g	Scrutiny of Annual return on sale value, Ex. Mine price & production costs	Lumps & Fines: Cost of production: Rs.1530.23/Ton Captive use, Ex-Mine price and Cost of production same.	
9i	Scrutiny of Annual return on Fixed assets	Value of Fixed Assets: Rs 422837121 (As per reported in AR)	
9k	Scrutiny of Annual return on mining Machineries	Drill Machine: 03 No, Dumpers: 10 Nos. Shovel:08 No, Dozer: 04 Nos, Water Tankers:02 Nos	

10- Details of violations observed during current inspection and compliance position of earlier violation pointed out: - Violations observed during Inspections under Rule 11(1).

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

Date: 05/04/2022

Shri Arun Kumar

Regional Controller of Mines