

MCDR INSPECTION REPORT (2023-24)**File No: MCDR-MPC0FE/22/2023-BNG-IBM_RO_BNG**

S. N.	Particulars	Details
1	Name of the Mine	Devadari Iron Ore Mine, ML No. 0006
2	Total Lease Area (Ha) with breakup of Non-forest and forest land	Total Area = 100.54 Ha Non-forest Land- 0 Ha, Forest Land- 100.54 Ha,
3	Mine code	30KAR03183
4	IBM Registration Number under rule 45 of MCDR, 1988	IBM/432/2011
5	Name of the lessee, Address, phone, email and fax number	M/s. JSW Steel Ltd JSW Centre Bandra Kurla Complex, Bandra (East), Mumbai (Suburban), Maharashtra, PIN-400051 Phone - 022-42861000 Email: sunil.singh@jsw.in
6	Village	Lakshmipura
7	Taluk/Mandal	Sandur
8	District	Ballari
9	Pin code	583119
10	State	Karnataka
11	Post office	Sandur
12	Nearest police station	Sandur
13	Nearest Railway station	Toranagallu
14	Date of Grant of Mining Lease	22.12.2018
15	Date of Execution	26.12.2018
16	Date of opening of Mine	11.01.2019
17	Date of expiry	25.12.2068
18	Name of the Nominated Owner with Address, phone, email, fax number and date of appointment	Shri Gajraj Singh Rathore Whole Time Director & COO, M/s. JSW Steel Ltd Devadari Iron Ore Mine JSW Mining Office, Near Talur Cross Vidyanagar (Post), Toranagallu, Sandur Taluk, Ballari – Dist., PIN-583275, Karnataka Email – gajraj.rathore@jsw.in Date of appointment: 30.05.2023
19	Name of the Mine Agent with Address, phone, email, fax number and date of appointment	Sunil Kumar Singh M/s. JSW Steel Ltd Devadari Iron Ore Mine JSW Mining Office, Near Talur Cross Vidyanagar (Post), Toranagallu, Sandur Taluk, Ballari – Dist, PIN-583275, Karnataka Contact: +91- 9449598135 Email: sunil.singh@jsw.in

		Date of appointment: 28.11.2019
20	Name of the Mines Manager with Address, phone, email, fax number and date of appointment in mines	Mr. Nishant Kumar Sharma M/s. JSW Steel Ltd. Devadari Iron Ore Mine JSW Mining Office, Near Talur Cross Vidyanagar (Post), Toranagallu, Sandur Taluk, Ballari – Dist., PIN-583275, Karnataka Mob: 9480694249 Email – sharma.nishant@jsw.in Date of appointment: 22.12.2018
21	Name of the Mining Engineer, Qualification and total experience with Address, phone, email, fax number and date of appointment in mine	Mr. Jitendra Kumar B. Tech (Mining) Total Experience- 15 Years Email – jitendrakumar.choudhary@jsw.in Date of appointment: 02.12.2023
22	Whether Geologist and Mining Engineer appointed in mines satisfy the rule 42 & carrying out their duties as per rule 43 & 44.	Yes Details of Geologist- Rajarshi Majumdar M.Sc., Applied Geology Email- rajarshi.majumdar@jsw.in Date of appointment- 20.11.2023
23	Date of Approval of Scheme of Mining/Modified Scheme of Mining with five-year period and specific condition in approval letter, if any.	Review and updation of mining was approved by IBM vide letter no. 279/1091/2017/BNG dated 08/02/2023 for the period 2023-24 to 2027-28 & the modification of Mining plan was approved by IBM vide letter no. MCDR-MPC0FE/22/2023-BNG-IBM_RO_BNG dated 23/02/2024 for the period 2023-24(1/11/23 to 31/03/24)) to 2027-28.
24	Mineral(s) granted in lease and proved for mining	Iron Ore
25	Method of Mining (Opencast, Underground)	Opencast
26	Category (Fully Mechanized, Others or Manual)	Fully Mechanized
27	Captive/ Non captive	Captive Mine
28	Date of previous inspection	04/12/2023
29	Date of inspection	21/08/2024
30	Name of accompanying mine officials with designation	Shri Nishant Kumar Sharma, Mines Manager, Shri Jitendra Kumar, Mining Engineer, Shri Rajarshi Majumdar, Geologist and other mine officials.

Exploration

S.N.	Item	Proposals	Actual work	Remarks
1a	Backlog of previous year	No proposal	Nil	Nil
1b	Exploration over lease area for Geological axis 1 or 2.	No proposal for year 2023-24	Nil	Nil
1c	Exploration Agency & Expenditure in lakh Rupees during the year	No proposal for year 2023-24	Nil	Nil
1d	Balance area to be explored to bring Geological axis in 1 or 2	G1= 63.08 Ha Non-Mineralized Area= 37.06 Ha as per the last approved document.	G1= 63.08 Ha Non-Mineralized Area= 37.06 Ha	The entire mine lease area has been brought under G1 level of exploration and the Geological Report has been submitted to IBM dtd 17/07/2023.
1e	Balance reserves as on <u>01.04.2024</u>	38,918,700 tons of iron ore reserves with avg grade for HIO- 57.05 % & HSIO-38.44 % as on 1.11.2023 as per the last approved document.	38,349,223 tons of iron ore as on 01.04.2024	As reported by the Lessee in AR 2023-24.
1f	General remarks of inspecting officer on geology, exploration etc.	i)The entire mine lease area has been brought under G1 level of exploration and the Geological Report has been submitted on 17.07.2023. ii)Reserves/Resources reported correctly by the Lessee as on 01.04.2024.		

Development

S.N.	Item	Proposals	Actual work	Remarks
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2a	Location of development w.r.t. lease area	Development proposed at Section S1-1' to S-5-5' between 818 mRL to 858 mRL.	It is observed from the submitted drone data and during inspection that development of benches at South eastern portion of pit between section S-1-1' to S-4-4' (N-1665770 E-669833 to N-1665999, E-669813) from 858 mRL to 818 mRL have not been developed systematically with 8m benches as per the proposal.	Violation issued under Rule 11(1) of MCDR 2017.
2b	Separate benches in topsoil, overburden and mineral (Rule 15)	8 m bench height proposed in both overburden and mineral.	It is observed from the submitted drone data and during inspection that development of benches at South eastern portion of pit between section S-1-1' to S-4-4' (N-1665770 E-669833 to N-1665999, E-669813) from 858 mRL to 818 mRL have not been developed systematically with 8m benches as per the proposal.	Violation issued under Rule 11(1) of MCDR 2017.
2c	Stripping ratio or ore to OB ratio	1:0.38(in tons) proposed	1:0.48 (in tons) achieved	ROM-1,288,766 tons Waste-314,455 Cum~628,9

				11 tons (As reported by Lessee in AR 2023-24)
2d	Quantity of topsoil generation in m ³	No proposal	Nil	Nil
2e	Quantity of overburden generation in m ³	107,899 Cum (as per Approved Mining Plan Modification for the period Nov-23 to Mar-24)	314,455 Cum (as per the details filled in the submitted Annual Returns for the entire FY 2023-24)	For the year 2023-24
2f	General remarks of inspecting officer on development of pit w.r.t. type of deposit etc.	It is observed from the submitted drone data and during inspection that development of benches at South eastern portion of pit between section S-1-1' to S-4-4' (N-1665770 E-669833 to N-1665999, E-669813) from 858 mRL to 818 mRL have not been developed systematically with 8m benches as per the proposal. Violation issued under Rule 11(1) of MCDR 2017.		

Exploitation

S.N	Item	Proposals	Actual work	Remarks
3a	Number of pits proposed for production	1 pit proposed for production	Production carried out from 1 pit as per the proposal	Nil
3b	Quantity of ROM mineral production proposed	1,290,000 tons of ROM proposed	1,288,766 tons of ROM achieved	As reported by Lessee in AR 2023-24.
3c	Recovery of salable/usable mineral from ROM production	100% proposed	100% achieved	Nil
3d	Quantity of mineral reject generation	No proposal	Nil	Nil
3e	Grade of mineral reject generation and threshold value declared	No proposal	Nil	Nil
3f	Quantity of sub-grade mineral generation	No proposal	Nil	Nil
3g	Grade of sub-grade mineral generation	No proposal	Nil	Nil
3h	Manual / Mechanized method adopted for	Only dry Crushing &	Dry Crushing & Screening carried	*Crusher-250 & 80 TPH

	segregating from ROM	Screening proposed	out within the Lease area	capacity. O/p Size 0 - 10 mm (Fines) 10-40 mm (Lumps).
3i	Any analysis or beneficiation study proposed & carried out for sub-grade mineral and reject	No Proposal	Nil	Nil
3j	Provision of drilling & blasting in mineral benches	Deep hole and Drilling and Blasting proposed.	Deep hole Drilling and Blasting is being carried out. Drilling is done with drill of 102 mm dia. and slurry explosive used in conjunction with delay detonators.	Drill-102 mm dia. Explosive-Slurry Explosive.
3k	Provision of mining machineries in mineral benches	Mining Machineries proposed	Deployed Mining Machineries: Excavators-6 (1.6 m ³ -5 no. & 2.6 m ³ -1 no.) Rock Breaker- 1 (1.6 cum.) Tippers-22 (14 cum.) Drill-1(102 mm dia.) Wheel Loader-6 (2.6 m ³ -4 no. & 1.6 m ³ -2 no.) Water tanker-10 KL-4nos. Crusher-200 TPH & 80 TPH	As reported in AR 2023-24.
3l	Whether height of benches in overburden and mineral suitable for method of mining proposed in MP/SOM	8 m bench height proposed in both overburden and mineral.	It is observed from the submitted drone data and during inspection that development of benches at South eastern portion of pit between section S-1-1' to S-4-4' (N-	Violation issued under Rule 11(1) of MCDR 2017.

			1665770 E-669833 to N-1665999, E-669813) from 858 mRL to 818 mRL have not been developed systematically with 8m benches as per the proposal.	
3m	Total area covered under excavation/pits	48.10 ha as on 01.04.2024 as per the last approved document.	48.80 Ha as on 01.04.2024	As reported in AR 2023-24. As per FA table for the year 2023-24 proposed-49.32-1.22=48.10)
3n	Ore to OB ratio for the pit/mine during the year	1:0.38(in tons) proposed	1:0.48 (in tons) achieved	ROM-1,288,766 tons Waste-314,455 Cum~628,911 tons (As reported by Lessee in AR 2023-24)
3o	Total area put in use under different heads at the end of year	Mining- 48.10 Ha O/B Dumps- 21.16 Ha Infrastructure & roads-4.54 ha (As on 01.04.2024 as per the last approved document)	Mining- 48.80 Ha O/B Dumps- 21.14 Ha Infrastructure & roads-4.59 ha as on 01.04.20024	As reported in AR 2023-24. As per FA table for the year 2023-24 proposed area under Mining 49.32-1.22=48.10), proposed area under infrastructure & roads-4.61-0.07=4.54 ha
3p	Production of ROM mineral during last five-year period, as applicable	2019-20: 1165000 2020-21: 1164996 2021-22:	2019-20: 1164618 2020-21: 1164700 2021-22:	Nil

		1164990 2022-23: 1164998 2023-24: 1290000 (in tonnes)	1164745 2022-23: 1164600 2023-24: 1288766 (in tonnes)	
3q	General remarks of inspecting officer on method of mining etc.	It is observed from the submitted drone data and during inspection that development of benches at South eastern portion of pit between section S-1-1' to S-4-4' (N-1665770 E-669833 to N-1665999, E-669813) from 858 mRL to 818 mRL have not been developed systematically with 8m benches as per the proposal. Violation issued under Rule 11(1) of MCDR 2017.		

Solid Waste Management-Dumping

S.N.	Item	Proposals	Actual work	Remarks
4a	Separate dumping of topsoil, OB & mineral reject (Rule 32, 33)	Separate dumping of Overburden is proposed as backfilling at Backfill dump (BF(AD))	Separate dumping of Overburden is being carried out at Backfill dump, BF(AD)	Nil
4b	Location of topsoil, OB & mineral reject dumps	OB Dump Proposal: E/W: 669123 to 669321 N/S: 1666204 to 1666385	OB dumping carried out at backfill dump-BF(AD) dump within the proposed extent as per the proposal	Nil
4c	Number of dumps within lease area and outside lease area	Within Lease Area-3 Dumps (1 Backfilling BF(AD), 2 Inactive Dumps, ID-1 & ID-2).	Within Lease Area-3 Dumps (1 Backfilling BF(AD), 2 Inactive Dumps, ID-1 & ID-2).	Currently Active Dump is Backfilling dump BF(AD).
4d	Location of dumps w.r.t. ultimate pit limit (Rule 16)	Dumps (ID-1, BF(AD)) are outside UPL. Only portion of ID-2 lie within UPL	Dumps (ID-1, BF(AD)) are outside UPL. Only portion of ID-2 lie within UPL	Portion of ID-2 waste dump lie inside the UPL.
4e	Number of active & alive dumps	1 active dump, Backfilling dump,	1 active dump, Backfilling dump,	Nil

		BF(AD)	BF(AD)	
4f	Number of dead dumps	2 nos of Inactive Dumps (ID-1 & ID-2)	2 nos of Inactive Dumps (ID-1 & ID-2)	Nil
4g	Number of dumps stabilized	No proposal	Nil	Nil
4h	Whether Retaining wall or garland drain all along dumps are there	No proposal for the year 2023-24	Nil	Nil
4i	Length of Retaining wall or garland drain all along dump	No proposal for the year 2023-24	Nil	Nil
4j	Number of settling ponds	No proposal	Nil	Nil
4k	Specific comments of inspecting officer on waste dump management.	OB/Waste dumping carried out at backfill dump (BF(AD)) within the proposed extent as per the proposal.		

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	No proposal	Nil	Nil
5b	Area under backfilling of mined out area	1.97 Ha proposed for backfilling at BF(AD)	1.79 Ha backfilling of waste carried out at BF(AD)	As reported in Annual PMCP report 2023-24.
5c	Concurrent use of topsoil for restoration or rehabilitation of mined out area (Rule 32)	No proposal	Nil	Nil
5d	Total area fully reclaimed & rehabilitated	No proposal	Nil	Nil
5e	General remarks of inspecting officer on backfilling, reclamation etc	Backfilling of waste carried out at backfill dump BF(AD) within the proposed extent as per the proposal.		

Progressive Mine Closure Plan

S.N.	Item	Proposals	Actual work	Remarks
6a	Whether Annual report on PMCP submitted on time and correctly - Rule 23 E (2). Details should be given in the format as	To be submitted before 1 st of July every year.	Annual PMCP report submitted along with AR on 29/06/2024	Nil

	given in Annexure-20.			
6b	Area available for rehabilitation (ha)	No proposal	0.63 ha plantation carried out at Green belt in 7.5 m safety zone.	As reported in Annual PMCP report 2023-24.
6c	Afforestation done (ha)	No proposal	0.63 ha plantation carried out at Green belt in 7.5 m safety zone.	As reported in Annual PMCP report 2023-24.
6d	No. of saplings planted during the year	No proposal	250 nos. of saplings planted at Green belt in 7.5 m safety zone.	As reported in AR 2023-24
6e	Cumulative no. of plants	8,582 nos. of cumulative plants within ML area as on 01.04.2023.	8,832 nos. of cumulative plants within ML area as on 01.04.2024	As reported in AR 2023-24
6f	Any other specific method of rehabilitation	No proposal	Nil	Nil
6g	Cost incurred on watch & care during the year	No proposal	Nil	Nil
6h	Compliance on reclamation and rehabilitation by backfilling (i) Voids available for backfilling (L x B x D)	1.97 Ha proposed for backfilling at BF(AD)	1.79 Ha backfilling of waste carried out at BF(AD)	As reported in Annual PMCP report 2023-24.
6i	Compliance on reclamation and rehabilitation by backfilling (ii) Void filled by waste/tailings	1.97 Ha proposed for backfilling at BF(AD)	1.79 Ha backfilling of waste carried out at BF(AD)	As reported in Annual PMCP report 2023-24.
6j	Compliance on reclamation and rehabilitation by backfilling (iii) Afforestation on the backfilled area	No proposal	Nil	Nil
6k	Compliance on reclamation and rehabilitation by backfilling (iv) Rehabilitation by making water reservoir	No proposal	Nil	Nil
6l	Compliance on reclamation and rehabilitation by backfilling (v) Any other	No proposal	Nil	Nil

	specific means			
6m	Compliance of Rehabilitation of waste land within lease (i) Afforestation	No proposal	Nil	Nil
6n	Compliance of Rehabilitation of waste land within lease (ii) Area rehabilitated (ha)	No proposal	Nil	Nil
6o	Compliance of Rehabilitation of waste land within lease (iii) Method of rehabilitation	No proposal	Nil	Nil
6p	Compliance of Environmental monitoring (core zone & buffer zone)	Regular Environmental Monitoring of Core and Buffer zone is proposed.	Environmental Monitoring of Core and Buffer zone is being carried out. Environmental monitoring report of Nov & Dec-23 checked. All parameters within limit.	Parameters which are being Monitored: (Air, Noise, Surface water quality, Ground water & Dust)
6q	General remarks of inspecting officer on PMCP compliance & progressive closure operations	Annual PMCP report submitted within timeline along with AR 2023-24. The PMCP activities carried out inside mine for the year 2023-24 as per the proposal.		

Mineral Conservation

S.N.	Item	Proposals	Actual work	Remarks
7a	ROM Mineral dispatch or grade-wise sorting within lease area	Only dry crushing & screening proposed	Dry crushing & screening carried out. ROM production- 1,288,766 tons. Graded ore production- 1,288,766 tons Graded ore Despatch- 977,683 tons.	Crusher capacity- 250 TPH & 80 TPH
7b	Method of grade-wise mineral sorting i.e. manual or mechanical	Only Dry crushing and screening proposed. Overall ROM grade range 35-65 % Fe	Fines Fe 45-51% Fe 51-55% Lumps Fe 45-51%	As reported by Lessee in AR

		proposed for year 2023-24.	Fe 51-55% (Production grade range for the year 2023-24)	2023-24.
7c	Different grade of mineral sorted out at mines	Only Dry crushing and screening proposed. Overall ROM grade range 35-65 % Fe proposed for year 2023-24.	Fines Fe 45-51% Fe 51-55% Lumps Fe 45-51% Fe 51-55% (Production grade range for the year 2023-24)	As reported by Lessee in AR 2023-24.
7d	Any beneficiation process at mines	No Proposal	Nil	Nil
7e	General remarks of inspecting officer on Mineral conservation & beneficiation issues	Mineral conservation activity carried inside lease as per proposal.		

Environment

S. N.	Item	Proposals	Actual work	Remarks
8a	Separate removal and utilization of topsoil (Rule 32)	No proposal	Nil	Nil
8b	Concurrent use or storage of topsoil	No proposal	Nil	Nil
8c	Separate dumps for overburden, waste rock, rejects and fines (Rule 33)	Separate dumping of Overburden is proposed. Backfilling dump (BF(AD))	Separate dumping of OB/waste carried out at backfill dump BF(AD)	Nil
8d	Use of overburden, waste rock, rejects and fines dumps for restoring the land to its original use	No proposal	Nil	Nil
8e	Phased restoration, reclamation and rehabilitation of lands affected by mining operations (Pits, dumps etc)	No proposal	Nil	Nil

8f	Baseline information on existence of plantation & additional plantation done (Rule 41)	8,582 nos. of cumulative plants within ML area as on 01.04.2023.	8,832 nos. of cumulative plants within ML area as on 01.04.2024	As reported in AR 2023-24
8g	Survival rate	Nil	80% achieved within ML area.	As reported in AR 2023-24
8h	Water sprinkling on roads to control airborne dust	Water sprinkling on roads is proposed to control airborne dust	Water tankers have been deployed for sprinkling on roads to control airborne dust.	No. of Water Tankers:4 no. Capacity: 10 KL
8i	General remarks of inspecting officer on aesthetic beauty in and around mines area	The aesthetic beauty around the mine looks good.		
Compliance of Rule 45				
S. N.	Item	COMMENTS		Remarks
9a	Status of submission of Monthly and Annual returns	M.R. Submitted up to: July, 2024. Submitted on 09.08.2024 A.R. Submitted up to: FY 2023-24. Submitted on 29.06.2024		Submitted within timeline.
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- Jitendra Kumar. Geologist- Rajarshi Majumdar Manager- Nishant Kumar Sharma	Shri Nishant Kumar Sharma, Mines Manager, Shri Jitendra Kumar, Mining Engineer, Shri Rajarshi Majumdar, Geologist present during inspection.	Appears to be correct.
9c	Scrutiny of Annual	Covered under	Appears to be	Nil

	return on land use pattern for area under pits, reclaimed area, dumps etc.	current (O-C) Workings- 48.80 Ha Used for waste disposal- 21.14 Ha Occupied by plant, buildings, residential, welfare buildings and roads- 4.59 ha as on 01.04.20024	correct	
9d	Scrutiny of Annual return on afforestation	250 Nos. within ML area with 80 % survival rate. Cumulative within ML area-8832 nos. of plants.	Appears to be correct.	Nil
9e	Scrutiny of Annual return on mineral reject generation (Grade & quantity)	Nil	Appears to be correct.	Nil
9f	Scrutiny of Annual return on ROM stock and/or graded ore	ROM: Opening Balance: 0 Production 23-24: 1,288,766 tons Closing Balance: 0 Graded Ore (Lumps + Fines): Opening Balance: 214,021 tons Production: 1,288,766 tons Dispatch: 977,683 tons Closing Balance: 525,103	Appears to be correct.	Nil
9g	Scrutiny of Annual return on sale value, Ex. Mine price & production cost	Lumps: Fe 45-51%: 686.79 ₹/Ton Fe 51-55%: 686.79 ₹/Ton Fines: Fe 45-51%: 686.79 ₹/Ton Fe 51-55%: 686.79 ₹/Ton Cost of production: 686.79 ₹/Ton	i)Part-VI- The examine price per tonne for different grades of ore both under lumps and fines under Part-VI.3(ii) have not been reported correctly, since there is error in reported per tonne cost of production (Part-VII). ii) Part-VII: There	Violation issued under Rule 45(7) of MCDR 2017.

			is error in per ton cost reported for Royalty, DMF & NMET and subsequently total cost of production, as per the figures reported for Royalty, DMF and NMET in previous para, Part-III (2)	
9i	Scrutiny of Annual return on fixed assets	Value of Fixed Assets- ₹ 821108806. Including Industrial, Plant and machinery and capitalized expenditure	Appears to be correct.	Nil
9k	Scrutiny of Annual return on mining machineries	(1.6 m ³ -5 no. & 2.6 m ³ -1 no.) Rock Breaker- 1 (1.6 cum.) Tippers-22 (14 cum.) Drill-1(102 mm dia.) Wheel Loader-6 (2.6 m ³ -4 no. & 1.6 m ³ -2 no.) Water tanker-10 KL-4nos. Crusher-200 TPH & 80 TPH	Appears to be correct.	Nil

Details of violations observed during current inspection and compliance position of violation pointed out					
Violation observed			Show cause position		
Rule No.	Issued on	Compliance on	Rule No.	Issued on	Compliance on
11(1)	06/09/2024	30/10/2024	45(7)	06/09/2024	14/10/2024

संदीप कुमार सिंह. /Sandeep Kumar Singh)
वरिष्ठ सहायक खान नियंत्रक/ Senior Assistant Controller of Mines