

**MCDR INSPECTION REPORT (2023-24)****File No- MCDR-MiFLOFE/3/2022-BNG-IBM\_RO\_BNG**

S. N.	Particulars	Details
1	Name of the Mine	Nandi Iron Ore Mine, ML No. 0005
2	Total Lease Area (Ha) with breakup of Non-forest and forest land	Total Area = 21.03 Ha Non-forest Land- 0 Ha, Forest Land- 21.03 Ha,
3	Mine code	30KAR03182
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 Nandi Iron Ore Mine.ML.NO-0005 JSW Mining Office, Near Talur Cross Vidyanagar (Post), Toranagallu, Sandur Taluk, Ballari – Dist, PIN-583275, Karnataka Email - <a href="mailto:sunil.singh@jsw.in">sunil.singh@jsw.in</a> Mob - 9449598135
6	Village	Malagolla
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	17.03.2018
15	Date of Execution	17.03.2018
16	Date of opening of Mine	01.06.2018
17	Date of expiry	16.03.2068
18	Name of the Nominated Owner with Address, phone, email, fax number and date of appointment	Mr. Gajaraj Singh Rathore Whole Time Director and COO, M/s. JSW Steel Ltd Nandi Iron Ore Mine JSW Mining Office, Near Talur Cross Vidyanagar (Post), Toranagallu, Sandur Taluk, Ballari – Dist, PIN-583275, Karnataka Email: <a href="mailto:gajraj.rathore@jsw.in">gajraj.rathore@jsw.in</a> Date of appointment: 30.05.2023
19	Name of the Mine Agent with Address, phone, email, fax number and date of appointment	Mr. Sunil Kumar Singh M/s. JSW Steel Ltd Nandi Iron Ore Mine JSW Mining Office, Near Talur Cross Vidyanagar (Post), Toranagallu, Sandur Taluk, Ballari – Dist, PIN-583275, Karnataka Contact: +91- 9449598135 Email: <a href="mailto:sunil.singh@jsw.in">sunil.singh@jsw.in</a>

		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. Santosh Kumar M/s. JSW Steel Ltd. Nandi Iron Ore Mine JSW Mining Office, Near Talur Cross Vidyanagar (Post), Toranagallu, Sandur Taluk, Ballari – Dist., PIN-583275, Karnataka Mob: 9110149367 Email – <a href="mailto:santosh.kumar7@jsw.in">santosh.kumar7@jsw.in</a> Date of appointment: 13.12.2022
21	Name of the Mining Engineer, Qualification and total experience with Address, phone, email, fax number and date of appointment in mine	Mr. Rakesh A S M/s. JSW Steel Ltd Total Year of Experience: 15 years Nandi Iron Ore Mine JSW Mining Office, Near Talur Cross Vidyanagar (Post), Toranagallu, Sandur Taluk, Ballari – Dist, PIN-583275, Karnataka Mob: 9480694556 Email – <a href="mailto:anegundi.rakesh@jsw.in">anegundi.rakesh@jsw.in</a> Date of appointment: 01.03.2021
22	Whether Geologist and Mining Engineer appointed in mines satisfy the rule 42 & carrying out their duties as per rule 43 & 44.	Details of Geologist- Mr. Ritam Patra M. Tech., Mineral Exploration Email- <a href="mailto:ritam.patra@jsw.in">ritam.patra@jsw.in</a> Date of appointment- 12.06.2024
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 Plan was approved by IBM vide letter no. 279/1111/2022/BNG dated 17/01/2023 for the period 2023-24 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)	A-Fully Mechanized
27	Captive/ Non captive	Captive Mine
28	Date of previous inspection	07/07/2023
29	Date of inspection	20/08/2024
30	Name of accompanying mine officials with designation	Shri Nandan Bhandary, General Manager (Mines), Shri Rakesh A S, Mining Engineer, Shri Ritam Patra, 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	No proposal	Nil	Nil

	area for Geological axis 1 or 2.			
1c	Exploration Agency & Expenditure in lakh Rupees during the year	No proposal	Nil	Nil
1d	Balance area to be explored to bring Geological axis in 1 or 2	G-1-16.45 ha & Non mineralized are-4.58 ha	G-1-16.45 ha & Non mineralized are-4.58 ha	The entire mine lease area has been brought under G1 level of exploration and the Geological Report has been submitted on 07.03.2023.
1e	Balance reserves as on 01.04.2023	14,668,316 tons of iron ore reserves with avg grade for HIO- 56.77 % & HSIO-38.28 % as on 1.09.2022 as per the last approved document.	13,833,200 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 07.03.2023. ii)Reserves/Resources reported correctly by the Lessee as on 01.04.2024.		

### Development

S.N	Item	Proposals	Actual work	Remarks
2a	Location of development w.r.t. lease area	Development proposed between section S-1-1' to S-4-4' from 980 to 1012 mRL.	It is observed from the submitted drone data and during inspection that development of benches at South western portion of pit between section S-3-3' to S-4-4' (N-1660439 E-669016 to N-1660476, E-668990) from 1004 mRL to 980	Violation issued under Rule 11(1) of MCDR 2017.

			mRL have not been developed systematically with 8m benches as per the proposal	
2b	Separate benches in topsoil, overburden and mineral (Rule 15)	Separate benches proposed in OB & mineral. 8m bench height proposed for both OB & mineral.	It is observed from the submitted drone data and during inspection that development of benches at South western portion of pit between section S-3-3' to S-4-4' (N-1660439 E-669016 to N-1660476, E-668990) from 1004 mRL to 980 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: 0.06 (in tons) proposed	1: 0.07 (in tons) achieved.	Ore- 7,04,800 tons Waste-49,545 tons (As reported by Lessee in AR 2023-24)
2d	Quantity of topsoil generation in m3	No proposal of Topsoil Generation.	Nil	Nil
2e	Quantity of overburden generation in m3	24,055 m <sup>3</sup> / 48,110 tonnes proposed	24,772 m <sup>3</sup> / 49,545 tonnes achieved	As reported by Lessee in AR 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 western portion of pit between section S-3-3' to S-4-4' (N-1660439 E-669016 to N-1660476, E-668990) from 1004 mRL to 980 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	1 pit proposed for	Actual production	Nil

	proposed production for	production	carried in 1 pit	
3b	Quantity of ROM mineral production proposed	799,926 tonnes of ROM production proposed.	704,800 tonnes of ROM production achieved.	CEC & EC approved maximum permissible annual production limit is 705,000 Tonnes. 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	No Mineral Reject Generation.
3e	Grade of mineral reject generation and threshold value declared	No proposal	Nil	No Mineral Reject Generation.
3f	Quantity of sub-grade mineral generation	No proposal	Nil	Nil
3g	Grade of sub-grade mineral generation	No proposal	Nil	Nil
3h	Manual / Mechanised method adopted for segregating from ROM	Only dry crushing & screening proposed.	Dry crushing & screening carried out inside lease (Crusher capacity-200 TPH)	Product size: 0-10mm- Fines 10-40mm- 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	Drilling and Blasting is proposed.	Drilling and Blasting is being carried out for hard strata with slurry explosive in conjunction with detonators.	Nil
3k	Provision of mining machineries in mineral benches	Mining Machineries proposed	Deployed Mining Machineries: Excavators-4 (1.6 m <sup>3</sup> -3 no. & 2.6 m <sup>3</sup> -1 no.) Tippers-8 nos. (14	As reported by the Lessee in AR 2023-24.

			cum.) Drill-1 no. (100 mm dia.) Wheel Loader-2 nos. (2.6 m <sup>3</sup> ) Water tanker- 2 nos. (10 KL) Crusher-200 TPH	
3l	Whether height of benches in overburden and mineral suitable for method of mining proposed in MP/SOM	8m bench height proposed in both OB & mineral.	It is observed from the submitted drone data and during inspection that development of benches at South western portion of pit between section S-3-3' to S-4-4' (N-1660439 E-669016 to N-1660476, E-668990) from 1004 mRL to 980 mRL have not been developed systematically with 8m benches as per the proposal	Violation issued under Rule 11(1) of MCDR 2017.
3m	Total area covered under excavation/pits	10.01 ha. proposed as on 1.04.2024 as per the approved document.	10.01 ha. as on 01.04.2024	As reported by Lessee in AR 23-24.
3n	Ore to OB ratio for the pit/mine during the year	1: 0.06 (in tons) proposed	1: 0.07 (in tons) achieved.	Ore- 7,04,800 tons Waste-49,545 tons (As reported by Lessee in AR 2023-24)
3o	Total area put in use under different heads at the end of year	Mining- 10.01 Ha Waste Dumps- 0.53 Ha (as on 1.04.2024 as per the approved document)	Mining- 10.01 Ha Waste Dumps- 0.45 Ha  As on 01.04.2024.	As reported by Lessee in AR 23-24.
3p	Production of ROM mineral during last	2019-20:4,08,000 2020-21:7,99,851	2019-20: 4,07,800 2020-21: 2,07,380	-

	five-year period, as applicable	2021-22: 7,99,926 2022-23:7,99,899 2023-24: 7,99,926 (in tonnes)	2021-22: 4,07,911 2022-23:4,07,916 2023-24: 7,04,800 (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 western portion of pit between section S-3-3' to S-4-4' (N-1660439 E-669016 to N-1660476, E-668990) from 1004 mRL to 980 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 OB proposed at PTD dump.	Separate dumping of OB carried out at PTD dump	Nil
4b	Location of topsoil, OB & mineral reject dumps	OB Dump Proposal: N 1660553 to N 1660646, E 669233 to E 669317 (PTD dump)	It is also observed during inspection and from submitted drone data that mineral stacks were located between Section S-1A-1A' & S-1-1' (N-1660556 E-669276) which is the earmarked location for waste dumping (PTD)	Violation issued under Rule 11(1) of MCDR 2017.
4c	Number of dumps within lease area and outside lease area	1 temporary dump (PTD)	1 temporary dump (PTD)	Temporary dump.
4d	Location of dumps w.r.t. ultimate pit limit (Rule 16)	Dump lies inside the UPL	Dump lies inside the UPL	Temporary dump.
4e	Number of active & alive dumps	1 active dump (PTD)	1 active dump (PTD)	Temporary dump.
4f	Number of dead dumps	Nil	Nil	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	It is also observed during inspection and from		

	inspecting officer on waste dump management.	submitted drone data that mineral stacks were located between Section S-1A-1A' & S-1-1' (N-1660556 E-669276) which is the earmarked location for waste dumping (PTD). Violation issued under Rule 11(1) of MCDR 2017.
--	--	---

### 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	No proposal	Nil	Nil
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	No Backfilling proposals.		

### Progressive Mine Closure Plan

S.N.	Item	Proposals	Actual work	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.	To be submitted before 1 <sup>st</sup> of July every year.	Annual PMCP report submitted along with AR 2023-24 on 27/06/2024	Nil
6b	Area available for rehabilitation (ha)	0.107 ha proposed in green belt for plantation	0.132 ha plantation carried out in 7.5 m safety zone green belt location.	As reported by Lessee in AR 2023-24
6c	Afforestation done (ha)	0.107 ha proposed in green belt for plantation	0.132 ha plantation carried out in 7.5 m safety zone green belt location.	As reported by Lessee in AR 2023-24
6d	No. of saplings planted	120 saplings	132	Planted in Greenbelt



	during the year	plantation proposed	saplings planted in 7.5 m safety zone green belt location.	Area. As reported by Lessee in AR 2023-24.
6e	Cumulative no. of plants	2,868 nos. of cumulative plants as on 01.04.2023	3000 nos. of cumulative plants as on 01.04.2024.	As reported by Lessee in AR 2023-24
6f	Any other specific method of rehabilitation	No proposal	Nil	Nil
6g	Cost incurred on watch & care during the year	Rs. 21,000 proposed for plantation	As per proposal.	As reported by Lessee during inspection
6h	Compliance on reclamation and rehabilitation by backfilling (i) Voids available for backfilling (L x B x D)	No proposal	Nil	Nil
6i	Compliance on reclamation and rehabilitation by backfilling (ii) Void filled by waste/tailings	No proposal	Nil	Nil
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 specific means	No proposal	Nil	Nil
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)	No proposal	Nil	Nil

	Method of rehabilitation			
6p	Compliance of Environmental monitoring (core zone & buffer zone)	Regular Environmental Monitoring of Core and Buffer zone is proposed.	The Environment Monitoring in Core and Buffer zone for air, water, noise & soil carried out as per the proposal. Monitoring report of Mar-24 checked during inspection. Parameters within limit.	Nil.
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-704,800 tons. Graded ore production-567,911 tons Graded ore Despatch-428,322 tons.	Crusher capacity-200 TPH. It is also observed during inspection that mineral stacks are located between Section S-1A-1A' & S-2-2' (N-1660584 E-669235) which is not the earmarked location of mineral stacking and is located in very close proximity with the proposed waste dump area (PTD), since waste dumping area is proposed between Section S-1A-1A' & S-1-1. Violation issued under Rule 11(1) of MCDR 2017.
7b	Method of grade-wise mineral sorting i.e.	Only Dry crushing and	<b>Fines</b> Fe 45-51%	As reported by Lessee in AR 2023-24.

	manual or mechanical	screening proposed. Overall ROM grade range proposed 35-65 % Fe proposed for year 2023-24.	Fe 51-55% <b>Lumps</b> Fe 45-51% Fe 51-55% (Production grade range for the year 2023-24)	
7c	Different grade of mineral sorted out at mines	Only Dry crushing and screening proposed. Overall ROM grade range proposed 35-65 % Fe proposed for year 2023-24.	<b>Fines</b> Fe 45-51% Fe 51-55% <b>Lumps</b> 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	It is also observed during inspection that mineral stacks are located between Section S-1A-1A' & S-2-2' (N-1660584 E-669235) which is not the earmarked location of mineral stacking and is located in very close proximity with the proposed waste dump area (PTD), since waste dumping area is proposed between Section S-1A-1A' & S-1-1'. Violation issued under Rule 11(1) of MCDR 2017.		

### Environment

S.N	Item	Proposals	Actual work	Remarks
8a	Separate removal and utilization of topsoil (Rule 32)	No proposal of Topsoil Generation.	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 dump for overburden is proposed at temporary dump PTD	Separate waste dumping carried out at PTD. It is also observed during inspection and from submitted drone data that mineral stacks were located between Section S-1A-1A'	Violation issued under Rule 11(1) of MCDR 2017

			& S-1-1' (N-1660556 E-669276) which is the earmarked location for waste dumping (PTD).	
8d	Use of overburden, waste rock, rejects and fines dump 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)	2,868 nos. of cumulative plants as on 01.04.2023	3000 nos. of cumulative plants as on 01.04.2024.	As reported by Lessee in AR 2023-24
8g	Survival rate	90% proposed	80 % achieved within ML area	As reported by Lessee 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: 2 nos. Capacity: 10 KL.
8i	General remarks of inspecting officer on aesthetic beauty in and around mines area	It is observed during inspection and from submitted drone data that mineral stacks were located between Section S-1A-1A' & S-1-1' (N-1660556 E-669276) which is the earmarked location for waste dumping (PTD). Violation issued under Rule 11(1) of MCDR 2017.		

### 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: Year 2023-24. Submitted on 27.06.2024		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	Mining Engineer- Shri Rakesh A S. Geologist- Shri Nataraj Belgere. Manager- Shri Santosh	Form-H submitted for change in Geologist of Shri Ritam	Nil

	Manager	Kumar.	Patra. Appears to be correct.	
9c	Scrutiny of Annual return on land use pattern for area under pits, reclaimed area, dumps etc.	Covered under current (O-C) Working- 10.01 Ha Used for waste disposal- 0.45 Ha etc.	Appears to be correct.	Nil
9d	Scrutiny of Annual return on afforestation	132 Nos. within ML area with 80 % survival rate. Cumulative within ML area-3000 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	<b>ROM:</b> Opening Balance: 0.62 tons Production: 704,800 tons Closing Balance: 136,889 tons <b>Graded Ore (Lumps + Fines):</b> Opening Balance: 2.09 tons Production: 567,911 tons Dispatch: 428,322 tons Closing Balance: 139,590 tons		
9g	Scrutiny of Annual return on sale value, Ex. Mine price & production cost	<b>Lumps:</b> Fe 45-51%: 745.64 ₹/T Fe 51-55%: 745.64 ₹/T <b>Fines:</b> Fe 45-51%: 745.64 ₹/T Fe 51-55%: 745.64 ₹/T Cost of production: 745.64 ₹/T	Appears to be correct	The mine is a captive mine.
9i	Scrutiny of Annual return on fixed assets	Value of Fixed Assets- ₹ 306235282 including industrial, plant and machinery and capitalized expenditure.	Appears to be correct	Nil
9k	Scrutiny of Annual return on mining machineries	Excavators-4 (1.6 m <sup>3</sup> -3 no. & 2.6 m <sup>3</sup> -1 no.) Tippers-8 (14 cum.) Drill-1(100 mm dia.) Wheel Loader-2 (2.6 m <sup>3</sup> ) Back hoe loader -1 (1 m <sup>3</sup> )	Appears to be correct	Nil

		Water tanker- 2nos. (10 KL) Crusher-200 TPH		
--	--	--	--	--

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	Nil	—	—

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