

MCDR INSPECTION REPORT (2022-23)

I/34691/2024

S.N.	Particulars	Details
1	Name of the Mine Date of Inspection Name of Inspecting Officers	Narayana Iron and Manganese Ore Mines, ML No. 0012 29/12/2023 Dr. Suresh Prasad, RCOM Dr. Sudhakara T.L., SMG
2	Total Lease Area (Ha) with breakup of Non-forest and forest land	Total Area = 107.51 Ha Non-Forest Land- 2.029 Ha, Forest Land-105.481 Ha,
3	Mine code	30KAR03188
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	Narayanpura
7	Taluk/Mandal	Sandur
8	District	Ballari
9	Pin code	583112
10	State	Karnataka
11	Post office	Deogiri
12	Nearest police station	Sandur
13	Nearest Railway station	Ranjithpura
14	Date of Grant of Mining Lease	30.07.2020
15	Date of Execution	30.07.2020
16	Date of opening of Mine	25.09.2020
17	Date of first Renewal, if applicable and its period & expiry	NA
18	Date of second Renewal, if applicable and its period & expiry	NA
19	Date of submission of renewal application if Mining Operations are continuing under deemed extension	NA
20	Name of the Nominated Owner with Address, phone, email, fax number and date of appointment	Mr. Gajraj Singh Rathore Dy. Managing Director M/s. JSW Steel Ltd JSW Mining Office, Near Talur Cross Vidyanagar (Post), Toranagallu, Sandur Taluk, Bellary – Dist, PIN-583275, Karnataka Email – gajraj.rathore@jsw.in Date of appointment : 30.05.2023

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21	Name of the Mine Agent with Address, phone, email, fax number and date of appointment	Mr. Sunil Kumar Singh M/s. JSW Steel Ltd Narayana Iron and Manganese Ore Mine JSW Mining Office, Near Talur Cross Vidyanagar (Post), Toranagallu, Sandur Taluk, Ballari – Dist, PIN-583275, Karnataka Mob: 9449598135 Email – sunil.singh@jsw.in Date of appointment: 10.08.2020
22	Name of the Mines Manager with Address, phone, email, fax number and date of appointment in mines	Mr. Venkatesh M Chaligeri M/s. JSW Steel Ltd. Narayana Iron and Manganese Ore Mine JSW Mining Office, Near Talur Cross Vidyanagar (Post), Toranagallu, Sandur Taluk, Ballari – Dist, PIN-583275, Karnataka Mob: 9449516158. Email – venkatesh.chaligeri@jsw.in Date of appointment: 12.12.2022
23	Name of the Mining Engineer, Qualification and total experience with Address, phone, email, fax number and date of appointment in mine	Paramesh KM BE (Mining) Total Experience- 9 Years Email – paramesh.km@jsw.in Date of appointment: 05.01.2022
24	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 appointed: Mr. Girish Kumar BK – Dy. Manager (Geology) M.Sc (Geology) Total experience: 13 years Email – bk.kumar@jsw.in Date of Appointment : 15.06.2022
25	Date of Approval of Mining Plan/Modified Mining Plan with five- year period and specific condition in approval letter, if any.	Date of Approval of Modification to the Approved Mining Plan: 21.12.2020 Letter No.: 279/1105/2019/BNG-934 Five-year Plan Period: 2020-21 to 2024-25 Block Period of Modified Mining Plan: 2020-21 to 2024-25 (Dec 2020 to Mar 2025)
26	Date of Approval of Scheme of Mining/Modified Scheme of Mining with five-year period and specific condition in approval letter, if any.	NA
27	Mineral(s) granted in lease and proved for mining	Iron Ore and Manganese Ore
28	Method of Mining (Opencast, Underground)	Open Cast
29	Category (Fully Mechanized, Others or Manual)	Fully Mechanized
30	Captive/ Non captive	Non-Captive
31	Date of inspection	29/12/2023

1/34691/2024		Mr. Venkatesh M. Chaligeri (Mines Manager) Mr. Paramesh KM (Mining Engineer) Mr. Nataraja B D (Manager, Geology) Mr. Girish Kumar BK (Dy. Manager, Geology) Mr. Sridhar B (Dy. Manager, Survey)
32	Name of accompanying mine officials with designation	

Exploration

S.N.	Item	Proposals (22-23)	Actual work (22-23)	Remarks
1a	Backlog of previous year	Nil	Nil	-
1b	Exploration over lease area for Geological axis 1 or 2.	12 Nos. of Boreholes with a cumulative drilling meterage of 650m	Nil	56 no of Boreholes with a cumulative drilling meterage 2100m was done in the FY 2021-22
1c	Exploration Agency & Expenditure in lakh Rupees during the year	Nil	Nil	Expenditure on Exploration in the FY 2021-22= ₹ 113577116
1d	Balance area to be explored to bring Geological axis in 1 or 2	Nil	Nil	G1 (Mineralized Area)-40.77 Ha Non-Mineralized Area-66.74 Ha
1e	Balance reserves	Iron Ore- 21.465 MMT Manganese Ore- 0.493MMT (as on 17/09/2020 as per the Approved Mining Plan)	Iron Ore: 18.49 MMT Manganese Ore: 0.472 MMT (as on 01.04.2023)	
1f	General remarks of inspecting officer on geology, exploration etc.	The Iron ore band is enclosed by ferruginous shale/phyllite with folded structure. The ore is friable in nature, fines percentage increases in the lower benches of the mine pit. Manganese ore is present towards Northwestern part of the lease area. Manganese ore occurs as lensoidal /pocket type deposit. As per approved Mining plan exploration under G1 level is 40.77, G2 level is 1.22Ha and 64.96Ha is non-mineralized.		

Development

S.N.	Item	Proposals	Actual work	Remarks
a	Location of development w.r.t. lease area	For Iron Ore: E 678296 to E 678754 & N 1657460 to N 1657963 Section- SM-SM' to SS-SS' For Mn Ore: E 677548 to E 677617 & N 1658276 to N 1658420 Section- SC-SC'	For Iron Ore: E 678300 to E 678751 & N 1657470 to N 1657960 Section- SM-SM' to SS-SS' For Mn Ore: E 677554 to E 677610 & N 1658280 to N 1658420 Section- SC-SC'	Development carried out within the proposed extent.

1/34691/2024 2b	Separate benches in topsoil, overburden and mineral (Rule 15)	For Iron Ore: Ore Benches-3 Waste-2 For Mn Ore: Ore Benches-1 Waste-1	For Iron Ore: Ore Benches-3 Waste- 2 For Mn Ore: Ore Benches-1 Waste- 1	No Topsoil Generation
2c	Stripping ratio or ore to OB ratio	For Iron Ore: 1: 0.15 in Tonnes Ore: 1111883tonnes Waste: 169,219 tonnes For Mn Ore: 1:3.03 in Tonnes Ore: 7592 tonnes Waste: 118100 tonnes	For Iron Ore: 1: 0.27 in Tonnes For Mn Ore: 1:3.03 in Tonnes	During inspection lessee team informed that OB handling is more than proposal due ore body is irregular in nature.
2d	Quantity of topsoil generation in m ³	No Proposal	No Top Soil Generation	Development carried in the opened up pit, no top soil generated.
2e	Quantity of overburden generation in m ³	For Iron Ore: 83140 m ³ For Mn Ore: 11,497 m ³	For Iron Ore: 1,48,194 m ³ For Mn Ore: 11,497 m ³	Actual figures given as per information provided by lessee team. As per Annual Return Total 159691 m3 of waste handled reported.
2f	General remarks of inspecting officer on development of pit w.r.t. type of deposit etc.	There are separate pits for iron ore and manganese ore. The iron ore pit has been excavated deeper, whereas manganese ore workings are at the top level, with separate benches maintained for overburden and waste. The ongoing development is observed to be suitable for the type of deposit.		

Exploitation

S.N.	Item	Proposals	Actual work	Remarks
3a	Number of pits proposed for production	2 pits proposed for Production.	Production is carried out from 2 pits	1 pit for iron ore and 1 pit for Mn ore
3b	Quantity of ROM mineral production proposed	For Iron Ore: 1,111,764Tonnes For Mn Ore: 7,592.00 Tonnes	For Iron Ore: 10,91,883.00 Tonnes For Mn Ore: 7,592.00 Tonnes	Mn ore production achieved. About 20,017 tonnes iron ore less produced than proposed.

3c 1/34691/2024	Recovery of salable/usable mineral from ROM production	100%	100%	-
3d	Quantity of mineral reject generation	No proposal	NA	-
3e	Grade of mineral reject generation and threshold value declared	No proposal	NA	-
3f	Quantity of sub-grade mineral generation	No proposal	NA	
3g	Grade of sub-grade mineral generation	NIL	NA	-
3h	Manual / Mechanised method adopted for segregating from ROM	Mechanized Method proposed for segregating from ROM	Mechanized Method adopted for segregating from ROM	Dry Crushing and screening 250 TPH.
3i	Any analysis or beneficiation study proposed & carried out for sub-grade mineral and reject	No proposal	No beneficiation study carried out.	-
3j	Provision of drilling & Blasting in mineral benches	Provision of drilling & blasting are made in mineral and waste benches.	Drilling & blasting carried out by combination of slurry and Nonel detonator.	106 (2) (B) Permission Obtained from DGMS as per MMR 1961.
3k	Provision of mining machineries in mineral benches	Provision of mining machineries made Excavator- 4 Rock Breaker- 1 Tippers – 18 Hydraulic drill – 1 Wheel loader – 6 Crusher-1 Water Tanker-5	Machineries deployed in the mine as proposed.	-
3l	Whether height of benches in overburden and mineral suitable for method of mining proposed in MP/SOM	Bench width- 8m Bench Height-8m	Bench width- 8m Bench Height-8m	-
3m	Total area covered under excavation/pits	40.89 Ha (as per the approved mining Plan for Plan Period)	40.82 Ha (as on 01.04.22)	The plan period is ongoing

1/34691/2024 3n	Ore to OB ratio for the pit/mine during the year	For Iron Ore: 1: 0.15 in Tonnes For Mn Ore: 1:3.03 in Tonnes	For Iron Ore: 1: 0.27 in Tonnes For Mn Ore: 1:3.03 in Tonnes	Proposal as per MP Iron Ore: 1111883tonnes Waste: 169,219 tonnes Mn Ore: 7592 tonnes Waste: 118100 tonnes
3o	Total area put in use under different heads at the end of year	Total area in the plan period: Mining- 40.89 Ha Roads -2.31 Ha Infrastructure and Engineering Measures– 2.62 Ha Waste Dumps-13.51 Ha Green Belt – 3.38 Ha Mineral Storage- 1.82 Ha Others – 42.98 Ha	Total area as of 01.04.2023: Mining- 40.88 Ha Roads – 2.31 Ha Infrastructure and Engineering Measures – 1.69 Ha Waste Dumps-10.73 Ha Green Belt – 3.38 Ha Mineral Storage- 3.00 Ha Others – 45.52 Ha	
3p	Production of ROM mineral during last five- year period, as applicable	Year Iron Mn 2020-21: 1,111,809 7592 2021-22: 1,111,832 7571 2022-23: 1,111,883 7592 2023-24: 1,111,764 7592 2024-25: 1,111,879 7571 (in Metric Tonnes)	Year Iron Mn 2020-21: 874,778 5800 2021-22: 1,007,885 7350 2022-23: 10,91,883 7592 2023-24: NA NA 2024-25: NA NA (in Metric Tonnes)	Mine operations started in 2020-21.
3q	General remarks of inspecting officer on method of mining etc.	The mine is operated by open-pit mining, which is fully mechanized and utilizes an excavator and tipper combination. This method is observed to be suitable for the type of deposit.		

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.	Separate dumping of overburden is being carried out.	-
4b	Location of topsoil, OB & mineral reject dumps	OB Dump Proposal: E 678219 to E 678350 N 1657267 to N 1657600	OB Dump location: E 678246 to E 678472 N 1657380 to N 1657540	Dumping carried out at the proposed location.
4c	Number of dumps within lease area and outside lease area	7 Inactive Dumps and 1 Active Dump	7 Inactive Dumps and 1 Active Dump	-
4d	Location of dumps w.r.t. ultimate pit limit (Rule 16)	Parts of Active Dump are within UPL.	Parts of Active Dump are within UPL.	Parts of dump are within UPL
4e	Number of active & alive dumps	Active Dump-1	Active Dump-1	-
4f	Number of dead dumps	7 Inactive Dumps	7 Inactive Dumps	-

4g 1/34691/2024 4h	Number of dumps stabilized Whether Retaining wall or garland drain all along dumps are there	Nil No proposal	NA Yes	- Details of Existing Retaining Wall: RW(ID-1): 270m RW(ID-2): 440m RW(ID-3): 475m RW-6a(ID-11): 125m RW-6b(ID-11): 150m Details of Existing Garland Drain: GD(ID-1): 270m GD (ID-2): 440m GD (ID-3): 475m GD -6a(ID-11): 127m GD -6b(ID-11): 153m TW-7- 160m TW-8 - 45m GD-7 - 160m LBCD-1 - 20m LBCD-2 - 27m
4i	Length of Retaining wall or garland drain all along dump	No proposal	Nil	
4j	Number of settling ponds	Nil	Nil	-
4k	Specific comments of inspecting officer on waste dump management.	Lessee has carried out the R & R structures as per plan. Active dump is on slope, systematic terracing of dump is required.		

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	NIL	NA	Ore exists in all the pits.
5b	Area under backfilling of mined out area	NIL	NA	
5c	Concurrent use of topsoil for restoration or rehabilitation of mined out area (Rule 32)	NIL	NA	No Topsoil Generation
5d	Total area fully reclaimed & rehabilitated	NIL	NA	-
5e	General remarks of inspecting Officer on backfilling, reclamation etc	Ore exists in all the pits. The mine pit is not matured for backfilling and reclamation.		

Progressive Mine Closure Plan

S.N.	Item	Proposals	Actual work	Remarks
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1/34691/2024 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.	Submission of Annual report on PMCP under rule 23E(2)	Annual PMCP Report for Year 2022-23 is submitted to IBM Office	Submitted in stipulated time.
6b	Area available for rehabilitation (ha)	NIL	NA	-
6c	Afforestation done (ha)	Proposed in Safety Zone- 0.32 Ha	Achieved 0.43 Ha	Along with dump plantation and barren area plantation is carried out
6d	No. of saplings planted during the year	Proposed in Safety Zone- 333	Achieved in lease area -1616	
6e	Cumulative no. of plants	NA	5979	
6f	Any other specific method of rehabilitation	NA	NA	-
6g	Cost incurred on watch & care during the year	NA	NA	-
6h	Compliance on reclamation and Rehabilitation by backfilling (i)Voids available for backfilling (L x B x D)	NA	NA	
6i	Compliance on reclamation and Rehabilitation by backfilling (ii) Void filled by waste/tailings	NA	NA	
6j	Compliance on reclamation and Rehabilitation by backfilling(iii) Afforestation on the backfilled area	Nil	NA	
6k	Compliance on reclamation and Rehabilitation by backfilling(iv) Rehabilitation by making water reservoir	Nil	NA	
6l	Compliance on reclamation and Rehabilitation by backfilling(v) Any other specific means	Nil	NA	
6m	Compliance of Rehabilitation of waste land within lease (i) Afforestation	Nil	NA	-
6n	Compliance of Rehabilitation of waste land within lease (ii) Area rehabilitated (ha)	Nil	NA	-
6o	Compliance of Rehabilitation of waste land within lease (iii) Method of rehabilitation	Nil	NA	-
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	Monitoring Agency- Ecomen Laboratories Parameters which are being Monitored: Ambient Air Quality

1/34691/2024		out on regular basis.	Ambient Noise Surface Water Quality Dust Fall Measurement Noise Monitoring (Personal Exposure) Stack Monitoring Personal Dust Monitoring Fugitive Dust Monitoring Ground Water Quality Soil Quality
6q	General remarks of inspecting officer on PMCP compliance & progressive closure operations	PMCP compliance and progressive closure operations are being satisfactorily carried out as per the proposals.	

Mineral Conservation

S.N.	Item	Proposals	Actual work	Remarks
7a	ROM Mineral dispatch or grade-wise sorting within lease area	Grade wise sorting proposed within lease area.	Grade wise sorting is done within lease area.	-
7b	Method of grade-wise Mineral sorting i.e. manual or mechanical	Mechanical	Mechanical	Dry Crushing and Screening Method
7c	Different grade of mineral sorted out at mines	Yes	Fe 45-51%, 51-55% Mn < 25%	Lumps and fines segregated by crushing and screening method.
7d	Any beneficiation process at mines	No Proposal	No beneficiation process in mines	-
7e	General remarks of inspecting officer on Mineral conservation & beneficiation issues	The iron ore generated in the mine is of low grade, with a reported grade below 55%. The lessee is using this ore in their captive steel plant by beneficiating it, thereby taking care of mineral conservation.		

Environment

S.N.	Item	Proposals	Actual work	Remarks
8a	Separate removal and utilization of topsoil (Rule 32)	No proposal	No Topsoil generated during operations.	Proposed Working Area is already broken-up area
8b	Concurrent use or storage of topsoil	No proposal	NA	-
8c	Separate dumps for overburden, waste rock, rejects and fines (Rule 33)	Separate dump for overburden is proposed.	Separate dumping of overburden is being carried out.	As per proposal
8d	Use of overburden, waste rock, rejects and fines dumps for restoring the land to its original use	No proposal	NA	

1/34691/2024 8e	Phased restoration, reclamation and rehabilitation of lands affected by mining operations (Pits, dumps etc.)	No proposal	NA	-
8f	Baseline information on existence of plantation & additional plantation done (Rule 41)	Proposed plantation in Safety Zone- 333	1616 Nos.	Plantation in safety zone and dump area observed.
8g	Survival rate	No proposal	89%	As reported in AR.
8h	Water sprinkling on roads to control airborne dust	Water sprinkling on road is proposed to control airborne dust.	Lessee has deployed Water tankers for sprinkling on roads to control airborne dust.	No. of Water Tankers: 5 Capacity: 8000 Liter
8i	General remarks of inspecting officer on aesthetic beauty in and around mines area	Aesthetic beauty is good in and around the mine, with the plantation carried out by the lessee as well as the natural greenery around the mine surroundings.		

Compliance of Rule 45

S.N.	Item	COMMENTS		Remarks
9a	Status of submission of Monthly and Annual returns	M.R. Submitted up to November 2023: Submitted on 09.12.23 A.R. Submitted up to FY 22-23 Submitted on 29.06.23		Returns submitted in time
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	Graduate Mining Engineer- 03 nos. Diploma Mining Engineer: 03 nos. Geologist : 01 nos.	Mining Engineer & Geologist were present during the day of inspection.	
9c	Scrutiny of Annual return on land use pattern for area under pits, reclaimed area, dumps etc.	Total area as of 01.04.2023: Mining- 40.88 Ha Roads – 2.31 Ha Infrastructure and Engineering Measures – 1.69 Ha Waste Dumps-10.73 Ha Green Belt – 3.38 Ha Mineral Storage- 3.00 Ha Others – 45.52 Ha	Appears to be correct	
9d	Scrutiny of Annual return on afforestation	Plantation Within Lease - 1616 nos. Survival Rate: 87%	Appears to be correct	
9e	Scrutiny of Annual return on mineral reject generation	No Mineral Reject Generation	Appears to be correct	
9f	Scrutiny of Annual return	Values in tonnes	Appears to be correct	

1/34691/2024	on ROM stock and/or graded ore	<p>Iron ore - ROM Opening Stock- 114652.5 T Production: 1091883.00 T Closing Stock- 279957.5 T Grade-wise Production Iron ore -Lumps: 45% to below 51%Fe : 191367 51% to below 55% Fe: 53608 Iron ore -fines: 45% to below 51%Fe : 540728 51% to below 55% Fe: 140874.75</p> <p>Mn ore - ROM Opening Stock- 1090 Production: 7592 Closing Stock- 0 Mn ore - Lumps Production Below 25% OS:12060 Production : 8682 CS: 20742 Mn ore - Fines : 0</p>		
9g	Scrutiny of Annual return on sale value, Ex. Mine price & production cost	<p>Ex-Mine price Lumps Fe 45-51% -1507.00 ₹/T Fe 51-55%- 2200.00 ₹/T Fines Fe 45-51% -1507.00 ₹/T Fe 51-55%- 2200.00 ₹/T Mn: Mn < 25% -2230 ₹/T Production cost: Rs. 588</p>	Appears to be correct	
9i	Scrutiny of Annual return on fixed assets	<p>Value of Fixed Assets: ₹. 853575969.0 Depreciation on Fixed Assets: ₹. 49100087.0</p>	Appears to be correct	
9k	Scrutiny of Annual return on mining machineries	<p>Excavator- 04 Rock Breaker- 01 Tippers – 17 Hydraulic drill – 01 Wheel loader – 05 Backhoe Loader- 01 Crusher- 01 MSP- 01 Water Tanker- 05</p>	Appears to be correct	

(Dr. Suresh Prasad)

