

**INDIAN BUREAU OF MINES
MINERALS DEVELOPEMMENT AND REGULATION DIVISION**

MCDR inspection REPORT

Bangalore regional office

Mine file No : KNT/BLR/FE/491/BNG

Mine code : 30KAR03182

- (i) Name of the Inspecting : **S19**) **SANDEEP KUMAR SINGH**
Officer and ID No.
- (ii) Designation : Assistant Controller Mine
- (iii) Accompanying mine : Mr. Mallikarjuna SHM- Manager (DGM, Mines), Mr. Rakes
Official with
Designation
- (iv) Date of Inspection : 16/06/2022
- (v) Prev.inspection date : 22/09/2021

PART-I : GENERAL INFORMATION

1. (a) **Mine Name** : **NANDI IRON ORE MINE**
- (b) **Registration NO.** : **IBM/432/2011**
- (c) Category : A Fully Mechanised
- (d) Type of Working : Opencast
- (e) Postal address :
State : KARNATAKA
District : BELLARY
Village : MALAGOLLA
Taluka :
Post office :
Pin Code :
FAX No. : 08395250132
E-mail : sunil.singh@jsw.in
Phone : 08395250120
- (f) Police Station : SANDUR
- (g) First opening date : 23/04/2018
- (h) Weekly day of rest : SUN
2. Address for : Malagola Village,
correspondance Sandur Post & Taluk
Bellary
3. (a) Lease Number :
(b) Lease area :
(c) Period of lease :
(d) Date of Expiry :
4. Mineral worked : IRON ORE Main

5. Name and Address of the

Lessee : JSW STEEL LIMITED
 JSW Mining office, Near
 Talur Cross Vidyanagar
 Post, Toranagallu Sandur,
 Bellary BELLARY KARNATAKA
 Phone:9448286155
 FAX :

Owner : Shri Jayant Acharya Deputy Managing Director
 BELLARY KARNATAKA
 Phone: jayant.acharya@
 FAX :

Agent : SUNIL KUMAR SINGH
 JSW steel Ltd., Vijayanagar
 works, Vidyanagar Po,
 Bellari, Karnataka BELLARY
 KARNATAKA
 Phone: 9449598135
 FAX : 08395250132/142

Mining Engineer

Name : Rakesh A.S,Full Time
 Qualification : B.E(MINING)
 Appointment/ : 01/03/2021
 Termination date

Geologist

Name : Nataraj. B.D,Full Time
 Qualification : M.Sc (Geology)
 Appointment/ : 25/02/2022
 Termination date

Manager

Name : MALLIKARAJUNA SHM
 Qualification : FCC
 Appointment/ : 13/12/2021
 Termination date

6. Date of approval of Mining Plan/Scheme of Mining : MP under 16(1) of MCR 2016 16/02/2017
 Modif.of approved Mining Plan 02/06/2020

PART - II : OBSERVATION/COMMENTS OF INSPECTING OFFICERS

Exploration :

Sl.No.	Item	Proposals	Actual work	Remarks
1a	Backlog of previous year	NIL	NIL	NIL
1b	Exploration over lease area for geological axis 1 or 2	12 Boreholes, Total Meterage 600m proposed for the year 2021-22	12 nos. of exploratory boreholes with total meterage of 600 metres proposed for the year 2021-22 against which no exploratory drilling has been carried out.	Violation issued under Rule 11(1) of MCDR 2017.
1c	Exploration Agencies and Expenditure in lakh rupees during the year	Not Specified	NIL	No Exploration carried out during year 2021-22.
1d	Balance area to be explored to bring Geological axis in 1 or 2	G1: 13.22 Ha G2: 0.88 Ha G3: 3.97 Ha G4: 2.96 Ha	G1: 13.22 Ha G2: 0.88 Ha G3: 3.97 Ha G4: 2.96 Ha	No Exploration carried out during year 2021-22.
1e	Balance reserve as on 01/04/20	16.002 million tonnes as on 31.10.2019.(1 1.532 million tonnes of Haematitic ore with avg grade +45% Fe and 4.47 million tonnes of Haematitic siliceous ore with grade +35 to -45 % Fe	15.38 million tonnes as on 1.04.2022.	As reported by lessee during inspection.
1f	General remarks of inspecting officers on geology, exploration etc			12 nos. of exploratory boreholes with total meterage of 600 metres proposed for the year 2021-22 against which no exploratory drilling has been carried out. Violation issued under Rule 11(1) of MCDR 2017.

Development :

Sl.No.	Item	Propasals	Actual work	Remarks
2a	Location of development w.r.t.lease area	Development proposed in sections S1-1' to S 3-3' N-1660304 to 1660639 E- 669314 to 668917	Actual development carried out within the proposed extent of S1-1' to S3-3'.	NIL
2b	Separate benches in topsoil, overburden and minerals (Rule 15)	Separate benches proposed in OB & mineral	Separate benches maintained in OB & mineral	Ore: 15 nos. of benches Waste: 7 nos. of benches.
2c	Stripping ratio or ore to OB ratio	1: 0.08 (in tons)	1: 0.13 (in tons)	Ore- 407911 tons Waste- 52018 tons.
2d	Quantity of topsoil generation in m3	No proposal of Topsoil Generation.	NIL	NIL
2e	Quantity of overburden generation in m3	33,320 m3~ 66,640 tonnes proposed	26,009 m3~52,018 tonnes waste generated.	Actual waste handling is given corresponding to the production carried out 407911Metric Tonnes(Since CEC approved MPAP is 4.08 Lakh MT/Annum).
2f	General remarks of inspecting officers on development of pit w.r.t. type of deposit etc			The development carried out within the proposed extent as per the proposal.

Exploitation:

Sl.No.	Item	Propasals	Actual work	Remarks
3a	Number of pit proposed for production	1 pit proposed	Actual working carried out in One pit.	NIL
3b	Quantity of ROM mineral production proposed	7,99,926 Metric Tonnes proposed.	4,07,911 Metric Tones achieved .	CEC approved maximum permissible annual production- 4,08,000 Metric Tonnes.
3c	Recovery of sailable/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 rejects 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	Mechanized Method (Crushing & Screening)	Mechanized Method (Crushing & Screening)	Crushing and Screening plant with 250TPH capacity Product size: 0-10mm 10-40mm
3i	Any analysis or beneficiation study proposed and carried out for sub grade mineral and rejects.	No Proposal	NIL	NIL
3j	Provision of drilling and blasting in mineral benches	Deep hole Drilling and blasting proposed.	Drilling & blasting carried out. DTH drilling of 100 mm dia & slurry explosives in conjunction with Detonators used for blasting.	NIL
3k	Provision of mining machineries in mineral benches	Proposed Mining Machineries: Excavators-4 (1.6 m3-3 no. & 2.6 m3-1 no.) Tippers-10 (20 tons) Drill-1(100 mm dia) Wheel Loader-3 (2.6 m3)	Deployed Mining Machineries: Excavators-3 (1.6 m3) Rock breaker -1(2.6 m3) Tippers-8 (20 tons/14Cum) Drill-1(100 mm dia) Wheel Loader-2 (2.6 m3)	NIL

3l	Whether height of benches in overburden and mineral suitable for method of mining proposed in MP/SOM	Proposed Height 8 m for both Overburden and Mineral bench	8 m height maintained for both Overburden and Mineral bench.	15 benches in ore and 7 benches in OB.
3m	Total area covered under excavation/pits	Proposal 11.33 Ha	9.33 Ha. As on 01.04.2022	As reported by the Lessee during inspection
3n	Ore to OB ratio for the pit/mine during the year.	1: 0.08 (in tons)	1: 0.13 (in tons)	Ore- 407911 tons Waste- 52018 tons.
3o	Total area put in use under different heads at the end of year	i)Area under Mining- 11.33 ha ii) Waste dump- 1.32 ha iii) Infrastructure & roads- 1.204 ha. iv)Mineral storage- 0.25 ha v)Green belt& R &R measures- 1.310 ha at the end of plan period (2022-23)	i)Covered under current(O/c) workings- 9.33 ha ii)Waste disposal- 0.89 ha iii) Occupied by Plants, buildings, residential, welfare& roads-1.204 ha. iv)Other purpose (Green belt safety zone, R&R and Future Mining area)- 9.606 ha	As reported by Lessee during inspection.
3p	Production of ROM mineral during the last five year period as applicable	2018-19: 4,07,988 2019-20:4,08,000 2020-21:7,99,851 2021-22: 7,99,926 (in Metric tonnes)	2018-19: 4,07,999 2019-20:4,07,800. 2020-21:2,07,380 2021-22:4,07,911 (in Metric tonnes) CEC approved MPAP is 4,08,000 Metric Tonnes	NIL
		Proposal shown as per Approved Mining Plan		
3q	General remarks of inspecting officers on method of mining etc.			The Mining production were carried as per the proposal.

Sl.No.	Item	Propasals	Actual work	Remarks
4a	Separate dumping of topsoil, OB and mineral rejects (Rule 32,33)	Separate dumping proposed for OB.	Separate dumping maintained for OB.	PTD (Proposed Temporary Dump)
4b	Location of topsoil, OB and mineral reject dumps	OB Dump Proposal: E/W: 669170 to 669280 N/S: 1660675 to 1660577 (S-1A-A' to S-2-2')	Actual OB dumping carried out at PTD (Proposed Temporary dump) location. However, it is observed during inspection that waste dumping has also been carried out between Section S1-1' & S1A-1A' at bench 963 mRL to 946 mRL(N-1660544 E-669238 to N-1660561 E-669319) which is not the earmarked location for waste dumping as per the proposal.	No top soil and mineral reject dump. Violation issued under Rule 11(1) of MCDR 2017.
4c	Number of dumps within lease area and outside of lease area	2 waste dumps within the Lease area (1 Proposed temporary dump (PTD) + 1 dead dump (ID1))	2 waste dumps within the Lease area (1 Proposed temporary dump (PTD) + 1 dead dump (ID1))	NIL
4d	Location of dumps w.r.t. ultimate pit limit (Rule 16)	Proposed dump within UPL	Proposed dump located within UPL.	Temporary dump. (PTD)
4e	Number of active and alive dumps.	1 Proposed waste dump (PTD) proposed for waste dumping.	1 proposed waste dump (PTD) is used for waste dumping.	NIL
4f	Number of dead dumps.	1 no. Inactive Dump (ID-1)	1 no. Inactive Dump (ID-1)	NIL
4g	Number of dumps established.	No proposal	NIL	NIL

4h	Whether Retaining wall or garland drain all along dumps are there.	No proposal	NIL	Retaining Wall (2 nos., total length- 367m) & Garland Drains (2 nos., total length- 403m) along the inactive dumps constructed in the previous years are being maintained.
4i	Length of Retaining wall or garland drain all along dumps	No proposal	NIL	Retaining Wall (2 nos., total length- 367m) & Garland Drains (2 nos., total length- 403m) along the inactive dumps constructed in the previous years are being maintained.
4j	Number of settling ponds	No proposal	NIL	NIL
4k	Specific comments of inspecting officer on waste dump management		i)It is observed during inspection that waste dumping has been carried out between Section S1-1' & S1A-1A' at bench 963 mRL to 946 mRL (N-1660544 E-669238 to N-1660561 E-669319) which is not the earmarked location for waste dumping as per the proposal. Violation issued under Rule 11(1) of MCDR 2017.	ii)It is observed during inspection that mineral stacks were not maintained at the earmarked Temporary mineral stack location as per the proposal. Some of the mineral stacks were located between Section S1-1' & S1A-1A' which overlaps the Proposed Temporary dump (PTD) area which is the earmarked location for waste dumping. Violation issued under Rule 11(1) of MCDR 2017.

Solid Waste Management - Backfilling:

Sl.No.	Item	Propasals	Actual work	Remarks
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5a	Status of 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 mineral out area (Rule 32)	No proposal	NIL	NIL
5d	Total area fully reclaimed and rehabilitated	No proposal	NIL	NIL
5e	General remarks of inspecting officers on backfilling and reclamation etc.			No specific comments

Progressive Mine Clousre Plan:

Sl.No.	Item	Propasals	Actual work	Remarks
6a	Whether Annual report on PMCP submitted on time and correctly. Rule 23 E(2).	To be submitted before 1st of July every year	Annual PMCP report for the year 2021-22 yet to be submitted on the date of inspection.	NIL
6b	Area available for rehabilitation (ha) .	0.33 Ha. Inside lease area proposed	0.34 Ha Inside lease area achieved	Planted in Greenbelt Area
6c	afforestation done (ha).	0.33 Ha. Inside lease area	0.34 Ha Inside lease area achieved	Planted in Greenbelt Area.
6d	No. of saplings planted during the year	Inside the lease area: 440	Inside the lease area: 340 Outside the lease: 200	Inside the lease area: Greenbelt Area, Outside Lease: Avenue plantation
6e	Cumulative no .of plants	Not specified	Within ML Area- 2507 Nos.	Nil
6f	Any other method of rehabilitation	No proposal	NIL	NIL

6g	Cost incurred on watch and care during the year	Not mentioned	NIL	NIL
6h	Compliance on reclamation and rehabilitation by backfilling (i) Voids available for backfilling (Lx B x D	No proposal	NIL	NIL
6i	Compliance on reclamation and rehabilitation by backfilling (ii) Voids filled by waste / tailings	No proposal	NIL	NIL
6j	Compliance on reclamation and rehabilitation by backfilling (iii)Afforestation on on 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 rehabilitation (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 and 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 March-22 available. All parameters within limit.	Parameters which are being Monitored: (Air, Noise, Surface water quality, Ground water & Dust)
6q	General remarks of inspecting officers on PMCP compliance and progressive closure operations etc.			The PMCP proposals implemented inside the mine as per the proposal.

Mineral Conservation:

Sl.No.	Item	Propasals	Actual work	Remarks
7a	ROM Mineral dispatch or grade-wise sorting within lease area	Only Dry crushing and screening proposed	Dry Crushing & Screening carried out.	Crushing & Screening plant of 200 TPH with ROM feed up to 500 mm size. Output size= 10-40 mm(C-ore) & 0-10 mm(fines)
7b	Method of grade-wise mineral sorting i.e. manual or mechanical.	No sorting proposed	NIL	Dry Crushing and Screening Method Product Size: 0-10mm 10-40mm
7c	Different grade of mineral sorted out at mines.	No sorting proposed	Lumps 55-58 % Fe Below 55 % Fe Fines 55-58 % Fe Below 55 % Fe	NIL
7d	Any beneficiation process at mines	No Proposal	NIL	NIL

7e	General remarks of inspecting officer on Mineral conservation and beneficiation issues	The mineral conservation activities are carried out inside mine as per the proposal.
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Environment:

Sl.No.	Item	Propasals	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.	Separate dumping of overburden is being carried out.	Separate dump for OB-PTD. No mineral reject generation.
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 and additional plantation done (Rule 41)	Not mentioned	2507 nos. saplings cumulative within Lease.	NIL
8g	Survival rate	70-80% proposed within lease	Inside Lease: 90%	As reported by Lessee during inspection

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.	Water tanker- 10 KL-1 no utilized for water sprinkling inside the mine.
8i	General remarks of inspecting officer on aesthetic beauty in and around mines area			The aesthetic beauty in and around the mines looks good.

Compliance of Rule 45:

Sl.No.	Item	Propasals	Actual work	Remarks
9a	Status of submission of Monthly and Annual returns	M.R. Submitted up to: May, 2022 A.R. Submitted up to: Year 2020-21	Monthly Return for May-22 submitted on 09.06.22 Annual Return for 2020-21 submitted on 30.06.2021	AR for the year 2021-22 yet to be submitted on date of inspection.
9b	Scrutiny of Annual return for information on Mining Engineer, Geologist and Manager	Annual Return for the year 2021-22 yet to be submitted on date of inspection	NIL	NIL
9c	Scrutiny of Annual return on land use pattern for area under pits, reclaimed area, dumps etc.	Annual Return for the year 2021-22 yet to be submitted on date of inspection	NIL	NIL
9d	Scrutiny of Annual return on afforestation	Annual Return for the year 2021-22 yet to be submitted on date of inspection	NIL	NIL
9e	Scrutiny of Annual return on mineral reject generation (Grade and quantity)	Annual Return for the year 2021-22 yet to be submitted on date of inspection	NIL	NIL
9f	Scrutiny of Annual return on ROM stock and/or graded ore	Annual Return for the year 2021-22 yet to be submitted on date of inspection	NIL	NIL

9g	Scrutiny of Annual return on sale value, Ex. Mine price and production cost	Annual Return for the year 2021-22 yet to be submitted on date of inspection	NIL	NIL
9h	Scrutiny of Annual return on fixed assets	Annual Return for the year 2021-22 yet to be submitted on date of inspection	NIL	NIL
9k	Scrutiny of Annual return on mining machineries	Annual Return for the year 2021-22 yet to be submitted on date of inspection	NIL	NIL

Details of violations observed during current inspection and compliance position of violation pointed out

Violation observed			Show couse position		
Rule NO.	Issued on	Compliance on	Rule NO.	Issued on	Compliance on
MCDR17	Rule 11(1)	04/07/2022			

Date :

(SANDEEP KUMAR SINGH)

Indian Bureau of Mines