

**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 : **S011**) **K.SRINIVAS**
Officer and ID No.
- (ii) Designation : Junior Mining Geologist
- (iii) Accompanying mine : Shri Nataraj,B.D Geologist and others
Official with
Designation
- (iv) Date of Inspection : 09-MAR-23
- (v) Prev.inspection date : 16-JUN-22

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-APR-18
- (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-MAR-21
 Termination date

Geologist

Name : Nataraj. B.D,Full Time
 Qualification : M.Sc (Geology)
 Appointment/ : 25-FEB-22
 Termination date

Manager

Name : MALLIKARAJUNA SHM
 Qualification : FCC
 Appointment/ : 13-DEC-21
 Termination date

6. Date of approval of Mining Plan/Scheme of Mining : MP under 16(1) of MCR 2016 16-FEB-17
 Modif.of approved Mining Plan 02-JUN-20

PART - II : OBSERVATION/COMMENTS OF INSPECTING OFFICERS

Exploration :

| Sl.No. | Item | Proposals | Actual work | Remarks |
|--------|---|--|---|---|
| 1a | Backlog of previous year | nil | Nil | - |
| 1b | Exploration over lease area for geological axis 1 or 2 | 12 boreholes proposed with 600m meterage | Drilling of 13 boreholes carried out | Drilling completed in the month of September. 2022. |
| 1c | Exploration Agencies and Expenditure in lakh rupees during the year | No specified | nil | - |
| 1d | Balance area to be explored to bring Geological axis in 1 or 2 | Not specified | G-1- 13.22 Ha G-2- 0.88 Ha G-3- 3.97 Ha G4- 2.96Ha | - |
| 1e | Balance reserve as on 01/04/20 | - | - | Reserves of Iron ore as on 1.4.2022: 11158710t |
| 1f | General remarks of inspecting officers on geology, exploration etc | - | -- | The proposed exploration for the year 2021-22 has been carried out during the month of September, 2022. |

Development :

| Sl.No. | Item | Proposals | Actual work | Remarks |
|--------|--|---|--|---|
| 2a | Location of development w.r.t.lease area | Section S1-S1' to S3-S3' | Development carried out as proposed. | - |
| 2b | Separate benches in topsoil, overburden and minerals (Rule 15) | Separate benches for OB and Ore proposed. | Separate benches maintained for OB and Ore | - |
| 2c | Stripping ratio or ore to OB ratio | 1: 0.08 (in tonnes) | 1: 0.127 (in tonnes) | Iron ore : Ore:407911t Waste: 52018 t |
| 2d | Quantity of topsoil generation in m3 | No proposal | nil | - |

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|----|---|----------|----------|--|
| 2e | Quantity of overburden generation in m3 | 33320 m3 | 26009 m3 | - |
| 2f | General remarks of inspecting officers on development of pit w.r.t. type of deposit etc | - | - | The development has been carried out as per the proposals. |

Exploitation:

| Sl.No. | Item | Propasals | Actual work | Remarks |
|--------|---|-----------------------------------|---|---------------------------------------|
| 3a | Number of pit proposed for production | one pit | one pit | - |
| 3b | Quantity of ROM mineral production proposed | 408000t | 407911t | - |
| 3c | Recovery of sailable/usable mineral from ROM production | 100% | 100% | - |
| 3d | Quantity of mineral reject generation | No proposal | nil | - |
| 3e | Grade of mineral rejects generation and threshold value declared. | No proposal | nil | - |
| 3f | Quantity of sub grade mineral generation. | No proposal | nil | - |
| 3g | Grade of sub grade mineral generation | No proposal | nil | - |
| 3h | Manual / Mechanised method adopted for segregating from ROM | Mechanised method for segregation | Mechanised method for segregation | Dry Crushing and Screening 250 TPH |
| 3i | Any analysis or beneficiation study proposed and carried out for sub grade mineral and rejects. | No proposal | No such beneficiation study carried out | - |

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|----|--|--|---|---|
| 3j | Provision of drilling and blasting in mineral benches | Provision of Drilling and Blasting is proposed for mineral benches. | Drilling has been carried out. No Blasting has been carried out yet. | 106(2)(B) Permission obtained from DGMS as per MMR, 1961. |
| 3k | Provision of mining machineries in mineral benches | Mining Machineries proposed- Excavators- 4 Tippers- 10 Drill-1 Wheel Loaders -3 Back hoe loader-1 | Machinery deployed: Excavators- 3 Tippers- 8 Drill-1 Wheel Loaders-2 Back hoe loader-1 Water tanker-1 | 106(2)(B) Permission obtained from DGMS as per MMR, 1961. |
| 3l | Whether height of benches in overburden and mineral suitable for method of mining proposed in MP/SOM | Bench Height- 8m Bench Width- 8m | Bench Height- 8m Bench Width- 8m | - |
| 3m | Total area covered under excavation/pits | 11.33 Ha (At the end of the plan period) | 9.33 Ha | - |
| 3n | Ore to OB ratio for the pit/mine during the year. | 1: 0.08 (in tonnes) | 1: 0.127 (in tonnes) | Iron ore : Ore:407911t Waste: 52018 t |
| 3o | Total area put in use under different heads at the end of year | Mine Working- 11.33 Ha Dumping -1.32 ha Infrastructure & Roads - 1.204ha Mineral storage - 0.25ha Afforestation- 1.31 Ha At the end of plan period. | Mine Working- 9.33 Ha Dumping -0.89 ha Infrastructure & Roads - 1.204ha Other purpose-9.606 Ha | - |

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|----|--|---|---|---|
| 3p | Production of ROM mineral during the last five year period as applicable | 2018-19: 407988 2019-20:408000 2020-21:799851 2021-22:799926 (in Metric tonnes) | 2018-19: 407999 2019-20:407800 2020-21:207380 2021-22:407911 (in Metric tonnes) | - |
| 3q | General remarks of inspecting officers on method of mining etc. | - | - | There is no change in method of mining. |

Solid Waste Management - Dumping:

| Sl.No. | Item | Propasals | Actual work | Remarks |
|--------|--|---|---|---|
| 4a | Separate dumping of topsoil, OB and mineral rejects (Rule 32,33) | Separate Dumping of Overburden is proposed. | Separate Dumping of Overburden is maintained . | - |
| 4b | Location of topsoil, OB and mineral reject dumps | OB dump proposed in the sections S1A-S1A' to S2-S2' | Overburden Dumping carried out in the proposed location. | - |
| 4c | Number of dumps within lease area and outside of lease area | Within Lease Area- 2 (1proposed temporary dump 1 dead dump) | Within Lease Area- 2 (1proposed temporary dump 1 dead dump) | - |
| 4d | Location of dumps w.r.t. ultimate pit limit (Rule 16) | Proposed within the Ultimate Pit Limit | Within the Ultimate Pit Limit | - |
| 4e | Number of active and alive dumps. | 1 | 1 | - |
| 4f | Number of dead dumps. | 1 | 1 | - |
| 4g | Number of dumps established. | No proposal | nil | - |
| 4h | Whether Retaining wall or garland drain all along dumps are there. | No proposal | nil | Retaining wall or garland drain are maintained. |
| 4i | Length of Retaining wall or garland drain all along dumps | No proposal | nil | Retaining wall or garland drain are maintained. |
| 4j | Number of settling ponds | | | |

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| 4k | Specific comments of inspecting officer on waste dump management | - | - | There are no specific comments on waste dump management. |
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Solid Waste Management - Backfilling:

| Sl.No. | Item | Propasals | Actual work | Remarks |
|--------|---|-------------|-------------|--|
| 5a | Status of part or full extraction of mineral from mined out area before starting backfilling. | No proposal | nil | - |
| 5b | Area under backfilling of mined out area | No proposal | nil | - |
| 5c | Concurrent use of topsoil for restoration or rehabilitation of mineral out area (Rule 32) | No proposal | nil | - |
| 5d | Total area fully reclaimed and rehabilitated | No proposal | nil | - |
| 5e | General remarks of inspecting officers on backfilling and reclamation etc. | - | - | No backfilling proposals for the year 2021-22. |

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 under rule 26(2) of MCDR, 2017 before 1st July of every year. | Submitted. | As reported by the lessee. |
| 6b | Area available for rehabilitation (ha) . | 0.33ha | 0.33ha | In green belt |
| 6c | afforestation done (ha). | 0.33ha | 0.33ha | In green belt |

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|----|--|--------------------|---------------------|-------------------------------------|
| 6d | No. of saplings planted during the year | 440 WML 340 WML | 200 OML | In green belt and Avenue plantation |
| 6e | Cumulative no .of plants | Not specified | 2556 WML 455 OML | - |
| 6f | Any other method of rehabilitation | No proposal | nil | - |
| 6g | Cost incurred on watch and care during the year | No proposal | nil | - |
| 6h | Compliance on reclamation and rehabilitation by backfilling (i) Voids available for backfilling (Lx B x D | No proposal | nil | - |
| 6i | Compliance on reclamation and rehabilitation by backfilling (ii) Voids filled by waste / tailings | No proposal | nil | - |
| 6j | Compliance on reclamation and rehabilitation by backfilling (iii)Afforestation on on backfilled area | No proposal | nil | - |
| 6k | Compliance on reclamation and rehabilitation by backfilling (iv) Rehabilitation by making water reservoir | No proposal | nil | - |
| 6l | Compliance on reclamation and rehabilitation by backfilling (v)any other specific means. | No proposal | nil | - |
| 6m | Compliance of rehabilitation of waste land within lease (i)afforestation | No proposal | nil | - |

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|----|---|--|--|--|
| 6n | Compliance of rehabilitation of waste land within lease (ii)Area rehabilitation (ha) | No proposal | nil | - |
| 6o | Compliance of rehabilitation of waste land within lease (iii)Method of rehabilitation | No proposal | nil | - |
| 6p | Compliance of environmental monitoring (core zone and buffer zone) | Environment monitoring is proposed for Core and Buffer Zone. | Environment monitoring is being carried out monthly in Core and Buffer Zone. | All the environmental parameters observed to be within the permissible limits. |
| 6q | General remarks of inspecting officers on PMCP compliance and progressive closure operations etc. | - | - | PMCP proposals have been implemented as per the proposals. |

Mineral Conservation:

| Sl.No. | Item | Propasals | Actual work | Remarks |
|--------|---|--|---|--|
| 7a | ROM Mineral dispatch or grade-wise sorting within lease area | Grade wise(size) sorting is proposed within lease area. | Grade wise (size)sorting is done within lease area. | - |
| 7b | Method of grade-wise mineral sorting i.e. manual or mechanical. | Mechanical Sorting(size wise) | Mechanical Sorting(size wise) | Dry Crushing & Screening 0 to-10mm 10 to -40mm |
| 7c | Different grade of mineral sorted out at mines. | No proposed. | nil | - |
| 7d | Any beneficiation process at mines | No proposed. | nil | - |

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| 7e | General remarks of inspecting officer on Mineral conservation and beneficiation issues | - | - | The entire ROM is transported to the Steel Plant situated out side the mining lease area. |
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Environment:

| Sl.No. | Item | Propasals | Actual work | 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) | Proposal for Separate dumping of Overburden | Separate dumping of Overburden carried out. | - |
| 8d | Use of overburden, waste rock, rejects and fines dumps 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 and additional plantation done (Rule 41) | 440 WM | L 340 WML 200 OML | - |
| 8g | Survival rate | 70-80% | 90% | - |

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| 8h | Water sprinkling on roads to control airborne dust | Water sprinkling on haul roads proposed to control airborne dust. | Water tankers are deployed to control the airborne dust on haul roads and screening plant. | A water tanker each of 10000 liters capacity. |
| 8i | General remarks of inspecting officer on aesthetic beauty in and around mines area | - | - | There is no change in aesthetic beauty in and around mines. |

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 January, 2023. | A.R for the year 2021-22 submitted on 29.6.2022. | - |
| 9b | Scrutiny of Annual return for information on Mining Engineer, Geologist and Manager | Rakesh A S Mining Engineer Nataraj B.D, Geologist Mallikarjun SHM, Manager | Appears to be correct. | - |
| 9c | Scrutiny of Annual return on land use pattern for area under pits, reclaimed area, dumps etc. | Mine Working- 9.33 Ha Dumping -0.89 ha Infrastructure & Roads - 1.204ha Other purpose- 9.606 Ha | Appears to be correct | - |
| 9d | Scrutiny of Annual return on afforestation | 340 saplings within ML with 90% survival rate. | Appears to be correct | - |
| 9e | Scrutiny of Annual return on mineral reject generation (Grade and quantity) | Nil | Appears to be correct | - |
| 9f | Scrutiny of Annual return on ROM stock and/or graded ore | O/S -40021.77t Production of Iron ore - 407910.55t C/S -0.12 t | Appears to be correct | - |

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|----|---|--|------------------------|---|
| 9g | Scrutiny of Annual return on sale value, Ex. Mine price and production cost | Cost of production-Rs 637.42/tonne. Av.Ex-price mine- Rs 637.42/tonne | Appears to be correct | - |
| 9h | Scrutiny of Annual return on fixed assets | Fixed Assets- Rs307371013/- | Appears to be correct | - |
| 9k | Scrutiny of Annual return on mining machineries | Machinery deployed: Excavators- 3 Tippers- 8 Drill-1 Wheel Loaders- 2 Back hoe loader-1 Water tanker-1 | Appears to be correct. | - |

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 |
| | | | |

Date :

(K.SRINIVAS)

Indian Bureau of Mines