

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

MCDR inspection REPORT

Bangalore regional office

Mine file No : KNT/BLR/Fe-492/BNG

Mine code : 30KAR03183

- (i) Name of the Inspecting : **S19**) **SANDEEP KUMAR SINGH**
Officer and ID No.
- (ii) Designation : Assistant Controller Mine
- (iii) Accompanying mine : Shri Nishant Kumar Sharma, MineManager, Mr. Vivek G.-
Official with
Designation
- (iv) Date of Inspection : 15/06/2022
- (v) Prev.inspection date : 26/06/2021

PART-I : GENERAL INFORMATION

1. (a) **Mine Name** : **DEVADARI 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 :
Taluka :
Post office :
Pin Code :
FAX No. : 022-42863000
E-mail : sunil.singh@jsw.in
Phone : 022-42861000
- (f) Police Station : Sandur
- (g) First opening date : 28/12/2018
- (h) Weekly day of rest : SUN
2. Address for : Lakshmipura Village
correspondance Sandur Taluk, Bellary
Karnataka
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: 9448286155
 FAX : 08395250132/142

Mining Engineer

Name : B.P.UMAPATI,Full Time
 Qualification :
 Appointment/ : 18/08/2020
 Termination date

Geologist

Name : VIVEK.G,Full Time
 Qualification : MSc (GEO)
 Appointment/ : 25/02/2022
 Termination date

Manager

Name : Nishant Kumar Sharma
 Qualification : B E (Mining)
 Appointment/ : 22/12/2018
 Termination date

6. Date of approval of Mining Plan/Scheme of Mining : MP under 16(1) of MCR 2016 31/03/2017
 MP modif under 17(3) MCR 2016 21/10/2020

PART - II : OBSERVATION/COMMENTS OF INSPECTING OFFICERS

Exploration :

Sl.No.	Item	Proposals	Actual work	Remarks
1a	Backlog of previous year	No backlog	NIL	NIL
1b	Exploration over lease area for geological axis 1 or 2	No proposal for year 2021-22	NIL	NIL
1c	Exploration Agencies and Expenditure in lakh rupees during the year	No proposal for year 2021-22	NIL	NIL
1d	Balance area to be explored to bring Geological axis in 1 or 2	G1 - 59.79 Ha G2- 0.64 Ha G3-0.84 Ha Non-mineralized Area- 39.27 Ha	G1 - 59.79 Ha G2- 0.64 Ha G3-0.84 Ha Non-mineralized Area- 39.27 Ha	No exploratory proposals for the year 2021-22.
1e	Balance reserve as on 01/04/20	36,918,935 Metric Tonnes (as on 25.07.2020-based on Approved Modified Mining Plan).	35,073,126 Metric Tonnes (as on 01.04.2022)	Average grade 57.73 % for Haematitic ore and 38.28 % for Haematitic Siliceous ore.
1f	General remarks of inspecting officers on geology, exploration etc			No Exploration proposal for the year 2021-22. The Lessee was advised during inspection to complete the exploration work in the year 2022-23 as per proposal positively so as to upgrade the entire potentially mineralized area to G-1 level of exploration in accordance with MCDR (Amendment), 2021.

Development :

Sl.No.	Item	Proposals	Actual work	Remarks
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2a	Location of development w.r.t.lease area	E/W: 669394 to 669783 N/S: 1665991 to 1666465 Section (S-6-6' to S10-10')	Development of upper benches i.e., 930, 922 & 914 mRL as proposed between Section S6-6' to S-8-8' (N-1666008 E-669597 to N-1666200 E-669579) at Southern side were not advanced as per the proposal.	Violation issued under Rule 11(1) of MCDR 2017.
2b	Separate benches in topsoil, overburden and minerals (Rule 15)	Separate benches proposed in Overburden and Mineral.	Separate Benches maintained in OB and Mineral.	No Topsoil Generation. Bench height for both OB & Ore- 8m.
2c	Stripping ratio or ore to OB ratio	1: 0.19 (In Tonnes)	1: 0.44 (In tonnes)	For the Year 2021-22. OB-5,12,671 tons. Ore- 11,64,745 tons. More OB generation due to localized inter-burden layer occurrence/handling as reported by the Lessee during inspection.
2d	Quantity of topsoil generation in m3	No proposal	NIL	No Topsoil Generation
2e	Quantity of overburden generation in m3	1,02,230m3 2,15.780 tons	242,972 m3 5,12,671 tons	For year 2021-22, Total OB Qty. 512,671 Tonnes
2f	General remarks of inspecting officers on development of pit w.r.t. type of deposit etc			It was observed during site inspection that development of upper benches i.e. 930, 922 & 914 mRL as proposed between Section S6-6' to S-8-8' (N-1666008 E-669597 to N-1666200 E-669579) at Southern side were not advanced as per the proposal. Violation issued under Rule 11(1) of MCDR 2017.

Exploitation:

Sl.No.	Item	Propasals	Actual work	Remarks
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3a	Number of pit proposed for production	One pit proposed	One Pit	For year 2021-22
3b	Quantity of ROM mineral production proposed	1,164,990 Metric Tonnes proposed	1,164,745 Metric Tonnes achieved	For year 2021-22
3c	Recovery of sailable/usable mineral from ROM production	100% Proposed	100% achieved	NIL
3d	Quantity of mineral reject generation	No proposal	NIL	NIL
3e	Grade of mineral rejects 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 / Mechanised method adopted for segregating from ROM	Only Crushing & Screening proposed	Crushing & Screening carried out within the Lease area	Crushing and Screening - 250 TPH.
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 is proposed for mineral benches.	Deep hole Drilling and Blasting is being carried out for production purpose. 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	Proposed Mining Machineries: Excavators-1.6 cum-5 nos. Rock breaker - 1 Tippers-20 tons-25 nos. Drill-102 mm-2 nos. Front End Loader-2.6 cum-6 nos. Water tanker-10 KL-6 nos.	Deployed Mining Machineries: Excavators-1.6 cum-6 nos. Rock breaker -1 Tippers-20 tons-22 nos. Drill-102 mm-1 no. Front End Loader-2.6 cum-4 nos. Water tanker-10 KL-4 nos.	NIL
3l	Whether height of benches in overburden and mineral suitable for method of mining proposed in MP/SOM	Proposed Bench Height- 8m for both OB & Mineral.	Bench Height- 8m maintained for both OB & mineral.	NIL
3m	Total area covered under excavation/pits	51.85 Ha (Till end of plan period, 31.03.2023)	50.83 Ha	As reported by the Lessee during inspection. Includes area under mining, backfilling, low grade storage & engineering measures.
3n	Ore to OB ratio for the pit/mine during the year.	1: 0.19 (In tonnes)	1: 0.44 (In tonnes)	For the Year 2021-22. OB-5,12,671 tons. Ore- 11,64,745 tons. More OB generation due to localized interburden layer occurrence/handling as reported by the Lessee during inspection.
3o	Total area put in use under different heads at the end of year	Mining- 51.85 Ha Waste dump- 21.46 Ha Infrastructure & Roads- 4.63 Ha (Till end of plan period, 31.03.2023)	Mining- 50.83 Ha Waste dump - 20.71 Ha Infrastructure & Roads - 4.63 Ha (As on 1.04.2022)	As reported by the Lessee during inspection.

3p	Production of ROM mineral during the last five year period as applicable	2018-19: 1,165,000 2019-20: 1,165,000 2020-21: 1,164,996 2021-22: 1,164,990 (in Metric Tonnes)	2018-19: 1,163,958 2019-20: 1,164,618 2020-21: 1,164,700 2021-22: 1,164,745 (in Metric Tonnes)	NIL
3q	General remarks of inspecting officers on method of mining etc.	<p>i)The Mining activities were carried out within the proposed extent as per the proposal.</p> <p>ii)During inspection, it is observed that pit no 1, which is the main working area for the current plan period, the workings are located at maximum 975 mRL and minimum 825 mRL. Further it has been observed that there are some old inactive dumps also present in the lease area.</p>		Therefore, in view of the above observations, the Lessee was advised to take necessary steps to conduct integrated slope stability study of the mine from any recognized Govt. agency, to assess the overall Geotechnical stability of the mine including both waste dump and mine benches vide letter no KNT/BLR/FE/492/BNG dated 05/07/2022.

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 has been carried out.	NIL
4b	Location of topsoil, OB and mineral reject dumps	OB Dump Proposal: E/W: 669128 to 669315 N/S: 1666314 to 1666449 (D1-1' & D5-5')	OB dumping carried out between D1-1' to D5-5' as per the proposal.	Backfilling Dump (AD) [950-925 mRL].
4c	Number of dumps within lease area and outside of lease area	Within Lease Area-3 Dumps (1 Backfilling (AD), 2 Inactive Dump-ID-1, ID-2)	Within Lease Area-3 Dumps (1 Backfilling (AD), 2 Inactive Dump-ID-1, ID-2)	Currently Active Dump is Backfilling Dump. (AD)

4d	Location of dumps w.r.t. ultimate pit limit (Rule 16)	Dumps (ID-1, AD) are outside the UPL. Only Portion of ID-2 lie within UPL.	Dumps (ID-1, AD) are outside the UPL. Only Portion of ID-2 lie within UPL.	Portion of ID-2 lie inside the UPL.
4e	Number of active and alive dumps.	Active Dump (Backfilling)- 1 BF(AD)	Active Dump (Backfilling)-1 BF(AD)	NIL
4f	Number of dead dumps.	2 Inactive Dumps (ID-1 & ID-2)	2 Inactive Dumps (ID-1 & ID-2)	NIL
4g	Number of dumps established.	Inactive dump stabilization proposed as per R& R plan.	2 Inactive Dumps, Stabilization Under Progress.	NIL
4h	Whether Retaining wall or garland drain all along dumps are there.	Retaining wall & Garland drain proposed	Retaining wall & Garland drain maintained as per the proposal.	NIL
4i	Length of Retaining wall or garland drain all along dumps	TW-1: 92m, Tw-2-120 m proposed, GD-1-91 m proposed	The Lessee reported during inspection that existing length of TW-1 is 190m. Further construction work was discontinued as instructed by RFO(Sandur) during the field visit, due to the pre-existence of dense natural vegetation at the Northern limb of proposed TW-1 & GD-1, and the construction of the structures would have caused disturbance to natural Flora. The same was communicated to DCF, Ballari. Existing length of TW-2 is 110m. The structure is completed as per site condition.	For waste dump EID-1(Outside Lease area). As reported by Lessee during inspection.
4j	Number of settling ponds	No proposal	NIL	NIL
4k	Specific comments of inspecting officer on waste dump management			The waste dumping carried out at the earmarked location within the proposed extent as per the proposal.

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	NIL
5b	Area under backfilling of mined out area	2.05 Ha proposed	2.29 Ha achieved	More waste handling has been done with respect to proposal given in the year 2021-22. Waste dumping in progress at the Backfilling area, BF(AD).
5c	Concurrent use of topsoil for restoration or rehabilitation of mineral out area (Rule 32)	No Proposal	NIL	No Topsoil Generation
5d	Total area fully reclaimed and rehabilitated	No Proposal	NIL	NIL
5e	General remarks of inspecting officers on backfilling and reclamation etc.			The waste generated have been dumped at the Back fill dump (AD) as per the proposal.

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 date of inspection.	Nil
6b	Area available for rehabilitation (ha) .	1.07 ha within Lease	2.1 ha within Lease	Safety zone plantation. As reported by the Lessee during inspection.

6c	afforestation done (ha).	Within Lease: -Proposed in Safety Zone- 1.07 Ha Outside Lease area (in the encroached area):4.19 Ha	Within Lease: -Achieved Inside the lease area- 2.1Ha Outside Lease area (in the encroached area):4.19 Ha	Inside Lease: " Safety zone plantation- 1.07 Ha from LBS-4 to LBS-7 " 1.03 Ha on ID-1 Outside Lease: 4.19 Ha on EID-1 (As reported by Lessee during inspection)
6d	No. of saplings planted during the year	Within Lease: -Proposed in Safety Zone- 1463 nos. of saplings. Outside Mining Lease: Plants-4190, Shrubs- 10475	Within Lease: - Inside the lease area: Safety Zone- 1550 nos. of saplings (LBS 4 to 7) Dump Area- 2200nos. of saplings (ID-1) Outside ML area (EID-1): Vetiver Grass -15000, Shrubs- 15000	NIL
6e	Cumulative no .of plants	Not specified	Inside Lease: 6970 nos.	As reported by the Lessee during inspection.
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	192m x 142m x 20m (2.05 Ha proposed)	197m x 139m x 22m (2.29 Ha achieved)	BF(AD), Active dump
6i	Compliance on reclamation and rehabilitation by backfilling (ii) Voids filled by waste / tailings	Cumulative Backfilling Area 4.31 Ha	Cumulative Backfilling Area 4.14 Ha	BF(AD), Active dump
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
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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 250 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	Only Dry Crushing and Screening Method
7c	Different grade of mineral sorted out at mines.	No sorting proposed	Lumps 55-58 % Fe Below 55 % Fe Fines 58-60 % Fe 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			No specific comments

Environment:

Sl.No.	Item	Propasals	Actual work	Remarks
8a	Separate removal and utilization of topsoil (Rule 32)	No proposal	NIL	NIL
8b	Concurrent use or storage of topsoil	No Topsoil generation	NIL	NIL
8c	Separate dumps for overburden, waste rock, rejects and fines (Rule 33)	Separate dump for overburden is proposed.	Separate dump for OB maintained	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 and additional plantation done (Rule 41)	Not mentioned	6970 nos. saplings cumulative within Lease.	Nil
8g	Survival rate	85-90% within lease proposed	90% within ML area.	NIL
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 Capacity: 10000 Litres
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	May-22 monthly return Submitted on 09.06.22 A.R 2020-21 submitted on 30.06.21	A.R 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