

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

Inspection under SDF for star rating of mines REPORT

Bangalore regional office

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

Mine code : 30KAR03182

- (i) Name of the Inspecting : **P005**) **C.PARAMESHWARAN**
Officer and ID No.
- (ii) Designation : Deputy Controller Mines
- (iii) Accompanying mine : Shri. Vinod Mines Manager.
Official with
Designation
- (iv) Date of Inspection : 08/11/2019
- (v) Prev.inspection date :

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 : DR. VINOD NOWAL
 DY.MANAGING DIRECTOR, M/S
 JSW STEEL LIMITED, NANDI
 IRON ORE MINE, BELLARY
 BELLARY KARNATAKA
 Phone:
 FAX :

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

Mining Engineer

Name : VINOD KUMAR N.R,Full Time
 Qualification : B.E(MINING),1st Class Mine's Manager Cer
 Appointment/ : 21/03/2018
 Termination date

Geologist

Name : Nataraj. B.D,Full Time
 Qualification : M.Sc (Geology)
 Appointment/ : 21/03/2018
 Termination date

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

PART - II : OBSERVATION/COMMENTS OF INSPECTING OFFICERS

Exploration :

Sl.No.	Item	Proposals	Actual work	Remarks
1a	Backlog of previous year	No proposals	Nil.	Nil
1b	Exploration over lease area for geological axis 1 or 2	(Boreholes - 05 Nos. Meterage - 260 Mts)	(Boreholes - 05 Nos. Meterage - 239 Mts)	few meters less.
1c	Exploration Agencies and Expenditure in lakh rupees during the year	JSW Steel Ltd and - 13,00,000? Rs.	JSW Steel Ltd and 11,95,000? Rs.	Almost to the proposals.
1d	Balance area to be explored to bring Geological axis in 1 or 2	1.38 Ha	1.38 Ha	Based on the new exploration area may vary
1e	Balance reserve as on 01/04/20	No proposals.	7.75 Million Tons	Based on NET mineable reserves - star rating data
1f	General remarks of inspecting officers on geology, exploration etc	No proposals.	as applicable it is reported.	This is an auctioned mine, hence no previous backlog in the exploration.

Development :

Sl.No.	Item	Proposals	Actual work	Remarks
2a	Location of development w.r.t.lease area	E/W 669268 / 668909 N/S 1660720 / 1660300	E/W 669293 / 669056 N/S 1660720/1660420	Actual working is area changed due to 1 km restriction
2b	Separate benches in topsoil, overburden and minerals (Rule 15)	No proposals	Nil	Nil
2c	Stripping ratio or ore to OB ratio	1 : 0.23	1 : 0.15	Slight different.
2d	Quantity of topsoil generation in m3	No proposals.	542 m3	Th mine is working within the broken area & no any fresh area for top soil.

2e	Quantity of overburden generation in m3	46804 M3	29852 m3	16952 m3, less than the proposed one, the reason for the same is not given.
2f	General remarks of inspecting officers on development of pit w.r.t. type of deposit etc	Proposals drawn.	Work is in progres to the satisfaction.	Restriction of temple issue is under study by the NIRM team with the direction of DMG, IBm, DGMS, state Archological department, Forest MOEF etc. to asertain the safe distance, so that the full fledged operation can be commenced.

Exploitation:

Sl.No.	Item	Propasals	Actual work	Remarks
3a	Number of pit proposed for production	Given for 01 pit	single pit in operation as per the inspection.	Same no changes.
3b	Quantity of ROM mineral production proposed	408000 Tons	407999.33 Tons	Target almost met.
3c	Recovery of sailable/usable mineral from ROM production	100%	100%	Done as per the proposals.
3d	Quantity of mineral reject generation	No proposals.	Nil	Nil
3e	Grade of mineral rejects generation and threshold value declared.	No proposals.	Nil	Nil
3f	Quantity of sub grade mineral generation.	No proposals.	Nil	Nil
3g	Grade of sub grade mineral generation	No proposals.	Nil	Nil
3h	Manual / Mechanised method adopted for segregating from ROM	Mechanized Method (Crushing & Screening)	Mechanized Method (Crushing & Screening)	No changes.

3i	Any analysis or beneficiation study proposed and carried out for sub grade mineral and rejects.	No proposals.	Nil	Nil
3j	Provision of drilling and blasting in mineral benches	106 (2) (B) Permission obtained from DGMS	106 (2) (B) Permission obtained from DGMS	same as above.
3k	Provision of mining machineries in mineral benches	106 (2) (B) Permission obtained from DGMS	106 (2) (B) Permission obtained from DGMS	same as above.
3l	Whether height of benches in overburden and mineral suitable for method of mining proposed in MP/SOM	08 / 08 Mts	08 / 08 Mts same is followed.	No chnges.
3m	Total area covered under excavation/pits	8.8 Ha	8.8 Ha is maintained.	No changes.
3n	Ore to OB ratio for the pit/mine during the year.	1 : 0.23	1 : 0.15	very little difference.
3o	Total area put in use under different heads at the end of year	Mining- 8.8 Ha Roads -1.2 Ha Infrastructure - 0.0004 Ha Waste Dumps- 1.41 Ha Others - 9.61 Ha Total - 21.03 Ha	Mining- 8.8 Ha Roads -1.2 Ha Infrastructure - 0.0004 Ha Waste Dumps-1.41 Ha Others - 9.61 Ha Total - 21.03 Ha	Almost same, no changes.
3p	Production of ROM mineral during the last five year period as applicable	2014-15:NA 2015-16:NA 2016-17:NA 2017-18: NA 2018-19: 408000 (in tonnes)	2014-15:NA 2015-16:NA 2016-17:NA 2017-18: NA 2018-19: 407999.33 (in tonnes)	Not much changes.
3q	General remarks of inspecting officers on method of mining etc.	Given proposals	Exploited as per the proposals.	Work is being carrying out with satisfaction.

Sl.No.	Item	Propasals	Actual work	Remarks
4a	Separate dumping of topsoil, OB and mineral rejects (Rule 32,33)	Separate dump for O/B is Proposed	Separate dump for O/B was maintained	yes maintained.
4b	Location of topsoil, OB and mineral reject dumps	OB: PTD (Between Section S1 - S1 & S2 - S2) within the Existing mine pit.	OB: Dumping is carried as per plan	Maintained as per the as per the approved MP
4c	Number of dumps within lease area and outside of lease area	Within Lease area: 01 Nos. (Proposed Temporary Dump) Outside - Nil	Within Lease area: 01 Nos. (Proposed Temporary Dump) Outside - Nil	No changes.
4d	Location of dumps w.r.t. ultimate pit limit (Rule 16)	Given	Presently the work is in the restricted due to NIRM study.	yes maintained as per the approval.
4e	Number of active and alive dumps.	01 No.	01 No.	no changes.
4f	Number of dead dumps.	02 No.	02 No. only	same no changes.
4g	Number of dumps established.	02 No.	02 No.	Now the mine again in the begining of the 2nd innings to work the mine after auctioning.
4h	Whether Retaining wall or garland drain all along dumps are there.	given	yes maintained.	maintained.
4i	Length of Retaining wall or garland drain all along dumps	Retaining Wall -345 mtrs Garland drainage - 358 mtrs Garland drainage - 403 mtrs	Retaining Wall - 367 mtrs Garland drainage - 403 mtrs	under progress.
4j	Number of settling ponds	01	not done due to ICFRE	ICFRE cancelled the construction of settling pond due to thick vegetation

4k	Specific comments of inspecting officer on waste dump management	Given proposals.	The work is in progress	The work in the mine will be extended after the result of NIRM study.
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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 proposals.	nIL	Not matured for such BF activities at present.
5b	Area under backfilling of mined out area	No proposals.	Nil	Nil
5c	Concurrent use of topsoil for restoration or rehabilitation of mineral out area (Rule 32)	No proposals.	Nil	542 m3: Used for afforestation purpose for the saplings which are planted all along the road sides.
5d	Total area fully reclaimed and rehabilitated	No proposals.	Nil	Nil
5e	General remarks of inspecting officers on backfilling and reclamation etc.	No proposals.	Nil	Not yet matured as th mine is under progress for future mining.

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).	Proposals given	Submtded on time correctly.	Yes submitted satiisfcatory.
6b	Area available for rehabilitation (ha) .	No proposals.	Nil	Nil
6c	afforestation done (ha).	0.46 Ha.	0.502 Ha (WML), Outside ML : 0.255 Ha	yes this is the status.

6d	No. of saplings planted during the year	No proposals.	WML: 502 Nos. OML : 255 Nos.	As reported.
6e	Cumulative no .of plants	No proposals.	WML: 502 Nos. OML: 255 Nos. Total Sampling- 757	Yes the mine is restarted by the successful bidder, JSW.
6f	Any other method of rehabilitation	Construction of R & R structures proposed by ICFRE and Approved by CEC	Construction of R & R structures proposed by ICFRE and Approved by CEC	Yes as per the R & R approval it is being followed.
6g	Cost incurred on watch and care during the year	No proposals.	Nil	Nil
6h	Compliance on reclamation and rehabilitation by backfilling (i) Voids available for backfilling (L x B x D	No proposals.	Nil	Nil
6i	Compliance on reclamation and rehabilitation by backfilling (ii) Voids filled by waste / tailings	No proposals.	Nil	Nil
6j	Compliance on reclamation and rehabilitation by backfilling (iii) Afforestation on backfilled area	No proposals.	Nil	Nil
6k	Compliance on reclamation and rehabilitation by backfilling (iv) Rehabilitation by making water reservoir	No proposals.	Nil	Nil
6l	Compliance on reclamation and rehabilitation by backfilling (v) any other specific means.	No proposals.	Nil	Nil

6m	Compliance of rehabilitation of waste land within lease (i)afforestation	No proposals.	Not available.	Nil
6n	Compliance of rehabilitation of waste land within lease (ii)Area rehabilitation (ha)	No proposals.	Nil	Nil
6o	Compliance of rehabilitation of waste land within lease (iii)Method of rehabilitation	No proposals.	Nil	Nil
6p	Compliance of environmental monitoring (core zone and buffer zone)	Monitoring on regular interval (Month wise)	Environmental and Ground water monitoring has been done through regular interval by consultant and the reports are submitted to Environmental Officer, KSPCB.	This is being done.
6q	General remarks of inspecting officers on PMCP compliance and progressive closure operations etc.	No proposals as on date	The mine need to work in long term planning as it is started after the auction from the DMG karnataka.	This will be undertaken in the future workings.

Mineral Conservation:

Sl.No.	Item	Propasals	Actual work	Remarks
7a	ROM Mineral dispatch or grade-wise sorting within lease area	Proposed in the approved MP	Yes it is practiced.	yes done accordingly in the mine.
7b	Method of grade-wise mineral sorting i.e. manual or mechanical.	Mechanized method.	Mechanical Face sampling, Blast holed drill cut sampling Manually.	yes it is mechanized, execept some of the things indicated above.

7c	Different grade of mineral sorted out at mines.	proposed in the approved document.	After extraction from the mine faces, the materials is screened, crushed if required and sent to the stack yard of the company outside the ML area.	Yes as above is followed.
7d	Any beneficiation process at mines	No proposals.	no practice..	Beneficiation process is inside the Steel Plant.
7e	General remarks of inspecting officer on Mineral conservation and beneficiation issues	Proposed	It is well maintained.	production maintained.

Environment:

Sl.No.	Item	Propasals	Actual work	Remarks
8a	Separate removal and utilization of topsoil (Rule 32)	There is no likelihood of generation of topsoil.	No generation of Top soil. If any quantity will encountered, the same will be stacked and used for afforestation purpose.	As such no fresh working.
8b	Concurrent use or storage of topsoil	No proposals	nil	nil
8c	Separate dumps for overburden, waste rock, rejects and fines (Rule 33)	Separate Dump for Waste / OB	Separate Dump for Waste / OB as per the location proposed in the mining plan.	as above.
8d	Use of overburden, waste rock, rejects and fines dumps for restoring the land to its original use	No proposals.	Nil	Nil

8e	Phased restoration, reclamation and rehabilitation of lands affected by mining operations (Pits, dumps etc)	No proposals	nil	nil
8f	Baseline information on existence of plantation and additional plantation done (Rule 41)	Green Belt development across safety zone No. Of plantation:	Plantation across the safety zone has been created to develop green belt. _502_ Nos. (incl. of safety zone, Afforestation along the approach road etc.)	nil
8g	Survival rate	99 %	99 %	nil
8h	Water sprinkling on roads to control airborne dust	Through water tanker	Through water tanker Water sprinkling being done.	YES WATER SPRIKLING DONE IN THE MINE REGULARLY.
8i	General remarks of inspecting officer on aesthetic beauty in and around mines area	Given in the approved document.	The mine is well maintained in respective of aesthetic beauty.	Yes the mine well maintained withinthe lease area.

Compliance of Rule 45:

Sl.No.	Item	Propasals	Actual work	Remarks
9a	Status of submission of Monthly and Annual returns	Submitted as per the format for MR & AR	MR submitted up to December, 2019. & the AR for the year 2018-19.	Submitted to the satisfcations.
9b	Scrutiny of Annual return for information on Mining Engineer, Geologist and Manager	Given as per the AR as per the format.	S/Shri. Vinod Kr, Mines Manager, Pradeep Kr, Mining Engineer & Nataraj Belgere, Geologist.	Yes all the above given officers were present in the mine during the inspection.
9c	Scrutiny of Annual return on land use pattern for area under pits, reclaimed area, dumps etc.	Given as per the format.	6.85ha already exploited & abandoned by O/c minng, 1.95 ha under current working, 1.41ha is used for waste disosals, 1.204 ha as plant & building etc.,, 9.616 ha is work done under PMCP during the year.	Yes satisfactory.

9d	Scrutiny of Annual return on afforestation	Given in the AR for the year	551 nos within the lease area with 95% survival and 255 nos of saplings with 95% survival.	Same as above.
9e	Scrutiny of Annual return on mineral reject generation (Grade and quantity)	No proposals.	Nil	Nil
9f	Scrutiny of Annual return on ROM stock and/or graded ore	Given in the Ar	Opening stock is nil, production for the year is 407999.33t & Closing stock is 0.37t. reported both lumps & fines with grade varies from 55 to 62% Fe. and	No changes.
9g	Scrutiny of Annual return on sale value, Ex. Mine price and production cost	Given in the AR,2019.	Rs. 238.17/t common for all the ores both lumps & fines. No sale price & the cost of production is Rs. 599.49/t.	yes same as above.
9h	Scrutiny of Annual return on fixed assets	given in the return.	Rs. 20,839,306/-	As reported in the return.
9k	Scrutiny of Annual return on mining machineries	given in the annual return of 2018-19.	Yes furnished all the machineries which are under use in the mine. Observed during the inspection f such machines.	yes used in the mines.

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)	04/02/2020			

Date :

(C.PARAMESHWARAN)

Indian Bureau of Mines