

**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/490/BNG

Mine code : 30KAR03181

- (i) Name of the Inspecting : **P005**) **C.PARAMESHWARAN**
Officer and ID No.
- (ii) Designation : Deputy Controller Mines
- (iii) Accompanying mine : S/Shri. Sunil Singh. GM(mines), & Mining Geologist
Official with
Designation
- (iv) Date of Inspection : 05/09/2018
- (v) Prev.inspection date :

PART-I : GENERAL INFORMATION

1. (a) **Mine Name** : **TUNGA IRON ORE MINES**
- (b) **Registration NO.** : **IBM/432/2011**
- (c) Category : A Fully Mechanised
- (d) Type of Working : Opencast
- (e) Postal address
- State : KARNATAKA
- District : BELLARY
- Village : HITTANAHALLI
- Taluka : SANDUR
- Post office : TARANAGAR
- Pin Code : 583275
- FAX No. :
- E-mail : PANDEY.BINAY@JSW.IN
- Phone : 9448286155
- (f) Police Station : BANNIHATTI
- (g) First opening date : 25/01/2018
- (h) Weekly day of rest : SUN
2. Address for : ITTANAHALLI VILLAGE, TARANAGAR
correspondance : SANDUR TALUK, BALLARI DISTRICT- 583119
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 :

6. Date of approval of Mining :
Plan/Scheme of Mining

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 | 10 Pits & 11 Trenches | 10 Pits & 03 Trenches have been completed | in addition without proposals. |
| 1c | Exploration Agencies and Expenditure in lakh rupees during the year | No proposals. | Rs. 50000/- | additionally done this. |
| 1d | Balance area to be explored to bring Geological axis in 1 or 2 | 22.18 Hectare | 13.30 Hectare | within the lease area. |
| 1e | Balance reserve as on 01/04/20 | given | 5.75 million Tonnes | same for the present. |
| 1f | General remarks of inspecting officers on geology, exploration etc | this is a e-auctioned mine after declaring under c-category as per the CEC mines. | Mine started after the e-auction, ist inspection from IBM side. | for the present things are as per the approved document. |

Development :

| Sl.No. | Item | Proposals | Actual work | Remarks |
|--------|--|---|--|------------|
| 2a | Location of development w.r.t.lease area | E/W 675236/675236 N/S 1670680/1670680 0 Between Sec: S5 - S5 to Sec: S7 - S7 | E/W 675236/675236 N/S 1670680/1670680 Between Sec: S5 - S5 to Sec: S7 - S7 | no change. |
| 2b | Separate benches in topsoil, overburden and minerals (Rule 15) | No proposals. | Nil | Nil |

| | | | | |
|----|---|-----------------|--|--|
| 2c | Stripping ratio or ore to OB ratio | 1:0.93 | 1:0.045 (50,178 MT of waste with Fe grade 41.09% was blended with ore ,Hence stripping ratio was very less compared to the proposal) | negligible. |
| 2d | Quantity of topsoil generation in m3 | no proposals. | 250 Cub Mtr (500 Ton) | nil |
| 2e | Quantity of overburden generation in m3 | 1,39,232 | 6,296 | nil |
| 2f | General remarks of inspecting officers on development of pit w.r.t. type of deposit etc | Proposals drawn | yes doind systematically, however there is a deviation, for that violation has been issued. | yes it is issued to attend the correction. |

Exploitation:

| Sl.No. | Item | Propasals | Actual work | Remarks |
|--------|---|---------------|-------------|-------------------------------|
| 3a | Number of pit proposed for production | Proposed | one pit. | yes same single pit. |
| 3b | Quantity of ROM mineral production proposed | 3,00,000 MT | 2,73,983 MT | as per the actual production. |
| 3c | Recovery of sailable/usable mineral from ROM production | 100% | 100% | same. |
| 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 | Crushing & Screening | Crushing & Screening | no change. |
| 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 | proposed for drilling & blasting. | 106 (2)(b) Permission obtained from DGMS | no change. |
| 3k | Provision of mining machineries in mineral benches | yes given | 106 (2)(b) Permission obtained from DGMS | no change. |
| 3l | Whether height of benches in overburden and mineral suitable for method of mining proposed in MP/SOM | given for 08/08 | same height & width size is maintained. | maintained. |
| 3m | Total area covered under excavation/pits | 08.16 Ha | 08.16 Ha | no change |
| 3n | Ore to OB ratio for the pit/mine during the year. | 1:0.93 | 1:0.045 | slight variation. |
| 3o | Total area put in use under different heads at the end of year | given | | |
| 3p | Production of ROM mineral during the last five year period as applicable | 2011-12: NA 2012-13: NA 2013-14:NA 2015-16:NA 2017-18: 3,00,000 (in tonnes) | 2011-12: NA 2012-13: NA 2013-14:NA 2015-16:NA 2017-18: 2,73,983 (in tonnes) | mine started very late. |
| 3q | General remarks of inspecting officers on method of mining etc. | Given for systematic operation. | yes it is being carried out systematically. | yes systematic, however the extent of the workings on developemnt need to be extended, for which violation have been issued. |

Solid Waste Management - Dumping:

| 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 | Dumping carried out as per proposal. | as per the proposals. |
| 4b | Location of topsoil, OB and mineral reject dumps | OB: South East corner of lease area between Section S1- S1 and S2-S2 | OB: South East corner of lease area between Section S1- S1 and S2-S2 | no change |
| 4c | Number of dumps within lease area and outside of lease area | Within Lease area : 02 (including Proposed Dump) Outside - Nil | Within Lease area : 02 (including Proposed Dump) Outside - Nil | No change |
| 4d | Location of dumps w.r.t. ultimate pit limit (Rule 16) | given | out side the UPL. | same. |
| 4e | Number of active and alive dumps. | proposed for one. | one only. | no change. |
| 4f | Number of dead dumps. | proposed for one. | one only. | same. |
| 4g | Number of dumps established. | proposed for one. | one under progress & the previous one was stabilized and not used. | same. |
| 4h | Whether Retaining wall or garland drain all along dumps are there. | given | one done. | one only. |
| 4i | Length of Retaining wall or garland drain all along dumps | 2208 mts Retaining wall proposed | 1340 mts Completed | under progress. |
| 4j | Number of settling ponds | given for 04. | 04 nos. | as above. |
| 4k | Specific comments of inspecting officer on waste dump management | given in the proposals. | Lessee operating after the e-auctioning of the mine. | From the existing mine position, other things are under progress. |

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 | nil |
| 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. | 500 Tonnes : Used as a spread for developing the LAWN in front of Tunga Site office and for saplings which are being planted all along the road sides leading to main road | as above. |
| 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 | nil, the mine is again re-opened and under progress, no area is available for such reclamation & rehabilitation. |

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). | No proposals. | Not submitted. | Since the mine is opened after the e-auction. |
| 6b | Area available for rehabilitation (ha) . | No proposals. | Nil | may be need to re-assess. |
| 6c | afforestation done (ha). | 1.73 Ha | WML: 00.25 Ha OML : 2.00 Ha | as on date available. |
| 6d | No. of saplings planted during the year | No proposals. it was under c-category. | WML: 210 Nos. OML : 487 Nos. Species : Tare, Arale, Behu, Bilwa, Nerala, Honge mara, Hunse Mara | yes as above. |

| | | | | |
|----|---|--|---|---|
| 6e | Cumulative no .of plants | No proposals. | WML: 210 Nos. OML : 587 Nos. | as above. |
| 6f | Any other method of rehabilitation | Constructing R&R structures proposed by ICFRE and Approved by CEC | Construction has been carried out as per the Plan and as per year | mine started very recently, will be taking care in future. |
| 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 (Lx 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 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. | Nil | 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) | Environment and Ground water monitoring has been done through regular interval by consultant and the reports are submitted to Environment officer, KSPCB | same as above. |
| 6q | General remarks of inspecting officers on PMCP compliance and progressive closure operations etc. | Given appropriately. | Mine is restarted after the e-auction and it is in progress, it will take some time for doing the PMCP work. | as above. |

Mineral Conservation:

| Sl.No. | Item | Propasals | Actual work | Remarks |
|--------|---|-------------------|--|---------------------|
| 7a | ROM Mineral dispatch or grade-wise sorting within lease area | proposed | yes it is being done by sending the ROM to the plant directly. | yes it is followed. |
| 7b | Method of grade-wise mineral sorting i.e. manual or mechanical. | Mechanical | Face sampling, Blast holed drill cut sampling Manually. | same no change. |
| 7c | Different grade of mineral sorted out at mines. | proposed. | it is followed. | no change. |
| 7d | Any beneficiation process at mines | No wet proposals. | By adopting dry beneficiation process (Crushing & Screening) | dry process only. |

| | | | | |
|----|--|-----------|--------------------------------|---------------------|
| 7e | General remarks of inspecting officer on Mineral conservation and beneficiation issues | proposed. | it is followed systematically. | yes it is followed. |
|----|--|-----------|--------------------------------|---------------------|

Environment:

| Sl.No. | Item | Propasals | Actual work | Remarks |
|--------|---|--------------------------------------|--|---|
| 8a | Separate removal and utilization of topsoil (Rule 32) | No proposals. | Top soil quantity generated is used for afforestation and plantation. 500 Tonnes : Used as a spread for developing the LAWN in front of Tunga Site office and for saplings which are being planted all along the road sides leading to main road | working in the old pits, so no chanace. |
| 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 /Over Burden | Separate Dump for Waste /Over Burden as per the location proposed in mining plan | yes it is followed. |
| 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 No of Plantation :1494 (including Safety Zone, Afforestation, along the approach road etc.,) | it is being done. |
| 8g | Survival rate | 100% | 80-90% | no change. |
| 8h | Water sprinkling on roads to control airborne dust | given proposals. | Through water tankers Water sprinkling is being done. | yes it is being followed. |
| 8i | General remarks of inspecting officer on aesthetic beauty in and around mines area | given | Mine is being re-started after the e-auction, it will take time to maintain the beauty aspects. | yes in future this will be undertaken. |

Compliance of Rule 45:

| Sl.No. | Item | Proposals | Actual work | Remarks |
|--------|---|---|---|---|
| 9a | Status of submission of Monthly and Annual returns | submitted both MR & AR | as per the prescribed format. | yes as per the format. |
| 9b | Scrutiny of Annual return for information on Mining Engineer, Geologist and Manager | given in the format. | S/ Shri. A.K. Rai, Manager, Aman Kumar , mining engineer. Geologist-Shri. Ragavendra Desai. | Geologist name is no mentioned in the format. |
| 9c | Scrutiny of Annual return on land use pattern for area under pits, reclaimed area, dumps etc. | Given in the annual returns. of 2017-18, in online. | Already exploited & abandoned by opencast=5.73 ha, covered under current working=0.2 ha, occupied by plant, building, roads & etc.,=0.44 ha, other purpose, R & R works & other future mining=26.31 ha. | the area indicated under exploited & abandoned by open cast is not correct, it should be given generally in under mining or in degraded land. |
| 9d | Scrutiny of Annual return on afforestation | given in the format | within the lease area=210 saplings with 99% survival & 487 saplings in outside the lease area with same 99% survival. | survival may vary from 70-90% |

| | | | | |
|----|---|---|--|---|
| 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 format. | ROM is 273983 t and closing stock is 227212t. The ex-mine price is Rs. 194.22/ t of ore 55-55%Fe, Rs. 184/t for lumps of 58-60%Fe. for fines & lumps =Rs. 184/t & Rs. 194.31... | The price for the higher grade of 58-60%Fe is less than the lower grade of Fe with 55-58%Fe is Rs. 194. |
| 9g | Scrutiny of Annual return on sale value, Ex. Mine price and production cost | Details furnished in the annual returns as available. | Rs. 194.22 & 184.22 for lumps of 55-58%Fe, & 58-60%Fe Rs. 194.31 & 184.22 for fines of 55-<58%Fe, & 58-60%Fe. respectively. The cost of iron ore/ t = Rs. 512.68/t. The mine is captive and hence no sale value given. | small variation. |
| 9h | Scrutiny of Annual return on fixed assets | given in the format as applicable. | Fixed asset is given as zero, and the depreciation is given as Rs. 9732638/. | as reported in the returns. |
| 9k | Scrutiny of Annual return on mining machineries | furnished in the returns. | details of machineries are given. | machineries given in the returns are 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) | 01/10/2018 | | | |

Date :

(C.PARAMESHWARAN)

Indian Bureau of Mines