

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

**MCDR INSPECTION REPORT**

**Bhubaneshwar regional office**

**Mine file No :** ORI/IRON/KJR/MCDR39/BBS

**Mine code :** 30ORI08035

- (i) Name of the Inspecting : **S010** ) **SHRI G.C. SETHI**  
Officer and ID No.
- (ii) Designation : Deputy Controller Mines
- (iii) Accompanying mine : Sri Rahul Kishore, Mine Manager  
Official with  
Designation
- (iv) Date of Inspection : 02/10/2018
- (v) Prev.inspection date : 20/07/2017

**PART-I : GENERAL INFORMATION**

1. (a) **Mine Name** : **KATAMATI**
- (b) **Registration NO.** : **IBM/4376/2011**
- (c) Category : A Mechanised
- (d) Type of Working : Opencast
- (e) Postal address
- State : ORISSA
- District : KEONJHAR
- Village : KATAMATI
- Taluka : BARBIL
- Post office : DEOJHAR
- Pin Code :
- FAX No. : 06596233706
- E-mail : rsgarbi@noa.tatasteel.com,l
- Phone : 06596233706
- (f) Police Station : Barbil
- (g) First opening date : 01/05/1934
- (h) Weekly day of rest : SUN
2. Address for : VILL. KATAMATI  
correspondance P.S JODA  
DIST.KEONJHAR.PIN: 758034
3. (a) Lease Number : ORI0107
- (b) Lease area : 403.32
- (c) Period of lease : 19
- (d) Date of Expiry : 16/01/2003
4. Mineral worked : IRON ORE Main

## 5. Name and Address of the

Lessee : TISCO  
Bombay House 24, Homy Mody  
Street Mumbai MUMBAI  
(SUBURBAN) MAHARASHTRA  
Phone:  
FAX :

Owner : T V NARENDRAN  
TATA STEEL LIMITED  
JAMSHEDPUR, POST-BISTUPUR  
SINGBHUM EAST, JHARKHAND  
SINGHBHUM (EAST) JHARKHAND  
Phone: 06572431818  
FAX : 0657-2431818

Agent : R P MALI  
M/S TATA STEEL LIMITED  
JHARKHAND, WEST SINGHBHUM  
NOAMUNDI SINGHBHUM (WEST)  
JHARKHAND  
Phone: 9238003485  
FAX : 06596233706

## Mining Engineer

Name : RAHUL KISHORE, Full Time  
Qualification : B.E MINING  
Appointment/ : 07/01/2017  
Termination date

## Geologist

Name : ASIM CHATTERJEE, Full Time  
Qualification : MSC APPLIED GEOLOGY), M TECH EARTH SCIEN  
Appointment/ : 01/05/2017  
Termination date

## Manager

Name : RAHUL KISHORE  
Qualification : B.E MINING  
Appointment/ : 07/01/2017  
Termination date

|                               |   |                                |            |
|-------------------------------|---|--------------------------------|------------|
| 6. Date of approval of Mining | : | Renewal under rule 22 MCR1960  | 06/07/2001 |
| Plan/Scheme of Mining         | : | Modif.of approved Mining Plan  | 19/07/2007 |
|                               | : | Mining Scheme rule 12 MCDR1988 | 29/09/2009 |
|                               | : | Mining Scheme rule 12 MCDR1988 | 15/04/2013 |
|                               | : | Modif.approved Mining Scheme   | 30/08/2016 |
|                               | : | MS modif under MCR 1960        | 09/06/2017 |
|                               | : | MP review under 17(1) MCR 2016 | 09/11/2017 |

## PART - II : OBSERVATION/COMMENTS OF INSPECTING OFFICERS

## Exploration :

| Sl.No. | Item  | Proposals  | Actual work   | Remarks  |
|--------|---|--|---|--|
| 1a     | Backlog of previous year  | As per approved document dated 09/06/2017, for the year 2017-18 a total of 85 BH have been proposed in year 2017-18.   | Exploratory BH has not been drilled in the year 2017-18.  | Due to delay in granting of Forest Clearance over an area of 310.010 Ha, the boreholes proposed couldn't be drilled. |
| 1b     | Exploration over lease area for geological axis 1 or 2              | A total of 85 BH have been proposed.   | Exploratory BH has not been drilled in the year 2017-18.  | Due to delay in granting of Forest Clearance over an area of 310.010 Ha, the boreholes proposed couldn't be drilled. |
| 1c     | Exploration Agencies and Expenditure in lakh rupees during the year |  |   |  |
| 1d     | Balance area to be explored to bring Geological axis in 1 or 2      | A total of 157.88 Ha areas to be explored under G1/G2 level of exploration.  | No exploration work during 2017-18.   | Due to delay in granting of Forest Clearance over an area of 310.010 Ha, the boreholes proposed couldn't be drilled. |
| 1e     | Balance reserve as on 01/04/20                                      | As per approved document dated 09/06/2017, the position of reserve and resource as on 01/04/2017 are as follows:<br>Reserve:<br>74.74 mT<br>Resources:<br>50.08 mt | The position of reserve and resource as on 01/04/2018 are as follows:<br>Reserve: 67.41 mt<br>Resources: 50.08 mt | Depletion of Iron ore around 7.33 mT during 2017-18. mt stands for million tonnes.                                   |

|    |  |   |     |
|----|--|---|-----|
| 1f | General remarks of inspecting officers on geology, exploration etc | Exploratory BH has not been drilled in the year 2017-18. This is due to delay in granting of Forest Clearance over an area of 310.010 Ha, the boreholes proposed couldn't be drilled. | Nil |
|----|--|---|-----|

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Development :

| Sl.No. | Item   | Propasals   | Actual work   | Remarks   |
|--------|--|---|---|---|
| 2a     | Location of development w.r.t.lease area                       | Pit I has been proposed for development between grid 12869 E to 11708 E and 11021 N to 10090 N  | Development has been within the approved limit i.e. 12869 E to 11708 E and 11021 N to 10090 N | NIL.  |
| 2b     | Separate benches in topsoil, overburden and minerals (Rule 15) | No proposal of top soil generation during 2017-18 as no fresh area has been proposed under degradation. Proposal for separate benches in Ore and Waste. | Separate benches have been observed in ore and waste.   | NIL.  |
| 2c     | Stripping ratio or ore to OB ratio                             | 1: 0.055 CuM/Tonnes   | 1: 0.027 CuM/Tonnes   | Anticipated waste material has not been encountered during 2017-18, as a result, proposed stripping ratio was not achieved. |
| 2d     | Quantity of topsoil generation in m3                           | Not applicable.   | No top soil generation during 2017-18   | NIL.  |
| 2e     | Quantity of overburden generation in m3                        | 4.4 Lakh Cubic metre  | 2.01Lakh Cum.   | NIL.  |

|    |   |   |   |      |
|----|---|---|---|------|
| 2f | General remarks of inspecting officers on development of pit w.r.t. type of deposit etc | Pit I has been proposed for development during 2017-18. | Development has been carried out as per proposal. | NIL. |
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Exploitation:

| Sl.No. | Item  | Propasals   | Actual work  | Remarks  |
|--------|---|---|--|--|
| 3a     | Number of pit proposed for production                             | Excavation from a single pit namely Pit I was proposed. | Excavation has been carried out form proposed pit. | NIL.   |
| 3b     | Quantity of ROM mineral production proposed                       | 8 mT.   | 7.33 mT.   | mT stands for million tonnes.  |
| 3c     | Recovery of sailable/usable mineral from ROM production           | 7.50 mT   | 6.63 mT  | mT stands for million tonnes.  |
| 3d     | Quantity of mineral reject generation                             | 0.5 mT  | 0.7 mT   | mT stands for million tonnes.  |
| 3e     | Grade of mineral rejects generation and threshold value declared. | 45% to <58%   | 45% to <58%  | NIL.   |
| 3f     | Quantity of sub grade mineral generation.                         | 0.5 mT  | 0.7 mT   | mT stands for million tonnes. Same figure also refelectd in MR para. |
| 3g     | Grade of sub grade mineral generation                             | 45% to <58%   | 45% to <58%  | NIL.   |
| 3h     | Manual / Mechanised method adopted for segregating from ROM       | Mechanized.   | Mechanized.  | NIL.   |

|    |  |   |  |   |
|----|--|---|--|---|
| 3i | Any analysis or beneficiation study proposed and carried out for sub grade mineral and rejects.      | No proposal of any beneficiation study during 2017-18.  | No beneficiation study has been carried out.   | NIL.  |
| 3j | Provision of drilling and blasting in mineral benches  | Drilling proposed to carry out by 150mm diameter drills. Blasting is to be carried out by using SME (Site mixed explosive) and Nonel. | Drilling carried out by 150mm diameter drills. Blasting is to be carried out by using SME (Site mixed explosive) Nonel. And electronic detonators. | NIL.  |
| 3k | Provision of mining machineries in mineral benches   | Excavator, Dumper, Dozer, Grader, Water Sprinkler, diesel van etc.  | Machines have been deployed as per proposal.   | NIL.  |
| 3l | Whether height of benches in overburden and mineral suitable for method of mining proposed in MP/SOM | Height of the benches have been proposed about 12 mtr.  | Height of the benches have been maintained about 12 mtr.   | NIL.  |
| 3m | Total area covered under excavation/pits   | As per approved document dated 09/06/2017, an area of 84.922 Ha has been proposed under pit.  | The area under pit as on 01/04/2018 was 79.602 Ha.   | As per AR 2017-18.  |
| 3n | Ore to OB ratio for the pit/mine during the year.  | 1: 0.055 CuM/Tonnes   | 1: 0.027 CuM/Tonnes  | Anticipated waste material has not been encountered during 2017-18, as a result, proposed stripping ratio was not achieved. |

|    |  |  |   |                    |
|----|--|--|---|--------------------|
| 3o | Total area put in use under different heads at the end of year           | Area under Mining - 84.9222 Ha, top soil - 0.6334 Ha, Waste dump/Subgrade dump - 23.6469 Ha, Mineral storage - 0.974 Ha, infrastructure - 5.4320 Ha, Roads, Pipeline etc - 6.1285 Ha, Railways - 6.48 Ha, Tailing pond - 21.2587 Ha, Mineral Separation Plant - 3.6599 Ha. | Open cast Working - 79.602 Ha, Waste Disposal - 4.5 Ha, Occupied by plant, buildings, residential, welfare buildings and roads - 19.939 Ha Other Purpose - 40.895Ha | As per AR 2017-18. |
| 3p | Production of ROM mineral during the last five year period as applicable | 2013-14: 7.3 mT<br>2014-15: 7.5 mT<br>2015-16: 8.0 mT<br>2016-17: 7.5 mT<br>2017-18: 8.0mT   | 2013-14: 5.38 mT<br>2014-15: 3.30 mT<br>2015-16: 3.80 mT<br>2016-17: 5.74 mT<br>2017-18: 7.30 mT  | NIL.               |
| 3q | General remarks of inspecting officers on method of mining etc.          | Fully mechanized method of mining has been proposed to win the Ore.  | Fully mechanized method of mining is being in practice win the Ore.   | NIL.               |

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Solid Waste Management - Dumping:

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| Sl.No. | Item | Propasals | Actual work | Remarks |
|--------|------|-----------|-------------|---------|
|--------|------|-----------|-------------|---------|

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|----|--|--|--|---|
| 4a | Separate dumping of topsoil, OB and mineral rejects (Rule 32,33)   | No proposal of top soil generation during 2017-18 as no fresh area has been proposed under degradation. Separate stacking of OB and Mineral has been proposed. | No top soil generation during 2017-18. Separate stacking of OB and Mineral has been observed.          | NIL.  |
| 4b | Location of topsoil, OB and mineral reject dumps                   | Waste No -2: 11430 E -11760 E, 10570 N - 10830 N. Subgrade Dump 12263E, 9840 N - 10225N  | Waste dump No 2: 11430 E -11760 E , 106664 N - 10830 N Subgrade Dump: 11840E - 12263E, 9845 N - 10224N | NIL.  |
| 4c | Number of dumps within lease area and outside of lease area        | One  | One  | NIL.  |
| 4d | Location of dumps w.r.t. ultimate pit limit (Rule 16)              | Outside UPL.   | Outside UPL.   | NIL.  |
| 4e | Number of active and alive dumps.                                  | One  | One  | NIL.  |
| 4f | Number of dead dumps.  | Not applicable.  | Not applicable.  | NIL.  |
| 4g | Number of dumps established.                                       | None   | Not applicable.  | NIL.  |
| 4h | Whether Retaining wall or garland drain all along dumps are there. | Retaining wall and garland drain has been observed along the dump.   | Retaining wall and garland drain has been observed along the dump.                                     | NIL.  |
| 4i | Length of Retaining wall or garland drain all along dumps          | 1590m  | 880m   | The re-handling of slime from slime dame was in progress thus proposed toe wall target were not achieved. |



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|----|--|-----------------|---|------|
| 4j | Number of settling ponds   | Not applicable. | Not applicable.   | NIL. |
| 4k | Specific comments of inspecting officer on waste dump management |                 | No top soil generation during 2017-18. Separate stacking of OB and Mineral has been observed. | NIL. |

#### 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 area is matured for reclamation.   | Not applicable.   | NIL.    |
| 5b     | Area under backfilling of mined out area  | Not applicable.   | Not applicable.   | NIL.    |
| 5c     | Concurrent use of topsoil for restoration or rehabilitation of mineral out area (Rule 32)     | No proposal of top soil generation during 2017-18 as no fresh area has been proposed under degradation. | No top soil generation during 2017-18.  | NIL.    |
| 5d     | Total area fully reclaimed and rehabilitated  | Not applicable.   | Nil   | NIL.    |
| 5e     | General remarks of inspecting officers on backfilling and reclamation etc.                    |   | No area has has been exhausted of mineral, thereby no reclamation or backfilling has been undertaken. | NIL.    |

#### 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).                               | As per rule 26(2) of MCDR, 2017, PMCP report to be submitted for previous year by 1st July | Annual report of PMCP has been submitted for the year 2017-18. | NIL. |
| 6b | Area available for rehabilitation (ha) .   | 1 Ha area has been proposed for dump plantation.   | Plantation carried out as per proposal.                        | NIL. |
| 6c | afforestation done (ha).   | 1 Ha area has been proposed for dump plantation  | 2.19 area has been planted during the year 2017-18.            | NIL. |
| 6d | No. of saplings planted during the year  | 2500   | 5671   | NIL. |
| 6e | Cumulative no .of plants   | 15000 (2013-14 TO 2017-18)   | 11957 (2013-14 TO 2017-18)                                     | NIL. |
| 6f | Any other method of rehabilitation   | Not applicable.  | Not applicable.  | NIL. |
| 6g | Cost incurred on watch and care during the year  | 1.5 lakhs  | 7.33 Lakhs   | NIL. |
| 6h | Compliance on reclamation and rehabilitation by backfilling (i) Voids available for backfilling ( Lx B x D | No proposal of backfilling as none of the area is completely exhausted.                    | Not applicable   | NIL. |
| 6i | Compliance on reclamation and rehabilitation by backfilling (ii) Voids filled by waste / tailings          | No proposal of backfilling as none of the area is completely exhausted.                    | Not applicable.  | NIL. |
| 6j | Compliance on reclamation and rehabilitation by backfilling (iii)Afforestation on backfilled area          | Not applicable   | Not applicable   | NIL. |

|    |  |   |  |      |
|----|--|---|--|------|
| 6k | Compliance on reclamation and rehabilitation by backfilling (iv)<br>Rehabilitation by making water reservoir | Not applicable.   | Not applicable   | NIL. |
| 6l | Compliance on reclamation and rehabilitation by backfilling (v)any other specific means.                     | Nil   | Not applicable.  | NIL. |
| 6m | Compliance of rehabilitation of waste land within lease (i)afforestation                                     | No waste land.  | Not applicable.  | NIL. |
| 6n | Compliance of rehabilitation of waste land within lease (ii)Area rehabilitation (ha)                         | Not applicable.   | Not applicable.  | NIL. |
| 6o | Compliance of rehabilitation of waste land within lease (iii)Method of rehabilitation                        | Not applicable.   | Not applicable   | NIL. |
| 6p | Compliance of environmental monitoring (core zone and buffer zone)   | Ambient air ,<br>Water quality ,<br>Noise level survey &<br>Ground Vibration to be measured<br>Quarterly. | Environmental monitoring was carried out in Core and buffer zone for the reporting year. | NIL. |
| 6q | General remarks of inspecting officers on PMCP compliance and progressive closure operations etc.            |   | Environmental monitoring was carried out in Core and buffer zone for the reporting year. | NIL. |

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Mineral Conservation:

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| Sl.No. | Item   | Propasals   | Actual work  | Remarks |
|--------|--|---|--|---------|
| 7a     | ROM Mineral dispatch or grade-wise sorting within lease area                           | About 2MTPA of ROM is proposed process in two nos. of Mobile Crushing & Screening Plant located at Katamati | Processing has been observed in the mine.              | NIL.    |
| 7b     | Method of grade-wise mineral sorting i.e. manual or mechanical.                        | Mechanical.   | Mechanical.  | NIL.    |
| 7c     | Different grade of mineral sorted out at mines.  | Fe % >45%   | Fe % - 62.3  | NIL.    |
| 7d     | Any beneficiation process at mines .   | No beneficiation process at mine.   | Not applicable   | NIL.    |
| 7e     | General remarks of inspecting officer on Mineral conservation and beneficiation issues |   | There is no mineral conservation problems in the mine. | NIL.    |

#### Environment:

| Sl.No. | Item  | Propasals  | Actual work                            | Remarks |
|--------|---|--|--|---------|
| 8a     | Separate removal and utilization of topsoil (Rule 32) | No proposal of top soil generation during 2017-18 as no fresh area has been proposed under excavation. | No top soil generation during 2017-18. | NIL.    |
| 8b     | Concurrent use or storage of topsoil                  | Not applicable.  | No top soil generation during 2017-18. | NIL.    |

|    |   |   |   |      |
|----|---|---|---|------|
| 8c | Separate dumps for overburden, waste rock, rejects and fines (Rule 33)                                      | Separate dumps for Waste and Sub-grade.   | Separate dumps for Waste and Sub-grade has been observed.   | NIL. |
| 8d | Use of overburden, waste rock, rejects and fines dumps for restoring the land to its original use           | The overburden, waste rock, rejects and fines are proposed to be dumped separately. | The overburden, waste rock, rejects and fines generated are dumped separately.                                | NIL. |
| 8e | Phased restoration, reclamation and rehabilitation of lands affected by mining operations (Pits, dumps etc) | Plantation was proposed in 1 Ha area.   | Plantation was done in 2.19 Ha area.  | NIL. |
| 8f | Baseline information on existence of plantation and additional plantation done (Rule 41)                    | 2500 saplings were to be planted during 2017-18.                                    | Achieved Plantation of 5671 number during 2017-18.  | NIL. |
| 8g | Survival rate   |   | 91.28 % in 2017-18  | NIL. |
| 8h | Water sprinkling on roads to control airborne dust  | Water sprinkling has been proposed.   | Water sprinkling has been observed over haul road and mine.   | NIL. |
| 8i | General remarks of inspecting officer on aesthetic beauty in and around mines area                          |   | Plantation has been carried out in Safety Zone and Dump to improve aesthetic beauty in and around lease area. | NIL. |

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Compliance of Rule 45:

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| Sl.No. | Item | Proposals | Actual work | Remarks |
|--------|------|-----------|-------------|---------|
|--------|------|-----------|-------------|---------|

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|----|---|--|--|------------------------------------|
| 9a | Status of submission of Monthly and Annual returns  | As per rule 45 of MCDR , monthly and annual returns to be submitted.   | Monthly and annual returns are being submitted regularly.                                    | Scrutiny of annual return 2017-18. |
| 9b | Scrutiny of Annual return for information on Mining Engineer, Geologist and Manager           | Information has been furnished about Mining Engineer, Geologist, and Manager.  | Mining engineer, Mines Manager and geologist has been appointed in the mine.                 | NIL.                               |
| 9c | Scrutiny of Annual return on land use pattern for area under pits, reclaimed area, dumps etc. | Open cast Working - 79.602 Ha, Waste Disposal - 4.5 Ha, Occupied by plant, buildings, residential, welfare buildings and roads - 19.939 Ha<br>Other Purpose - 40.895Ha | Found to be in order.  | NIL.                               |
| 9d | Scrutiny of Annual return on afforestation  | 5671 Saplings  | 5671 Saplings  | NIL.                               |
| 9e | Scrutiny of Annual return on mineral reject generation (Grade and quantity)                   | 7.18 Lakh Tonnes , Grade: Fe % 52.7  | Found to be in Order.  | NIL.                               |
| 9f | Scrutiny of Annual return on ROM stock and/or graded ore                                      | ROM closing stock was 1021190.53 MT, Lumps closing stock was 20.097 Mt and fines closing stock was 157158.47 MT.   | The closing stocks furnished in the annual return for the year 2017-18 found to be in order. | NIL.                               |

|    |   |   |   |      |
|----|---|---|---|------|
| 9g | Scrutiny of Annual return on sale value, Ex. Mine price and production cost | The Ex-mine price furnished for lumps and fins is 586.27 prt tonne. The cost of production is RS. 586.27 Per tonne. | The information furnished in respect of the Ex-mine price and cost of production are appears to be correct. | NIL. |
| 9h | Scrutiny of Annual return on fixed assets                                   | The value of fixed asset furnished is Rs. 582824356.00  | Rs. 582824356.00  | NIL. |
| 9k | Scrutiny of Annual return on mining machineries                             | Hydraulic Shovel, Dumper, Blast Hole Drill, Dozer, Motor Grader etc.  | Found to be in order.   | NIL. |

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

| Violation observed |                         | Show cause position |                         |
|--------------------|-------------------------|---------------------|-------------------------|
| Rule NO.           | Issued on Compliance on | Rule NO.            | Issued on Compliance on |

**Date :**

**(SHRI G.C. SETHI)**

Indian Bureau of Mines