

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

**MCDR INSPECTION REPORT**

**Bhubaneswar regional office**

Mine file No : ORI/MN/KJR/MCDR-21/BBS

Mine code : 40ORI08033

- (i) Name of the Inspecting : SQ10 ) SHRI G.C. SETHI  
Officer and ID No.
- (ii) Designation : Deputy Controller Mines
- (iii) Accompanying mine : Shri S. Mishra, QP  
Official with  
Designation
- (iv) Date of Inspection : 14/02/2020
- (v) Prev.inspection date : 21/10/2019

**PART-I : GENERAL INFORMATION**

1. (a) Mine Name : TIRINGPAHAR
- (b) Registration NO. : 4376
- (c) Category : A Manual
- (d) Type of Working : Opencast
- (e) Postal address :  
State : ORISSA  
District : KEONJHAR  
Village : BAMEBARI  
Taluka : CHAMPUA  
Post office : BAMEBARI  
Pin Code :  
FAX No. : 06572431818  
E-mail : mdoffice@tatasteel.com  
Phone : 06767 279208
- (f) Police Station : Joda
- (g) First opening date : 08/02/1972
- (h) Weekly day of rest : SUN
2. Address for : VILL&PO: BAMEBARI  
correspondance : DIST: KEONJHAR,ORISSA  
PIN:758030
3. (a) Lease Number : ORI0186
- (b) Lease area : 169
- (c) Period of lease : *up to 31-03-2030*
- (d) Date of Expiry : 31/03/2030
4. Mineral worked : MANGANESE ORE Main

## 5. Name and Address of the

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

Owner : TISCO  
 24, HOMI MODY STREET FORT  
 MUMBAI-1 GREATER BOMBAY  
 MAHARASHTRA  
 Phone:  
 FAX :

Agent : AMIT KUMAR DUBEY  
 KEONJHAR ORISSA  
 Phone: 9236101140  
 FAX :

Mining Engineer  
 Name : SHRI NIRANJAN KUMAR, Full Time  
 Qualification : AMIE (MINING)  
 Appointment/ : 21/11/2017  
 Termination date

Geologist  
 Name : SHRI NAGA RAJU VENGALARAJU, Full Time  
 Qualification : MSC (APPLIED GEOLOGY)  
 Appointment/ : 15/09/2017  
 Termination date

Geologist  
 Name : B.K.DAS, Full Time  
 Qualification : M.Sc (GEO)  
 Appointment/ : 05/06/2002  
 Termination date

Manager  
 Name : PANKAJ KUMAR  
 Qualification : DEGREE IN MINING AND FCC  
 Appointment/ :  
 Termination date

Manager  
 Name : SHRI NIRANJAN KUMAR  
 Qualification : AMIE (MINING)  
 Appointment/ : 21/11/2017  
 Termination date

6. Date of approval of Mining Plan/Scheme of Mining	:	Modif. approved Mining Scheme	24/03/2005
		Mining Scheme rule 12 MCDR1988	28/04/2006
		Mining Scheme rule 12 MCDR1988	09/07/2010
		Mining Scheme rule 12 MCDR1988	13/04/2012
		Mining Scheme rule 12 MCDR1988	29/04/2015
		FMCP under 23C(1)	01/09/2016

MP modif under 17(3) MCR 2016

03/07/2018

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

## Exploration :

Sl.No.	Item	Proposals	Actual work	Remarks
1a	Backlog of previous year	50 nos of boreholes for the year 2018-19.	50 nos of boreholes have been drilled for the year 2018-19.	Nil
1b	Exploration over lease area for geological axis 1 or 2	G1/G2 Level of exploration.	In 2018-19, total 50 numbers of bore holes have been drilled by lessee under G2 Level of exploration.	Nil
1c	Exploration Agencies and Expenditure in lakh rupees during the year	Not specified.	Rs 97.72 lakh expenditure incurred for exploration done by In-house.	Nil
1d	Balance area to be explored to bring Geological axis in 1 or 2	G1/G2 Level of exploration.	About 34.04 ha area has been explored under G1/G2 level by putting 50 nos. of bore holes	Nil
1e	Balance reserve as on 01/04/20	As per the approved document on 29.04.2015, the manganese reserves are 0.766 million tonnes and resources are 2.855 million tonnes and Iron resources are 4.77 million tonnes .	The manganese reserves as on 01.04.2019 are 0.881 million tonnes and resources are 2.945 million tonnes and iron resources are 5.59 million tonnes .	Nil
1f	General remarks of inspecting officers on geology, exploration etc	50 nos of boreholes proposed for the year 2018-19.	50nos of boreholes have been drilled for the year 2018-19. Rs 97.72 lakh expenditure incurred for exploration done by In-house.	Nil

## Development :

Sl.No.	Item	Proposals	Actual work	Remarks
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2a	Location of development w.r.t. lease area	Guruda-A block (12070E-12312E & 11360N-11600N) and Guruda-B block was proposed to be developed during the year 2018-19.	Development is carried out in Guruda-A block (12131E-12270E & 11385N-11557N) while Guruda-B block not developed due to want of Forest Clearance.	Development is carried out in Guruda-A block while Guruda-B block not developed due to want of Forest Clearance.
2b	Separate benches in topsoil, overburden and minerals (Rule 15)	Separate benches in top soil, ore and waste are proposed with 6 to 8 m height.	Separate benches in ore and waste are maintained with 6 to 8 m height. No bench formed top soil due to very less thickness and the same was scraped and stacked separately during 2018-19.	Nil
2c	Stripping ratio or ore to OB ratio	1:3.72 t/cu.m.	1:3.19 t/cu.m.	Variation is due to less development and irregular nature of ore deposit.
2d	Quantity of topsoil generation in m3	No topsoil generation envisaged in 2018-19.	No topsoil generated during 2018-19.	Nil
2e	Quantity of overburden generation in m3	316211 cu.m in 2018-19.	271294 cu.m generated during 2018-19.	Variation is due to less development and irregular nature of mineralisation.
2f	General remarks of inspecting officers on development of pit w.r.t. type of deposit etc	Guruda-A block & Guruda-B block are proposed under excavation planning in 2018-19.	Development is concentrated in Guruda-A block. Guruda-B block not developed due to want of Forest clearance.	Nil

### Exploitation:

Sl.No.	Item	Proposals	Actual work	Remarks
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3a	Number of pit proposed for production	2 nos. of pits such as Guruda-A and Guruda-B block	Production is reported only from one of pit i.e. from Guruda-A block.	Production was reported only from Guruda-B block and block A of Guruda could not operated due to want of Forest clearance.
3b	Quantity of ROM mineral production proposed	100000 tonnes of Mn ore.	84923.229 tonnes of Mn ore production was reported during 2018-19.	Due to want of MoEF clearance.
3c	Recovery of sailable/usable mineral from ROM production	85%	85%	Nil
3d	Quantity of mineral reject generation	6000 tonnes in 25018-19.	17538 tonnes generated during 2018-19.	Nil
3e	Grade of mineral rejects generation and threshold value declared.	+10-25% Mn	+10-25% Mn	Nil
3f	Quantity of sub grade mineral generation.	Nil	Nil	Nil
3g	Grade of sub grade mineral generation	Not applicable.	Not applicable.	Nil
3h	Manual / Mechanised method adopted for segregating from ROM	Manual	Manual	Nil
3i	Any analysis or beneficiation study proposed and carried out for sub grade mineral and rejects.	Study on mechanised processing of manganese ore and beneficiation of low grade manganese ore is envisaged.	Study carried out on mechanised processing of manganese ore and low grade manganese ore beneficiation carried out by reduction roasting and magnetic seperation.	Nil

3j	Provision of drilling and blasting in mineral benches	Deep hole drilling and blasting is proposed with 100 mm dia drill holes and blasting by SME is envisaged.	Deep hole drilling and blasting is carried out with 100 mm dia drill holes and blasting by SME is in practice.	Nil
3k	Provision of mining machineries in mineral benches	Back hoe: 3nos, dumpers: 15, nos and drill: 1 nos.	Back hoe: 2nos, dumpers: 9, nos and drill: 1 nos.	Nil.
3l	Whether height of benches in overburden and mineral suitable for method of mining proposed in MP/SOM	Bench height proposed are 6 to 8 m.	Bench height is suitably matched with the excavator i.e. 6 to 8m.	Nil
3m	Total area covered under excavation/pits	23.903 ha at the end of plan period 2019-20.	An extent of 23.316 ha. is covered under excavation pits.	An extent of 23.316ha. is covered under mine excavation pits.
3n	Ore to OB ratio for the pit/mine during the year.	1:3.72 t/cu.m.	1:3.19 t/cu.m	Variation is due to irregular nature of mineralisation.
3o	Total area put in use under different heads at the end of year	Total area proposed to be degraded in different counts such as : excavation: 23.903 ha, waste disposal: 31.042 ha, infra: 0.30ha, mineral storage: 11.143 ha., road: 3.706ha & green belt: 2.588ha by end of plan period 2019-20.	The extent of area degraded in different counts such as excavation: 23.316 ha, waste disposal: 22.153ha, infra: 0.3 ha, mineral storage: 10.55 ha., roads: 2.536 ha & green belt: 2.547ha..	Nil



3p	Production of ROM mineral during the last five year period as applicable	Manganese ore 2014-15: 0.1 million tonnes 2015-16: 0.1 million tonnes 2016-17: 0.1 million tonnes. 2017-18: 0.1million tonnes 2018-19: 0.1million tonnes	Manganese ore 2014-15: 0.021 million tonnes 2015-16: 0.035 million tonnes 2016-17: 0.032 million tonnes 2017-18: 0.066 million tonnes 2018-19: 0.064million tonnes	The reported production is in lower side due to non operatriona status of Guruda blcok B & only the the Gurda block-A was working due to want of forest clearance.
3q	General remarks of inspecting officers on method of mining etc.	Excavation of ROM has been proposed from Gurda Block-A and Block-B(Block-1, Block-2)	The mine excavation was restricted to Gurda Block-A. The production from Guruda-B block was not done due to want of forest clearnace.	Nil

## Solid Waste Management - Dumping:

Sl.No.	Item	Propasals	Actual work	Remarks
4a	Separate dumping of topsoil, OB and mineral rejects (Rule 32,33)	Provisions for sepearte dumping of top soil, Over Burden and mineral rejects are envisaged.	Seperate dumps/stacks for top soil, Over Burden and mineral rejects are made.	Nil
4b	Location of topsoil, OB and mineral reject dumps	11762N-12009N, 11572E-11945E	11762N-12009N, 11572E-11945E	Nil
4c	Number of dumps within lease area and outside of lease area	one dump	one dump	Nil
4d	Location of dumps w.r.t. ultimate pit limit (Rule 16)	Out side the UPL	Out side the UPL	Nil
4e	Number of active and alive dumps.	one dump	one dump	Nil



4f	Number of dead dumps.	There is one dead dump which is stabilized by plantation.	There is one dead dump which is stabilized by plantation.	Nil
4g	Number of dumps established.	There is one dead dump which is stabilized by plantation.	There is one dead dump which is stabilized by plantatio	Nil
4h	Whether Retaining wall or garland drain all along dumps are there.	Retaining wall: 625m, Garland drain: 625m in the year 2018-19.	Retaining wall: 480m, Garland drain: 480m constructed during the year 2018-19.	Nil
4i	Length of Retaining wall or garland drain all along dumps	Retaining wall: 625m, Garland drain: 625m in the year 2018-19.	Retaining wall: 480m, Garland drain: 480m constructed during the year 2018-19.	Nil
4j	Number of settling ponds	One	One	Nil
4k	Specific comments of inspecting officer on waste dump management		Slope of the dead dump has been stabilised by plantation. The dead dump has been fully rehabilitated by plantation. The retaining wall and garland drain has been constructed arround the dump.	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.	1.2ha in 2018-19.	0.86ha reclaimed during 2018-19.	Violation was pointed out earlier for deviation in reclamation proposal envisaged in the approved document and the same is under process of compliance.

5b	Area under backfilling of mined out area	1.2ha in 2018-19.	0.86ha reclaimed during 2018-19.	Deviation due to lack of MoEF clearance. The violation pointed out earlier this year is under process for compliance.
5c	Concurrent use of topsoil for restoration or rehabilitation of mineral out area (Rule 32)	Top soil so generated is proposed for dump plantation purpose.	Top soil so generated is proposed for dump plantation purpose.	Nil
5d	Total area fully reclaimed and rehabilitated	1.2ha in 2018-19.	1.2ha in 2018-19.	Violation was pointed out earlier for deviation in reclamation proposal envisaged in the approved document and the same is under process of compliance.
5e	General remarks of inspecting officers on backfilling and reclamation etc.		An extent of 0.86ha area has been reclaimed during 2018-19.	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).	Annual report on PMCP has been submitted.	Annual report on PMCP has been submitted.	Nil
6b	Area available for rehabilitation (ha) .	An extent of 1.43ha of dumping area is proposed for rehabilitation in 2018-19.	An extent of 1.43ha of dumping area has been rehabilitationby plantation during 2018-19.	Nil
6c	afforestation done (ha).	1.43ha	1.43ha	Nil

6d	No. of saplings planted during the year	3575nos.	During 2018-19, total 18640 nos. of saplings were planted.	Nil
6e	Cumulative no .of plants	Not specified.	Cumulatively 226289 nos. of saplings were planted in the lease area.	Nil
6f	Any other method of rehabilitation	Not applicable.	Not applicable.	Nil
6g	Cost incurred on watch and care during the year	Not specified.	Rs 1010993/- cost incurred on watch and care.	Nil
6h	Compliance on reclamation and rehabilitation by backfilling (i) Voids available for backfilling ( Lx B x D	Backfilling area: 1.2ha in 2018-19.	An extent of 0.86ha has been backfilled during 2018-19.	The violation pointed out during the last inspection is under process for compliance.
6i	Compliance on reclamation and rehabilitation by backfilling (ii) Voids filled by waste / tailings	1.2ha	0.86ha	The violation pointed out during the last inspection is under process for compliance.
6j	Compliance on reclamation and rehabilitation by backfilling (iii) Afforestation on backfilled area	Not envisaged.	Not envisaged.	Nil
6k	Compliance on reclamation and rehabilitation by backfilling (iv) Rehabilitation by making water reservoir	Not envisaged.	Not applicable.	Nil
6l	Compliance on reclamation and rehabilitation by backfilling (v) any other specific means.	Not applicable.	Not applicable.	Nil

6m	Compliance of rehabilitation of waste land within lease (i)afforestation	Not applicable.	Not applicable.	Nil
6n	Compliance of rehabilitation of waste land within lease (ii)Area rehabilitation (ha)	Not applicable.	Nil	Nil
6o	Compliance of rehabilitation of waste land within lease (iii)Method of rehabilitation	Not applicable.	Nil	Nil
6p	Compliance of environmental monitoring (core zone and buffer zone)	Quarterly monitoring of air, water and noise level are envisaged.	Quarterly monitoring of air, water and noise level are being done and the same are found to be within the permissible limits.	Nil
6q	General remarks of inspecting officers on PMCP compliance and progressive closure operations etc.		Quarterly monitoring of air, water and noise level are being done and the same are found to be within the permissible limits.	Nil

## Mineral Conservation:

Sl.No.	Item	Propasals	Actual work	Remarks
7a	ROM Mineral dispatch or grade-wise sorting within lease area	Gradewise sorting +25% Mn, +25-35% Mn, +35-46% Mn, +45% Mn	Gradewise sorting +25% Mn, +25-35% Mn, +35-46% Mn, +45% Mn	Nil
7b	Method of grade-wise mineral sorting i.e. manual or mechanical.	Manual	Manual	Nil

7c	Different grade of mineral sorted out at mines.	+25% Mn, +25-35% Mn, +35-46% Mn, +45% Mn	+25% Mn, +25-35% Mn, +35-46% Mn, +45% Mn	Nil
7d	Any beneficiation process at mines	None	Manual sorting and sizing.	Nil
7e	General remarks of inspecting officer on Mineral conservation and beneficiation issues	Gradewise sorting +25% Mn, +25-35% Mn, +35-46% Mn, +45% Mn	Gradewise sorting +25% Mn, +25-35% Mn, +35-46% Mn, +45% Mn	Manual sorting and sizing carried out.

#### Environment:

Sl.No.	Item	Propasals	Actual work	Remarks
8a	Separate removal and utilization of topsoil (Rule 32)	351 cum of topsoil generation is envisaged in 2018-19.	Only 532 cum of topsoil was generated during 2018-19..	Top soil so generated was stacked separately & preserved for future.
8b	Concurrent use or storage of topsoil	No specific proposal.	Top soil so generated was stacked separately and preserved for future.	Nil
8c	Separate dumps for overburden, waste rock, rejects and fines (Rule 33)	Provisions for separate dumping of OB and mineral rejects envisaged.	Seperate dumping of OB and mineral rejects are in practice	Nil
8d	Use of overburden, waste rock, rejects and fines dumps for restoring the land to its original use	Backfilling of 1.2ha mined out area is envisaged for 2018-19.	An extent of 0.86 ha area has been backfilled..	Deviation is due to lack of MoEF clearance. The violation pointed out is under compliance.

8e	Phased restoration, reclamation and rehabilitation of lands affected by mining operations (Pits, dumps etc)	Backfilling of partial exhausted pit envisaged.	An extent of 0.86 ha area has been backfilled..	Nil
8f	Baseline information on existence of plantation and additional plantation done (Rule 41)	3575 nos. of saplings plantation envisaged.	Total 18640 nos. of saplings planted during 2018-19.	Nil
8g	Survival rate	Not specified.	78% during 2018-19.	Nil
8h	Water sprinkling on roads to control airborne dust	Provisions for water sprinkling on the haul roads for dust suppression envisaged.	Water sprinkling on the haul roads for dust suppression is a regular practice in the mine.	Nil
8i	General remarks of inspecting officer on aesthetic beauty in and around mines area		The greenary developed by way of plantation enhances the aesthetic beauty of the mine surrounding areas. Besides, water sprinkling on the haul roads for dust suppression is a regular practice in the mine, which also enhances the cleanliness of the mine atmosphere.	Nil

## Compliance of Rule 45:

Sl.No.	Item	Proposals	Actual work	Remarks
9a	Status of submission of Monthly and Annual returns	Monthly & Annual returns for the year 2018-19 were submitted to this office.	Submitted status is satisfactory.	Nil


9b	Scrutiny of Annual return for information on Mining Engineer, Geologist and Manager	Graduate Mining engineer: 2, Geologist:1	Graduate Mining engineer: 2, Geologist:1	Nil
9c	Scrutiny of Annual return on land use pattern for area under pits, reclaimed area, dumps etc.	Pits: 22.456 ha, waste disposal: 21.153 ha, mineral storage: 14.602 ha & infrastructure: 2.836 ha.	Found to be in order.	Nil
9d	Scrutiny of Annual return on afforestation	18640 nos of saplings planted during 2018-19.	Found to be in order.	Nil
9e	Scrutiny of Annual return on mineral reject generation (Grade and quantity)	12442 tonnes (Mn<25%)	12442 tonnes (Mn<25%)	Nil
9f	Scrutiny of Annual return on ROM stock and/or graded ore	ROM manganese production: 84923.229 tonnes	ROM manganese production: 84923.229 tonnes	Nil
9g	Scrutiny of Annual return on sale value, Ex. Mine price and production cost	Production cost: Rs 4420.99	Production cost: Rs 4420.99	Nil
9h	Scrutiny of Annual return on fixed assets	Fixed asset as furnished in AR is Rs 81415338/-	Rs 81415338/-	Nil
9k	Scrutiny of Annual return on mining machineries	Back hoe: 2nos, dozer: 2 no, front end loader: 1no, rock drill: 1 no, dumper(30T & 25T): 13 nos, Water tanker-1	The deployment status of mining machineries are found to be in order.	Nil



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 : 02-07-2020 *No violation.*

  
(SHRI G.C. SETHI)

Indian Bureau of Mines