

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

**MCDR INSPECTION REPORT**

**Bhubaneshwar regional office**

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

**Mine code :** 40ORI08033

- (i) Name of the Inspecting : **U11** ) **DAYANAND UPADHYAY**  
Officer and ID No.
- (ii) Designation : Sr. Asst. Contrl. Mines
- (iii) Accompanying mine : Shri Amit Dubey, Agent, Shri Niranjana Kumar, Mine Man  
Official with  
Designation
- (iv) Date of Inspection : 27/08/2021
- (v) Prev.inspection date : 10/02/2021

**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 :
- (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: 9238101140  
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/ : 05/08/2002  
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	:	Modif.approved Mining Scheme	24/03/2005
Plan/Scheme of Mining	:	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
MP review under 17(1) MCR 2016	31/07/2020

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

## Exploration :

Sl.No.	Item	Proposals	Actual work	Remarks
1a	Backlog of previous year	88 nos.of bre holes in 2020-21.	89 nos.of bre holes drilled in 2020-21.	89 nos.of bre holes drilled in 2020-21.
1b	Exploration over lease area for geological axis 1 or 2	G1 level	89 nos.of bre holes drilled in 2020-21 in G1 level.	89 nos.of bre holes drilled in 2020-21 in G1 level.
1c	Exploration Agencies and Expenditure in lakh rupees during the year	Not specfied.	In house drilling is carried out. Expenditure incurred in drilling Rs 124.23lakh	In house drilling is carried out. Expenditure incurred in drilling Rs 124.23lakh
1d	Balance area to be explored to bring Geological axis in 1 or 2	In 2020-21, 35 ha under G1 Level	In 2020-21, 35 ha explored by drilling under G1 Level	In 2020-21, 35 ha explored by drilling under G1 Level
1e	Balance reserve as on 01/04/20	As per review of mining plan approved on 31/07/202: Mn ore reserve(111&122)-1.703 million T and resources-4.014 million T. Iron	Balance reserve as on 10/04/2021, Mn ore reserve-1.619 million T and resources-4.014 million T. Iron	Balance reserve as on 10/04/2021, Mn ore reserve-1.619 million T and resources-4.014 million T. Iron
1f	General remarks of inspecting officers on geology, exploration etc	88 nos.of bre holes in 2020-21.	89 nos.of bre holes drilled in 2020-21 in G1 level.	89 nos.of bre holes drilled in 2020-21 in G1 level. Total proposed bore holes drilled by RC drilling and no core drilling is carriedout. Deviation is pointed out through violation letter.

## Development :

Sl.No.	Item	Proposals	Actual work	Remarks
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2a	Location of development w.r.t.lease area	Guruda - A : Quarry - 1 - 11363N-11675N & 12086E-12305E and Quarry - 2 - 11585N-11740N & 11694E-11868E	Guruda - A : Quarry - 1 - 11363N-11675N & 12086E-12305E and Quarry - 2 - 11585N-11740N & 11694E-11868E	Devolpment is per proposal.
2b	Separate benches in topsoil, overburden and minerals (Rule 15)	Separate benches in overburden and mineral. No topsoil, bench proposed.	Separate benches in overburden and mineral are maintained. No topsoil, bench proposed.	Separate benches in overburden and mineral are maintained. No topsoil, bench proposed.
2c	Stripping ratio or ore to OB ratio	1:2.05	1:2.02	1:2.02
2d	Quantity of topsoil generation in m3	Not proposed.	Nil	Nil
2e	Quantity of overburden generation in m3	201571 cum	156255 cum	156255 cum
2f	General remarks of inspecting officers on development of pit w.r.t. type of deposit etc	Guruda - A : Quarry - 1 - 11363N-11675N & 12086E-12305E and Quarry - 2 - 11585N-11740N & 11694E-11868E	Guruda - A : Quarry - 1 - 11363N-11675N & 12086E-12305E and Quarry - 2 - 11585N-11740N & 11694E-11868E	Devolpment is per proposal.

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### Exploitation:

Sl.No.	Item	Propasals	Actual work	Remarks
3a	Number of pit proposed for production	2 No of Pits	2 No of Pits	2 No of Pits

3b	Quantity of ROM mineral production proposed	98200 Tonnes Mn ore	84141 Tonnes Mn ore.	ROM production is within approved proposal. The iron ore simultaneously mined out with Mn ore is not booking in production due to want of EC. Deviation is pointed out through violation letter.
3c	Recovery of sailable/usable mineral from ROM production	85000T	73624T	ROM production is within approved proposal. The iron ore simultaneously mined out with Mn ore is not booking in production due to want of EC. Deviation is pointed out through violation letter.
3d	Quantity of mineral reject generation	Mn. Ore 13200T, Iron Ore 160680T	Mn. Ore 10517 T, Iron Ore 102279T	ROM production is within approved proposal. The iron ore simultaneously mined out with Mn ore is not booking in production due to want of EC. Deviation is pointed out through violation letter.
3e	Grade of mineral rejects generation and threshold value declared.	Mn. Ore = 10-25% Mn, Iron Ore - 45-58% Fe	Mn. Ore = 10-25% Mn, Iron Ore - 45-58% Fe	Mn. Ore = 10-25% Mn, Iron Ore - 45-58% Fe
3f	Quantity of sub grade mineral generation.	Mn. Ore 13200T, Iron Ore 160680T	Mn. Ore 10517 T, Iron Ore 102279T	ROM production is within approved proposal. The iron ore simultaneously mined out with Mn ore is not booking in production due to want of EC. Deviation is pointed out through violation letter.

3g	Grade of sub grade mineral generation	Mn. Ore 10517 T, Iron Ore 102279T	Mn. Ore 10517 T, Iron Ore 102279T	Mn. Ore 10517 T, Iron Ore 102279T
3h	Manual / Mechanised method adopted for segregating from ROM	Manual	Manual	Manual
3i	Any analysis or beneficiation study proposed and carried out for sub grade mineral and rejects.	Not proposed.	Nil	Nil.
3j	Provision of drilling and blasting in mineral benches	Deep hole Drilling blasting	Deep hole Drilling blasting, Depth of hole = 8 m +10% subgrade =8.8m Spacing= 2m Burden= 2.5 m	Deep hole Drilling blasting, Depth of hole = 8 m +10% subgrade =8.8m Spacing= 2m Burden= 2.5 m
3k	Provision of mining machineries in mineral benches	Shovel dumper combination.	Shovel dumper combination.	Shovel dumper combination.
3l	Whether height of benches in overburden and mineral suitable for method of mining proposed in MP/SOM	Bench Height: 6-8 m	The height and width of the benches are suitable for method of mining proposed.	The height and width of the benches are suitable for method of mining proposed.
3m	Total area covered under excavation/pits	40.602 ha at the end of plan period.	25.023 ha	25.023 ha
3n	Ore to OB ratio for the pit/mine during the year.	1:2.05	1:2.02	1:2.02
3o	Total area put in use under different heads at the end of year	105.744 ha. at the end of plan period.	68.662 ha at the end of year.	68.662 ha at the end of year.

3p	Production of ROM mineral during the last five year period as applicable	Mn ore: 2016-17: 100000 T 2017-18: 100000 T 2018-19: 100000 T 2019-20: 100000 T 2020-21: 98200 T	Mn ore: 2016-17: 32835.269T 2017-18: 66877.225T 2018-19: 84923.229T 2019-20: 84998 T 2020-21: 84141 T	ROM production is within approved proposal.
3q	General remarks of inspecting officers on method of mining etc.	02 nos. of pits proposed.	02 nos. of pits worked out as per proposal.	02 nos. of pits worked out as per proposal.

#### 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 OB & mineral reject. No topsoil proposed.	Separate dumping of OB & mineral reject maintained.	Separate dumping of OB & mineral reject maintained.
4b	Location of topsoil, OB and mineral reject dumps	New Dump D4 - 11166N-11341N & 11677E-11927E Ore Reject M1: - 11828N - 11992N & 12219E -12314E	OB and mineral reject dumping are carried out as per proposal.	OB and mineral reject dumping are carried out as per proposal.
4c	Number of dumps within lease area and outside of lease area	One active dump within lease area.	One active dump.	One active dump.
4d	Location of dumps w.r.t. ultimate pit limit (Rule 16)	Outside UPL	Outside UPL	Outside UPL
4e	Number of active and alive dumps.	One active dump.	One active dump.	One active dump.
4f	Number of dead dumps.	one dump	Dead dump is stabilized.	Dead dump is stabilized.



4g	Number of dumps established.	one dump	Dead dump is stabilized.	Dead dump is stabilized.
4h	Whether Retaining wall or garland drain all along dumps are there.	Retaining walls and garland drain were proposed	Retaining walls and garland drains have been constructed	Retaining walls and garland drains have been constructed
4i	Length of Retaining wall or garland drain all along dumps	Ganrland Drain :573m Retaining wall: 573m	Garland drain: 613m Retaining wall: 613m	Garland drain: 613m Retaining wall: 613m
4j	Number of settling ponds	Not proposed.	Nil	Nil.
4k	Specific comments of inspecting officer on waste dump management	New Dump D4 - 11166N-11341N & 11677E-11927E Ore Reject M1: - 11828N - 11992N & 12219E -12314E	OB and mineral reject dumping are carried out as per proposal.	OB and mineral reject dumping are carried out as per proposal.

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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.	Not proposed as pit is not exhausted.	Pit is not matued for reclamation and rehabilitation.	Pit is not matued for reclamation and rehabilitation.
5b	Area under backfilling of mined out area	Not proposed as pit is not exhausted.	Pit is not matued for reclamation and rehabilitation.	Pit is not matued for reclamation and rehabilitation.
5c	Concurrent use of topsoil for restoration or rehabilitation of mineral out area (Rule 32)	Not proposed as pit is not exhausted.	Pit is not matued for reclamation and rehabilitation.	Pit is not matued for reclamation and rehabilitation.
5d	Total area fully reclaimed and rehabilitated	Not proposed as pit is not exhausted.	Pit is not matued for reclamation and rehabilitation.	Pit is not matued for reclamation and rehabilitation.

5e	General remarks of inspecting officers on backfilling and reclamation etc.	Not proposed as pit is not exhausted.	Pit is not matued for reclamation and rehabilitation.	Pit is not matued for reclamation and rehabilitation.
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#### 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).	Submission of PMCP return before 1st July	PMCP Report for the year 2020-21 submitted	PMCP Report for the year 2020-21 submitted
6b	Area available for rehabilitation (ha) .	Waste dump rehabilitation - 2.370 ha	Waste dump rehabilitated - 2.800 ha	Waste dump rehabilitated - 2.800 ha
6c	afforestation done (ha).	Waste dump rehabilitation - 2.370 ha	Waste dump rehabilitated - 2.800 ha	Waste dump rehabilitated - 2.800 ha
6d	No. of saplings planted during the year	5925 Nos of sapling.	8740 Nos of sapling.	8740 Nos of sapling.
6e	Cumulative no .of plants	Not specified.	Cumulative no. of plants till 01. 04.2021 - 170760 Nos.	Cumulative no. of plants till 01. 04.2021 - 170760 Nos.
6f	Any other method of rehabilitation	Not proposed as pit is not exhausted.	Pit is not matued for reclamation and rehabilitation.	Pit is not matued for reclamation and rehabilitation.
6g	Cost incurred on watch and care during the year	Not specified.	Cost incurred on watch & care Rs 45.04 Lakh.	Cost incurred on watch & care Rs 45.04 Lakh.
6h	Compliance on reclamation and rehabilitation by backfilling (i) Voids available for backfilling ( Lx B x D	Not proposed as pit is not exhausted.	Pit is not matued for reclamation and rehabilitation.	Pit is not matued for reclamation and rehabilitation.

6i	Compliance on reclamation and rehabilitation by backfilling (ii) Voids filled by waste / tailings	Not proposed as pit is not exhausted.	Pit is not matued for reclamation and rehabilitation.	Pit is not matued for reclamation and rehabilitation.
6j	Compliance on reclamation and rehabilitation by backfilling (iii)Afforestation on backfilled area	Not proposed as pit is not exhausted.	Pit is not matued for reclamation and rehabilitation.	Pit is not matued for reclamation and rehabilitation.
6k	Compliance on reclamation and rehabilitation by backfilling (iv) Rehabilitation by making water reservoir	Not proposed as pit is not exhausted.	Pit is not matued for reclamation and rehabilitation.	Pit is not matued for reclamation and rehabilitation.
6l	Compliance on reclamation and rehabilitation by backfilling (v)any other specific means.	Not proposed as pit is not exhausted.	Pit is not matued for reclamation and rehabilitation.	Pit is not matued for reclamation and rehabilitation.
6m	Compliance of rehabilitation of waste land within lease (i)afforestation	Not proposed.	Nil	Nil
6n	Compliance of rehabilitation of waste land within lease (ii)Area rehabilitation (ha)	Not proposed.	Nil	Nil
6o	Compliance of rehabilitation of waste land within lease (iii)Method of rehabilitation	Not proposed.	Nil	Nil

6p	Compliance of environmental monitoring (core zone and buffer zone)	Quarterly monitoring	Quarterly monitoring	Quarterly monitoring
6q	General remarks of inspecting officers on PMCP compliance and progressive closure operations etc.	Waste dump rehabilitation - 2.370 ha	Waste dump rehabilitation - 2.80 ha	Waste dump rehabilitation - 2.80 ha

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Mineral Conservation:

Sl.No.	Item	Propasals	Actual work	Remarks
7a	ROM Mineral dispatch or grade-wise sorting within lease area	grade-wise sorting within lease area	grade-wise sorting within lease area	grade-wise sorting within lease area
7b	Method of grade-wise mineral sorting i.e. manual or mechanical.	Manual	Manual	Manual
7c	Different grade of mineral sorted out at mines.	10-25% Mn and +25%Mn	10-25% Mn and +25%Mn	10-25% Mn and +25%Mn
7d	Any beneficiation process at mines .	Not proposed.	Manual Sorting and sizing	Manual Sorting and sizing
7e	General remarks of inspecting officer on Mineral conservation and beneficiation issues	grade-wise sorting within lease area	grade-wise sorting within lease area	grade-wise sorting within lease area

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Environment:

Sl.No.	Item	Propasals	Actual work	Remarks
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8a	Separate removal and utilization of topsoil (Rule 32)	Not proposed.	Nil	Nil
8b	Concurrent use or storage of topsoil	Not proposed.	Nil	Nil
8c	Separate dumps for overburden, waste rock, rejects and fines (Rule 33)	Separate Dumps for Overburden, Mineral rejects.	Separate dumps for Overburden and Mineral Rejects are being maintained.	Separate dumps for Overburden and Mineral Rejects are being maintained.
8d	Use of overburden, waste rock, rejects and fines dumps for restoring the land to its original use	Not proposed as pit is not exhausted.	Pit is not matued for reclamation and rehabilitation.	Pit is not matued for reclamation and rehabilitation.
8e	Phased restoration, reclamation and rehabilitation of lands affected by mining operations (Pits, dumps etc)	Not proposed as pit is not exhausted.	Pit is not matued for reclamation and rehabilitation.	Pit is not matued for reclamation and rehabilitation.
8f	Baseline information on existence of plantation and additional plantation done (Rule 41)	5925 Nos of sapling.	8740 Nos of sapling.	8740 Nos of sapling.
8g	Survival rate	Not specified.	Survival rate 85%	Survival rate 85%
8h	Water sprinkling on roads to control airborne dust	water sprinklers.	Haul roads are regularly sprinkled with the help of mobile water sprinklers.	Haul roads are regularly sprinkled with the help of mobile water sprinklers.
8i	General remarks of inspecting officer on aesthetic beauty in and around mines area	5925 Nos of sapling.	8740 Nos of sapling. Aesthetic beauty in and aroun mined area is maintained by plantation	Aesthetic beauty in and aroun mined area is maintained by plantation

## Compliance of Rule 45:

Sl.No.	Item	Propasals	Actual work	Remarks
9a	Status of submission of Monthly and Annual returns	Monthly & Annual returns are being regularly submitted by lessee.	Monthly & Annual returns are being regularly submitted by lessee.	Monthly & Annual returns are being regularly submitted by lessee.
9b	Scrutiny of Annual return for information on Mining Engineer, Geologist and Manager	The employment status of mining engineer, geologist & mine manager have been furnished in the annual return	Mining engineer, geologist & mine managers were employed in the mine.	Mining engineer, geologist & mine managers were employed in the mine.
9c	Scrutiny of Annual return on land use pattern for area under pits, reclaimed area, dumps etc.	Working Pit: 25.023 ha, Storage of top soil: 0 ha, Waste dump: 25.350 ha, Mineral storage: 13.206 ha, Infrastructure : 0.3 ha etc.	Working Pit: 25.023 ha, Storage of top soil: 0 ha, Waste dump: 25.350 ha, Mineral storage: 13.206 ha, Infrastructure: 0.3 ha etc.	Working Pit: 25.023 ha, Storage of top soil: 0 ha, Waste dump: 25.350 ha, Mineral storage: 13.206 ha, Infrastructure: 0.3 ha etc.
9d	Scrutiny of Annual return on afforestation	8740 Nos.	8740 Nos.	8740 Nos.
9e	Scrutiny of Annual return on mineral reject generation (Grade and quantity)	10516 T, Mn. 22.10%	10516 T	10516 T
9f	Scrutiny of Annual return on ROM stock and/or graded ore	ROM production 84141 T	ROM production 84141 T	ROM production 84141 T

9g	Scrutiny of Annual return on sale value, Ex. Mine price and production cost	Ex-Mines Price - Below 25% Mn - Rs. 1014.34 / T 25% to below 35% Mn - Rs. 2084.18/T 35% to below 46% Mn - Rs. 3382.97/T 46% Mn and above - Rs. 6213.60/T	Ex-Mines Price - Below 25% Mn - Rs. 1014.34 / T 25% to below 35% Mn - Rs. 2084.18/T 35% to below 46% Mn - Rs. 3382.97/T 46% Mn and above - Rs. 6213.60/T	Ex-Mines Price - Below 25% Mn - Rs. 1014.34 / T 25% to below 35% Mn - Rs. 2084.18/T 35% to below 46% Mn - Rs. 3382.97/T 46% Mn and above - Rs. 6213.60/T
9k	Scrutiny of Annual return on mining machineries	Back hoe (1.9 Cum)- 2, Dumper (25 T)- 10, Dumper (16T)-2, Front End Loader: 1, Drill:1, Dozer: 1, Water tanker :1	Back hoe (1.9 Cum)- 2, Dumper (25 T)-10, Dumper (16T)-2, Front End Loader: 1, Drill:1, Dozer: 1, Water tanker :1	Back hoe (1.9 Cum)- 2, Dumper (25 T)-10, Dumper (16T)-2, Front End Loader: 1, Drill:1, Dozer: 1, Water tanker :1

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**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)	10/09/2021			
MCDR17	Rule 44	10/09/2021			
MCDR17	Rule 45(5)(k	10/09/2021			

**Date :**

(DAYANAND UPADHYAY)

Indian Bureau of Mines