

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

**MCDR INSPECTION REPORT**

**Bhubaneshwar regional office**

**Mine file No :** ORI/IRON/KJR/MCDR-35/BBS

**Mine code :** 30ORI08059

- (i) Name of the Inspecting : **U11** ) **DAYANAND UPADHYAY**  
Officer and ID No.
- (ii) Designation : Sr. Asst. Contrl. Mines
- (iii) Accompanying mine : Sri Manish Kumar, Mines Manager  
Official with  
Designation
- (iv) Date of Inspection : 08/02/2020
- (v) Prev.inspection date : 13/10/2019

**PART-I : GENERAL INFORMATION**

1. (a) **Mine Name** : **KHONDBOND**
- (b) **Registration NO.** : **4376/30ORI08059**
- (c) Category : A Mechanised
- (d) Type of Working : Opencast
- (e) Postal address
- State : ORISSA
- District : KEONJHAR
- Village : KHONDBOND
- Taluka : CHAMPUA
- Post office : BICHAKUNDI
- Pin Code :
- FAX No. : 0676772239
- E-mail : md.office@tatasteel.com
- Phone : 06767 72239
- (f) Police Station : Bamebari
- (g) First opening date : 17/01/1983
- (h) Weekly day of rest : SUN
2. Address for : VILL:KHANDBOND& GURDA  
correspondance PO:BICHAKUNDI  
P.S.JODA, DIST:KEONJHAR, ORISSA, PIN:758034
3. (a) Lease Number : ORI0108
- (b) Lease area : 978
- (c) Period of lease :
- (d) Date of Expiry : 31/03/2030
4. Mineral worked : MANGANESE ORE Associated  
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  
 SINGBHUM (EAST) JHARKHAND  
 Phone: 06572431818  
 FAX : 0657-2431818

Agent : SHIRISH SHEKHAR  
 KHONDBOND IRON AND MN MINES  
 KEONJHAR ODISHA KEONJHAR  
 ORISSA  
 Phone: 7209003547  
 FAX : 0676772239

## Mining Engineer

Name : Manish Kumar, Full Time  
 Qualification : B.E. Mining  
 Appointment/ : 24/06/2018  
 Termination date

## Geologist

Name : KANISHKA DATTA, Full Time  
 Qualification : MSC TECH (APPLIED GEOLOGY)  
 Appointment/ : 01/07/2013  
 Termination date

## Manager

Name : Manish Kumar  
 Qualification : B.E. Mining  
 Appointment/ : 24/09/2018  
 Termination date

6. Date of approval of Mining Plan/Scheme of Mining	:	Renewal under rule 22 MCR1960	11/12/2001
		Modif.of approved Mining Plan	11/06/2004
		Modif.of approved Mining Plan	09/03/2009
		FMCP under 23C(1)	09/03/2009
		Mining Scheme rule 12 MCDR1988	31/03/2009
		Mining Scheme rule 12 MCDR1988	19/06/2013
		Modif.approved Mining Scheme	19/01/2016
		Modif.approved Mining Scheme	24/08/2016
		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	During the Year 2018-19 , 20 Nos. of Bore Holes proposed.	26 nos. BH have been drilled during year 2018-19.	26 nos. BH have been drilled during year 2018-19 against the proposal of 20nos. of bore holes.
1b	Exploration over lease area for geological axis 1 or 2	204.6 ha area under G1/G2 Level of exploration during plan period.	During plan period about 45.1 ha area has been explored under G1/G2 Level of exploration. Total 397.8 ha area has been explored under G1/G2 Level of exploration.	Out of total lease area about 397.8 ha area has been explored under G1/G2 level by putting 784 nos. of bore holes of total meterage 29726.2m.
1c	Exploration Agencies and Expenditure in lakh rupees during the year	Not specified.	In house drilling by TATA is carried out. Expenditure incurred in drilling is 41.92 Lakh.	In house drilling by TATA is carried out. Expenditure incurred in drilling is 41.92 Lakh.
1d	Balance area to be explored to bring Geological axis in 1 or 2	204.6 ha potentially mineralised area under G1/G2 Level of exploration during plan period.	Out of total lease area about 397.8 ha area has been explored under G1/G2 level by putting 784 nos. of bore holes of total meterage 29726.2m.	Out of total lease area about 397.8 ha area has been explored under G1/G2 level by putting 784 nos. of bore holes of total meterage 29726.2m.
1e	Balance reserve as on 01/04/20	As per Review of mining plan approved on 09/11/2017, Iron ore: Mineable reserve-107.31MT & Resources-177.10MT Mn ore: Mineable reserve-0.825MT & Resources-1.261MT	Balance reserve as on 01/04/2019, Iron ore: Mineable reserve-103.83MT & Resources-177.10MT Mn ore: Mineable reserve-0.759MT & Resources-1.261MT	Balance reserve as on 01/04/2019, Iron ore: Mineable reserve-103.83MT & Resources-177.10MT Mn ore: Mineable reserve-0.759MT & Resources-1.261MT

1f	General remarks of inspecting officers on geology, exploration etc	During the Year 2018-19 , 20 Nos. of Bore Holes proposed.	26 nos. BH have been drilled during year 2018-19.	Out of total lease area about 397.8 ha area has been explored under G1/G2 level by putting 784 nos. of bore holes of total meterage 29726.2m.
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Development :

Sl.No.	Item	Propasals	Actual work	Remarks
2a	Location of development w.r.t.lease area	Pit-1: N14090-14380& E10210-10880, Pit-2: N12440-13020 & 10460, Pit-3, N10000-E9800-10460, Pit-3, N10000-10750 & E9230-9770, Pit-7: N12685-13130 & E8250-8660, OZXII: N13960-14315 & E9041-9365	Pit-1: N14090-14380& E10210-10880, Pit-2: N12440-13020 & E9800-10460, Pit-3, N10000-10750 & E9230-9770, Pit-7: N12685-13130 & E8250-8660, OZXII: N13960-14315 & E9041-9365	The development is concentrated in 05 pits as per proposal.
2b	Separate benches in topsoil, overburden and minerals (Rule 15)	Separate benches in OB and ore with 10m height for iron ore and 6m height for Mn ore, top soil bench-nil.	Separate benches in OB and ore with 10m height for iron ore and 6m height for Mn ore have been maintained.	Separate benches in OB and ore with 10m height for iron ore and 6m height for Mn ore have been maintained.
2c	Stripping ratio or ore to OB ratio	Iron- 1:7.69 T/cu.m Mn- 1:5 T/cu.m	Iron- 1:7.32 T/cu.m Mn- 1:3.6 T/cu.m	Average stripping ratio varies due to irregular & pocket nature of ore deposit.
2d	Quantity of topsoil generation in m3	Not proposed.	No top soil generation, as working is concentrated in broken up area.	No top soil generation, as working is concentrated in broken up area.

2e	Quantity of overburden generation in m <sup>3</sup>	Iron: 0.63 million CuM Mn: 0.274 million CuM	Iron: 0.38 million CuM Mn: 0.165 million CuM	The less generation of waste is in account of less ROM production.
2f	General remarks of inspecting officers on development of pit w.r.t. type of deposit etc	The development is proposed in 05 pits i.e Pit-1, Pit-2, Pit-3, Pit-7 & OZXII .	The development is concentrated in 05 pits i.e Pit-1, Pit-2, Pit-3, Pit-7 & OZXII as per proposal. Separate benches in OB and ore with 10m height for iron ore and 6m height for Mn ore have been maintained.	The development is concentrated in 05 pits i.e Pit-1, Pit-2, Pit-3, Pit-7 & OZXII as per proposal.

### Exploitation:

Sl.No.	Item	Propasals	Actual work	Remarks
3a	Number of pit proposed for production	05 pits i.e Pit-1, Pit-2, Pit-3, Pit-7 & OZXII	The ROM production is concentrated in 05 pits i.e Pit-1, Pit-2, Pit-3, Pit-7 & OZXII as per proposal.	The ROM production is concentrated in 05 pits i.e Pit-1, Pit-2, Pit-3, Pit-7 & OZXII as per proposal.
3b	Quantity of ROM mineral production proposed	Iron: 4.85 MT Mn: 55000 Tonnes	Iron: 2.85 MT Mn: 45489Tonnes	The actual production is less than planned due to delay of expansion of its captive plant.
3c	Recovery of sailable/usable mineral from ROM production	Iron: 3.6 MT Mn: 48626Tonnes	Iron: 2.22 MT Mn: 38761Tonnes	The actual production is less than planned due to delay of expansion of its captive plant.
3d	Quantity of mineral reject generation	Iron: 1.15 MT Mn: 2550 cu.m	Iron Ore: 638063 tonne (Grade 45 to 58% Fe) and Manganese Ore: 6728 tonne ( Grade 10 to 25% Mn)	The actual production is less than planned due to delay of expansion of its captive plant.
3e	Grade of mineral rejects generation and threshold value declared.	Iron Ore: 45 to 58% Fe Mn Ore: 10 to 25% Mn	Iron Ore: 45 to 58% Fe Mn Ore: 10 to 25% Mn	Threshold value for Iron Ore is 45% Fe and for Manganese Ore is 10% Mn.

3f	Quantity of sub grade mineral generation.	Iron: 1.15 MT Mn: 2550 cu.m	Iron Ore: 638063 tonne (Grade 45 to 58% Fe) and Manganese Ore: 6728 tonne ( Grade 10 to 25% Mn)	The actual production is less than planned due to delay of expansion of its captive plant.
3g	Grade of sub grade mineral generation	Iron Ore: 45 to 58% Fe Mn Ore: 10 to 25% Mn	Iron Ore: 45 to 58% Fe Mn Ore: 10 to 25% Mn	Threshold value for Iron Ore is 45% Fe and for Manganese Ore is 10% Mn.
3h	Manual / Mechanised method adopted for segregating from ROM	Mechanised for iron ore and manual for Mn ore.	Mechanised for iron ore and manual for Mn ore.	Mechanised for iron ore and manual for Mn ore.
3i	Any analysis or beneficiation study proposed and carried out for sub grade mineral and rejects.	8 MTPA wet beneficiation plant from 2020-21 and further 2 MTPA wet beneficiation plant from 2022-23.	At present only crushing and screening is being carried out at mines site. Compmany has proposed 8 MTPA wet beneficiation plant from 2020-21 and further 2 MTPA wet beneficiation plant from 2022-23.	At present only crushing and screening is being carried out at mines site.
3j	Provision of drilling and blasting in mineral benches	Drilling of blast holes 100mm & 150 mm diameter drills and blasting with slurry and SME explosives.	Drilling and blasting is carried out with 100mm & 150 mm diameter drills with slurry and SME explosives.	Blasting is carried out with slurry and SME explosives maintaining 4m spacing and 3.2m burden.
3k	Provision of mining machineries in mineral benches	EXCAVATOR 5.9 cu.m-4, DUMPER 100T-12, WATER TANKER 50L-2, DOZER-4, DTH DRILL 150mm dia.-3 etc.	Shovel 5.9 cu.m-2, dumper 100T-4, wheel loader-1, water tanker 5Kl-2, Compressor, Dozer-4, Explosive Van-1, drill machine 150mm dia.-3 etc.	Excavator, Loader and Dumper are equipped to winning out the mineral.
3l	Whether height of benches in overburden and mineral suitable for method of mining proposed in MP/SOM	Bench height 10m for iron ore and 6m for Mn ore.	Bench height is suitably matched with the excavator.	Bench height is suitably matched with the excavator.

3m	Total area covered under excavation/pits	268.946 ha proposed during approved plan period.	About 199.379 ha area has been covered under excavation pits.	About 199.379 ha area has been covered under excavation pits.
3n	Ore to OB ratio for the pit/mine during the year.	Iron- 1:7.69 T/cu.m Mn- 1:5 T/cu.m	Iron- 1:7.32 T/cu.m Mn- 1:3.6 T/cu.m	Average stripping ratio varies due to irregular & pocket nature of ore deposit.
3o	Total area put in use under different heads at the end of year	Total 577.687 ha area proposed under different heads during approved plan period.	Area covered under Pits: 199.379 Ha., Dumps - 49.357 Ha., Infrastructure & roads- 44.727 Ha., Other Purpose (Storing Minerals, top soil, tailing pond & safety zone) 33.487 Ha.	Area covered under Pits: 199.379 Ha., Dumps - 49.357 Ha., Infrastructure & roads- 44.727 Ha., Other Purpose (Storing Minerals, top soil, tailing pond & safety zone) 33.487 Ha.
3p	Production of ROM mineral during the last five year period as applicable	Iron Ore Production: 2014-15:9.28 mt 2015-16:6.28 mt 2016-17:8.29 mt 2017-18:11.39 mt 2018-19: 4.85mt Manganese Ore Production: 2014-15:0.082 mt 2015-16:0.052 mt 2016-17:0.064 mt 2017-18:0.050 mt 2018-19: 0.055mt	Iron Ore Production: 2014-15:0.20 mt 2015-16:1.68 mt 2016-17:2.45 mt 2017-18:2.57 mt 2018-19:2.85 mt Manganese Ore Production: 2014-15:0.00080 mt 2015-16:0.0048 mt 2016-17:0.057 mt 2017-18:0.049 mt 2018-19:0.045 mt	The actual production is less than planned due to delay of expansion of its captive plant.

3q	General remarks of inspecting officers on method of mining etc.	Fully mechanized opencast method of mining has been proposed to win the ore.	Fully mechanized opencast method of mining is being practiced at mine.	The ROM production is concentrated in 05 pits i.e Pit-1, Pit-2, Pit-3, Pit-7 & OZXII as per proposal.
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### 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 for overburden and mineral reject.	Waste material and Mineral reject has been dumped at the desiganted area.	There is no top soil generation.
4b	Location of topsoil, OB and mineral reject dumps	SUBGRADE DUMP NO. 1A, 2A (From 11217N-10800N ,9500E-9690E), SUBGRADE DUMP NO. 3 (FROM 12780N-12390N,10285E-9825E), WASTE DUMP NO. 5A (From 12013N-11590N,9965E-9606E)	The sub grade/mineral reject and OB have been dumped on SUBGRADE DUMP NO. 3 (FROM 12780N-12390N,10285E-9825E) and WASTE DUMP NO. 5A (From 12013N-11590N,9965E-9606E) respectively.	The sub grade/mineral reject and OB have been dumped on SUBGRADE DUMP NO. 3 and WASTE DUMP NO. 5A respectively.
4c	Number of dumps within lease area and outside of lease area	SUBGRADE DUMP NO. 1A, 2A (From 11217N-10800N ,9500E-9690E), SUBGRADE DUMP NO. 3 (FROM 12780N-12390N,10285E-9825E), WASTE DUMP NO. 5A (From 12013N-11590N,9965E-9606E)	The sub grade/mineral reject and OB have been dumped on SUBGRADE DUMP NO. 3 (FROM 12780N-12390N,10285E-9825E) and WASTE DUMP NO. 5A (From 12013N-11590N,9965E-9606E) respectively.	There are 04 existing sub grade/mineral reject dumps 1, 1A, 2A & 3 and 02 permanent OB dumps 5A & 5B. The other dumps are temporary in nature. All the proposed dumps are lies within the lease area.

4d	Location of dumps w.r.t. ultimate pit limit (Rule 16)	SUBGRADE DUMP NO. 1A, 2A (From 11217N-10800N ,9500E-9690E), SUBGRADE DUMP NO. 3 (FROM 12780N-12390N,10285E-9825E), WASTE DUMP NO. 5A (From 12013N-11590N,9965E-9606E)	The sub grade/mineral reject and OB have been dumped on SUBGRADE DUMP NO. 3 (FROM 12780N-12390N,10285E-9825E) and WASTE DUMP NO. 5A (From 12013N-11590N,9965E-9606E) respectively.	There are 04 existing sub grade/mineral reject dumps 1, 1A, 2A & 3 and 02 permanent OB dumps 5A & 5B. The other dumps are temporary in nature. All the proposed dumps are lies outside the UPL.
4e	Number of active and alive dumps.	SUBGRADE DUMP NO. 1A, 2A (From 11217N-10800N ,9500E-9690E), SUBGRADE DUMP NO. 3 (FROM 12780N-12390N,10285E-9825E), WASTE DUMP NO. 5A (From 12013N-11590N,9965E-9606E)	The sub grade/mineral reject and OB have been dumped on SUBGRADE DUMP NO. 3 (FROM 12780N-12390N,10285E-9825E) and WASTE DUMP NO. 5A (From 12013N-11590N,9965E-9606E) respectively.	The sub grade/mineral reject and OB have been dumped on SUBGRADE DUMP NO. 3 and WASTE DUMP NO. 5A respectively.
4f	Number of dead dumps.	Not proposed.	Nil.	Dumps no. 1 & 2 of manganese pits have been fully rehabilitated by plantation.
4g	Number of dumps established.	Not proposed.	Old Dumps no. 1 & 2 of manganese pits have been fully rehabilitated by plantation.	Dumps no. 1 & 2 of manganese pits have been fully rehabilitated by plantation.
4h	Whether Retaining wall or garland drain all along dumps are there.	Retaining wall of 400m long along proposed conveyor belt and 1230m along dump WB-A.	Retaining wall of 400m long along proposed conveyor belt and 1230m along dump WB-A have been constructed by lessee.	Proposed retaining wall has been constructed by lessee.

4i	Length of Retaining wall or garland drain all along dumps	Retaining wall of 400m long along proposed conveyor belt and 1230m along dump WB-A.	Retaining wall of 400m long along proposed conveyor belt and 1230m along dump WB-A have been constructed by lessee.	Proposed retaining wall has been constructed by lessee.
4j	Number of settling ponds	02 nos. of settling ponds.	Two no. of settling ponds constructed by lessee as proposed.	Two no. of settling ponds constructed by lessee as proposed.
4k	Specific comments of inspecting officer on waste dump management	SUBGRADE DUMP NO. 1A, 2A (From 11217N-10800N ,9500E-9690E), SUBGRADE DUMP NO. 3 (FROM 12780N-12390N,10285E-9825E), WASTE DUMP NO. 5A (From 12013N-11590N,9965E-9606E)	The sub grade/mineral reject and OB have been dumped on SUBGRADE DUMP NO. 3 (FROM 12780N-12390N,10285E-9825E) and WASTE DUMP NO. 5A (From 12013N-11590N,9965E-9606E) respectively. The slope of the dumps have been stabilised by plantation.	Old Dumps no. 1 & 2 of manganese pits have been fully rehabilitated by plantation.

#### 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 Proposal of backfilling during 2018-19.	Pits are matured for backfilling.	Pits are matured for backfilling.
5b	Area under backfilling of mined out area	No Proposal of backfilling during 2018-19.	Pits are matured for backfilling.	Pits are matured for backfilling.
5c	Concurrent use of topsoil for restoration or rehabilitation of mineral out area (Rule 32)	No Proposal of backfilling during 2018-19.	Pits are matured for backfilling.	No proposal of top soil generation, as no fresh area has been proposed for development in year 2018-19.

5d	Total area fully reclaimed and rehabilitated	No Proposal of backfilling during 2018-19.	Mined out area is not matured for reclamation and rehabilitation.	Pits are matured for backfilling. About 1 ha area waste dump has been proposed to rehabilitate by plantation against which about 1.32 ha area of waste dump has been rehabilitated by plantation.
5e	General remarks of inspecting officers on backfilling and reclamation etc.	No Proposal of backfilling during 2018-19.	Mined out area is not matured for reclamation and rehabilitation.	'N-quarry ' has been partially backfilled by OB/waste which is not completely exhausted. The show cause notice was issued to lessee on 01/01/2020 and after that court case has also been filed against lessee.

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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).	Not specified.	Annual PMCP report for reporting year i.e. 2018-19 has been submitted.	Annual PMCP report for reporting year i.e. 2018-19 has been submitted.
6b	Area available for rehabilitation (ha) .	Not proposed as pits are not matured for reclamation and rehabilitation .	Pits are not matured for reclamation and rehabilitation. However about 1 ha area waste dump has been proposed to rehabilitate by plantation against which about 1.32 ha area of waste dump has been rehabilitated by plantation.	Pits are not matured for reclamation and rehabilitation.

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6c	afforestation done (ha).	1.0 ha area of waste dump.	About 1.32 ha area of waste dump has been rehabilitated by plantation.	About 1.32 ha area of waste dump has been rehabilitated by plantation.
6d	No. of saplings planted during the year	3000 nos. of saplings.	In 2018-19, total 4142 nos. of saplings have been planted by lessee.	In 2018-19, total 4142 nos. of saplings have been planted by lessee.
6e	Cumulative no .of plants	Not specified.	Cumulative nos. of saplings planted in the lease area is about 344502.	Cumulative nos. of saplings planted in the lease area is about 344502.
6f	Any other method of rehabilitation	Not proposed as pits are not matured for reclamation and rehabilitation	Pits are not matured for reclamation and rehabilitation. However about 1 ha area waste dump has been proposed to rehabilitate by plantation against which about 1.32 ha area of waste dump has been rehabilitated by plantation.	Pits are not matured for reclamation and rehabilitation.
6g	Cost incurred on watch and care during the year	Not specified.	Around Rs 8.4 lakh cost incurred on watch and care.	Around Rs 8.4 lakh cost incurred on watch and care.
6h	Compliance on reclamation and rehabilitation by backfilling (i) Voids available for backfilling ( Lx B x D	Not proposed as pits are not matured for reclamation and rehabilitation	Pits are not matured for reclamation and rehabilitation.	Pits are not matured for reclamation and rehabilitation.
6i	Compliance on reclamation and rehabilitation by backfilling (ii) Voids filled by waste / tailings	Not proposed as pits are not matured for reclamation and rehabilitation	Pits are not matured for reclamation and rehabilitation.	Pits are not matured for reclamation and rehabilitation.
6j	Compliance on reclamation and rehabilitation by backfilling (iii)Afforestation on on backfilled area	Not proposed as pits are not matured for reclamation and rehabilitation	Pits are not matured for reclamation and rehabilitation.	Pits are not matured for reclamation and rehabilitation.

6k	Compliance on reclamation and rehabilitation by backfilling (iv) Rehabilitation by making water reservoir	Not proposed as pits are not matured for reclamation and rehabilitation .	Pits are not matured for reclamation and rehabilitation.	Pits are not matured for reclamation and rehabilitation.
6l	Compliance on reclamation and rehabilitation by backfilling (v)any other specific means.	Not proposed as pits are not matured for reclamation and rehabilitation .	Pits are not matured for reclamation and rehabilitation.	Pits are not matured 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 of air, water and noise level are being carried out.	Quarterly monitoring of air, water and noise level are being carried out.
6q	General remarks of inspecting officers on PMCP compliance and progressive closure operations etc.	Reclamation and rehabilitation not proposed as pits are not matured.	Pits are not matured for reclamation and rehabilitation. However about 1 ha area waste dump has been proposed to rehabilitate by plantation against which about 1.32 ha area of waste dump has been rehabilitated by plantation.	About 1.32 ha area of waste dump has been rehabilitated by plantation.

## Mineral Conservation:

Sl.No.	Item	Propasals	Actual work	Remarks
7a	ROM Mineral dispatch or grade-wise sorting within lease area	Gradewise sorting	Gradewise sorting is being practiced.	Gradewise sorting is being practiced.
7b	Method of grade-wise mineral sorting i.e. manual or mechanical.	Mechanical for Iron ore and Manual for Manganese ore.	Mechanical for Iron ore and Manual for Manganese ore.	Mechanical for Iron ore and Manual for Manganese ore.
7c	Different grade of mineral sorted out at mines.	Iron Ore having Fe grade from 45 to 58% and > 58% Fe. Manganese Ore having Mn Grade from 10 to 25% and >25% Mn.	Iron Ore: 45 to 58% Fe, 62 to 65% Fe and >65% Fe. Mn Ore: 10 to 25% Mn, 25 to 35% Mn, 35 to 46% Mn, >46% Mn	Iron Ore: 45 to 58% Fe, 62 to 65% Fe and >65% Fe. Mn Ore: 10 to 25% Mn, 25 to 35% Mn, 35 to 46% Mn, >46% Mn
7d	Any beneficiation process at mines .	8 MTPA wet beneficiation plant from 2020-21 and further 2 MTPA wet beneficiation plant from 2022-23.	At present only crushing and screening is being carried out at mines site. Compmany has proposed 8 MTPA wet beneficiation plant from 2020-21 and further 2 MTPA wet beneficiation plant from 2022-23.	No beneficiation process at present, only crushing and screening is carried out.
7e	General remarks of inspecting officer on Mineral conservation and beneficiation issues	Gradewise sorting of ore is proposed Manual for Mn ore mechanised for Iron ore.	Gradewise sorting of ore is proposed Manual for Mn ore mechanised for Iron ore is practiced at mine site.	At present only crushing and screening is being carried out at mines site. Compmany has proposed 8 MTPA wet beneficiation plant from 2020-21 and further 2 MTPA wet beneficiation plant from 2022-23.

## Environment:

Sl.No.	Item	Propasals	Actual work	Remarks
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8a	Separate removal and utilization of topsoil (Rule 32)	No proposal of top soil generation.	No proposal of top soil generation, as no fresh area has been proposed for development in year 2018-19.	No proposal of top soil generation, as no fresh area has been proposed for development in year 2018-19.
8b	Concurrent use or storage of topsoil	No proposal of top soil generation.	No proposal of top soil generation, as no fresh area has been proposed for development in year 2018-19.	No proposal of top soil generation, as no fresh area has been proposed for development in year 2018-19.
8c	Separate dumps for overburden, waste rock, rejects and fines (Rule 33)	Separate dumping of Waste, Mineral reject has been proposed.	Separate dumping of Waste, Mineral reject has been carried out.	Separate dumping of Waste, Mineral reject has been carried out.
8d	Use of overburden, waste rock, rejects and fines dumps for restoring the land to its original use	No proposal of backfilling as none of the pit area is matured for backfilling.	Mined out area is not matured for reclamation and rehabilitation.	Mined out area is not matured for reclamation and rehabilitation.
8e	Phased restoration, reclamation and rehabilitation of lands affected by mining operations (Pits, dumps etc)	No proposal of backfilling as none of the pit area is matured for backfilling.	Mined out area is not matured for reclamation and rehabilitation.	Mined out area is not matured for reclamation and rehabilitation.
8f	Baseline information on existence of plantation and additional plantation done (Rule 41)	3000 nos. of saplings in 2018-19.	Total 4142 nos. saplings have been planted in 2018-19. Cumulative 4142 nos. of saplings have been planted by lessee.	Total 4142 nos. saplings have been planted in 2018-19. Cumulative 4142 nos. of saplings have been planted by lessee.
8g	Survival rate	Not specified.	As reported survival rate is 89.4%.	As reported survival rate is 89.4%.

8h	Water sprinkling on roads to control airborne dust	Mobile and fixed water sprinkler.	Mobile and fixed water sprinkler. are used to control air borne dust.	Mobile and fixed water sprinkler. are used to control air borne dust.
8i	General remarks of inspecting officer on aesthetic beauty in and around mines area	The aesthetic beauty of the mine is proposed to improve through planation over the matured slope of the waste dumps.	Plantation has been carried out over the matured slope of the waste dumps as well as gap filling plantation has also been carried out.	Total 4142 nos. saplings have been planted in 2018-19. Cumulative 4142 nos. of saplings have been planted by lessee.

#### Compliance of Rule 45:

Sl.No.	Item	Propasals	Actual work	Remarks
9a	Status of submission of Monthly and Annual returns	Monthly and annual returns have been submitted for the year 2018-19.	Monthly and annual returns have been submitted for the year 2018-19.	Monthly and annual returns have been submitted for the year 2018-19.
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 and Geologist are appointed.	Mining engineer and Geologist are appointed.
9c	Scrutiny of Annual return on land use pattern for area under pits, reclaimed area, dumps etc.	Area covered under Pits: 199.379 Ha., Dumps -49.357 Ha., Infrastructure & roads- 44.727 Ha., Other Purpose (Storing Minerals, top soil, tailing pond & safety zone) 33.487 Ha.	Area covered under Pits: 199.379 Ha., Dumps - 49.357 Ha., Infrastructure & roads- 44.727 Ha., Other Purpose (Storing Minerals, top soil, tailing pond & safety zone) 33.487 Ha.	Area covered under Pits: 199.379 Ha., Dumps -49.357 Ha., Infrastructure & roads- 44.727 Ha., Other Purpose (Storing Minerals, top soil, tailing pond & safety zone) 33.487 Ha.

9d	Scrutiny of Annual return on afforestation	4142 nos. of saplings.	4142 nos. of saplings.	4142 nos. of saplings within lease area.
9e	Scrutiny of Annual return on mineral reject generation (Grade and quantity)	Iron Ore: 638063 tonne (Grade 45 to 58% Fe) and Manganese Ore: 6728 tonne ( Grade 10 to 25% Mn)	Iron Ore: 638063 tonne (Grade 45 to 58% Fe) and Manganese Ore: 6728 tonne ( Grade 10 to 25% Mn)	Iron Ore: 638063 tonne (Grade 45 to 58% Fe) and Manganese Ore: 6728 tonne ( Grade 10 to 25% Mn)
9f	Scrutiny of Annual return on ROM stock and/or graded ore	ROM Iron Ore closing stock 697523.0 tonnes and For Manganese Ore, it is furnished 88053.188tonnes.	ROM Iron Ore closing stock 697523.0 tonnes and For Manganese Ore, it is furnished 88053.188tonnes.	ROM Iron Ore closing stock 697523.0 tonnes and For Manganese Ore, it is furnished 88053.188tonnes.
9g	Scrutiny of Annual return on sale value, Ex. Mine price and production cost	Ex Mine Price: Rs.4437.33 for Mn Ore and 2058.06 for iron ore per tonne.	Ex Mine Price: Rs.4437.33 for Mn Ore and Rs. 2058.06 for iron ore per tonne.	The Sale value is NIL because of captive consumption of the mineral.
9h	Scrutiny of Annual return on fixed assets	Value of Fixed Assets - Rs 1057061533	Value of Fixed Assets - Rs 1057061533	Value of Fixed Assets - Rs 1057061533
9k	Scrutiny of Annual return on mining machineries	Shovel 5.9 cu.m-2, dumper 100T-4, wheel loader-1, water tanker 5Kl-2, Compressor, Dozer-4, Explosive Van-1, drill machine 150mm dia.-3 etc.	Shovel 5.9 cu.m-2, dumper 100T-4, wheel loader-1, water tanker 5Kl-2, Compressor, Dozer-4, Explosive Van-1, drill machine 150mm dia.-3 etc.	Shovel 5.9 cu.m-2, dumper 100T-4, wheel loader-1, water tanker 5Kl-2, Compressor, Dozer-4, Explosive Van-1, drill machine 150mm dia.-3 etc.

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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 :**

(DAYANAND UPADHYAY)

Indian Bureau of Mines