

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

MCDR INSPECTION REPORT

Bhubaneshwar regional office

Mine file No : ORI/IRON/SNG/MCDR-7/BBS

Mine code : 30ORI13028

- (i) Name of the Inspecting : **S010**) **SHRI G.C. SETHI**
Officer and ID No.
- (ii) Designation : Deputy Controller Mines
- (iii) Accompanying mine : Shri P K Patra, Agent, Shri B.D.Sahoo, Manager
Official with
Designation
- (iv) Date of Inspection : 05/10/2018
- (v) Prev.inspection date : 10/09/2017

PART-I : GENERAL INFORMATION

1. (a) **Mine Name** : **TANTRA, RAIKELA & BANDHAL**
- (b) **Registration NO.** : **IBM/4355/2011**
- (c) Category : A Mechanised
- (d) Type of Working : Opencast
- (e) Postal address
- State : ORISSA
- District : SUNDARGARH
- Village : TANTRA
- Taluka : BONAI
- Post office : TENSA
- Pin Code : 770042
- FAX No. : 95-6625-236023
- E-mail : trbmine@jindalsteel.net
- Phone : 95-6625-236023,236024
- (f) Police Station : Lahunipara
- (g) First opening date : 17/02/1990
- (h) Weekly day of rest : SUN
2. Address for : T.R.B IRON MINES
correspondance PO-TENSA
DIST-SUNDERGARH
3. (a) Lease Number : ORI0652
- (b) Lease area : 297.85
- (c) Period of lease : 50
- (d) Date of Expiry : 24/05/2035
4. Mineral worked : IRON ORE Main

5. Name and Address of the

Lessee : m/s Jindal Steel and Power Ltd
 TRB Iron Ore Mines At
 P.O.Tensa SUNDARGARH
 ORISSA
 Phone:06625 - 82023, 82024
 FAX :

Owner : Jindal steel & power ltd
 Barbil KEONJHAR ORISSA
 Phone: 06767 30158
 FAX :

Agent : Shri Y Nagendra
 TRB Iron Ore Mines M/s
 JSPL, Post-Tensa Sundargarh
 SUNDARGARH ORISSA
 Phone:
 FAX :

Mining Engineer

Name : B D SAHOO, Full Time
 Qualification : BE-MINING AND FCC
 Appointment/ : 17/09/2014
 Termination date

Geologist

Name : R K CHATURVEDI, Full Time
 Qualification : M TECH IN APPLIED GEOLOGY
 Appointment/ : 17/09/2014
 Termination date

Manager

Name : PANCHANAN SINGH
 Qualification : BE-MINING AND FCC
 Appointment/ : 26/12/2016
 Termination date

6. Date of approval of Mining	:	Mining Scheme rule 12 MCDR1988	25/08/2000
Plan/Scheme of Mining	:	Renewal under rule 22 MCR1960	09/10/2003
	:	Modif.of approved Mining Plan	19/12/2007
	:	Mining Scheme rule 12 MCDR1988	22/03/2010
	:	FMCP under 23C(1)	29/07/2010
	:	Modif.approved Mining Scheme	11/08/2010
	:	Modif.approved Mining Scheme	23/04/2012
	:	Mining Scheme rule 12 MCDR1988	27/03/2015
	:	MP modif under MCR 1960	27/03/2015
	:	MP review under 17(1) MCR 2016	18/10/2017

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 18/10/2018, a total of 36 number of BH have been proposed during 2017-18.	During the year 2017-18, NIL. a total of 56 BH have been drilled.	
1b	Exploration over lease area for geological axis 1 or 2	As per approved document dated 18/10/2018, a total of 57 number of BH have been proposed from 2017-18 to 2019-20.	Out of total 57 proposed BH, 56 BH have been completed during the year 2017-18.	NIL.
1c	Exploration Agencies and Expenditure in lakh rupees during the year		Exploration work carried out by Delvcore Mining & Machinery Pvt. Ltd.	NIL.
1d	Balance area to be explored to bring Geological axis in 1 or 2	A total of 91.767 Ha areas to be explored under G1/G2 level of exploration as per approved document dated 18/10/2017.	During the year 2017-18, NIL. a total of 56 BH have been drilled to explore lease area under G1/G2 level of exploration.	

1e	Balance reserve as on 01/04/20	As per approved document dated 018/10/2018, the position of reserve and resource as on 01/04/2017 are as follows: Reserve: 16.911 mT, Resources: 6.817 mt	The position of reserve NIL. and resource as on 01/04/2018 are as follows: Reserve: 14.332 mT, Resources: 6.817 mt
1f	General remarks of inspecting officers on geology, exploration etc	As per approved document dated 18/10/2018, a total of 36number of BH have been proposed during 2017-18.	During the year 2017-18, NIL. a total of 56 BH have been drilled.

Development :

Sl.No.	Item	Propasals	Actual work	Remarks
2a	Location of development w.r.t.lease area	Development has been proposed at three locations: Patch-1: 1420E to 1970E/120N to 1020N, Patch-2: 2040E to 2280E/500N to 80N, Patch-3B: 450E to 841E /740N to 970N.	Development has been carried out within approved limit i.e. Patch-1: 1420E to 1970E/120N to 1020N, Patch-2: 2040E to 2280E/500N to 80N, Patch-3B: 450E to 841E /740N to 970N.	NIL.

2b	Separate benches in topsoil, overburden and minerals (Rule 15)	No proposal of top soil generation during 2017-18. Proposal of separate benches in Ore and Waste.	A total of 89.0 CuM of top soil have been generated during 2017-18. Separate benches have been observed in ore and waste.	NIL.
2c	Stripping ratio or ore to OB ratio	1:1.16 CuM/Tonnes	1:1.47 CuM/Tonnes	NIL.
2d	Quantity of topsoil generation in m3	No top soil exists in the proposed location.	A total of 89.0 CuM of top soil have been generated during 2017-18	NIL.
2e	Quantity of overburden generation in m3	3602728 Cum	3807602 CuM	NIL.
2f	General remarks of inspecting officers on development of pit w.r.t. type of deposit etc	Development has been proposed at two locations.	Development has been carried out as per proposal.	NIL.

Exploitation:

Sl.No.	Item	Propasals	Actual work	Remarks
3a	Number of pit proposed for production	Excavation has been proposed three locations namely Patch 1, patch2 and Patch 3B.	Working has been carried out as per proposal	NIL.
3b	Quantity of ROM mineral production proposed	3.1 mt	2.57 mt	mt stands for million tonnes
3c	Recovery of sailable/usable mineral from ROM production	100%	100%	NIL.
3d	Quantity of mineral reject generation	1.19 mt	1.11 mt	mt stands for million tonnes.

3e	Grade of mineral rejects generation and threshold value declared.	45%Fe to 58%Fe	45%Fe to 58%Fe	NIL.
3f	Quantity of sub grade mineral generation.	1.19 mt	1.11 mt	Same figure also reflected in Mineral reject para.
3g	Grade of sub grade mineral generation	45%Fe to 58%Fe	45%Fe to 58%Fe	NIL.
3h	Manual / Mechanised method adopted for segregating from ROM	Mechanised method.	Mechanised method.	NIL.
3i	Any analysis or beneficiation study proposed and carried out for sub grade mineral and rejects.	Not applicable.	No beneficiation study has been carried out.	NIL.
3j	Provision of drilling and blasting in mineral benches	9.9m holes with IBH 10 with 100 mm dia and blasting by using class - 2 and class - 6 explosives. Nonel method is being continued.	9.9m holes with IBH 10 with 100 mm dia and blasting by using class - 2 and class - 6 explosives. Nonel method is being continued.	NIL.
3k	Provision of mining machineries in mineral benches	Back Hoe, Front end loader, Hydraulic Shovel, Dumper, Blast Hole Drill, Dozer, crane, explosive vain etc.	Back Hoe, Front end loader, Hydraulic Shovel, Dumper, Blast Hole Drill, Dozer, crane, explosive vain etc.	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 to 9 mtr.	Height of the benches have been maintained to 9 mtr.	NIL.
3m	Total area covered under excavation/pits	As per approved document dated 18/10/2018, an area of 109.425 Ha has been proposed under pit.	The area under pit as on 01/04/2018 was 107.82 Ha.	As per AR 2017-18.
3n	Ore to OB ratio for the pit/mine during the year.	1:1.16 CuM/Tonnes	1:1.47 CuM/Tonnes	NIL.
3o	Total area put in use under different heads at the end of year	Total area put in use under different heads at the end of plan period is 180.997 Ha.	Total area put in use under different heads found to be in order.	NIL.
3p	Production of ROM mineral during the last five year period as applicable	2013-14: 3.10 mT 2014-15: 3.10 mT 2015-16: 3.10 mT 2016-17: 3.10 mT 2017-18: 3.10 mT	2013-14: 1.84 mT 2014-15: 2.59 mT 2015-16: 2.92 mT 2016-17: 2.72 mT 2017-18: 2.57 mT	NIL.
3q	General remarks of inspecting officers on method of mining etc.	Opencast mechanized of mining has been proposed to win the Ore.	Opencast mechanized method of mining is being in practice win the Ore.	NIL.

Solid Waste Management - Dumping:

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. Separate stacking of OB and Mineral has been proposed.	A total of 89.0 CuM of top soil have been generated during 2017-18. Separate stacking of OB and Mineral has been observed.	NIL.
4b	Location of topsoil, OB and mineral reject dumps	During the year 2017-18, waste dumping has been proposed over the existing waste dump between grids N476-1105/E700-1450.	Dumping of the waste has been carried out as per proposal.	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)	Beyond ultimate pit limit.	Beyond ultimate pit limit.	NIL.
4e	Number of active and alive dumps.	One.	One.	NIL.
4f	Number of dead dumps.	No dead dump.	Not applicable as no proposal.	NIL.
4g	Number of dumps established.	Not applicable.	Not applicable as no proposal.	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	Retaining wall and garland drain of 306m has been proposed.	Retaining wall and garland drain has been constructed as per proposal.	NIL.
4j	Number of settling ponds	Not applicable.	Not applicable as no proposal.	NIL.

4k	Specific comments of inspecting officer on waste dump management	Separate stacking of OB and Mineral has been proposed.	A total of 89.0 CuM of top soil have been generated during 2017-18. Separate stacking of OB and Mineral has been observed.	NIL.
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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.	None of the area is proposed to mature for backfilling during 2017-18.	Not applicable as no proposal.	NIL.
5b	Area under backfilling of mined out area	None of the area is proposed to mature for backfilling during 2017-18.	Not applicable.	NIL.
5c	Concurrent use of topsoil for restoration or rehabilitation of mineral out area (Rule 32)	Not applicable.	A total of 89.0 CuM of top soil have been generated during 2017-18 and used for plantation.	NIL.
5d	Total area fully reclaimed and rehabilitated	Not applicable.	Not applicable.	NIL.
5e	General remarks of inspecting officers on backfilling and reclamation etc.	None of the area is proposed to mature for backfilling during 2017-18.	Not applicable	NIL.

Progressive Mine Clousre Plan:

Sl.No.	Item	Propasals	Actual work	Remarks
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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) .	Gap plantation has been proposed over waste dump, safety zone and office premises.	Plantation carried out as per proposal.	NIL.
6c	afforestation done (ha).	Gap plantation has been proposed over waste dump, safety zone and office premises.	Plantation carried out as per proposal.	NIL.
6d	No. of saplings planted during the year	3200 number of saplings.	22350 number of saplings.	NIL.
6e	Cumulative no .of plants	9600 (2017-18-2018-19)	22350 during 2017-18.	NIL.
6f	Any other method of rehabilitation	None.	Not applicable.	NIL.
6g	Cost incurred on watch and care during the year	2.2 lakhs	3.62 Lakhs	NIL.
6h	Compliance on reclamation and rehabilitation by backfilling (i) Voids available for backfilling (Lx B x D	None of the area is completely exhausted.	Not applicable	NIL.
6i	Compliance on reclamation and rehabilitation by backfilling (ii) Voids filled by waste / tailings	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) Rehabilitation by making water reservoir	Not applicable.	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.	NIL.
6n	Compliance of rehabilitation of waste land within lease (ii)Area rehabilitation (ha)		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 ,Water quality , Noise level survey & Ground Vibration to be measured 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.	Proposal has been given for environment monitoring in core and buffer zone.	Environmental monitoring was carried out in Core and buffer zone for the reporting year.	NIL.
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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 has been proposed in the lease area. Mainly Fe grade between 45 to 58 and more than 58 has been proposed.	Grade wise sorting has been observed in the lease area as proposed.	NIL.
7b	Method of grade-wise mineral sorting i.e. manual or mechanical.	Mechanised.	Mechanised.	NIL.
7c	Different grade of mineral sorted out at mines.	Iron Ore :- 45- 55%Fe, 55-58%Fe, 8-60%Fe, 60-62%Fe, 62-65%Fe	Iron Ore of Grades 45-55%Fe, 55-58%Fe, 58-60%Fe, 60-62%Fe, 62-65%Fe has been stacked in the Mines.	NIL.
7d	Any beneficiation process at mines .	No beneficiation process at mine.	Not applicable as no proposal.	NIL.
7e	General remarks of inspecting officer on Mineral conservation and beneficiation issues	It is proposed to kept OB and MR separately.	OB and MR has been kept separately.	NIL.

Environment:

Sl.No.	Item	Propasals	Actual work	Remarks
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8a	Separate removal and utilization of topsoil (Rule 32)		A total of 89.0 CuM of top soil have been generated during 2017-18.	NIL.
8b	Concurrent use or storage of topsoil		A total of 89.0 CuM of top soil have been generated during 2017-18 and utilized for plantation.	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 dumped separately and no land restoration is proposed.	Not applicable	NIL.
8e	Phased restoration, reclamation and rehabilitation of lands affected by mining operations (Pits, dumps etc)	Gap plantation has been proposed over waste dump, safety zone and office premises.	Plantation carried out as per proposal.	NIL.
8f	Baseline information on existence of plantation and additional plantation done (Rule 41)	During the year 3200 number of plants have been proposed for plantation.	A total of 22350 number of plant have been planted during year 2017-18.	NIL.
8g	Survival rate		77% during 2017-18.	As per AR 2017-18.
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	To improve the aesthetic beauty of mines proposal of plantation has been envisaged.	Plantation has been carried out in Office Premises , Safety Zone and Dump to improve aesthetic beauty in and around lease area.	NIL.
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Compliance of Rule 45:

Sl.No.	Item	Propasals	Actual work	Remarks
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 at the mine.	NIL.
9c	Scrutiny of Annual return on land use pattern for area under pits, reclaimed area, dumps etc.	Open cast Working - 107.82 Ha, Waste Disposal - 29.233 Ha, Reclaimed/Rehabilitated- 6.6 Ha, Occupied by plant, buildings, residential, welfare buildings and roads - 26.204 Ha Other Purpose - 44.53Ha	Found to be in order.	NIL.
9d	Scrutiny of Annual return on afforestation	22350 Saplings	22350 Saplings	NIL.

9e	Scrutiny of Annual return on mineral reject generation (Grade and quantity)	1114377 MT	Found to be in Order.	NIL.
9f	Scrutiny of Annual return on ROM stock and/or graded ore	ROM closing stock was 22650.00 MT, Lumps closing stock was 439286.32MT and fines closing stock was 248519.114 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 Rs.1546.96 prt tonne. The cost of production is RS. 1546.96 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. 601061340.00	The value of fixed asset furnished seems to be in order.	NIL.
9k	Scrutiny of Annual return on mining machineries	Back Hoe, Front end loader, Hydraulic Shovel, Dumper, Blast Hole Drill, Dozer, crane, explosive vain etc.	Found to be in order.	NIL.

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)	26/10/2018	28/12/2018				

Date :

(SHRI G.C. SETHI)

Indian Bureau of Mines