

**INDIAN BUREAU OF MINES
MINES CONTROL AND CONSERVATION OF MINERAL DIVISION**

MCDR INSPECTION REPORT

Bhubaneshwar regional office

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

Mine code : 30ORI13028

- (i) Name of the Inspecting : **S024**) **DR. M K SOMANI**
Officer and ID No.
- (ii) Designation : Senior Mining Geologist
- (iii) Accompanying mine : Shri K K Nanda, GM,
Official with
Designation
- (iv) Date of Inspection : 19/07/2014
- (v) Prev.inspection date : 13/11/2013

PART-I : GENERAL INFORMATION

1. (a) **Mine Name** : **TANTRA, RAIKELA & BANDHAL**
- (b) Category : A Mechanised
- (c) Type of Working : Opencast
- (d) Postal address
- State : ORISSA
- District : SUNDARGARH
- Village : TANTRA
- Taluka : BONAI
- Post office : TENSA
- Pin Code : 770042
- FAX No. : 95-6625-236023
- E-mail :
- Phone : 95-6625-236023,236024
- (e) Police Station :
- (f) First opening date : 17/02/1990
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 : 20
- (d) Date of Expiry : 02/12/2026
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 : Kamala Kanta Nanda
 M/s.Jindal Steel & Power
 Ltd. Tensa, Sundargarh
 SUNDARGARH ORISSA
 Phone:
 FAX : 06625-236022

Mining Engineer

Name : K. Bhattacharya, Full Time
 Qualification : BE - Mining, FCC
 Appointment/ : 01/10/2008
 Termination date

Geologist

Name : R.S.RAGHUWANSI, Full Time
 Qualification : M.Tech (A.G)
 Appointment/ : 19/09/1999
 Termination date

6. Date of approval of Mining :
 Plan/Scheme of Mining**PART - II : TECHNICAL DETAILS/COMMENTS**

1. Details about Average employment :

Maximum number of persons employed on any day during the year

Employment category	No.of employment	Av. yearly working days
DIRECT		
Managerial	13	360
Supervisory	10	306
Workers	38	306
CONTRACT		
Workers	49	306
Others	22	306
Supervisory	6	306

2. Community Development Plan (in and around the mines) : Proposed action and expenditure towards socio-economic development.

Action during the year	Expenditure in Rs. Lakhs for				Remarks
	previous year		current year		
	Proposed	Incurred	Proposed	Incurred	
General					
Water supply	18.27	18.00			
Health	37.50	13.00			+SAFETY AND MEDI
Housing	166.15	47.57			SCHOOL BUILDING
Sanitation	6.00	6.00			
Sub total	227.92	84.57			
Infrastructure					
Public transport	493.00		140.42		public transport
Sub total	493.00		84.57		
Training	10.00		7.00		
Environment management	360.00		360.00		
Recreation	139.61		43.10		
Employment	171.00		28.83		
Total	*****		663.92		

3. Status of compliance of MCDR, 1988, including therewith the rectification of the outstanding violation of rules.

1. Rule 27: The copies of plans and sections as required under Rule 28 have not been updated properly.

2. Rule 29: The copies of plans and sections as required under Rule 28 have not been submitted for the year 2013-14 so far to the RCOM, IBM, Bhubaneswar.

3. Rule 45: The following discrepancies have been observed in the Annual Return 2012-13.

- i) Name of the mine was not given correctly.
- ii) Quality of grades produced have not been given.
- iii) No. of O.B. benches were not mentioned correctly.
- iv) Details of beneficiation not given.

4. Rule 46 : Notice of appointment of Sh.B.D.Sahoo, Mining Engineer not reported to RCOM, IBM, BBSR.

4. A note on the justification in case of suspension of mining operation under rule 13(2) or prohibition of deployment of any person under rule 56 of MCDR, 19888, if recommended.

NOT RECOMMENDED.

5. Scientific Mining

Items	Proposal	Actual work done	Remarks
-------	----------	------------------	---------

A. Exploration (Rule 13)

a.Type of prospecting : 8 No. Drilling and exploration i.e. pitting, drilling		6 No.Drilling, REMAINING 2 B.H COMPLETED IN 14-15.	REMAINING 2 B.H COMPLETED IN 14-15.
b.Total area covered : 90.505 ha		90.505 ha	

B. Working (Rule 13)

a.Number and size of each pit (LxWxH)	Patch-1, 100N-800N/1400E-1900E Patch-2, 100N-400N/1900E-2200E	Patch-1, 100N-800N/1400E-1900E Patch-2, 100N-400N/1900E-2200E	
b.Bench size(LxWxH)length can be defined as regular/irregular	: 12 x 9 mtr.	12 x 9 mtr.	
c.Ore to waste ratio pit wise if possible otherwise for mine	: 1 : 1.23	1:0.063	
d.Total area covered under excavation/pits	: 57.883 Ha.	57.883 Ha.	

C. Waste disposal (Rule 13)

a.Location of dumps	: Western side of quarry	N/A	Backfill area i.e. Northern side of the quarry. Backfill area i.e. Northern side of the quarry. i.e. Northern side of the quarry. Backfill area i.e. Northern side of the quarry.
e.Yearly generation of waste quantity.	: 1616700 Cum	116600.747 CuM	
b.Method of dumping whether advancing/retreat	: Backfilling	Backfilling	
c.Total area covered under waste dump.	: 1 Ha. of Backfill area.	1 Ha. of Backfill area.	

d.No.and size of each : Backfill 5 Backfill 5 Benches.
waste dump with No of Benches.
steps/lift/bench

D. Production

b.Year wise production of last five year.	: Approved mining plan/ scheme	Approved mining plan Envt. Clearance Consent of OSPCB PRODUCTION / scheme
	2008-09 3046588	2008-09 3046588 3110000
	2009-10 3114600	2200000
	2010-11 3100965	2201780
	2011-12 3107724	2009-10 3114600 3110000
	2012-13 3102974	3110000
	2013-14 3107398	2738080
	2014-15 3106446	2010-11 3100965 3110000
		3110000
		2920028
		2011-12 3107724 3110000
		3110000
		2539160
		2012-13 3102974 3110000
		3110000
		2486877
		2013-14 3107398
		3110000
		3110000 1842582
		2014-15 3106446 3110000
		3110000
		600497
		upto 30.06.2014

D. Reserve

a.Reserve position as : per latest MP/MS and at the time of inspection.	I) 7314350MT >58% Fe : ii) 20408876 MT >45% to 58% Fe
--	---

RESERVE POSITION AS ON 01/04/2014

IRON ORE		
Category	Quantity in Tonnes	Grade
Proved	7314350	>58%Fe
Probable	20408876	45-58%Fe
Possible		
Total	27723226	>45%Fe

PRODUCTION FOR THE PREVIOUS YEAR 2013 - 2014

Mineral	Production	Unit
IRON ORE	1842582	TON

6. Conservation of Mineral - both quantitative and qualitative**Beneficiation (Rule 20 and 26)**

Efforts for improving low grade and sub grade mineral. : CRUSHING / SCREENING

Efforts for improving percentage of recovery of ore. : CRUSHING / SCREENING

Mineral Rule 15

Percentage of recovery of ore pitwise w.r.t. ROM and total material : (b) Percentage of recovery of ore pit wise w.r.t. ROM and total material: 100%

Number of benches in ore and waste. : (a) No. of benches in ore and waste: 6 in ore and 14 in mixed Benches (In Western side 14 waste benches ,Eastern side 5 waste benches , Southern side 14 ore benches.

Sub/grd mineral/fines (Rule16)

Qty of yearly generation and total qty available during inspection with grade : 238009CuM.

Number and size of each stack : ONE

Location of stacking. : Western side of waste dump

Separate stacking from waste : Separate stacking

Total area covered for stacking : 6.047HA

Exploration data as on 31/03/ 2014

No. of Boreholes	No. of Pits	No. of Trenches
196		
7		

OVERBURDEN HANDLED DURING PREVIOUS YEAR 2013 - 2014

Overburden/waste removed (in m3) :	116600.74
------------------------------------	-----------

Utilisation of Sub Grade Mineral and Mineral Rejects

Generated	Utilised	Stacked	(In Ton.)

7. Environment Management - both quantitative and qualitativ

A. Land environment

- a. Landscape. : (a) Landscape: Landscape development through seasonal flower plants, herbs and shrubs has been carried out in the colony and office area.
- b. Aesthetic environment : (b) Aesthetic environment: Green belt & infrastructure development has been carried out in and around the mining lease to develop the aesthetic environment of the location.
- c. Soil and land use pattern : (c) The topsoil excavated during mining operation is utilized for plantation and reclamation purpose within the leasehold area. Rest unutilized quantity has been stacked separately with in an earmarked area for future use. It has been protected by suitable grass plantation. During the year 2013-14, a total of 76.155 Cum topsoil has been excavated. After utilization presently 26.58 Cum of topsoil has been stored.
- d. Agriculture : There is no agricultural land.
- e. Forest(flora and fauna) : (f) Forest (Flora & fauna): Studies on flora and fauna of the area had been carried out both for the core zone and buffer zone. Details of the studies were carried out for assessing the diversity pattern of the floral species. Faunistic pattern of the area was also studied based on inquiries from the local population and forest officials.
- f. Vegetation : (g) Vegetation: The species which are found in the core zone area are Shorea robusta, Schleicheria oleosa, Diospyros melanoxylon, Careya arborea, Buchanania lanzan, Anogeissus latifolia etc.
- h. Public building, places and monuments (protected, historical), place of worship and places of tourist : The Mining Lease is surrounded by Three Villages. Whereas there is no such protected monument and historical monument in the area.

B Water environment.

- a. Surface water : Samij nalla is the main source of water which passes along the western boundary of our TRB mines. Numbers of springs are present in the hilly terrain having low discharge which gets dried up during summer season.
- b. Ground water : The occurrence and movement of ground water is controlled mainly by geomorphic conditions in the area. The ground water occurs within the weathered portions of hard rock's as well as in the unconsolidated alluvial sediments. The yield of these formations varies between low to medium range. The ground water level in the mines working area is at 589 mRL where as the working is carried out at 675 mRL.
- c. Quality of water : The quality of water is monitored on monthly basis.

The parameters are within the permissible limits as prescribed by statutory bodies.

C. Air environment

- a. Noise : Ambient noise levels in core zone are well within the prescribed limits. To control the noise level at the work place regular preventive maintenance of machinery and the transport vehicles are being carried out. Back up power DG sets have been installed with accoustic enclosures. Also plantation has been done around crushing and screening area for noise attenuation. In case of higher noise levels provision of providing ear muffs & ear plugs to the employees.
- b. Air : water spraying at all handling and transfer points, crushing and screening plant is provided. Wet drilling practice is adopted , 2Km long permanent water sprinkler, one 28 KL water sprinkler is also in use. Dry fog dust suppression system for the crushing and screening circuit. Due care to control air pollution in critical areas such as crushing and screening plant, haul road, transfer points and loading and unloading points is being taken of.
- c. Climatic condition : The predominant climatic condition of the area is sub tropical. The mining operations in the present case are activities of local nature. So there will be no such additional emissions in significant levels that will affect the climate.

D. Socio economic environment

- a. Social and demographic profile. : The demographic details were studied for both core as well as buffer zone. There are all in total 37 villages spread over three blocks- Kamarposh Balang, Koira and Lahunipara having total population of 33072 within 10 km radius of buffer zone.
- b. Recommending health and safety. : Better health care for the locality as facilities available with the mine and colony can become available to the community. Regular health camp has been organized for the local community and employees.
- c. Human settlement : The mining lease is mainly in the hillock region and surrounded by three villages namely Tantra, Raikella & Bandhal and the density of population is very low.
- d. Recreational facility. : Movie show through United Film organization (UFO) server facility, gymnasium, library facility to all the employees and family members has been provided. We are organising football tournament every year for development of surrounding and communal harmony.

7.1 Comments on the steps taken by the lessee towards maintaining environment and monitoring of environmental parameters to ensure the qualitative improvement in the environment and ecology.

<u>Water Management</u>					
Season	Station type	Station name	Parameter	Value	
				Actual	Excess

<u>Air data for excess parameters</u>					
Season	Station name	Type of area	Parameter	Value	
				Actual	Excess

<u>PLANTATION DURING THE PREVIOUS YEAR</u>			<u>2013 - 2014</u>			Area in Hect.
Within lease area			Outside lease area			
<u>Area</u>	<u>Trees planted</u>	<u>Survival rate</u>	<u>Area</u>	<u>Trees planted</u>	<u>Survival rate</u>	
	32451		2.46	5943		

<u>TOP SOIL MANAGEMENT</u>	
Quantity as on 31/03/2014	

8. Scrutiny of annual returns on cost of production, reserve, production, pit mouth value, stock, land use pattern and fixed assets.

Scrutiny of annual returns on cost of operation, reserves, production, pit mouth value, stock, land use pattern and fix assets for the year 2013-14

(1) Cost of operation : Rs.784.85 per tone.

(2) Reserve : I) 7314350MT >58% Fe

: ii) 20408876 MT >45% to 58% Fe

(3) Production : 1842582 MT

(4) Pit's Mouth value : Rs.784.85 per tonne

(5) Stock : 19743.306MT(Ore) & 813626.220 MT(Fines) as on 31.03.2014

(6) Land use pattern :

Description : Area in Ha.

Area under mining / quarrying : 57.883

Waste dump : 14.200

Mineral storage : 6.047

Infrastructure (Plant, building, residential, welfare building, road etc.) : 12.375

Sub total : 90.505

Safety zone : 5.103

Other (undisturbed) : 202.240

Total : 297.848

PART - III : PERFORMANCE OF MINE OWNER

(In case of lease expiring within 2 years - as per guidelines)

PART - IV : PROPOSALS FOR FURTHER ACTION FOR :

Indian Bureau of Mines (any issue related to CGPB, SGPB, Assistance, Consultancy, Annual Programme and studies, etc.)

NONE

State Government (Illegal mining, mining dispute, infrastructure, Mineral based industry, Mineral policy, etc.)

NONE

The Central Government (Infrastructure, Development, Mineral policy and Legislation, Mineral based industry, etc.)

NONE

Date :

(DR. M K SOMANI)

Indian Bureau of Mines