

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

MCDR INSPECTION REPORT

Bhubaneshwar regional office

Mine file No : ORI/IRON/KJR/MCDR-32/BBS

Mine code : 300RI08027

- (i) Name of the Inspecting : **25**) **SHRI IBRAHIM SARIF**
Officer and ID No.
- (ii) Designation : Assistant Controller Mine
- (iii) Accompanying mine : Shri Rajesh Patel Mines Manager
Official with
Designation
- (iv) Date of Inspection : 27/04/2015
- (v) Prev.inspection date : 12/09/2014

PART-I : GENERAL INFORMATION

1. (a) **Mine Name** : **JODA EAST**
- (b) Category : A Mechanised
- (c) Type of Working : Opencast
- (d) Postal address
State : ORISSA
District : KEONJHAR
Village : JODA
Taluka : BARBIL
Post office : JODA
Pin Code : 758034
FAX No. : 0657-425847
E-mail : shailesh.verma@tatasteel.co
Phone : 06757 - 424401
- (e) Police Station : JODA
- (f) First opening date : 01/04/1956
2. Address for : JODA EAST IRON MINES
correspondance VILL/PO-JODA
DIST-KEONJHAR PIN- 758034
3. (a) Lease Number : ORI0106
(b) Lease area : 671.09
(c) Period of lease : 20
(d) Date of Expiry : 30/06/2005
4. Mineral worked : IRON ORE Main
MAGNESITE Associated
KAOLIN Associated

5. Name and Address of the

Lessee : TATA IRON & STEEL CO. LTD.
TATA IRON & STEEL CO. OMQ,
NUAMUNDI JHARKHAND
SINGHBHUM (WEST) JHARKHAND
Phone:
FAX :

Owner : TATA IRON & STEEL CO. LTD.
TATA IRON & STEEL CO. LTD.
OMQ, NUAMUNDI SINGHBHUM
WEST, JHARKHAND SINGHBHUM
(WEST) JHARKHAND
Phone:
FAX :

Agent : SHRI SAILESH VERMA
JODA EAST IRON MINE M/E
TATA STEEL LTD. AT/PO: JODA
- 758 034 KEONJHAR ORISSA
Phone: 09238101031
FAX : 06767-272010

Geologist

Name : SHRI TARUN CHAKRABORTY, Full Time
Qualification : M.Sc (GEOLOGY)
Appointment/ : 01/10/2006
Termination date

Manager

Name : SHRI NIRANJAN SAHOO
Qualification : B.E. MINING
Appointment/ : 06/02/2008
Termination date

6. Date of approval of Mining : 26/03/2015
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	14	313
Supervisory	11	313
Workers	93	313
Others	32	313
Plant	326	313
Ministrial	13	313
CONTRACT		
Others	935	313

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					
Housing	*****	*****			
Health	137.43	167.95			
Sub total	*****	*****			
Infrastructure					
Roads	*****		684.21		
Sub total	*****		*****		
Sports activities	37.00		17.48		
Employment	94.59		76.13		
Training	93.14		91.24		
Others	443.31		182.62		Women empowermen
Environment management	64.02		88.27		
Total	*****		*****		

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

There was no outstanding violations.

During current inspection violation of rule 27(4), 33(2) 7 33(5) of MCDR, 1988 was observed and communicated vide this office letter dated 02.09.2015

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
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A. Exploration (Rule 13)

a.Type of prospecting : 10 no. of bore and exploration i.e. holes pitting, drilling		Nil	
b.Total area covered :		Exploration carried out as per UNFC norms	
		UNFC categories Area in hectares	
		331	
		- 251.01	
		332	
		- 100.46	
		333	
		- 14.78	
		Barren Area -	
		288.49	
		Northern Part -	
		16.35	
		Total	
		- 671.09	

B. Working (Rule 13)

a.Number and size of : each pit (LxWxH)		North Pit - 2200 m x 1200 m x 66 m South Pit - 650m x 450m x 57 m	
b.Bench : Height 9 m size(LxWxH)length can Width 25m be defined as regular/irregular		Height 9 m Width 25m	
c.Ore to waste ratio : 1 : 0.16 pit wise if possible otherwise for mine		1 : 0.15	
d.Total area covered : 389.995 Ha under excavation/pits		389.995 Ha	

C. Waste disposal (Rule 13)

a.Location of dumps : 2400 N - 2700 N 2500 E - 2800 E		2400 N - 2700 N 2500 E - 2800 E	
e.Yearly generation : 0.68 million of waste quantity. tonnes		0.65 million tonnes	
b.Method of dumping : Retreating whether advancing/retreat		Retreating	
c.Total area covered : 8.61 Ha under waste dump.		8.51 Ha	
d.No.and size of each : 1 no. of 3 waste dump with No of terraces steps/lift/bench		1 no. of 2 terraces	

D. Production

b.Year wise	: 2013-14	120 Lakh	2013-14	87.48 lakh
production of last	Tonnes		tonnes	
five year.	2014-15	120	2014-15	81.75 Lakh
	Lakh tonnes		tonnes	

D. Reserve

a.Reserve position as :	Unfc	Code	Resources	All figures in
per latest MP/MS and	Grade			million tonnes
at the time of	111			
inspection.	162.87		+58% Fe	
	121 & 122		12.72	
			+58% Fe	
	221			
	21.51		+58% Fe	
	38.6		45 to 58%	
	Fe			
	222			
	4.62		+58% Fe	
	6.36		45 to 58%	
	Fe			
	331			
	1.37		45 to 58%	
	Fe			
	332			
	0.58		45 to 58%	
	Fe			
	333		0.43 &	
	1.69		+58% Fe & 45 to	
	58% Fe			

RESERVE POSITION AS ON 01/04/2015

IRON ORE		
Category	Quantity in Tonnes	Grade
Proved	162870000	+58% Fe
Probable	12720000	+58% Fe
Possible	26560000	+58% Fe
Total	202150000	+58% Fe

PRODUCTION FOR THE PREVIOUS YEAR 2014 - 2015

Mineral	Production	Unit
IRON ORE	77530000	TON

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

Efforts for improving low grade and sub grade mineral. : Proposal of establish beneficiation plant for processing low grade ore.

Efforts for improving percentage of recovery of ore. : Hydrocyclone is introduced to recover iron values from fines in processing plant.
The ROM with high alumina content is subjected to Wet Processing.
while ROM low in alumina is processed through Dry Processing.
A new dry processing plant has been commenced in the mines for 100% recovery of high grade fines.

Mineral Rule 15

Percentage of recovery of ore : 87% w r t ROM in both North and South pits.
pitwise w.r.t. ROM and total material

Number of benches in ore and waste. : Waste - 1 no.
Ore - 13 nos.

Sub/grd mineral/fines (Rule16)

Qty of yearly generation and total qty available during inspection with grade : Year Generation
2013-14 - 1.11 million tonnes
2014-15 - 0.55 million tonnes
Sub grade ore has not been utilised so far
Quantity of Sub grade ore available at mine head is 23.32 million tonnes.

Number and size of each stack : 3 Nos.
Sub Grade stock-IIA - 7.8 Ha
Sub Grade stock-II - 10.6 Ha
Sub Grade stock-Old - 8.89 Ha

Location of stacking. : 2100N - 2400 N, 2200E - 2800 E
2600N - 3500 N, 2200 E - 2800E

Separate stacking from waste : Yes

Total area covered for stacking : 27.29 Ha

Exploration data as on 31/03/ 2015

No. of Boreholes	No. of Pits	No. of Trenches
624		

OVERBURDEN HANDLED DURING PREVIOUS YEAR 2014 - 2015**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. : The lease block of Joda East lies between longitude 85o25'E & 85o27'E and latitude 21o59'N and 22o03'N within Survey of India toposheet no. 73 F/8 and 73 G/5 and is covered by a ridge trending NNE – SSW. It has two summits named as Bara parbat and Banspani pahar. The highest point on the summit is at about 686 meter above mean sea level. On both the flanks of the ridge there are numerous seasonal watercourses transverse to the ridge.
- c. Soil and land use pattern : Covered under Open cast working : 389.995 Ha
used for Waste/ Slime disposal : 100.332 Ha
Occupied by plant, building : 60.921 Ha
Others (mineral Storage) : 68.611 ha
- d. Agriculture : No agricultural land exist within lease area
- e. Forest(flora and fauna) : Since the mining operation is almost in the diverted forest land, the lost vegetation due to expansion of mining operation can be reproduced as a part of compensatory afforestation.
The multi-species bio-diversified sapling planted will ensure the development of green covers that will match the natural vegetation around. This is likely to keep intact the fauna of the region as well. The fauna reported in this area are not of any rare species and are all common migratory type.
- f. Vegetation : The leasehold has tropical and deciduous forests which are inhabited by animals of varied species. Good growth of flowering plants, timber and fruits are observed. Prominent botanical species like Bassia Latifolia (Mahua). Terminalia Tomentosa (Asan), Butea Monosperma (Kosi), Shorea Robusta (Sal), Pleocorpus Marsupium (Bija), Magnifer Indica (Mango), Cosia Siamea (Chakundi), Shorea Robusta (Sal) etc. are in abundance.
- h. Public building, places and monuments (protected, historical), place of worship and places of tourist : There are no places of worship and monuments nearby. Hence no impact is envisaged on these.

B Water environment.

- a. Surface water : There will not be any significant impact on the surface water bodies is envisaged. During monsoon, mine wash-off from pits will be arrested by series of check dams proposed on the downstream side and being discharged in both the slime dams, where the water gets settled and clear water is being recirculated to the processing plant.
Water quality will be monitored in all seasons.
- c. Quality of water : Water quality will be monitored in all seasons and

found to be within permissible limit.

C. Air environment

- c. Climatic condition : The area has tropical climate with hot and humid summer and chilly winters. Temperature varies from 47.5oC in summer season to 5oC during the winter.

D. Socio economic environment

- c. Human settlement : No human settlement exist in the lease area. Presently the local population constitutes a significant fraction of the direct employment. Over the years such people have been trained in various vocations and they form a part of the semi-skilled and skilled employees.
- d. Recreational facility. : Recreational facilities like parks, garden and club is being provided for employees.

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>2014 - 2015</u>		
Within lease area			Outside lease area		
Area	Trees planted	Survival rate	Area	Trees planted	Survival rate
4	15000	80			

TOP SOIL MANAGEMENT Quantity as on 31/03/2015

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

2014-15

Production : 77,52,558.99 MT

Cost of Operation : Rs. 791.75 per MT

Pit Mouth Value: Rs. 791.75 per MT

Reserves:

Unfc Code	Resources	Grade
111	162.87	+58% Fe
121 & 122	12.72	+58% Fe
221	21.51	+58% Fe
	38.6	45 to 58% Fe
222	4.62	+58% Fe
	6.36	45 to 58% Fe
331	1.37	45 to 58% Fe
332	0.58	45 to 58% Fe
333	0.43 & 1.69	+58% Fe & 45 to 58% Fe

Land use:

Covered under Open cast working : 389.995 Ha

Used for Waste/ Slime disposal : 100.332 Ha

Occupied by plant, building : 60.921 Ha

Others (mineral Storage) : 68.611 ha

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 :

(SHRI IBRAHIM SARIF)

Indian Bureau of Mines