

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

MCDR INSPECTION REPORT

Bhubaneshwar regional office

Mine file No : ORI/MN/KJR/MCDR-8/BBS

Mine code : 40ORI08019

- (i) Name of the Inspecting : **AKP**) **ASHOK KUMAR PANY**
Officer and ID No.
- (ii) Designation : Assistant Mining Engineer
- (iii) Accompanying mine : **SHRI R L JOSHI, MINES MANAGER**
Official with
Designation
- (iv) Date of Inspection : 22/09/2021
- (v) Prev.inspection date : 09/02/2021

PART-I : GENERAL INFORMATION

1. (a) **Mine Name** : **JODA WEST**
- (b) **Registration NO.** : **IBM/4376/2011**
- (c) Category : A Fully Mechanised
- (d) Type of Working : Opencast
- (e) Postal address
- State : ORISSA
- District : KEONJHAR
- Village : BICHAKUNDI
- Taluka : CHAMPUA
- Post office : BICHAKUNDI
- Pin Code :
- FAX No. : 916767-72010
- E-mail : mdoffice@tatasteel.com
- Phone : 916767-72239
- (f) Police Station : JODA
- (g) First opening date : 04/06/1935
- (h) Weekly day of rest : SUN
2. Address for : JODA WEST MN MINE, M/S TATA STEEL LTD
correspondance P.O.BICHHAKUNDI
DIST-KEONJHAR, ORISSA-758034
3. (a) Lease Number : ORI0056
- (b) Lease area : 1437.72
- (c) Period of lease :
- (d) Date of Expiry : 31/03/2030
4. Mineral worked : MANGANESE ORE Main

5. Name and Address of the

Lessee : M/S TATA STEEL LTD
 NUAMUNDI SINGBHUM WEST
 JHARKHAND SINGHBHUM (WEST)
 JHARKHAND
 Phone:06596-233740
 FAX :06596-233706

Owner : M/S TATA STEEL LTD
 NUAMUNDI SINGBHUM WEST
 JHARKHAND SINGHBHUM (WEST)
 JHARKHAND
 Phone: 06596-233740
 FAX : 06596-233706

Agent : AMIT KUMAR DUBEY
 KEONJHAR ORISSA
 Phone: 9238101140
 FAX :

Mining Engineer

Name : SHRI VIKASH KUMAR GUPTA,Full Time
 Qualification : DEGREE IN MINING ENGG
 Appointment/ : 01/03/2021
 Termination date

Geologist

Name : SHRI RAJIB DEB,Full Time
 Qualification : M TECH APP GEOLOGY
 Appointment/ : 01/09/2021
 Termination date

Manager

Name : Sri Rimlal Joshi
 Qualification : AMIE (Mining) & FCC
 Appointment/ : 02/12/2019
 Termination date

6. Date of approval of Mining	:	Renewal under rule 22 MCR1960	12/03/2002
Plan/Scheme of Mining	:	Modif.of approved Mining Plan	24/03/2005
	:	Mining Scheme rule 12 MCDR1988	17/02/2009
	:	Mining Scheme rule 12 MCDR1988	21/05/2013
	:	MP review under 17(1) MCR 2016	09/11/2017
	:	Modif.approved Mining Scheme	06/08/2020

PART - II : OBSERVATION/COMMENTS OF INSPECTING OFFICERS

Exploration :

Sl.No.	Item	Proposals	Actual work	Remarks
1a	Backlog of previous year	NA	No back log of previous year. During the year 2019-20, 40 nos. of bore holes proposed and the same has been carried out as per proposal.	
1b	Exploration over lease area for geological axis 1 or 2	It was proposed to drill 1239 nos. of exploratory bore holes in the year 2020-21.	160 nos. of bore holes drilled during the year.	Violation letter has been issued to lessee vide letter dated 30.09.2021 for non-compliance of exploration proposal.
1c	Exploration Agencies and Expenditure in lakh rupees during the year	No specific proposal	256.35 Lakhs	
1d	Balance area to be explored to bring Geological axis in 1 or 2	NA	The balance area to be explored is 1006.634 ha	
1e	Balance reserve as on 01/04/20	NA	As per the approved document on 06.08.2020 the reserve and resource position as on 01.04.2020 is as follows: Manganese ore reserves are 2.921 million tonnes & resources of 2.705 million tonnes. and Iron reserves are 56.31 million tonnes and resources of 13.539 million tonnes. After depleting production for the year 2020-21, the reserve as on 31.03.2021 is as follows: Mn Reserve- 2.801 MT, Resource- 2.705 MT Iron Reserve-56.31 MT, Resource- 13.539 MT	

1f	General remarks of inspecting officers on geology, exploration etc	General strike of the formations is NS to NE-SW with dip varying from 100-300 towards west which is congruent to the regional structure of the Singbhum Bonai Synclinorium.
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Development :

Sl.No.	Item	Propasals	Actual work	Remarks
2a	Location of development w.r.t.lease area	Development proposed in D-quarry , D-quarry Extn, Gangaigora quqrry and H-Quarry during the year 2020-21.	Develpoment is carried out within proposed area.	
2b	Separate benches in topsoil, overburden and minerals (Rule 15)	The top soil capping is proposed to be scrapped. Seperate becnhes in OB and manganese ore zone are envisaged.	Seperate becnhes in OB and manganese ore zone are made. The top soil scrapped was used for saplings plantation.	
2c	Stripping ratio or ore to OB ratio	1:7.27	1:10.3	Striping ratio varies due to irregular nature of ore deposit.
2d	Quantity of topsoil generation in m3	489 Cum	300 Cum	
2e	Quantity of overburden generation in m3	2035386 Cum	1176198 Cum	Less development due to delay in getting tree felling permission.

2f	General remarks of inspecting officers on development of pit w.r.t. type of deposit etc	Development was carried out in four quarries by opencast mining method.
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Exploitation:

Sl.No.	Item	Propasals	Actual work	Remarks
3a	Number of pit proposed for production	4 Nos.	4 Nos.	
3b	Quantity of ROM mineral production proposed	Production of Mn ore ROM of 211755 tonne was proposed during the year 2020-21	109415 tonne	
3c	Recovery of sailable/usable mineral from ROM production	180000 tonne saleable and 31755 tonne mineral reject	94098 tonne saleable and 15317 tonne mineral reject	
3d	Quantity of mineral reject generation	31755 tonne	15317 tonne	
3e	Grade of mineral rejects generation and threshold value declared.	The grade of mineral reject is 10-25% Mn content	The grade of mineral reject is 10-25% Mn content and threshold value is 10%	
3f	Quantity of sub grade mineral generation.	NA	Included in mineral reject	
3g	Grade of sub grade mineral generation	NA	Included in mineral reject	
3h	Manual / Mechanised method adopted for segregating from ROM	Manual	Manual	

3i	Any analysis or beneficiation study proposed and carried out for sub grade mineral and rejects.	Study of beneficiation of low grade manganese ore	carried out	
3j	Provision of drilling and blasting in mineral benches	Deep Hole drilling and blasting Depth of Hole 8m, spacing 3m, burden 2.5m	Deep Hole drilling and blasting Depth of Hole 8m, spacing 3m, burden 2.5m	
3k	Provision of mining machineries in mineral benches	Excavator 6Nos, Dumper 22Nos, Drill (100mm dia) 3Nos.	Excavator 6Nos, Dumper 22Nos, Drill (100mm dia) 2Nos.	
3l	Whether height of benches in overburden and mineral suitable for method of mining proposed in MP/SOM	Bench Height: 8m Bench width: 10m	Bench Height: 8m Bench width: 10m	The bench designed depending on the machiney used and rock condition.
3m	Total area covered under excavation/pits	86.770 ha	84.810 ha	
3n	Ore to OB ratio for the pit/mine during the year.	D quarry - 1:7.27 D' Quarry- 1:20.27 Gangaigora- 1:17.59 H quarry- 1:2.13	D quarry - 1:33.39 D' Quarry-1:19.22 Gangaigora- 1:18.43 H quarry- 1:5.17	Ratio increased due to less excavation of Mn Ore as compared to OB excavation for pit development.
3o	Total area put in use under different heads at the end of year	Total area put to use at the end of plan period is 561.124 ha	The area put in use as on 31.03.2021 is 438.317 ha	

3p	Production of ROM mineral during the last five year period as applicable	2016-17: 200000 MT 2017-18: 211765 MT 2018-19: 100013 MT 2019-20: 196011MT 2020-21: 211755 MT	2016-17: 93777.678 MT 2017-18: 69595.74 MT 2018-19: 64866.193 MT 2019-20: 93605.00MT 2020-21: 109415.00 MT	
3q	General remarks of inspecting officers on method of mining etc.			The mine is operated in opencast method having 4 Nos. quarries

Solid Waste Management - Dumping:

Sl.No.	Item	Propasals	Actual work	Remarks
4a	Separate dumping of topsoil, OB and mineral rejects (Rule 32,33)	Separate Dumps for OB and mineral reject has been proposed. top soil will be used for plantation.	Separate Dumps for OB and mineral reject has been maintained. top soil was used for plantation.	
4b	Location of topsoil, OB and mineral reject dumps	OB Dump- D#1- 2220N-2764N & 4852E-5441E D#11- 1040N-1400N & 3254E-3598E Mineral Reject Dump- D#7H-1693N-1802N & 3545E-3729E D#7j-1823N-1987N & 3307E-3510E	OB Dump- D#1- 2220N-2764N & 4852E-5441E D#11- 1040N-1400N & 3254E-3598E Mineral Reject Dump- D#7H-1693N-1802N & 3545E-3729E D#7j-1823N-1987N & 3307E-3510E	
4c	Number of dumps within lease area and outside of lease area	NA	3 nos. of active waste dumps exists within lease area and no dumps outside.	

4d	Location of dumps w.r.t. ultimate pit limit (Rule 16)	Outside UPL	Outside UPL	
4e	Number of active and alive dumps.	3 Nos.	3 Nos.	
4f	Number of dead dumps.	Not applicable	Nil	
4g	Number of dumps established.	Not applicable	Nil	
4h	Whether Retaining wall or garland drain all along dumps are there.	No, proposed during the year 2020-21 Retaining wall-1025m Garland Drain-1025m	Against which 720 m retaining wall and 190m garland drain constructed during the year	Violation letter issued to Lessee on vide letter dated 30.09.2021
4i	Length of Retaining wall or garland drain all along dumps	Retaining wall-1025m Garland Drain-1025m	Against which 720 m retaining wall and 190m garland drain constructed during the year	Violation letter issued to Lessee on vide letter dated 30.09.2021
4j	Number of settling ponds	1 Nos	1 Nos.	
4k	Specific comments of inspecting officer on waste dump management			The waste dumping was carried out as per proposal.

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.	Mineral exhusted from part area of H quarry	Mineral exhusted from part area of H quarry	
5b	Area under backfilling of mined out area	0.5 ha	0.5 ha	

5c	Concurrent use of topsoil for restoration or rehabilitation of mineral out area (Rule 32)	498 Cum	300 Cum	
5d	Total area fully reclaimed and rehabilitated	1.1 ha	1.3 ha	
5e	General remarks of inspecting officers on backfilling and reclamation etc.	NA	NA	The backfilling was carried out as per proposal.

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).	To be submitted on or before 1st July	Submitted on 24.06.2021	
6b	Area available for rehabilitation (ha) .	2.0 ha	2.2 ha	
6c	afforestation done (ha).	2.0 ha	2.2 ha	
6d	No. of saplings planted during the year	5000 Nos.	6150 Nos.	
6e	Cumulative no .of plants	487738 Nos.	488888 Nos.	
6f	Any other method of rehabilitation	NIL	NIL	
6g	Cost incurred on watch and care during the year	Rs. 635000/-	Rs. 2836250/-	

6h	Compliance on reclamation and rehabilitation by backfilling (i) Voids available for backfilling (Lx B x D	0.5 ha	0.5 ha
6i	Compliance on reclamation and rehabilitation by backfilling (ii) Voids filled by waste / tailings	0.5 ha	0.5 ha
6j	Compliance on reclamation and rehabilitation by backfilling (iii)Afforestation on on backfilled area	0.9 ha	0.9 ha
6k	Compliance on reclamation and rehabilitation by backfilling (iv) Rehabilitation by making water reservoir	Nil	Nil
6l	Compliance on reclamation and rehabilitation by backfilling (v)any other specific means.	Nil	Nil
6m	Compliance of rehabilitation of waste land within lease (i)afforestation	Nil	Nil
6n	Compliance of rehabilitation of waste land within lease (ii)Area rehabilitation (ha)	Nil	Nil

6o	Compliance of rehabilitation of waste land within lease (iii)Method of rehabilitation	Nil	Nil	
6p	Compliance of environmental monitoring (core zone and buffer zone)	Monitoring of Air, water, noise level etc proposed.	Monitored	
6q	General remarks of inspecting officers on PMCP compliance and progressive closure operations etc.			The progressive closure operation has been carried out as per proposal.

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	
7b	Method of grade-wise mineral sorting i.e. manual or mechanical.	Manual	Manual	
7c	Different grade of mineral sorted out at mines.	High grade- above 46% Mn Medium Grade- 35% to 46 % Mn Low grade-25% to 35% Mn Sub Grade- Below 25% Mn	High grade- above 46% Mn Medium Grade-35% to 46 % Mn Low grade-25% to 35% Mn Sub Grade- Below 25% Mn	
7d	Any beneficiation process at mines	Nil	Nil	

7e	General remarks of inspecting officer on Mineral conservation and beneficiation issues	The ore sorted manually and no beneficiation plant exists.
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Environment:

Sl.No.	Item	Propasals	Actual work	Remarks
8a	Separate removal and utilization of topsoil (Rule 32)	498 Cum	300 Cum	
8b	Concurrent use or storage of topsoil	To be used for plantation	The top soil generated is used for plantation	
8c	Separate dumps for overburden, waste rock, rejects and fines (Rule 33)	Separate dump for OB/waste and mineral reject proposed	separate dumping carried out	
8d	Use of overburden, waste rock, rejects and fines dumps for restoring the land to its original use	Back filling of old quarry	0.5 ha back filled	
8e	Phased restoration, reclamation and rehabilitation of lands affected by mining operations (Pits, dumps etc)	Rehabilitation of incative old waste dump slopes.	Rehabilitation of incative old waste dump slopes.	
8f	Baseline information on existence of plantation and additional plantation done (Rule 41)	5000 Nos. of plantation poropsed	6150 Nos. carried out	

8g	Survival rate	85%	89%	
8h	Water sprinkling on roads to control airborne dust	Proposed	carried out	
8i	General remarks of inspecting officer on aesthetic beauty in and around mines area			The aesthetic beauty around mine area is maintained.

Compliance of Rule 45:

Sl.No.	Item	Propasals	Actual work	Remarks
9a	Status of submission of Monthly and Annual returns	NA	The monthly and anual return submitted within due time.	
9b	Scrutiny of Annual return for information on Mining Engineer, Geologist and Manager	The name of Manager, Geologist and mining engineer furnished in anuual return.	Manager, Geologist and mining engineer appointed	
9c	Scrutiny of Annual return on land use pattern for area under pits, reclaimed area, dumps etc.	Area under mining-82.385 ha Area under dump-90.051 ha	Found in order	
9d	Scrutiny of Annual return on afforestation	6150 Nos	Plantation carried out	
9e	Scrutiny of Annual return on mineral reject generation (Grade and quantity)	15317 tonne (20.26% Mn)	Found in order	
9f	Scrutiny of Annual return on ROM stock and/or graded ore	ROM closing stock -0	The opening and closing stock matched	

9g	Scrutiny of Annual return on sale value, Ex. Mine price and production cost	The cost of production is Rs 5206.70	The cost of production is Rs 5206.70
9h	Scrutiny of Annual return on fixed assets	Rs.471071396	Rs.471071396
9k	Scrutiny of Annual return on mining machineries	BACK HOE 2, FRONT END LOADER 2, DOZER 2, DRILL 1, DUMPER 24 ETC	FOUND IN ORDER

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
MCDR17	Rule 11(1)	30/09/2021			
MCDR17	Rule 45(7)(a)	30/09/2021			

Date :

(ASHOK KUMAR PANY)

Indian Bureau of Mines