

MCDR-MIFLOFE/14/2022-BBS-IBM_RO_BBS
INDIAN BUREAU OF MINES
MINERALS DEVELOPEMMENT AND REGULATION DIVISION

I/15309/2023

MCDR INSPECTION REPORT

Bhubaneshwar regional office

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

Mine code : 30ORI08027

- (i) Name of the Inspecting : **RKD**) **RAJESH KUMAR DAS**
Officer and ID No.
- (ii) Designation : Deputy Controller Mines
- (iii) Accompanying mine : Shri Rajesh Kumar ,Agent Mine
Official with
Designation
- (iv) Date of Inspection : 13-JUL-23
- (v) Prev.inspection date : 11-AUG-22

PART-I : GENERAL INFORMATION

1. (a) **Mine Name** : **JODA EAST**
- (b) **Registration NO.** : **IBM/4376/2011**
- (c) Category : A Mechanised
- (d) Type of Working : Opencast
- (e) Postal address
- State : ORISSA
- District : KEONJHAR
- Village : JODA
- Taluka : BARBIL
- Post office : JODA
- Pin Code : 758034
- FAX No. : 06767272010
- E-mail : gm.office@tatasteel.com
- Phone : 9234301340
- (f) Police Station : JODA
- (g) First opening date : 01-APR-56
- (h) Weekly day of rest : SUN
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 : 50
- (d) Date of Expiry : 31-MAR-30
4. Mineral worked : IRON ORE Main
MAGNESITE Associated
KAOLIN Associated

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5. Name and Address of the

Lessee : TATA STEEL LTD.
 KEONJHAR ORISSA
 Phone:
 FAX :

Owner : Tata Steel Limited
 Bombay House, 24, Homi Modi
 Street Fort Mumbai MUMBAI
 (SUBURBAN) MAHARASHTRA
 Phone: 06572424602
 FAX : 06572431818

Agent : Rajesh Kumar
 At- Joda Post-Joda Dist
 Keonjhar KEONJHAR ORISSA
 Phone: 9234612797
 FAX :

Geologist

Name : SANJAY KUMAR BHUYAN, Full Time
 Qualification : Msc Tech Geology
 Appointment/ : 01-JUL-15
 Termination date

Manager

Name : D. Vijayendra
 Qualification : B.Tech (mining)
 Appointment/ : 02-APR-18
 Termination date

6. Date of approval of Mining	:	Renewal under rule 22 MCR1960	07-JUN-04
Plan/Scheme of Mining	:	Modif.of approved Mining Plan	19-JUL-07
	:	Mining Scheme rule 12 MCDR1988	02-JUL-10
	:	Mining Scheme rule 12 MCDR1988	26-MAR-15
	:	Modif.approved Mining Scheme	21-FEB-18
	:	MP review under 17(1) MCR 2016	21-FEB-20

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PART - II : OBSERVATION/COMMENTS OF INSPECTING OFFICERS

Exploration :

Sl.No.	Item	Proposals	Actual work	Remarks
1a	Backlog of previous year	Nil	Nil	
1b	Exploration over lease area for geological axis 1 or 2	Nil	Nil	100% of mineralised area (291.5 ha.) explored in G1 leve
1c	Exploration Agencies and Expenditure in lakh rupees during the year	Not specifically proposed	Exploration done by Lessee M/S Tatasteel Ltd.	
1d	Balance area to be explored to bring Geological axis in 1 or 2	NA	NA	Area (Ha.) G1 G2 G3 Total Mineralised 291.5 0.0 0.0 291.5 Non-mineralised 67.5 221.0 91.1 379.6 Total 357.9 221.0 91.1 671.1 Exploration broadly completed.
1e	Balance reserve as on 01/04/20		145.08 Million Tonnes	Category Qty Grade 111 120.04 Fe>58% 121 24.25 Fe>45% 122 0.78 Total 145.08 Fe>45%

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1f General remarks of inspecting officers on geology, exploration etc

Joda East iron deposit lies in the western portion of Singhbhum-Orissa craton. The Iron Ore Group (IOG) surrounds the batholithic complex and consists of low-grade meta sediments, acid-intermediate and mafic volcanics and sills. The varieties of ore met within the area investigated are, (i) Hard Ore, (ii) Lateritic Ore, (iii) Friable, Flaky & Powdery ore and (iv) Blue Dust, though its occurrence is very limited. The area is broadly explored as mentioned in above points.

Development :

Sl.No.	Item	Propasals	Actual work	Remarks
2a	Location of development w.r.t. lease area	North Pit N: 3030 to 4515 E: 1390 to 2090 South Pit N: 1450 to 2680 E: 1400 to 2350	Broadly within proposed area.	

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2b	Separate benches in topsoil, overburden and minerals (Rule 15)	Yes	Yes	
2c	Stripping ratio or ore to OB ratio	1:0.054	1.0.036	
2d	Quantity of topsoil generation in m3	Nil	120 m3	As reported Utilization of topsoil generated in plantation
2e	Quantity of overburden generation in m3	1060000	441336	
2f	General remarks of inspecting officers on development of pit w.r.t. type of deposit etc			The development is broadly within proposed area but the quantity of OB generation is very less w.r.t proposal.

Exploitation:

Sl.No.	Item	Propasals	Actual work	Remarks
3a	Number of pit proposed for production	Two pit proposed North pit and South Pit	Broadly as per proposal.	
3b	Quantity of ROM mineral production proposed	19.50 MT	11.99 MT	
3c	Recovery of sailable/usable mineral from ROM production	17.60 MT	11.14 MT	
3d	Quantity of mineral reject generation	1.90 MT	0.85 MT from un processed ore 0.60 MT from Processed ore	
3e	Grade of mineral rejects generation and threshold value declared.	=>45% to <58%	Avg Fe %:55.43	

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3f	Quantity of sub grade mineral generation.	1.90 MT	0.85 MT
3g	Grade of sub grade mineral generation	=>45% to <58%	Avg Fe %:55.43
3h	Manual / Mechanised method adopted for segregating from ROM	Mechanised method proposed for segregating from ROM	The ROM from different face of different grade is fed to Dry plant for processing and Wet Plant for beneficiation. Blending is adopted in the mine.
3i	Any analysis or beneficiation study proposed and carried out for sub grade mineral and rejects.	No proposal	Not done.
3j	Provision of drilling and blasting in mineral benches	Deep Hole Drilling Dia:- 150/165 mm Depth:- 9 m Spacing:- 4.5 Burden:-3.5 Explosive used:- SME	Broadly as per proposal.
3k	Provision of mining machineries in mineral benches	Yes given proposal of Shovel,Dumper, Drill,Dozer,Grader	As per proposal.
3l	Whether height of benches in overburden and mineral suitable for method of mining proposed in MP/SOM	Yes	Yes
3m	Total area covered under excavation/pits	251.187 Ha	Working with in working pit.
3n	Ore to OB ratio for the pit/mine during the year.	1:0.054	1.0.036

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3o	Total area put in use under different heads at the end of year	Total 660.448 ha. area proposed under various head	Total 619.254 ha. area is reported utilised.
3p	Production of ROM mineral during the last five year period as applicable	2018-19: 12000000 Tons 2019-20: 12000000 Tons 2020-21: 12300000 Tons 2021-22: 15900000 Tons 2022-23: 19500000 Tons	2018-19: 11721206 Tons 2019-20: 10957291.080 Tons 2020-21: 11930921.120 Tons 2021-22: 11465323.134 Tons 2022-23: 11993517.644 Tons

3q General remarks of inspecting officers on method of mining etc.

The method of mining is opencast by using shovel-Dumper combination . There are many good practice obser i.e. Fleet management system is used in mine for managing and observation of HEMM. The remote control drill machine is used to remove the effect of noise,vibration and dust to operator.

Solid Waste Management - Dumping:

Sl.No.	Item	Propasals	Actual work	Remarks
4a	Separate dumping of topsoil, OB and mineral rejects (Rule 32,33)	Yes	Yes	

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4b	Location of topsoil, OB and mineral reject dumps	Back Filling Area/Waste Dump2: Position: N: 3368 N to 3520 N E: 1455 E to 1812 E Waste Dump3: Position: N: 4127 N to 4848 N E: 1990 E to 2153 E Mineral Reject-1A: Position: N: 3825 N to 3949 N E: 1283 E to 1444 E	Back Filling Area/Waste Dump2: Position: N: 3359 N to 3518 N E: 1511 E to 1796 E Waste Dump3: Position: N: 4133 N to 4740 N E: 2034 E to 2151 E Mineral Reject-1A: Position: N: 3892 N to 4094 N E: 1296 E to 1375 E
4c	Number of dumps within lease area and outside of lease area	Within Lease Area: Waste Dump- 5 Mineral Reject- 3	Within Lease Area: Waste Dump- 4 Mineral Reject- 3
4d	Location of dumps w.r.t. ultimate pit limit (Rule 16)	Within UPL Area: Waste Dump: 1 Outside UPL: Waste Dump: 4 Mineral Reject: 3	Within UPL Area: Waste Dump: 1 Outside UPL: Waste Dump: 3 Mineral Reject: 3
4e	Number of active and alive dumps.	Waste Dump - 4 Mineral Reject - 3	Waste Dump - 3 Mineral Reject - 3
4f	Number of dead dumps.	one dump	one dump
4g	Number of dumps established.	Nil	Nil
4h	Whether Retaining wall or garland drain all along dumps are there.	Toe wall: 848 m Garland Drain: 848 m	Toe wall: 850 m Garland Drain: 850 m
4i	Length of Retaining wall or garland drain all along dumps	Toe wall: 848 m Garland Drain: 848 m	Toe wall: 850 m Garland Drain: 850 m

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4j	Number of settling ponds	Nil	Nil	
4k	Specific comments of inspecting officer on waste dump management			Broadly 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.	Yes	Yes	
5b	Area under backfilling of mined out area	5.5 ha.	4.4 ha.	
5c	Concurrent use of topsoil for restoration or rehabilitation of mineral out area (Rule 32)	Nil	Nil	
5d	Total area fully reclaimed and rehabilitated	Nil	Nil	
5e	General remarks of inspecting officers on backfilling and reclamation etc.			Broadly 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).	As per Rule	Yes submitted.	

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6b	Area available for rehabilitation (ha) .	Nil	Nil
6c	afforestation done (ha).	2.19 ha.	2.69 ha.
6d	No. of saplings planted during the year	5497 nos saplings	6719 nos saplings
6e	Cumulative no .of plants		Cumulative plan within lease area 478042 nos reported and outside lease 60726 nos
6f	Any other method of rehabilitation	No such proposal	NA
6g	Cost incurred on watch and care during the year	992000 Rs proposed	Broadly as per proposal
6h	Compliance on reclamation and rehabilitation by backfilling (i) Voids available for backfilling (Lx B x D	backfilling proposed in 5.5 ha. area	Done in 4.4 ha. area
6i	Compliance on reclamation and rehabilitation by backfilling (ii) Voids filled by waste / tailings	backfilling proposed by using OB	As per proposal.
6j	Compliance on reclamation and rehabilitation by backfilling (iii)Afforestation on on backfilled area	0.82 ha. area	0.201 ha.
6k	Compliance on reclamation and rehabilitation by backfilling (iv) Rehabilitation by making water reservoir	Nil	Nil

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6l	Compliance on reclamation and rehabilitation by backfilling (v)any other specific means.	NA	NA	
6m	Compliance of rehabilitation of waste land within lease (i)afforestation	5497 nos saplings	6719 nos saplings	
6n	Compliance of rehabilitation of waste land within lease (ii)Area rehabilitation (ha)	2.19 ha	2.69 ha.	
6o	Compliance of rehabilitation of waste land within lease (iii)Method of rehabilitation	afforestation	afforestation	
6p	Compliance of environmental monitoring (core zone and buffer zone)	Yes as per statutory provisions	As per provision done.	
6q	General remarks of inspecting officers on PMCP compliance and progressive closure operations etc.			Broadly complied.

Mineral Conservation:

Sl.No.	Item	Propasals	Actual work	Remarks
7a	ROM Mineral dispatch or grade-wise sorting within lease area	Grade wise sorting or blending of different grade of material to get the desired grade	Broadly as per proposal.	

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7b	Method of grade-wise mineral sorting i.e. manual or mechanical.	Mechanical	Mechanical	Exemption has been taken at Joda East Iron Mine due to handling of large volume of iron ore. Royalty is being paid at highest grade.
7c	Different grade of mineral sorted out at mines.	Yes	Yes	
7d	Any beneficiation process at mines .	Wet Beneficiation, Dry Crushing and Screening	Wet Beneficiation, Dry Crushing and Screening	
7e	General remarks of inspecting officer on Mineral conservation and beneficiation issues			Broadly done as per proposal

Environment:

Sl.No.	Item	Propasals	Actual work	Remarks
8a	Separate removal and utilization of topsoil (Rule 32)	Yes	Yes	
8b	Concurrent use or storage of topsoil	Utilization of topsoil generated in plantation	Utilization of topsoil generated in plantation	
8c	Separate dumps for overburden, waste rock, rejects and fines (Rule 33)	Yes	Yes	

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8d	Use of overburden, waste rock, rejects and fines dumps for restoring the land to its original use	Use OB for backfilling	As per proposal	
8e	Phased restoration, reclamation and rehabilitation of lands affected by mining operations (Pits, dumps etc)	Backfilling proposed	Backfilling done	
8f	Baseline information on existence of plantation and additional plantation done (Rule 41)	5497 nos saplings plantation proposed	6719 saplings planted	
8g	Survival rate	Not mentioned specificall	80% reported	
8h	Water sprinkling on roads to control airborne dust	Permanent water sprinkler on main haul road and water tanker for dust suppression proposed	Broadly as per proposal.	
8i	General remarks of inspecting officer on aesthetic beauty in and around mines area			No adverse impact observed during mine visit on aesthetic beauty in mines area.

Compliance of Rule 45:

Sl.No.	Item	Propasals	Actual work	Remarks
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9a	Status of submission of Monthly and Annual returns	As per Rule 45 submitted AR of 2022-23 submitted on time and also MR upto june'23 submitted.	
9b	Scrutiny of Annual return for information on Mining Engineer, Geologist and Manager	Yes given	Mining Engineer & Manager: Shri Braj Vinod Kumar Geologist: Shri Sanjay Kumar Bhuyan
9c	Scrutiny of Annual return on land use pattern for area under pits, reclaimed area, dumps etc.	Yes given	Broadly as per actual land use
9d	Scrutiny of Annual return on afforestation	Yes given	Area: 2.69 ha, 6719 nos. done
9e	Scrutiny of Annual return on mineral reject generation (Grade and quantity)	Yes given	From unprocessed ore 0.85 MT, Avg. Fe%: 55.43 reported from processed ore 0.6 MT, Avg. grade 54% Fe
9f	Scrutiny of Annual return on ROM stock and/or graded ore	Yes given	507301.500 Tons reported
9g	Scrutiny of Annual return on sale value, Ex. Mine price and production cost		Maximum quantity is used for captive consumption Ex-Mine price & cost of production Rs. 1739.51/- Negligible quantity less than 0.15 MT is domestic sale of 62-65% CLO and sale price is around 7700 Rs approx.
9h	Scrutiny of Annual return on fixed assets	Rs. 5008161241/-	

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9k	Scrutiny of Annual return on mining machineries	Yes given	Dumper 15,100 Tons capacity Shovel 5,5.9m3 capacity Loader 2,9.1 m3 capacity Drill 5 Dozer 3,410 HP Grader 2,280 HP Water tanker 2
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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 :**(RAJESH KUMAR DAS)**

Indian Bureau of Mines