

1/2907/2023

MCDR INSPECTION REPORT

Bhubaneshwar regional office

Mine file No : ORI/IRON/KJR/MCD-90/BBS

Mine code : 30ORI08121

- (i) Name of the Inspecting : **RKD**) **RAJESH KUMAR DAS**
Officer and ID No.
- (ii) Designation : Deputy Controller Mines
- (iii) Accompanying mine : Shri Pratyasha Pratap, Geologist
Official with
Designation
- (iv) Date of Inspection : 17-NOV-22
- (v) Prev. inspection date :

PART-I : GENERAL INFORMATION

1. (a) Mine Name : **THAKURANI IRON ORE MINE**
- (b) Registration NO. :
- (c) Category : A Fully Mechanised
- (d) Type of Working : Opencast
- (e) Postal address :
State : ORISSA
District : KEONJHAR
Village : Thakurani
Taluka : Thakurani
Post office : Barbil
Pin Code : 758035
FAX No. :
E-mail :
Phone :
- (f) Police Station :
- (g) First opening date : 27-JUN-20
- (h) Weekly day of rest :
2. Address for : THAKURANI
correspondance : KEONJHAR
ODISHA
3. (a) Lease Number :
- (b) Lease area :
- (c) Period of lease :
- (d) Date of Expiry :
4. Mineral worked :

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5. Name and Address of the

Lessee : ArcelorMittal Nippon Steel India Limited
AHMEDABAD ARAVALI
GUJARAT
Phone:
FAX :

6. Date of approval of Mining :
Plan/Scheme of Mining

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PART - II : OBSERVATION/COMMENTS OF INSPECTING OFFICERS

Exploration :

Sl.No.	Item	Proposals	Actual work	Remarks
1a	Backlog of previous year	40 nos boreholes proposed in 2021-22	40 nos reported	
1b	Exploration over lease area for geological axis 1 or 2	before 2021-22 area under G1 135.298 ha. and 93.446 ha in G2 reported	As mentioned 40 boreholes is proposed and done for convert G2 into G1 and infilling bore holes.	analysis of bore holes still under progress.
1c	Exploration Agencies and Expenditure in lakh rupees during the year	Not mentioned specifically	Southwest pinnacle, Mining Associate Private Ltd. Expenditure reported 188 Lakhs.	
1d	Balance area to be explored to bring Geological axis in 1 or 2	93.446 ha. G2 area to be convert in G1	Exploration and chemical analysis under progress and 2021-22 ,40 boreholes done.	
1e	Balance reserve as on 01/04/20	85.594 million tons	86.974 million tons	as on 01.03.2022
1f	General remarks of inspecting officers on geology, exploration etc			The lease area is located in the south eastern part of the Singhbhum-Keonjhar-Bonai belt, a narrow NNE-SSW trending folded synclitorium. The lease area is broadly explored in G1 & G2 category in which more tha 200 boreholes of both core and RC done.

Development :

Sl.No.	Item	Proposals	Actual work	Remarks
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2a	Location of development w.r.t.lease area	The development is proposed 2445985N - 24467500N to 338800E - 338302E ,Rl:- 870 mRL to 690 mRL	actual development done in2446000N-2446620 N to 338900E-338310E	The development is also not as per proposal and OB generation is proposed 5,85,000 cum for 2021-22 and against which actual OB generation 8,55,829 Cum which is more than 1.5 times development. W.r.t proposal.
2b	Separate benches in topsoil, overburden and minerals (Rule 15)	yes proposed	not done as per proposal	
2c	Stripping ratio or ore to OB ratio	1:0.10	1:0.15	
2d	Quantity of topsoil generation in m3	16515	212	
2e	Quantity of overburden generation in m3	585000	855829	
2f	General remarks of inspecting officers on development of pit w.r.t. type of deposit etc			The development is also not as per proposal and OB generation is proposed 5,85,000 cum for 2021-22 and against which actual OB generation 8,55,829 Cum which is more than 1.5 times development. W.r.t proposal.In Northern side development is done 100 m less but still the quantity of development is in higher side resulting unsystematic mining.

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Exploitation:

Sl.No.	Item	Propasals	Actual work	Remarks
3a	Number of pit proposed for production	proposal given to work in quarry 1	work not done as per proposal.	
3b	Quantity of ROM mineral production proposed	5.5 million tons	5.499765 million tons	
3c	Recovery of sailable/usable mineral from ROM production	approx 94%	Broadly as per proposal.	
3d	Quantity of mineral reject generation	336250 tons	228425 Tons	
3e	Grade of mineral rejects generation and threshold value declared.	45to 55 % Fe	Broadly as per proposal.	
3f	Quantity of sub grade mineral generation.	mineral reject is sub grade material	mineral reject is sub grade material	
3g	Grade of sub grade mineral generation	45-55% Fe	45-55% Fe	
3h	Manual / Mechanised method adopted for segregating from ROM	Mechanised	Mechanised	
3i	Any analysis or beneficiation study proposed and carried out for sub grade mineral and rejects.	No proposal	NA	
3j	Provision of drilling and blasting in mineral benches	Drilling with deep hole blasting.	Broadly as per proposal.	
3k	Provision of mining machineries in mineral benches	Yes	Broadly as per proposal	

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3l	Whether height of benches in overburden and mineral suitable for method of mining proposed in MP/SOM	Yes	Broadly as per proposal given of 10 meter height but many faces benches merged and bench height more than 20 meters.	
3m	Total area covered under excavation/pits	84.35 ha.	64.998 ha.	
3n	Ore to OB ratio for the pit/mine during the year.	1:0.10	1:0.15	
3o	Total area put in use under different heads at the end of year	141.87 ha.	104.449 ha.	
3p	Production of ROM mineral during the last five year period as applicable	2020-21:5500000 Tons 2021-22:5500000 Tons	2020-21:4124810 Tons 2021-22:5499765 Tons	Mine Auction and executed in 2020
3q	General remarks of inspecting officers on method of mining etc.			The method of mining is open cast using HEMM

Solid Waste Management - Dumping:

Sl.No.	Item	Propasals	Actual work	Remarks
4a	Separate dumping of topsoil, OB and mineral rejects (Rule 32,33)	yes given	OB dumping is not as per proposal.	

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4b	Location of topsoil, OB and mineral reject dumps	OB dumping proposal:Dump No-4 2445632-2445744N 338055-338144E Top RL 665 m Dump No-5 2446594-2446887N 338269-338432E Top RL-795 m	Dump No-3 2445395-2445580 N 338140- 338320 E,Top RL 765 m Dump No-4 2445660-2445742N to 338061-338138E,Top RL 664 m Dump No-5 2446660-2446760N to 338269-338432E,Top RL- 798 m Temporary Waste Stock 2446610-2446510 N to 338700-338800E,Top RL- 830 m	top soil generation is negligible.
4c	Number of dumps within lease area and outside of lease area	OB Dump :2 nos,Subgrade/Mineral stack:01 nos	OB Dump :3 nos,Subgrade/Mineral stack:01 nos	
4d	Location of dumps w.r.t. ultimate pit limit (Rule 16)	OB dumping proposal:Dump No-4 2445632-2445744N 338055-338144E Top RL 665 m Dump No-5 2446594-2446887N 338269-338432E Top RL-795 m	Dump No-3 2445395-2445580 N 338140- 338320 E,Top RL 765 m Dump No-4 2445660-2445742N to 338061-338138E,Top RL 664 m Dump No-5 2446660-2446760N to 338269-338432E,Top RL- 798 m Temporary Waste Stock 2446610-2446510 N to 338700-338800E,Top RL- 830 m	
4e	Number of active and alive dumps.	2 nos active dump	3 nos active dump	
4f	Number of dead dumps.	3 dead dumps	3 dead dumps	
4g	Number of dumps established.	3 dead dumps	3 dead dumps	old dumps
4h	Whether Retaining wall or garland drain all along dumps are there.	yes proposed	not done	

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4i	Length of Retaining wall or garland drain all along dumps	500m retaining wall and 500m garland drain	Not done as per proposal.	
4j	Number of settling ponds	Not mentioned specifically yearwise	Not done.	
4k	Specific comments of inspecting officer on waste dump management			Dumping not done as per proposal and dump management also not 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.	No proposal	NA	
5b	Area under backfilling of mined out area	Nil	Nil	
5c	Concurrent use of topsoil for restoration or rehabilitation of mineral out area (Rule 32)	proposed for afforestation	negligible quantity topsoil generation used for afforestation.	
5d	Total area fully reclaimed and rehabilitated	Not proposed	NA	
5e	General remarks of inspecting officers on backfilling and reclamation etc.			Area not matured for backfilling.

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).	before 1st day of July every year for preceding year.	Yes submitted in time
6b	Area available for rehabilitation (ha) .	1.3 ha	Broadly done as per proposal
6c	afforestation done (ha).	1.3 ha.	1.8 ha.
6d	No. of saplings planted during the year	4500 nos saplings	4750 nos saplings
6e	Cumulative no .of plants	9000 nos sapling from 2020-21	Cumulative 128525 nos reported.
6f	Any other method of rehabilitation	Not proposed	NA
6g	Cost incurred on watch and care during the year	Rs 0.5 lakhs	Rs 1.9 laks for sapling cost and plantation cost.
6h	Compliance on reclamation and rehabilitation by backfilling (i) Voids available for backfilling (Lx B x D	Not proposed	NA
6i	Compliance on reclamation and rehabilitation by backfilling (ii) Voids filled by waste / tailings	Not proposed	NA
6j	Compliance on reclamation and rehabilitation by backfilling (iii)Afforestation on on backfilled area	Not proposed	NA

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6k	Compliance on reclamation and rehabilitation by backfilling (iv) Rehabilitation by making water reservoir	Not proposed	NA
6l	Compliance on reclamation and rehabilitation by backfilling (v)any other specific means.	Not proposed	NA
6m	Compliance of rehabilitation of waste land within lease (i)afforestation	Not proposed	NA
6n	Compliance of rehabilitation of waste land within lease (ii)Area rehabilitation (ha)	Not proposed	NA
6o	Compliance of rehabilitation of waste land within lease (iii)Method of rehabilitation	Not proposed	NA
6p	Compliance of environmental monitoring (core zone and buffer zone)	Ambient Air Quality,Water Quality,Soil Quality,Water level Monitoring both in core and buffer zone,Noise level,Ground vibration study	Broadly as per proposals.

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6q	General remarks of inspecting officers on PMCP compliance and progressive closure operations etc.	Broadly PMCP compliance
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Mineral Conservation:

Sl.No.	Item	Propasals	Actual work	Remarks
7a	ROM Mineral dispatch or grade-wise sorting within lease area	Gradewise sorting within lease	Gradewise sorting of +55%Fe & 45-55%Fe	
7b	Method of grade-wise mineral sorting i.e. manual or mechanical.	Mechanical	Mechanical	
7c	Different grade of mineral sorted out at mines.	Gradewise sorting of +55%Fe & 45-55%Fe	Gradewise sorting of +55%Fe & 45-55%Fe	
7d	Any beneficiation process at mines .	No beneficiation	No beneficiation only Crushing and screening.	
7e	General remarks of inspecting officer on Mineral conservation and beneficiation issues			Crushing and screening plant is used for sizing and sorting and different grade of material blend to get desired grade of Iron Ore.

Environment:

Sl.No.	Item	Propasals	Actual work	Remarks
8a	Separate removal and utilization of topsoil (Rule 32)	Yes	top soil generation is negligible and used for afforestation.	

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8b	Concurrent use or storage of topsoil	yes	broadly as per proposal.
8c	Separate dumps for overburden, waste rock, rejects and fines (Rule 33)	yes seperate dump for OB and mineral reject	OB not dump as per proposal.
8d	Use of overburden, waste rock, rejects and fines dumps for restoring the land to its original use	Not proposed	NA
8e	Phased restoration, reclamation and rehabilitation of lands affected by mining operations (Pits, dumps etc)	Not proposed	NA
8f	Baseline information on existence of plantation and additional plantation done (Rule 41)	9000 nos proposed after auction in 2020	till date 128525 nos reported.
8g	Survival rate	Not specifically mentioned	85% reported
8h	Water sprinkling on roads to control airborne dust	Water sprinkling on roads to contrl airborne dust has been proposed.	water sprinkling by means of fixed sprinkler and mobile water tanker used for dust suppression.

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8i	General remarks of inspecting officer on aesthetic beauty in and around mines area	The lessee is taking care of all environmental preventive measures as per statute i.e Air, Water, Noise, ground vibration monitoring. The plantation is done and dust suppression water sprinkling is done on regular basis. There is no adverse impact observed during mine visit on aesthetic beauty in and around mines area.
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Compliance of Rule 45:

Sl.No.	Item	Propasals	Actual work	Remarks
9a	Status of submission of Monthly and Annual returns	a monthly return which shall be submitted before the tenth day of every month in respect of the preceding month and an annual return which shall be submitted before the 1st day of July each year for the preceding financial year in electronic form	Submitted in time.	

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9b	Scrutiny of Annual return for information on Mining Engineer, Geologist and Manager	Yes given	Mining Engineer : Shri Giridhari Parida, Geologist: Shri Pratyasha Pratap & Manager: Shri Pramod Kumar Mishra.	
9c	Scrutiny of Annual return on land use pattern for area under pits, reclaimed area, dumps etc.	Yes given	Current working area: 64.998 Ha., Waste disposal: 10.32 ha., reclaimed: 10.29, infrastructure and roads: 8.037 ha.	
9d	Scrutiny of Annual return on afforestation	4750 nos saplings reported		
9e	Scrutiny of Annual return on mineral reject generation (Grade and quantity)	228425 tons reported of grade 49.5 Fe%		
9f	Scrutiny of Annual return on ROM stock and/or graded ore	499521.65 Tons		
9g	Scrutiny of Annual return on sale value, Ex. Mine price and production cost	Yes given	Ex-mine price varies from 325.39 Rs to 620.39Rs, cost of production 7849.46 Rs, sale value is 5400Rs/ton & 5750Rs/ton for lumps of 58-60% Fe grade.	Ex-mine price is not given correctly therefore violations pointed out.
9h	Scrutiny of Annual return on fixed assets	value of fixed asset Rs 1536801770/-		
9k	Scrutiny of Annual return on mining machineries	Yes given	list given of Shovel, Tipper, Dozer, Grader, etc.	

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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)	28-NOV-22			
MCDR17	Rule 37(2)	28-NOV-22			
MCDR17	Rule 45(5)(c	28-NOV-22			
MCDR17	Rule 48	28-NOV-22			

Date :**(RAJESH KUMAR DAS)**

Indian Bureau of Mines