

MCDR-MiFLOFE/35/2023-BBS-IBM\_RO\_BBS  
INDIAN BUREAU OF MINES  
MINERALS DEVELOPMENT AND REGULATION DIVISION

I/13029/2023

MCDR INSPECTION REPORT

Bhubaneshwar regional office

Mine file No : ORI/IRON/MBJ/MCDR-08/BBS

Mine code : 30ORI10021

- (i) Name of the Inspecting : **VPD** ) **VIKRAM DESHPANDE**  
Officer and ID No.
- (ii) Designation : Assistant Controller Mine
- (iii) Accompanying mine : S/Shri H.N. Das, Agent, Rajesh Kumar, Mines Manager,  
Official with  
Designation
- (iv) Date of Inspection : 23/06/2023
- (v) Prev.inspection date : 09/06/2022

PART-I : GENERAL INFORMATION

1. (a) **Mine Name** : **BADAMPAHAR IRON ORE BLOCK**
- (b) **Registration NO.** : **IBM/815/2011**
- (c) **Category** : **A Fully Mechanised**
- (d) **Type of Working** : **Opencast**
- (e) **Postal address**
- State : **ORISSA**
- District : **MAYURBHANJ**
- Village : **DHANGUDIMUTA**
- Taluka : **KUSUMI**
- Post office : **BADAMPAHAR**
- Pin Code : **757047**
- FAX No. : **03322480602**
- E-mail : **GMSTEELBMPR@GMAIL.COM**
- Phone : **03322482623**
- (f) **Police Station** :
- (g) **First opening date** : **15/08/2020**
- (h) **Weekly day of rest** : **SUN**
2. **Address for** : **WATERLO STREET**  
**correspondance** : **2ND FLOOR**  
: **KOLKATA**
3. (a) **Lease Number** :
- (b) **Lease area** :
- (c) **Period of lease** :
- (d) **Date of Expiry** :
4. **Mineral worked** : **IRON ORE** Main

I/13029/2023

## 5. Name and Address of the

Lessee : GM IRON & STEEL COMPANY LIMITED  
MAYURBHANJ ORISSA  
Phone:  
FAX :

Owner : Sri Raj Kumar Misra  
MAYURBHANJ ORISSA  
Phone:  
FAX :

Agent : Harendra Narayan Das  
MAYURBHANJ ORISSA  
Phone:  
FAX :

## Mining Engineer

Name : Prabhat Kumar Jha, Full Time  
Qualification : BE (mining)  
Appointment/ :  
Termination date

## Geologist

Name : Susanta Kumar Mohanta, Full Time  
Qualification : Msc (Geology)  
Appointment/ :  
Termination date

## Manager

Name : Rajesh Kumar  
Qualification : BE(Mining)  
Appointment/ :  
Termination date

6. Date of approval of Mining Plan/Scheme of Mining : MP under 16(1) of MCR 2016 05/02/2021

I/13029/2023

## PART - II : OBSERVATION/COMMENTS OF INSPECTING OFFICERS

## Exploration :

Sl.No.	Item	Proposals	Actual work	Remarks
1a	Backlog of previous year	None	None	
1b	Exploration over lease area for geological axis 1 or 2	58 Bore holes	10 Bore Holes	Violation of Rule 11(1) of MCDR 2017 has been pointed out to the lessee.
1c	Exploration Agencies and Expenditure in lakh rupees during the year			Gemko Kati Exploration Pvt. Ltd. Rs. 10 Lakh
1d	Balance area to be explored to bring Geological axis in 1 or 2	24.56 Ha	Nil	
1e	Balance reserve as on 01/04/20	121 - 5434857 MT 221 - 1016521 MT	121 - 4298227 MT 221 - 1016521 MT	The rocks of this area are exposed in topographically high hill ranges. Most of the low lying areas are covered with alluvium and laterite and BHQ. A large portion of the area is occupied by Quartzite & BHQ. These two rock units are well stratified though local bedding plane and irregularities are present in minor scale. A number of local faults are located at north, south and western side of Badampahar peak. Mesoscopic folds of various dimensions are numerous in the banded iron formation (BIF).

I/13029/2023

## Development :

Sl.No.	Item	Propasals	Actual work	Remarks
2a	Location of development w.r.t.lease area	Peak-A, Peak-B, Quarry-4 and Narven Quarry	Peak-A, Peak-B, Quarry-4, Narven Quarry and Quarry-3	Violation of Rule 11(1) issued to the lessee for carrying out mining operation in Quarry-3 without proposal.
2b	Separate benches in topsoil, overburden and minerals (Rule 15)	Topsoil Benches- Nil Benches in OB- 02 Benches in Mineral-19	Topsoil Bench- Nil OB Benches- 02 Mineral Benches- 17	
2c	Stripping ratio or ore to OB ratio	1:0.59	1:0.58	
2d	Quantity of topsoil generation in m3	Nil	None	
2e	Quantity of overburden generation in m3	668700 m3	662051 m3	
2f	General remarks of inspecting officers on development of pit w.r.t. type of deposit etc			In all there are 11 pits within the lease. During 2022-23 mining was proposed in 4 pits however mining was carried out in one additional pit without proposal. Benches have height more than the proposed height of 6m and width of 10m.

## Exploitation:

Sl.No.	Item	Propasals	Actual work	Remarks
3a	Number of pit proposed for production	4	5	Violation of Rule 11(1) issued to the lessee for carrying out mining operation in Quarry-3 without proposal.

I/13029/2023

3b	Quantity of ROM mineral production proposed	1136640 MT	1136630 MT	
3c	Recovery of sailable/usable mineral from ROM production	571243 MT	99740 MT	
3d	Quantity of mineral reject generation	565397 MT	985470 MT	
3e	Grade of mineral rejects generation and threshold value declared.	45 to 55% Fe	45 to 55% Fe	
3f	Quantity of sub grade mineral generation.	565397 MT	985470 MT	
3g	Grade of sub grade mineral generation	45 to 55% Fe	45 to 55% Fe	
3h	Manual / Mechanised method adopted for segregating from ROM	Mechanized	Mechanized	
3i	Any analysis or beneficiation study proposed and carried out for sub grade mineral and rejects.	Not proposed	Nil	Grade analysis is done at lessees own chemical laboratory.
3j	Provision of drilling and blasting in mineral benches	Yes	As per proposal	
3k	Provision of mining machineries in mineral benches	Yes	As per proposal	
3l	Whether height of benches in overburden and mineral suitable for method of mining proposed in MP/SOM	Yes, suitable	6m to digging height of excavator	Benches have height more than the proposed height of 6m and width of 10m.

I/13029/2023

3m	Total area covered under excavation/pits	53.645 ha	53.645 ha	
3n	Ore to OB ratio for the pit/mine during the year.	1:0.59	1:0.58	
3o	Total area put in use under different heads at the end of year	Mining- 53.645 ha OB- 8.944 ha Mineral Storage- 16.866 ha Infrastructure - 4.11 ha Roads- 2.644 ha Others- 2.922 ha	Mining- 53.645 ha OB- 8.944 ha Mineral Storage- 16.866 ha Infrastructure- 4.11 ha Roads- 2.644 ha Others- 2.922 ha	
3p	Production of ROM mineral during the last five year period as applicable	Year- 2018-19- Nil Year- 2019-20- Nil Year-2020-21- Nil Year- 2021-22- 1136640 Year- 2021-22- 1136640 Year-2022-23- 1136640	Year- 2018-19- Nil Year- 2019-20- Nil Year- 2020-21- 224570 Year- 2021-22- 1136630 Year-2022-23- 1136630	Lease awarded to GM Iron & Steel Co. Ltd. on 24.08.2020 by e-auction.
3q	General remarks of inspecting officers on method of mining etc.			The mining method adopted is opencast method by shovel-dumper combination and is same as proposed.

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Solid Waste Management - Dumping:

Sl.No.	Item	Propasals	Actual work	Remarks
4a	Separate dumping of topsoil, OB and mineral rejects (Rule 32,33)	Separate dumping of OB- proposed	As per Proposal	(Dump 3 & 5)

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I/13029/2023

4b	Location of topsoil, OB and mineral reject dumps	Location of OB As per proposal dump (3) N22°03'59.26"- E86°07'42.56", dump (5) N22°04'3.48" E86°07'13.09"		
4c	Number of dumps within lease area and outside of lease area	No dump is proposed to outside Lease area. For the year 2022-23 two no. of dumps are proposed 3 and 5 among total 6 no of dumps.	As per proposal.	
4d	Location of dumps w.r.t. ultimate pit limit (Rule 16)	Dump (3) UPL-691m E-426045.894 N-2440380.577 E-426003.063 N-2440407.121 E-426049.507 N-2440393.567 E-425994.017 N-2440381.584  Dump (5) UPL-724m E-429415 N-2441097 E-429502.97 N-2441045.63 E-429391.8 N-2440932.7 E-429459.86 N-2440913.28	Dump (3) UPL-691m E-426045.894 N-2440380.577 E-426003.063 N-2440407.121 E-426049.507 N-2440393.567 E-425994.017 N-2440381.584  Dump (5) UPL-724m E-429415 N-2441097 E-429502.97 N-2441045.63 E-429391.8 N-2440932.7 E-429459.86 N-2440913.28	
4e	Number of active and alive dumps.	2	1	(dump no 5)
4f	Number of dead dumps.	Not Proposed	Nil	
4g	Number of dumps established.	2	1	Dump No. 3
4h	Whether Retaining wall or garland drain all along dumps are there.	Proposed	As per proposal	

I/13029/2023

4i	Length of Retaining wall or garland drain all along dumps	Proposed length of Retaining wall -150m Garland Drain -170m	Retaining wall -160m Garland Drain -185m	
4j	Number of settling ponds	Not proposed	None	Existing 5 nos. of Settling ponds.
4k	Specific comments of inspecting officer on waste dump management			The dumps have been terraced properly and have been secured by way of construction of retaining wall and garland drains.

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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.	Not Proposed	Nil	
5b	Area under backfilling of mined out area	Not Proposed	Nil	
5c	Concurrent use of topsoil for restoration or rehabilitation of mineral out area (Rule 32)	Not Proposed	Nil	
5d	Total area fully reclaimed and rehabilitated	Not Proposed	Nil	
5e	General remarks of inspecting officers on backfilling and reclamation etc.			No proposal for backfilling was envisaged during the year 2022-23.

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I/13029/2023

## 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).		Submitted	
6b	Area available for rehabilitation (ha) .	Not Proposed	Nil	
6c	afforestation done (ha).	Yes	0.420 ha	
6d	No. of saplings planted during the year	1050	1500	Safety Zone
6e	Cumulative no .of plants	4500	5265	
6f	Any other method of rehabilitation	Not Proposed	None	
6g	Cost incurred on watch and care during the year		NA	
6h	Compliance on reclamation and rehabilitation by backfilling (i) Voids available for backfilling ( Lx B x D	Not Proposed	Nil	
6i	Compliance on reclamation and rehabilitation by backfilling (ii) Voids filled by waste / tailings	Not Proposed	Nil	
6j	Compliance on reclamation and rehabilitation by backfilling (iii)Afforestati on on backfilled area	Not proposed	Nil	

I/13029/2023

6k	Compliance on reclamation and rehabilitation by backfilling (iv) Rehabilitation by making water reservoir	Not Proposed	Nil
6l	Compliance on reclamation and rehabilitation by backfilling (v)any other specific means.	Not Proposed	Nil
6m	Compliance of rehabilitation of waste land within lease (i)afforestation	Not Proposed	Nil
6n	Compliance of rehabilitation of waste land within lease (ii)Area rehabilitation (ha)	Not Proposed	Nil
6o	Compliance of rehabilitation of waste land within lease (iii)Method of rehabilitation	Not Proposed	Nil
6p	Compliance of environmental monitoring (core zone and buffer zone)	Quarterly monitoring of AAQ, Water Quality and Noise Level to be carried out.	As per proposal.
6q	General remarks of inspecting officers on PMCP compliance and progressive closure operations etc.		No Proposal for backfilling has been made and lessee has planted around 1500 saplings.

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Mineral Conservation:

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I/13029/2023

Sl.No.	Item	Propasals	Actual work	Remarks
7a	ROM Mineral dispatch or grade-wise sorting within lease area	Proposed	ROM Mineral is sorting grade wise within the lease area.	
7b	Method of grade-wise mineral sorting i.e. manual or mechanical.	Mechanical	Mechanical	
7c	Different grade of mineral sorted out at mines.	-55% Fe +55% Fe	45% to below 51% Fe 51% to below 55% Fe 55% to below 58% Fe 58% to below 60% Fe	
7d	Any beneficiation process at mines .	No proposal	No beneficiation process within the lease area	
7e	General remarks of inspecting officer on Mineral conservation and beneficiation issues			ROM Mineral is sorted grade wise within the lease area. Tirilipi Beneficiation Unit of M/s Lal Trades & Agencies Pvt. Ltd. is located at a distance of 8 km from the mines. M/s Lal Trades & Agencies Pvt. Ltd. and the lessee GM Iron and Steel Company Ltd. are the related party and has sold the materials as captive consumption.

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**Environment:**

Sl.No.	Item	Propasals	Actual work	Remarks
8a	Separate removal and utilization of topsoil (Rule 32)	Nil	Nil	

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I/13029/2023

8b	Concurrent use or storage of topsoil	Nil	Nil	
8c	Separate dumps for overburden, waste rock, rejects and fines (Rule 33)	Proposed	Separate dumps for Overburden and fines.	
8d	Use of overburden, waste rock, rejects and fines dumps for restoring the land to its original use	Not Proposed	Only overburden is used for restoring the land.	
8e	Phased restoration, reclamation and rehabilitation of lands affected by mining operations (Pits, dumps etc)	Not Proposed	Nil	
8f	Baseline information on existence of plantation and additional plantation done (Rule 41)	No specific proposal	As per proposal	The lease area is partly deforested for excavation within the lease area.
8g	Survival rate		85%	
8h	Water sprinkling on roads to control airborne dust	Water sprinkling to be done on roads.	Regular water sprinkling is being done with mobile water tankers.	

I/13029/2023

8i	General remarks of inspecting officer on aesthetic beauty in and around mines area	The lessee is regularly monitoring the air, water and other parameters. Adequate plantation has been done and for dust suppression regular water sprinkling is being done. Due to these efforts there is no adverse impact on the aesthetic beauty in and around the mines.
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Compliance of Rule 45:

Sl.No.	Item	Propasals	Actual work	Remarks
9a	Status of submission of Monthly and Annual returns		Monthly return and Annual return for 2022-23 have been submitted within stipulated time.	
9b	Scrutiny of Annual return for information on Mining Engineer, Geologist and Manager	Mining Engineer-2 Geologist-1 Manager-1	Mr. Rajesh Kumar, Mines Manager Mr. Prabhat Kumar Jha, Mining Engineer Mr. Susanta Kumar Mohanta, Geologist	

I/13029/2023

9c	Scrutiny of Annual return on land use pattern for area under pits, reclaimed area, dumps etc.	Area under excavation- 53.645 Ha. OB Dumps- 8.944 Ha. Mineral Storage- 16.866 Ha. Infrastructure - 4.110 Ha. Road- 2.644 Ha. Mineral Separation Plant-0.572 Ha. Others- 2.35 Ha.	Area under excavation- 53.645 Ha. OB Dumps- 8.944 Ha. Mineral Storage- 16.866 Ha. Infrastructure- 4.110 Ha. Road- 2.644 Ha. Mineral Separation Plant-0.572 Ha. Others- 2.35 Ha.
9d	Scrutiny of Annual return on afforestation	Within lease- 1200 nos. Outside lease- 300 nos.	1500
9e	Scrutiny of Annual return on mineral reject generation (Grade and quantity)	MR Quantity- 985470 MT Grade- 45% to below 55% Fe	MR Quantity- 460204.63 MT Grade-50.85% Fe
9f	Scrutiny of Annual return on ROM stock and/or graded ore	1136630 MT	460204.63 MT
9g	Scrutiny of Annual return on sale value, Ex. Mine price and production cost	NA	NA

I/13029/2023

9h	Scrutiny of Annual return on fixed assets		(i) Plant and Machinery including transport equipment-Rs. 114006803 (ii) Capitalised Expenditure such as pre-production exploration, development, major overhaul and repair to machinery etc. (As prescribed under Income Tax Act) -Rs 243508459
9k	Scrutiny of Annual return on mining machineries	Excavator- 7 nos. Wheel Loader- 5 nos. Dumper- 25 nos. Air compressor- 1 no. Crusher- 3 nos. Screen Plant- 3 nos. Generator- 3 nos. Water Tanker- 9 nos	Shovel-1CUM-1 Back Hoe-06 Wheel Loader-05 Dumper-25 Air Compressor-01 Crusher-03 Generator Diesel-03 Water Tanker-09

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I/13029/2023

**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)	27/06/2023			
MCDR17	Rule 31(4)	27/06/2023			
MCDR17	Rule 57	27/06/2023			
MCDR17	Rule 11(1)	26/06/2023			
MCDR17	Rule 31(4)	26/06/2023			
MCDR17	Rule 57	26/06/2023			

**Date :****(VIKRAM DESHPANDE)**

Indian Bureau of Mines