

MCDR-MIFLOFE/17/2022-BBS-IBM RO_BBS
INDIAN BUREAU OF MINES
MINERALS DEVELOPMENT AND REGULATION DIVISION

I/13668/2023

MCDR INSPECTION REPORT

Bhubaneshwar regional office

Mine file No : ORI/IRON/SNG/MCDR-23/BBS

Mine code : 30ORI13051

- (i) Name of the Inspecting : **VPD**) **VIKRAM DESHPANDE**
Officer and ID No.
- (ii) Designation : Assistant Controller Mine
- (iii) Accompanying mine : S/Shri H.S. Patnaik, Agent, Chaturbhuja Sahoo, Mines M
Official with
Designation
- (iv) Date of Inspection : 06/07/2023
- (v) Prev.inspection date : 16/11/2022

PART-I : GENERAL INFORMATION

1. (a) **Mine Name** : **PATABEDA**
- (b) **Registration NO.** : **IBM/290/2011**
- (c) Category : A Other than Fully Mech.
- (d) Type of Working : Opencast
- (e) Postal address :
State : ORISSA
District : SUNDARGARH
Village :
Taluka :
Post office :
Pin Code :
FAX No. : 06767-275770
E-mail : mgmbbl@gmail.com
Phone : 06767-275318, 276319
- (f) Police Station : KOIRA
- (g) First opening date : 12/11/2006
- (h) Weekly day of rest : SUN
2. Address for : VILLAGE- PATABEDA,
correspondance : P.O.- MALDA
DISTRICT- SUNDARGARH,
3. (a) Lease Number : ORI0979
- (b) Lease area : 28.4
- (c) Period of lease : 20
- (d) Date of Expiry : 07/03/2026
4. Mineral worked : IRON ORE Main

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5. Name and Address of the

Lessee : M/S.MGM.MINERALS (P) LTD
SUNDARGARH ORISSA

Phone:
FAX :

Owner : M.G.MOHANTY
PB-17,PO.BARBIL,KEONJHAR
ORISSA. KEONJHAR ORISSA
Phone: 06767-30318
FAX : 06767-30770

Agent : B. N. Mohapatra
2A, Forest park Bhubaneswar
KHURDA ORISSA
Phone: 0674-2596390
FAX : 0674-2596400

Mining Engineer

Name : SHRI P K SATAPATHY,Full Time
Qualification : B E MINING
Appointment/ : 01/03/2013
Termination date

Geologist

Name : SHRI M K PATNAIK,Full Time
Qualification : MSC (GEOLOGY)
Appointment/ : 01/09/2009
Termination date

Manager

Name : HIMANSHU PATTNAIK
Qualification : DIGREE MINING
Appointment/ : 11/05/2014
Termination date

6. Date of approval of Mining Plan/Scheme of Mining	:	Fresh under rule 22 MCR1960	08/11/2002
		Modif.of approved Mining Plan	26/10/2007
		Mining Scheme rule 12 MCDR1988	01/04/2011
		Mining Scheme rule 12 MCDR1988	28/03/2016
		Modif.approved Mining Scheme	24/11/2017
		MP review under 17(1) MCR 2016	18/11/2020
		MS modif under MCR 1960	26/11/2021

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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	None	
1b	Exploration over lease area for geological axis 1 or 2	Nil	None	
1c	Exploration Agencies and Expenditure in lakh rupees during the year	Nil	None	
1d	Balance area to be explored to bring Geological axis in 1 or 2	Nil	None	
1e	Balance reserve as on 01/04/20		A. Mineral Reserve 1. (111)-7.13 2. (121)-0 3. (122)-0 B. Remaining Resource 1. (211)-1.31 2. (221)-0 3. (222)-0 4. (331)-0 5. (332)-0 6. (333)-0 7. (334)-0 Total (A+B)-8.44	

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1f	General remarks of inspecting officers on geology, exploration etc	The Patabeda deposit forms a part of the Singbhum-Keonjhar-Bonai group of iron ore. The main rock types found in these mines are Laterite, Hematite (Massive, Hard Laminated, Soft laminated), BHJ/BHQ. In the ML area, iron ore found as mainly hard massive laminated and soft laminated variety. The strike of the ore body/host rock is along NE - SW and the dip is due NW varying from 350 to 450. All Mineralized zone has been explored in G1 level.
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Development :

Sl.No.	Item	Propasals	Actual work	Remarks
2a	Location of development w.r.t.lease area	E331980-E331678,N2426920-N2426500	E331970-E331682, N2426920-N2426500	MRL 690 to MRL 620
2b	Separate benches in topsoil, overburden and minerals (Rule 15)	Yes, in Mineral	As per proposal	
2c	Stripping ratio or ore to OB ratio	1: 0.071	1 : 0.0719	
2d	Quantity of topsoil generation in m3	No Proposal	None	
2e	Quantity of overburden generation in m3	43425.00	39913.64	

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2f	General remarks of inspecting officers on development of pit w.r.t. type of deposit etc	In all there are 02 pits within the lease out of which Mining in was confined to both pits viz. Quarry-1 and Float Ore Pit. Benches have height of 10m and width of 15m.
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Exploitation:

Sl.No.	Item	Propasals	Actual work	Remarks
3a	Number of pit proposed for production	2	2	Quarry-1 and Float Ore Quarry
3b	Quantity of ROM mineral production proposed	1350960.00 mt	1220000.00 mt	
3c	Recovery of sailable/usable mineral from ROM production	1063343.00mt	1092370.00mt	
3d	Quantity of mineral reject generation	287617.5mt	127630.00mt	
3e	Grade of mineral rejects generation and threshold value declared.	45% Fe to below 55% Fe	45% Fe to below 55% Fe	
3f	Quantity of sub grade mineral generation.	287617.5mt	127630.00mt	Same as mineral reject.
3g	Grade of sub grade mineral generation	45% Fe to below 55% Fe	45% Fe to below 55% Fe	
3h	Manual / Mechanised method adopted for segregating from ROM	Mechanized	Mechanized	

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3i	Any analysis or beneficiation study proposed and carried out for sub grade mineral and rejects.	No Proposal	The analysis of sub grade ore is being done at ROM stage before blending with higher grade ROM ore for screening purpose.	
3j	Provision of drilling and blasting in mineral benches	Yes	Deep hole drilling (102mm dia) , spacing- 3.25m, burden-2.5m, Depth- 10.5m & Blasting with 83mm dia cartridge slurry/emulsion explosive with NONEL.	
3k	Provision of mining machineries in mineral benches	Yes	As per proposal	Excavation done by back hoe (2.6 Cu.m) and 30 tonne dumper.
3l	Whether height of benches in overburden and mineral suitable for method of mining proposed in MP/SOM	Yes	Bench height maintained- 10m.	
3m	Total area covered under excavation/pits	13.27Ha	13.27Ha	
3n	Ore to OB ratio for the pit/mine during the year.	1: 0.071	1:0.0719	

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3o	Total area put in use under different heads at the end of year	(For the year 2022-23) Mining - 13.270 ha. Dumping - 3.451 ha. Mineral storage - 3.09 ha. Infrastructure plant - 1.888 ha. Mineral separation - 0.41 ha. plant Construction of road- 1.55ha. ETP -0.012 ha. Others(Safety zone & - 4.726 ha. Plantation area.) Total Area - 28.397 ha	(For the year 2022-23) Mining - 13.270 ha. Dumping - 3.451 ha. Mineral storage - 3.09 ha. Infrastructure - 1.888 ha. Mineral separation - 0.41 ha. plant Construction of road- 1.55ha. ETP -0.012 ha. Others(Safety zone & - 4.726 ha. Plantation area.) Total Area - 28.397 ha
3p	Production of ROM mineral during the last five year period as applicable	Year- 2018-19- 1499990.000mt Year- 2019-20- 1499990.000mt Year- 2020-21- 1499990.000mt Year- 2021-22- 1323495.500mt Year-2022-23- 1350960.000mt	Year- 2018-19- 796000.00mt Year- 2019-20- 828700.00mt Year- 2020-21- 1301500.00mt Year- 2021-22- 1205000.00mt Year-2022-23- 1220000.00mt

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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.

Solid Waste Management - Dumping:

Sl.No.	Item	Propasals	Actual work	Remarks
4a	Separate dumping of topsoil, OB and mineral rejects (Rule 32,33)	Yes, OB and Mineral Reject	As per proposal.	No top soil.
4b	Location of topsoil, OB and mineral reject dumps	Top Soil - NA OB (N2427040,E331 657 to N2427160,E3318 27) Mineral Reject (N2426700,E332 111 to N2426720,E3320 98)	Top Soil - NA OB (N2427040,E331657 to N2427160,E331825) Mineral Reject (N2426700,E332111 to N2426720,E332098)	
4c	Number of dumps within lease area and outside of lease area	3 nos of dumps within the lease, No dump outside the mining lease.	3 nos of dumps within the lease, No dump outside the mining lease.	
4d	Location of dumps w.r.t. ultimate pit limit (Rule 16)	Outside UPL	Outside UPL	
4e	Number of active and alive dumps.	Active dump- One	Active dump-One	(dump no-3) (N2427005- N247153,E331653- E331766)
4f	Number of dead dumps.	2	2	Dead dumps nos.-1 (N2426520- N2426618,E331864- E331934) Dead Dump no-2 (N2426500- 2426543,E331864& - E331830)

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4g	Number of dumps established.	None	None	
4h	Whether Retaining wall or garland drain all along dumps are there.	Yes	AS per proposal	
4i	Length of Retaining wall or garland drain all along dumps	Maintenance of Existing - 991 done.	Maintenance of Existing	
4j	Number of settling ponds	No new Proposal.	3 Nos.	Presently 3 Nos exist 1. DUMP-1 (SOUTH-WEST) N2426505-N2426504 E331692-E331665 (27m x 15m x 4.5m) 2. (North -East)N 2426650- N 2426688 ,E 332182 - E 332160(35m x7m x 5.5m) 3. DUMP-3 (NORTH) N2427172-N2427085 E331733- E331647(35m x 17m x 6.5m)
4k	Specific comments of inspecting officer on waste dump management			The dumps are properly terraced and secured.

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.	Full extraction	Partly done	

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5b	Area under backfilling of mined out area	0.25 Ha	0.009 Ha	Float Ore Quarry
5c	Concurrent use of topsoil for restoration or rehabilitation of mineral out area (Rule 32)	NA	NA	
5d	Total area fully reclaimed and rehabilitated	NA	NA	The lessee could not achieve the backfilling target in the Float Ore Quarry for which violation of Rule 11(1) of MCDR 2017 has been issued on 12/07/2023.

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).	Before 1st July every year.	Submitted on 20.06.2023.	
6b	Area available for rehabilitation (ha) .	NA	NA	
6c	afforestation done (ha).	Gap Plantation (North Dump)		
6d	No. of saplings planted during the year	160	200	
6e	Cumulative no .of plants		25955	
6f	Any other method of rehabilitation	NA	NA	
6g	Cost incurred on watch and care during the year	NA	NA	Done By the lessee

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6h	Compliance on reclamation and rehabilitation by backfilling (i) Voids available for backfilling (Lx B x D	NA	NA
6i	Compliance on reclamation and rehabilitation by backfilling (ii) Voids filled by waste / tailings	NA	NA
6j	Compliance on reclamation and rehabilitation by backfilling (iii)Afforestation on backfilled area	NA	NA
6k	Compliance on reclamation and rehabilitation by backfilling (iv) Rehabilitation by making water reservoir	NA	NA
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	NA	NA
6n	Compliance of rehabilitation of waste land within lease (ii)Area rehabilitation (ha)	NA	NA

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6o	Compliance of rehabilitation of waste land within lease (iii)Method of rehabilitation	NA	NA	
6p	Compliance of environmental monitoring (core zone and buffer zone)	Quarterly monitoring of AAQ, Water Quality and Noise Level to be carried out	Core Zone 1. Mines office (331934,2426594) 2.Near Main Gate(332284,2426427) 3.Near work shop (332237,2426549) 4.North Dump(331930,2426600) Buffer Zone 1.Patabeda village(331276,2426387) 2.Ganua Village(331421,2425563)	
6q	General remarks of inspecting officers on PMCP compliance and progressive closure operations etc.			The retaining wall and garland drain are well maintained along the dumps and regular monitoring of environmental parameters is being done.

 Mineral Conservation:

Sl.No.	Item	Propasals	Actual work	Remarks
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7a	ROM Mineral dispatch or grade-wise sorting within lease area	1350960 (ROM)	Lumps 60% to below 62% Fe = 14043.070 mt. , 62% to below 65% Fe = 120731.020, 65% and above Fe = 35501.211 Fines 51% to below 55% Fe = 127200.00, 55% to below 58% Fe = 167650.00, 58% to below 60% Fe= 220900, 60% to below 62% Fe=53900.00, 62% to below 65% Fe=71740.000 CLO Below 62% Fe (CLO any size)=92486.930,62% to below 65% Fe (5-18 mm size CLO)=180568.980, 65% and above Fe (5-18mm size CLO)=92578.789	
7b	Method of grade-wise mineral sorting i.e. manual or mechanical.	Mechanical	Mechanical	
7c	Different grade of mineral sorted out at mines.	+55 to 65% Fe <55 % Fe	+65 % Fe, 62-65% Fe, 60-62% Fe, 58-60% Fe, 55-58% Fe & <55% Fe	
7d	Any beneficiation process at mines .	NA	None	
7e	General remarks of inspecting officer on Mineral conservation and beneficiation issues			No beneficiation of ore is done except grade-wise sorting which is carried out at the mine site itself. The grade-wise sorted material is transported via trucks to the vendors.

Environment:

Sl.No.	Item	Propasals	Actual work	Remarks
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8a	Separate removal and utilization of topsoil (Rule 32)	Nil	None	
8b	Concurrent use or storage of topsoil	Nil	None	
8c	Separate dumps for overburden, waste rock, rejects and fines (Rule 33)	Yes, for waste	As per proposal	North dump (active) used for stacking waste.
8d	Use of overburden, waste rock, rejects and fines dumps for restoring the land to its original use	Nil	None	
8e	Phased restoration, reclamation and rehabilitation of lands affected by mining operations (Pits, dumps etc)	Nil	None	
8f	Baseline information on existence of plantation and additional plantation done (Rule 41)	160	200	
8g	Survival rate		85%	
8h	Water sprinkling on roads to control airborne dust	Water sprinkling in haulage road for dust control.	Water tanker is deployed for sprinkling over the haul road where there is no permanent sprinkling system. Stationary sprinkler system for a length of 1.5 km provided on permanent haul road. Mist cannon is also used to control the airborne dust.	

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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. Only gap 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 to be submitted by 10th of each month and Annual Return to be submitted by 1st July every year.	Monthly return submitted on or before 9th of every month and Annual return submitted on 20.06.2023 for the year 2022-23	
9b	Scrutiny of Annual return for information on Mining Engineer, Geologist and Manager		Mines manager, Mining engineer & Geologist have appointed in the mine.	

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9c	Scrutiny of Annual return on land use pattern for area under pits, reclaimed area, dumps etc.	(For the year 2022-23) Mining - 13.270 ha. Dumping - 3.451 ha. Mineral storage - 3.09 ha. Infrastructure - 1.888 ha. Mineral separation plant - 0.41 ha. Construction of road- 1.55ha. ETP -0.012 ha. Others(Safety zone & Plantation area.) - 4.726 ha. Total Area - 28.397 ha
9d	Scrutiny of Annual return on afforestation	200 nos planted during the year 2022-23
9e	Scrutiny of Annual return on mineral reject generation (Grade and quantity)	127630.000 mt generated during the year 2022-23

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9f Scrutiny of Annual return on ROM stock and/or graded ore

Total RoM stock at the end of the year is 84200 mt & the graded ore is as follows:

Lumps 60% to below 62% Fe = 14043.070 mt. , 62% to below 65% Fe = 120731.020, 65% and above Fe = 35501.211

Fines 51% to below 55% Fe = 127200.00, 55% to below 58% Fe = 167650.00, 58% to below 60% Fe= 220900, 60% to below 62% Fe=53900.00, 62% to below 65% Fe=71740.000

CLO Below 62% Fe (CLO any size)=92486.930, 62% to below 65% Fe (5-18 mm size CLO)=180568.980, 65% and above Fe (5-18mm size CLO)=92578.789

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9g	Scrutiny of Annual return on sale value, Ex. Mine price and production cost	Total Sale value- Rs. 5603095457.82 Ex-mine price Lump-Below 55%Fe -Rs.0.00 Lump-55% to below 58%Fe- Rs.0.00 Lump-58% to below 60%Fe- Rs.0.00 Lump-60% to below 62%Fe- Rs.6119.50 Lump-62% to below 65%Fe- Rs.6905.24 Lump-65% and above -Rs.8901.30 Fines- below 55% Fe -Rs.2264.91 Fines-55% to below 58%Fe -Rs.2424.79 Fines-58% to below 60%Fe -Rs.2968.59 Fines-60% to below 62%Fe -Rs.4163.96 Fines-62% to below 65%Fe -Rs.4907.63 Fines-65% and above -Rs.4700.00
9h	Scrutiny of Annual return on fixed assets	Fixed assets -Rs. 111283309.00

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9k	Scrutiny of Annual return on mining machineries	Shovel(Hydraulic)-2.6cum- 1no. Shovel(Hydraulic)-1.5cum- 2no. Shovel(Hydraulic)-1.8cum- 1no Shovel(Hydraulic)-1.2cum- 2nos. Shovel(Hydraulic)- 0.690cum-1no. Front End Loader-4.5cum- 1no. Dumper-30Tonnes-9nos. Dumper-10Tonnes-1no. Water Tanker-16KL-2no. Water Tanker-12KL-1no. Water Tanker-6KL-1no. Blast hole drill-102mm-1 no. Crane-14tonne-1 no. Fixed Crusher-250TPH- 1no. Mobile Screen Plant - 150TPH-1no. Mobile Screen Plant- 100TPH-1no.
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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)	12/07/2023			
MCDR17	Rule 32(1)(ε	12/07/2023			

Date :**(VIKRAM DESHPANDE)**

Indian Bureau of Mines