

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

**MCDR INSPECTION REPORT**

**Bhubaneshwar regional office**

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

**Mine code :** 30ORI13051

- (i) Name of the Inspecting : **U11** ) **DAYANAND UPADHYAY**  
Officer and ID No.
- (ii) Designation : Sr. Asst. Contrl. Mines
- (iii) Accompanying mine : Shri H. S. Pattnayak, Mines Manager  
Official with  
Designation
- (iv) Date of Inspection : 01/11/2017
- (v) Prev.inspection date : 28/05/2015

**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

## 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

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

6. Date of approval of Mining	:	Fresh under rule 22 MCR1960	08/11/2002
Plan/Scheme of Mining	:	Modif.of approved Mining Plan	26/10/2007
	:	Mining Scheme rule 12 MCDR1988	01/04/2011
	:	Mining Scheme rule 12 MCDR1988	28/03/2016

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

## Exploration :

Sl.No.	Item	Proposals	Actual work	Remarks
1a	Backlog of previous year	07 bore holes	07 bore holes have been drilled by lessee.	In 2016-17, 07 bore holes have been drilled by lessee.
1b	Exploration over lease area for geological axis 1 or 2	G1/G2 Level of exploration for the year 2016-17.	In 2016-17, 07 number of bore holes have been drilled by lessee. Total 20.25 ha area is explored under G1/G2 level through 65 no. of bore holes covering a total meterage of 2489.82m	Total 20.25 ha area is explored under G1/G2 level through 65 no. of bore holes covering a total meterage of 2489.82m
1c	Exploration Agencies and Expenditure in lakh rupees during the year	Not specified.	In house drilling has been carried out by MGM group. Expenditure incurred for the year 2016-17 is Rs 174023/-	In house drilling has been carried out by MGM group.
1d	Balance area to be explored to bring Geological axis in 1 or 2	About 8.128 ha area to be explored under G1/G2 level of exploration.	Total 20.25 ha area is explored under G1/G2 level through 65 no. of bore holes covering a total meterage of 2489.82m. Rest of the area about 8.128 ha has been proposed to explored in 2017-18.	Total 20.25 ha area is explored under G1/G2 level through 65 no. of bore holes covering a total meterage of 2489.82m. Rest of the area about 8.128 ha has been proposed to explored in 2017-18.
1e	Balance reserve as on 01/04/20	Balance reserve as per Scheme of mining approved on 28.03.2016 was 9.9 MillionT under proved (111) category and 0.036 MillionT under 122 category.	Balance reserve as on 01/04/2017 under 111 category is 9.69 MillionT and under 122 category is 0.036 MillionT.	Balance reserve as per Scheme of mining approved on 28.03.2016 was 9.9 MillionT under proved (111) category and 0.036 MillionT under 122 category.

1f	General remarks of inspecting officers on geology, exploration etc	Total 20.25 ha area is explored under G1/G2 level through 65 no. of bore holes covering a total meterage of 2489.82m.	Potentially mineralised area has been explored under G1 level of exploration.
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**Development :**

Sl.No.	Item	Propasals	Actual work	Remarks
2a	Location of development w.r.t.lease area	Single pit between co-ordinte E-331906/331658 and N-2426660/2426880.	The development is concentrated in single pit between co-ordinte E- 331906/331658 and N-2426660/2426880	The development is carried out as per proposal.
2b	Separate benches in topsoil, overburden and minerals (Rule 15)	Separate benches in OB and ore with 6m height.	Separate benches in OB and ore with 6m height. There is 01 bench in OB and 13 benches in ore.	There is no top soil benches.
2c	Stripping ratio or ore to OB ratio	1:0.046	1:0.04	
2d	Quantity of topsoil generation in m3	Not proposed.	Not applicable.	No topsoil generation is proposed in approved scheme of mining.
2e	Quantity of overburden generation in m3	15258 cu.m	3236 cu.m	The OB generation is less as the proposed ROM production could not acheived.
2f	General remarks of inspecting officers on development of pit w.r.t. type of deposit etc		The potentially mineralised area is fully explored and development is concentrated in single pit.	The development is carried out as per proposal.

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**Exploitation:**

Sl.No.	Item	Propasals	Actual work	Remarks
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3a	Number of pit proposed for production	Single pit.	Single pit.	Mining is concentrated in single pit.
3b	Quantity of ROM mineral production proposed	662338T	In 2016-17, 293778 tonnes ROM of Iron ore has been produced.	ROM production is less than proposal due breakdown of of machinaries and low dispatched.
3c	Recovery of sailable/usable mineral from ROM production	80%	Total ROM has been utilised by lessee for the year 2016-17 .	Total ROM has been utilised by lessee for the year 2016-17.
3d	Quantity of mineral reject generation	108580T	No sub grade/mineral reject generation has been reported for the peroid 2016-17. About 20% sub grade/mineral reject of ROM production as proposed in approved scheme of mining has been blended with high garde.	No sub grade/mineral reject generation has been reported for the peroid 2016-17.
3e	Grade of mineral rejects generation and threshold value declared.	-55% to +45% Fe.	No sub grade/mineral reject generation has been reported for the peroid 2016-17.	The sub grade/mineral reject generated during 2016-17 has been blended with high garde.
3f	Quantity of sub grade mineral generation.	108580T	No sub grade/mineral reject generation has been reported for the peroid 2016-17. About 20% sub grade/mineral reject of ROM production as proposed in approved scheme of mining has been blended with high garde.	No sub grade/mineral reject generation has been reported for the peroid 2016-17.
3g	Grade of sub grade mineral generation	-55% to +45% Fe.	No sub grade/mineral reject generation has been reported for the peroid 2016-17.	The sub grade/mineral reject generated during 2016-17 has been blended with high garde.
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.	Not proposed.	Not applicable.	
3j	Provision of drilling and blasting in mineral benches	DTH drilling of 100mm dia. Blast hole ANFO explosive as coloumn charge and booster alongwith delay detonator.	DTH drilling of 100mm dia. Blast hole with ANFO exlpusive as coloumn charge and booster as base charge alongwith delay detonator is being practiced for drilling and blasting.	Depth of blasting- 6.5m Burden- 3.0m spacing- 3.5m.
3k	Provision of mining machineries in mineral benches	Drilling machine- 100 mm dia.-1, Excavator- 1.5/4.3 cu.m- 3, Dumper 30T- 12, Rock breaker-3 etc.	DTH of 100mm dia. is used for drilling blast hole. Ore & OB are handled by excavator of 1.5/4.3 cu.m capacity with dumper of 30 T capacity.	DTH of 105mm dia. is used for drilling blast hole. Ore & OB are handled by excavator of 1.5/4.3 cu.m capacity with dumper of 30 T capacity.
3l	Whether height of benches in overburden and mineral suitable for method of mining proposed in MP/SOM	Bench height- 6m.	Bench height is suitably matched with the loading excavator.	Bench height is suitably matched with the loading excavator.
3m	Total area covered under excavation/pits	12.34 ha during approved plan period.	About 12.34 ha. has been covered under excavation pits.	About 12.34 ha. has been covered under excavation pits.
3n	Ore to OB ratio for the pit/mine during the year.	1:0.046	1:0.04	

3o	Total area put in use under different heads at the end of year	Total 28.397 ha. area put in use under different heads during approved plan period.	Area covered under different heads are Pit-12.34 ha, waste dump-3.76 ha, Infrastructure-0.551, roads-1.358 ha & Mineral storag 2.167, others - 4.90 ha.	Area covered under different heads are Pit-12.34 ha, waste dump-3.76 ha, Infrastructure-0.551, roads-1.358 ha & Mineral storag 2.167, others -4.90 ha.
3p	Production of ROM mineral during the last five year period as applicable	2012-13: 709166T 2013-14: 357917T 2014-15: 536605T 2015-16: 556783T 2016-17: 662338T	2012-13: 290133.79T 2013-14: 292876T 2014-15: 258480T 2015-16: 412215T 2016-17: 293778T	Against the approved proposal less production of ROM is carried out by lessee due to breakdown of machinaries and less dispatched.
3q	General remarks of inspecting officers on method of mining etc.		The ROM production has been carried out from single pit. DTH drilling of 100mm dia. Blast hole with ANFO exlplosive alongwith delay detonator is being practiced for drilling and blasting.	Against the approved proposal less production of ROM is carried out by lessee due to breakdown of machinaries and less dispatched.

#### Solid Waste Management - Dumping:

Sl.No.	Item	Propasals	Actual work	Remarks
4a	Separate dumping of topsoil, OB and mineral rejects (Rule 32,33)	Separate dump for overburden in northern corner of lease.	Separate dumping for overburden in northern corner of lease.	There is no top soil generation.
4b	Location of topsoil, OB and mineral reject dumps	OB dump in northern corner of lease.	OB has dumped in northern corner of lease between co-ordinate E-331652/331752 & N-2427170/2427016.	There is no top soil generation.

4c	Number of dumps within lease area and outside of lease area	01 OB dump ( North dump-3 ) in northern corner of lease.	There are 04 nos. of dump in lease area : South dump-1, E-331844/331938 & N-2426503/2426636 South dump-2, E-331740/331860 & N-2426500/2426555 North dump-3, E-331652/331752 & N-2427170/2427016 East dump-4, E-332080/332192 & N-2426626/2426746	North dump-3 is active dump.
4d	Location of dumps w.r.t. ultimate pit limit (Rule 16)	01 OB dump ( North dump-3 ) in northern corner of lease.	Dump is located out side of ultimate pit limit.	Dump is located out side of ultimate pit limit.
4e	Number of active and alive dumps.	01 dump.	01 OB dump ( North dump-3 ) in northern corner of lease is active dump.	North dump-3 is active dump.
4f	Number of dead dumps.	Not proposed.	There is 02 old dead dumps in the lease area which are rehabilitated by plantation.	There is 02 old dead dumps in the lease area which are rehabilitated by plantation.
4g	Number of dumps established.	Not proposed.	There is 02 old dead dumps in the lease area which are rehabilitated by plantation.	There is 02 old dead dumps in the lease area which are rehabilitated by plantation.
4h	Whether Retaining wall or garland drain all along dumps are there.	Retaining wall of 130mX1.0mX1.0m and a garland drain of 190mX1.0mX1.0m around north dump-3.	Retaining wall of 130mX1.0mX1.0m and a garland drain of 190mX1.0mX1.0m around north dump-3 has been completed.	Retaining wall of 130mX1.0mX1.0m and a garland drain of 190mX1.0mX1.0m around north dump-3 has been completed.
4i	Length of Retaining wall or garland drain all along dumps	Retaining wall of 130mX1.0mX1.0m and a garland drain of 190mX1.0mX1.0m around north dump-3.	Retaining wall of 130mX1.0mX1.0m and a garland drain of 190mX1.0mX1.0m around north dump-3 has been completed.	Retaining wall of 130mX1.0mX1.0m and a garland drain of 190mX1.0mX1.0m around north dump-3 has been completed.



4j	Number of settling ponds	Not proposed.	Not applicable.	
4k	Specific comments of inspecting officer on waste dump management		Retaining wall and garland drain have been made around dump and slope of the dump has been stabilised by plantation. Dead dump has been fully rehabilitated by plantation.	Retaining wall and garland drain have been made around dump and slope of the dump has been stabilised by plantation. Dead dump has been fully rehabilitated by plantation.

#### 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.	Not applicable.	Mineralisation is continue and pit is not matured for reclamation.
5b	Area under backfilling of mined out area	Not proposed.	Not applicable.	Mineralisation is continue and pit is not matured for reclamation.
5c	Concurrent use of topsoil for restoration or rehabilitation of mineral out area (Rule 32)	Not proposed.	Not applicable.	Mineralisation is continue and pit is not matured for reclamation.
5d	Total area fully reclaimed and rehabilitated	Not proposed.	Not applicable.	Mineralisation is continue and pit is not matured for reclamation.
5e	General remarks of inspecting officers on backfilling and reclamation etc.		Mineralisation is continue and pit is not matured for reclamation.	Mineralisation is continue and pit is not matured for reclamation.

#### 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).	Not specified.	Annual return on PMCP has been submitted.	Annual return on PMCP has been submitted.
6b	Area available for rehabilitation (ha) .	Not proposed.	Not applicable.	Mineralisation is continue and pit is not matured for reclamation.
6c	afforestation done (ha).	Gap plantation in 2.94 ha area.	342 nos. of saplings have been planted in 2.94 ha area to cover gap plantation.	In 2016-17, 342 nos. of saplings have been planted by lessee.
6d	No. of saplings planted during the year	300 nos. of saplings.	In 2016-17, 342 nos. of saplings have been planted by lessee.	In 2016-17, 342 nos. of saplings have been planted by lessee.
6e	Cumulative no .of plants	Not specified.	Cumulative nos. of saplings planted in the lease area is about 24895.	Cumulative nos. of saplings planted in the lease area is about 24895.
6f	Any other method of rehabilitation	Not proposed.	Not applicable.	Mineralisation is continue and pit is not matured for reclamation.
6g	Cost incurred on watch and care during the year	Not specified.	Rs 11.72 lakh incurred by lessee in watch and care.	Rs 11.72 lakh incurred by lessee in watch and care.
6h	Compliance on reclamation and rehabilitation by backfilling (i) Voids available for backfilling ( Lx B x D	Not proposed.	Not applicable.	Mineralisation is continue and pit is not matured for reclamation.
6i	Compliance on reclamation and rehabilitation by backfilling (ii) Voids filled by waste / tailings	Not proposed.	Not applicable.	Mineralisation is continue and pit is not matured for reclamation.

6j	Compliance on reclamation and rehabilitation by backfilling (iii)Afforestation on backfilled area	Not proposed.	Not applicable.	Mineralisation is continue and pit is not matured for reclamation.
6k	Compliance on reclamation and rehabilitation by backfilling (iv) Rehabilitation by making water reservoir	Not proposed.	Not applicable.	Mineralisation is continue and pit is not matured for reclamation.
6l	Compliance on reclamation and rehabilitation by backfilling (v)any other specific means.	Not proposed.	Not applicable.	Mineralisation is continue and pit is not matured for reclamation.
6m	Compliance of rehabilitation of waste land within lease (i)afforestation	Not proposed.	Not applicable.	
6n	Compliance of rehabilitation of waste land within lease (ii)Area rehabilitation (ha)	Not proposed.	Not applicable.	
6o	Compliance of rehabilitation of waste land within lease (iii)Method of rehabilitation	Not proposed.	Not applicable.	
6p	Compliance of environmental monitoring (core zone and buffer zone)	Quarterly monitoring.	Quarterly monitoring of air, water and noise level are being carried out.	Quarterly monitoring of air, water and noise level are being carried out.

6q	General remarks of inspecting officers on PMCP compliance and progressive closure operations etc.	Area has not been matured for reclamation & rehabilitation. Afforestation has been carried out along slope of waste dump & safety zone. Regular data of quarterly monitoring of air, water and noise level has been submitted to this office .	Regular data of quarterly monitoring of air, water and noise level has been submitted to this office. Area has not been matured for reclamation & rehabilitation.
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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.	Gradewise sorting.	Gradewise sorting is being practiced.
7b	Method of grade-wise mineral sorting i.e. manual or mechanical.	Mechanised.	Mechanised.	Mechanised method is adpoted for gradewise sorting of iron ore.
7c	Different grade of mineral sorted out at mines.	45% to 55% Fe and +55% Fe.	Different grades of minerals sorted out at mines are 45% to 55% Fe and +55% Fe.	Different grades of minerals sorted out at mines are 45% to 55% Fe and +55% Fe.
7d	Any beneficiation process at mines .	Not proposed.	Not applicable.	
7e	General remarks of inspecting officer on Mineral conservation and beneficiation issues		Cut off grade of iron ore for the mine is +55%. Different grades of minerals sorted out at mines are -65% Fe, 62 to 58% fe and 58 to 55% Fe. In 206-17, no sub grade has been reported by lessee.The sub grade generated during mining has blended with high grade.	The sub grade generated during mining has been blended with high grade.

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## Environment:

Sl.No.	Item	Propasals	Actual work	Remarks
8a	Separate removal and utilization of topsoil (Rule 32)	Not proposed.	Not applicable.	The top soil wherever found is of negligible thickness and it is not extracted separately.
8b	Concurrent use or storage of topsoil	Not proposed.	Not applicable.	The top soil wherever found is of negligible thickness and it is not extracted separately.
8c	Separate dumps for overburden, waste rock, rejects and fines (Rule 33)	Separate dump for overburden and mineral reject.	Separate dump for overburden and mineral reject.	There is Separate dump for overburden and mineral rejects.
8d	Use of overburden, waste rock, rejects and fines dumps for restoring the land to its original use	Not proposed.	Not applicable.	Mineralisation is continue and pit is not matured for reclamation.
8e	Phased restoration, reclamation and rehabilitation of lands affected by mining operations (Pits, dumps etc)	Not proposed.	Not applicable.	Mineralisation is continue and pit is not matured for reclamation.
8f	Baseline information on existence of plantation and additional plantation done (Rule 41)	Gap Plantation proposed over 2.94 ha area.	Total 342 nos. saplings have been planted in 2016-17.	As reported cumulative no. of trees planted by lessee is about 24895 nos.
8g	Survival rate	Not specified.	As reported rate of survival is 80%	As reported rate of survival is 80%
8h	Water sprinkling on roads to control airborne dust	Water sprinkling along haul road.	Stationary water sprinkler has been made along the haul road to control the air borne dust.	Stationary water sprinkler has been made along the haul road to control the air borne dust.

8i	General remarks of inspecting officer on aesthetic beauty in and around mines area	Aesthetic beauty in and around mines area is maintained. In 2016-17, total 342 nos of saplings have been planted by lessee. As reported cumulative no. of trees planted by lessee is about 24895 nos.	Aesthetic beauty in and around mines area is maintained by plantation.
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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 & Annual returns are being regularly submitted by lessee.	Monthly & Annual returns are being regularly submitted by lessee.	
9b	Scrutiny of Annual return for information on Mining Engineer, Geologist and Manager	Graduate Mining Engineer-2, Diploma mining Engineer-1, Geologist-1	Graduate Mining Engineer-2, Diploma mining Engineer-1, Geologist-1	
9c	Scrutiny of Annual return on land use pattern for area under pits, reclaimed area, dumps etc.	land use patterns are pit-11.487 ha, waste dump-3.70 ha, Infrastructure , roads-7.305 ha & others - 3.709 ha.	land use patterns are pit-11.487 ha, waste dump-3.70 ha, Infrastructure, roads-7.305 ha & others - 3.709 ha.	
9d	Scrutiny of Annual return on afforestation	347 nos of saplings.	347 nos of saplings.	
9e	Scrutiny of Annual return on mineral reject generation (Grade and quantity)	Nil.	Nil.	

9f	Scrutiny of Annual return on ROM stock and/or graded ore	Gradeswise stock i.e Below 55%, 55% to below 58%, 58% to below 60%, 60% to below 62%, 62% to below 65% & above 65% have been furnished.	Gradeswise stock i.e Below 55%, 55% to below 58%, 58% to below 60%, 60% to below 62%, 62% to below 65% & above 65% have been furnished.
9g	Scrutiny of Annual return on sale value, Ex. Mine price and production cost	Cost production- Rs 1098.72.	Cost production- Rs 1098.72.
9h	Scrutiny of Annual return on fixed assets	Fixed asset Rs 103229718/-	Fixed asset Rs 103229718/-
9k	Scrutiny of Annual return on mining machineries	Drilling machine- 100 mm dia.-1, Excavator- 1.5/4.3 cu.m-6, Dumper 30T-3, Tipper-9, Crusher-1 etc.	Drilling machine- 100 mm dia.-1, Excavator- 1.5/4.3 cu.m-6, Dumper 30T-3, Tipper-9, Crusher-1 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)	20/11/2017			

**Date :**

(DAYANAND UPADHYAY)

Indian Bureau of Mines