

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

**MCDR INSPECTION REPORT**

**Bhubaneshwar regional office**

Mine file No : ORI/GRPH/RGD/MCDR-1/BBS

Mine code : 28ORI27001

- (i) Name of the Inspecting : **SRM** ) **SHRI SUDIP RANJAN MAZUMDAR**  
Officer and ID No.
- (ii) Designation : Senior Mining Geologist
- (iii) Accompanying mine : Shri Harihara Barik, Geologist  
Official with  
Designation
- (iv) Date of Inspection : 04/01/2020
- (v) Prev.inspection date : 20/11/2018

**PART-I : GENERAL INFORMATION**

1. (a) **Mine Name** : **BANDHAMANDI**
- (b) **Registration NO.** : **IBM/4724/2011**
- (c) **Category** : **A Other than Fully Mech.**
- (d) **Type of Working** : **Opencast**
- (e) **Postal address**
- State** : **ORISSA**
- District** : **RAYGADA**
- Village** : **BANDHAMANDI**
- Taluka** : **KASIPUR**
- Post office** : **GODIBALI**
- Pin Code** : **765015**
- FAX No.** : **0671-2423078**
- E-mail** : **prdhanindustiresctc@yahoo.**
- Phone** : **0671-2412299**
- (f) **Police Station** : **Kashipur**
- (g) **First opening date** : **29/07/1971**
- (h) **Weekly day of rest** : **SUN**
2. **Address for correspondance** : **VILLAGE- BANDHAMANDI**  
**POST. KASIPUR, DIST. RAYGADA**  
**ORISSA, PIN- 765001**
3. (a) **Lease Number** : **ORI0506**
- (b) **Lease area** : **~~73.43~~ 73.427 Ha**
- (c) **Period of lease** : **~~20~~ Supplementary lease deed for time extension of lease**
- (d) **Date of Expiry** : **26/09/2011**  
**26.09.2041**  
**period upto 26.09.2041**
4. **Mineral worked** : **GRAPHITE** **Main**

## 5. Name and Address of the

Lessee : M/S PRADHAN INDUSTRIES  
 TELANGA BAZAR CUTTACK  
 ODISHA CUTTACK ORISSA  
 Phone:0671-2412299  
 FAX :0671-2423078

Owner : PRADHAN INDUSTRIES  
 TELANGA BAZAR CUTTACK,  
 ORISSA CUTTACK ORISSA  
 Phone: 0671-2412299  
 FAX : 0671-2423078

Agent : SUDEEP PRADHAN  
 RAYGADA ORISSA  
 Phone:  
 FAX :

## Mining Engineer

Name : SHRI BHGYADHAR MAHALIK, Full Time  
 Qualification : DEGREE IN MINING ENGG  
 Appointment/ : 26/03/2019  
 Termination date

## Geologist

Name : HARIHARA BARIK, Full Time  
 Qualification : MSC GEOLOGY  
 Appointment/ : 28/02/2018  
 Termination date

## Manager

Name : SHRI BHAGYADHARA MAHALIK  
 Qualification : DEGREE IN MINING ENGG  
 Appointment/ : 03/08/2019  
 Termination date

6. Date of approval of Mining	:	Existing rule 11 MCDR1988	17/09/2004
Plan/Scheme of Mining		Mining Scheme rule 12 MCDR1988	16/05/2008
		Renewal under rule 24 MCR1960	30/04/2012
		Mining Scheme rule 12 MCDR1988	11/03/2016

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

## Exploration :

Sl.No.	Item	Proposals	Actual work	Remarks
1a	Backlog of previous year	In 2018-19, 13 boreholes were proposed to be drilled.	In 2018-19, 15 nos of boreholes have been drilled.	In 2018-19, 15 nos of boreholes have been drilled.
1b	Exploration over lease area for geological axis 1 or 2	In 2018-19, 13 boreholes were proposed to be drilled.	In 2018-19, 15 nos of boreholes have been drilled.	In 2018-19, 15 nos of boreholes have been drilled.
1c	Exploration Agencies and Expenditure in lakh rupees during the year	Not specified	Exploration Agency: M/s Shaktivell Private Limited; Expenditure Incurred: Rs 3.0 lakhs	Exploration Agency: M/s Shaktivell Private Limited; Expenditure Incurred: Rs 3.0 lakhs
1d	Balance area to be explored to bring Geological axis in 1 or 2	In 2018-19, 13 boreholes were proposed to be drilled.	In 2018-19, 15 nos of boreholes have been drilled.	In 2018-19, 15 nos of boreholes have been drilled.
1e	Balance reserve as on 01/04/20	As per the scheme of mining approved dated 11.03.2016, the reserve is 2735567 tones and remaining resources is 522889 tones. Total Reserve and Resource is 3258456 tones	Updated reserve as on 01.04.2019 is 2701988 tones and remaining resources at 522889 tones. Total Reserve and Resource is 3224877 tones	Updated reserve as on 01.04.2019 is 2701988 tones and remaining resources at 522889 tones. Total Reserve and Resource is 3224877 tones
1f	General remarks of inspecting officers on geology, exploration etc	In 2018-19, 13 boreholes were proposed to be drilled.	In 2018-19, 15 nos of boreholes have been drilled.	In 2018-19, 15 nos of boreholes have been drilled.

## Development :

Sl.No.	Item	Propasals	Actual work	Remarks
2a	Location of development w.r.t.lease area	In 2018-19, development proposed in Quarry-2	In 2018-19, development work done in Quarry-2	In 2018-19, development work done in Quarry-2
2b	Separate benches in topsoil, overburden and minerals (Rule 15)	Separate benches in top soil, overburden and mineral proposed	Separate benches in top soil, overburden and mineral maintained.	Separate benches in top soil, overburden and mineral maintained.
2c	Stripping ratio or ore to OB ratio	1: 0.54 t/m3	1: 0.77 t/m3	1: 0.77 t/m3
2d	Quantity of topsoil generation in m3	3624 m3	There was no generation of top soil due to lateritic surface encountered.	There was no generation of top soil due to lateritic surface encountered.
2e	Quantity of overburden generation in m3	In 2018-19, proposal for OB and IB generation was 132572 cum	In 2018-19, total waste generated 25110 cum of waste.	The development was less due to less ROM Production. ROM production was less due to poor market demand.
2f	General remarks of inspecting officers on development of pit w.r.t. type of deposit etc	In 2018-19, development proposed in Quarry-2	In 2018-19, development work done in Quarry-2	In 2018-19, development work done in Quarry-2

### Exploitation:

Sl.No.	Item	Propasals	Actual work	Remarks
3a	Number of pit proposed for production	One Pit namely Quarry-2	One Pit namely Quarry-2	One Pit namely Quarry-2
3b	Quantity of ROM mineral production proposed	In 2018-19, ROM production proposal was 245549 tones	In 2018-19, ROM production was 32449 tones	Less ROM production due to less market demand

3c	Recovery of sailable/usable mineral from ROM production	In 2018-19, the proposal for production of beneficiable ROM ore was 239904 tones	In 2018-19, the production of beneficiable ROM ore was 32125 tones	Less production of beneficiable ROM ore was due to less production of ROM which in turn due to poor market demand
3d	Quantity of mineral reject generation	In 2018-19, the proposal for production of mineral reject was 5645 tones	In 2018-19, the production of mineral reject was 324 tones	Less generation of mineral reject was due to less ROM production which in turn due to poor market demand
3e	Grade of mineral rejects generation and threshold value declared.	Threshold value for flaky variety- 2% Fixed Carbon(F.C) (Min.) Grade of Mineral reject was - 3% F.C	Grade of mineral reject generated was 2.4% F.C	Grade of mineral reject generated was 2.4% F.C
3f	Quantity of sub grade mineral generation.	In 2018-19, the proposal for production of subgrade was 5645 tones	In 2018-19, the production of subgrade was 324 tones	Less generation of subgrade was due to less ROM production which in turn due to poor market demand
3g	Grade of sub grade mineral generation	Grade of subgrade was - 3% F.C	Grade of subgrade generated was 2.4% F.C	Grade of subgrade generated was 2.4% F.C
3h	Manual / Mechanised method adopted for segregating from ROM	Mechanized	Mechanized	Mechanized
3i	Any analysis or beneficiation study proposed and carried out for sub grade mineral and rejects.	Lessee has already established a primary beneficiation plant within the mining lease area. Beneficiable ore will be processed in lease area	Lessee has already established a primary beneficiation plant within the mining lease area. Beneficiable ore processed in the lease area.	Lessee has already established a primary beneficiation plant within the mining lease area. Beneficiable ore processed in the lease area.

3j	Provision of drilling and blasting in mineral benches	There will be occasional drilling and blasting in the M.L. area because graphite ore and overburden are loose and amenable to mining without blasting	There was no drilling and blasting in mineral benches.	There was no drilling and blasting in mineral benches.
3k	Provision of mining machineries in mineral benches	Excavator and tipper combination have been proposed for mining in mineral benches.	Excavator and tipper combination have been deployed for mining in mineral benches.	Excavator and tipper combination have been deployed for mining in mineral benches.
3l	Whether height of benches in overburden and mineral suitable for method of mining proposed in MP/SOM	Height of the benches proposed is 6 m	Height of benches in overburden and mineral is suitable for method of mining proposed in mining plan.	Height of benches in overburden and mineral is suitable for method of mining proposed in mining plan.
3m	Total area covered under excavation/pits	Area under mining at the end of plan period will be 10.304 Ha	Area under mining at the end of 2018-19 is 6.736 Ha as reported in annual return for 2018-19	Area under mining at the end of 2018-19 is 6.736 Ha as reported in annual return for 2018-19
3n	Ore to OB ratio for the pit/mine during the year.	1: 0.54 t/m <sup>3</sup>	1: 0.77 t/m <sup>3</sup>	1: 0.77 t/m <sup>3</sup>
3o	Total area put in use under different heads at the end of year	Total area put in use under different heads at the end of plan period will be 27.189 Ha	Total area put in use under different heads at the end of 2018-19 is 13.948 Ha	Total area put in use under different heads at the end of 2018-19 is 13.948 Ha

3p	Production of ROM mineral during the last five year period as applicable	2014-15: 239904 MT 2015-16: 239904 MT 2016-17: 222164 MT 2017-18: 225088 MT 2018-19: 245549 MT	2014-15: Nil 2015-16: Nil 2016-17: Nil 2017-18: 1130 MT 2018-19: 32449 MT	2014-15: Nil 2015-16: Nil 2016-17: Nil 2017-18: 1130 MT 2018-19: 32449 MT
3q	General remarks of inspecting officers on method of mining etc.	Opencast method of mining adopted with deployment of excavators and tippers	Opencast method of mining adopted as proposed with deployment of excavators and tippers	Opencast method of mining adopted as proposed with deployment of excavators and tippers

## Solid Waste Management - Dumping:

Sl.No.	Item	Propasals	Actual work	Remarks
4a	Separate dumping of topsoil, OB and mineral rejects (Rule 32,33)	Separate stacking of top soil, dumping of overburden and mineral reject proposed	There was no generation of top soil due to lateritic surface encountered. The overburden and mineral reject generated have been stacked as proposed.	There was no generation of top soil due to lateritic surface encountered. The overburden and mineral reject generated have been stacked as proposed.
4b	Location of topsoil, OB and mineral reject dumps	Top soil proposed to be stacked in the earmarked area in the south-eastern corner of the lease and OB to be dumped over the existing OB dump-1 towards south	There was no generation of top soil. Waste generated during mining operation has been dumped over the existing OB dump-1 towards south. Mineral reject have been stacked separately.	There was no generation of top soil. Waste generated during mining operation has been dumped over the existing OB dump-1 towards south. Mineral reject have been stacked separately.
4c	Number of dumps within lease area and outside of lease area	One number of waste dump within lease area.	One number of waste dump within lease area.	One number of waste dump within lease area.

4d	Location of dumps w.r.t. ultimate pit limit (Rule 16)	Outside the UPL	Outside the UPL	Outside the UPL
4e	Number of active and alive dumps.	One number of waste dump	One number of waste dump	One number of waste dump
4f	Number of dead dumps.	Nil	Nil	Nil
4g	Number of dumps established.	Nil	Nil	Nil
4h	Whether Retaining wall or garland drain all along dumps are there.	In 2018-19, it has been proposed to maintain the existing retaining wall and garland drain	In 2018-19, the existing retaining wall and garland drain has been maintained.	In 2018-19, the existing retaining wall and garland drain has been maintained.
4i	Length of Retaining wall or garland drain all along dumps	In 2018-19, it has been proposed to maintain the existing retaining wall and garland drain	In 2018-19, the existing retaining wall and garland drain has been maintained.	In 2018-19, the existing retaining wall and garland drain has been maintained.
4j	Number of settling ponds	In 2018-19, it has been proposed to maintain the existing settling ponds	In 2018-19, the existing settling ponds have been maintained.	In 2018-19, the existing settling ponds have been maintained.
4k	Specific comments of inspecting officer on waste dump management	Separate stacking of top soil, dumping of overburden and mineral reject proposed. It has been proposed to maintain the existing retaining wall, garland drain and settling ponds.	There was no generation of top soil due to lateritic surface encountered. The overburden and mineral reject generated have been stacked as proposed. The existing retaining wall, garland drain and settling ponds have been maintained.	There was no generation of top soil due to lateritic surface encountered. The overburden and mineral reject generated have been stacked as proposed. The existing retaining wall, garland drain and settling ponds have been maintained.



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

## 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).	Annual report on PMCP to be submitted as per Rule 26 (2) of MCDR, 2017	Annual report on PMCP for the year 2018-19 was not submitted. Violation has been issued under rule 26 (2) of MCDR 2017	Annual report on PMCP for the year 2018-19 was not submitted. Violation has been issued under rule 26 (2) of MCDR 2017
6b	Area available for rehabilitation (ha) .	Not Proposed	Nil	Nil
6c	afforestation done (ha).	Not Proposed	Nil	Nil
6d	No. of saplings planted during the year	625 nos of saplings	In 2018-19, total 700 nos of saplings have been planted within lease area	In 2018-19, total 700 nos of saplings have been planted within lease area

6e	Cumulative no .of plants	Not Specified	Cumulative no of saplings planted in the lease area is about 4200 nos	Cumulative no of saplings planted in the lease area is about 4200 nos
6f	Any other method of rehabilitation	Not Proposed	Nil	Nil
6g	Cost incurred on watch and care during the year	Not Proposed	Nil	Nil
6h	Compliance on reclamation and rehabilitation by backfilling (i) Voids available for backfilling ( Lx B x D	Not Proposed	Nil	Nil
6i	Compliance on reclamation and rehabilitation by backfilling (ii) Voids filled by waste / tailings	Not Proposed	Nil	Nil
6j	Compliance on reclamation and rehabilitation by backfilling (iii)Afforestation on on backfilled area	Not Proposed	Nil	Nil
6k	Compliance on reclamation and rehabilitation by backfilling (iv) Rehabilitation by making water reservoir	Not Proposed	Nil	Nil
6l	Compliance on reclamation and rehabilitation by backfilling (v)any other specific means.	Not Proposed	Nil	Nil

6m	Compliance of rehabilitation of waste land within lease (i)afforestation	0.25 ha	0.25 ha	0.25 ha
6n	Compliance of rehabilitation of waste land within lease (ii)Area rehabilitation (ha)	0.25 ha	0.25 ha	0.25 ha
6o	Compliance of rehabilitation of waste land within lease (iii)Method of rehabilitation	Plantation	Plantation	Plantation
6p	Compliance of environmental monitoring (core zone and buffer zone)	Not proposed	Monitoring of environmental parameters is being done	Monitoring of environmental parameters is being done
6q	General remarks of inspecting officers on PMCP compliance and progressive closure operations etc.	Annual report on PMCP to be submitted as per Rule 26 (2) of MCDR, 2017	Annual report on PMCP for the year 2018-19 was not submitted. Violation has been issued under rule 26 (2) of MCDR 2017	Annual report on PMCP for the year 2018-19 was not submitted. Violation has been issued under rule 26 (2) of MCDR 2017

#### Mineral Conservation:

Sl.No.	Item	Propasals	Actual work	Remarks
7a	ROM Mineral dispatch or grade-wise sorting within lease area	Grade wise sorting within lease area	Grade wise sorting within lease area	Grade wise sorting within lease area
7b	Method of grade-wise mineral sorting i.e. manual or mechanical.	Mechanical	Mechanical	Mechanical

7c	Different grade of mineral sorted out at mines.	-3% F.C and +3% F.C	-3% F.C and +3% F.C	-3% F.C and +3% F.C
7d	Any beneficiation process at mines .	Lessee has already established a primary beneficiation plant within the mining lease area. Beneficiable ore will be processed in lease area	Lessee has already established a primary beneficiation plant within the mining lease area. Around 19628 tones of beneficiable ore has been processed in during the year 2018-19. Feed grade was 5.0 % F.C, concentrate grade was 74% F.C and tailings grade 1% F.C	Lessee has already established a primary beneficiation plant within the mining lease area. Around 19628 tones of beneficiable ore has been processed in during the year 2018-19. Feed grade was 5.0 % F.C, concentrate grade was 74% F.C and tailings grade 1% F.C
7e	General remarks of inspecting officer on Mineral conservation and beneficiation issues	Grade wise sorting within lease area. Lessee has already established a primary beneficiation plant within the mining lease area. Beneficiable ore will be processed in lease area	Grade wise sorting within lease area. Lessee has already established a primary beneficiation plant within the mining lease area. Around 19628 tones of beneficiable ore has been processed in during the year 2018-19.	Grade wise sorting within lease area. Lessee has already established a primary beneficiation plant within the mining lease area. Around 19628 tones of beneficiable ore has been processed in during the year 2018-19.

## Environment:

Sl.No.	Item	Propasals	Actual work	Remarks
8a	Separate removal and utilization of topsoil (Rule 32)	In 2018-19, the proposal for generation of top soil was 3624 m3	There was no generation of top soil due to lateritic surface encountered.	There was no generation of top soil due to lateritic surface encountered.
8b	Concurrent use or storage of topsoil	Storage of top soil proposed	There was no generation of top soil	There was no generation of top soil

8c	Separate dumps for overburden, waste rock, rejects and fines (Rule 33)	Separate dumping of overburden and mineral reject proposed	Separate dump of overburden and mineral reject maintained.	Separate dump of overburden and mineral reject maintained.
8d	Use of overburden, waste rock, rejects and fines dumps for restoring the land to its original use	Not Proposed	Nil	Nil
8e	Phased restoration, reclamation and rehabilitation of lands affected by mining operations (Pits, dumps etc)	Not Proposed	Nil	Nil
8f	Baseline information on existence of plantation and additional plantation done (Rule 41)	625 nos of saplings proposed for plantation in 2018-19	In 2018-19, total 700 nos of saplings have been planted within lease area	In 2018-19, total 700 nos of saplings have been planted within lease area
8g	Survival rate	Not Specified	Survival rate: 32% as reported in annual return for 2018-19	Survival rate: 32% as reported in annual return for 2018-19
8h	Water sprinkling on roads to control airborne dust	Mine water will be used for water spraying for dust suppression.	Water sprinkling by truck mounded sprinklers used for dust suppression.	Water sprinkling by truck mounded sprinklers used for dust suppression.
8i	General remarks of inspecting officer on aesthetic beauty in and around mines area	625 nos of saplings proposed for plantation in 2018-19	In 2018-19, total 700 nos of saplings have been planted within lease area. Aesthetic beauty in and around mines is maintained.	In 2018-19, total 700 nos of saplings have been planted within lease area. Aesthetic beauty in and around mines is maintained.

## Compliance of Rule 45:

Sl.No.	Item	Propasals	Actual work	Remarks
9a	Status of submission of Monthly and Annual returns	Monthly and Annual returns to be submitted as per rule 45 of MCDR 2017	Monthly returns and annual return for 2018-19 have been submitted.	Monthly returns and annual return for 2018-19 have been submitted.
9b	Scrutiny of Annual return for information on Mining Engineer, Geologist and Manager	Monthly returns and annual return for 2018-19 have been submitted.	Manager, Mining Engineer and Geologist have been appointed in mines.	New appointment of Mining Engineer on 26.03.2019
9c	Scrutiny of Annual return on land use pattern for area under pits, reclaimed area, dumps etc.	Lease area (surface area) utilization at the end of the year as furnished in annual return for 2018-19. Covered under current working: 5.4 ha, Used for waste disposal: 4.05 Ha, Occupied by plant buildings, residential, welfare buildings & roads: 1.7 Ha, other purposes: 1.462 Ha	Lease area (surface area) utilization at the end of the year as furnished in annual return for 2018-19. Covered under current working: 6.736 ha, Used for waste disposal: 4.05 Ha, Occupied by plant buildings, residential, welfare buildings & roads: 1.7 Ha, other purposes: 1.462 Ha	In the annual return submitted for 2018-19, lease area utilization w.r.t area covered under current (o/c) workings was incorrect. Violation has been issued under rule 45 (7) of MCDR 2017.
9d	Scrutiny of Annual return on afforestation	In 2018-19, total 700 nos of saplings have been planted within lease area	In 2018-19, total 700 nos of saplings have been planted within lease area	In 2018-19, total 700 nos of saplings have been planted within lease area
9e	Scrutiny of Annual return on mineral reject generation (Grade and quantity)	In 2018-19, the production of mineral reject was 324 tones; Grade- 2.4% F.C	In 2018-19, the production of mineral reject was 324 tones; Grade- 2.4% F.C	In 2018-19, the production of mineral reject was 324 tones; Grade- 2.4% F.C

9f	Scrutiny of Annual return on ROM stock and/or graded ore	Closing stock of ROM is 25533 tones	Closing stock of ROM is 25533 tones	Closing stock of ROM is 25533 tones
9g	Scrutiny of Annual return on sale value, Ex. Mine price and production cost	Ex-mine price (in Rs per tonne) for 40% or more but less than 80% F.C is Rs 3200	Ex-mine price (in Rs per tonne) for 40% or more but less than 80% F.C is Rs 3200	Ex-mine price (in Rs per tonne) for 40% or more but less than 80% F.C is Rs 3200
9h	Scrutiny of Annual return on fixed assets	Value of Fixed assets: Rs 81109019	Value of Fixed assets: Rs 81109019	Value of Fixed assets: Rs 81109019
9k	Scrutiny of Annual return on mining machineries	Backhoe (1.2 cum capacity): 1 no; Dumper (10 tonne capacity): 7 nos etc	Backhoe (1.2 cum capacity): 1 no; Dumper (10 tonne capacity): 7 nos etc	Backhoe (1.2 cum capacity): 1 no; Dumper (10 tonne capacity): 7 nos etc

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
Rule 26(2)	07/01/2020	02/07/2020			
MCDR17 Rule 29	07/01/2020	02/07/2020			
Rule 45(7)	07/01/2020	02/07/2020			

Date :

*Sanyal*  
02/07/2020  
(SHRI SUDIP RANJAN MAZUMDAR)

Indian Bureau of Mines