

**INDIAN BUREAU OF MINES**  
**MINERALS DEVELOPMENT AND REGULATION DIVISION**  
**MCDR INSPECTION REPORT**  
**BHUBANESHWAR REGIONAL OFFICE**

File No-MCDR-MiFL0GR/1/2023-BBS-IBM\_RO\_BBS

Mine Code- 28ORI27015

**General**

<b>S N</b>	<b>Particulars</b>	<b>Details</b>
1	Name of the Mine	Bainibasa Graphite Mine, M/s Pradhan Industries
2	Date of Inspection	27.10.2023
3	Name of Inspecting Officer	Shri Ashok Kumar Pany, Assistant Mining Engineer
4	Name of official accompanying inspection	Shri Kirttan Bihari Mohanta, Mine Manager and Shri Harihara Barik , Geologist
5	Last date of Inspection & Officer	16.11.2022, Shri Jitendriya Pradhan, Assistant Mining Engineer
6	Total Lease Area (Ha) with breakup of Non-forest and forest land	Forest Land- 44.038 ha Non Forest Land- 14.666 ha Total Lease area- 58.704 ha
7	Mine code	28ORI27015
8	IBM Registration Number under rule 45 of MCDR, 2017	IBM/4724/2011
9	Name of the lessee, Address, phone, email and fax number	M/s Pradhan Industries, At/Po - Talenga Bazar, PS- Purighat, Dist - Cuttack Odisha - 753009, Email: pradhanindustriesctc@yahoo.com
10	Village	Bainibasa
11	Taluka/Mandal	Muniguda
12	District	Rayagada
13	Pin code	765020
14	State	Odisha
15	Post office	Bhairabgarh
16	Nearest police station	Muniguda
17	Nearest Railway station	Muniguda
18	Date of Grant of Mining Lease	10.01.2017
19	Date of Execution	11.01.2017
20	Date of Expiry	10.01.2067
21	Date of opening of Mine	27.12.2019
22	Name of the Nominated Owner with Address, phone, email, fax number and date of appointment	Shri Sundeep Pradhan, A-19, Trishna Residency, Phase-3 Patia, Bhubaneswar, Odisha-751024 Date of Appointment- 28.02.2018 Mob. No.- 7381848286

23	Name of the Mine Agent with Address, phone, email, fax number and date of appointment	Shri Pranab Kumar Mohanty, Plot No.- N4/32, IRC Village, Nayapalli, Bhubaneswar-751015. Odisha Date of Appointment – 21.12.2019 Mob. No.- 7008355990
24	Name of the Mines Manager with Address, phone, email, fax number and date of appointment in mines	Shri Kirttan Bihari Mohanta, Mines Manager At/Po- Muniguda, Dist -Rayagada, Odisha Date of Appointment – 02.03.2023 Mob. No.- 8763953318
25	Name of the Mining Engineer, Qualification and total experience with Address, phone, email, fax number and date of appointment in mine	Shri Kirttan Bihari Mohanta, Mines Manager At/Po- Muniguda, Dist -Rayagada, Odisha Date of Appointment – 02.03.2023 Mob. No.- 8763953318
26	Name of the Geologist, Qualification and total experience with Address, phone, email, fax number and date of appointment in mine	Shri. Harihara Barik, (Part Time Geologist), M Sc. Geology, 19 Years of Experience Date of Appointment- 28.02.2018 At- Bandhamandi, Po - Godibali, PS - Kashipur, Dist - Rayagada Ph. No.- 9437361566. E mail.- barik.harihara@gamil.com
27	Date of Approval of Review of Mining Plan/Modified Mining Plan with five-year period and specific condition in approval letter, if any.	Review of Mining Plan approved vide letter No. RMP/A/38-ORI/BHU/2020-21 dated 12.01.2021 for the period 2021-22 to 2025-26
28	Mineral(s) granted in lease and proved for mining	Graphite
29	Method of Mining (Opencast, Underground)	Opencast
30	Category (Fully Mechanised, Others or Manual)	Category-A, OTFM
31	Captive/Non Captive	Non-Captive
32	Present EC Capacity	Graphite ROM- 13272 tonne

Scientific Mining: Compliance of proposals of approved Mining Plan/Review of mining for the Year 2022-23.

**Exploration**

S.N.	Item	Proposals	Actual work	Remarks
1a	Backlog of previous year	18 nos. of backlog from the year 2021-22	Nil	Deviation pointed out to lessee.
1b	Exploration over lease area during the year for Geological axis 1 or 2.	No proposal during the year 2022-23	Nil	
1c	Exploration Agency & Expenditure in lakh Rupees during the year	Nil	Nil	
1d	Balance area to be explored to bring Geological axis in 1 or 2	As per approved Review of Mining plan the balance area to be explored is 39.524 ha.		
1e	Balance reserves/resource as on 01.04.2023	As per the approved Review of Mining Plan, the reserve/resource status as on 23.10.2020 is follows:- Reserve- : 409416 Tonne Resource : 15960 Tonne Balance reserves/resource as on 01.04.2023 is as follows:- Reserve- : 391384 Tonne Resource : 15960 Tonne		
1f	General remarks of inspecting officer on geology, exploration etc.	Two graphite veins occurred along with two nala courses exists within the lease area. The graphite deposit contains flaky ore average grade of 5.6% F.C. The deviation in exploration work has been pointed out to lessee through violation letter.		

**Development**

S.N.	Item	Proposals	Actual work	Remarks
2a	Location of development w.r.t. lease area	Quarry-1	Quarry-1	
2b	Separate benches in topsoil, overburden and mineral	Separate Benches Proposed	carried out	
2c	Stripping ratio or ore to OB ratio (t/Cum)	1:1.9	1:0.09	
2d	Quantity of topsoil generation in m <sup>3</sup>	5400	500	
2e	Quantity of overburden/waste generation in m <sup>3</sup>	22000	1053	
2f	General remarks of inspecting officer on development of pit w.r.t. type of deposit etc.	Vein type ore body occurred in the lease area. Opencast mining with bench height 3m and width 6m.		

**Exploitation**

S.N.	Item	Proposals	Actual work	Remarks
3a	Number of pits proposed for production	One	One	
3b	Quantity of ROM production proposed	11760 tonne	11137 tonne	Within proposed quantity
3c	Recovery of saleable/usable mineral from ROM production	10584 tonne	11137 tonne	Within proposed quantity
3d	Quantity of mineral reject generation	1176 tonne	Nil	
3e	Grade of mineral reject generation and threshold value declared	Mineral reject- 2 % to 3 % F.C. Threshold Value- 2% Fixed Carbon (F.C) (Min.)	Mineral reject- 2 % to 3 % F.C. Threshold Value- 2% Fixed Carbon (F.C) (Min.)	
3f	Quantity of sub-grade mineral generation	Same as mineral reject	Same as mineral reject	
3g	Grade of sub-grade mineral generation	Same as mineral reject	Same as mineral reject	
3h	Manual / Mechanized method adopted for segregating from ROM	Mechanized	Mechanized	
3i	Any analysis or beneficiation study proposed & carried out for sub-grade mineral and reject	No beneficiation study proposed	Nil	
3j	Provision of drilling & blasting in mineral benches	Provision of drilling & blasting not proposed in mineral benches	Nil	
3k	Provision of mining machineries in mineral benches	Excavator – 0.9 M3 Tipper – 10 tonne	Excavator – 0.9 M3 Tipper – 10 tonne	
3l	Whether height of benches in overburden and mineral suitable for method of mining proposed in MP/RMP	Bench Height: 3 m Bench Width: 6 m	Bench Height: 3 m Bench Width: 6 m	As per proposal
3m	Total area covered under excavation/pits	1.134 ha	0.133 ha	

3n	Ore to OB ratio for the pit/mine during the year	1:1.9	1:0.09	
3o	Total area put in use under different heads at the end of year	Area under Mining - 1.314 Storage of Top Soil - 0.324 Waste Dump - 0.423 Mineral Storage - 1.30 Infrastructure - 0.05 Roads - 2.50 Mineral Separation Plant - 1.05 Tailing Pond-0.45 Others - 1.665 Total - 8.96 ha	Area under Mining - 0.133 Storage of Top Soil -0.101 Waste Dump - 0.34 Mineral Storage - 0.225 Infrastructure - 0 Roads - 0.003 Mineral Separation Plant - 0 Tailing Pond- 0 Others - 0 Total - 0.802 ha	The degraded area is within area limit under different heads.
3p	Production of ROM mineral during last five-year period, as applicable	2018-19 - 12600 tonne 2019-20 - 13272 tonne 2020-21 - 13272 tonne 2021-22 - 10920 tonne 2022-23 - 11760 tonne	2018-19 - Nil 2019-20 - 1.7 tonne 2020-21 - 20.6 tonne 2021-22 - 6879.2 tonne 2022-23 - 11137.0 tonne	
3q	General remarks of inspecting officer on method of mining etc.	Mechanized opencast mining operation carried out with shovel-dumper combination.		

#### **Solid Waste Management-Dumping**

S.N	Item	Proposals	Actual work	Remarks
4a	Separate dumping of topsoil, OB & mineral reject (Rule 32, 33)	Separate dumping of Topsoil, OB and mineral reject proposed	Carried out	
4b	Location of topsoil, OB & mineral reject dumps	Top soil - 550S/610S and 410W/540W OB Dump - 370S/430S and 580W/610W Mineral reject - 180S/200S and 325W/340W	As per proposal	
4c	Number of dumps within lease area and outside lease area	within lease area - One outside lease area - Nil	within lease area - One outside lease area - Nil	
4d	Location of dumps w.r.t. ultimate pit limit (Rule 16)	Outside UPL	Outside UPL	
4e	Number of active & alive dumps	01	01	
4f	Number of dead dumps	Nil	Nil	
4g	Number of dumps stabilized	Nil	Nil	
4h	Whether Retaining wall or garland drain all along dumps are there	No	Proposed	
4i	Length of Retaining wall or garland drain all along dump	310m retaining wall and 350m garland	Garland drain made around the waste	Small waste dump.

		drain during plan period.	dump.	
4j	Number of settling ponds	No proposal	Nil	
4k	Specific comments of inspecting officer on waste dump management	One small waste dump located within the lease area. Waste dumping has been carried out within the proposed area.		

### **Solid Waste Management-Backfilling**

S.N.	Item	Proposals	Actual work	Remarks
5a	Status on part or full extraction of mineral from mined out area before starting backfilling	Nil	Nil	
5b	Area under backfilling of mined out area	Nil	Nil	
5c	Concurrent use of topsoil for restoration or rehabilitation of mined out area (Rule 32)	5400	500	Used for plantation purpose.
5d	Total area fully reclaimed & rehabilitated	No proposal	Nil	
5e	General remarks of inspecting officer on backfilling, reclamation etc.	Mineral not exhausted from quarry and no backfilling proposal during the year.		

### **Progressive Mine Closure Plan**

S.N.	Item	Proposals (Yr.2022-23)	Actual work	Remarks
6a	Whether Annual report on PMCP submitted on time and correctly - Rule 26.	To be submitted before 1 <sup>st</sup> July	Submitted	
6b	Area available for rehabilitation (ha)	Nil	NIL	
6c	Afforestation done (ha)	1.2 ha	0.26 ha	
6d	No. of saplings planted during the year	3000	3000	
6e	Cumulative no. of plants	Total 5100 Nos. of trees planted.		-
6f	Any other specific method of rehabilitation	-	-	-
6g	Cost incurred on watch & care during the year	NA	Rs. 200000/-	-
6h	Compliance on reclamation and rehabilitation by backfilling (i) Voids available for backfilling (L X B X D).	Nil	Nil	-

6i	Compliance on reclamation and rehabilitation by backfilling (ii) Void filled by waste/tailings.	Nil	Nil	-
6j	Compliance on reclamation and rehabilitation by backfilling (iii) Afforestation on the backfilled area.	Nil	Nil	-
6k	Compliance on reclamation and rehabilitation by backfilling (iv) Rehabilitation by making water reservoir.	Nil	Nil	-
6l	Compliance on reclamation and rehabilitation by backfilling (v) Any other specific means	Nil	Nil	-
6m	Compliance of Rehabilitation of waste land within lease (i)Afforestation	Nil	Nil	-
6n	Compliance of Rehabilitation of waste land within lease (ii) Area rehabilitated (ha) Method of rehabilitation	Nil	Nil	-
6o	Compliance of Rehabilitation of waste land within lease (iii) Method of rehabilitation	Nil	Nil	-
6p	Compliance of Environmental monitoring (core zone & buffer zone)	Quarterly monitoring of Air, Noise Level and Ground water quality proposed	Monitoring carried out quarterly.	-
6q	General remark of inspecting officer on PMCP compliance and progressive closure operation etc.	Progressive closure operation carried out as per proposal.		

### **Mineral Conservation**

S.N.	Item	Proposals	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	
7b	Method of grade-wise mineral sorting i.e. manual or mechanical	Mechanised	Mechanised	
7c	Different grade of mineral sorted out at mines	Below 20% FC, 20-40% FC, 40-80% FC, above 80% FC	Below 20% FC, 20-40% FC, 40-80% FC, above 80% FC	
7d	Any beneficiation process at mines	No Beneficiation plant within lease area	No Beneficiation plant within lease area	

7e	General remarks of inspecting officer on Mineral conservation & beneficiation issues	The ROM transported to lessee's plant exists outside the lease area for beneficiation.
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### **Environment**

S.N.	Item	Proposals	Actual work	Remarks
8a	Separate removal and utilization of topsoil (Rule 32)	5400	500	Used for plantation purpose.
8b	Concurrent use or storage of topsoil	No proposal	Nil	
8c	Separate dumps for overburden, waste rock, rejects and fines (Rule 33)	Separate dump proposed	Carried out	
8d	Use of overburden, waste rock, rejects and fines dumps for restoring the land to its original use	No proposal	Nil	
8e	Phased restoration, reclamation and rehabilitation of lands affected by mining operations (Pits, dumps etc)	No proposal	Nil	
8f	Baseline information on existence of plantation & additional plantation done (Rule 41)	3000 Nos. of Plantation	3000 Nos.	
8g	Survival rate	NA	36%	
8h	Water sprinkling on roads to control airborne dust	Water sprinkling on haul roads proposed to suppress the dust	Carried out	
8i	General remarks of inspecting officer on aesthetic beauty in and around mines area	The aesthetic beauty in & around the mine area maintained.		

### **Compliance of Rule 45**

S.N.	Item	COMMENTS		Remarks
9a	Status of submission of Monthly and Annual returns	Monthly Return and Annual return has been submitted within due date.		
S.N.	Item	Details Given in AR.	Observation of I/Officer	Remarks
9b	Scrutiny of Annual return for information on Mining Engineer, Geologist and Manager	Information on Geologist and Manager is furnished in the return.	Appointed and present in the field during inspection.	In annual return, the information on exploration and

9c	Scrutiny of Annual return on land use pattern for area under pits, reclaimed area, dumps etc.	Area under Pit- 0.133 ha, Reclaimed area- Nil Area under waste disposal- 0.34 ha	Within the proposed land use.	sale/dispatch is not furnished correctly.
9d	Scrutiny of Annual return on afforestation	3000 Nos. of plantation during the year	Plantation carried out.	
9e	Scrutiny of Annual return on mineral reject generation (Grade & quantity)	Nil	NA	
9f	Scrutiny of Annual return on ROM stock and/or graded ore	ROM closing stock- 17902.832 tonne	Found to be in order	
9g	Scrutiny of Annual return on sale value, Ex. Mine price & production cost	Ex- Mine price of less than 20% FC Ore is Rs. 1253/- Cost of production of ROM- Rs. 700.74	Domestic transfer ASP furnished.	
9i	Scrutiny of Annual return on fixed assets	Value of fixed asset is Rs. 71934710/-	Found to be in order	
9k	Scrutiny of Annual return on mining machineries	No information on mining machinery furnished.	Not correct.	

**Violation observed during current inspection and compliance position of earlier violation pointed out:**

- (a) Compliance position of earlier violation pointed out: - No violation pointed out during earlier inspection.
- ( b ) Violation of provisions of Rule 11(1) & 45(7) of MCDR, 2017 is observed during current inspection and pointed out to lessee.

Ashok Kumar Pany  
Assistant Mining Engineer