

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

File No-MCDR-MiFL0GR/2/2023-BBS-IBM_RO_BBS

Mine Code- 28ORI27014

General

S N	Particulars	Details
1	Name of the Mine	Birida Graphite Mine, Shri Sibananda Pradhan
2	Date of Inspection	26.10.2023
3	Name of Inspecting Officer	Shri Ashok Kumar Pany, Assistant Mining Engineer
4	Name of official accompanying inspection	Shri Harihara Barik , Geologist
5	Last date of Inspection & Officer	17.08.2016, Shri D Upadhyaya, SR ACOM
6	Total Lease Area (Ha) with breakup of Non-forest and forest land	Forest Land- Nil Non Forest Land- 45.753 ha Total Lease area- 45.753 ha
7	Mine code	28ORI27014
8	IBM Registration Number under rule 45 of MCDR, 2017	IBM/9759/2012
9	Name of the lessee, Address, phone, email and fax number	Sri Sibananda Pradhan A-19, Trishna Residency, Phase-3 Kiit College Road, Patia Bhubaneswar-751024 Mob. No. -7008226704 Email-sundeeppradhan@gmail.com
10	Village	Birida
11	Taluka/Mandal	K Singpur
12	District	Rayagada
13	Pin code	765017
14	State	Odisha
15	Post office	Kashipur
16	Nearest police station	K Singpur
17	Nearest Railway station	Sikharpai
18	Date of Grant of Mining Lease	07.01.2005
19	Date of Execution	26.12.2005
20	Date of Expiry	25.12.2025
21	Date of opening of Mine	11.07.2019
22	Name of the Nominated Owner with Address, phone, email, fax number and date of appointment	Sri Sibananda Pradhan A-19, Trishna Residency, Phase-3 Kiit College Road, Patia Bhubaneswar-751024 Mob. No. -7008226704 Email-sundeeppradhan@gmail.com

23	Name of the Mine Agent 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
24	Name of the Mines Manager with Address, phone, email, fax number and date of appointment in mines	Sri Jyoti Ranjan Satapathy At/Po- Sikharpai Dist- Rayagada Mob. No. 9928820567
25	Name of the Mining Engineer, Qualification and total experience with Address, phone, email, fax number and date of appointment in mine	Sri Jyoti Ranjan Satapathy At/Po- Sikharpai Dist- Rayagada Mob. No. 9928820567
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) 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/24-ORI/BHU/2020-21 Dated 09.11.2020 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- 83000 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	10 Nos. of backlog for the year 2021-22	Nil	Deviation in exploration work is pointed out to lessee.
1b	Exploration over lease area during the year for Geological axis 1 or 2.	35 Nos. of Boreholes proposed during the year 2022-23	20 Nos. of drilled during the year	
1c	Exploration Agency & Expenditure in lakh Rupees during the year	Not specified	Rs. 421400/-	
1d	Balance area to be explored to bring Geological axis in 1 or 2	18.102 ha		
1e	Balance reserves/resource as on 01.04.2023	As per the approved Review of Mining Plan, the reserve/resource status as on 31.08.2020 is follows:- Reserve- : 2546567 Tonne Resource : 586928 Tonne Balance reserves/resource as on 01.04.2023 is as follows:- Reserve- : 2538185 Tonne Resource : 586928 Tonne		
1f	General remarks of inspecting officer on geology, exploration etc.	The Graphite ore exposes in sloping terrain and plain land between isolated hills. The lease area has not been fully explored and exploration work is in progress. 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 (Rule 15)	Separate Benches Proposed	Carried out	
2c	Stripping ratio or ore to OB ratio (t/Cum)	1:0.36	1:0.20	
2d	Quantity of topsoil generation in m ³	721	218	
2e	Quantity of overburden/waste generation in m ³	23700	14	
2f	General remarks of inspecting officer on development of pit w.r.t. type of deposit etc.	One small pit has be developed in the west side of the lease area. The mining operation has been commenced from 11.07.2019 and not fully operational.		

Exploitation

S.N.	Item	Proposals	Actual work	Remarks
3a	Number of pits proposed for production	One	One	
3b	Quantity of ROM production proposed	68671 tonne	1150 tonne	The production proposal has not been achieved.
3c	Recovery of saleable/usable mineral from ROM production	65237 tonne	1110 tonne	
3d	Quantity of mineral reject generation	3434 tonne	40 tonne	
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: 6 m Bench Width: 6 m	Bench Height: 3 m Bench Width: 6 m	
3m	Total area covered under excavation/pits	1.26 ha	0.20 ha	

3n	Ore to OB ratio for the pit/mine during the year	1:0.36	1:0.20	
3o	Total area put in use under different heads at the end of year	Area under Mining – 1.26 Storage of Top Soil – 0.01 Waste Dump – 0.49 Mineral Storage – 1.017 Infrastructure – 0.40 Roads – 1.912 Mineral Separation Plant – 1.70 Tailing Pond-0.45 Others – 0.499 Total – 7.797 ha.	Area under Mining – 0.20 Waste Dump – 0.064 Mineral Storage – 0.082 Roads – 0.10 Total – 0.446 ha.	
3p	Production of ROM mineral during last five-year period, as applicable	2018-19 - 75285 tonne 2019-20 – 82845 tonne 2020-21 – 82845 tonne 2021-22 - 62371 tonne 2022-23 - 68671 tonne	2018-19 - Nil 2019-20 – 1.8 tonne 2020-21 – 15.8 tonne 2021-22 - 7232 tonne 2022-23 - 1150 tonne	
3q	General remarks of inspecting officer on method of mining etc.	Small scale opencast mining carried out. Fail in achieving of production proposal is pointed out to lessee through violation letter.		

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 - 580S/590S and 180W/205W OB Dump - 430S/560S and 80W/140W Mineral reject - 600S/620S and 110W/180W	14 m3 of OB & 20 m3 Mineral reject have been generated in the year and dumped / stacked in the earmarked area. The Top soil has been utilized for plantation.	
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	Very small waste dump	

4i	Length of Retaining wall or garland drain all along dump	Retaining wall-70m, Garland drain- 75m	Nil	As dumping proposal has not been achieved, the protective measures not constructed.
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.		

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)	721	218	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 st July	Submitted	
6b	Area available for rehabilitation (ha)	Nil	NIL	
6c	Afforestation done (ha)	0.4 ha	0.4 ha	
6d	No. of saplings planted during the year	1000	800	
6e	Cumulative no. of plants	Total 800 Nos. of trees planted.		-
6f	Any other specific method of rehabilitation	-	-	-
6g	Cost incurred on watch & care during the year	NA	Rs. 72000/-	-

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.	-
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%	Below 20% FC, 20-40% FC, 40-80% FC, above	

		FC, above 80% FC	80% FC	
7d	Any beneficiation process at mines	NIL	NIL	
7e	General remarks of inspecting officer on Mineral conservation & beneficiation issues	No beneficiation plant exists within lease area. The material beneficiate at lessee's own plant outside.		

Environment

S.N.	Item	Proposals	Actual work	Remarks
8a	Separate removal and utilization of topsoil (Rule 32)	721	218	Used for plantation
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)	1000 Nos. of Plantation	800 Nos.	
8g	Survival rate	NA	52%	
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.	
9c	Scrutiny of Annual return on land use pattern for area under pits, reclaimed area, dumps etc.	Area under Pit- 0.2 ha, Reclaimed area- Nil Area under waste disposal- 0.064ha	Within the proposed land use.	
9d	Scrutiny of Annual return on afforestation	800 Nos. of plantation during the year	Plantation carried out.	
9e	Scrutiny of Annual return on mineral reject generation (Grade & quantity)	40 tonne, Average grade- 2.23% FC.	Stacked in the mineral reject stack.	
9f	Scrutiny of Annual return on ROM stock and/or graded ore	ROM closing stock- 8215.892 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. 3422.24	Domestic transfer is ASP furnished.	
9i	Scrutiny of Annual return on fixed assets	Value of fixed asset is Rs. 5238811/-	Capital expenditure.	
9k	Scrutiny of Annual return on mining machineries	Nil	Presently no machine deployed.	

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

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

Ashok Kumar Pany
Assistant Mining Engineer