

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

File No-MCDR-MiFL0FE/2/2023-BBS-IBM\_RO\_BBS

Mine Code- 30ORI08115

**General**

<b>S N</b>	<b>Particulars</b>	<b>Details</b>
1	Name of the Mine	Nayagarh Iron Ore Mine
2	Date of Inspection	14.06.2023
3	Name of Inspecting Officer	Shri Ashok Kumar Pany, Assistant Mining Engineer
4	Name of official accompanying inspection	Shri Manas Kumar Sahu, Mine Manager
5	Last date of Inspection & Officer	20.06.2022, Shri S K Mahapatra, Senior Mining Geologist
6	Total Lease Area (Ha) with breakup of Non-forest and forest land	Forest Land- 22.773 ha Non Forest Land- 1.797 ha Total Lease area- 24.570 ha
7	Mine code	30ORI08115
8	IBM Registration Number under rule 45 of MCDR, 2017	IBM/4639/2018
9	Name of the lessee, Address, phone, email and fax number	Shri K C Pradhan, Plot No-1262, Road 8, Unit-9, Bhubaneswar-751022 Phone-9439066666 Fax-022-66657724, Email: sp@kcp.in
10	Village	Nayagarh
11	Taluka/Mandal	Barbil
12	District	Keonjhar
13	Pin code	758086
14	State	Odisha
15	Post office	Dubuna
16	Nearest police station	Bamebari
17	Nearest Railway station	Nayagarh
18	Date of Grant of Mining Lease	09.01.2017
19	Date of Execution	11.01.2017
20	Date of Expiry	10.01.2067
21	Date of opening of Mine	17.09.2018
22	Name of the Nominated Owner with Address, phone, email, fax number and date of appointment	NA

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23	Name of the Mine Agent with Address, phone, email, fax number and date of appointment	Shri Sidharth Pradhan, Plot No-1262, Road 8, Unit-9, Bhubaneswar-751022 Phone-9439066666 Fax-022-66657724, Email: sp@kcp.in
24	Name of the Mines Manager with Address, phone, email, fax number and date of appointment in mines	Shri Manas Kumar Sahu, B Tech (mining), FCC At/PO- Hudisahi, Via-Joda, Dist- Keonjhar Odisha-758034 Phone – 8327779090 Email: mk.sahu@kcp.in Date of appointment: 16.09.2018
25	Name of the Mining Engineer, Qualification and total experience with Address, phone, email, fax number and date of appointment in mine	Shri Manas Kumar Sahu, B Tech (mining), FCC Experience – 12 years At/PO- Hudisahi, Via-Joda, Dist- Keonjhar Odisha-758034 Phone – 8327779090 Email: mk.sahu@kcp.in Date of appointment: 16.09.2018
26	Name of the Geologist, Qualification and total experience with Address, phone, email, fax number and date of appointment in mine	Shri Satyaranjan Mohanta, Msc Geology Experience – 6.5 year At/PO- Hudisahi, Via-Joda, Dist- Keonjhar Odisha-758034 Phone – 8327779090
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/26-ORI/BHU/2021-22 Dated 22.11.2021 for the period 2022-23 to 2026-27
28	Mineral(s) granted in lease and proved for mining	Iron
29	Method of Mining (Opencast, Underground)	Opencast
30	Category (Fully Mechanised, Others or Manual)	Category-A, Fully Mechanized
31	Captive/Non Captive	Non-Captive
32	Present EC Capacity	Iron- 3 Lakh 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	Nil	Nil	
1b	Exploration over lease area during the year for Geological axis 1 or 2.	No proposal for 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	Nil		
1e	Balance reserves/resource as on 01.04.2023	As per the approved RMP dated 22.11.2021, the reserve/resource status is as follows:- Reserve- : 4666912 Tonne Resource : 1675866 Tonne Balance reserves/resource as on 01.04.2023 is as follows:- Reserve- : 4528962 Tonne Resource : 1675866 Tonne		
1f	General remarks of inspecting officer on geology, exploration etc.	The total lease area has been explored under G1 level.		

**Development**

S.N.	Item	Proposals	Actual work	Remarks
2a	Location of development w.r.t. lease area	Insitu Pit	Insitu Pit	
2b	Separate benches in topsoil, overburden and mineral (Rule 15)	Separate Benches Proposed	Carried out	
2c	Stripping ratio or ore to OB ratio	1:0.04	1:0.08	
2d	Quantity of topsoil generation in m <sup>3</sup>	Nil	Nil	
2e	Quantity of overburden/waste generation in m <sup>3</sup>	11180	11158	
2f	General remarks of inspecting officer on development of pit w.r.t. type of deposit etc.	Mechanized opencast mining operation carried out with crushing and screening.		

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**Exploitation**

S.N.	Item	Proposals	Actual work	Remarks
3a	Number of pits proposed for production	One	One	
3b	Quantity of ROM production proposed	299065 tonne	137950 tonne	Less production due to delay in getting enhance quantity EC.
3c	Recovery of salable/usable mineral from ROM production	285090 tonne	136070 tonne	
3d	Quantity of mineral reject generation	13975 tonne	1880 tonne	
3e	Grade of mineral reject generation and threshold value declared	Mineral reject- 45 % to 55 % Fe Threshold Value- 45 % Fe	Mineral reject- 45 % to 55 % Fe Threshold Value- 45 % Fe	
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 proposed in mineral benches	Deep hole Drilling blasting Depth of hole = 6 m Spacing= 3m Burden= 2.5m	
3k	Provision of mining machineries in mineral benches	Excavator – 1.2 M3 Tipper – 25 tonne Drill- 100 mm dia	Excavator – 1.2 M3 Tipper – 25 tonne Drill- 100 mm dia	
3l	Whether height of benches in overburden and mineral suitable for method of mining proposed in MP/SOM	Bench Height: 6 m Bench Width: 9 m	Bench Height: 6 m Bench Width: 9 m	
3m	Total area covered under excavation/pits	5.21 ha	4.8 ha	

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3n	Ore to OB ratio for the pit/mine during the year	1:0.04	1:0.08	
3o	Total area put in use under different heads at the end of year	Area under Mining – 5.21 Storage of Top Soil -0 Waste Dump – 0.1 Mineral Storage – 0.97 Infrastructure – 1.286 Roads – 2.5 Mineral Separation Plant – 0.7 Others (Green Belt)- 0.04 Total – 10.806 ha.	Area under Mining – 4.8 Storage of Top Soil -0 Waste Dump – 0.1 Mineral Storage – 0.97 Infrastructure – 0.9 Roads – 2.3 Others (Green Belt)- 0.04 Total – 9.11 ha	
3p	Production of ROM mineral during last five-year period, as applicable	2018-19 - 79998 tonne 2019-20 – 79998 tonne 2020-21 – 300094 tonne 2021-22 - 300135 tonne 2022-23 - 299065 tonne	2018-19 - 60640 tonne 2019-20 – 79280 tonne 2020-21 – 79380 tonne 2021-22 - 79800 tonne 2022-23 - 137950 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 OB and mineral reject proposed	Carried out	
4b	Location of topsoil, OB & mineral reject dumps	Extension of existing waste dump located on south side lease boundary was proposed .	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	0	0	
4g	Number of dumps stabilized	0	0	
4h	Whether Retaining wall or garland drain all along dumps are there	Yes	Yes	
4i	Length of Retaining wall or garland drain all along dump	Maintenance of Retaining Wall & Garland Drain Proposed	Carried out	
4j	Number of settling ponds	No proposal	Nil	

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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.
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**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)	Nil	Nil	
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	Not due, yet to be Submitted	
6b	Area available for rehabilitation (ha)	Nil	NIL	
6c	Afforestation done (ha)	0.51ha	0.6 ha	
6d	No. of saplings planted during the year	50	790	Safety zone plantation
6e	Cumulative no. of plants	Total 5610 Nos. of trees planted.		-
6f	Any other specific method of rehabilitation	-	-	-
6g	Cost incurred on watch & care during the year	Rs. 2500/-	Rs. 10000/-	-
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	-

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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	45% to 55% Fe and above 55% Fe	45% to 55% Fe and above 55% Fe	
7d	Any beneficiation process at mines	Nil	Nil	
7e	General remarks of inspecting officer on Mineral conservation & beneficiation issues	Mechanized crushing and screening of Iron ore carried out within the lease area.		

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**Environment**

S.N.	Item	Proposals	Actual work	Remarks
8a	Separate removal and utilization of topsoil (Rule 32)	Nil	Nil	
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)	50 Nos. of Plantation	790 Nos.	
8g	Survival rate	75%	80%	
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 submitted within due date and Annual return is not due for submission.		
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	Not applicable as return not received.	Not applicable as return not received.	
9c	Scrutiny of Annual return on land use pattern for area under pits, reclaimed area, dumps etc.	Not applicable as return not received.	Not applicable as return not received.	
9d	Scrutiny of Annual return on afforestation	Not applicable as return not received.	Not applicable as return not received.	



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9e	Scrutiny of Annual return on mineral reject generation (Grade & quantity)	Not applicable as return not received.	Not applicable as return not received.	
9f	Scrutiny of Annual return on ROM stock and/or graded ore	Not applicable as return not received.	Not applicable as return not received.	
9g	Scrutiny of Annual return on sale value, Ex. Mine price & production cost	Not applicable as return not received.	Not applicable as return not received.	
9i	Scrutiny of Annual return on fixed assets	Not applicable as return not received.	Not applicable as return not received.	
9k	Scrutiny of Annual return on mining machineries	Not applicable as return not received.	Not applicable as return not received.	

**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 ) No violation observed during current inspection.

Date-23.06.2023

Ashok Kumar Pany  
Assistant Mining Engineer