

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

MCDR INSPECTION REPORT

Bhubaneshwar regional office

Mine file No : ORI/IRON/SNG/MCDR-20/BBS

Mine code : 30ORI13043

- (i) Name of the Inspecting : **SRM**) **SHRI SUDIP RANJAN MAZUMDAR**
Officer and ID No.
- (ii) Designation : Senior Mining Geologist
- (iii) Accompanying mine : Shri Jagdish Mahanta, Mines Manager
Official with
Designation
- (iv) Date of Inspection : 04/12/2019
- (v) Prev.inspection date : 10/01/2019

PART-I : GENERAL INFORMATION

1. (a) **Mine Name** : **BHANJPALI**
- (b) **Registration NO.** : **IBM / 8414 /2011**
- (c) Category : A Other than Fully Mech.
- (d) Type of Working : Opencast
- (e) Postal address
- State : ORISSA
- District : SUNDARGARH
- Village : BHANJPALI
- Taluka : BONAI
- Post office : KOIRA
- Pin Code : 758038
- FAX No. : 06767-270107
- E-mail : jnp_joda@rediffmail.com
- Phone : 06767-270106
- (f) Police Station : Koira
- (g) First opening date : 01/10/1997
- (h) Weekly day of rest : SUN
2. Address for : VILL. BHANJAPALI, PO. KOIRA
correspondance DIST. SUNDARGARH, ORISSA
PIN. 770048
3. (a) Lease Number : ORI0615
- (b) Lease area : 18
- (c) Period of lease : 30
- (d) Date of Expiry : 31/03/2027
4. Mineral worked : IRON ORE Main

5. Name and Address of the

Lessee : SHRI J N PATNAIK
 BANEIKALA JODA KEONJHAR
 KEONJHAR ORISSA
 Phone:06767-270106
 FAX :06767-270107

Owner : SHRI J N PATNAIK
 BONEIKALA JODA KEONJHAR
 KEONJHAR ORISSA
 Phone: 06767-270106
 FAX : 06767-270107

Manager

Name : SHRI JAGDISH MOHANTA
 Qualification : B E MINING
 Appointment/ : 01/09/2018
 Termination date

6. Date of approval of Mining	:	Mining Scheme rule 12 MCDR1988	15/07/2002
Plan/Scheme of Mining		Mining Scheme rule 12 MCDR1988	15/02/2008
		Modif.approved Mining Scheme	07/03/2011
		Mining Scheme rule 12 MCDR1988	04/07/2014
		MP review under 17(1) MCR 2016	31/08/2017
		Modif.approved Mining Scheme	08/03/2019

PART - II : OBSERVATION/COMMENTS OF INSPECTING OFFICERS

Exploration :

Sl.No.	Item	Proposals	Actual work	Remarks
1a	Backlog of previous year	2017-18: 6 BHs 2018-19: 6 BHs	2017-18: Nil 2018-19: 12 BHs	There is no backlog of previous year
1b	Exploration over lease area for geological axis 1 or 2	In 2018-19, 6 numbers of boreholes have been proposed to be drilled.	In 2018-19, 12 nos of boreholes have been drilled.	In 2018-19, 12 nos of boreholes have been drilled.
1c	Exploration Agencies and Expenditure in lakh rupees during the year	Not Specified	Exploration Agency:M/s Gemco Kati Exploration; Expenditure incurred: Rs 8 lakhs	Exploration Agency:M/s Gemco Kati Exploration; Expenditure incurred: Rs 8 lakhs
1d	Balance area to be explored to bring Geological axis in 1 or 2	In 2018-19, 6 numbers of boreholes have been proposed to be drilled.	In 2018-19, 12 nos of boreholes have been drilled.	In 2018-19, 12 nos of boreholes have been drilled.
1e	Balance reserve as on 01/04/20	As per review of mining plan approved dated 31.08.2017, the reserve is 2090830 tones and remaining resources is 467950 tones. Total Reserve and Resource is 2558780 tones.	ROM production during the year 2018-19 was 65100 tones. Reserves have updated by depleted quantity is as follows. Reserve as on 01.04.2019 is 2025730 tones and remaining resources at 467950 tones. Total reserve and resource is 2493680 tones	Mining operation was suspended vide order mo. 20264/mines, dated 13.08.2010 w.e.f 13.08.2010. Lessee ha submitted Form C as notice of reopening of mine w.e.f 30.08.2018.
1f	General remarks of inspecting officers on geology, exploration etc	In 2018-19, 6 numbers of boreholes have been proposed to be drilled.	In 2018-19, 12 nos of boreholes have been drilled.	In 2018-19, 12 nos of boreholes have been drilled.

Development :

Sl.No.	Item	Propasals	Actual work	Remarks
2a	Location of development w.r.t.lease area	It has been proposed to develop existing quarry in the southern side of the lease	Developed the existing quarry in the southern side of the lease	Developed the existing quarry in the southern side of the lease
2b	Separate benches in topsoil, overburden and minerals (Rule 15)	There is no proposal for top soil generation. Separate benches in OB and mineral proposed.	There was no generation of top soil. Separate benches in OB and mineral maintained.	There was no generation of top soil. Separate benches in OB and mineral maintained.
2c	Stripping ratio or ore to OB ratio	1:0.42 m3/m3	There was no generation of overburden. Overburden proposal was 500 m3 against which actual generation was nil due to nature of ore body	Compliance of overburden has been mentioned in the review of modification of review of mining plan approved dated 08.03.2019
2d	Quantity of topsoil generation in m3	There was no proposal for top soil generation.	There was no generation of top soil.	There was no generation of top soil
2e	Quantity of overburden generation in m3	Total waste generation (OB: 500 m3+IB: 8160 m3): 8660 m3	Nil	Compliance of overburden has been mentioned in the review of modification of review of mining plan approved dated 08.03.2019
2f	General remarks of inspecting officers on development of pit w.r.t. type of deposit etc	There is no proposal for top soil generation. Separate benches in OB and mineral proposed.	There was no generation of top soil. Separate benches in OB and mineral maintained.	There was no generation of top soil. Separate benches in OB and mineral maintained.

Exploitation:

Sl.No.	Item	Propasals	Actual work	Remarks
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3a	Number of pit proposed for production	One Pit	One Pit	Nil
3b	Quantity of ROM mineral production proposed	ROM Production proposal from opencast workings: 66640 tones	ROM Production from open cast workings: 65100 tones	Nil
3c	Recovery of sailable/usable mineral from ROM production	53312 tones	53849.96 tones	Nil
3d	Quantity of mineral reject generation	13328 tones	11250 tones	Nil
3e	Grade of mineral rejects generation and threshold value declared.	45% Fe to -55% Fe, Threshold value is 45% Fe	45 to -55% Fe, Threshold value is 45% Fe	Nil
3f	Quantity of sub grade mineral generation.	13328 tones	11250 tones	Nil
3g	Grade of sub grade mineral generation	45% Fe to -55% Fe	45% Fe to -55% Fe	Nil
3h	Manual / Mechanised method adopted for segregating from ROM	Mechanized	Mechanized	Nil
3i	Any analysis or beneficiation study proposed and carried out for sub grade mineral and rejects.	Not Proposed	Nil	Nil
3j	Provision of drilling and blasting in mineral benches	Due to the nature of ore, about 60% of total production will be obtained without blasting	Drilling and blasting was not required in mineral benches due to nature of ore	Nil

3k	Provision of mining machineries in mineral benches	Excavator and dumper combination have been proposed for mining in mineral benches	Excavator and dumper combination have been deployed for mining in mineral benches	Excavator and dumper 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 6m	Height of benches in overburden and mineral is suitable for method of mining proposed in mining plan. Bench height was not maintained. Violation was issued under rule 11(1) of MCDR 2017	Height of benches in overburden and mineral is suitable for method of mining proposed in mining plan. Bench height was not maintained. Violation was issued under rule 11(1) of MCDR 2017
3m	Total area covered under excavation/pits	Area under mining at the end of plan period will be 10.716 Ha	Area under mining at the end of 2018-19 is 7.25 Ha	Area under mining at the end of 2018-19 is 7.25 Ha
3n	Ore to OB ratio for the pit/mine during the year.	1:0.42 m ³ /m ³	There was no generation of overburden. Overburden proposal was 500 m ³ against which actual generation was nil due to nature of ore body	Compliance of overburden has been mentioned in the review of modification of mining plan approved dated 08.03.2019
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 18.00 Ha	Total area put in use under different heads at the end of 2018-19 is 11.886 Ha	Total area put in use under different heads at the end of 2018-19 is 11.886 Ha
3p	Production of ROM mineral during the last five year period as applicable	2017-18: 66640 tones 2018-19: 66640 tones	2017-18: Nil 2018-19: 65100 tones	Review of mining plan for the period 2017-18 to 2021-22
3q	General remarks of inspecting officers on method of mining etc.	Opencast method of mining proposed	Production is carried out by opencast mining method as proposed.	Production is carried out by opencast mining method as proposed.

Solid Waste Management - Dumping:

Sl.No.	Item	Propasals	Actual work	Remarks
4a	Separate dumping of topsoil, OB and mineral rejects (Rule 32,33)	There is no proposal for top soil generation. Separate dumping of OB and mineral reject/ sub grade proposed	There was no generation of top soil and overburden material. Mineral Reject generated has been blended with high grade ore	There was no generation of top soil and overburden material. Mineral Reject generated has been blended with high grade ore
4b	Location of topsoil, OB and mineral reject dumps	There is no proposal for top soil generation. OB dumping has been proposed in the proposed OB dump between coordinates 3630 N and 3740N, 5030 E to 5795E. Proposed subgrade stacking between coordinates 3540N to 3595N, 5700E to 5735 E	There was no generation of top soil and overburden material. Mineral Reject generated has been blended with high grade ore	There was no generation of top soil and overburden material. Mineral Reject generated has been blended with high grade ore
4c	Number of dumps within lease area and outside of lease area	There exists eight nos of dumps within lease area	There exists eight nos of dumps within lease area	In the modification of review of mining plan approved dated 08.03.2019, it has been mentioned that all the eight dumps contain iron ore above threshold value. Hence, these dumps can be considered as mineral reject dumps.

4d	Location of dumps w.r.t. ultimate pit limit (Rule 16)	In 2018-19, dumping proposed outside the UPL	There was no generation of overburden during the year 2018-19. Hence, there was no overburden dumping.	There was no generation of overburden during the year 2018-19. Hence, there was no overburden dumping.
4e	Number of active and alive dumps.	8 nos of dumps	8 nos of dumps	In the modification of review of mining plan approved dated 08.03.2019, it has been mentioned that all the eight dumps contain iron ore above threshold value. Hence, these dumps can be considered as mineral reject dumps.
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, retaining wall and garland drain of 100 m and 100m respectively have been proposed for construction in the northern side of the proposed dump at the toe	The proposed dump have not been created. Therefore, 50 m of retaining wall and 50 m of garland drain have been constructed along the toe of the existing dump	The proposed dump have not been created. Therefore, 50 m of retaining wall and 50 m of garland drain have been constructed along the toe of the existing dump

4i	Length of Retaining wall or garland drain all along dumps	In 2018-19, retaining wall and garland drain of 100 m and 100m respectively have been proposed for construction in the northern side of the proposed dump at the toe	The proposed dump have not been created. Therefore, 50 m of retaining wall and 50 m of garland drain have been constructed along the toe of the existing dump	The proposed dump have not been created. Therefore, 50 m of retaining wall and 50 m of garland drain have been constructed along the toe of the existing dump
4j	Number of settling ponds	In 2018-19, one number of settling pond proposed for construction	The proposed dump have not been created therefore new settling pond have not been constructed.	The proposed dump have not been created therefore new settling pond have not been constructed.
4k	Specific comments of inspecting officer on waste dump management	There is no proposal for top soil generation. Separate dumping of OB and mineral reject/ sub grade proposed	There was no generation of top soil and overburden material. Mineral Reject generated has been blended with high grade ore.	There was no generation of top soil and overburden material. Mineral Reject generated has been blended with high grade ore.

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)	There is no proposal for top soil generation	There was no generation of top soil	There was no generation of top soil

5d	Total area fully reclaimed and rehabilitated	Not Proposed	Nil	Nil
5e	General remarks of inspecting officers on backfilling and reclamation etc.	There was no proposal for reclamation through backfilling	There was no reclamation of pit through backfilling	There was no reclamation of pit through backfilling

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	The yearly progress report on PMCP for the year 2018-19 has not been submitted. Violation was issued under rule 26 (2) of MCDR 2017	The yearly progress report on PMCP for the year 2018-19 has not been submitted. Violation was issued under rule 26 (2) of MCDR 2017
6b	Area available for rehabilitation (ha) .	Not Proposed	Nil	Nil
6c	afforestation done (ha).	0.294 Ha	0.294 Ha	Nil
6d	No. of saplings planted during the year	In 2018-19, 470 nos of saplings proposed for plantation	500 nos of saplings planted	Nil
6e	Cumulative no .of plants	In 2018-19, 470 nos of saplings proposed for plantation	500 nos of saplings planted	Nil
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	0.16 Ha	0.16 Ha	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	Not Proposed	Nil	Nil
6n	Compliance of rehabilitation of waste land within lease (ii)Area rehabilitation (ha)	Not Proposed	Nil	Nil

6o	Compliance of rehabilitation of waste land within lease (iii)Method of rehabilitation	Not Proposed	Nil	Nil
6p	Compliance of environmental monitoring (core zone and buffer zone)	Proposed	Carried out	Nil
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	The yearly progress report on PMCP for the year 2018-19 has not been submitted. Violation was issued under rule 26 (2) of MCDR 2017	The yearly progress report on PMCP for the year 2018-19 has not been submitted. Violation was 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.	45% Fe to below 55% Fe and above 55% Fe	45% Fe to below 55% Fe and above 55% Fe	45% Fe to below 55% Fe and above 55% Fe
7d	Any beneficiation process at mines	Not Proposed	Nil	Nil

7e	General remarks of inspecting officer on Mineral conservation and beneficiation issues	Grade wise sorting within lease area	Grade wise sorting within lease area	Grade wise sorting within lease area
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Environment:

Sl.No.	Item	Propasals	Actual work	Remarks
8a	Separate removal and utilization of topsoil (Rule 32)	Not proposed	Nil	Nil
8b	Concurrent use or storage of topsoil	Not proposed	Nil	Nil
8c	Separate dumps for overburden, waste rock, rejects and fines (Rule 33)	There is no proposal for top soil generation. OB dumping has been proposed in the proposed OB dump between coordinates 3630 N and 3740N, 5030 E to 5795E. Proposed subgrade stacking between coordinates 3540N to 3595N, 5700E to 5735 E	There was no generation of top soil and overburden material. Mineral Reject generated has been blended with high grade ore	There was no generation of top soil and overburden material. Mineral Reject generated has been blended with high grade ore
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)	In 2018-19, 470 nos of saplings proposed for plantation	500 nos of saplings planted	500 nos of saplings planted
8g	Survival rate	Not Specified	Survival rate: 50%	Survival rate: 50%
8h	Water sprinkling on roads to control airborne dust	Water sprinkling on roads to control airborne dust is proposed	Water sprinkling on roads to control airborne dust is being done	Water sprinkling on roads to control airborne dust is being done
8i	General remarks of inspecting officer on aesthetic beauty in and around mines area	No comments to offer	Aesthetic beauty in and around mines is maintained	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	Annual return to be submitted as per rule 45 of MCDR 2017	Annual return for 2018-19 has been submitted.	Annual return for 2018-19 has been submitted.
9b	Scrutiny of Annual return for information on Mining Engineer, Geologist and Manager	Information on Manager and Geologist furnished in annual return for 2018-19	Manager and Geologist have been appointed in mines.	Manager and Geologist have been appointed in mines.

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: 12.323 Ha, Used for waste disposal: 1.0 Ha, Occupied by plant buildings, residential, welfare buildings & roads: 0.85 Ha	Lease area (surface area) utilization at the end of the year as furnished in annual return for 2018-19. Covered under current working: 7.25 Ha, Used for waste disposal: 1.901 Ha, Occupied by plant buildings, residential, welfare buildings & roads: 1.812 Ha, Others (Ore stacking/mineral storage): 0.423 Ha, Plantation/Green belt: 0.5 ha	Lease area (surface area) utilization at the end of the year as furnished in annual return for 2018-19. Covered under current working: 7.25 Ha, Used for waste disposal: 1.901 Ha, Occupied by plant buildings, residential, welfare buildings & roads: 1.812 Ha, Others (Ore stacking/mineral storage): 0.423 Ha, Plantation/Green belt: 0.5 ha
9d	Scrutiny of Annual return on afforestation	50 nos of saplings within lease area	500 nos of saplings within lease area	500 nos of saplings within lease area
9e	Scrutiny of Annual return on mineral reject generation (Grade and quantity)	Quantity: 11250 tones, Grade 45 to 55% Fe	Quantity: 11250 tones, Grade 45 to 55% Fe	Quantity: 11250 tones, Grade 45 to 55% Fe

9f	Scrutiny of Annual return on ROM stock and/or graded ore	Closing stock of processed ore: Lumps Grade (% of Fe content) a. Below 55% Fe: 1216.73 MT b. 55% to below 58% Fe; 576.50 MT c. 58% to below 60% Fe : 35.23 MT d. 60% to below 62% Fe: 52.76 MT e. 62% to below 65% Fe: 59.71 MT f. 65% and above: 294.83 MT	Found to be in order	Nil
		Fines Grade (% of Fe content) a. Below 55% Fe: 1350.95 MT b. 55% to below 58% Fe; 6973.74 MT c. 58% to below 60% Fe : 8542.76 MT d. 60% to below 62% Fe: 3.65 MT e. 62% to below 65% Fe: 1910.77 MT f. 65% and above: 3429.50 MT		
9g	Scrutiny of Annual return on sale value, Ex. Mine price and production cost	Production Cost per tonne: Rs 1310	Production Cost per tonne: Rs 1310	Nil

9h	Scrutiny of Annual return on fixed assets	Value of fixed assets (Rs. '000): 46985.793 as furnished in annual return	Value of fixed assets (Rs. '000): 46985.793 as furnished in annual return	Value of fixed assets (Rs. '000): 46985.793 as furnished in annual return
9k	Scrutiny of Annual return on mining machineries	Poclain (1.0 MT capacity): 2 nos; Loader (2.5 MT capacity): 2 nos; Tipper (10 tonne capacity): 4 nos; Tipper (15.0 tonnes capacity): 2 nos etc	Poclain (1.0 MT capacity): 2 nos; Loader (2.5 MT capacity): 2 nos; Tipper (10 tonne capacity): 4 nos; Tipper (15.0 tonnes capacity): 2 nos etc	Poclain (1.0 MT capacity): 2 nos; Loader (2.5 MT capacity): 2 nos; Tipper (10 tonne capacity): 4 nos; Tipper (15.0 tonnes capacity): 2 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
MCDR17	Rule 11(1)	16/12/2019			
MCDR17	Rule 26(2)	16/12/2019			
MCDR17	Rule 35(2)	16/12/2019			
MCDR17	Rule 45(7)(a)	16/12/2019			

Date :

(SHRI SUDIP RANJAN MAZUMDAR)

Indian Bureau of Mines