

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

MCDR inspection REPORT

Bhubaneshwar regional office

Mine file No : ORI/IRON/SNG/MCDR-11/BBS

Mine code : 30ORI13035

- (i) Name of the Inspecting : 3006) SHRI B L GURJAR
Officer and ID No.
- (ii) Designation : Regional Controller Mines
- (iii) Accompanying mine : SH. K K SAHOO, MINES MANAGER
Official with
Designation
- (iv) Date of Inspection : 13-APR-22
- (v) Prev.inspection date : 23-SEP-21

PART-I : GENERAL INFORMATION

1. (a) **Mine Name** : RAIKELA & TANTRA
- (b) **Registration NO.** : IBM/4124/2011
- (c) **Category** : A Other than Fully Mech.
- (d) **Type of Working** : Opencast
- (e) **Postal address**
- State : ORISSA
- District : SUNDARGARH
- Village : RAIKELA
- Taluka : BONAI
- Post office : DENGULA
- Pin Code : 770048
- FAX No. : 06767-275621
- E-mail : penguinbbl@gmail.com
- Phone : 06767-275621
- (f) **Police Station** : Koira
- (g) **First opening date** : 01-AUG-91
- (h) **Weekly day of rest** : SAT
2. **Address for correspondance** : PO.DENGULA
VILL: RAIKELA
VIA. KOIRA, TQ. BONAI, DIS. SUNDERGARH, PIN. 770048
3. (a) **Lease Number** : ORI0725
- (b) **Lease area** : 49.37
- (c) **Period of lease** : 30
- (d) **Date of Expiry** : 02-DEC-36
4. **Mineral worked** : IRON ORE Main

5. Name and Address of the

Lessee : PENGUIN TRADING & AGENCIES LTD.
 PENGUIN TRADING AGENCIES
 CHATTERJEE INTER NATIONAL
 18 FLOOR 33AJ.N.ROAD KOLKATA
 WEST BENGAL
 Phone: 033-2267866
 FAX :

Owner : PENGUIN TRADING AGENCIES
 CHATTERJEE INTERNATIONAL
 18TH FLOOR, 33A JAWAHARLAL
 NEHRU ROAD KOLKATA WEST
 BENGAL
 Phone: 033-2267866
 FAX : 033-2267866

Agent : S.K.GUPTA
 C/O RAIKELA TANTA IRON MINE
 , M/S PT&A LTD KEONJHAR
 ORISSA
 Phone: 06767 75621
 FAX : 06767 75621

Mining Engineer

Name : K. K. Sahoo, Full Time
 Qualification : AMIE
 Appointment/ : 01-OCT-03
 Termination date

Geologist

Name : A K SETHI, Full Time
 Qualification : MSC (GEOLOGY)
 Appointment/ : 14-AUG-14
 Termination date

Manager

Name : T. D. Behra
 Qualification : BE (MINING)
 Appointment/ : 14-AUG-13
 Termination date

6. Date of approval of Mining	:	Mining Scheme rule 12 MCDR1988	08-FEB-02
Plan/Scheme of Mining		Renewal under rule 24 MCR1960	28-APR-06
		Modif.of approved Mining Plan	22-DEC-09
		Modif.of approved Mining Plan	28-SEP-10
		Mining Scheme rule 12 MCDR1988	17-MAR-11
		Modif.approved Mining Scheme	13-JUN-12
		Modif.approved Mining Scheme	17-OCT-14
		Mining Scheme rule 12 MCDR1988	30-DEC-15
		MP modif under 17(3) MCR 2016	18-OCT-17
		MP modif under 17(3) MCR 2016	17-JAN-19
		MP review under 17(1) MCR 2016	06-NOV-20

PART - II : OBSERVATION/COMMENTS OF INSPECTING OFFICERS

Exploration :

Sl.No.	Item	Proposals	Actual work	Remarks
1a	Backlog of previous year	No proposal	Nil	
1b	Exploration over lease area for geological axis 1 or 2	No proposal	Exploration work has already been carried out under G1 category in the entire lease area. i.e 49.372 Ha.	
1c	Exploration Agencies and Expenditure in lakh rupees during the year	No proposal	Nil	
1d	Balance area to be explored to bring Geological axis in 1 or 2	No proposal	Nil	
1e	Balance reserve as on 01/04/20	As per approved Mining Plan dt.06.11.2021 , the balance reserve is 20.44 MT	As per approved Mining Plan dt.06.11.2021, the balance reserve is 20.44 MT	
1f	General remarks of inspecting officers on geology, exploration etc			The entire lease area has been explored under G1 category as per statute.

Development :

Sl.No.	Item	Proposals	Actual work	Remarks
2a	Location of development w.r.t.lease area	Regular Mining: S586 TO N80 E86 to E221 Joint Mining: N422 TO N500 E86 TO E221	Regular Mining: S586 TO N80 E86 to E221 Joint Mining: N422 TO N500 E86 TO E221	
2b	Separate benches in topsoil, overburden and minerals (Rule 15)	separate benches were proposed for overburden and mineral	5/19 benches have been made for overburden and minerals respectively.	
2c	Stripping ratio or ore to OB ratio	1:0.119	1:0.119	

2d	Quantity of topsoil generation in m3	No proposal	Nil	
2e	Quantity of overburden generation in m3	192875 m3	128500 m3	Less due to delay in obtaining EC enhancement proposal.
2f	General remarks of inspecting officers on development of pit w.r.t. type of deposit etc			Development work has been carried out as per approved Review Mining Plan. But not achieved as EC enhancement approved on 17.03.2022.

Exploitation:

Sl.No.	Item	Propasals	Actual work	Remarks
3a	Number of pit proposed for production	Raikela & Tantra Quarry And Joint Mining	Raikela & Tantra Quarry And Joint Mining	
3b	Quantity of ROM mineral production proposed	1620150 Tonnes	1079201.502 Tonnes	
3c	Recovery of sailable/usable mineral from ROM production	1041525 Tonnes	808850.751 Tonnes	
3d	Quantity of mineral reject generation	578625 Tonnes	270350.751 Tonnes	
3e	Grade of mineral rejects generation and threshold value declared.	Threshold value : +45% Fe Mineral Reject grade : (45-55) % Fe	Threshold value : +45% Fe Mineral Reject grade : (45-55) % Fe	
3f	Quantity of sub grade mineral generation.	578625 Tonnes	270350.751 Tonnes	
3g	Grade of sub grade mineral generation	Threshold value : +45% Fe Grade of subgrade mineral : (45-55) % Fe	Threshold value : +45% Fe Grade of subgrade mineral : (45-55) % Fe	

3h	Manual / Mechanised method adopted for segregating from ROM	Mechanised	Mechanised
3i	Any analysis or beneficiation study proposed and carried out for sub grade mineral and rejects.	No proposal	Analysis has been done from S G S India Pvt Ltd and R V Briggs & Co Pvt Ltd
3j	Provision of drilling and blasting in mineral benches	Drilling and blasting were proposed	Drilling & blasting has been done in mineral benches as per approved Review Mining Plan.
3k	Provision of mining machineries in mineral benches	Use of mining machinery was proposed	Mining machineries has been deployed in mineral benches as per approved Review Mining Plan.
3l	Whether height of benches in overburden and mineral suitable for method of mining proposed in MP/SOM	proposed	Height of benches in overburden is 6.0 mtrs and mineral is 6.0 mtrs as per approved Review Mining Plan have been maintained.
3m	Total area covered under excavation/pits	34.952 Ha at the end of Plan period	33.257 Ha. as on 01.04.2022
3n	Ore to OB ratio for the pit/mine during the year.	1: 0.119	1: 0.119
3o	Total area put in use under different heads at the end of year	Excavation- 33.257 Ha. OB/Back Filling-5.968 Ha. Mineral Storage-2.604 Ha. Infrastructure -1.442 Ha. Plot Raising- 1.069 Ha. Road-2.043 Ha. Safety Zone- 2.989 Ha.	Excavation-33.257 Ha. OB/Back Filling-5.895 Ha. Mineral Storage-2.604 Ha. Infrastructure-1.442 Ha. Plot Raising-1.142 Ha. Road-2.043 Ha. Safety Zone-2.989 Ha

3p	Production of ROM mineral during the last five year period as applicable	2017-18	2017-18	858560.000T	Less exploitation is due to delay in getting EC enhancement proposal.
		891518.000T	2018-19	908090.000T	
		2018-19	2019-20	1029960.000T	
		909720.000T	2020-21	1078900.000T	
		2019-20	2021-22	1079201.502T	
		1078820.000T			
		2020-21			
	1079840.000T				
	2021-22				
	1620150T				

Solid Waste Management - Dumping:

Sl.No.	Item	Propasals	Actual work	Remarks
4a	Separate dumping of topsoil, OB and mineral rejects (Rule 32,33)	Separate dumpinmg was proposed for overburden and mineral.	maintained as per mining plan proposal	
4b	Location of topsoil, OB and mineral reject dumps	Sub-grade Stack: S 430 TO S 500 & E 400 TO E 510 Backfill Area: S 192TO S 295 & E 278 TO E 439	Sub-grade Stack: S 430 TO S 500 & E 400 TO E 510 Backfill Area: S 192TO S 295 & E 278 TO E 439	
4c	Number of dumps within lease area and outside of lease area	Within: One Outside: Nil	Within: One Outside: Nil	
4d	Location of dumps w.r.t. ultimate pit limit (Rule 16)	S 500 TO S 700 & E 406 TO E 520	S 500 TO S 700 & E 406 TO E 520	
4e	Number of active and alive dumps.	No proposal	Nil	
4f	Number of dead dumps.	No proposal	Nil	
4g	Number of dumps established.	One	One i.e 2.275 Ha.	
4h	Whether Retaining wall or garland drain all along dumps are there.	Proposed	Retaining wall or garland drain all along dumps are there	
4i	Length of Retaining wall or garland drain all along dumps	200 m & 200 m	185 m & 185 m	

4j	Number of settling ponds	01	01	
4k	Specific comments of inspecting officer on waste dump management			Overburden dump has well stabilized, coir matting has been done and plantation has been done.

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.	0.8726 Ha	0.8 Ha.	
5b	Area under backfilling of mined out area	0.8726 Ha.	0.8 Ha.	
5c	Concurrent use of topsoil for restoration or rehabilitation of mineral out area (Rule 32)	No proposal	Nil	
5d	Total area fully reclaimed and rehabilitated	Partly proposed	Partly done as per approved propsal	
5e	General remarks of inspecting officers on backfilling and reclamation etc.			Backfilling has been done as per propsal during the year.

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).	Proposed	Annual report on PMCP submitted on time as per MCD Rule, 2017.	

6b	Area available for rehabilitation (ha) .	0.3 Ha.	0.5 Ha.
6c	afforestation done (ha).	0.3 Ha.	0.5 HA.
6d	No. of saplings planted during the year	480 Nos.	1250 nos. of sapplings have been planted during the year.
6e	Cumulative no .of plants	-	10000 Nos.
6f	Any other method of rehabilitation	No proposal	Nil
6g	Cost incurred on watch and care during the year	Rs.25000.00	Rs.71250.00
6h	Compliance on reclamation and rehabilitation by backfilling (i) Voids available for backfilling (Lx B x D	0.827 Ha.	0.8 Ha.
6i	Compliance on reclamation and rehabilitation by backfilling (ii) Voids filled by waste / tailings	No proposal	Nil
6j	Compliance on reclamation and rehabilitation by backfilling (iii)Afforestation on on backfilled area	0.3 Ha.	0.5 Ha.
6k	Compliance on reclamation and rehabilitation by backfilling (iv) Rehabilitation by making water reservoir	No proposal	Nil
6l	Compliance on reclamation and rehabilitation by backfilling (v)any other specific means.	No proposal	Nil

6m	Compliance of rehabilitation of waste land within lease (i)afforestation	480 Nos.	1250 Nos. sappling have been planted during the year	
6n	Compliance of rehabilitation of waste land within lease (ii)Area rehabilitation (ha)	No proposal	Nil	
6o	Compliance of rehabilitation of waste land within lease (iii)Method of rehabilitation	By means of plantation	through plantation	
6p	Compliance of environmental monitoring (core zone and buffer zone)	proposed	Air & Water monitoring locations as fixed and quarterly monitoring report has been submitted	
6q	General remarks of inspecting officers on PMCP compliance and progressive closure operations etc.			yearly and quarterly report has been submitted on PMCP and work has been carried out as per proposal.

Mineral Conservation:

Sl.No.	Item	Propasals	Actual work	Remarks
7a	ROM Mineral dispatch or grade-wise sorting within lease area	Proposed	ROM Mineral dispatch or grade-wise sorting within lease area are being carried out.	
7b	Method of grade-wise mineral sorting i.e. manual or mechanical.	Mechanical	Mechanical	
7c	Different grade of mineral sorted out at mines.	different grade of mineral sorting was propsed	45-55 % Fe +55 % Fe	
7d	Any beneficiation process at mines	No proposal	Nil	

7e	General remarks of inspecting officer on Mineral conservation and beneficiation issues	ROM mineral are being sorted grade wise within lease area
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Environment:

Sl.No.	Item	Propasals	Actual work	Remarks
8a	Separate removal and utilization of topsoil (Rule 32)	No proposal	Nil	
8b	Concurrent use or storage of topsoil	No proposal	NIL	
8c	Separate dumps for overburden, waste rock, rejects and fines (Rule 33)	Proposed Separate dumps for overburden, waste rock, rejects and fines	Dumping and stacking has been done separately for overburden, waste rock, rejects and fines as per approved Review of Mining Plan	
8d	Use of overburden, waste rock, rejects and fines dumps for restoring the land to its original use	proposed for backfilling	Back fill has been done over 3.62 Ha.	
8e	Phased restoration, reclamation and rehabilitation of lands affected by mining operations (Pits, dumps etc)	0.3 Ha.	Phased restoration, reclamation and rehabilitation done over 0.500 Ha.	
8f	Baseline information on existence of plantation and additional plantation done (Rule 41)	480 Nos. plantation was prosed	1250 Nos. sappling have been planted	
8g	Survival rate	85 %	80%	

8h	Water sprinkling on roads to control airborne dust	Proposed	Water sprinkling on roads to control airborne dust are being carried out	
8i	General remarks of inspecting officer on aesthetic beauty in and around mines area			Aesthetic beauty in and around mines area is found good

Compliance of Rule 45:

Sl.No.	Item	Propasals	Actual work	Remarks
9a	Status of submission of Monthly and Annual returns		Monthly and Annual returns have been submitted within time.	Monthly and Annual returns have been submitted within time.
9b	Scrutiny of Annual return for information on Mining Engineer, Geologist and Manager	Details provided	Mining Engineer-1 Geologist-2 Manager-1	
9c	Scrutiny of Annual return on land use pattern for area under pits, reclaimed area, dumps etc.	Details provided on land use pattern	Area under pits-33.257 Ha. Reclaimed area-3.15 Ha. Dumps-2.275 Ha.	
9d	Scrutiny of Annual return on afforestation	Details are given	1250 Nos sapplings	
9e	Scrutiny of Annual return on mineral reject generation (Grade and quantity)	Details are provided	Sub-grade Ore Grade-(45-55) % Fe Quantity-578625 MT	
9f	Scrutiny of Annual return on ROM stock and/or graded ore	Details are provided	ROM-1079201.502 MT Stock-297901.447 MT Grade-(45-55 & 55-65)	
9g	Scrutiny of Annual return on sale value, Ex. Mine price and production cost	Details given	Cost of production : Rs.1689/-	
9h	Scrutiny of Annual return on fixed assets	Details on fixed asset is given	Rs. 129730614/-	

9k	Scrutiny of Annual return on mining machineries	Detils on mining machinery are provided	Excavator-0.9 to 2.7 Cum : 02 Dumper-20 Tonne & 30 Tonne : 10 Loader-2.500 Cum : 03
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Details of violations observed during current inspection and compliance position of violation pointed out

Violation observed			Show couse position		
Rule NO.	Issued on	Compliance on	Rule NO.	Issued on	Compliance on

Date :

(SHRI B L GURJAR)

Indian Bureau of Mines