

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

MCDR INSPECTION REPORT

Bhubaneshwar regional office

Mine file No : ORI/IRON/SNG/MCDR-6/BBS

Mine code : 30ORI13034

- (i) Name of the Inspecting : **M007**) **SHRI HARKESH MEENA**
Officer and ID No.
- (ii) Designation : Regional Controller Mines
- (iii) Accompanying mine : SHRI PRAMOD KUMAR SAHOO , MINES MANAGER
Official with
Designation
- (iv) Date of Inspection : 06/10/2021
- (v) Prev.inspection date : 23/12/2020

PART-I : GENERAL INFORMATION

1. (a) **Mine Name** : **RAIKELA**
- (b) **Registration NO.** : **IBM/5796/2011**
- (c) Category : A Mechanised
- (d) Type of Working : Opencast
- (e) Postal address
State : ORISSA
District : SUNDARGARH
Village : RAIKELA
Taluka : BONAI
Post office : DENGULA
Pin Code :
FAX No. : 06767-275795
E-mail : sahuo_ore@yahoo.co.in
Phone : 06767-275520
- (f) Police Station : Koira
- (g) First opening date : 23/08/1993
- (h) Weekly day of rest : SUN
2. Address for : VILL. RAIKELA, PO DENGULA
correspondance POLICE STATION. KOIRA DIST. SUNDERGARH
ORISSA, PIN-770048 PHONE. 30896
3. (a) Lease Number : ORI0143
- (b) Lease area : 67.59
- (c) Period of lease : 50
- (d) Date of Expiry : 01/07/2041
4. Mineral worked : IRON ORE Main

5. Name and Address of the

Lessee : M/S GEETARANI MOHANTY
 BARBIL KEONJHAR ORISSA
 Phone:
 FAX :

Owner : SRINIVAS SAHOO
 AT/PO. STATION ROAD BARBIL
 KEONJHAR ORISSA
 Phone: 06767-75896
 FAX : 06767-75896

Agent : SHRI SUNIL PATEL
 BARBIL KEONJHAR ODISHA
 SUNDARGARH ORISSA
 Phone: 7008806558
 FAX :

Mining Engineer

Name : SHRI SUSHIL KUMAR PRADHAN, Full Time
 Qualification : BE MINING
 Appointment/ : 24/06/2019
 Termination date

Geologist

Name : SHRI SUSANTA MAHARANA, Full Time
 Qualification : MSC GEOLOGY
 Appointment/ : 01/07/2020
 Termination date

Manager

Name : P.K.SAHOO
 Qualification : AMIE MINING
 Appointment/ : 03/09/2002
 Termination date

6. Date of approval of Mining	:	Mining Scheme rule 12 MCDR1988	11/10/1999
Plan/Scheme of Mining	:	Modif.approved Mining Scheme	08/05/2003
	:	Mining Scheme rule 12 MCDR1988	17/02/2005
	:	Mining Scheme rule 12 MCDR1988	22/03/2010
	:	Modif.of approved Mining Plan	15/06/2016
	:	Modif.approved Mining Scheme	20/09/2019
	:	MP review under 17(1) MCR 2016	18/11/2020
	:	Modif.approved Mining Scheme	01/07/2021

PART - II : OBSERVATION/COMMENTS OF INSPECTING OFFICERS

Exploration :

Sl.No.	Item	Proposals	Actual work	Remarks
1a	Backlog of previous year	During previous year i.e. 2019-20, 30 Nos. of Boreholes proposed	19 holes drilled and 11 back log	
1b	Exploration over lease area for geological axis 1 or 2	During the year 2020-21, 30 Nos. of boreholes proposed	27 Nos.	Violation pointed out vide letter dated 26.10.2021 for non-compliance of proposal
1c	Exploration Agencies and Expenditure in lakh rupees during the year	No specific proposal	M/s Natural Resources Exploration and mining Pvt Ltd. Expenditure- Rs. 7065235/-	
1d	Balance area to be explored to bring Geological axis in 1 or 2	NA	10.954 ha to be explored into G1 level	
1e	Balance reserve as on 01/04/20	As per modification of Review of Mining Plan approved on 20.09.2019, the reserve as resource position is as follows:- Reserve- 34.001 million tonne Resource- 20.473 million tonne	The current reserve after depletion of production as on 01.04.2021 is as follows:- Reserve-32.212 million tonne Resource-20.473 million tonne	
1f	General remarks of inspecting officers on geology, exploration etc			10.954 ha explored as G4 level the same to be explored into G1 level.

Development :

Sl.No.	Item	Proposals	Actual work	Remarks
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2a	Location of development w.r.t.lease area	The development has been proposed in two quarries i.e. Top Quarry and Middle Quarry. The location is as follows:- Top Quarry-N-2419900 to 24202272, E-311625 to 311972 Middle Quarry-N-2419717 to 2420024, E-311900 to 312171	As per proposal	
2b	Separate benches in topsoil, overburden and minerals (Rule 15)	Separate benches proposed for overburden and mineral. No proposal of generation of top soil.	As per proposal	
2c	Stripping ratio or ore to OB ratio	1:0.145	1:0.016	
2d	Quantity of topsoil generation in m3	Nil	Nil	
2e	Quantity of overburden generation in m3	152890 Cum	44052 Cum	
2f	General remarks of inspecting officers on development of pit w.r.t. type of deposit etc			The development of mine was carried out as per proposal.

Exploitation:

Sl.No.	Item	Propasals	Actual work	Remarks
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3a	Number of pit proposed for production	Tw pit i.e. Top Quarry and middle Quarry	As per proposal	
3b	Quantity of ROM mineral production proposed	2990000 tonne	1214000 tonne	Due to delay in obtaining EC for enhance capacity of 2.99 million tonne
3c	Recovery of sailable/usable mineral from ROM production	2139633 tonne	734680 tonne	Due to delay in obtaining EC for enhance capacity of 2.99 million tonne
3d	Quantity of mineral reject generation	850367 tonne	479320 tonne	It was proposed for generation of 850367 tonne of subgrade/mineral reject (-55%) ore i.e. 28.44 % of ROM for the year 2020-21. During the year 2020-21 the actual production of ROM is 1214000 tonne, out of which 479320 tonne subgrade/mineral reject (-55%) ore i.e. 39.48 % of ROM. Violation has been issued vide letter dated 26.10.2021 for variation.
3e	Grade of mineral rejects generation and threshold value declared.	Grade of Mineral Rejec- 45 to 55% Fe Threshold value- 45% Fe	As per proposal	
3f	Quantity of sub grade mineral generation.	Same as mineral Reject	Nil	
3g	Grade of sub grade mineral generation	Same as mineral reject	Nil	

3h	Manual / Mechanised method adopted for segregating from ROM	Mechanised method adopted for segregation of mineral	Mechanised method adopted for segregation of mineral
3i	Any analysis or beneficiation study proposed and carried out for sub grade mineral and rejects.	Nil	Nil
3j	Provision of drilling and blasting in mineral benches	Drilling and blasting proposed	Carried out
3k	Provision of mining machineries in mineral benches	4.5 Cum Excavator with 30 tonne dumper	4.5 Cum Excavator with 30 tonne dumper
3l	Whether height of benches in overburden and mineral suitable for method of mining proposed in MP/SOM	Bech height- 10m and widht- 15m	Yes, Bech height-10m and widht-15m
3m	Total area covered under excavation/pits	As per approved Mod. of Review of Mining Plan, the total area under excavation during the plan period is 32.554 ha	32.554 ha
3n	Ore to OB ratio for the pit/mine during the year.	1:0.145	1:0.073
3o	Total area put in use under different heads at the end of year	The total area put tom use in different heads during the plan period is 54.232 ha	43.969 ha

3p	Production of ROM mineral during the last five year period as applicable	2016-17: 864017 tonne 2017-18: 864043 tonne 2018-19: 864058 tonne 2019-20: 1982165 tonne 2020-21: 2990000 tonne	2016-17: Nil 2017-18: Nil 2018-19: Nil 2019-20: 575700 tonne 2020-21: 1214000 tonne	
3q	General remarks of inspecting officers on method of mining etc.			The mine is operated by mechanised opencast method of mining.

Solid Waste Management - Dumping:

Sl.No.	Item	Propasals	Actual work	Remarks
4a	Separate dumping of topsoil, OB and mineral rejects (Rule 32,33)	Separate dumping of OB and mineral reject has been proposed. No proposal of generation of top soil.	As per proposal	
4b	Location of topsoil, OB and mineral reject dumps	The OB dump located on the East corner of lease near boundary pillar ML-20	The OB dump located on the East corner of lease near boundary pillar ML-20	
4c	Number of dumps within lease area and outside of lease area	One OB dump inside lease area and no dumps outside.	One OB dump inside lease area and no dumps outside.	
4d	Location of dumps w.r.t. ultimate pit limit (Rule 16)	Outside ultimate pit limit	Outside ultimate pit limit	
4e	Number of active and alive dumps.	One active dump	One active dump	
4f	Number of dead dumps.	Nil	Nil	
4g	Number of dumps established.	Nil	Nil	Not matured

4h	Whether Retaining wall or garland drain all along dumps are there.	Yes	Yes	During inspection it was observed that the retaining wall and garland drain was not maintained properly around waste dump. Violation pointed out vide letter dated 26.10.2021.
4i	Length of Retaining wall or garland drain all along dumps	Retaining wall-880m Garland Drain-1635m	Retaining wall- Nil Garland Drain-540m	The retaining wall and garland drain was proposed around the newly proposed mineral reject stack. However, the stacking has not been carried out due to delay in tree felling permission. Hence, the retaining wall and garland drain not constructed as per proposal.
4j	Number of settling ponds	1 Nos.	1 Nos.	
4k	Specific comments of inspecting officer on waste dump management			The terrace height of waste dump is not maintained as per proposal in the East side near boundary pillar BP-20. The retaining wall and garland drain around waste dump is not maintained properly. For which violation letter issued vide letter dated 26.10.2021.

Solid Waste Management - Backfilling:

Sl.No.	Item	Propasals	Actual work	Remarks
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5a	Status of part or full extraction of mineral from mined out area before starting backfilling.	Nil	Nil	No area matured for backfilling.
5b	Area under backfilling of mined out area	Nil	Nil	No area matured for backfilling.
5c	Concurrent use of topsoil for restoration or rehabilitation of mineral out area (Rule 32)	Nil	Nil	No area matured for backfilling.
5d	Total area fully reclaimed and rehabilitated	Nil	Nil	No area matured for rehabilitation.
5e	General remarks of inspecting officers on backfilling and reclamation etc.			No mineral fully exhausted from the lease area and not matured for backfilling and reclamation at present.

Progressive Mine Closure Plan:

Sl.No.	Item	Proposals	Actual work	Remarks
6a	Whether Annual report on PMCP submitted on time and correctly. Rule 23 E(2).	To be submitted on or before 1st July	Submitted	
6b	Area available for rehabilitation (ha) .	Nil	Nil	
6c	afforestation done (ha).	Waste land- 0.5 ha	waste land- 0.7 ha	
6d	No. of saplings planted during the year	1168 Nos.	1800 Nos. and Gap plantation 1010 Nos.	

6e	Cumulative no .of plants	NA	Total cumulative plantation is 31550 Nos.	
6f	Any other method of rehabilitation	Nil	Nil	
6g	Cost incurred on watch and care during the year	Rs. 50000/-	Rs. 50000/-	
6h	Compliance on reclamation and rehabilitation by backfilling (i) Voids available for backfilling (Lx B x D	Nil	Nil	No area matured
6i	Compliance on reclamation and rehabilitation by backfilling (ii) Voids filled by waste / tailings	Nil	Nil	No area matured
6j	Compliance on reclamation and rehabilitation by backfilling (iii)Afforestati on on 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	0.5 ha	0.5 ha	

6n	Compliance of rehabilitation of waste land within lease (ii)Area rehabilitation (ha)	0.5 ha	0.5 ah	
6o	Compliance of rehabilitation of waste land within lease (iii)Method of rehabilitation	Plantation	Plantation	
6p	Compliance of environmental monitoring (core zone and buffer zone)	Monitoring of air, water ,noise etc proposed	carried out	
6q	General remarks of inspecting officers on PMCP compliance and progressive closure operations etc.			No area fully matured for reclamation and rehabilitation. The progressive closure operation 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	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	
7c	Different grade of mineral sorted out at mines.	Salebale Grade-+55% Fe Mineral Reject-45 to below 55% Fe	Salebale Grade-+55% Fe Mineral Reject-45 to below 55% Fe	

7d	Any beneficiation process at mines .	No beneficiation	Nil	Only crushing and screening carried out
7e	General remarks of inspecting officer on Mineral conservation and beneficiation issues			No beneficiation process, only crushing and screening carried out

Environment:

Sl.No.	Item	Propasals	Actual work	Remarks
8a	Separate removal and utilization of topsoil (Rule 32)	No generation of top soil proposed during the year.	Nil	
8b	Concurrent use or storage of topsoil	Nil	Nil	
8c	Separate dumps for overburden, waste rock, rejects and fines (Rule 33)	Separate dumping of overburden/waste, mineral reject and fines proposed	As per proposal	
8d	Use of overburden, waste rock, rejects and fines dumps for restoring the land to its original use	Nil	Nil	
8e	Phased restoration, reclamation and rehabilitation of lands affected by mining operations (Pits, dumps etc)	Nil	Nil	

8f	Baseline information on existence of plantation and additional plantation done (Rule 41)	During the year 1168 Nos. of additional plantation proposed.	1800 Plantation done	
8g	Survival rate	70%	70%	
8h	Water sprinkling on roads to control airborne dust	water sprinkling to control dust proposed	carried out	
8i	General remarks of inspecting officer on aesthetic beauty in and around mines area			The aesthetic beauty in mine maintained.

Compliance of Rule 45:

Sl.No.	Item	Propasals	Actual work	Remarks
9a	Status of submission of Monthly and Annual returns	NA	The monthly and anual return submitted	
9b	Scrutiny of Annual return for information on Mining Engineer, Geologist and Manager	The name of mining engineer, geologist and manager furnished in the anual return submitted.	The mining engineer, geologist and manager appointed in the mine.	
9c	Scrutiny of Annual return on land use pattern for area under pits, reclaimed area, dumps etc.	Area cover under pit-33.593 ha Reclaimed area-0 ha Area under waste dump-2.0 ha	Area cover under pit-33.593 ha Reclaimed area-0 ha Area under waste dump-2.0 ha	
9d	Scrutiny of Annual return on afforestation	Within lease area-2810 Nos. Out side lease area-2200 Nos.	found to be in order	

9e	Scrutiny of Annual return on mineral reject generation (Grade and quantity)	479320 tonne below 55% Fe	479320 tonne below 55% Fe	It was proposed for generation of 850367 tonne of subgrade/mineral reject (-55%) ore i.e. 28.44 % of ROM for the year 2020-21. During the year 2020-21 the actual production of ROM is 1214000 tonne, out of which 479320 tonne subgrade/mineral reject (-55%) ore i.e. 39.48 % of ROM. Violation has been issued vide letter dated 26.10.2021 for variation.
9f	Scrutiny of Annual return on ROM stock and/or graded ore	ROM stock - 93200 tonne	Found to be in order	
9g	Scrutiny of Annual return on sale value, Ex. Mine price and production cost	The cost of production is Rs. 2104.65	The cost of production is Rs. 2104.65	
9h	Scrutiny of Annual return on fixed assets	Rs. 67332284/-	Rs. 67332284/-	
9k	Scrutiny of Annual return on mining machineries	Back Hoe- 6 Nos. Loader-4 Nos. Dumper-12 Nos. Water Tanker-2 Nos. Dozer-1 Nos. Drill- 1 Nos.	Back Hoe- 6 Nos. Loader-4 Nos. Dumper-12 Nos. Water Tanker-2 Nos. Dozer-1 Nos. Drill- 1 Nos.	The mine was operated by mechanised method.

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
MCDR17	Rule 11(1)	26/10/2021	21/12/2021				
MCDR17	Rule 35(2)	26/10/2021	21/12/2021				
MCDR17	Rule 54(a)	26/10/2021	21/12/2021				
MCDR17	Rule 45(7)(a)	26/10/2021	21/12/2021				

Date :

(SHRI HARKESH MEENA)

Indian Bureau of Mines