

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

MCDR INSPECTION REPORT

Bhubaneshwar regional office

Mine file No : ORI/IRON/SNG/MCDR-16/BBS

Mine code : 30ORI13041

- (i) Name of the Inspecting : **RAM**) **RAMKISHAN R**
Officer and ID No.
- (ii) Designation : Sr. Asst. Contrl. Mines
- (iii) Accompanying mine : Shri A.S.Mohapatra, Agent
Official with
Designation
- (iv) Date of Inspection : 19/12/2019
- (v) Prev.inspection date : 12/04/2018

PART-I : GENERAL INFORMATION

1. (a) **Mine Name** : **TEHERAI**
- (b) **Registration NO.** : **IBM/4570/2011**
- (c) Category : A Fully Mechanised
- (d) Type of Working : Opencast
- (e) Postal address
- State : ORISSA
- District : SUNDARGARH
- Village : TEHERAI
- Taluka : BONAI
- Post office : KOIRA
- Pin Code : 770048
- FAX No. : 06767276161
- E-mail : teherai@yahoo.in
- Phone : 06767275221
- (f) Police Station : Koira
- (g) First opening date : 31/12/1982
- (h) Weekly day of rest : SAT
2. Address for : VILLAGE:TEHERAI, P.O.KOIRA
correspondance DIST: SUNDERGARH
ORISSA-770048
3. (a) Lease Number : ORI0131
- (b) Lease area : 137.46
- (c) Period of lease : 20
- (d) Date of Expiry : 31/12/2001
4. Mineral worked : IRON ORE Main
MANGANESE ORE Associated

5. Name and Address of the

Lessee : BONAI INDUSTRIAL COMPANY LTD
P.O.BARBIL KEONJHAR
ORISSA
Phone:06767-30221
FAX :

Owner : M D RUSTAGI
RUNGTA OFFICE, MAIN ROAD
BARBIL KEONJHAR, ORISSA
KEONJHAR ORISSA
Phone: 06767275221
FAX : 06767276161

Agent : A S MOHAPATRA
RUNGTA OFFICE, MAIN ROAD
BARBIL,KEONJHAR ODISHA
KEONJHAR ORISSA
Phone: 06767276161
FAX : 06767276161

Geologist

Name : S K DE,Full Time
Qualification : MSC GEOLOGY
Appointment/ : 30/01/2013
Termination date

Manager

Name : B K SRIVASTAVA
Qualification : BE MINING
Appointment/ : 08/10/2012
Termination date

6. Date of approval of Mining	:	Fresh under rule 22 MCR1960	24/01/2002
Plan/Scheme of Mining		Mining Scheme rule 12 MCDR1988	16/11/2007
		Mining Scheme rule 12 MCDR1988	22/03/2010
		Mining Scheme rule 12 MCDR1988	28/03/2012
		FMCP under 23C(1)	16/01/2015
		Modif.approved Mining Scheme	21/07/2015
		Mining Scheme rule 12 MCDR1988	26/10/2016
		MP modif under 17(3) MCR 2016	26/10/2016
		MP modif under MCR 1960	22/08/2017
		FMCP under 23C(1)	03/10/2018

PART - II : OBSERVATION/COMMENTS OF INSPECTING OFFICERS

Exploration :

Sl.No.	Item	Proposals	Actual work	Remarks
1a	Backlog of previous year	No such specific proposal.	Nil	
1b	Exploration over lease area for geological axis 1 or 2	Total of 116.572 ha has been explored under G1/G2 level.	116.572 ha area has been explored under G1/G2 level out of 137.46 ha	20.888 ha area has been applied for surrender to State Government.
1c	Exploration Agencies and Expenditure in lakh rupees during the year	Not applicable	Nil	
1d	Balance area to be explored to bring Geological axis in 1 or 2	116.572 ha area has been explored under G1/G2 level out of 137.46 ha	Nil	20.888 ha area has been applied for surrender to State Government.
1e	Balance reserve as on 01/04/20	As per Modification of review of mining plan approved on 22/08/2017 was: Iron ore- 13.36MT , and resources are 1.99 mil.t. Manganese reserves are 57367 t.	due to addition and depletion over the period of time the balance reserve as on 01/04/2019 of iron are 12.61 MT and maganese reserves are 40428 t.	Nil
1f	General remarks of inspecting officers on geology, exploration etc		The unexplored area of 20.888 ha as reported by lessee is applied for surrender.	Nil

Development :

Sl.No.	Item	Proposals	Actual work	Remarks
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2a	Location of development w.r.t.lease area	chattan pit, new pit are proposed for development of iron ore and manganese pit is proposed for manganese ore during the year 2018-19..	development is carried out in the proposed pits	Nil
2b	Separate benches in topsoil, overburden and minerals (Rule 15)	no top soil production is envisaged and seperate becnhes in waste and mieral are proposed.	seperate benches in mineral and waste are maintained.	Nil
2c	Stripping ratio or ore to OB ratio	1:0.8 t/cu.m (iron), 1:8.2 t/cu.m. (manganese) for the year 2018-19.	1:3.69 t/cu.m (iron), 1:13.73 t/cu.m. (manganese)	Average stripping ratio varries due to irregular nature of ore deposit.
2d	Quantity of topsoil generation in m3	Not applicable	Nil	Nil
2e	Quantity of overburden generation in m3	1634054 cu.m.	1552375 cu.m.	Less quantity of OB generated due to less production of ROM as proposed.
2f	General remarks of inspecting officers on development of pit w.r.t. type of deposit etc		development is carried out by opencast mining method as proposed.	Nil

Exploitation:

Sl.No.	Item	Propasals	Actual work	Remarks
3a	Number of pit proposed for production	3 nos of pits proposed during the year 2018-19.	3 nos.	Nil

3b	Quantity of ROM mineral production proposed	2.49 mil.t. of iron ore and 18000 t of manganese ore.	387317 t of iron ore and 8711 t of manganese ore	less production due to poor market demand.
3c	Recovery of sailable/usable mineral from ROM production	1671299 t of saleable iron ore and 16200 t of manganese ore.	387317 t of iron ore and 8441 t of manganese ore.	
3d	Quantity of mineral reject generation	185700 t of iron ore and 1800 t of manganese ore.	Nil of iron ore and t of manganese ore	the mineral rejects generated in iron ore were blended to make it saleable ore.
3e	Grade of mineral rejects generation and threshold value declared.	+45%Fe-55% Fe of iron ore and +10%Mn-25% Mn of manganese ore.	+45%Fe-55% Fe of iron ore and +10%Mn-25% Mn of manganese ore.	Nil
3f	Quantity of sub grade mineral generation.	addressed in mineral rejects.	Not applicable	
3g	Grade of sub grade mineral generation	addressed in mineral rejects	Not applicable.	
3h	Manual / Mechanised method adopted for segregating from ROM	mechanised for iron ore and manual for manganese ore.	mechanised for iron ore and manual for manganese ore.	
3i	Any analysis or beneficiation study proposed and carried out for sub grade mineral and rejects.	Not proposed.	Not applicable.	Nil
3j	Provision of drilling and blasting in mineral benches	drilling and blasting is proposed in mineral benches.	carried out.	Nil
3k	Provision of mining machineries in mineral benches	shovel and dumper combination is proposed for excavation.	shovel and dumper combination is deployed for excavation.	

3l	Whether height of benches in overburden and mineral suitable for method of mining proposed in MP/SOM	9 m in iron ore and 6 m in manganese ore.	maintained as proposed.	Nil
3m	Total area covered under excavation/pits	71.691 ha at the end of plan period i.e. 2019-20.	59.138 ha	Nil
3n	Ore to OB ratio for the pit/mine during the year.	1:0.8 t/cu.m (iron), 1:8.2 t/cu.m. (manganese) for the year 2018-19.	1:3.69 t/cu.m (iron), 1:13.73 t/cu.m. (manganese)	Average stripping ratio varies due to irregular nature of ore deposit.
3o	Total area put in use under different heads at the end of year	Total area proposed under different heads are Pit-71.169 ha, waste dump-12.49 ha, Plant, residential & building, roads-7.055 ha & Mineral storage, plantation & others -14.61 ha.	Area covered under different heads are Pit-59.138 ha, waste dump-12.49 ha, Plant, residential & building, roads-4.758ha & others -11.56 ha.	
3p	Production of ROM mineral during the last five year period as applicable	2014-15: 1402210.90T 2015-16: Iron-2496000 & Mn - 18000T 2016-17: Iron-2496000 & Mn - 18000T 2017-18: Iron-2276529.18 & Mn - 15572.549T, 2018-19: 2496000 t of iron and 18000 t of manganese.	2014-15: 110470T 2015-16: Iron-661677.42 & Mn -2299.404T 2016-17: Iron-1089416.10 & Mn - 8626.54T 2017-18: Iron-553474.36 & Mn - 10655.46T, 2018-19: 387317 t of iron and 8711 t of manganese.	ROM Production is less due to low market demand.

3q	General remarks of inspecting officers on method of mining etc.	production is carried out by opencast mining method as proposed.	Nil
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Solid Waste Management - Dumping:

Sl.No.	Item	Proposals	Actual work	Remarks
4a	Separate dumping of topsoil, OB and mineral rejects (Rule 32,33)	Separate dumping for overburden with backfilling and storing of mineral reject is proposed.	Overburden generated during mining operation has been back filled and mineral rejects are blended and dumped separately.	Nil
4b	Location of topsoil, OB and mineral reject dumps	dump-B is proposed for dumping of waste.	Overburden generated during mining operation has been back filled in exhausted pits and partially stored in dump-B	
4c	Number of dumps within lease area and outside of lease area	one dump is proposed.	one dump is carried out.	
4d	Location of dumps w.r.t. ultimate pit limit (Rule 16)	dump-B outside UPL	dump-B outside UPL	
4e	Number of active and alive dumps.	one no.	one no.	
4f	Number of dead dumps.	not proposed.	Not applicable	
4g	Number of dumps established.	Not proposed.	Not applicable	
4h	Whether Retaining wall or garland drain all along dumps are there.	Yes proposed.	provided.	
4i	Length of Retaining wall or garland drain all along dumps	100 m	100 m	

4j	Number of settling ponds	Not proposed.	Not applicable.	Nil
4k	Specific comments of inspecting officer on waste dump management		waste dumps management is carried out as proposed.	Nil

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.	full extraction of mineral is proposed before backfilling.	followed.	
5b	Area under backfilling of mined out area	2.56 ha	2.52 ha	violation observed and communicated to lessee dated 07.01.2020
5c	Concurrent use of topsoil for restoration or rehabilitation of mineral out area (Rule 32)	Not applicable	Nil	
5d	Total area fully reclaimed and rehabilitated	2.56 ha	Nil	violation observed and communicated to lessee vide letter dated 07.01.2020.
5e	General remarks of inspecting officers on backfilling and reclamation etc.		backfilling is carried out in mineral exhausted area of pit.	

Progressive Mine Clousre Plan:

Sl.No.	Item	Propasals	Actual work	Remarks
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6a	Whether Annual report on PMCP submitted on time and correctly. Rule 23 E(2).	Yearly report is to be submitted.	submitted.	Nil
6b	Area available for rehabilitation (ha) .	2.56 ha	Nil	violation observed and communiated to lessee letter dated 07.01.2020.
6c	afforestation done (ha).	1.5 ha on dumps.	2 ha. but not carried out in the proposed location.	violation observed and communicated to lessee dated 07.01.2020
6d	No. of saplings planted during the year	11400 nos	23255 nos	Nil
6e	Cumulative no .of plants		214661 nos	Nil
6f	Any other method of rehabilitation	Not applicable	Nil	
6g	Cost incurred on watch and care during the year		Rs. 4.61 lakhs	Nil
6h	Compliance on reclamation and rehabilitation by backfilling (i) Voids available for backfilling (Lx B x D	2.56 ha	2.52 ha	violation observed and communicated to lesse letter dated 07.01.2020
6i	Compliance on reclamation and rehabilitation by backfilling (ii) Voids filled by waste / tailings	2.56 ha	2.52 ha	Nil
6j	Compliance on reclamation and rehabilitation by backfilling (iii)Afforestati on on backfilled area	2.56 ha	Nil	violatin observed and communicated to lessee letter dated 07.01.2020

6k	Compliance on reclamation and rehabilitation by backfilling (iv) Rehabilitation by making water reservoir	Not proposed.	Not applicable
6l	Compliance on reclamation and rehabilitation by backfilling (v)any other specific means.	Not proposed.	Not applicable
6m	Compliance of rehabilitation of waste land within lease (i)afforestation	Not proposed.	Nil
6n	Compliance of rehabilitation of waste land within lease (ii)Area rehabilitation (ha)	Not proposed.	Nil
6o	Compliance of rehabilitation of waste land within lease (iii)Method of rehabilitation	Not proposed.	Not applicable
6p	Compliance of environmental monitoring (core zone and buffer zone)	periodical monitoring of air, water and noise levels are proposed	carried out.
6q	General remarks of inspecting officers on PMCP compliance and progressive closure operations etc.		backfilling and afforestation has not been carried out as proposed. so violation observed.

Mineral Conservation:

Sl.No.	Item	Propasals	Actual work	Remarks
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7a	ROM Mineral dispatch or grade-wise sorting within lease area	grade-wise sorting of mineral is proposed	carried out.
7b	Method of grade-wise mineral sorting i.e. manual or mechanical.	mechanical for iron ore and manual for manganese ore	mechanical for iron ore and manual for manganese ore
7c	Different grade of mineral sorted out at mines.	+45-55% Fe and +55% Fe for iron ore and +10-25% Mn and +25% Mn for manganese ore	+45-55% Fe and +55% Fe for iron ore and +10-25% Mn and +25% Mn for manganese ore
7d	Any beneficiation process at mines	Not proposed.	Nil
7e	General remarks of inspecting officer on Mineral conservation and beneficiation issues		grade-wise sorting of mineral are carried out.

Environment:

Sl.No.	Item	Propasals	Actual work	Remarks
8a	Separate removal and utilization of topsoil (Rule 32)	Not proposed	Not applicable	
8b	Concurrent use or storage of topsoil	Not proposed	Not applicable	
8c	Separate dumps for overburden, waste rock, rejects and fines (Rule 33)	seperate dumps for waste and mineral rejects are proposed.	maintained	

8d	Use of overburden, waste rock, rejects and fines dumps for restoring the land to its original use	backfilling is carried out proposed	
8e	Phased restoration, reclamation and rehabilitation of lands affected by mining operations (Pits, dumps etc)	proposed.	carried out.
8f	Baseline information on existence of plantation and additional plantation done (Rule 41)	11400 nos	23525 nos
8g	Survival rate		98%
8h	Water sprinkling on roads to control airborne dust	water sprinkling on haul roads for dust suppression is proposed.	carried out
8i	General remarks of inspecting officer on aesthetic beauty in and around mines area		aesthetic beauty in and around the mines area is maintained.

Compliance of Rule 45:

Sl.No.	Item	Propasals	Actual work	Remarks
9a	Status of submission of Monthly and Annual returns	Monthly and annual returns are to be submitted as per rule 45 of MCDR, 2017	submitted.	

9b	Scrutiny of Annual return for information on Mining Engineer, Geologist and Manager	Graduate Mining Engineer 2, Diploma Mining Engineer 2, Geologist 1	Graduate Mining Engineer 2, Diploma Mining Engineer 2, Geologist 1	Nil
9c	Scrutiny of Annual return on land use pattern for area under pits, reclaimed area, dumps etc.	Covered under current (O/C) Workings 59.138 ha, Used for waste disposal 12.490 ha, (v) Occupied by plant, buildings, residential, welfare buildings & roads 4.758 ha, (vi) Other Purpose (Mineral Storage, Green Belt) 11.560 ha	Covered under current (O/C) Workings 59.138 ha, Used for waste disposal 12.490 ha, (v) Occupied by plant, buildings, residential, welfare buildings & roads 4.758 ha, (vi) Other Purpose (Mineral Storage, Green Belt) 11.560 ha	
9d	Scrutiny of Annual return on afforestation	23255 nos	23255 nos	Nil
9e	Scrutiny of Annual return on mineral reject generation (Grade and quantity)	Nil for iron ore and 270 t of manganese	found to be in order.	
9f	Scrutiny of Annual return on ROM stock and/or graded ore	ROM closing stock of iron ore is 234.61 t and manganese ore is Nil	found to be in order.	
9g	Scrutiny of Annual return on sale value, Ex. Mine price and production cost	production cost is Rs. 1494.51	production cost is Rs. 1494.51	
9h	Scrutiny of Annual return on fixed assets	Rs. 104550970	Rs. 104550970	

9k	Scrutiny of Annual return on mining machineries	provided.	SHOVEL (HYDRAULIC) 0.900 CUM 4, SHOVEL (HYDRAULIC) 1.800 CUM 4, SHOVEL (HYDRAULIC) 2.500 CUM 3 FRONT END LOADER 2.000 CUM 4, DUMPER 20.000 TONNE 36, WATER TANKER 8000.000 LITRE etc.,	Nil
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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 :

(RAMKISHAN R)

Indian Bureau of Mines