

INDIAN BUREAU OF MINES  
MINERALS DEVELOPMENT AND REGULATION DIVISION

MCDR INSPECTION REPORT

Bhubaneshwar regional office

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

Mine code : 30ORI13011

- (i) Name of the Inspecting : SQ10 ) SHRI G.C. SETHI  
Officer and ID No.
- (ii) Designation : Deputy Controller Mines
- (iii) Accompanying mine : Shri R.K.Mahanta, Mines, Manager  
Official with  
Designation
- (iv) Date of Inspection : 17/07/2019
- (v) Prev.inspection date : 13/04/2018

PART-I : GENERAL INFORMATION

1. (a) Mine Name : NADIDIH
- (b) Registration NO. : IBM/4570/2011
- (c) Category : A Fully Mechanised
- (d) Type of Working : Opencast
- (e) Postal address :  
State : ORISSA  
District : SUNDARGARH  
Village : NADIDIH  
Taluka : BONAIGARH  
Post office : GUALI (VIA) BARBIL  
Pin Code : 770098  
FAX No. : 06767-276161  
E-mail : rungta\_bbl@yahoo.com  
Phone : 06767-275221/277441/277481
- (f) Police Station : KOIRA
- (g) First opening date : 22/10/1967
- (h) Weekly day of rest : SAT
2. Address for correspondence : NADIDIH IRON & MN MINE  
VILL-NADIDIH, PO-GUALI. DIST-SUNDERGARH  
ORISSA. 758035
3. (a) Lease Number : ORI0126
- (b) Lease area : 73.86 73.855 ha
- (c) Period of lease : 20
- (d) Date of Expiry : 10/12/1987
- The lease has been extended upto 31.03.2020 by the State Govt.
4. Mineral worked : MANGANESE ORE Associated  
IRON ORE Main

## 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

## Mining Engineer

Name : INDRAJIT PANDA, Full Time  
Qualification : B.E MINING  
Appointment/ : 01/07/2017  
Termination date

## Geologist

Name : LINGARAJ SAHOO, Full Time  
Qualification : M.SC GEOLOGY  
Appointment/ : 15/05/2015  
Termination date

## Manager

Name : GANESH SAH  
Qualification : AMIE ( MINING) 1ST CLASS CERTIFICATE  
Appointment/ : 30/06/2008  
Termination date

6. Date of approval of Mining	:	Mining Scheme rule 12 MCDR1988	30/05/2006
Plan/Scheme of Mining		Renewal under rule 24 MCR1960	09/05/2008
		Modif.of approved Mining Plan	25/02/2010
		Modif.approved Mining Scheme	22/01/2016
		MP review under 17(1) MCR 2016	02/11/2017
		Modif.approved Mining Scheme	02/08/2018
		FMCP under 23C(1)	04/10/2018

## PART - II : OBSERVATION/COMMENTS OF INSPECTING OFFICERS

## Exploration :

Sl.No.	Item	Proposals	Actual work	Remarks
1a	Backlog of previous year	Nof bore hole proposal in 2018-19.	No back log.	No back log.
1b	Exploration over lease area for geological axis 1 or 2	G1 level of exploration.	The entire lease area of 73.855 ha has been explored upto G1 level of exploration.	Nil
1c	Exploration Agencies and Expenditure in lakh rupees during the year	No exploration proposal in 2018-19.	No exploration done during 2018-19.	No exploration done during 2018-19.
1d	Balance area to be explored to bring Geological axis in 1 or 2	The lease area has been explored by lessee covering 73.855 ha under G1 level of exploration.	The lease area has been explored by lessee covering 73.855 ha under G1 level of exploration.	Nil
1e	Balance reserve as on 01/04/20	Balance reserves/resources as on 01.07.2018 as per the modification of Review of mining plan approved on 02/08/2018 is as given below:- Resreves under (111): 22.98 million tonnes and total remaining resources of 5.82 million tonnes.	Balance reserves/resources as on 01/04/2019 under 111 category was 20.81 million tonnes of Iron ore and total remaining resources of 5.82 million tonnes.	Nil

1f	General remarks of inspecting officers on geology, exploration etc	The entire lease area of 73.855ha has been explored upto G1 level.	The entire lease area of 73.855ha has been explored upto G1 level.	Nil
----	--	--	--	-----

## Development :

Sl.No.	Item	Propasals	Actual work	Remarks
2a	Location of development w.r.t.lease area	Top-2 Pit, W-96/446 & S-454/905, Boundary Pit-W-88/285 & S-436/854.	Top-2 Pit, W-96/446 & S-454/905, Boundary Pit-W-88/285 & S-436/854.	The development is concentrated in Top-2 pit and boundary pits as proposed.
2b	Separate benches in topsoil, overburden and minerals (Rule 15)	Separate benches are formed in OB and ore zone with 9m heigh benches. No topsoil exists in the location proposed for excavation planning.	Separate benches are made in OB and ore zone with height of 9m. There is no top soil benches.	Nil
2c	Stripping ratio or ore to OB ratio	Top Pit-2: 1:0.16 & Boundary Pit: 1:0.19	1:0.07 T/cu.m	The overall stripping ratio increased due to increased of interburden.
2d	Quantity of topsoil generation in m3	No topsoil exists. Hence not applicable.	Not applicable.	Nil
2e	Quantity of overburden generation in m3	1413480 cu.m	260550.627 cu.m	The OB generation has been increased due to more shale bands intruded within iron ore zone and increased the interburden.

2f	General remarks of inspecting officers on development of pit w.r.t. type of deposit etc	The development is proposed in Top-2 pit and boundary pit.	The lease area is fully explored and development is concentrated in two pits i.e Top-2 pit and Boundary pit.	The lease area is fully explored and development is concentrated in two pits i.e Top-2 pit and Boundary pit.
----	---	--	--	--

## Exploitation:

Sl.No.	Item	Propasals	Actual work	Remarks
3a	Number of pit proposed for production	02 pits i.eTop-2 pit , and Boundary pit.	Working is concentrated in mainly 02 pits, Top-2 pit and Boundary pit.	Nil
3b	Quantity of ROM mineral production proposed	ROM: 8 milliontonnes and dump recovery: 1 million tonnes in 2018-19.	In 2018-19, 3278989.580 tonnes Iron ore was produced.	Less production of Iron ore during 2018-19 due to lack of market demand.
3c	Recovery of sailable/usable mineral from ROM production	7.2 million tonnes	In 2018-19, saleable ore produced 3200100 tonnes.	Less production of Iron ore during 2018-19 due to lack of market demand.
3d	Quantity of mineral reject generation	8,00,000 tonnes in 2018-19.	The sub-grade/ mineral reject generated due to the mining operations were blended with high garde to make them salable.	Nil
3e	Grade of mineral rejects generation and threshold value declared.	-55% to +45% Fe.	-55% to +45% Fe.	Nil
3f	Quantity of sub grade mineral generation.	8,00,000 tonnes in 2018-19.	The sub-grade/ mineral reject generated due to the mining operations were blended with high garde to make them salable.	Nil
3g	Grade of sub grade mineral generation	-55% to +45% Fe.	-55% to +45% Fe.	Nil

3h	Manual / Mechanised method adopted for segregating from ROM	Mechanised.	Mechanised.	Nil
3i	Any analysis or beneficiation study proposed and carried out for sub grade mineral and rejects.	Nil	Not applicable.	Nil
3j	Provision of drilling and blasting in mineral benches	DTH drilling of 110mm dia. Blast hole with emulsion/slurr y explosive as column charge and booster alongwith delay detonator.	DTH drilling of 110mm dia. Blast hole with emulsion/slurry explosive as column charge and booster as base charge alongwith delay detonator is being practiced for drilling and blasting.	Nil
3k	Provision of mining machineries in mineral benches	Drilling machine- 110 mm dia.-1, Excavator- 1.16/2.3 cu.m- 18, Dumper 30T-40, Dozer- 2 etc.	DTH of 110mm dia. is used for drilling blast hole. Ore & OB are handled by excavator of 2.3 cu.m capacity with dumper of 30 T capacity. The machinaries available on the site were Drilling machine- 110 mm dia.-1, Excavator- 1.16/2.3 cu.m-18, Dumper 30T-40, Dozer-2 etc.	Nil
3l	Whether height of benches in overburden and mineral suitable for method of mining proposed in MP/SOM	Bench height 9m.	Bench height 9m.	Nil
3m	Total area covered under excavation/pits	41.879 ha upto 2019-20.	33.90 ha. by end of 2018-19.	Nil
3n	Ore to OB ratio for the pit/mine during the year.	Top Pit-2: 1:0.16 & Boundary Pit: 1:0.19	1:0.07 T/cu.m	Stripping ratio increased due to increased of interburden.

3o	Total area put in use under different heads at the end of year	Area put in use under different heads during approved plan period is Pit-41.879 ha, waste dump-11.94 ha, Infrastructure -0.769, roads-2.513ha, mineral separation plant-2.159ha, Mineral storage-4.02 ha, Tailing ponds-6 ha, screen belt - 4.575 ha.	Area covered under different heads are Pit-33.90 ha, waste dump-12.648 ha, Plant, residential & building, roads-5.441ha & Mineral storage-4.02 ha, Tailing ponds-1.3 ha, others - 4.575 ha.	Nil
3p	Production of ROM mineral during the last five year period as applicable	2014-15: 3625361tonnes 2015-16: 4116245.5tonnes 2016-17: 5275636.7 tonnes 2017-18: 5300000 tonnes 2018-19: 8000000tonnes	2014-15: 257472.06 tonnes 2015-16: 1300996.65 tonnes 2016-17: 2706866.650 tonnes 2017-18: 3291427.42 tonnes 2018-19: 3407163 tonnes	Less production of iron ore based on demand & supply.
3q	General remarks of inspecting officers on method of mining etc,	DTH drilling of 110mm dia. Blast hole with emulsion/slurry explosive as coloumn charge and booster alongwith delay detonator.	The ROM production were reported from Top-2 pit and Boundary pit. DTH drilling by 110mm dia. Charging of blast hole with emulsion/ slurry explosive alongwith delay detonator is in practice.	Nil

#### Solid Waste Management - Dumping:

Sl.No.	Item	Propasals	Actual work	Remarks
--------	------	-----------	-------------	---------

4a	Separate dumping of topsoil, OB and mineral rejects (Rule 32,33)	Separate dumps for mineral reject. No topsoil exists. The overburden materials generated is proposed for backfilling.	Separate dumps for mineral reject. The overburden materials generated is used for backfilling. Some quantity of mineral reject so generated is blended with the high grade to make them salable.	No top soil generated during 2018-19.
4b	Location of topsoil, OB and mineral reject dumps	Dump-A between grid S20-S500 and W300- W390, Mineral reject dump- W- 500/300 & S- 120/380. No provisions for topsoil dumping/stacking.	Dump-A located between grid S20-S500 and W300-W390. There is no mineral reject generation reported. No topsoil generated during 2018-19.	Nil
4c	Number of dumps within lease area and outside of lease area	One dump.	One dump.	Nil
4d	Location of dumps w.r.t. ultimate pit limit (Rule 16)	Dump-A between grid S20-S500 and W300- W390.	The lone dump-A is located beyond the ultimate pit limit.	Nil
4e	Number of active and alive dumps.	One active dump.	One active dump.	Nil
4f	Number of dead dumps.	None	Nil	Nil
4g	Number of dumps established.	No specific proposal.	Slope of the active dump is stabilised by coir matting and plantation.	Nil
4h	Whether Retaining wall or garland drain all along dumps are there.	Maintenance/repairing of the existing retaining wall & garland drain.	The retaining wall & garland drain constructed around the dump is being maintained properly.	Nil
4i	Length of Retaining wall or garland drain all along dumps	Maintenance/repairing of the existing retaining wall & garland drain.	The retaining wall & garland drain constructed around the dump is being maintained properly.	Nil
4j	Number of settling ponds	None	Not applicable.	Nil



4k	Specific comments of inspecting officer on waste dump management	Dumping is being done on dump-A. The retaining wall and garland drain has been constructed all around the dump. The slope of the dump is stabilised by coir mating and plantation.	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.	4.5ha for backfilling in 2018-19.	2.164ha during 2018-19.	This deviation is due to low production rate for lack of market demad for low grade ore.
5b	Area under backfilling of mined out area	4.5ha for backfilling in 2018-19.	2.164ha during 2018-19.	This deviation is due to low production rate for lack of market demad for low grade ore.
5c	Concurrent use of topsoil for restoration or rehabilitation of mineral out area (Rule 32)	4.5ha for backfilling in 2018-19.	2.164ha during 2018-19.	This deviation is due to low production rate for lack of market demad for low grade ore.
5d	Total area fully reclaimed and rehabilitated	4.5ha for backfilling in 2018-19.	2.164ha during 2018-19.	This deviation is due to low production rate for lack of market demad for low grade ore.
5e	General remarks of inspecting officers on backfilling and reclamation etc.		This deviation in backfilling/reclamation is due to low production rate for lack of market demad for low grade ore.	Nil

#### 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 return on PMCP for 2018-19 has been submitted.	Annual return on PMCP for 2018-19 has been submitted.	Nil
6b	Area available for rehabilitation (ha) .	None	Not applicable.	Nil
6c	afforestation done (ha).	2.0ha.	2.0 ha.	Nil
6d	No. of saplings planted during the year	10000 saplings in 2018-19.	In 2018-19, total 14000nos. of saplings were planted.	Nil
6e	Cumulative no .of plants		Cumulatively 106000 nos. of saplings were planted by the lessee.	Nil
6f	Any other method of rehabilitation	Not applicable.	Not applicable.	Nil
6g	Cost incurred on watch and care during the year	5 lakhs	Rs 28 lakh has been incurred on watch and care in 2018-19.	Nil
6h	Compliance on reclamation and rehabilitation by backfilling (i) Voids available for backfilling ( Lx B x D	4.5ha	2.164ha	Nil
6i	Compliance on reclamation and rehabilitation by backfilling (ii) Voids filled by waste / tailings	Not applicable.	Not applicable.	Nil
6j	Compliance on reclamation and rehabilitation by backfilling (iii)Afforestation on on backfilled area	4.5ha	2.164ha	Nil

6k	Compliance on reclamation and rehabilitation by backfilling (iv) Rehabilitation by making water reservoir	Not applicable.	Not applicable.	Nil
6l	Compliance on reclamation and rehabilitation by backfilling (v) any other specific means.	Not applicable.	Not applicable.	Nil
6m	Compliance of rehabilitation of waste land within lease (i) afforestation	Not applicable.	Nil	Nil
6n	Compliance of rehabilitation of waste land within lease (ii) Area rehabilitation (ha)	Not applicable.	Not applicable.	Nil
6o	Compliance of rehabilitation of waste land within lease (iii) Method of rehabilitation	Not applicable.	Not applicable.	Nil
6p	Compliance of environmental monitoring (core zone and buffer zone)	Quarterly monitoring of air quality, water quality, noise level & vibration etc. are envisaged.	Quarterly monitoring of air, water, noise level and vibration etc. are in practice.	Nil
6q	General remarks of inspecting officers on PMCP compliance and progressive closure operations etc.	10000 nos. of saplings were proposed in 2018-19.	In 2018-19, total 14000 nos. of saplings have been planted. The afforestation has been done along slope of waste dump & safety zone. Regular data on quarterly monitoring of air, water and noise level have also been done in the mine.	Nil

## Mineral Conservation:

Sl.No.	Item	Proposals	Actual work	Remarks
7a	ROM Mineral dispatch or grade-wise sorting within lease area	Gradewise sorting envisaged.	Gradewise sorting practised.	Nil
7b	Method of grade-wise mineral sorting i.e. manual or mechanical.	Mechanised	Mechanised	Nil
7c	Different grade of mineral sorted out at mines.	45% to 55% Fe and +55% Fe.	45% to 55% Fe and +55% Fe.	Nil
7d	Any beneficiation process at mines	Wet beneficiation proposed.	Not in practice.	Nil
7e	General remarks of inspecting officer on Mineral conservation and beneficiation issues		Cut off grade of iron ore for the mine is +55%. Different grades of minerals sorted out at mines are -65% Fe, 62 to 58% Fe and 58 to 55% Fe. There is no mineral conservation problem in the mine.	Nil

## Environment:

Sl.No.	Item	Proposals	Actual work	Remarks
8a	Separate removal and utilization of topsoil (Rule 32)	No topsoil exists	No topsoil exists in the location proposed for mine excavation during 2018-19. Hence, not applicable.	No topsoil generated during 2018-19.
8b	Concurrent use or storage of topsoil	No topsoil exists. Hence, not applicable.	Not applicable.	Nil

8c	Separate dumps for overburden, waste rock, rejects and fines (Rule 33)	Separate dumping provisions for mineral reject envisaged. The overburden materials so generated is proposed for reclamation of mined out areas.	There is separate dump for overburden exists. However, the mineral reject so generated is blended in the process to make them salable. The waste generated has been backfilled in the mined out portion of the lease.	Nil
8d	Use of overburden, waste rock, rejects and fines dumps for restoring the land to its original use	The overburden materials so generated is envisaged for reclamation of mined out areas.	The overburden materials generated has been utilised for reclamation of mined out areas.	Nil
8e	Phased restoration, reclamation and rehabilitation of lands affected by mining operations (Pits, dumps etc)	4.5ha of mined out area is proposed for reclamation in 2018-19.	2.164ha of mined out area has been reclaimed during 2018-19.	Nil
8f	Baseline information on existence of plantation and additional plantation done (Rule 41)	Plantation proposed along the slope of waste dump & safety zone.	14000 nos. saplings were planted in 2018-19.	Nil
8g	Survival rate	85%	Reportedly survival rate is 90%.	Nil
8h	Water sprinkling on roads to control airborne dust	Two water sprinkler	Two water sprinkler are used to control air borne dust.	Nil

8i	General remarks of inspecting officer on aesthetic beauty in and around mines area	Plantation of 10000 saplings in 2018-19 are envisaged.	Aesthetic beauty in and around mined area is maintained. During the year 2018-19, there are 14000 nos of saplings have been planted. As reported cumulatively 106000 nos of saplings were planted.	Nil
----	--	--	--	-----

## Compliance of Rule 45:


Sl.No.	Item	Propasals	Actual work	Remarks
9a	Status of submission of Monthly and Annual returns	Monthly & Annual returns are being regularly submitted by lessee.	Monthly returns from April 2018 to till date & Annual return for 2018-19 has been submitted by lessee.	Nil
9b	Scrutiny of Annual return for information on Mining Engineer, Geologist and Manager	Mining engineer, Geologist & Mine Manager are deployed in the mine.	The deployment status is found to be in order.	Nil
9c	Scrutiny of Annual return on land use pattern for area under pits, reclaimed area, dumps etc.	Pit-33.950 ha, waste dump-12.648 ha, Infrastructure -5.441ha, mineral storage etc. 14.940ha, reclaimed/rehabilitated-2.664ha and progressive closure-2.164ha.	Pit-33.950 ha, waste dump-12.648 ha, Infrastructure-5.441ha, mineral storage etc. 14.940ha, reclaimed/rehabilitated-2.664ha and progressive closure-2.164ha.	Nil
9d	Scrutiny of Annual return on afforestation	14000 nos. of saplings.	14000 nos. of saplings planted during 2018-19.	Nil
9e	Scrutiny of Annual return on mineral reject generation (Grade and quantity)	Nil	Nil	Nil

9f	Scrutiny of Annual return on ROM stock and/or graded ore	Opening stock- 352197.295 tonnes, Production- 3407163.370 tonnes & Closing stock: 872664.225 tonnes for ROM iron ore.	Found to be in order.	Nil
9g	Scrutiny of Annual return on sale value, Ex. Mine price and production cost	Ex mine price varies from Rs. 1069.00 to Rs.4353.19 for different grades 7 size of iron ore.	Found to be in order.	Nil
9h	Scrutiny of Annual return on fixed assets	Fixed asset Rs 155153370/- at the beginning of the year and the closing balance is at Rs. 154529950/-	Fixed asset Rs 155153370/- at the beginning of the year and the closing balance is at Rs. 154529950/-	Nil
9k	Scrutiny of Annual return on mining machineries	A fleet of mining machineries are deployed in the mine excavation.	The deployment status is found to be in order.	Nil

**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 35(2)	25/07/2019	13/08/2019				

Date : 16.01.2020

  
(SHRI G.C. SETHI)

Indian Bureau of Mines