

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

**MCDR inspection REPORT**

**Bhubaneshwar regional office**

**Mine file No :** ORI/IRON-MN/SNG/MCDR-21/BBS

**Mine code :** 40ORI13050

- (i) Name of the Inspecting : **U11** ) **DAYANAND UPADHYAY**  
Officer and ID No.
- (ii) Designation : Sr. Asst. Contrl. Mines
- (iii) Accompanying mine : Mr.T.C.Sei, G.M.(Mines), Mr. B.K. Barik (Mgr. Survey  
Official with  
Designation
- (iv) Date of Inspection : 17-SEP-18
- (v) Prev.inspection date : 07-JAN-18

**PART-I : GENERAL INFORMATION**

1. (a) **Mine Name** : **NUAGAON**
- (b) **Registration NO.** : **IBM/135/2011**
- (c) Category : B Manual
- (d) Type of Working : Opencast
- (e) Postal address
- State : ORISSA
- District : SUNDARGARH
- Village : NUAGAON
- Taluka : BONAI
- Post office : KOIRA
- Pin Code :
- FAX No. : 06767275362
- E-mail : snmbbsr@sify.com, snmbbl@s:
- Phone : 06767212164
- (f) Police Station : Koira
- (g) First opening date : 20-AUG-99
- (h) Weekly day of rest : SAT
2. Address for : VILL-NUAGAON  
correspondance PO-KOIRA  
DIST-SUNDERGARH
3. (a) Lease Number : ORI0976
- (b) Lease area : 29.26
- (c) Period of lease : 20
- (d) Date of Expiry : 10-MAY-19
4. Mineral worked : IRON ORE Associated  
MANGANESE ORE Main

## 5. Name and Address of the

Lessee : S.N.MOHANTY  
 STATION ROAD AT/PO:BARBIL  
 PO NO.21 KEONJHAR ORISSA  
 Phone:30362 (OFFICE),30254(R)  
 FAX :

Owner : PROBODH MOHANTY  
 PROBODH MOHANTY,MINES OWN  
 AT-STATION ROAD,BARBIL  
 DIST-KEONJHAR.758035  
 KEONJHAR ORISSA  
 Phone:  
 FAX :

Agent : T.C.Sei  
 Barbil,Keonjhar,Odisha  
 SUNDARGARH ORISSA  
 Phone: 06767-275362  
 FAX : 06767-212164

## Mining Engineer

Name : Sri. B.Samal,Full Time  
 Qualification : BE Mining  
 Appointment/ : 11-MAR-12  
 Termination date

## Geologist

Name : Shri S. Mahanta,Full Time  
 Qualification : M.sc geology  
 Appointment/ : 26-FEB-16  
 Termination date

## Manager

Name : Sri A.N. Prasad  
 Qualification : BE Mining  
 Appointment/ : 29-MAR-11  
 Termination date

6. Date of approval of Mining	:	Modif.approved Mining Scheme	25-MAR-09
Plan/Scheme of Mining		Mining Scheme rule 12 MCDR1988	02-MAR-10
		Mining Scheme rule 12 MCDR1988	22-MAY-14

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

## Exploration :

Sl.No.	Item	Proposals	Actual work	Remarks
1a	Backlog of previous year	Not proposed.	Nil.	No backlog.
1b	Exploration over lease area for geological axis 1 or 2	Not proposed.	Nil.	About 25.59 ha area has been already explored under G1/G2 level of exploration.
1c	Exploration Agencies and Expenditure in lakh rupees during the year	Not proposed in 2017-18.	Not applicable.	Nil.
1d	Balance area to be explored to bring Geological axis in 1 or 2	No specific proposal.	About 25.59 ha area has been already explored under G1/G2 level of exploration.	Balance area about 3.667 ha taneted land is to be explored.
1e	Balance reserve as on 01/04/20	As per approved Scheme of Mining dated 22/05/2014, the reserve estimated was as follows: IRON Ore: Reserve- 1689968.00 tonnes, Mn Ore: 317231.00 tonnes.	Reserve as on 01/04/2018: Mn Ore: 312746 tonnes Iron Ore: 1575557 tonnes.	Reserve as on 01/04/2018: Mn Ore: 312746 tonnes Iron Ore: 1575557 tonnes.
1f	General remarks of inspecting officers on geology, exploration etc	Bore holes not proposed.	About 25.59 ha area has been already explored under G1/G2 level of exploration.	Balance area about 3.667 ha taneted land is to be explored.

## Development :

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

2a	Location of development w.r.t.lease area	Mn: 170W to 140E/ 210S to 110S Iron: 248E to 20W/238N to 76S	Development is carried out within approved proposal.	Development is carried out within approved proposal.
2b	Separate benches in topsoil, overburden and minerals (Rule 15)	Separate benches proposed in overburden and mineral.	Separate benches being maintained in OB and Ore.	Separate benches being maintained in OB and Ore.
2c	Stripping ratio or ore to OB ratio	1:0.44 Iron (T/CuM) 1:3.26Mn. (T/CuM)	1:0.40 Iron (T/CuM) 1:4.03Mn. (T/CuM)	Average stripping ratio varies due to irregular & pocket nature of ore deposit.
2d	Quantity of topsoil generation in m3	No Proposal.	Not applicable.	Nil.
2e	Quantity of overburden generation in m3	68860 Cu.m	44120 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	The development is proposed in two pits.	The development is proposed in two pits and bench height is maintained 4m for iron ore and 3m for Mn ore.	The development is proposed in two pits and bench height is maintained 4m for iron ore and 3m for Mn ore.

### Exploitation:

Sl.No.	Item	Propasals	Actual work	Remarks
3a	Number of pit proposed for production	Two pits	Working is concentrated in two pit as proposed.	Working is concentrated in two pit as proposed.
3b	Quantity of ROM mineral production proposed	Iron: 117600 tonnes. Mn: 5096 tonnes.	Iron: 9090 tonnes. Mn: 0.00 tonnes.	Mineral available in lease area is of mostly Low grade and due to poor demand less production is carried out.

3c	Recovery of sailable/usable mineral from ROM production	Iron: 117600 tonnes. Mn: 5096 tonnes.	Iron: 9090 tonnes. Mn: 0.00 tonnes.	Mineral available in lease area is of mostly Low grade and due to poor demand less production is carried out.
3d	Quantity of mineral reject generation	Iron - 4200 Tonnes Mn - 980 tonnes	Iron - 9090 tonnes Mn - NIL	Mineral available in lease area is of Low grade.
3e	Grade of mineral rejects generation and threshold value declared.	For Iron Ore below 55% Fe and for Mn Ore below 20% Mn.	For Iron Ore below 55% Fe and for Mn Ore below 20% Mn.	For Iron Ore below 55% Fe and for Mn Ore below 20% Mn.
3f	Quantity of sub grade mineral generation.	Iron - 4200 Tonnes Mn - 980 tonnes	Iron - 9090 tonnes Mn - NIL	Mineral available in lease area is of Low grade.
3g	Grade of sub grade mineral generation	For Iron Ore below 55% Fe and for Mn Ore below 20% Mn.	For Iron Ore below 55% Fe and for Mn Ore below 20% Mn.	For Iron Ore below 55% Fe and for Mn Ore below 20% Mn.
3h	Manual / Mechanised method adopted for segregating from ROM	Both manual & machinery	Both manual & machinery	Both manual & machinery
3i	Any analysis or beneficiation study proposed and carried out for sub grade mineral and rejects.	No Proposal.	Not applicable.	Nil.
3j	Provision of drilling and blasting in mineral benches	Jack-hammer drills and blasting by putting the explosives in the drilled holes .	Provisions for drilling by Jack-hammer drills and blasting by putting the explosives in the drilled holes in the minerals as well as in overburden benches are envisaged.	Provisions for drilling by Jack-hammer drills and blasting by putting the explosives in the drilled holes in the minerals as well as in overburden benches are envisaged.

3k	Provision of mining machineries in mineral benches	Shovel and dumper combination.	Shovel and dumper combination.	Shovel and dumper combination.
3l	Whether height of benches in overburden and mineral suitable for method of mining proposed in MP/SOM	In Mn Ore Quarry height prosed to 5 mts and In Iron Ore Quarry height proposed to 9 mts.	Bench height is suitably matched with the excavator.	Bench height is suitably matched with the excavator.
3m	Total area covered under excavation/pits	A total 11.243 Ha area is proosed atthe end of the plan period.	About 9.187 ha area has been covered under excavation pits.	About 9.246 ha area has been covered under excavation pits.
3n	Ore to OB ratio for the pit/mine during the year.	1:0.44 Iron (T/CuM) 1:3.26Mn. (T/CuM)	1:0.40 Iron (T/CuM) 1:4.03Mn. (T/CuM)	Average stripping ratio varies due to irregular & pocket nature of ore deposit.
3o	Total area put in use under different heads at the end of year	As per approved document total area put under different heads i.e. excavation, waste dumping, infrastructure , road etc is 19.418 Ha.	As on 01.04.2018, total area put under different heads was 19.395Ha.	As on 01.04.2018, total area put under different heads was 19.395Ha.

3p	Production of ROM mineral during the last five year period as applicable	<p>Iron ore:</p> <p>2013-14: 3,69,600 MT</p> <p>2014-15: 100800 MT</p> <p>2015-16: 105840 MT</p> <p>2016-17: 113120 MT</p> <p>2017-18: 117600MT</p> <p>Mn Ore:</p> <p>2013-14: 24,453 MT</p> <p>2014-15: 3549 MT</p> <p>2015-16: 4004 MT</p> <p>2016-17: 4513 MT</p> <p>2017-18: 5096MT</p>	<p>Iron ore:</p> <p>2013-14: 10003.97 MT</p> <p>2014-15: 54320.33 MT</p> <p>2015-16: 40000 MT</p> <p>2016-17: 11000 MT</p> <p>2017-18: 9090MT</p> <p>Mn Ore:</p> <p>2013-14: 160 MT</p> <p>2014-15: 300 MT</p> <p>2015-16: 4000 MT</p> <p>2016-17: 185 MT</p> <p>2017-18: 798MT</p>	Production is less due to low grade ore and poor market demand.
3q	General remarks of inspecting officers on method of mining etc.	Working proposed in 02 pits.	Working is concentrated in two pits as per proposal.	The mining operations is carried out by other than fully mechanized opencast methods as per the proposal

#### 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 & mineral reject, top soil not proposed.	No proposal of top soil generation. Separate dumping of OB & mineral reject.	No proposal of top soil generation. Separate dumping of OB & mineral reject.
4b	Location of topsoil, OB and mineral reject dumps	Western part of the ML.	Western part of the ML.	No deviation.
4c	Number of dumps within lease area and outside of lease area	1 dump within ML area, no dump outside of the lease area.	1 dump within ML area, no dump outside of the lease area.	1 dump within ML area, no dump outside of the lease area.

4d	Location of dumps w.r.t. ultimate pit limit (Rule 16)	Out side of the UPL.	Out side of the UPL.	No deviation.
4e	Number of active and alive dumps.	01 dump.	There is one dump in the lease area.	There is one dump in the lease area.
4f	Number of dead dumps.	Not proposed.	Not applicable.	Nil.
4g	Number of dumps established.	Not proposed.	Not applicable.	Nil.
4h	Whether Retaining wall or garland drain all along dumps are there.	Not proposed.	Nil.	Retaining wall and garland drain exist around the dump.
4i	Length of Retaining wall or garland drain all along dumps	Not proposed.	Nil.	Retaining wall and garland drain exist around the dump.
4j	Number of settling ponds	Not proposed.	Existing settling pond is 07 number.	Existing settling pond is 07 number.
4k	Specific comments of inspecting officer on waste dump management	01 dump in western part of ML.	There is only one waste dump in the lease area. The dump is partly stabilized by the coir matting.	There is only one waste dump in the lease area. The dump is partly stabilized by the coir matting.

---

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.	In 2014-15, small part of the quarry in eastern part about 0.24 ha. has been backfilled and same has rehabilitated by the plantation.
5b	Area under backfilling of mined out area	Not proposed.	Nil.	In 2014-15, small part of the quarry in eastern part about 0.24 ha. has been backfilled and same has rehabilitated by the plantation.



5c	Concurrent use of topsoil for restoration or rehabilitation of mineral out area (Rule 32)	Not proposed.	Nil.	In 2014-15, small part of the quarry in eastern part about 0.24 ha. has been backfilled and same has rehabilitated by the plantation.
5d	Total area fully reclaimed and rehabilitated	Not proposed.	Nil.	In 2014-15, small part of the quarry in eastern part about 0.24 ha. has been backfilled and same has rehabilitated by the plantation.
5e	General remarks of inspecting officers on backfilling and reclamation etc.	Backfilling not proposed.	Nil.	Small part of the quarry in eastern part about 0.24 ha. has been backfilled and same has rehabilitated by the plantation.

---

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).	Not specified.	Annual return on PMCP has been submitted.	Annual return on PMCP has been submitted.
6b	Area available for rehabilitation (ha) .	Not proposed.	Nil.	In 2014-15, small part of the quarry in eastern part about 0.24 ha. has been backfilled and same has rehabilitated by the plantation.
6c	afforestation done (ha).	5.60ha.	In 2017-18, total area cover under afforestation is about 5.60 ha.	In 2017-18, total area cover under afforestation is about 5.60 ha.

6d	No. of saplings planted during the year	400 nos. of saplings.	In 2017-18, total 1500 nos. of saplings have been planted by lessee.	In 2017-18, total 1500 nos. of saplings have been planted by lessee.
6e	Cumulative no .of plants	Not specified.	Cumulative nos. of saplings planted in the lease area is about 52600.	Cumulative nos. of saplings planted in the lease area is about 52600.
6f	Any other method of rehabilitation	Coir Matting with plantation	Coir Matting and plantation carried out partly over the waste dump.	Coir Matting and plantation carried out partly over the waste dump.
6g	Cost incurred on watch and care during the year	Not specified.	Around Rs 6.57 lakh cost incurred on watch and care.	Around Rs 6.57 lakh cost incurred on watch and care.
6h	Compliance on reclamation and rehabilitation by backfilling (i) Voids available for backfilling ( Lx B x D	Not proposed.	Nil.	In 2014-15, small part of the quarry in eastern part about 0.24 ha. has been backfilled and same has rehabilitated by the plantation.
6i	Compliance on reclamation and rehabilitation by backfilling (ii) Voids filled by waste / tailings	Not proposed.	Nil	In 2014-15, small part of the quarry in eastern part about 0.24 ha. has been backfilled and same has rehabilitated by the plantation.
6j	Compliance on reclamation and rehabilitation by backfilling (iii)Afforestation on on backfilled area	Not proposed.	Nil.	In 2014-15, small part of the quarry in eastern part about 0.24 ha. has been backfilled and same has rehabilitated by the plantation.
6k	Compliance on reclamation and rehabilitation by backfilling (iv) Rehabilitation by making water reservoir	Not proposed.	Nil.	In 2014-15, small part of the quarry in eastern part about 0.24 ha. has been backfilled and same has rehabilitated by the plantation.

6l	Compliance on reclamation and rehabilitation by backfilling (v)any other specific means.	Not proposed.	Nil.	In 2014-15, small part of the quarry in eastern part about 0.24 ha. has been backfilled and same has rehabilitated by the plantation.
6m	Compliance of rehabilitation of waste land within lease (i)afforestation	Not proposed.	Nil.	In 2014-15, small part of the quarry in eastern part about 0.24 ha. has been backfilled and same has rehabilitated by the plantation.
6n	Compliance of rehabilitation of waste land within lease (ii)Area rehabilitation (ha)	Not proposed.	Nil.	In 2014-15, small part of the quarry in eastern part about 0.24 ha. has been backfilled and same has rehabilitated by the plantation.
6o	Compliance of rehabilitation of waste land within lease (iii)Method of rehabilitation	Not proposed.	Nil.	In 2014-15, small part of the quarry in eastern part about 0.24 ha. has been backfilled and same has rehabilitated by the plantation.
6p	Compliance of environmental monitoring (core zone and buffer zone)	Quarterly monitoring	Quarterly monitoring of air, water and noise level are being carried out.	Quarterly monitoring of air, water and noise level are being carried out.
6q	General remarks of inspecting officers on PMCP compliance and progressive closure operations etc.	Backfilling not proposed.	Dead slope of the dumps are afforested with the help of coir matting and plantation. Safety zone has also been planted. A small portion of the quarry i.e. around 0.25 ha area has been backfilled and rehabilitated by plantation.	Dead slope of the dumps are afforested with the help of coir matting and plantation. Safety zone has also been planted. A small portion of the quarry i.e. around 0.25 ha area has been backfilled and rehabilitated by plantation.

---

 Mineral Conservation:
 

---

Sl.No.	Item	Propasals	Actual work	Remarks
7a	ROM Mineral dispatch or grade-wise sorting within lease area	Gradewise sorting proposed within lease area.	Gradewise sorting practiced within lease area.	Gradewise sorting practiced within lease area.
7b	Method of grade-wise mineral sorting i.e. manual or mechanical.	Both manual & machinical.	Both manual & machinical.	Nil.
7c	Different grade of mineral sorted out at mines.	Iron Ore: >55% Fe and ore between < 55% to > 45% Fe Mn Ore: >30% Mn and Ore between <30% to >10% Mn	Iron Ore: >55% Fe and ore between < 55% to > 45% Fe Mn Ore: >30% Mn and Ore between <30% to >10% Mn	Different grades of minerals sorted out at mines.
7d	Any beneficiation process at mines	Not proposed.	Nil.	Nil.
7e	General remarks of inspecting officer on Mineral conservation and beneficiation issues	No comment.	Cut off grade of Mn ore for the mine is +25%. Cut off grade of iron ore for the mine is +55%. :Gradewise sorting of ore is proposed Manual for Mn ore mechanised for Iron ore.	Cut off grade of Mn ore for the mine is +25%. Cut off grade of iron ore for the mine is +55%. :Gradewise sorting of ore is proposed Manual for Mn ore mechanised for Iron ore.

---

 Environment:
 

---

Sl.No.	Item	Propasals	Actual work	Remarks
8a	Separate removal and utilization of topsoil (Rule 32)	No proposal of top soil generation.	Nil.	Nil.

---

8b	Concurrent use or storage of topsoil	No proposal of top soil generation.	Nil.	Nil.
8c	Separate dumps for overburden, waste rock, rejects and fines (Rule 33)	Separate dumping of overburden, waste rock, mineral reject and fines has been proposed.	Separate dumping is being carried out for overburden, waste rock, mineral reject and fines etc.	Separate dumping is being carried out for overburden, waste rock, mineral reject and fines etc.
8d	Use of overburden, waste rock, rejects and fines dumps for restoring the land to its original use	Not proposed.	Nil.	In 2014-15, small part of the quarry in eastern part about 0.24 ha. has been backfilled and same has rehabilitated by the plantation.
8e	Phased restoration, reclamation and rehabilitation of lands affected by mining operations (Pits, dumps etc)	Not proposed.	Nil.	In 2014-15, small part of the quarry in eastern part about 0.24 ha. has been backfilled and same has rehabilitated by the plantation.
8f	Baseline information on existence of plantation and additional plantation done (Rule 41)	400 nos. of plantation in 2017-18.	Total 1500 nos. saplings have been planted in 2017-18.	Total 1500 nos. saplings have been planted in 2017-18.
8g	Survival rate	Not specified.	As reported survival rate is 80%.	As reported survival rate is 80%.
8h	Water sprinkling on roads to control airborne dust	Water tanker.	8000L water sprinkler are used to control air borne dust.	8000L water sprinkler are used to control air borne dust.

8i	General remarks of inspecting officer on aesthetic beauty in and around mines area	400 nos. of plantation in 2017-18.	Aesthetic beauty in and around mined area is maintained. In 2017-18, total 1500 nos of saplings have been planted by lessee. As reported cumulative no. of trees planted by lessee is about 5260 nos.	Aesthetic beauty in and around mined area is maintained. In 2017-18, total 1500 nos of saplings have been planted by lessee. As reported cumulative no. of trees planted by lessee is about 5260 nos.
----	--	------------------------------------	---	---

---

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 & Annual returns are being regularly submitted by lessee.	Monthly & Annual returns are being regularly submitted by lessee.
9b	Scrutiny of Annual return for information on Mining Engineer, Geologist and Manager	The employment status of mining engineer, geologist & mine manager have been furnished in the annual return submitted for the year 2017-18.	Mining engineer, geologist & mine managers were employed in the mine.	Mining engineer, geologist & mine managers were employed in the mine.
9c	Scrutiny of Annual return on land use pattern for area under pits, reclaimed area, dumps etc.	An area around 19.395 Ha is put under different land use like pits, dumps, road, reclaimed, infrastructure etc.	The land use status furnished in the annual return 2017-18 is found to be in order.	The land use status furnished in the annual return 2017-18 is found to be in order.
9d	Scrutiny of Annual return on afforestation	1500 nos. of saplings	1500 nos. of saplings	1500 nos. of saplings

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	During the year 2017-18, 9090 tonnes of iron ore was produced as indicated in the annual return.	During the year 2017-18, 9090 tonnes of iron ore was produced as indicated in the annual return.	During the year 2017-18, 9090 tonnes of iron ore was produced as indicated in the annual return.
9g	Scrutiny of Annual return on sale value, Ex. Mine price and production cost	The ex-mine prite of iron ore (58 to 68% Fe) is Rs 1100/- .	The ex-mine prite of iron ore (58 to 68% Fe) is Rs 1100/- .	The ex-mine prite of iron ore (58 to 68% Fe) is Rs 1100/- .
9h	Scrutiny of Annual return on fixed assets	The total value of the fixed assets at the end of the year 2017-18 is mentioned to be for Rs. 10073/-	The total value of the fixed assets at the end of the year 2017-18 is mentioned to be for Rs. 10073/-	The total value of the fixed assets at the end of the year 2017-18 is mentioned to be for Rs. 10073/-
9k	Scrutiny of Annual return on mining machineries	The mining machineries like hydraulic excavators, Dumpers, Air Compressor, Water tanker, etc. are given in the annual return submitted for the year 2017-18.	The deployment status of the mining machineries & other machineries, equipment furnished in the annual return are appears to be correct.	The deployment status of the mining machineries & other machineries, equipment furnished in the annual return are appears to be correct.

---

**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(4)	28-SEP-18	07-DEC-18			

**Date :**

(DAYANAND UPADHYAY)

Indian Bureau of Mines