

**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 : **DJ03**) **DILIP JAIN**
Officer and ID No.
- (ii) Designation : Junior Mining Geologist
- (iii) Accompanying mine : Mr.T.C.Sei, G.M.(Mines), Mr. B.K. Barik (Mgr. Survey
Official with
Designation
- (iv) Date of Inspection : 07/01/2018
- (v) Prev.inspection date : 19/05/2016

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 : 20/08/1999
- (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 : 10/05/2019
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/ :
 Termination date

Manager

Name : Sri A.N. Prasad
 Qualification : BE Mining
 Appointment/ : 29/03/2011
 Termination date

6. Date of approval of Mining	:	Modif.approved Mining Scheme	25/03/2009
Plan/Scheme of Mining		Mining Scheme rule 12 MCDR1988	02/03/2010
		Mining Scheme rule 12 MCDR1988	22/05/2014

PART - II : OBSERVATION/COMMENTS OF INSPECTING OFFICERS

Exploration :

Sl.No.	Item	Proposals	Actual work	Remarks
1a	Backlog of previous year	Year 2016-17: 09 BH	Completed in 2015-16.	No backlog.
1b	Exploration over lease area for geological axis 1 or 2	No specific proposal.	NIL.	NIL.
1c	Exploration Agencies and Expenditure in lakh rupees during the year	No specific proposal for exploration agency and expenditure.	Geo Exploration India (p) ltd. Expenditure: Rs.1921986.00	As reported by Lessee.
1d	Balance area to be explored to bring Geological axis in 1 or 2	No specific proposal.	As reported by lessee an area of 8.866 Ha to be explored.	Taneted Land.
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 01/04/2017: Mn Ore: 312746 tonnes Iron Ore: 1584648 tonnes.	Total production of Iron Ore 105320.334 tonnes and Mn Ore was 4485.00 tonnes
1f	General remarks of inspecting officers on geology, exploration etc	--	Proposed exploration work has been completed by Lessee. However, area under taneted land yet to explored.	

Development :

Sl.No.	Item	Proposals	Actual work	Remarks
2a	Location of development w.r.t.lease area	Mn: 20E to 110E/ 80S to 150S Iron: 50E to 20W/150N to 20S	Development was carried out within approved limit.	As the ore available in lease is of Sub-grdae nature, production of IRON and Mn Ore is less.

2b	Separate benches in topsoil, overburden and minerals (Rule 15)	Separate benches have been proposed in topsoil, overburden and mineral.	Separate benches being maintained in OB and Ore.	NIL.
2c	Stripping ratio or ore to OB ratio	1:0.55 Iron (T/CuM) 1:3.26Mn. (T/CuM)	1:1.51 Iron (T/CuM) 1:15.27Mn (T/CuM)	The reason of the high stripping ratio seems because of less production of Iron and Mn Ore for the year 2016-17. The targeted production could not be achieved due to poor grade of the Iron and Mn Ore.
2d	Quantity of topsoil generation in m3	No Proposal.	NIL.	NIL.
2e	Quantity of overburden generation in m3	Mn: 14756 CuM Iron: 44440 CuM	Mn: 2825.00 CuM Iron: 16663.50 CuM	Less quantity of OB generation is due to less production of Ore.
2f	General remarks of inspecting officers on development of pit w.r.t. type of deposit etc	---	The Iron Ore encountered is mainly of subgrade nature, which is at present not marketable. Both production & development were lagging behind against the proposal envisaged in the Scheme of Mining due to lack of market demand both for manganese & iron ore.	NIL.

Exploitation:

Sl.No.	Item	Propasals	Actual work	Remarks
3a	Number of pit proposed for production	Mn: 01 Iron: 01	Mn: 01 Iron: 01	NIL.

3b	Quantity of ROM mineral production proposed	Iron: 126452 tonnes. Mn: 6596 tonnes.	Iron: 11000 tonnes. Mn: 185.00 tonnes.	As the Mineral available in lease area is of Low grade. Hence, no demand during 2016-17.
3c	Recovery of sailable/usable mineral from ROM production	Iron: 113120 Tonnes Mn: 4513 Tonnes	Iron: 11000 tonnes Mn: 185 tonnes	As the Mineral available in lease area is of Low grade. Hence, no demand during 2016-17.
3d	Quantity of mineral reject generation	Iron - 13332 Tonnes Mn - 2083 tonnes	Iron - 11000 tonnes Mn - NIL	As the Mineral available in lease area is of Low grade.
3e	Grade of mineral rejects generation and threshold value declared.	The low grade material/mineral rejects for manganese varies from 10-25% Mn contain and the same for iron ore is from 45-55% Fe.	For Iron Ore below 55% Fe and for Mn Ore below 20% Mn.	NIL.
3f	Quantity of sub grade mineral generation.	Iron - 13332 Tonnes Mn - 2083 tonnes	Iron - 11000 tonnes Mn - NIL	NIL.
3g	Grade of sub grade mineral generation	The low grade material/mineral rejects for manganese varies from 10-25% Mn contain and the same for iron ore is from 45-55% Fe.	For Iron Ore below 55% Fe and for Mn Ore below 20% Mn.	NIL.
3h	Manual / Mechanised method adopted for segregating from ROM	Both manual & Machinery	Both manual & Machinery	NIL.

3i	Any analysis or beneficiation study proposed and carried out for sub grade mineral and rejects.	No Proposal.	NIL.	NIL.
3j	Provision of drilling and blasting in mineral benches	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.	The same practice is being followed in the mine as found during the field visit.	NIL.
3k	Provision of mining machineries in mineral benches	Shovel and dumper combination.	Shovel and dumper combination.	NIL.
3l	Whether height of benches in overburden and mineral suitable for method of mining proposed in MP/SOM	Suitably proposed. In Iron Ore Quarry height have been proposed to 9 mts and width is 5 mts. In Mn Ore Quarry height have been proposed to 5 mts and width is 3 mts. In Mn Ore Quarry height have been proposed to 5 mts and width is 3 mts.	Benches have been created as per proposal.	NIL.
3m	Total area covered under excavation/pits	A total 11.243 Ha area is proosed atthe end of the plan period.	An extent of 9.187 Ha has been degraded by opencast working so far.	As per AR 2016-17.

3n	Ore to OB ratio for the pit/mine during the year.	1:0.55 Iron (T/CuM) 1:3.26Mn. (T/CuM)	1:1.51 Iron (T/CuM) 1:15.27Mn (T/CuM)	The reason of the high stripping ratio seems because of less production of Iron and Mn Ore for the year 2016-17. The targeted production could not be achieved due to poor grade of the Iron and Mn Ore.
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 01.04.2017, total area put under different heads was 19.465 Ha.	NIL.
3p	Production of ROM mineral during the last five year period as applicable	2012-13: 3,52,800 MT 2013-14: 3,69,600 MT 2014-15: 112680 MT 2015-16: 118314 MT 2016-17: 126452 MT Mn Ore: 2012-13: 21,879 MT 2013-14: 24,453 MT 2014-15: 5187 MT 2015-16: 5848 MT 2016-17: 6596 MT	2012-13: 99047 MT 2013-14: 10,003 MT 2014-15: 54,320 MT 2015-16: 40000 MT 2016-17: 11000 MT Mn Ore: 2012-13: 0.0 MT 2013-14: 160 MT 2014-15: 300 MT 2015-16: 4000 MT 2016-17: 185 MT	NIL.

3q	General remarks -- of inspecting officers on method of mining etc.	The mining operations were carried out by other than fully mechanized opencast methods as per the proposal envisaged in the modification of the mining plan.	NIL.
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Solid Waste Management - Dumping:

Sl.No.	Item	Propasals	Actual work	Remarks
4a	Separate dumping of topsoil, OB and mineral rejects (Rule 32,33)	Yes, Separate dumping of topsoil, OB & Ore is proposed.	No proposal of top soil generation. Separate benches in OB and Ore.	NIL.
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 within ML area, no dump outside of the lease area.	1 within ML area, no dump outside of the lease area.	NIL.
4d	Location of dumps w.r.t. ultimate pit limit (Rule 16)	Out side of the UPL.	Out side of the UPL.	NIL.
4e	Number of active and alive dumps.	01	01	NIL.
4f	Number of dead dumps.	NIL.	NIL.	NIL.
4g	Number of dumps established.	No specific proposal.	1(partly) by coir matting	NIL.
4h	Whether Retaining wall or garland drain all along dumps are there.	No Proposal.	Retaining wall covering entire dump slope	NIL.
4i	Length of Retaining wall or garland drain all along dumps	No Proposal of construction.	780.0 m	NIL.
4j	Number of settling ponds	No Proposal.	Existing settling pond is 07 number.	NIL.

4k	Specific comments of inspecting officer on waste dump management	--	There is only one waste dump in the lease area. The dump is partly stabilized by the coir matting.	NIL.
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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.	No proposal for the year 2016-17.	NIL.	However, small part of the quarry has been backfilled in previous years and same has rehabilitated by the plantation.
5b	Area under backfilling of mined out area	No Proposal.	NIL.	NIL.
5c	Concurrent use of topsoil for restoration or rehabilitation of mineral out area (Rule 32)	No proposal for top soil generation.	NIL.	NIL.
5d	Total area fully reclaimed and rehabilitated	No proposal for year 2016-17.	Till date an area of 0.25 Ha is backfilled and planted.	NIL.
5e	General remarks of inspecting officers on backfilling and reclamation etc.	---	No proposal of backfilling was in theyear 2016-17. However, small part of the quarry has been backfilled in previous years and same has rehabilitated by the plantation.	NIL.

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).	--	Submitted.	NIL.
6b	Area available for rehabilitation (ha) .	No specific proposal.	NIL.	NIL.
6c	afforestation done (ha).	No specific proposal. Afforestation proposed over the waste dump and safety zone.	Afforestation done as per proposal.	NIL.
6d	No. of saplings planted during the year	400 no.	6000 no.	NIL.
6e	Cumulative no .of plants	No specific proposal.	44100 no.	As reported by lessee.
6f	Any other method of rehabilitation	Coir Matting with plantation	Coir Matting and plantation carried out partly over the waste dump.	NIL.
6g	Cost incurred on watch and care during the year	Rs. 277000/-	Rs. 657000/-	As reported by Lessee.
6h	Compliance on reclamation and rehabilitation by backfilling (i) Voids available for backfilling (Lx B x D	No Proposal.	NIL	NIL.
6i	Compliance on reclamation and rehabilitation by backfilling (ii) Voids filled by waste / tailings	No Proposal.	NIL.	NIL.

6j	Compliance on reclamation and rehabilitation by backfilling (iii)Afforestation on on backfilled area	No Proposal.	NIL.	NIL.
6k	Compliance on reclamation and rehabilitation by backfilling (iv) Rehabilitation by making water reservoir	No Proposal.	NIL.	NIL.
6l	Compliance on reclamation and rehabilitation by backfilling (v)any other specific means.	No Proposal.	NIL.	NIL.
6m	Compliance of rehabilitation of waste land within lease (i)afforestation	No Proposal.	NIL.	NIL.
6n	Compliance of rehabilitation of waste land within lease (ii)Area rehabilitation (ha)	No Proposal.	NIL.	NIL.
6o	Compliance of rehabilitation of waste land within lease (iii)Method of rehabilitation	No Proposal.	NIL.	NIL.
6p	Compliance of environmental monitoring (core zone and buffer zone)	Proposed for regular monitoring of environmental parameter like water quality, noise quality, air quality etc .	Environmental parameter like water quality, noise quality, air quality etc . are being monitored regularly.	NIL.

6q	General remarks -- of inspecting officers on PMCP compliance and progressive closure operations etc.	--	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.	NIL.
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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.	Being sorted within lease area.	NIL.
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	NIL.
7d	Any beneficiation process at mines .	No Proposal.	NIL.	NIL.
7e	General remarks -- of inspecting officer on Mineral conservation and beneficiation issues	--	No beneficiation practice at mine site. SG ore of Iron and Mn is being stacked separately. Manual sorting is in practice.	NIL.

Environment:

Sl.No.	Item	Propasals	Actual work	Remarks
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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.	NIL.
8d	Use of overburden, waste rock, rejects and fines dumps for restoring the land to its original use	No Proposal.	NIL.	NIL.
8e	Phased restoration, reclamation and rehabilitation of lands affected by mining operations (Pits, dumps etc)	An area of around 0.25 Ha proposed for rehabilitation by plantation.	Plantation carried out as per proposal over the dump.	NIL.
8f	Baseline information on existence of plantation and additional plantation done (Rule 41)	Status of existing plantation has not been given in the approved document. However, 400 nos. of plantation was proposed for the year 2016-17.	During the year 6000 nos. of saplings were planted within the lease area.	Plantation more than the proposal.
8g	Survival rate	No specific proposal.	80%	As reported by Lessee.

8h	Water sprinkling on roads to control airborne dust	Water sprinkling was proposed.	Water sprinkling was a regular practice in the mine as found during the field visit of the area.	NIL.
8i	General remarks of inspecting officer on aesthetic beauty in and around mines area	--	The austhetic beauty of the mine was enhanced by coir matting on the inactive portion of the dump folowed by planation.	NIL.

Compliance of Rule 45:

Sl.No.	Item	Propasals	Actual work	Remarks
9a	Status of submission of Monthly and Annual returns	--	The party has submitted all the monthly & annual returns in the prescribed forms during the year 2016-17.	NIL.
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 2016-17.	Mining engineer, geologist & mine managers were employed in the mine.	NIL.
9c	Scrutiny of Annual return on land use pattern for area under pits, reclaimed area, dumps etc.	An area around 19.465 Ha is put under different land use like pits, dumps, road, reclaimed, infrastructure etc.	The land use status furnished in the annual return 2016-17 is found to be in order.	NIL.
9d	Scrutiny of Annual return on afforestation	During the year 2016-17, 28560 nos. of saplings with in the lease area were planted.	The status of plantation furnished in the annual return is in order.	NIL.

9e	Scrutiny of Annual return on mineral reject generation (Grade and quantity)	Mineral reject of 11000 tonnes of Iron Ore and no mineral reject generation of Mn Ore during the year 2016-17 as per the annual return submitted by the party for the year 2016-17.	The production figures furnished in the annual returns are verified with the available documents.	NIL.
9f	Scrutiny of Annual return on ROM stock and/or graded ore	During the year 2016-17, 185.00 tonnes of manganese & 11000 tonnes of iron ore was produced as indicated in the annual return.	The production figures furnished in the annual returns are verified with available documents & found to be correct.	NIL.
9g	Scrutiny of Annual return on sale value, Ex. Mine price and production cost	In annual return for the year 2016-17, the reported ex-mine price of manganese and iron Ore is Rs 0.00 and reported cost of production for Iron and Mn ore is Rs 709.00 and Rs. 1087.00 respectively per tonne.	The ex-mine price and cost of production found to be in order.	Ex mine price is Rs. 0.00, as no dispatch from mine during 2016-17.
9h	Scrutiny of Annual return on fixed assets	The total value of the fixed assets at the end of the year 2016-17 is mentioned to be for Rs. 11498000.00	The total value of the fixed assets at the end of the year 2016- 17 may be as per annual return i.e. Rs. 11498000.00	Not verified.

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 2016-17.	The deployment status of the mining machineries & other machineries, equipment furnished in the annual return are appears to be correct.	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 :

(DILIP JAIN)

Indian Bureau of Mines