

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

MCDR INSPECTION REPORT

Bhubaneshwar regional office

Mine file No : ORI/MN/SNG/MCDR-9/BBS

Mine code : 40ORI13024

- (i) Name of the Inspecting : **DJ03**) **DILIP JAIN**
Officer and ID No.
- (ii) Designation : Junior Mining Geologist
- (iii) Accompanying mine : Sri B.K. Kumar (Sr GM Mines cum Agent), Sri Sanjeev K
Official with
Designation
- (iv) Date of Inspection : 09/01/2018
- (v) Prev.inspection date : 07/07/2016

PART-I : GENERAL INFORMATION

1. (a) **Mine Name** : **PATMUNDA**
- (b) **Registration NO.** : **IBM/1278/2011**
- (c) Category : A Manual
- (d) Type of Working : Opencast
- (e) Postal address
State : ORISSA
District : SUNDARGARH
Village : PATMUNDA
Taluka : BONAI
Post office : PATMUNDA VIA KOIRA
Pin Code :
FAX No. : 033-2482871
E-mail : adhunikbbsr1@gmail.com
Phone : 06625-35063
- (f) Police Station : KOIRA
- (g) First opening date : 09/12/1955
- (h) Weekly day of rest : SAT
2. Address for : PATMUNDA MANGANESE MINE, PO:KOIRA,
correspondance : DISTRICT:SUNDERGARH, ORISSA
PIN:770 048
3. (a) Lease Number : ORI0199
- (b) Lease area : 807.66
- (c) Period of lease : 20
- (d) Date of Expiry : 31/12/1999
4. Mineral worked : MANGANESE ORE Main

5. Name and Address of the

Lessee : M/s Orissa Manganese and minerals (p) Lt
M/SOMML9, esplanade mansi,
14-Govt. Place (east),
Calcutta KOLKATA WEST
BENGAL
Phone: 2484988, 2484033, 2482871
FAX : 033- 2483717

Owner : Shri Sanjay Pratap
IPICOL HOUSE, Annexe
Building 3rd floor,
Janpath, bhubaneshwar
odisha BHUBNESHWAR ORISSA
Phone: 9937231940
FAX :

Agent : Sri Braj Kishore Kumar
At- OMM Camp, Koira Dist:
Sundergarh Odisha
SUNDARGARH ORISSA
Phone: 9437965716
FAX :

Mining Engineer

Name : Sri Prabhat kumar Jha, Full Time
Qualification : BE Mining
Appointment/ : 08/08/2016
Termination date

Manager

Name : Sri Sanjeev Kumar
Qualification : BE Mining
Appointment/ : 08/02/2016
Termination date

6. Date of approval of Mining	:	Renewal under rule 24 MCR1960	12/10/2007
Plan/Scheme of Mining	:	Modif.of approved Mining Plan	22/12/2009
	:	Mining Scheme rule 12 MCDR1988	15/06/2012
	:	MP modif under 17(3) MCR 2016	16/02/2017

PART - II : OBSERVATION/COMMENTS OF INSPECTING OFFICERS

Exploration :

Sl.No.	Item	Proposals	Actual work	Remarks
1a	Backlog of previous year	FY 2016-17: 30 BH	NIL.	The backlog was compiled during the FY-2017-18, by putting 51 nos. of BH till Dec-2017, out of 54 BH of the proposed BH of FY 2016-17 & 2017-18.
1b	Exploration over lease area for geological axis 1 or 2	No such specific proposal in the modification of the mining plan.	As per approved MMP document dated 16/02/2016 area explored under G1 level is 75.67 Ha and under G2 level is 58.45 Ha. Around 40.50 ha area is explored under G3 level of exploration.	NIL.
1c	Exploration Agencies and Expenditure in lakh rupees during the year	No specific proposal of exploration agency and expenditure.	NIL.	NIL.
1d	Balance area to be explored to bring Geological axis in 1 or 2	As per approved MMP document dated 16/02/2016, balance area to be explored is 570.416 Ha.	NIL.	NIL.
1e	Balance reserve as on 01/04/20	In the approved Modification of the MP dated 16/02/2016, the Reserve and Resource of the Mn ore furnished was 7.88 and 1.48 million tonnes respectively.	As on 01/04/2017: Reserve: 7.71 million tonnes Resource: 1.48 million tonnes	Depletion for the year 2016-17 was 0.163 million tonnes.

1f	General remarks of inspecting officers on geology, exploration etc	--	Geologically the lease area having potential for Mn and Iron mineralization. Most of the area i.e. 570.416 Ha is yet explore. An area of around 237.00 Ha is explored under different exploration category i.e. G1, G2 and G3.	NIL.
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Development :

Sl.No.	Item	Propasals	Actual work	Remarks
2a	Location of development w.r.t.lease area	MUSAGHAR PIT(PROPOSED QUARRY-1) - 250N to 650N & 220E to 400E MAIN PIT (PROPOSED QUARRY-2) - 1400N to 2000N, 530E TO 1050E. LUCKY PIT (PROPOSED QUARRY-3) - 1910N TO 2300N, 1050E TO 1400E.	Development work observed within the approved limit.	NIL.
2b	Separate benches in topsoil, overburden and minerals (Rule 15)	No proposal of top soil generation. Separate benches in OB and Ore.	Separate benches being maintained in OB and Ore.	NIL.
2c	Stripping ratio or ore to OB ratio	Fy 2016-17- 1:1.99	1: 5.04	The ORE/Waste has been interpreted based on the DTH BH, Which was actually varying during excavation. Hence, more OB excavation.
2d	Quantity of topsoil generation in m3	No Proposal.	NIL.	NIL.

2e	Quantity of overburden generation in m3	503320 CuM	821776.00 CuM	The ORE/Waste has been interpreted based on the DTH BH, Which was actually varying during excavation. Hence, more OB excavation.
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Exploitation:

Sl.No.	Item	Propasals	Actual work	Remarks
3a	Number of pit proposed for production	Quarry-1 Musaghar pit Quarry-2 Mainpit Quarry-3 Lucky Pit	Quarry-1 Musaghar pit Quarry-2 Mainpit Quarry-3 Lucky Pit	NIL.
3b	Quantity of ROM mineral production proposed	253375.00 tonnes	162927.457 Tonnes	Production for the year 2016-17 is was lower side than the proposal seems due to lower market demand.
3c	Recovery of sailable/usable mineral from ROM production	228037.00 Tonnes	108066.86 tonnes	NIL.
3d	Quantity of mineral reject generation	25337.5 tonnes	54860.59 tonnes	The production of MR was more due to encountering of MR patch during excavation.
3e	Grade of mineral rejects generation and threshold value declared.	10 to 20% Mn.	Between 12 to 25% Mn	NIL.
3f	Quantity of sub grade mineral generation.	25337.5 tonnes	54860.59 tonnes	The production of Sub-grade material was more due to encountering of Sub-grade patch during excavation.
3g	Grade of sub grade mineral generation	10 to 20% Mn.	Between 12 to 25% Mn	NIL.

3h	Manual / Mechanised method adopted for segregating from ROM	Semi Mechanized	Semi Mechanized	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	Blasting is proposed with 5.5 m depth and shallow holes drilled by wagon drill at 2.0m / 2.5m. To carryout blasting operation, Class-III (special gelatin 80% strength) and Class-VI explosive (detonator and safety fuse of standard length) will be utilized.	Is being done as per proposal.	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.	Yes.	NIL.
3m	Total area covered under excavation/pits	Total Area proposed under excavation at the end of the scheme period is 49.540 Ha	48.700 Ha	As on 01/04/2017

3n	Ore to OB ratio for the pit/mine during the year.	1:1.99	1: 5.04	The ORE/Waste has been interpreted based on the DTH BH, Which was actually varying during excavation. Hence, more OB excavation. Now the same has been modified to 1:5.42 as per approved document dated 16/02/2016.
3o	Total area put in use under different heads at the end of year	152.203	146.181	As on 01/04/2017, as per AR 2016-17.
3p	Production of ROM mineral during the last five year period as applicable	2012-13: 1,83,920 MT 2013-14: 2,10,320 MT 2014-15: 2,37,248MT 2015-16: 2,50,580MT 2016-17: 2,53,375MT	2012-13: 72123.92 MT 2013-14: 18588.596 MT 2014-15: 143852.94 MT 2015-16: 31614.90 MT 2016-17: 162927.45 MT	NIL.
3q	General remarks of inspecting officers on method of mining etc.	--	The mining operations were carried out by other than fully mechanised opencast methods as per the proposal envisaged in the modification of the mining plan.	NIL.

Solid Waste Management - Dumping:

Sl.No.	Item	Propasals	Actual work	Remarks
4a	Separate dumping of topsoil, OB and mineral rejects (Rule 32,33)	No proposal of top soil generation. Proposed separate benches in OB and Ore.	As per proposal.	

4b	Location of topsoil, OB and mineral reject dumps	Ob dump proposed between grid line N920-1720/E800-1440	The dumping of the waste has not found as per proposal. A waste dump has also been observed SW of the proposed dump.	Violation of MCDR, 2017 issued on 12/01/2018.
4c	Number of dumps within lease area and outside of lease area	Within Lease area: 01 Potside Lease area: NIL	Within Lease area: 02 Potside Lease area: NIL	Violation for additional dump has been issued.
4d	Location of dumps w.r.t. ultimate pit limit (Rule 16)	Outside UPL.	Found to outside UPL.	NIL.
4e	Number of active and alive dumps.	01	02	NIL.
4f	Number of dead dumps.	No proposal.	NIL.	NIL.
4g	Number of dumps established.	No proposal.	NIL.	NIL.
4h	Whether Retaining wall or garland drain all along dumps are there.	No proposal for the reporting year.	NIL.	NIL.
4i	Length of Retaining wall or garland drain all along dumps	No Proposal for reporting year.	NIL.	NIL.
4j	Number of settling ponds	No Proposal for reporting year.	NIL.	NIL.
4k	Specific comments of inspecting officer on waste dump management	--	Dumping of waste is being done the proposed area along with non-approved area. Violation for waste dumping on non-approved area is issued.	NIL.

Solid Waste Management - Backfilling:

Sl.No.	Item	Proposals	Actual work	Remarks
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5a	Status of part or full extraction of mineral from mined out area before starting backfilling.	An area of 2.1 Ha is proposed for backfilling, after complete extraction of Mn Ore.	1.05 Ha. has been backfilled.	Only 1.05 Ha. has been backfilled, which was only matured for backfilling.
5b	Area under backfilling of mined out area	2.10 Ha	1.05 Ha.	Only 1.05 Ha. has been backfilled, which was only matured for backfilling.
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	2.10 Ha	1.05 Ha area is reclaimed by the way of backfilling.	Only 1.05 Ha. has been backfilled, which was only matured for backfilling.
5e	General remarks of inspecting officers on backfilling and reclamation etc.	---	1.05 Ha area is reclaimed by the way of backfilling.	NIL.

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).	NO such proposal.	Yearly report of PMCP for the year 2016-17 has been submitted by party under rule 26(2) of MCDR, 2017.	NIL.
6b	Area available for rehabilitation (ha) .	2.10 Ha area proposed for back filling.	1.05 Ha area back filled.	Only 1.05 Ha. has been backfilled, which was only matured for backfilling.
6c	afforestation done (ha).	2.1 Ha (backfilling area) + all along ML boundary.	10.25 Ha (within mining area)	All along Suna Nala Safety Zone, main pit OB dump slope & bottom.

6d	No. of saplings planted during the year	2048 saplings.	22830 plants in 10.25 Ha. In 2016-17.	All along Suna Nala Safety Zone, main pit OB dump slope & bottom.
6e	Cumulative no .of plants	10240 saplings (2012-13 to 2016-17)	124853 plants planted as on date of inspection within lease.	As reported by Mines Manager.
6f	Any other method of rehabilitation	By backfilling of around 2.10 Ha Mine out area.	1.05 Ha area is backfilled.	Only 1.05 Ha. has been backfilled, which was only matured for backfilling.
6g	Cost incurred on watch and care during the year	RS. 268500/-	Rs.1248530/-	NIL.
6h	Compliance on reclamation and rehabilitation by backfilling (i) Voids available for backfilling (Lx B x D	2.10 Ha	1.05 Ha	The development work could not be achieved due lower market demand, hence, the area entire area proposed for backfilling could not be matured.
6i	Compliance on reclamation and rehabilitation by backfilling (ii) Voids filled by waste / tailings	2.10 Ha	1.05 Ha	The development work could not be achieved due lower market demand, hence, the area entire area proposed for backfilling could not be matured.
6j	Compliance on reclamation and rehabilitation by backfilling (iii)Afforestation on backfilled area	Proposed over backfilled area.	NIL.	As proposed area yet to completely backfilled.
6k	Compliance on reclamation and rehabilitation by backfilling (iv) Rehabilitation by making water reservoir	No proposal for reporting year.	NIL.	NIL>

6l	Compliance on reclamation and rehabilitation by backfilling (v)any other specific means.	No proposal for reporting year.	NIL.	NIL.
6m	Compliance of rehabilitation of waste land within lease (i)afforestation	No proposal for reporting year.	NIL.	NIL.
6n	Compliance of rehabilitation of waste land within lease (ii)Area rehabilitation (ha)	No proposal for reporting year.	NIL.	NIL.
6o	Compliance of rehabilitation of waste land within lease (iii)Method of rehabilitation	No proposal for reporting year.	NIL.	NIL.
6p	Compliance of environmental monitoring (core zone and buffer zone)	Proposed for monitoring of environmental parameter like noise quality, water quality, air quality etc .	Regular monitoring of environmental parameter like water quality, noise quality, air quality etc. is observed.	NIL.
6q	General remarks of inspecting officers on PMCP compliance and progressive closure operations etc.	--	An area of 2.10 HA was proposed for backfilling for reporting year. However, Only 1.05 Ha. has been backfilled, which was only matured for backfilling. Plantation has been carried out all along Suna Nala Safety Zone, main pit OB dump slope & bottom.	NIL.

Mineral Conservation:

Sl.No.	Item	Propasals	Actual work	Remarks
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7a	ROM Mineral dispatch or grade-wise sorting within lease area	Sorting proposed in lease area.	As per proposal.	NIL>
7b	Method of grade-wise mineral sorting i.e. manual or mechanical.	Manual sorting with Mechanical(Scr eening) intervention.	Manual sorting with Mechanical(Screening) intervention.	NIL.
7c	Different grade of mineral sorted out at mines.	Proposed for 10 to 20% Mn and +20% Mn.	Different Mn ore being sorted at mine ia as foloows: BLG - 20-25 Mn% LG - 25-35 Mn% MG - 35-46 Mn% HG - 46-50 Mn% DIOXIDE - +50 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 specific comment to offer as no mineral conservation problem has been observed.	NIL.

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.	As per proposal.	NIL.
8d	Use of overburden, waste rock, rejects and fines dumps for restoring the land to its original use	Backfilling by waste material proposed over 2.10 Ha area.	Only 1.05 Ha. has been backfilled, which was only matured for backfilling.	NIL.
8e	Phased restoration, reclamation and rehabilitation of lands affected by mining operations (Pits, dumps etc)	Phased Reclamation to be done by Plantations & Backfilling over an area of 2.1 Ha.	Only 1.05 Ha. has been backfilled, which was only matured for backfilling. Besides that 22830 plants in 10.25 Ha. Has been planted all along Suna Nala Safety Zone, main pit OB dump slope & bottom in the year 2016-17.	As reported by Mine Manager.
8f	Baseline information on existence of plantation and additional plantation done (Rule 41)	No specific proposal.	A total of 22830 plants in 10.25 Ha. Has been planted in year 2016-17.	As reported by Mine Manager.
8h	Water sprinkling on roads to control airborne dust	To control the airborne dust water sprinkling is proposed on the road.	As per proposal.	NIL.
8i	General remarks of inspecting officer on aesthetic beauty in and around mines area	--	The aesthetic beauty of the mine is moderate. None of the quarry is fully exhausted. Hence, reclamation could not be taken up. Plantation work has been carried out within lease area.	NIL.

Sl.No.	Item	Propasals	Actual work	Remarks
9a	Status of submission of Monthly and Annual returns	As per rule 45 of MCDR, 2017, Monthly and annual returns to be submitted.	Monthly and annual returns are being submitted regularly.	NIL.
9b	Scrutiny of Annual return for information on Mining Engineer, Geologist and Manager	Graduate Mining Engineer: 06, Geologist: 01, Surveyor: 01	As the mine falls under A category Mine, full time Mining engineer and geologist is appointed.	Mining operation under suspension since 01/01/2018.
9c	Scrutiny of Annual return on land use pattern for area under pits, reclaimed area, dumps etc.	As per annual return a total of 146.181 Ha area was degraded due to mining and allied activity.	The land information furnished in the annual return of the year 2016-17, seems to be in order.	NIL.
9d	Scrutiny of Annual return on afforestation	Within lease area 22830. saplings.	Found to be in Order.	NIL.
9e	Scrutiny of Annual return on mineral reject generation (Grade and quantity)	54860.59 tonnes	54860.59 tonnes	The grade between 10 to 25% Mn
9f	Scrutiny of Annual return on ROM stock and/or graded ore	A total of 162927.457 tonnes of Mn ROM was produced as indicated in annual return of the year 2016-17.	The production furnished in the annual return found to be correct.	NIL.
9g	Scrutiny of Annual return on sale value, Ex. Mine price and production cost	The cost of production furnished in annual return is RS. 3311.00/tonne.	The cost of production found to be in order.	NIL.

9h	Scrutiny of Annual return on fixed assets	The total value of fixed asset furnished at the end of the year 2016-17 is RS. 540836068.00	Found/seems to be in order.	NIL.
9k	Scrutiny of Annual return on mining machineries	Hyduralic Shovel of 3.20 CuM, 1.2 CuM, 1.7 CuM, 3.0 CuM, Front end loader 1.80 CuM, Dozer 200.00 HP, Back Hoe 1.6 CuM, Dumper 35 and 20 tonner, Tripper 5.0 tonner, rock drill 100.00 mm.	The deployment status of the mining machineries appears to be correct.	NIL.

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)	12/01/2018	MCDR17	Rule 11(1)	12/01/2018

Date :

(DILIP JAIN)

Indian Bureau of Mines