

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

**MCDR INSPECTION REPORT**

**Nagpur regional office**

**Mine file No :** MAH/BHD/MN-42/NGP

**Mine code :** 40MSH05002

- (i) Name of the Inspecting : **M017** ) **ASHISH MISHRA**  
Officer and ID No.
- (ii) Designation : Sr. Asst. Contrl. Mines
- (iii) Accompanying mine : Shri Rajesh Bhattacharya, Agent  
Official with  
Designation
- (iv) Date of Inspection : 02/09/2017
- (v) Prev.inspection date : 21/12/2016

**PART-I : GENERAL INFORMATION**

1. (a) **Mine Name** : **DONGRI BUZURG (B.HAMESHA)**
- (b) **Registration NO.** : **IBM/5711/2011**
- (c) **Category** : **A Mechanised**
- (d) **Type of Working** : **Opencast**
- (e) **Postal address**
- State : **MAHARASHTRA**
- District : **BHANDARA**
- Village : **BALAPUR HAMESHA**
- Taluka : **TUMSAR**
- Post office : **DONGRI BUZURG**
- Pin Code :
- FAX No. :
- E-mail :
- Phone :
- (f) **Police Station** :
- (g) **First opening date** : **01/01/1977**
- (h) **Weekly day of rest** : **MON**
2. **Address for** : **P.O. DONGRI BUZURG**  
**correspondance**
3. (a) **Lease Number** : **MSH0066**
- (b) **Lease area** : **46.25**
- (c) **Period of lease** : **20**
- (d) **Date of Expiry** : **03/04/2018**

MSH0067  
70.5  
20  
17/02/2021

MSH0065  
53.98  
20  
30/06/2022

MSH0388  
 4.07  
 20  
 08/12/2031

4. Mineral worked : MANGANESE ORE Main

5. Name and Address of the

Lessee : M/S MANGANESE ORE (INDIA) LTD.  
 3, MOUNT ROAD EXTENSION  
 POST BOX NO. 34, NAGPUR  
 (MP) NAGPUR MAHARASHTRA  
 Phone:  
 FAX :

Owner : C.P.N.PATHAK  
 3, MOUNT ROAD EXTN. POST  
 BOX NO. 34 NAGPUR NAGPUR  
 MAHARASHTRA  
 Phone: 0712 - 2545703  
 FAX : 0712 - 2524996

Agent : SHRI P.D.SHARMA  
 GROUP-II, MOIL, CHIKLA  
 MINE, P.O.SITASAONGI,  
 DISTT.-BHANDARA BHANDARA  
 MAHARASHTRA  
 Phone:  
 FAX :

6. Date of approval of Mining Plan/Scheme of Mining	:	Renewal under rule 22 MCR1960	15/10/2003
		Renewal under rule 22 MCR1960	15/10/2003
		Mining Scheme rule 12 MCDR1988	25/01/2007
		Mining Scheme rule 12 MCDR1988	28/03/2008
		Mining Scheme rule 12 MCDR1988	21/08/2009
		Mining Scheme rule 12 MCDR1988	13/05/2013
		Mining Scheme rule 12 MCDR1988	24/05/2016
		MP review under 17(1) MCR 2016	07/06/2017
		MP review under 17(1) MCR 2016	11/08/2017
		MP review under 17(1) MCR 2016	16/08/2017

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

## Exploration :

Sl.No.	Item	Proposals	Actual work	Remarks
1a	Backlog of previous year	The mine comprises of 4 leases (one minocode with 4 leases- 46.50 ha, 53.98 ha, 69.50 ha & 4.07 ha=Total 173.80 ha) Exploration through 07 bore holes with 1650 m meterage at 200 m X 200 m grid were proposed	25 boreholes with 5900 m meterage at 200 m X 200 m meterage drilled in the lease area.	
1b	Exploration over lease area for geological axis 1 or 2	G1, G2 & G3 level reserves/resources available out of which G2 & G3 are proposed to be converted into G1	Area under G-1: 19.41 ha Area under G-2: 2.95 ha Area under G-3: 1.53 ha Rest is non-mineralized land.	81.247% area has been converted under G1 (detailed exploration) and exploration activities are being carried out to explore complete potentially mineralized area under G-1 as per Rule 12 of MCDR'2017.
1c	Exploration Agencies and Expenditure in lakh rupees during the year	M/s MOIL Ltd. (lessee himself)	Exploration was carried out by lessee himself at a cost of Rs 8800/- per meter of drilling for NQ and BQ size cores. Total expenditure incurred is approximately Rs 51920000/-.	
1d	Balance area to be explored to bring Geological axis in 1 or 2	Complete area is proposed to be explored in detail as per the provisions of Rule 12 of MCDR'2017	Total 4.48 ha area (2.95 ha under G2 and 1.53 ha under G3) is proposed to be covered under detailed exploration within 5 years from 2017-18.	

1e Balance reserve as on 01/04/20

Balance reserves as on 01/04/2018:  
 111-3473539 T  
 122-290938 T  
 211-519531 T  
 221-1648107 T  
 222-2253539 T  
 332-2267133 T  
 333-122063 T  
 Total Resources: 10.57  
 MT (Reserves: 3.76 MT)

1f General remarks of inspecting officers on geology, exploration etc

The area has been explored in the strike direction as well as upto 301 m depth from the surface. Mineral resources below the economically workable limits are proposed to be extracted by underground mining methods in the conceptual planning after obtaining necessary clearances.

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Development :

Sl.No.	Item	Propasals	Actual work	Remarks
2a	Location of development w.r.t.lease area	46.25 ha: Ch 15 to Ch 48, 370 mRL to 240 mRL 53.98 ha: Ch 16 to Ch 42, 370 mRL to 300 mRL 69.50 ha: Ch 20 to Ch 42, 345 mRL to 290 mRL 4.07 ha: Ch 30 to Ch 42, 345 mRL to 290 mRL	As per the proposals	
2b	Separate benches in topsoil, overburden and minerals (Rule 15)	Yes	Yes	

2c	Stripping ratio or ore to OB ratio	1:11 from the lease area (384000 T of ROM and 4350000 cuM overburden )	1:11 (305762 T ROM and 3467782 cuM Overburden)	Development has been more to ensure safety of workmen and machines and to keep roads wide for working as per the extent rules.
2d	Quantity of topsoil generation in m3	Total 264839 cuM top soil was proposed from the lease area which was completely from 4.07 ha lease. Rest of the leases have already broken surface area and has no top soil available.	86550 cuM top soil generated in the last 5 years SOM period.	
2e	Quantity of overburden generation in m3	4350000 cuM from all leases	3467782 cuM	
2f	General remarks of inspecting officers on development of pit w.r.t. type of deposit etc			Development work was carried as per the proposal. Ore zone of Dongri, trends almost in E-W direction with moderate to high dip due south. the deposit is limb of an overturned anticline fold. The ore zone strikes over 2.1 K.M, is thick in the middle & tappers on either end. The mid segment between ch 21-ch40 (app) is 25-40mts thick. Development in the lease area is as per the trend of the deposit.

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Exploitation:

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Sl.No.	Item	Propasals	Actual work	Remarks
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3a	Number of pit proposed for production	One Pit	One pit	
3b	Quantity of ROM mineral production proposed	2017-18: 384000 T	2017-18: 305762 T	
3c	Recovery of sailable/usable mineral from ROM production	80%	80%	Generated sub-grade/Mineral rejects shall be blended with high grade and utilized.
3d	Quantity of mineral reject generation	30000 T	30000 T	
3e	Grade of mineral rejects generation and threshold value declared.	17-18% Mn	As proposed	
3f	Quantity of sub grade mineral generation.	Nil	Nil	
3g	Grade of sub grade mineral generation	Not Applicable	Not Applicable	
3h	Manual / Mechanised method adopted for segregating from ROM	Manual sorting	Manual sorting is being done.	
3i	Any analysis or beneficiation study proposed and carried out for sub grade mineral and rejects.	No, the generated sub-grade/mineral rejects shall be stacked in the mineralized dumps and shall be recovered as per the market demand.	As per the proposals.	
3j	Provision of drilling and blasting in mineral benches	Yes	There are total 6 drilling machines (non electrical) deployed in the mine each having 110 mm dia.	

3k	Provision of mining machineries in mineral benches	Yes	<p>Hydraulic Excavators:  0.9 cuM capacity-2 Nos.,  4.5 cuM capacity-2 Nos.,  3.0 cuM capacity-1No.,  2.5 cuM capacity-2 Nos.,  5.6 cuM capacity-2 Nos.  Dozers: 3 dozers with 335 HP  Drill machine: 110 mm dia, 6 Nos.  Dumpers: 60 T-7Nos., 35 T-13 Nos.  Water Tanker: 28000 Ltr-1 No.</p>	<p>These machineries are deployed alongwith other auxilliary machines like explosive vans, service vans, Front End Loader (2 cuM capacity-1 No.) &amp; Jeeps/Tractor trolleys. The mechanization is as per the category of the mine.</p>
3l	Whether height of benches in overburden and mineral suitable for method of mining proposed in MP/SOM	Yes	<p>Yes,  Height of benches is approximately 10 m which is as per the mechanization and as per the proposals.</p>	
3m	Total area covered under excavation/pits	36.579 ha	36.579 ha	
3n	Ore to OB ratio for the pit/mine during the year.	1:11	1:11	
3o	Total area put in use under different heads at the end of year		<p>Area under:  Excavation-36.579 ha  Mineral Storage-12.31 ha  Township-13.61 ha  Roads-2.8 ha  Infrastructure-7.693 ha  OB/ Waste Dump-31.761 ha  Total-104.753 ha</p>	
3p	Production of ROM mineral during the last five year period as applicable	<p>2016-17:  340000 T  2015-16:  340000 T  2014-15:  337197 T  2013-14:  364994 T  2012-13:  600000 T</p>	<p>2016-17: 252664 T  2015-16: 252580 T  2014-15: 337197 T  2013-14: 364994 T  2012-13: 390001 T</p>	
3q	General remarks of inspecting officers on method of mining etc.			<p>Method of mining is Category A mechanized which is as per the occurrence of mineral deposit and as per the capital expenditure.</p>

## Solid Waste Management - Dumping:

Sl.No.	Item	Propasals	Actual work	Remarks
4a	Separate dumping of topsoil, OB and mineral rejects (Rule 32,33)	Yes	Yes	Top soil is being simultaneously utilized. There are separate dumps for OB/Waste and mineral rejects.
4b	Location of topsoil, OB and mineral reject dumps	OB/ Waste Dumps: E 362975 to E 362750 & N 2383300 to N 2383160 Mineral Reject Dumps: E 364450 to E 364000 & N 2383600 to N 2383100	As per the proposals	
4c	Number of dumps within lease area and outside of lease area	OB- 4 dumps namely, North West Dump-A, South west Dump-B, South Dump-C and South Dump-D Mineral Rejects - 2 stacks namely, Mineral Stack-A, Mineral Stack -B	As per the proposals. Apart from these, 2 old dumps falling in 53.98 ha and 69.5 ha lease areas have been reclaimed.	There are few outside dumps located besides the lease area over which, dumping has been stopped in light of Hon'ble Supreme Court Judgment in this regard. The area was allowed for dumping waste by the state govt. earlier. Presently, the area (60.22 ha) has been granted under Rule 57 of MCR'2016 for dumping of waste only.
4d	Location of dumps w.r.t. ultimate pit limit (Rule 16)	All dumps are outside pit limits	As per the proposals.	
4e	Number of active and alive dumps.	4 OB/Waste dumps and 2 Mineral rejects stacks are active for dumping of material.	As per the proposals	
4f	Number of dead dumps.	2	2	These are old dumps already stabilized.
4g	Number of dumps established.	2	2	Old dumps already stabilized

4h	Whether Retaining wall or garland drain all along dumps are there.	Yes	Yes	
4i	Length of Retaining wall or garland drain all along dumps	Approximately 5000 m	As per the proposals	In 2017-18, 1500 m garland drain and retaining wall constructed / repaired
4j	Number of settling ponds	Nil	Nil	
4k	Specific comments of inspecting officer on waste dump management			Previously dumping was carried on purchased land outside the lease area which has been stopped after the enactment of MCR 2016. Further, around 22 ha area covered under old dumps has already been reclaimed. In future, underground working is proposed after attaining economic depth and during that period, most of the waste shall be utilized for underground backfilling. Also grant of 60.22 ha leased area for dumping of waste has provided scope for development of pit.

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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 such proposals	Nil	
5b	Area under backfilling of mined out area	No such proposals	Nil	

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5c	Concurrent use of topsoil for restoration or rehabilitation of mineral out area (Rule 32)	No such proposals	Nil	
5d	Total area fully reclaimed and rehabilitated	No such proposals	Nil	
5e	General remarks of inspecting officers on backfilling and reclamation etc.			There are no proposals for backfilling and waste dumps shall be suitably terraced and rehabilitated through plantation. After attaining economic depth, the mine shall be worked with underground method.

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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).	Yes	Yes	
6b	Area available for rehabilitation (ha) .	Nil	Nil	
6c	afforestation done (ha).	67.47 ha of Waste dump area	As per the proposals	
6d	No. of saplings planted during the year	4000	4000	
6e	Cumulative no .of plants	Not available as the mine is quite old	169802 Nos. of saplings/ plants	
6f	Any other method of rehabilitation	No such proposals	Nil	

6g	Cost incurred on watch and care during the year	Approximately 32 Lakh (including SDF expenditures)	Around 88 Lakh
6h	Compliance on reclamation and rehabilitation by backfilling (i) Voids available for backfilling ( L x B x D	No such proposals	Nil
6i	Compliance on reclamation and rehabilitation by backfilling (ii) Voids filled by waste / tailings	No such proposals	Nil
6j	Compliance on reclamation and rehabilitation by backfilling (iii) Afforestation on on backfilled area	No such proposals	Nil
6k	Compliance on reclamation and rehabilitation by backfilling (iv) Rehabilitation by making water reservoir	No such proposals	Nil
6l	Compliance on reclamation and rehabilitation by backfilling (v) any other specific means.	No such proposals	Nil
6m	Compliance of rehabilitation of waste land within lease (i) afforestation	No such proposals	Nil
6n	Compliance of rehabilitation of waste land within lease (ii) Area rehabilitation (ha)	No such proposals	Nil

6o	Compliance of rehabilitation of waste land within lease (iii)Method of rehabilitation	No such proposals	Nil	
6p	Compliance of environmental monitoring (core zone and buffer zone)	Yes	Yes	
6q	General remarks of inspecting officers on PMCP compliance and progressive closure operations etc.			It was observed that more sapling were planted than proposed in the previous years. Apart from this PMCP work has been done at satisfactory level in the lease area as well as outside the lease area (previously permitted for dumping of waste).

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Mineral Conservation:

Sl.No.	Item	Propasals	Actual work	Remarks
7a	ROM Mineral dispatch or grade-wise sorting within lease area	Grade wise mineral dispatch	As per the proposals	
7b	Method of grade-wise mineral sorting i.e. manual or mechanical.	Manual sorting of ROM afterwards Mechanical crushing for sizing and grading	As per the proposals	Mechanical crushing is being done to get size fractions of a) (-) 75- (+) 25mm b) (-) 25-(+) 6mm c) (-) 6mm
7c	Different grade of mineral sorted out at mines.	(a) Below 25% Mn (b) 25% to below 35% Mn (c) 35% to below 46% Mn (d) 46% Mn and above (e) Dioxide Ore	As per the proposals	

7d	Any beneficiation process at mines	Crushing and screening of sorted ROM	As per the proposals	
7e	General remarks of inspecting officer on Mineral conservation and beneficiation issues			ROM is being sorted manually to get +17% Mn content ore. 14-17% Mn content material is being stacked separately in black dumps available within the lease area from where it is again recovered. Sorted ROM is crushed and screened to get various grades and sizes for dispatch. No issue related to mineral conservation was observed.

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Environment:

Sl.No.	Item	Proposals	Actual work	Remarks
8a	Separate removal and utilization of topsoil (Rule 32)	Yes	As per the proposals	86550 cuM top soil was generated and simultaneously utilized for plantation over the waste dumps
8b	Concurrent use or storage of topsoil	Concurrent use for reclamation of dumps	As per the proposals	
8c	Separate dumps for overburden, waste rock, rejects and fines (Rule 33)	Yes	Yes	
8d	Use of overburden, waste rock, rejects and fines dumps for restoring the land to its original use	No such proposals	Not applicable	

8e	Phased restoration, reclamation and rehabilitation of lands affected by mining operations (Pits, dumps etc)	Dumps are proposed for phased restoration through plantation. There is only one pit which is yet to attain economic depth. Afterwards, underground workings are proposed.	As per the proposals	
8f	Baseline information on existence of plantation and additional plantation done (Rule 41)	Yes	Yes	
8g	Survival rate		Around 78-80%	
8h	Water sprinkling on roads to control airborne dust	Yes being done	As per the proposals	
8i	General remarks of inspecting officer on aesthetic beauty in and around mines area			Apart from normal degradation due to mining, aesthetic beauty is good in the area. Lessee has done remarkable plantation work and retaining walls, garland drains are there all along the dumps to avoid any degradation of land due to wash off.

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Compliance of Rule 45:

Sl.No.	Item	Propasals	Actual work	Remarks
9a	Status of submission of Monthly and Annual returns		Online Annual Returns submitted upto 2017-18 Monthly returns submitted upto June 2018	

9b	Scrutiny of Annual return for information on Mining Engineer, Geologist and Manager	Mining Engineer: Shri D. R. Pantawane Geologist: Shri Sudhanshu Chauhan Manager: Shri U. M. Bhujade	Correct information furnished	
9c	Scrutiny of Annual return on land use pattern for area under pits, reclaimed area, dumps etc.		Land use details given need review and correction as the land use details furnished are exceeding the lease area.	Spot guidance given and asked lessee to submit modified returns. There was some typographical mistake which is under correction and the return is under refer back stage.
9d	Scrutiny of Annual return on afforestation	Saplings: 4000 Survival: 80%	Correct information furnished	
9e	Scrutiny of Annual return on mineral reject generation (Grade and quantity)	Quantity: 30000 T Grade: 17-18% Mn	Correct information furnished	
9f	Scrutiny of Annual return on ROM stock and/or graded ore	ROM: Opening & Closing Stock- Nil, Production- 305762 T Graded Ore- Opening & Closing Stocks, Production, Dispatches for various grades given	Correct information furnished	

9g	Scrutiny of Annual return on sale value, Ex. Mine price and production cost	Sale Value: For grade below 25% Mn- Rs 11446520/-, For 25-35% Mn-Rs 1048926612/-, For 35-46% Mn-Rs 714024030/- , For Mn 46% and above-Rs 143640526/- & For Dioxide Grade-Rs 77378104/- Ex mine Price per T: For grade below 25% Mn- Rs 2000/-, For 25-35% Mn-Rs 5940.04/-, For 35-46% Mn- Rs 18146.15/-, For Mn 46% and above-Rs 22643.52/- & For Dioxide Grade-Rs 29972.11/- Cost of Prod. per T- Rs 3462.14/-	Correct information furnished
9h	Scrutiny of Annual return on fixed assets	Information furnished on Land and Machinery. Total value of fixed assets after addition/selling/depreciation as on 01/04/2018 is Rs 756996060/-	Correct information furnished

9k	Scrutiny of Annual return on mining machineries	Hydraulic Excavators: 0.9 cuM capacity-2 Nos., 4.5 cuM capacity-2 Nos., 3.0 cuM capacity-1No., 2.5 cuM capacity-2 Nos., 5.6 cuM capacity-2 Nos. Dozers: 3 dozers with 335 HP Drill machine: 110 mm dia, 6 Nos. Dumpers: 60 T- 7Nos., 35 T-13 Nos. Water Tanker: 28000 Ltr-1 No. and Explosive Vans and Jeep/Tractor	Correct information furnished
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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 :**

**(ASHISH MISHRA)**

Indian Bureau of Mines