

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

**MCDR INSPECTION REPORT**

**Nagpur regional office**

**Mine file No :** MAH/NAG/MN--79/NGP

**Mine code :** 40MSH14006

- (i) Name of the Inspecting : **M017** ) **ASHISH MISHRA**  
Officer and ID No.
- (ii) Designation : Sr. Asst. Contrl. Mines
- (iii) Accompanying mine : Shri A. V. Masade, Agent, Shri G. Manekar, DGM (Geolo  
Official with  
Designation
- (iv) Date of Inspection : 13/10/2018
- (v) Prev.inspection date : 15/09/2017

**PART-I : GENERAL INFORMATION**

1. (a) **Mine Name** : **GUMGAON**
- (b) **Registration NO.** : **IBM/5711/2011**
- (c) Category : A Other than Fully Mech.
- (d) Type of Working : Underground
- (e) Postal address :  
State : MAHARASHTRA  
District : NAGPUR  
Village : GUMGAON  
Taluka : SAONER  
Post office : KHAPA  
Pin Code : 441101  
FAX No. :  
E-mail :  
Phone : 07113--86123
- (f) Police Station :
- (g) First opening date : 01/07/1962
- (h) Weekly day of rest : SUN
2. Address for :  
correspondance
3. (a) Lease Number : MSH0319
- (b) Lease area : 35.97
- (c) Period of lease : 50
- (d) Date of Expiry : 29/06/2050

MSH0098  
1.33  
15  
25/07/1984

MSH0086  
48.6  
60  
30/06/2022

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 S.S.Chakravorty  
PO- Kandri Distt.  
Nagpur(MS) NAGPUR  
MAHARASHTRA  
Phone: 07114-- 68148  
FAX :

Mining Engineer

Name : Shri Kishore Chandrakar, Full Time  
Qualification : B.E.Mining  
Appointment/ :  
Termination date

Geologist

Name : Shri I.A.Siddiqui, Full Time  
Qualification : M.Sc. (Geology)  
Appointment/ :  
Termination date

6. Date of approval of Mining Plan/Scheme of Mining	:	Renewal under rule 22 MCR1960	01/04/2003
		Renewal under rule 22 MCR1960	15/10/2004
		Modif.of approved Mining Plan	03/06/2005
		Mining Scheme rule 12 MCDR1988	09/05/2006
		Mining Scheme rule 12 MCDR1988	22/07/2008
		Mining Scheme rule 12 MCDR1988	09/07/2013
		MP review under 17(1) MCR 2016	07/06/2017
		MP review under 17(1) MCR 2016	20/06/2017
	MP review under 17(1) MCR 2016	12/07/2017	

MP modif under 17(3) MCR 2016

03/08/2018

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

## Exploration :

Sl.No.	Item	Proposals	Actual work	Remarks
1a	Backlog of previous year	3 Boreholes were proposed to be drilled in the 35.97 ha lease area in the year 2017-18 at 50 m X100m grid interval and with a total meterage of around 900-1500m.	3 Boreholes are drilled as per the proposals at 50 m X 50 m grid interval with 771 m of meterage.	
1b	Exploration over lease area for geological axis 1 or 2	G-1 and G-2 (G-2 for 48.596 ha area only where spacing of borehole is more)	As per the proposals.	
1c	Exploration Agencies and Expenditure in lakh rupees during the year	Exploration to be done by M/s MOIL	As per the proposals. Expenditure is around 46 lakh rupees.	
1d	Balance area to be explored to bring Geological axis in 1 or 2	Almost complete lateral area has been explored. Underground levels at deeper limits are yet to be proved under G-1.	Approximately 6 ha area is required to be proved under G-1 for which further exploration has been proposed in form of 44 core boreholes during 2017-18 to 2021-22 period.	
1e	Balance reserve as on 01/04/20		Balance reserves as on 01.04.2018: 111-2871863 T 121-170500 T 221-3218599 T 332-51817 T Total: 6312779 T	

1f	General remarks of inspecting officers on geology, exploration etc	Ore zone in the lease area is displayed in anticlinal form with a strike east west and dip due south with moderate to high angle. The limb of ore also plunges due west with low angle. The deposit is faulted with a vertical fault trending in north east - south west direction, dislocating the eastern block to south. This deposit has been explored to the depth of -900'L with 75 boreholes. The avg. thickness available for mining within the area ranges from 3 m to 50 m.	In the last SOM period which was 2012-2017, total 48 boreholes were drilled in the area to prove the mineral reserves/resources available in the potentially mineralized zone. 1.33 ha area out of total 85.90 ha area is only PWD road for which no exploration is proposed or carried out. Future exploration is also proposed to cover entire potentially mineralized area under G-1 category and closer spaced boreholes are also being drilled to confirm mineralization at deeper levels.
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Development :

Sl.No.	Item	Propasals	Actual work	Remarks
2a	Location of development w.r.t.lease area	For 2017-18: HZ Dev.: at - 100' L, -200' L, -300' L and -400' L Vertical dev.: at -100' L, - 200' L, -300' L and -400' L	As per the proposals	
2b	Separate benches in topsoil, overburden and minerals (Rule 15)	Not applicable	Not applicable	
2c	Stripping ratio or ore to OB ratio	Not applicable	Not applicable	
2d	Quantity of topsoil generation in m3	Not applicable	Nil	

2e	Quantity of overburden generation in m3	Not applicable Nil as method of working is underground.	
2f	General remarks of inspecting officers on development of pit w.r.t. type of deposit etc		Development is adequately proposed and achieved in the mine to keep the operation in a sequence. Development is being kept well in advance to prepare stopes ready for exploitation as per the proposals made in the approved Mining Plan documents. Against HZ development proposals of 778 RMT, actual achievement is 707.83 RMT and against Vertical development proposals for 241 RMT, actual achievements are 140.4 RMT.

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### Exploitation:

Sl.No.	Item	Propasals	Actual work	Remarks
3a	Number of pit proposed for production	Not applicable as method of working is underground.	Not applicable	Presently development and production is being carried out at 4 underground levels i.e., -100'L, -200'L, -300'L & -400'L.
3b	Quantity of ROM mineral production proposed	2017-18: 86423 T	2017-18: 83662 T	
3c	Recovery of sailable/usable mineral from ROM production	80% of the ROM is considered as clean ore with 10% as rejects and 10% as sub-grade	Approximately 92% of the ROM is cleaned graded ore (ROM 83662T, Mineral Rejects 6788T)	

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3d	Quantity of mineral reject generation	2017-18: 8683 T	2017-18: 6788 T	
3e	Grade of mineral rejects generation and threshold value declared.	10% Mn to 22% Mn	+10% Mn	
3f	Quantity of sub grade mineral generation.	Not applicable in present context and quantity has already been mentioned under mineral rejects.	Nil	
3g	Grade of sub grade mineral generation	Not applicable	Nil	
3h	Manual / Mechanised method adopted for segregating from ROM	Manual Sorting of ROM	Manual Sorting of ROM	
3i	Any analysis or beneficiation study proposed and carried out for sub grade mineral and rejects.	No such proposals	Nil	
3j	Provision of drilling and blasting in mineral benches	Not applicable as method of working is underground.	Not applicable	Drilling and blasting is being carried out at underground.
3k	Provision of mining machineries in mineral benches	Not applicable as method of working is underground.	Not applicable	In underground, Locomotive, SDL, drills are being used in form of mechanization.
3l	Whether height of benches in overburden and mineral suitable for method of mining proposed in MP/SOM	Not applicable as method of working is underground.	Not applicable	Level interval is being kept at 100' (around 30m) that is suitable for the method of mining.
3m	Total area covered under excavation/pits	7.766 ha (Old working pit)	As per the proposals, no further working has been carried out.	
3n	Ore to OB ratio for the pit/mine during the year.	Not applicable as method of working is underground.	Not applicable	



3o	Total area put in use under different heads at the end of year	Area under: Excavation/pits- 7.766 ha Mineral Storage- 1.28 ha OB/ Waste Dumps- 7.2 ha Infrastructure- 4.43 ha Roads- 1.515 ha Township- 8.05 ha Total-30.241 ha	Waste dump area reclaimed is 11.23 ha																
3p	Production of ROM mineral during the last five year period as applicable	<table border="0"> <tr><td>2016-17:</td><td>2016-17: 85942 T</td></tr> <tr><td>116000 T</td><td>2015-16: 73742 T</td></tr> <tr><td>2015-16:</td><td>2014-15: 58500 T</td></tr> <tr><td>107000 T</td><td>2013-14: 55541 T</td></tr> <tr><td>2014-15:</td><td>2012-13: 48635 T</td></tr> <tr><td>111500 T</td><td></td></tr> <tr><td>2013-14: 92000 T</td><td></td></tr> <tr><td>2012-13: 75000 T</td><td></td></tr> </table>	2016-17:	2016-17: 85942 T	116000 T	2015-16: 73742 T	2015-16:	2014-15: 58500 T	107000 T	2013-14: 55541 T	2014-15:	2012-13: 48635 T	111500 T		2013-14: 92000 T		2012-13: 75000 T		
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111500 T																			
2013-14: 92000 T																			
2012-13: 75000 T																			
3q	General remarks of inspecting officers on method of mining etc.		Method of mining is underground and method of stoping is cut and fill. The method selected is suitable as per the occurrence of orebody in the area, geology of the area and capital investments.																

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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	Yes (not applicable for top soil)	
4b	Location of topsoil, OB and mineral reject dumps	As per the mining plan between Ch 06 to Ch 10 and between Ch 50 to Ch 54.	As per the proposals.	
4c	Number of dumps within lease area and outside of lease area	8 dumps are available and all are within the lease area.	As per the proposals.	

4d	Location of dumps w.r.t. ultimate pit limit (Rule 16)	Not applicable as method of working is underground.	Not applicable.	
4e	Number of active and alive dumps.	02 Waste dumps are active and alive	02 Waste dumps.	
4f	Number of dead dumps.	06 Waste dumps are dead	06 Waste dumps are dead	
4g	Number of dumps established.	06 dumps are already reclaimed through plantation.	06 dumps are already reclaimed through plantation.	Total Waste dumps reclaimed area is 11.23 ha.
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 1500 m garland drains and retaining walls are available all along the dumps.	As per the proposals.	The garland drains and retaining walls are already constructed in the past. Only maintenance work is being carried out as and when required.
4j	Number of settling ponds	Nil	Nil	
4k	Specific comments of inspecting officer on waste dump management			Major waste dumps that are available over 11.23 ha area in the North-western part of the lease area are already reclaimed and rehabilitated through plantation. Garland drains and retaining walls are available at the toe of the dumps in form of protective measures. Thus waste dump management aspect is satisfactory at mine level.

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Solid Waste Management - Backfilling:

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Sl.No.	Item	Propasals	Actual work	Remarks
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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	
5c	Concurrent use of topsoil for restoration or rehabilitation of mineral out area (Rule 32)	No such proposals	Nil	Generated top soil at earlier stage of workings has already been utilized for plantation over reclaimed waste dumps.
5d	Total area fully reclaimed and rehabilitated	No such proposals	Nil	
5e	General remarks of inspecting officers on backfilling and reclamation etc.			No comments as there are no proposals for backfilling.

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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) .	No such proposals	Nil	Area avaiable for the matured dumps has already been reclaimed.
6c	afforestation done (ha).	No proposals for the year.	1000 saplings were planted in the infilling space at the waste dumps	
6d	No. of saplings planted during the year	No such proposals	1000 saplings within lease area and 30000 saplings outside the lease area	
6e	Cumulative no .of plants	Not available	More than 50000 saplings	
6f	Any other method of rehabilitation	No such proposals	Nil	

6g	Cost incurred on watch and care during the year	No proposals except environment monitoring cost.	Rs 20.0 lakhs approximately
6h	Compliance on reclamation and rehabilitation by backfilling (i) Voids available for backfilling ( Lx 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.			PMCP work done in the year is in form of in-filling plantation through 1000 saplings and Environment Monitoring. Dead dumps have already been stabilized and reclaimed. Apart from that plantation outside lease area in the nearby villages has been carried out.

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Mineral Conservation:

Sl.No.	Item	Proposals	Actual work	Remarks
7a	ROM Mineral dispatch or grade-wise sorting within lease area	Grade-wise sorting and dispatch	As per the proposals.	
7b	Method of grade-wise mineral sorting i.e. manual or mechanical.	Manual sorting	Manual sorting	
7c	Different grade of mineral sorted out at mines.	Mineral rejects, 25% Mn to below 35% Mn & 35% Mn to below 46% Mn grades	As per the proposals.	
7d	Any beneficiation process at mines	No	Nil	

7e	General remarks of inspecting officer on Mineral conservation and beneficiation issues	Mineral rejects part of the ROM having approximate grade 10-22% Mn is proposed for separate stacking and shall be used as per the requirements. Mineralized dumps are being exploited and mineral contents are being extracted from the dumps. Thus, mineral conservational aspect is satisfactory.
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Environment:

Sl.No.	Item	Propasals	Actual work	Remarks
8a	Separate removal and utilization of topsoil (Rule 32)	No such proposals	Not applicable	Generated top soil at earlier stage of workings has already been utilized for plantation over reclaimed waste dumps.
8b	Concurrent use or storage of topsoil	No such proposals	Nil	
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	Nil	

8e	Phased restoration, reclamation and rehabilitation of lands affected by mining operations (Pits, dumps etc)	No such proposals for the year	Nil	Matured waste dumps covering 11.23 ha area have already been reclaimed through plantation.
8f	Baseline information on existence of plantation and additional plantation done (Rule 41)	Yes	Yes	
8g	Survival rate		80%	
8h	Water sprinkling on roads to control airborne dust	Yes	Yes, water sprinkling is being done in the area where sorting is being done or in the dump working areas.	
8i	General remarks of inspecting officer on aesthetic beauty in and around mines area			Mainly, working is through underground means in the area (apart from dump workings). Hence, apart from normal degradation due to mining, aesthetic beauty is satisfactory in the area.

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Compliance of Rule 45:

Sl.No.	Item	Propasals	Actual work	Remarks
9a	Status of submission of Monthly and Annual returns		AR submitted online upto 2017-18 MR submitted online upto Nov'18	
9b	Scrutiny of Annual return for information on Mining Engineer, Geologist and Manager	Mining Engineer: Shri V. M. Khedikar Geologist: Shri Arijit Mitra Manager: Shri A. R. Guladhe	Correct information furnished	

9c	Scrutiny of Annual return on land use pattern for area under pits, reclaimed area, dumps etc.	Complete information furnished on the land use	Area was observed to be reported in the category 'already exploited and abandoned' which was advised to be corrected	
9d	Scrutiny of Annual return on afforestation	Within lease: No. of saplings- 1000, Survival- 80% Outside Lease: No. of saplings- 30000, Survival- 80%	Correct information for within lease plantations. Outside lease plantation work could not be verified.	
9e	Scrutiny of Annual return on mineral reject generation (Grade and quantity)	Mineral rejects: 6788 T Grade: +10% Mn	Complete information provided. These mineral rejects should also be reflected in the reported ROM under Part VI. Thus, necessary corrections were advised to be made.	
9f	Scrutiny of Annual return on ROM stock and/or graded ore	ROM: Opening Stock and Closing Stocks- Nil, Production- 83662 T Graded Ore: information furnished for 25% Mn to below 35% Mn and 35% Mn to below 46% Mn	Complete information furnished.	
9g	Scrutiny of Annual return on sale value, Ex. Mine price and production cost	Sale value: Rs 885242709/-, Ex-mine price: for 25% Mn to below 35% Mn- Rs 6506.67/- per T & 35% Mn to below 46% Mn- Rs 13081.42/- per T Production cost- Rs 4097.09/- per T	Complete information furnished. It is under examination with MMS Div. as well as Regional Office separately and suitable actions shall be initiated in case of any discrepancy.	Nov'18 MR was scrutinized and observed that Ex-mine price of 25% to below 35% Mn was furnished as Rs 94040 per T which was vastly incorrect. The matter was informed to M/s MOIL Ltd. (to Agent Shri A. V. Masade) for immediate corrections and the same was corrected as Rs 9404.56/- per T.



9h	Scrutiny of Annual return on fixed assets	Value of Fixed Assets (in Rs) 644718704/- Apart from this, depreciation for plant, buildings, machineries etc. has been furnished under Part-II A.	Complete information has been furnished.
9k	Scrutiny of Annual return on mining machineries	Complete information given for mining machineries deployed at the mine.	Complete and correct information furnished as per the extent of mechanization.

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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