

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

MCDR INSPECTION REPORT

Nagpur regional office

Mine file No : MAH/NAG/MN-137/NGP

Mine code : 40MSH14010

- (i) Name of the Inspecting : **M017**) **ASHISH MISHRA**
Officer and ID No.
- (ii) Designation : Sr. Asst. Contrl. Mines
- (iii) Accompanying mine : Shri Dekate, Mines Manager
Official with
Designation
- (iv) Date of Inspection : 26/04/2017
- (v) Prev.inspection date : 29/01/2016

PART-I : GENERAL INFORMATION

1. (a) **Mine Name** : **MUNSAR**
- (b) **Registration NO.** : **IBM/5711/2011**
- (c) **Category** : A Manual
- (d) **Type of Working** : Underground
- (e) **Postal address**
- State : MAHARASHTRA
- District : NAGPUR
- Village : MANSAR
- Taluka : RAMTEK
- Post office : KHAIRI BIJEWADA
- Pin Code : 441106
- FAX No. :
- E-mail :
- Phone :
- (f) **Police Station** :
- (g) **First opening date** : 01/07/1962
- (h) **Weekly day of rest** : MON
2. **Address for** :
- correspondance**
3. (a) **Lease Number** : MSH0071
- (b) **Lease area** : 108.63
- (c) **Period of lease** : 20
- (d) **Date of Expiry** : 30/06/2022

MSH0085

25.15

20

13/05/2022

MSH0097

.97

31/03/2020

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 : G P KUNDARGI
MOIL BHAWAN, KATOL ROAD
NAGPUR MAHARASHTRA
Phone: 07122525809
FAX : 07122524996

Agent : P Karaya, DMG(Mines)
MOIL, Munsar Mine Ramtek
Nagpur NAGPUR MAHARASHTRA
Phone:
FAX :

Geologist

Name : M BHANSE, Full Time
Qualification : M.SC.
Appointment/ : 06/09/2005
Termination date

Manager

Name : M M ABDULLA
Qualification : AMIE(Mining)
Appointment/ : 25/10/2010
Termination date

6. Date of approval of Mining Plan/Scheme of Mining	:	Renewal under rule 22 MCR1960	06/05/2003
		Renewal under rule 22 MCR1960	06/05/2003
		Mining Scheme rule 12 MCDR1988	21/08/2006
		Renewal under rule 24 MCR1960	14/06/2007
		Mining Scheme rule 12 MCDR1988	12/08/2009
		Mining Scheme rule 12 MCDR1988	29/11/2010
		Mining Scheme rule 12 MCDR1988	14/12/2010
		Mining Scheme rule 12 MCDR1988	16/04/2013

PART - II : OBSERVATION/COMMENTS OF INSPECTING OFFICERS

Exploration :

Sl.No.	Item	Proposals	Actual work	Remarks
1a	Backlog of previous year	Nil	Nil	In last approved SOM period from 2012-13 to 2016-17 period, 20 boreholes with 6000 meterage were proposed to be drilled in the lease area. Against the proposals, 01 borehole was drilled in 2012-13, 18 in 2013-14 and 19 in 2014-15. Total 38 boreholes with 6088 meterage have been drilled.
1b	Exploration over lease area for geological axis 1 or 2	G1, G2, G3 & G4	G1, G2, G3 & G4	Reserves/resources have been considered for in-situ and dump both as per the exploration carried out in the area.
1c	Exploration Agencies and Expenditure in lakh rupees during the year	Nil	Nil	Approximate expenditure incurred over exploration in the previous 5 years period of 2012-13 to 2016-17 is Rs 1.725 Cr
1d	Balance area to be explored to bring Geological axis in 1 or 2	Nil	Nil.	Laterally the area has been proved for occurrence of ore. Ore zone is being established for depth persistant.
1e	Balance reserve as on 01/04/20		Balance reserves/resources as on 01/04/2016: 111- 2191288 T 121- 205625 T 211- 344015 T 221- 303188 T 222- 1277640 T 332- 676375 T 333- 261625 T Total- 5259756 T (In-situ) Dump- 554504 T	

1f	General remarks of inspecting officers on geology, exploration etc	The Manganese ore horizon in the area is of composite nature characterised by inter banding of manganiferous quartzite, gondite and Manganese ore. The ore horizon occur at stratigraphic contact with quartz-mica schists on the hanging wall side and muscovite-sillimanite schist on the footwall side.	The Mn-ore in Munsar mine area is finely crystalline to massive in nature. The ore forming minerals are Braunite with Psilomelane and little Pyrolusite. Though the area has been proved for lateral extent, for proving further depth continuity, 52 more boreholes are proposed during 2017-18 to 2021-22 period with 50m grid interval and 8200 meterage.
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Development :

Sl.No.	Item	Propasals	Actual work	Remarks
2a	Location of development w.r.t.lease area	Underground workings are in 70'L, between Ch 200 &Ch 3750. Vertical shaft has been sunk upto 5th (-330') level. In addition to this, sinking of second vertical shaft at Ch. 5100 is in progress. Apart from this, mineralized dumps are proposed for recovery of minerals.	As per the proposals	
2b	Separate benches in topsoil, overburden and minerals (Rule 15)	Not applicable as the working is Underground and Dump working only.	Nil	

2c	Stripping ratio or ore to OB ratio	Not applicable Nil as the working is Underground and Dump working only.	
2d	Quantity of topsoil generation in m3	Not applicable Nil as the working is Underground and Dump working only.	
2e	Quantity of overburden generation in m3	Not applicable Nil as the working is Underground and Dump working only.	
2f	General remarks of inspecting officers on development of pit w.r.t. type of deposit etc		Development proposed from the underground workings were 2609 RMT out of which only 659.90 RMT could be achieved. Opencast workings shall commence only after getting permission from MoEFCC. Depending on the type of deposit and mode of occurrence, development is adequate.

Exploitation:

Sl.No.	Item	Propasals	Actual work	Remarks
3a	Number of pit proposed for production	Not applicable Nil as the working is Underground and Dump working only.		Opencast workings shall commence only after getting permission from MoEFCC.
3b	Quantity of ROM mineral production proposed	2016-17: 83330 T (underground)	2016-17: 36666 T (underground)	
3c	Recovery of sailable/usable mineral from ROM production	60% of ROM from underground	61%	
3d	Quantity of mineral reject generation	40% of the ROM	39% of the ROM	14256 T of Mineral rejects generated from the lease area in 2016-17.

3e	Grade of mineral rejects generation and threshold value declared.	Approximately 8% Mn. Threshold is 10% Mn.	8% Mn containing materail is being stacked separately on future prospects of technological advancements or change in market demand.	
3f	Quantity of sub grade mineral generation.	Nil	Nil	
3g	Grade of sub grade mineral generation	Nil	Nil	
3h	Manual / Mechanised method adopted for segregating from ROM	Manual sorting of ROM	Manual	ROM is brought to the OCF (Ore Cleaning Floor) where it is being sorted manually by gangs of 5-10 persons at a time and then graded stacks are made.
3i	Any analysis or beneficiation study proposed and carried out for sub grade mineral and rejects.	Nil	Nil	
3j	Provision of drilling and blasting in mineral benches	Not applicable as the working is Underground and Dump working only.	Nil.	In underground, Drilling is being done by means of drills with 110 mm hole diameter. Existing blast practices involves use of detonating fuse initiation with cord relay delay detonators and NONEL's using mainly slurry explosive. The usual blast pattern is spacing at 2.5m and burden at 2.0 m with charge factor at 0.4 kg/m ³ for the ore body.

3k	Provision of mining machineries in mineral benches	Not applicable as the working is Underground and Dump working only.	Nil	Mine working involves Drilling and blasting by 110 mm diameter drills, then blasted muck is loaded into tubs and hoisted to the surface OCF. Front end Loader, Backhoe are deployed for dump workings. water tanker and tippers are used at surface.
3l	Whether height of benches in overburden and mineral suitable for method of mining proposed in MP/SOM	Not applicable as the working is Underground and Dump working only.	Nil	
3m	Total area covered under excavation/pits	8.0 ha	8.0 ha	No opencast working is being done at present.
3n	Ore to OB ratio for the pit/mine during the year.	Not applicable as the working is Underground and Dump working only.	Nil	
3o	Total area put in use under different heads at the end of year		Area under: Pits- 8.0 ha Waste Dumps-20.25 ha Mineral Storage- 4.0 ha Township-6.886 ha Roads-2.0 ha Infrastructure-4.608 ha Others (U/g opening, OCF etc.)-1.0 ha Total- 46.744 ha	
3p	Production of ROM mineral during the last five year period as applicable	2015-16: 50000 T 2014-15: 50000 T 2013-14: 50000 T 2012-13: 41670 T	2015-16: 23194 T 2014-15: 18467 T 2013-14: 23202 T 2012-13: 28135 T	

3q General remarks
of inspecting
officers on
method of mining
etc.

Method of mining
is Category A as
average daily
number of persons
employed in the
mine is 217
(>175). Working is
semi-mechanised.
It is an
underground mine
where dump working
is also going on
for recovery of
minerals.

Solid Waste Management - Dumping:

Sl.No.	Item	Propasals	Actual work	Remarks
4a	Separate dumping of topsoil, OB and mineral rejects (Rule 32,33)	Not applicable as the working is Underground and Dump working only.	Nil	Waste and Mineral rejects generated are being dumped separately and no intermixing is allowed. Part of waste is being used for underground filling of voids. Top soil is not excavated and earlier excavated top soil has been utilized for plantation.

4b	Location of topsoil, OB and mineral reject dumps	Top Soil-No dumps Waste- 5 dumps at E16580 to E16900 and N13400 to N13700 (2 dumps), E16500 to E16700 and N13900 to N14200, E16000 to E16200 and N14300 to N14600 & E15300 to E15500 and N14900 to N15100 Mineral Reject: 5 Dumps at E16800 to E16900 and N13400 to N13600, E14800 to E15600 and N14500 to N15600 (4 Dumps)	As per the proposals	
4c	Number of dumps within lease area and outside of lease area	All dumps within lease area	All dumps within the lease area	
4d	Location of dumps w.r.t. ultimate pit limit (Rule 16)	Not applicable as the working is Underground and Dump working only.	Nil	
4e	Number of active and alive dumps.	All dumps are active	All dumps are active	
4f	Number of dead dumps.	Nil	Nil	
4g	Number of dumps established.	Nil	Nil	Progressing Reclamation work is under process but no dump has been stabilized yet.
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 2000 m	As per the proposals	
4j	Number of settling ponds	Nil	Nil	
4k	Specific comments of inspecting officer on waste dump management			Progressing Reclamation work is under process but no dump has been stabilized yet. Overall 15 ha and this year around 0.25 ha area of dump has been reclaimed.

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.	After exhaustion of mineral from the opencast pits, generated waste is backfilled to restore its topography. Also, after exhaustion of mineral in underground, waste is used alongwith sand for backfilling the voids.	As per the proposals, backfilling of underground voids is being done with waste generated underground. Waste brought at surface and generated in shaft sinking is being utilized in backfilling of old exhausted pits-KL Pit and Bunglow Pit at the eastern side of the lease area.	
5b	Area under backfilling of mined out area	Till date approximately 5.0 ha area has been backfilled	As per the proposals	

5c	Concurrent use of topsoil for restoration or rehabilitation of mineral out area (Rule 32)	Not applicable as the working is Underground and Dump working only. Backfilled area shall be rehabilitated by plantation after getting clearances from MoEFCC for opencast workings and after completion of backfilling work.	Nil	Previously, Top soil has been utilized for plantation work. Presently no top soil dump is there in the area.
5d	Total area fully reclaimed and rehabilitated	Nil	Nil	
5e	General remarks of inspecting officers on backfilling and reclamation etc.			Backfilling work is under process for KL pit and Bunglow pit as per the proposals. After getting approval from MoEFCC, opencast working shall be commenced in the area and generated top soil shall be used for plantation. In the last 5 years period of 2012-13 to 2016-17, waste generated from underground was approximately 16724 cuM out of which around 12124 cuM was utilized for underground void filling. rest 4700 cuM was brought to the external dumps at surface.

Progressive Mine Closure 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).	Yes	Yes	
6b	Area available for rehabilitation (ha) .	Around 20.0 ha	Area under exhausted KL pit and Bunglow pit are available for rehabilitation. The area shall be backfilled by Waste and then restored by plantation. Presently, it is under active reclamation.	
6c	afforestation done (ha).	21.76 ha	21.76 ha till date over the dumps	
6d	No. of saplings planted during the year	Nil	500 saplings for in filling plantation done.	
6e	Cumulative no .of plants	Not available as the mine is very old	76820 saplings	Approximately 58676 saplings are surviving with 76.4% survival rate.
6f	Any other method of rehabilitation	No such proposals	Nil	
6g	Cost incurred on watch and care during the year	19.50 Lakh including SDF work	22 Lakhs	
6h	Compliance on reclamation and rehabilitation by backfilling (i) Voids available for backfilling (L x B x D	Around 20.0 ha	As per the proposals	
6i	Compliance on reclamation and rehabilitation by backfilling (ii) Voids filled by waste / tailings	5.0 ha	5.0 ha area under KL pit and Bunglow pit has been backfilled by waste	
6j	Compliance on reclamation and rehabilitation by backfilling (iii) Afforestation on backfilled area	Nil	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 compliance is up to date and efforts are being made by the lessee to restore the area to its actual topography. Plantation has been carried out over waste dumps for stabilization and Garland drains and retaining walls are there to arrest any slippage or wash-off. environment monitoring is also being done in the core and buffer zone as per MoEFCC guidelines.
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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 sorting and dispatch	As per the proposals	
7b	Method of grade-wise mineral sorting i.e. manual or mechanical.	Manual	Manual	
7c	Different grade of mineral sorted out at mines.	(i) 25% to below 35% Mn and (ii) 35% to below 46% Mn	As per the proposals	
7d	Any beneficiation process at mines .	No such proposals	Nil	
7e	General remarks of inspecting officer on Mineral conservation and beneficiation issues			Mineral conservation aspect has been thoroughly covered as even 8% Mn containing Mineral rejects are being stacked though threshold value is 10% of Mn.

Environment:

Sl.No.	Item	Propasals	Actual work	Remarks
8a	Separate removal and utilization of topsoil (Rule 32)	As per the proposals	Nil	Previously generated top soil has been utilized for plantation over the dump slopes. presently no top soil stack lies in the area.
8b	Concurrent use or storage of topsoil	As per the 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	Yes, Backfilling of mined out pit is proposed.	As per the proposals.	
8e	Phased restoration, reclamation and rehabilitation of lands affected by mining operations (Pits, dumps etc)	Dumps are being reclaimed and stabilized through plantation. Mined out pits are being backfilled.	As per the proposals	
8f	Baseline information on existence of plantation and additional plantation done (Rule 41)	Yes	Yes	
8g	Survival rate		76% approximately	
8h	Water sprinkling on roads to control airborne dust	Yes	Yes	

8i	General remarks of inspecting officer on aesthetic beauty in and around mines area	Aesthetic beauty in and around the area is good. lessee has done extensive plantation work and reclamation of old exhausted pits is underway. Also, one solar plant of 5MW capacity is proposed to be set up in the eastern part of the lease area to establish green energy source.
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Compliance of Rule 45:

Sl.No.	Item	Propasals	Actual work	Remarks
9a	Status of submission of Monthly and Annual returns		Annual and Monthly returns are up to date and have been submitted online.	
9b	Scrutiny of Annual return for information on Mining Engineer, Geologist and Manager	Mining Engineer: SHRI S. B. RAMTEKE Geologist: SHRI D. MOHANTA Manager: SHRI D. R. DEKATE	Correct information furnished	
9c	Scrutiny of Annual return on land use pattern for area under pits, reclaimed area, dumps etc.		Correct information furnished	
9d	Scrutiny of Annual return on afforestation	Number of Saplings: 500 Survival: 90%	Complete information furnished	In-filling plantation has been done
9e	Scrutiny of Annual return on mineral reject generation (Grade and quantity)	Quantity: 14256 T Grade: 8% Mn	Correct information furnished	

9f	Scrutiny of Annual return on ROM stock and/or graded ore	ROM (Underground): Correct information furnished Opening & Closing Stock- Nil, Production- 22401 T Dump Working: 23087 T Graded Ore: (i) 25% to below 35% Mn: Opening Stock- 33078 T, Production- 44453 T, Dispatch- 69812.09 T, Closing Stock- 7718.91 T (ii) 35% to below 46% Mn: Opening Stock- 336 T, Production- 1035 T, Dispatch- 1273.147 T, Closing Stock- 97.853 T	
9g	Scrutiny of Annual return on sale value, Ex. Mine price and production cost	Sale Value: Complete information furnished (i) 25% to below 35% Mn- Rs 379741134.74/- (ii) 35% to below 46% Mn- Rs 12931533.19/- Ex-Mine Price (Per T): (i) 25% to below 35% Mn- Rs 5382.02/- (ii) 35% to below 46% Mn- Rs 9450.23/- Cost of Production (per T): Rs 6219.94/-	

9h	Scrutiny of Annual return on fixed assets	Value of Fixed Assets: Rs 593813452/- Information furnished on Land, buildings, machineries etc. Information on 'Paid up share capital' and 'Reserves and Surplus' also given.	Complete information furnished	
9k	Scrutiny of Annual return on mining machineries	Complete information furnished	Correct	Mine working involves Drilling and blasting by 110 mm diameter drills, then blasted muck is loaded into tubs and hoisted to the surface OCF. Front end Loader, Backhoe are deployed for dump workings. water tanker and tippers are used at surface.

Details of violations observed during current inspection and compliance position of violation pointed out

Violation observed			Show cause position		
Rule NO.	Issued on	Compliance on	Rule NO.	Issued on	Compliance on

Date :
(ASHISH MISHRA)

Indian Bureau of Mines