INDIAN BUREAU OF MINES
MINERALS DEVELOPMEMT 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 Officer and ID No. : **B014) CHANDRESH BOHRA**

(ii) Designation : Deputy Controller Mines

(iii) Accompaning mine Official with Designation : Mine Manager & Geologist

(iv) Date of Inspection : 29-Nov-22

(v) Prev.inspection date : 19-Jan-22

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-Jul-62

(h) Weekly day of rest : MON

2. Address for correspondance :

3. (a) Lease Number : MSH0071
(b) Lease area : 108.63
(c) Period of lease : 60
(d) Date of Expiry : 30-Jun-22

MSH0097
.97
51
31-Mar-20

MSH0085
25.15
50
13-May-32

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 : DEEPANKAR SHOME
1-A, MOIL BHAVAN KATOL ROAD
NAGPUR NAGPUR MAHARASHTRA
Phone:
FAX :

Agent : A. V. MASADE
MUNSAR MINE RAMTEK NAGPUR
NAGPUR MAHARASHTRA
Phone:
FAX :

Mining Engineer
Name : SACHIN RAMTEKE,Full Time
Qualification :
Appointment/ Termination date : 01-Jul-17

Geologist
Name : DEBONATH MOHANTA,Full Time
Qualification :
Appointment/ Termination date : 01-Jul-18

6. Date of approval of Mining Plan/Scheme of Mining :

Renewal under rule 22 MCR1960	06-May-03
Renewal under rule 22 MCR1960	06-May-03
Mining Scheme rule 12 MCDR1988	14-Dec-10
Mining Scheme rule 12 MCDR1988	16-Apr-13
MP review under 17(1) MCR 2016	30-May-17

PART - II : OBSERVATION/COMMENTS OF INSPECTING OFFICERS

Exploration :

Sl.No.	Item	Proposals	Actual work	Remarks
1a	Backlog of previous year	Borehole proposal for five years of scheme period was for 52 boreholes as per following: 2017-18: 32 BH 2018-19: NIL 2019-20: 20 BH 2020-21: NIL 2021-22: NIL	A total of 16 BHs were drilled in 2017-18 out of 32 BHs proposed. Form -I of all BHs drilled have been submitted by lessee. Upon violation issued for the slippage from proposal on exploration drilling of remaining 16 BHs from this office, further proposal at compliance report has been given by MOIL to complete the remaining BHs in 2020-21 and 2021-22. Till date, exploration drilling of 3 BHs is completed out of this back log 16 BHs and Form-I have been submitted to this office. 20 BHs were dril	During inspection, Lessee produced proof of floating tenders for exploration drilling by outsourced agencies to complete the backlog of exploration proposed for the scheme period. Further, in-house SANDVIK Core Drilling machine is found in operation in adjacent Parsoda Lease which would be deployed to Munsar upon completion of exploration at Parsoda in 2021-22.
1b	Exploration over lease area for geological axis 1 or 2	No proposal in year 2021-22	No exploratory drilling done	
1c	Exploration Agencies and Expenditure in lakh rupees during the year	Not such proposal in year 2021-22	Nil	
1d	Balance area to be explored to bring Geological axis in 1 or 2		Present area under G1-9.95 ha, G2-7.45 ha, G3-3.4 ha and non mineralized- 87.83 ha	
1e	Balance reserve as on 01/04/20		111 - 1914091 T 121 - 205625T 211 - 407015T 222 - 1554973 T 332 - 801955 T 333 - 281190 T	

1f	General remarks of inspecting officers on geology, exploration etc	The rock of this area is associated with the rocks of saucer group of Indian Stratigraphic.Deposit is 5 Km long . Thedip of deposit is 65 to 80 degree averaging 75 degree. The whole area is not explored upto G1 level so lesee has given proposal of drilling 50 boreholes in plan approved dated 28.03.2022. The Manganese ore horizon in the area is of composite nature characterised by inter banding of manganiferous quartizite, gondite and Manganese ore. The ore horizon occurs at stratigraphic contact

Development :

Sl.No.	Item	Propasals	Actual work	Remarks
2a	Location of development w.r.t.lease area	In 2021-22 Development was proposed as per following at - 30' L, -130' L & -230'L. Horizontal development: 894 RMT Vertical development: 196 RMT Apart from this, mineralized dumps are proposed for recovery of minerals	In 2021-22 Horizontal development: 370.45 RMT Vertical development: 23.9 RMT	Horizontal development is in lower side due to rock intrusions in the stopes and work hampered on account of COVID situations.

2b	Separate benches in topsoil, overburden and minerals (Rule 15)	Not applicable as under ground mining	Not Applicable	
2c	Stripping ratio or ore to OB ratio	Not applicable as underground mining only	Not applicable	
2d	Quantity of topsoil generation in m3	Nil	Nil	
2e	Quantity of overburden generation in m3	Not applicable	Not applicable	
2f	General remarks of inspecting officers on development of pit w.r.t. type of deposit etc			Development was less due to intrusions and covid

Exploitation:

Sl.No.	Item	Propasals	Actual work	Remarks
3a	Number of pit proposed for production	Not applicable as under groundd mining	Not applicable	
3b	Quantity of ROM mineral production proposed	In 2021-22 Underground ROM: 50000 T Dump Working: 45000 T	In 2021-22 Underground ROM: 49918 T Dump Working: NIL	Dump workings mainly contribute towards LGHS (Low Grade High Silica) Mn ore and due to low demand, and higher thrust towards in-situ developments and covid situation in the year, dump production was nil.

3c	Recovery of sailable/usable mineral from ROM production	Saleable Mineral recovery: 60% of the ROM, out of rest 40%, 20% shall be intercalated waste that will be used for backfilling and 20% shall be the mineral rejects that will be stacked separately for future usage.	Recovery in 2021-22: 49660 T (99	ROM extracted wholly was despatched due to demand of low grade Mn also.
3d	Quantity of mineral reject generation	20000 T	257 T	Mineral in the working area was found to be below 25% and 25% to below 35% grade Mn (in- situ blended grade) which was readily saleable and hence, generation of mineral rejects stood as 257 T only which has been used as backfilling in the void stopes.
3e	Grade of mineral rejects generation and threshold value declared.	Threshold Value: Min 10% Mn, Mineral Rejects Grade: 15% Mn (average	<10%	
3f	Quantity of sub grade mineral generation.	Not proposed	Nil	
3g	Grade of sub grade mineral generation	Not applicable	Nil	
3h	Manual / Mechanised method adopted for segregating from ROM	Manual sorting	Manual sorting	

3i	Any analysis or beneficiation study proposed and carried out for sub grade mineral and rejects.	No such proposal	Nil
3j	Provision of drilling and blasting in mineral benches	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/m3 for the ore body.	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/m3 for the ore body.
3k	Provision of mining machineries in mineral benches	Jack hammer drill and locomotive for tub transportation	Jack hammer drill and locomotive for tub transportation
3l	Whether height of benches in overburden and mineral suitable for method of mining proposed in MP/SOM	Not applicable as under ground mining	NA

3m	Total area covered under excavation/pits	9.0 ha	8.5 ha	8.5 ha pit area is under old pits, 0.5 ha additional area was proposed in the proposal period of 2017-18 to 2021-22. However, it was subjected to getting approval from MoEFCC for opencast workings. Till date, no approval has been accorded by MoEFCC and pit area remained unchanged.
3n	Ore to OB ratio for the pit/mine during the year.	Not applicable	Not applicable	
3o	Total area put in use under different heads at the end of year		Pits- 8.5 ha Waste Dumps-20.25 ha mineralised Dumps-10.40 ha Mineral Storage- 4.0 ha Township-6.886 ha Roads-2.15 ha Infrastructure-4.808 ha Others (U/g opening, OCF etc.)-1.2 ha Total area use - 49.794 ha Waste dump area reclaimed - 1.65 ha Excavated area reclaimed - 0.45 ha	Out of the above mentioned area, 42.95 ha area has been reclaimed through plantation, 3.2 ha area (approximately) has been reclaimed by conversion of pit into water reservoir (KL Pit) and 1.575 ha area is covered under backfilling (135'L Pit).
3p	Production of ROM mineral during the last five year period as applicable	2021-22: 50000 T 2020-21: 50000 T 2019-20: 50000 T 2018-19: 50000 T 2017-18: 50000 T 2016-17: 50000 T	2021-22 :49918 T 2020-21: 40726 T 2019-20: 49966 T 2018-19: 49744 T 2017-18: 49987 T 2016-17: 45488 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 349 (>175). Working is semi-mechanised. It is an underground mine where dump working is also going on for recovery of minerals. Method of stoping is cut and fill. All operations are suitable as per the occurrence of orebody in the area and capital investments.

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	Waste and Mineral rejects generated are being dumped/stacked 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. During the year 2020-21, mineral reject generation was 169 Tonne only.	

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)	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)
4c	Number of dumps within lease area and outside of lease area	All dumps within lease area	All dumps within lease area
4d	Location of dumps w.r.t. ultimate pit limit (Rule 16)	Not applicable as underground working only	Not applicableas underground working
4e	Number of active and alive dumps.	all dumps are active	all dumps are active
4f	Number of dead dumps.	Nil	Nil

4h	Whether Retaining wall or garland drain all along dumps are there.	No proposals for further construction, only repair and maintenance of existing retaining wall and garland drains to be done pre-monsoon and post-monsoon	Total Length of garland drain within the lease area is 3.58 km, 3580 m; Total length of Retaining wall is 1040 meter; Garland drain location: MD1 to WD-4; DSU plant to lease boundary at east through mine colony and 2nd Vertical shaft. Location of Retaining wall: DSU plant to 2nd Vertical shaft and from crusher at back side of administrative building to pit office at 1st vertical shaft	
4i	Length of Retaining wall or garland drain all along dumps		Total Length of garland drain within the lease area is 3.58 km, 3580 m; Total length of Retaining wall is 1040 meter	
4j	Number of settling ponds	No such proposal	Nil	
4k	Specific comments of inspecting officer on waste dump management			Progressing Reclamation work is under process but no dump has been stabilized yet. Overall42.95 ha area has been reclaimed through plantation, 3.2 ha area (approximately) has been reclaimed by conversion of pit into water reservoir (KL Pit) and 1.575 ha area is covered under backfilling (135'L Pit).

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/old exhausted pits, generated waste is backfilled to restore its topography. Also, after exhaustion of mineral in underground stopes, waste is used along with sand for backfilling the voids.	As per the proposals, backfilling of underground voids is being done with waste generated underground. Waste brought at surface (generated in shaft sinking) up to 2019-20 was being utilized in backfilling of old exhausted pits- 135' L Pit at the eastern side of the lease area.	
5b	Area under backfilling of mined out area	8.5 ha open pit area available	No backfilling done in year 2021-22 as u/g mining done only	
5c	Concurrent use of topsoil for restoration or rehabilitation of mineral out area (Rule 32)	No such proposal	Nil	
5d	Total area fully reclaimed and rehabilitated	No such proposal	Nil	
5e	General remarks of inspecting officers on backfilling and reclamation etc.			Backfilling is not done as u/g mining is being done.

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).	As per Rule 26(2) of MCDR'17, report on work carried out under PMCP is to be submitted by 1st July every year	Yes, report has been submitted for the year 2021-22	

6b	Area available for rehabilitation (ha) .	No such proposal	Nil
6c	afforestation done (ha).	0.1 ha	0.1 ha
6d	No. of saplings planted during the year	200	200
6e	Cumulative no .of plants		104890
6f	Any other method of rehabilitation	No such proposal	Nil
6g	Cost incurred on watch and care during the year	No such proposal	approx 1 lac
6h	Compliance on reclamation and rehabilitation by backfilling (i) Voids available for backfilling (Lx B x D	No such proposal	Nil
6i	Compliance on reclamation and rehabilitation by backfilling (ii) Voids filled by waste / tailings	No such proposal	Nil
6j	Compliance on reclamation and rehabilitation by backfilling (iii)Afforestation on backfilled area	No such proposal	Nil
6k	Compliance on reclamation and rehabilitation by backfilling (iv) Rehabilitation by making water reservoir	No such proposal	Nil
6l	Compliance on reclamation and rehabilitation by backfilling (v)any other specific means.	No such proposal	Nil

6m	Compliance of rehabilitation of waste land within lease (i)afforestation	No such proposal	Nil	
6n	Compliance of rehabilitation of waste land within lease (ii)Area rehabilitation (ha)	No such proposal	Nil	
6o	Compliance of rehabilitation of waste land within lease (iii)Method of rehabilitation	No such proposal	Nil	
6p	Compliance of environmental monitoring (core zone and buffer zone)	Proposed quarterly	Environment monitoring is being done quarterly in the core zone and buffer zone as per MoEF guidelines	
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 washoff. Environment monitoring is also being done quarterly in the core and buffer zone as per MoEFCC guidelines.

Mineral Conservation:

Sl.No.	Item	Propasals	Actual work	Remarks

7a	ROM Mineral dispatch or grade-wise sorting within lease area	grade wise sorting in lease area	grade wise sorting in lease area	
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 and Mineral Rejects	(i) 25% to below 35% Mn and (ii) 35% to below 46% Mn	
7d	Any beneficiation process at mines .	No such proposal	Nil	
7e	General remarks of inspecting officer on Mineral conservation and beneficiation issues			Mineral conservation aspect has been thoroghly covered as even 8% Mn containing Mineral rejects are being stacked though threshold value is 10% of Mn. Mineralised dumps are also being exploited for recovery of mineralised content

Environment:

Sl.No.	Item	Propasals	Actual work	Remarks
8a	Separate removal and utilization of topsoil (Rule 32)	Not applicable as the working is Underground and Dump working only	Nil	
8b	Concurrent use or storage of topsoil	Not applicable as the working is Underground and Dump working only	Nil	

8c	Separate dumps for overburden, waste rock, rejects and fines (Rule 33)	Separate stacking/dumping is proposed for waste and mineral rejects	work is done as per proposal	
8d	Use of overburden, waste rock, rejects and fines dumps for restoring the land to its original use	backfilling was proposed subljject to obtaining EC of opencast mining	Nil	
8f	Baseline information on existence of plantation and additional plantation done (Rule 41)	No such information available	2000 saplings planted in year with 77% survival	
8g	Survival rate	No such proposal	77%	
8h	Water sprinkling on roads to control airborne dust	water tanker	water tanker	
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 North-eastern part of the lease area to establish green energy source.

Compliance of Rule 45:

Sl.No.	Item	Propasals	Actual work	Remarks

9a	Status of submission of Monthly and Annual returns	Monthly return shall be submitted by 10th of every month & every year by 1st july Annual return must be submitted	M.R. Submitted up toOct 2022 A.R. submitted up to 2021-22
9b	Scrutiny of Annual return for information on Mining Engineer, Geologist and Manager	Mining Engineer: SHRI U Bothra Geologist: SMT. Sneha Tiwari Manager: SHRI Manish Dhoke	Complete and correct information furnished.
9c	Scrutiny of Annual return on land use pattern for area under pits, reclaimed area, dumps etc.	Area under: Pits- 8.5 ha Waste Dumps- 20.25 ha mineralised Dumps-10.40 ha Mineral Storage- 4.0 ha Township-6.886 ha Roads-2.15 ha Infrastructure -4.808 ha Others (U/g opening, OCF etc.)-1.2 ha Total area put to use - 49.794 ha Waste dump area reclaimed - 1.65 ha Excavated area reclaimed - 0.45 ha	
9d	Scrutiny of Annual return on afforestation	Number of trees planted during the year: 2000	Correct information furnished
9e	Scrutiny of Annual return on mineral reject generation (Grade and quantity)	257 grade <15%	

9f	Scrutiny of Annual return on ROM stock and/or graded ore	ROM stock nio, graded ore stock 25-35% - 5268.294 tons and 35-45 %- 10.090 tons	
9g	Scrutiny of Annual return on sale value, Ex. Mine price and production cost	cost of production- 11590.56 Rs/t, sale price ^& EMP- 25-35%- 10722 Rs/T., 35-45%- 14899.15 Rs/T	Information furnished is correct
9h	Scrutiny of Annual return on fixed assets	Rs 733421522	
9k	Scrutiny of Annual return on mining machineries	Ventilation fan- 2, Pumps- 8, Drill- 15, Compressor- 5, Water tanker- 1, tipper-6, Loader-2, backhoe-1	Machinery was available at mine site

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 :

(**CHANDRESH BOHRA**)

Indian Bureau of Mines