

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

MCDR INSPECTION REPORT

Nagpur regional office

Mine file No : MAH/NAG/MN--2/NGP

Mine code : 40MSH14002

- (i) Name of the Inspecting : **M017**) **ASHISH MISHRA**
Officer and ID No.
- (ii) Designation : Assistant Controller Mine
- (iii) Accompanying mine : **SHRI MANOJ KUMAR SINGH, MINES MANAGER AND SHRI ANIL S**
Official with
Designation
- (iv) Date of Inspection : 28/02/2017
- (v) Prev.inspection date : 27/10/2016

PART-I : GENERAL INFORMATION

1. (a) **Mine Name** : **BELDONGRI**
- (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 : **BELDONGRI**
- Taluka : **PARSEONI**
- Post office : **SATUK**
- Pin Code : **441106**
- FAX No. : **N.A.**
- E-mail : **N.A.**
- Phone : **07102 - 246160**
- (f) **Police Station** : **RAMTEK**
- (g) **First opening date** : **01/07/1962**
- (h) **Weekly day of rest** : **SAT**
2. **Address for** : **3, MOUNT ROAD EXTENSION**
correspondance **NAGPUR**
3. (a) **Lease Number** : **MSH0076**
- (b) **Lease area** : **26.66**
- (c) **Period of lease** : **20**
- (d) **Date of Expiry** : **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 : SH.G.P.KUNDARGI
 M/S MANGANESE ORE INDIA
 LTD. MOIL BHAVAN, 1A, KATOL
 ROAD, NAGPUR-440013 NAGPUR
 MAHARASHTRA
 Phone: 0712-2532252
 FAX : 0712-252499

Agent : SH.V.N.CHANDRAKAR
 M/S MANGANESE ORE INDIA
 LTD. MOIL BHAVAN, 1A, KATOL
 ROAD NAGPUR. NAGPUR
 MAHARASHTRA
 Phone: -
 FAX : -

Mining Engineer

Name : SUDHIR PATHAK, Full Time
 Qualification : AMIE
 Appointment/ : 23/06/2008
 Termination date

Geologist

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

Manager

Name : R.P.CHOUDHARY
 Qualification : DIPLOMA IN MINING
 Appointment/ : 17/04/2008
 Termination date

6. Date of approval of Mining	:	Renewal under rule 22 MCR1960	29/04/2003
Plan/Scheme of Mining		Mining Scheme rule 12 MCDR1988	24/09/2003
		Mining Scheme rule 12 MCDR1988	23/07/2008
		Mining Scheme rule 12 MCDR1988	24/07/2013

PART - II : OBSERVATION/COMMENTS OF INSPECTING OFFICERS

Exploration :

Sl.No.	Item	Proposals	Actual work	Remarks
1a	Backlog of previous year	Nil	Nil	The lease is only an auxilliary lease to main Beldongri lease area of 26.66 ha. This lease is having only Dump reserves and hence dump mining is being done. Maximum part of the lease area is covered under agricultural activities for which surface rights are not held by the lessee. Rest of the area is having dumps and sorting yards.
1b	Exploration over lease area for geological axis 1 or 2	Not Applicable for insitu. For dumps, Reserves are at G1 level	Only dump reserves are available. Mineralized dumps are available in the area which is being sorted and stacked in the lease area.	
1c	Exploration Agencies and Expenditure in lakh rupees during the year	Nil	No exploration has been done.	
1d	Balance area to be explored to bring Geological axis in 1 or 2	Nil	Nil	Beldongri deposit has explored by drilling of 15 bore holes which proved the area for no-economically workable deposit. Only old/new mineralized dumps are available.
1e	Balance reserve as on 01/04/20	111-6100 211-27118 Total-33218	111-6100 211-27118 Total-33218	

1f	General remarks of inspecting officers on geology, exploration etc	It was suggested during site inspection to propose a few boreholes in the lease area to prove the area for no underlying deposit. Lessee has proposed 4 bore holes to be drilled during 2017-18 to 2019-20 for the purpose as per the suggestion.	Reserves are in for of Dump reserves only. Under 111 category, 20-25% Mn containing reserves have been considered whereas 10-19% Mn containing part has been considered under 211 resources due to non availability of customers for the grade. Exploration has proved that the area is devoid of any economically workable deposit hence around 6-7 ha area is not acquired by the lessee and is under cultivation. Reserve estimation has been done by dump characterisation through trenching and pitching.
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Development :

Sl.No.	Item	Proposals	Actual work	Remarks
2a	Location of development w.r.t.lease area	Dump working in the Western part of the lease	3 mineralized dumps are available in the western part of the lease. These dumps are developed and worked for extraction of mineralized content.	
2b	Separate benches in topsoil, overburden and minerals (Rule 15)	Not applicable	As no in-situ working is there in the lease area, this item is not applicable.	
2c	Stripping ratio or ore to OB ratio	Not applicable	As no in-situ working is there in the lease area, this item is not applicable. However, recovery of mineral is around 15% from the mineralized dumps.	

2d	Quantity of topsoil generation in m3	Nil	Nil	No in-situ working
2e	Quantity of overburden generation in m3	Nil	Nil	No overburden as no in-situ working is there in the lease area.
2f	General remarks of inspecting officers on development of pit w.r.t. type of deposit etc			Developments in the form of dump development is available in the lease area. Material from the underground workings of 26.66 ha area is brought into the Ore Cleaning Floor (OCF) in the lease area. Mineralized content is seggrigated and non-mineralized/waste part is dumped into waste dumps. Mineral rejects are dumped into the mineralized dumped that are being extracted through dump workings in the lease area.

Exploitation:

Sl.No.	Item	Propasals	Actual work	Remarks
3a	Number of pit proposed for production	Nil	Nil	As no in-situ working is there in the lease area, this item is not applicable.
3b	Quantity of ROM mineral production proposed	200 T of Mineral is proposed to be extracted	200 T	
3c	Recovery of sailable/usable mineral from ROM production	Recovery from Dump workings is 15% of the material handled, recovery from extracted ore is 90% and 10% is fines	Recovery is approximately 8% from the handled material (2501 T handled from which 200T of ore has been extracted).	

3d	Quantity of mineral reject generation	20 T	Nil for the year 2015-16	
3e	Grade of mineral rejects generation and threshold value declared.	12% Mn, 0.35% P, 66% SiO ₂ , 10% Fe	As no Mineral rejects generated, it could not be verified, but, typical mineral rejects have 10-12% Mn content which is being stacked separately.	
3f	Quantity of sub grade mineral generation.	Nil	Nil	There is no sub-grade in the area. Only cleaned ore and mineralized rejects are there extracted from the mineralized dumps.
3g	Grade of sub grade mineral generation	Not applicable	Not applicable as no sub-grade is there.	
3h	Manual / Mechanised method adopted for segregating from ROM	Semi-mechanized	Dumps are worked with excavators. Material is transported to the OCF and then manual sorting is being done.	
3i	Any analysis or beneficiation study proposed and carried out for sub grade mineral and rejects.	No	No	As 90% of the mineral extracted is readily saleable under 22-25% Mn content category and rest is fines having very high silica content, beneficiation of these fines shall be uneconomical.
3j	Provision of drilling and blasting in mineral benches	No	No	Only dump working, so drilling & blasting is not required.
3k	Provision of mining machineries in mineral benches	No mineral extraction from in-situ. For dump working,	For dump working, manual sorting is being done at OCF. Thus no machinery usage is there for the lease area of 12.99 ha.	
3l	Whether height of benches in overburden and mineral suitable for method of mining proposed in MP/SOM	No in-situ excavation.	No in-situ excavation.	
3m	Total area covered under excavation/pits	Nil	Nil	

3n	Ore to OB ratio for the pit/mine during the year.	Not applicable.	Not applicable in light of dump working only.	
3o	Total area put in use under different heads at the end of year	Area under dumps=2.480 ha Mineral Storage=0.86 ha Infrastructure =0.05 ha Roads=0.115 ha Total=3.505 ha	Area under dumps=2.75 ha Mineral Storage=0.30 ha Infrastructure=0.10 ha Roads=0.10 ha Total=3.25 ha	
3p	Production of ROM mineral during the last five year period as applicable	Nil	Nil. Only dump working in the lease area. Dump production for last five years is : 2012-13: Proposed 200 T Actual 153 T 2013-14: Proposed 200 T Actual 200 T 2014-15: Proposed 200 T Actual 185 T 2015-16: Proposed 200 T Actual 200 T 2016-17: Proposed 200 T Actual 150 T	
3q	General remarks of inspecting officers on method of mining etc.			Only dump working is being done and mineral from the dumps is being extracted. Recovery from the dumps is approximately 15%.

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	While dump working, material containg +20% Mn is being readily sold and rest of the mineralized content is being stacked separately as sub-grade. Waste after mineral extraction is being dumped at earmarked location.	

4b	Location of topsoil, OB and mineral reject dumps	No top soil dump. As only dump working is there, mineral recovered (saleable part) and sub-grade is being stacked at mineral storage yard and waste is being dumped in the Northern and NW part of the lease area.	As per the proposals.	
4c	Number of dumps within lease area and outside of lease area	3 mineralized dumps and one waste dump within the lease area.	As per the proposals.	
4d	Location of dumps w.r.t. ultimate pit limit (Rule 16)	Not applicable in light of dump working only.	Not applicable.	
4e	Number of active and alive dumps.	All dumps are active-3 mineralized and one waste dump.	As per the proposals.	
4f	Number of dead dumps.	Nil	Nil	
4g	Number of dumps established.	Nil	Nil	
4h	Whether Retaining wall or garland drain all along dumps are there.	No	No garland drain or retaining wal is there or under proposals as the mineralized dumps are under extraction of mineral and only one waste dump is there which is active. All the four dumps are located well within the lease area with around 5-6 ha land left beyond these dumps upto the ML boundary.	It was suggested during the inspection to construct at least garland drain along the toe of the waste dump.
4i	Length of Retaining wall or garland drain all along dumps	Nil	Nil	
4j	Number of settling ponds	Nil	Nil	

4k	Specific comments of inspecting officer on waste dump management	Waste left out after the extraction of mineral is being dumped at N to NW part of the lease area. The dump is active dump hence stabilization has not thought of.
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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.	Not Applicable	Not Applicable	
5b	Area under backfilling of mined out area	Nil	Nil	
5c	Concurrent use of topsoil for restoration or rehabilitation of mineral out area (Rule 32)	Not applicable	Not applicable as due to dump working only, no top soil has been excavated till date.	
5d	Total area fully reclaimed and rehabilitated	Nil	Nil	

5e	General remarks of inspecting officers on backfilling and reclamation etc.	The area is under dump mining only. Hence backfilling is not required. Most of the area is not presently under the surface rights of the lessee hence, reclamation activities are being done in the lease area of 26.66 ha, as larger area is required for OCF, dumps etc. The other lease of 26.66 ha is being operated by underground method of mining. therefore, reclamation of that lease area is being done primarily.
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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).	Nil	Nil	Afforestation proposals are being made in the 26.66 ha area only.
6d	No. of saplings planted during the year	Nil	Nil	
6e	Cumulative no .of plants	Nil	Nil	
6f	Any other method of rehabilitation	No	No	

6g	Cost incurred on watch and care during the year	Nil	Monitoring of various environmental parameters is being done as per the MoEF guidelines but the data is available for complete beldongri mine having expanditures for both leases 12.99 ha and 26.66 ha.
6h	Compliance on reclamation and rehabilitation by backfilling (i) Voids available for backfilling (Lx B x D	Nil	Nil
6i	Compliance on reclamation and rehabilitation by backfilling (ii) Voids filled by waste / tailings	Nil	Nil
6j	Compliance on reclamation and rehabilitation by backfilling (iii)Afforestation on on backfilled area	Nil	Nil
6k	Compliance on reclamation and rehabilitation by backfilling (iv) Rehabilitation by making water reservoir	Nil	Nil
6l	Compliance on reclamation and rehabilitation by backfilling (v)any other specific means.	Nil	Nil
6m	Compliance of rehabilitation of waste land within lease (i)afforestation	Nil	Nil
6n	Compliance of rehabilitation of waste land within lease (ii)Area rehabilitation (ha)	Nil	Nil

6o	Compliance of rehabilitation of waste land within lease (iii)Method of rehabilitation	Nil	Nil	
6p	Compliance of environmental monitoring (core zone and buffer zone)	Yes, shall be done as per MoEF guidelines in this regard	Being done as per the proposals.	Reports verified during site inspection and found all the parameters within the permissible limits.
6q	General remarks of inspecting officers on PMCP compliance and progressive closure operations etc.			Under PMCP/Closure operations, only environmental monitoring is being done in the lease area in alliance with the other main lease area of 26.66 ha. Apart from this, other closure activities such as afforestation etc are being done in the main lease area only.

Mineral Conservation:

Sl.No.	Item	Propasals	Actual work	Remarks
7a	ROM Mineral dispatch or grade-wise sorting within lease area	Grade-wise sorting from the mineralized dumps within lease area	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.	Below 25% Mn	Below 25% Mn content ore	
7d	Any beneficiation process at mines	No	No	

7e	General remarks of inspecting officer on Mineral conservation and beneficiation issues	As mineralized dumps are being extracted for the mineral contents with 15% recovery of the mineral, mineral conservation aspects are truly followed in the lease area. No beneficiation is required/practiced by the lessee.
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Environment:

Sl.No.	Item	Propasals	Actual work	Remarks
8a	Separate removal and utilization of topsoil (Rule 32)	Not applicable	Not applicable as there is dump working only.	
8b	Concurrent use or storage of topsoil	Nil	Nil	
8c	Separate dumps for overburden, waste rock, rejects and fines (Rule 33)	Yes	There are separate dumps for wasste and mineral-rejects or fines.	
8d	Use of overburden, waste rock, rejects and fines dumps for restoring the land to its original use	Not applicable	Not applicable	
8e	Phased restoration, reclamation and rehabilitation of lands affected by mining operations (Pits, dumps etc)	Platation on the slopes of the waste dump is proposed at the conceptual stage.	As per the proposals.	

8f	Baseline information on existence of plantation and additional plantation done (Rule 41)	Yes	Yes	
8g	Survival rate	Not applicable	Not applicable as no plantation done within the lease area	
8h	Water sprinkling on roads to control airborne dust	Yes.	Water sprinkling is being done regularly.	
8i	General remarks of inspecting officer on aesthetic beauty in and around mines area			Overall good as no mechanized mining in the lease area only manual sorting of the dump material is being done. Further, most part of the lease area is not under the surface rights of the lessee and is under agriculture.

Compliance of Rule 45:

Sl.No.	Item	Propasals	Actual work	Remarks
9a	Status of submission of Monthly and Annual returns		MR Online submitted upto May'2017 AR submitted upto 2015-16	Compliance of Rule 45
9b	Scrutiny of Annual return for information on Mining Engineer, Geologist and Manager	Mining Engineer: Shri A. V. Masade Geologist: Shri Anil Singh Rajput	Mining Engineer: Shri A. V. Masade Geologist: Shri Anil Singh Rajput Both officials were present at the time of inspection	
9c	Scrutiny of Annual return on land use pattern for area under pits, reclaimed area, dumps etc.	Area under Waste: 2.40 ha Infrastructure: 0.165 ha MIneral Storage: 0.86 ha	Correct information mentioned	
9d	Scrutiny of Annual return on afforestation	Nil	Nil	

9e	Scrutiny of Annual return on mineral reject generation (Grade and quantity)	Quantity:Nil Grade: 12% Mn, 0.35% P, 66% SiO ₂ , 10% Fe (Average grade based on historic data)	Correct information mentioned	
9f	Scrutiny of Annual return on ROM stock and/or graded ore	Graded Ore: Opening stock 185 T/ Production 200 T/ Dispatch: 256 T/ Closing Stock: 129 T	Correct information mentioned.	
9g	Scrutiny of Annual return on sale value, Ex. Mine price and production cost	Ex mine Price: Rs 1700/- per T	Correct	Cost per T is Rs 4663/- whereas Ex mie price is Rs 1700/- per T which is being countered by the production and sale occurred in the main lease area of 26.66 ha.
9h	Scrutiny of Annual return on fixed assets	Not given		Beldongri Mine (12.99 ha) is a part of cluster of Beldongri leases 12.99 ha, 26.66 ha and other two leases in the name of Satuk. therefore, fixed assets are being given in the returns of main lease i.e. 26.66 ha only.
9k	Scrutiny of Annual return on mining machineries	Nil	Nil as the operations are manual only.	

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