

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

**MCDR INSPECTION REPORT**

**Nagpur regional office**

**Mine file No :** MAH/NAG/MN-308/NGP

**Mine code :** 40MSH14030

- (i) Name of the Inspecting : M017 ) ASHISH MISHRA  
Officer and ID No.
- (ii) Designation : Sr. Asst. Contrl. Mines
- (iii) Accompanying mine : Shri Deependra Nath, Agent & Manager  
Official with  
Designation
- (iv) Date of Inspection : 30/03/2018
- (v) Prev.inspection date : 02/12/2016

**PART-I : GENERAL INFORMATION**

1. (a) **Mine Name** : KIRNAPUR (2.88H)
- (b) **Registration NO.** : IBM/5535/2011
- (c) **Category** : B Manual
- (d) **Type of Working** : Opencast
- (e) **Postal address**
- State : MAHARASHTRA
- District : NAGPUR
- Village : KIRNAPUR
- Taluka : SAONER
- Post office : KOTHURNA
- Pin Code : 441001
- FAX No. :
- E-mail :
- Phone : 9822462552
- (f) **Police Station** :
- (g) **First opening date** : 19/11/2005
- (h) **Weekly day of rest** : SUN
2. **Address for correspondance** : 58, THE MALL, CANTONMENT  
KAMPTEE
3. (a) **Lease Number** : MSH0366
- (b) **Lease area** : 2.88
- (c) **Period of lease** : 20
- (d) **Date of Expiry** : 17/11/2025
4. **Mineral worked** : MANGANESE ORE Main

## 5. Name and Address of the

Lessee : RAVINDRA NATH  
 NAGPUR MAHARASHTRA  
 Phone:  
 FAX :

Owner : RAVINDRA NATH  
 NAGPUR MAHARASHTRA  
 Phone:  
 FAX :

## Mining Engineer

Name : RAVISHANKAR GHANGARE, Full Time  
 Qualification : DIP. IN MINING & MINE SURVEYING  
 Appointment/ : 20/11/2005  
 Termination date

|                               |   |                                |            |
|-------------------------------|---|--------------------------------|------------|
| 6. Date of approval of Mining | : | Fresh under rule 22 MCR1960    | 27/01/2005 |
| Plan/Scheme of Mining         | : | Mining Scheme rule 12 MCDR1988 | 30/08/2011 |
|                               | : | Mining Scheme rule 12 MCDR1988 | 14/07/2016 |

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

## Exploration :

| Sl.No. | Item                                                                | Proposals                                                                                                                   | Actual work                                                                                                                                            | Remarks                                                                                                                                                                                                                                                                                                                        |
|--------|---------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1a     | Backlog of previous year                                            | 4 Bore Holes were proposed to be drilled in last approved SOM period upto 2017-18.                                          | 05 Bore holes drilled in the year 2017-18.                                                                                                             | Out of these 5 bore holes, 4 intersected orezone and 1 remained barren.                                                                                                                                                                                                                                                        |
| 1b     | Exploration over lease area for geological axis 1 or 2              | G-1 & G-2                                                                                                                   | G-1 and G-2                                                                                                                                            | There are 4 orebodies proved through exploration and pitting in the area. 4 boreholes were drilled in the hangwall side that encountered orezone, 1 barren borehole was drilled in footwall side that proved barren. Therefore, resources/reserves have been considered accordingly under G1 & G2 category based on influence. |
| 1c     | Exploration Agencies and Expenditure in lakh rupees during the year |                                                                                                                             |                                                                                                                                                        |                                                                                                                                                                                                                                                                                                                                |
| 1d     | Balance area to be explored to bring Geological axis in 1 or 2      | Nil                                                                                                                         | Nil                                                                                                                                                    |                                                                                                                                                                                                                                                                                                                                |
| 1e     | Balance reserve as on 01/04/20                                      | As on 01.04.2015 as per the Approved SOM: 111-14026 T 121 & 122-3383 T 211-3633 T 221 & 222-5449 T 333-8832 T Total-35323 T | After completion of exploration through 5 boreholes in the year 2017-18, revised Resources are: 111-111881 T 121 & 122-Nil 222-36307 T Total- 148188 T | Resources/reserves enhances due to exploration upto 60 m depth (for mineralized area). earlier resources/reserves were only based on exposures in the pits.                                                                                                                                                                    |

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|----|--------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1f | General remarks of inspecting officers on geology, exploration etc | There are 4 Manganese ore veins with thickness 1.2 m, 1.8 m, 1.7 m & 3.7 m which is also varying in the pits exposure and as proved through exploration done in the form of boreholes. Northern part of the area is non-mineralized in which one bore hole has been drilled upto 100 m. no further exploration is required for proving lateral extension of the ore body and future exploration may be required to prove further depth continuity upon reaching ultimate pit limits. |
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Development :

| Sl.No. | Item                                     | Propasals                               | Actual work                                                                                                                                                                                                                                                 | Remarks |
|--------|------------------------------------------|-----------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------|
| 2a     | Location of development w.r.t.lease area | In the southern part of the lease area. | Development is in the southern part of the lease area but the extent of development is lower than the proposals, as can be seen through the proposals and actual development for 2016-17:<br>Proposed development: 9990 cuM<br>Actual development: 2166 cuM |         |

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|----|-----------------------------------------------------------------------------------------|--------------------------------------------|------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 2b | Separate benches in topsoil, overburden and minerals (Rule 15)                          | Yes                                        | Yes                                                  | Actually there are separate benches in the Overburden and Mineral. There is no top soil in the area. Mineral is vein deposit having 1.2-3.7 m thickness and wherever it is intersected, separate benches are maintained in ore and waste.                                                                                                                                                                                                                                                                            |
| 2c | Stripping ratio or ore to OB ratio                                                      | 1:2.25 average 1:1.94 for 2016-17          | 1:1.79 for 2016-17 (Ore 1220 T/ Overburden 2166 cuM) |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| 2d | Quantity of topsoil generation in m3                                                    | No top soil available in the working area. | Nil                                                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| 2e | Quantity of overburden generation in m3                                                 | 9990 cuM for 2016-17                       | 2166 cuM for 2016-17                                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| 2f | General remarks of inspecting officers on development of pit w.r.t. type of deposit etc |                                            |                                                      | Development is lagging as per the proposals. There are 4 Manganese Ore Veins in the lease area located in mid to southern part of the lease and all are southerly dipping. Therefore, pit has been developed to cover all 4 ore veins and pit has been extended in depth towards south to cover the hangwall side of all the veins. In the footwall side, only one borehole has been drilled and presently dumps are located there. For exploration of Northern part lessee was advised to submit suitable proposals |

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Exploitation:

| Sl.No. | Item                                                                                            | Propasals                              | Actual work                                                                                                     | Remarks                                                                                                                              |
|--------|-------------------------------------------------------------------------------------------------|----------------------------------------|-----------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------|
| 3a     | Number of pit proposed for production                                                           | One pit                                | One pit                                                                                                         | There is only one large pit that is developed according to the 4 manganese bands occuring in the lease area.                         |
| 3b     | Quantity of ROM mineral production proposed                                                     | 6231 T (2016-17)                       | 1220 T (2016-17)                                                                                                |                                                                                                                                      |
| 3c     | Recovery of sailable/usable mineral from ROM production                                         | 85% recovery of clean ore from the ROM | 83%                                                                                                             |                                                                                                                                      |
| 3d     | Quantity of mineral reject generation                                                           | 936 T                                  | 208.66 T                                                                                                        |                                                                                                                                      |
| 3e     | Grade of mineral rejects generation and threshold value declared.                               | Average content 10% Mn                 | As per the proposals                                                                                            | Cut-off is +20% Mn, therefore, +10%-20% containing material is being stacked as Mineral rejects and is being utilized as per demand. |
| 3f     | Quantity of sub grade mineral generation.                                                       | Nil                                    | Nil                                                                                                             |                                                                                                                                      |
| 3g     | Grade of sub grade mineral generation                                                           | NA                                     | NA                                                                                                              |                                                                                                                                      |
| 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                                     | Nil                                                                                                             |                                                                                                                                      |
| 3j     | Provision of drilling and blasting in mineral benches                                           | Yes                                    | Yes, drilling through Jack Hammer drills for 1.5 m deep holes. Blasting is being carried out on contract basis. |                                                                                                                                      |

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|----|------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 3k | Provision of mining machineries in mineral benches                                                   | Manual method of Mining is being done through deployment of tractor trolly and manual loading after drilling, blasting and sorting. JCB is proposed to be used for the case when man power is not available. | As per the proposals.                                                                                                            | As on the date of inspection, mine was not working. Therefore, actual mechanization could not be verified. On examination of Annual returns, number of persons employed as face loaders were found to be reported as 12 and 1 back hoe alongwith 7T dumpers were found to be reported. It was informed by the lessee that requirement of backhoe arises in case of generation of any boulder. Further, tractor trolley is mentioned as dumper in the returns which can be verified through its capacity. |
| 3l | Whether height of benches in overburden and mineral suitable for method of mining proposed in MP/SOM | Yes                                                                                                                                                                                                          | Yes.<br>Manual method of mining is proposed with 3.0 m bench height which is suitable as per the proposals made in approved SOM. |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| 3m | Total area covered under excavation/pits                                                             | As per the Approved SOM, as on 01.04.2015: Area under excavation: 1.422 ha                                                                                                                                   | As on date: Approximate area under excavation is 1.5 ha                                                                          | Actual pit area is approximately same as working has been done for the same pit at deeper levels. Roads have been included in the actual area.                                                                                                                                                                                                                                                                                                                                                           |
| 3n | Ore to OB ratio for the pit/mine during the year.                                                    | 1:2.25 average<br>1:1.94 for 2016-17                                                                                                                                                                         | 1:1.79 for 2016-17<br>(Ore 1220 T/ Overburden 2166 cuM)                                                                          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |

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|----|--------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 30 | Total area put in use under different heads at the end of year           | As on 01.04.2015:<br>Area under Excavation: 1.422 ha<br>Dumps: 0.337 ha<br>Mineral and sub-grade atacks: 0.10 ha<br>Infrastructure : 0.006 ha<br>Roads: 0.06 ha<br>Total: 1.925 ha | As on date:<br>Area under Excavation: 1.422 ha<br>Dumps: 0.337 ha<br>Mineral and sub-grade atacks: 0.010 ha<br>Infrastructure: 0.006 ha<br>Roads: 0.06 ha<br>Total: 1.835 ha | No mineral stacks are available as mining has been done on demand basis. Therefore, present are has reduced.                                                                                                         |
| 3p | Production of ROM mineral during the last five year period as applicable | 2016-17: 6231 T<br>2015-16: 6231 T<br>2014-15: 4048 T<br>2013-14: 4048 T<br>2012-13: 4048 T                                                                                        | 2016-17: 1220 T<br>2015-16: 2000 T<br>2014-15: 832 T<br>2013-14: 1454 T<br>2012-13: 254 T                                                                                    |                                                                                                                                                                                                                      |
| 3q | General remarks of inspecting officers on method of mining etc.          |                                                                                                                                                                                    |                                                                                                                                                                              | Method of mining is manual. As the area is small having 4 Manganese Band with thickness 1.2 m - 3.7 m, and based on the capital expenditure proposed, adoption of manual mining is suitable for recovery of mineral. |

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Solid Waste Management - Dumping:

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| Sl.No. | Item                                                             | Propasals                                                                                              | Actual work           | Remarks |
|--------|------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------|-----------------------|---------|
| 4a     | Separate dumping of topsoil, OB and mineral rejects (Rule 32,33) | There is no top soil in the area. Overburden and Mineral rejects are proposed to be dumped separately. | As per the proposals. |         |

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|----|-------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 4b | Location of topsoil, OB and mineral reject dumps            | Mineral rejects:<br>Stacking is proposed in Northern part of the area.<br>Overburden Dump: Dumping is proposed in the Northern Part (separate from Mineral rejects stack) and Eastern Part. | As per the proposals, Mineral rejects are stacked in the Eastern Part of the lease area between N2369500 to N2369550 & E294900 to E295000.<br>Waste has been dumped in the Northern part only (as development was quite less than the proposals) between N2369400 to N2369500 & E294900 to E295000 |
| 4c | Number of dumps within lease area and outside of lease area | All dumps within the lease area.<br>Overburden/Waste: 5 small dumps and one new dump (total 6)<br>Mineral Rejects stack: One small stack                                                    | As per the proposals.                                                                                                                                                                                                                                                                              |
| 4d | Location of dumps w.r.t. ultimate pit limit (Rule 16)       | All dumps proposed outside Ultimate Pit Limits.                                                                                                                                             | All dumps are presently outside the pit limits based on the exploration carried out in the lease area.                                                                                                                                                                                             |
| 4e | Number of active and alive dumps.                           | One Overburden/Waste Dump and One Mineral reject stacks are active.                                                                                                                         | As per the proposals.                                                                                                                                                                                                                                                                              |
| 4f | Number of dead dumps.                                       | 5 Old Overburden/Waste dumps are inactive dumps.                                                                                                                                            | As above.                                                                                                                                                                                                                                                                                          |

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|----|--------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 4g | Number of dumps established.                                       | Nil                                                                                                                                        | Shallow excavations were proposed to be backfilled at conceptual stage. Further, on 24/11/2017, State Govt. vide letter Number MLV-N-500/2017/2702 issued order for utilization of 20000 Brass of Overburden/Waste available in the lease area for NH753 related works. Therefore, stabilization of dumps has not been done. |
| 4h | Whether Retaining wall or garland drain all along dumps are there. | 250 m retaining wall and 90 m garland drain was available as on 01.04.2015. Maintenance of the same was proposed in the last approved SOM. | Presently, Retaining wall and Garland drains are available in the western part only and for facilitating the transportation in compliance to State Govt. order for raising overburden from the area, eastern part of it has been removed.                                                                                    |
| 4i | Length of Retaining wall or garland drain all along dumps          | 250 m Retaining wall as on 01.04.2015<br>90 m Garland Drain as on 01.04.2015                                                               | Approximately 100 m Retaining Wall & 40-50 m Garland Drain                                                                                                                                                                                                                                                                   |
| 4j | Number of settling ponds                                           | Nil                                                                                                                                        | Nil                                                                                                                                                                                                                                                                                                                          |

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|----|------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 4k | Specific comments of inspecting officer on waste dump management | Waste dumps are kept outside the pit limits in the footwall side of all Manganese bands available in the lease area. Further, Garland drains and retaining wall available is being maintained by the lessee in pre and post monsoon seasons. 20 saplings per year was proposed to be planted on the dumps but in compliance to order issued by the State Govt. for raising of waste from the lease area, plantation has been carried out outside the lease area. |
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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. | Pit is under extraction and at the conceptual stage, backfilling is proposed after reaching ultimate pit depth/economically extractable depth. | As per the proposals. |         |
| 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)     | No top soil available in the area.                                                                                                             | Nil                   |         |

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|----|----------------------------------------------------------------------------|-----|-----|------------------------------------------------------------------------------------------------------------------------------------------------|
| 5d | Total area fully reclaimed and rehabilitated                               | Nil | Nil |                                                                                                                                                |
| 5e | General remarks of inspecting officers on backfilling and reclamation etc. |     |     | No reclamation and rehabilitation works carried out except works under PMCP for construction of retaining wall, garland drains and plantation. |

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Progressive Mine Closure Plan:

| Sl.No. | Item                                                                         | Proposals                                                                                                               | 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).                                                     | 0.34 ha area over the dumps was proposed for plantation till date. In the year 2016-17, proposed plantation was 0.02 ha | Plantation could not be done over the dumps under compliance of order issued by the State Govt. Plantation has been carried out over 0.1 ha land outside the lease area. |         |
| 6d     | No. of saplings planted during the year                                      | In the year 2016-17, 20 saplings were proposed to be planted over the existing waste dumps.                             | 100 number of saplings planted outside the lease area.                                                                                                                   |         |
| 6e     | Cumulative no .of plants                                                     | 340 Number of saplings                                                                                                  | Around 100 saplings present in the lease area. Planted saplings have to be removed in compliance to the State govt. order for utilization of waste in NH753.             |         |

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|----|------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------|------------|
| 6f | Any other method of rehabilitation                                                                         | Nil                                                                                                 | Nil        |
| 6g | Cost incurred on watch and care during the year                                                            | Rs 5000/- approximately for plantation works and maintenance of Garland drains and retaining walls. | Rs 10000/- |
| 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        |

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|----|---------------------------------------------------------------------------------------------------|-----|-----|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 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)                                | Nil | Nil | Lessee was advised to carry out environmental monitoring as per the guidelines of MoEFCC.                                                                                                                                                                                                                                                                                                                                                        |
| 6q | General remarks of inspecting officers on PMCP compliance and progressive closure operations etc. |     |     | Under PMCP, plantation over waste dumps was carried out, retaining wall and garland drains all along the toe of the dumps have been constructed. At conceptual stage, waste was proposed to be backfilled. But now Conceptual planning shall change in compliance to the State Govt. order for raising the waste available in the area. Thus, the area may be converted into a Water Reservoir at conceptual stage, if the mineral is exhausted. |

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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 | Grade-wise mineral dispatch from the area after sorting |         |

|    |                                                                                        |                |                       |                                                                                                                                                                                                                                                                                                                                                                                                                                           |
|----|----------------------------------------------------------------------------------------|----------------|-----------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 7b | Method of grade-wise mineral sorting i.e. manual or mechanical.                        | Manual sorting | As per the proposals. |                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| 7c | Different grade of mineral sorted out at mines.                                        | Below 25% Mn   | As per the proposals. |                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| 7d | Any beneficiation process at mines .                                                   | Nil            | Nil                   |                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| 7e | General remarks of inspecting officer on Mineral conservation and beneficiation issues |                |                       | Manganese ore occurring in the area is having an average grade of below 25%. 20% Mn has been considered as cut-off and also, it depends on the demand. +10-20% Mn containing material which is around 15% of the ROM is being separately stacked as Mineral Rejects for any future usage. Manual sorting of ROM is being done to ensure maximum recovery of mineral. therefore, mineral conservation aspect for the mine is satisfactory. |

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Environment:

| Sl.No. | Item                                                  | Propasals                          | Actual work    | Remarks |
|--------|-------------------------------------------------------|------------------------------------|----------------|---------|
| 8a     | Separate removal and utilization of topsoil (Rule 32) | No top soil available in the area. | NA             |         |
| 8b     | Concurrent use or storage of topsoil                  | Not applicable                     | Not applicable |         |

|    |                                                                                                             |                                                                                            |                                                                                                                                                     |                                                                                                                                                                                                                                                                                    |
|----|-------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 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           | At conceptual stage it was proposed to backfill the mined out areas with overburden/waste. | State govt. has issued an order for raising waste from the waste dumps available in the area. Therefore, the aspect is not applicable for the mine. |                                                                                                                                                                                                                                                                                    |
| 8e | Phased restoration, reclamation and rehabilitation of lands affected by mining operations (Pits, dumps etc) | Nil                                                                                        | Nil                                                                                                                                                 | Presently, only one pit is available that is under mining as mineral has not been exhausted. Dumps are being removed under the compliance of order issued by the State Govt. AT conceptual stage, the pit may be converted into a water reservoir if the mineral deposit exhausts. |
| 8f | Baseline information on existence of plantation and additional plantation done (Rule 41)                    | Yes                                                                                        | Yes                                                                                                                                                 |                                                                                                                                                                                                                                                                                    |
| 8g | Survival rate                                                                                               |                                                                                            | 50%                                                                                                                                                 | As the area has no top soil available, survival rate is low. Lessee was suggested to take necessary steps to enhance the survival.                                                                                                                                                 |
| 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 is satisfactory in the area. Western part in the vicinity of the lease area is a small hillock with trees and shrubs. Eastern part in the vicinity is another lease area which is not under operation. In the lease area also, mining method is manual. Therefore, no major impact on environment was observed due to mining in the lease 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                                            |                                                                                                       | As on date, AR for 2016-17 has been submitted online.<br>MR for April 2018 has been submitted online. | Regular online submission of AR and MR as per Rule 45 of MCDR'2017. Further, the return is presently under 'Refer Back' with MMS Division, therefore, observations may change upon final acceptance of return. |
| 9b     | Scrutiny of Annual return for information on Mining Engineer, Geologist and Manager           | Mining Engineer: Shri Mirza Baig<br>Geologist: Shri Gupte (part time)<br>Manager: Shri Deependra Nath | Correct                                                                                               |                                                                                                                                                                                                                |
| 9c     | Scrutiny of Annual return on land use pattern for area under pits, reclaimed area, dumps etc. | Correct information furnished                                                                         | Correct information furnished                                                                         |                                                                                                                                                                                                                |

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|----|-----------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------|
| 9d | Scrutiny of Annual return on afforestation                                  | 100 saplings outside the lease area with 50% survival rate.                                                                                                      | No observations as plantation has been done outside the lease area.       |
| 9e | Scrutiny of Annual return on mineral reject generation (Grade and quantity) | Correct information furnished                                                                                                                                    | Correct information furnished                                             |
| 9f | Scrutiny of Annual return on ROM stock and/or graded ore                    | ROM:<br>OS: 396.884 T,<br>Prod.: 1220 T,<br>CS: 395.784 T<br>Graded Ore:<br>OS: 391.884 T,<br>Prod.:<br>1011.340 T,<br>Despatch:<br>1013.250 T,<br>CS: 389.974 T | Correct                                                                   |
| 9g | Scrutiny of Annual return on sale value, Ex. Mine price and production cost | Ex-mine price: 2011.33 Rs/T<br>Production<br>Cost: 1852.10 Rs/T                                                                                                  | Correct                                                                   |
| 9h | Scrutiny of Annual return on fixed assets                                   | Furnished in AR                                                                                                                                                  | Not analysed.                                                             |
| 9k | Scrutiny of Annual return on mining machineries                             | Furnished                                                                                                                                                        | Information as per the extent of Mechanization given in the approved SOM. |

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**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