# INDIAN BUREAU OF MINES MINERALS DEVELOPMEMT AND REGULATION DIVISION MCDR INSPECTION REPORT BHUBANESWAR REGIONAL OFFICE

#### **General:**

| SL. No. | Particulars   | Details  |
|---------|---|--|
| 1       | Name of the Mine  | Tiringpahar Iron and Manganese ore Mine  |
| 2       | Date of inspection  | 15-03-2024   |
| 3       | Name of inspecting officer  | Prashant S Hegde, RMG  |
| 4       | Name accompanying mine officials  | S/Shri Sabyasachy Mishra, Head (Mines & Production Planning), Rajib Deb, Principal Geologist, Rakesh Kumar, Mines Manager and other mine officials.  |
| 5       | Last date of Inspection & Officer   | 10/01/2023<br>Shri V.P.Deshpande, ACOM   |
| 6       | Total Lease Area (Ha) with breakup of Non-forest and forest land                                  | 169 Ha area retained out of original 643.71 Ha (133.174 Ha Forest + 35.826 Ha Non- forest )  |
| 7       | Minecode  | 40ORI08033   |
| 8       |   | IBM/4376/2011  |
| 0       | IBM Registration Number under rule 45 of MCDR, 2017   | 1BM/4570/2011  |
| 9       | Name of the lessee, Address, phone, email and fax number  | M/s TATA Steel Ltd, Regd. Office: Bombay House, 24 Homi Mody Street, Mumbai – 400 001 Email: mdoffice@tatasteel.com Phone: 02266658282   |
| 10      | Village   | Palasa(kha) & Guruda   |
| 11      | Taluka/Mandal   | Barbil   |
| 12      | District  | Keonjhar   |
| 13      | Pincode   | 758034   |
| 14      | State   | ODISHA   |
| 15      | Post office   | Bamebari   |
| 16      | Nearest police station  | Joda   |
| 17      | Nearest Railway station   | Banspani   |
| 18      | Date of Grant of Mining Lease   | 01.03.1930   |
| 19      | Date of Execution   | 15.08.1939   |
| 20      | Date of opening of Mine   | 01.03.1930   |
| 21      | Date of expiry  | 31/03/2030   |
| 22      | Name of the <b>Nominated Owner</b> with Address, phone, email, fax number and date of appointment | Mr. Thachat Viswanath Narendran Managing Director M/S Tata Steel Limited, Jamshedpur, Dist- East Singbhum Phone-0657-2424602 Fax-022-66657724, Email: mdoffice@tatasteel.com JHARKHAND-831001 Dt. of Appointment: - 01.11.2013 |
| 23      | Name of the <b>Mine Agent</b> with Address, phone, email, fax number and date of appointment      | Mr. Awnish Kumar, Agent & Chief, Manganese Group of Mines, AT/PO. Bichhakund, VIA – Joda, Dist. Keonjhar, PIN – 758034 Phone – 9238306100 Email: awnish.kumar@tatasteel.com  |

|    |  | Dt. of Appointment – 20.10.2021   |
|----|--|---|
| 24 | Name of the <b>Mines Manager</b> with Address, mobile no, email, fax number and date of appointment in mine  | Mr. Rakesh Kumar, Sr Manager (Mining), Tiringpahar Iron and Manganese Mines, FAMD, Tata Steel, P.O: Bamebari, Dist: Keonjhar, Odisha- 758086 Tel: 9124754891 Email: rakesh.kumar1@tatasteel.com Qualification: Diploma (Mining) & FCC Date of Appointment: 30.05.2022 |
| 25 | Name of the <b>Mining Engineer</b> ,<br>Qualification and total experience<br>with Address, mobile no, email,<br>fax/phone number and date of<br>appointment in mine | Mr. Rakesh Kumar, Diploma in Mining & FCC, Experience - 23 Years Tiringpahar Iron and Manganese Mines, At/PO- Bamebari, Dist- Keonjhar, Odisha-758034 Tel: 9124754891 Email: rakesh.kumar1@tatasteel.com Dt. of Appointment-25.09.2023                                |
| 26 | Name of the <b>Geologist</b> , Qualification and total experience with Address, mobile no, email, fax number and date of appointment in mine                         | Mr. Rishikant Maurya, M.Sc. Tech (Geology) Experience – 6 Years Tiringpahar Iron and Manganese Mines, At/PO- Bamebari, Dist- Keonjhar, Odisha- 758034 Tel: 9438887725 Email: Rishikant.maurya@tatasteel.com Dt. of Appointment-01.11.2021                             |
| 27 | Date of Approval of Mining<br>Plan/Review of Mining Plan/ their<br>modifications with five-year period<br>and specific condition in approval<br>letter, if any.      | Approved Review of Mining Plan Letter No. RMP/A/07-ORI/BHU/2020-21 dated 31.07.2020 for period 2020-21 to 2024-25   |
| 28 | Mineral (s) granted in lease and proved for mining   | Manganese ore and Iron ore  |
| 29 | Method of Mining(Opencast, Underground)  | Opencast  |
| 30 | Category (Fully Mechanised, Others or Manual)  | A-Fully Mechanized  |
| 31 | Captive/Non Captive  | Captive   |
| 32 | Present EC Capacity  | 85,000 TPA of Mn. Ore Production  |

#### **OBSERVATIONS/COMMENTS OF INSPECTING OFFICER:**

#### 1)Exploration:---

| SL.No | Item                     | Proposals         | Actual work     | Remarks     |
|-------|--------------------------|-------------------|-----------------|-------------|
|       |                          | (FY 2022-23)      |                 |             |
| 1a    | Backlog of previous year | FY-20-21:88 nos   | NIL; Backlog    | V/L issued. |
|       |                          | of BHs with total | exploration     |             |
|       |                          | 4525 m;           | reported to be  |             |
|       |                          | FY-21-22: 258     | not carried out |             |
|       |                          | nos of BHs with   | due to non-     |             |
|       |                          | total 13,220 m    | availability of |             |
|       |                          | FY: 22-23:NIL     | Forest          |             |
|       |                          |                   | clearance.      |             |

| 1b  | Exploration over lease area for Geological axis 1 or 2.            | Exploration of remaining area to G-1 level  | Nil   | Total Lease Status<br>as on 01-04-2023 is<br>G1: 95.780 Ha<br>G2: 54.840 Ha  |
|-----|--|---|---|--|
| 1c  | Exploration Agency & Expenditure in lakh Rupees during the year    | NA  | Nil   |  |
| 1d  | Balance area to be explored to bring Geological axis in 1 or 2     | NA  | Balance of<br>18.380 Ha to be<br>explored   | V/L issued.  |
| 1e  | Balance reserves as on 01.04.2023                                  | NA  | Mn- Ore (+10 % Mn) reserves (111+122): 1,489,312 tonnes; Iron Ore (+45 % Fe) reserves (111+122) : 1,467,247 tonnes  | Based on approved RMP dated 31/7/2020  |
| 1f: | General remarks of inspecting Officer on Geology, exploration etc. | belt/series/group<br>plunging toward<br>Manganese mine<br>weathered shale<br>pockets within the<br>the leasehold. The<br>km with dipping g<br>from 10m to 50 m<br>with limited dept<br>reported to be no<br>Forest clearance. | of the Singhbh of horse shoe s NNE over—for ralization is main horizon. Mn-ore Shale in the northed strike length of the ently towards south. Iron ore mainly each continuity. Batt carried out due | hum- Keonjhar-Bonai shaped synclinorium olded towards SW. Inly confined to the occurs as lenses & ern and western part of e ore body is around 1 in-east and width varies exposed on the surface incklog of exploration to non-availability of inted out for deviation |

## 2)Development:--

| 2/Development. |             |                               |                             |            |  |  |
|----------------|-------------|-------------------------------|-----------------------------|------------|--|--|
| SL.            | Item        | Proposals (FY 2022-23)        | Actual work                 | Remarks    |  |  |
| No.            |             |                               |                             |            |  |  |
| 2a             | Location of | Guruda – A –                  | Extent of Development–      |            |  |  |
|                | developme   | Quarry - 1 :11361N-11521N &   |                             | Due to     |  |  |
|                | nt w.r.t.   | 12090E-12312E from            | Guruda – A –                | pending    |  |  |
|                | lease area  | 556 mRL to 636 mRL.           | Quarry - 1 - 11428N-11589N  | Forest     |  |  |
|                |             | Quarry – 3: 11490N-11620N     | & 12142E-12291E from 566    | Clearance. |  |  |
|                |             | & 11645E-11777E from          | mRL to 636 mRL.             |            |  |  |
|                |             | 690 mRL to 708 mRL.           |                             |            |  |  |
|                |             |                               | Quarry - 3 – 11490N– 11617N |            |  |  |
|                |             | Quarry – 2: Due to delay in   | & 11647E– 11777E from 690   |            |  |  |
|                |             | tree felling permission over  | mRL to 708 mRL.             |            |  |  |
|                |             | diverted forest land for      |                             |            |  |  |
|                |             | proposed waste disposal site. | Quarry - 2 – 11570N– 11741N |            |  |  |
|                |             | the Backlog of proposals      | & 11695E– 11854E from 666   |            |  |  |
|                |             | (2020-21 & 2021-22) at        | mRL to 698 mRL              |            |  |  |

|    |   | Quarry – 2 – 11560N-11749N & 11694E-11868E from 666 to 698 mRL. has been developed/ considered for excavation to exhaust the mineral to facilitate the back filling from 2023-24.  Guruda – B – No development proposal during FY. |   |                                  |
|----|---|--|---|----------------------------------|
| 2b | Separate<br>benches in<br>topsoil,<br>overburden<br>and<br>mineral                      | Separate benches for OB and Ore maintained (wherever possible due to pocket deposit nature of manganese ore).  | As per the proposals.   |                                  |
| 2c | Stripping ratio or ore to OB ratio  | (Ratio in Tonnes ) 1:0.78 (Ore includes Mn. Ore & Iron Ore Mineral Rejects)  | (Ratio in Tonnes ) 1:1.9 (Ore includes Mn. Ore & Iron Ore Mineral Rejects) (BD:2 for OB wastes)   | V/L issued for deviation.        |
| 2d | Quantity of<br>topsoil<br>generation<br>in m3   | No proposals   | Nil   |                                  |
| 2e | Quantity of overburden generation in m3   | Guruda – A – 1,27,545 cum<br>Guruda – B – Nil<br>Total – 1,27,545 cum  | Guruda – A – 1,62,677 cum<br>Guruda – B – Nil<br>Total – 1,62,677 cum                             | Due to<br>backlog of<br>Quarry-2 |
| 2f | General remarks of inspecting Officer on developme nt of pit w.r.t. type of deposit etc |  | tt as per approved RMP. Backlog – 2 was also carried out during for deviation in Stripping ratio. |                                  |

## 3)Exploitation:--

| SL.No. | Item        | Proposals<br>(FY 2022-23) | Actual work              | Remarks      |
|--------|-------------|---------------------------|--------------------------|--------------|
|        |             | ,                         |                          |              |
| 3a     | Number of   | 2 Nos. (Quarry Nos. 1 &   | 3 Nos. (Quarry Nos. 1, 2 | Backlog      |
|        | pits        | 3)                        | and 3)                   | development  |
|        | proposed    |                           |                          | at Quarry 2  |
|        | for         |                           |                          | also carried |
|        | production  |                           |                          | out due to   |
|        |             |                           |                          | delay in FC. |
| 3b     | Quantity of | Mn-Ore:                   | Mn-Ore:                  | Due to       |
|        | ROM         | 1,78,400 tonnes           | 63,135 tones             | pending FC & |
|        | mineral     | Iron Ore:                 | Iron Ore:                | EC.          |
|        | production  | 1,47,001 tonnes           | 1,07,523 tonnes          |              |

|    | proposed  |   |  |   |
|----|---|---|--|---|
| 3c | Recovery of salable/usab le mineral from ROM production             | 73%<br>(1,30,000 Mn-ore: >25 %<br>Mn)<br>Iron Ore:NIL     | 85 %<br>53,707 tonnes Mn-ore<br>Iron Ore:NIL | Due to EC limit & FC delay.   |
| 3d | Quantity of<br>mineral<br>reject<br>generation                      | Mn Ore: 48400 Tonnes<br>Fe Ore: 1,47,001 Tonnes           | Mn Ore: 9427 Tonnes<br>Fe Ore: 107525Tonnes  | Total Mn-ore MR Generation 13215.460 Tonnes and 3788.100 Tonnes consumed by blending with upper grade.                              |
| 3e | Grade of mineral reject generation and threshold value declared     | MR:<br>Mn ore:10 to <25 % Mn<br>Iron Ore: 45 to < 58 % Fe | MR:<br>Mn ore: 20 % Mn<br>Iron Ore: 46 % Fe  | Threshold value of Iron Ore: +45 % Fe; & Mn-ore +10 % Mn; Sub-grade/MR of iron ore (incidentally) generated and stacked separately. |
| 3f | Quantity of<br>sub-grade<br>mineral<br>generation                   | Same as para 3d   |  | Sub-grade<br>mineral/<br>mineral reject<br>are being  |
| 3g | Grade of<br>sub-grade<br>mineral<br>generation                      | Same as para 3e   |  | stacked separately & MR of Mn ore is being utilized by blending based on market demand.   |
| 3h | Manual / Mechanised method adopted for segregating from ROM         | Manual  | Manual                                       |   |
| 3i | Any analysis or beneficiation study proposed & carried out for sub- | No such proposals during FY.                              | NIL  |   |

|    | grade<br>mineral and<br>reject   |   |   |   |  |                            |
|----|--|---|---|---|--|----------------------------|
| 3j | Provision of<br>drilling &<br>blasting in<br>mineral<br>benches                                      | Yes; Deep hol<br>blasting<br>Depth of hole<br>+10% subgrace<br>8.8m<br>Spacing= 3m<br>Burden= 2.5 m<br>Volume= 45 -<br>Specific Grave<br>Tonnage/Hole<br>170 Tonnes<br>Powder factors<br>kg/Tonne | = 6 – 8 m<br>de =6.6 -<br>n<br>66 CuM<br>ity=2.5<br>= 112.5 - | As per the pro  | posals.  |                            |
| 3k | Provision of mining machineries in mineral benches   | Yes; Excavato<br>Dumpers com  | oination.   | As per the pro  |  |                            |
| 31 | Whether height of benches in overburden and mineral suitable for method of mining proposed in MP/SOM | Bench Height<br>Bench Width:  |   | As per the pro  | posals.  |                            |
| 3m | Total area<br>covered<br>under<br>excavation/<br>pits  | 40.602 ha Ha plan period).  | (For end of   | 27.460 ha. 01.04.2023   | as on  | Due to delay in FC and EC. |
| 3n | Ore to OB<br>ratio for the<br>pit/mine<br>during the<br>year   | (Ratio in Tonnes ) 1:0.78 (Ore includes Mn. Ore & Iron Ore Mineral Rejects)   |   | (Ratio in Tonr<br>1:1.9<br>(Ore includes<br>Iron Ore Mine<br>(BD:2 for OB | Mn. Ore &<br>eral Rejects)                       | V/L issued for deviation.  |
| 30 | Total area put in use under different heads at the   | Particulars   | Total Area(Ha) at the end of Plan period i.e.FY 2024- 25      | Particulars  Area under   | Total<br>Area(Ha) at<br>the end of<br>FY 2022-23 |                            |
|    | end of year  | Area under Mining Overburden/ Waste   | 40.62<br>34.328   | Mining Overburden/ Waste dumping  | 29.488   |                            |
|    |  | dumping  Mineral  |   | Mineral<br>Storage  | 12.708   |                            |
|    |  | Storage Area Occupied Infrastructure, plants,   | 6.483   | Area Occupied<br>Infrastructure,<br>plants,<br>buildings,<br>roads etc    | 6.214  |                            |

|    |              | buildings ,<br>roads etc      |                               |                  |
|----|--------------|-------------------------------|-------------------------------|------------------|
|    |              |                               | Broadly within the proposals. |                  |
| Зр | Production   | Mn-Ore:                       | Mn-Ore:                       | Unit in          |
|    | of ROM       | FY 18-19:1,00,000             | FY 18-19: 84,923              | Tonnes           |
|    | mineral      | FY 19-20: 1,00,000            | FY 19-20: 84,998              |                  |
|    | during last  | FY 20-21: 98,200              | FY 20-21: 84,141              |                  |
|    | five-years   | FY 21-22: 1,22,000            | FY 21-22: 67,012              |                  |
|    | period, as   | FY 22-23: 1,78,400            | FY 22-23: 63,135              |                  |
|    | applicable   | FY 23-24: 2,38,000            | FY 23-24: 53,262 (upto        |                  |
|    |              |                               | Feb-24)                       |                  |
| 3q | General rema | orks of inspecting Officer on | Open-cast fully mechanized    | mining method    |
|    | method of mi | ning etc                      | is being carried as per appr  | oved RMP. The    |
|    |              |                               | production was restricted to  | present EC limit |
|    |              |                               | and reported that afres       |                  |
|    |              |                               | clearance is in process but   | delayed due to   |
|    |              |                               | SOP of MoEF & CC.             |                  |

## 4)Solid Waste Management-Dumping:--

| SL.No | Item  | Proposals (FY 2022-23)   | Actual work  | Remarks |
|-------|---|--|--|---------|
| 4a    | Separate<br>dumping of<br>topsoil, OB<br>& mineral<br>reject            | No topsoil generation;<br>Separate OB waste<br>dumping & stacking of<br>mineral rejects.   | As per proposals.  |         |
| 4b    | Location of<br>topsoil, OB<br>& mineral<br>reject<br>dumps              | Topsoil – Area earmarked.  Waste Dump – Dump D#4 – 11166N-11341N & 11677E-11927E from 640 mRL to 683 mRL  MR Dump – Mn. Ore (M#3) – 11348N-11472N & 11748E-11873E and up to 698 mRL  Iron Ore (I#3) – 11277N-11629N & 11550E-11706E and up to 700 mRL. | Broadly as per the proposals. Topsoil – Area earmarked. Waste Dump – Dump D#4 – 11166N-11345N & 11679E- 11925E from 642 mRL to 683 mRL  MR Dump – Mn. Ore (M#3) – 11366N- 11396N & 11774E-11830E and up to 700 mRL  Iron Ore (I#3) – 11309N- 11574N & 11554E-11705E and up to 700 mRL. |         |
| 4c    | Number of<br>dumps<br>within lease<br>area and<br>outside<br>lease area | 4 Nos &<br>1 (partial back filling of<br>Guruda-A Quarry-1,)   | 4 Nos &<br>1 (partial back filling of<br>Guruda-A Quarry-1)  |         |
| 4d    | Location of dumps w.r.t.  | Dumps Located outside UPL.   | Dumps Located outside UPL.   |         |

|    | ultimate pit<br>limit   |   |   |                |
|----|---|---|---|----------------|
| 4e | Number of active & alive dumps  | 3 Nos.  | 3 Nos.  |                |
| 4f | Number of dead dumps  | 1 Nos.  | 1 Nos.  |                |
| 4g | Number of<br>dumps<br>stabilished                                       | 1 Nos.  | 1 Nos.  |                |
| 4h | Whether Retaining wall or garland drain all along dumps are there       | Yes; Proposed to be well maintained   | Well Maintained   |                |
| 4i | Length of<br>Retaining<br>wall or<br>garland<br>drain all<br>along dump | During year-22-23 For Guruda-A: NIL For Guruda-B: Retaining wall:605 m Garland drain: 605 m | Retaining wall: 289m Garland drain: NIL 605m retaining wall was proposed over Mineral Reject Dumps #4 & M#4 (for Iron & Mn-Ore) at Guruda-B. But the dumps were not developed due to want of Forest Clearance. 289m retaining wall was further strengthened over existing wall. |                |
| 4j | Number of settling ponds  | Nil   | NIL   |                |
| 4k | Specific comments of inspecting Officer on waste dump managemen t       | Overburden wastes and min per the approved proposals.                                       | neral reject management are being   | carried out as |

## 5)Solid Waste Management-Backfilling:--

| SL.No | Item                       | Proposals <b>(FY 2022-23)</b> | Actual work | Remarks |
|-------|----------------------------|-------------------------------|-------------|---------|
| 5a    | Status on part or full     | No sucl                       | NIL         |         |
|       | extraction of mineral from | proposals                     |             |         |
|       | mined out area before      | during FY.                    |             |         |

|    | starting backfilling  |  |     |  |
|----|---|--|-----|--|
| 5b | Area under backfilling of mined out area                                      | NIL during YF  | NIL |  |
| 5c | Concurrent use of topsoil for restoration or rehabilitation of mined out area | No proposals   | NIL |  |
| 5d | Total area fully reclaimed & rehabilitated                                    | No proposals   | NIL |  |
| 5e | General remarks of inspecting Officer on backfilling and reclamation etc      | No such proposals of back-filling during FY-2022-23. However, as reported/records, earlier about 3.89 Ha area was back-filled at Guruda-A quarry (North part at exhausted of pit). During current FY 2023-24, the back-filling of about 2 Ha area is being carried out as per the proposals, at western part of Guruda-A quarry. |     |  |

## 6)Progressive Mine Closure Plan:---

| SL.N. | Item   | Proposals <b>(FY 2022-23)</b>                             | Actual work   | Remarks                      |
|-------|--|---|---|------------------------------|
| 6a    | Whether Annual report<br>on PMCP submitted on<br>time and correctly -<br>Rule 26(2). (Hard copy<br>same provided)  | Before 1 <sup>st</sup> July<br>2023                       | Submitted on time   | NIL                          |
| 6b    | Management of worked/ mined out benches/dumps i) Area available for rehabilitation (ha) ii) Afforestation done (ha) iii) No. of saplings planted during the year iv) Cumulative no. of plants v) Any other specific method of rehabilitation vi) Cost incurred on watch & care during the year | i)Nil ii) 1.16 HA iii)2900 nos iv) NA v)Plantation vi) NA | i)Nil ii)1.2 Ha (Dump Plantation) iii)6593 nos iv) 1,84,956 nos v) Plantation vi) 12.80 lakhs | NIL.                         |
| 6c    | Compliance on reclamation and rehabilitation by backfilling i) Voids available for backfilling (L X B X D) ii) Void filled by waste/tailings iii) Afforestation on the backfilled area   | i) NIL ii) NIL iii)NIL iv)NIL                             | i) NIL ii) NIL iii) NIL iv)NIL v)NIL  | No such proposals during FY. |

|    | iv) Rehabilitation by making water reservoir v) Any other specific means                     | v)NIL  |   |          |
|----|--|--|---|----------|
| 6d | Compliance of<br>Rehabilitation of waste<br>land within lease                                | i)NIL  | i)NIL   |          |
|    | i) Afforestation   | ii)Nil   | ii)Nil  | NIL      |
|    | ii) Area rehabilitated<br>(ha)<br>iii) Method of   | iii)Nil  | iii)Nil   |          |
|    | reĥabilitation   |  |   |          |
| 6e | Compliance of Environmental monitoring (core zone & buffer zone)                             | Environmental monitoring in Core zone and buffer zone will be as per MOEF& CC and SPCB guidelines. | Environmental monitoring in Core zone and buffer zone was carried out as per the proposals and parameters are within the limit. | NIL      |
| 6f | General remarks of inspecting Officer on PMCP compliance & progressive closure operation etc | Lessee has implem approved RMP.  | enting PMCP proposals   | s as per |

## 7) Mineral Conservation:---

| SL.No | Item   | Proposals <b>((FY 2022-23)</b>  | Actual work      | Remark<br>s |
|-------|--|---|------------------|-------------|
| 7a    | ROM Mineral dispatch or grade-wise sorting within lease area             | Grade wise sorting within lease area.   | As per proposals | NIL         |
| 7b    | Method of grade-wise<br>mineral sorting i.e.<br>manual or mechanica<br>l | Manual  | Manual           | NIL         |
| 7c    | Different grade of mineral sorted out at mines                           | Grade wise Mn-ore sorting and dispatched (i)Below 25 % Mn (ii)25 to below 35 % Mn (iii)35 to below 46 % Mn And (iv)46 % and above Mn  Size Range: +10 to 75mm, +6 to 25mm & -10mm | As per proposals | NIL         |
| 7d    | Any beneficiation process at mines                                       | None  | None             | NIL         |
| 7e    | General remarks of inspecting Officer on                                 | Grade-wise manual soring & dispatches of ore/mineral as per the proposals and there is no mineral conservation issue.   |                  |             |

|  | mineral conservation & |
|--|------------------------|
|  | beneficiation issues   |

## 8)Environment:--

| SL.No. | Item  | Proposals (FY 2022-23)  | Actual work  | Remarks |  |  |
|--------|---|---|--|---------|--|--|
| 8a     | Separate removal and utilization of topsoil   | No such proposals.  | Nil  |         |  |  |
| 8b     | Concurrent use or storage of topsoil  | No such proposals.  | Nil  | Nil     |  |  |
| 8c     | Separate dumps for overburden, waste rock, rejects and fines  | Separate dumping of OB wastes and Mineral Rejects (Mn-ore & iron ore)   | Carried out as per approved proposals.   |         |  |  |
| 8d     | Use of overburden, waste rock, rejects and fines dumps for restoring the land to its original use           | No such proposals.  | NIL  | Nil     |  |  |
| 8e     | Phased restoration, reclamation and rehabilitation of lands affected by mining operations (Pits, dumps etc) | Dump Plantation – 1.16 ha (2900 Nos. of Saplings)  Dump Plantation – 1.200 ha (6593 Nos. of Saplings)   |  | Nil     |  |  |
| 8f     | Baseline information on existence of plantation & additional plantation done                                | 2900 nos<br>saplings<br>plantation during<br>FY 22-23.  | During year 22-23, 6593 nos of saplings planted within ML and 620 nos outside ML with cumulative 1,84,956 nos of saplings planted within ML & 16,550 nos of saplings planted outside ML. |         |  |  |
| 8g     | Survival rate   | NA  | 88 %   |         |  |  |
| 8h     | Water sprinkling on<br>roads to control airborne<br>dust  | Regular sprinkling of water on Haul roads, manual sorting site and dump/backfilling location etc using Water tanker/mobile water sprinklers to suppress the dust. | Carried out as per the proposals.  |         |  |  |
| 8i     | General remarks of inspecting Officer on aesthetic beauty in &  | Aesthetic beauty in & around mines area is good as lessee implementing the PMCP proposals and carried out plantation as per the proposals.                        |  |         |  |  |

| around mines area. |  |
|--------------------|--|

## 9)Compliance of Rule 45

| SL.No. | Item  | COMMENTS   | Remarks.   |  |                |
|--------|---|--|--|--|----------------|
| 9a     | Status of submission of Monthly and Annual returns  | Regularly subn   |  |  |                |
| S.N.   | Item  | Details GIVEN  | I in A.R.  | Actual in field  |                |
| 9b     | Scrutiny of Annual return for information on Mining Engineer, Geologist and Manager           | Kumar<br>Mining Engine<br>Sadab Khustar  |  | Actual also the same except Shri Rakesh Kumar as Mining Engineer cum Mines manger. |                |
| 9c     | Scrutiny of Annual return on land use pattern for area under pits, reclaimed area, dumps etc. | Workings-2 (2) Used for Wa 29.488 Ha. (3) Occupied by residential, v and roads-3 (4) Other Purpo   | y plant, buildings, welfare, buildings 6.667 Ha. use (including rage)- 15.255 Ha | Actual also as per AR except Reclaimed-rehabilitated area.                         | V/L<br>issued. |
| 9d     | Scrutiny of Annual return on afforestation  | 6,593 nos WM<br>620 nos OML  | L  | Actual also as per<br>AR   |                |
| 9e     | Scrutiny of Annual return on mineral reject generation (Grade & quantity)                     | Mn: from Unprocessed Ore (Avg. 20 % Mn (10-25 % Mn) Mn: From Processed Ore (Avg. 19 % Mn 10-25 % Mn) Iron: from Unprocessed Ore (Avg. 49 % Fe. 45 to 58 % Fe.) | 5,651 tonnes 7,564 tonnes 107,525 tonnes   | Actual also as per<br>AR   |                |
| 9f     | Scrutiny of Annual return on ROM stock and/or graded ore                                      | As on 31.03.2023 tonnes Stock Mn-Ore ROM: NIL  Mn_ore closing stock in   |  | Appear to be correct.  |                |

|    |   | tonnes                              |                      |   |   |        |
|----|---|-------------------------------------|----------------------|---|---|--------|
|    |   | below 25 %<br>Mn                    | 2,35,178             |   |   |        |
|    |   | 25%- below<br>35%Mn                 | 20,150               |   |   |        |
|    |   | 35%- below<br>46% Mn                | 79                   |   |   |        |
|    |   | 46 % and above Mn                   | 4                    |   |   |        |
|    |   | Dioxide ore                         | 5.6                  |   |   |        |
| 9g | Scrutiny of Annual                        | Cost of production                  | on: Rs-3671.10       |   | Cost of Production                      | V/L    |
|    | return on sale value,                     | per tonne;                          |                      |   | appear to be                            | issued |
|    | Ex. Mine price &                          | Ex-mine price:                      |                      |   | correct; and ex-                        |        |
|    | production cost                           | Ex-mine Price                       | o of Mn ovo          | ٦ | mine calculation                        |        |
|    |   | in Rs per                           |                      |   | was not as per rule 45(8)(b) as captive |        |
|    |   | 25%- below<br>35% Mn                | 3115.37              |   | mine.                                   |        |
|    |   | 35%- below<br>46% Mn                | 5580.47              | 1 |   |        |
|    |   | 46 % and<br>above Mn                | 9925.84              |   |   |        |
| 0: | Counting of Assessed                      | T: 1 37-1 6 A                       | \ D-                 |   | A 4 - 1 -                               |        |
| 9i | Scrutiny of Annual return on fixed assets | Fixed Value of <i>A</i> 5,59,64,816 | Assets: Rs           |   | Appear to be correct.                   |        |
| 9k | Scrutiny of Annual                        | Excavator (Back                     | ,                    |   | Observed to be                          |        |
|    | return on mining                          |                                     | Dumpers – 13 Nos.    |   | correct.                                |        |
|    | machineries                               | Rock Drill (100mm Dia) – 1          |                      |   |   |        |
|    |   | Nos.<br>Dozer – 1 Nos.              |                      |   |   |        |
|    |   | Wheel Loader- 1 Nos.                |                      |   |   |        |
|    |   | Grader – 1 No.                      |                      |   |   |        |
|    |   |                                     | Water Tanker – 1 No. |   |   |        |
|    |   | Explosive Van – 1 No.               |                      |   |   |        |

## (10)Violation observed during current inspection and compliance position of earlier violation pointed out:

- (a)Compliance position of earlier violation pointed out: During last inspection dated 10/01/23, the violation of rule 11(1) & 12(4) of MCDR 2017 were pointed out and subsequently, said rules complied on 22/3/23.
- (b)During current inspection: The violation of Rules 11(1) & 45(7) of MCDR 2017 have been observed and the violation letter issued on 18/04/2024.
- (11) On-line validation of star rating of templates submitted under rule 35 (FY-2022-23) has been made on 20/3/24 for four star at RO level.
- (12)The lessee had submitted DAI/drone survey data under rule 34A for FY 22-23 on 23/06/2023.

Date: 18/04/2024