INDIAN BUREAU OF MINES

MINERALS DEVELOPMEMT AND REGULATION DIVISION

I/31718/2024

MCDR inspection REPORT

Bangalore regional office

Mine file No : KNT/BLR/FE-201/BNG **Mine code : 30KAR03180**

(i) Name of the Inspecting Officer and ID No. : **S47) DR. Sudhakara T.L**

(ii) Designation : Senior Mining Geologist

(iii) Accompaning mine Official with Designation : 1.Shri. Shridhar P Hegde, General Manager (Mines),

(iv) Date of Inspection : 05/12/2023

(v) Prev.inspection date : 13/10/2022

PART-I : GENERAL INFORMATION

1. (a) **Mine Name** : **SMIORE ML-2678(OLD2580)**

(b) Registration NO. : **IBM/35/2011**

(c) Category : A Fully Mechanised

(d) Type of Working : Opencast

(e) Postal address

State : KARNATAKA
District : BELLARY
Village : DEOGIRI,SB HALLI,RAM
Taluka : SANDUR
Post office :
Pin Code :
FAX No. : (080) 23613169,08395260473
E-mail : eps@sandurgroup.com
Phone : (080) 23613166,08395260301

(f) Police Station : Sandur

(g) First opening date : 01/01/1954

(h) Weekly day of rest : SUN

2. Address for correspondance : M/s THE SANDUR MANGANESE & IRON ORES LTD
NO.9, BELLARY ROAD, SADASHIVANAGAR,
BANGALORE - 560080

3. (a) Lease Number : KAR1516
(b) Lease area : 1860.1
(c) Period of lease : 50
(d) Date of Expiry : 31/12/2033

4. Mineral worked : MANGANESE ORE Associated
IRON ORE Main

5. Name and Address of the

Lessee : SANDUR MANGANESE & IRON ORES LTD
DEOGIRI (PO)-583 112 SANDUR
BELLARY KARNATAKA
Phone:08395-271025/28/29/40
FAX :08395-271066

Owner : SRI Md ABDULSALEEM (DIRECTOR MINES)
DEOGIRI SANDUR TQ BALLARI
BELLARY KARNATAKA
Phone: 08395-271025/28
FAX : 08395-271066

Agent : SHRIDHAR P HEGDE
DEOGIRI SANDUR BELLARY
BELLARY KARNATAKA
Phone: 08395-271025/28/29/40, 9448497925
FAX : 08395-271066

Mining Engineer
Name : SUNIL KUMAR GS,Full Time
Qualification : B.E.MINING
Appointment/ Termination date : 06/09/2015

Geologist
Name : Rajesh M Katral,Full Time
Qualification : M.Sc (Geology),
Appointment/ Termination date : 19/06/2005

Manager
Name : SHIVAKUMAR R C
Qualification :
Appointment/ Termination date : 01/06/2023

Manager
Name : KARTHIK S
Qualification :
Appointment/ Termination date : 21/08/2019

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

Mining Scheme rule 12 MCDR1988	22/10/2002
Mining Scheme rule 12 MCDR1988	15/01/2013
Renewal under rule 22 MCR1960	05/12/2013
MP modif under MCR 1960	01/09/2015
MP modif under MCR 1960	19/08/2016
MP review under 17(1) MCR 2016	07/12/2017
MP review under 17(1) MCR 2016	05/10/2018
Modif.approved Mining Scheme	02/09/2021
MP modif under 17(3) MCR 2016	12/04/2022
MP review under 17(1) MCR 2016	19/09/2022

I/31718/2024

PART - II : OBSERVATION/COMMENTS OF INSPECTING OFFICERS

Exploration :

Sl.No.	Item	Proposals	Actual work	Remarks
1a	Backlog of previous year	No Proposal	No Backlog	No Backlog
1b	Exploration over lease area for geological axis 1 or 2	RC 56 holes of 2800 mtrs & DTH 115 holes of 3450 mtrs amounting to total of 6250 mts proposed at G1 level.	254 holes drilled with a total meterage of 9506 mts.	During the reporting year 112 holes by RC Drilling with 5283 meters and 142 holes by DTH with 4223 meters has been drilled. Based on the exploration data lessee yet to update the Geological axis in the Mining plan.
1c	Exploration Agencies and Expenditure in lakh rupees during the year	No proposal	The Sandur Manganese & Iron Ores Limited (DTH Drilling) M/s APC Drilling Company, Nammakal, Salem (RC Drilling) Rs253.56 lakh	Actual Expenditure details provided are as per Annual returns (2022-23) submitted by lessee
1d	Balance area to be explored to bring Geological axis in 1 or 2	300.53 Ha of G3 category to be upgraded to G1 OR G2	During the Year 2022-23, 17.00 Ha of G3 area has been upgraded to G1 category and balance will be partly upgraded with ongoing exploration during 2023-24.	As on 01.04.2023 Areas under G1- 926 Ha Area under G2- 221 Ha Area under G3- 283 Ha Non -Mineralized- 431.03 Ha (Non-Mineralized area is as per the Review and Updation of Mining Plan)

1e	Balance reserve as on 01/04/20	As on 01.01.2022 (Modification to approved Review and Updation of Mining Plan) Iron Ore (+45 % Fe) Reserves: 8,04,66,360 tonnes Hematitic Siliceous Ore (+35-45 % Fe) Reserves 1,12,48,247 tonnes Manganese (+10%Mn) Proved: 1,52,27,375 tonnes	As on 01.04.2023 Iron Ore 89,704,520 tonnes Manganese (+10%Mn) Proved: 1,48,52,577 tonnes	As per Annual Return
1f	General remarks of inspecting officers on geology, exploration etc			Iron ore deposit is of Bedded Stratiform and tabular Deposit of Regular habit contains HIO & HSIO and lateritized iron ore. Manganese ore is of Lenticular bodies of all dimensions including bodies occurring as lenses and pockets wit irregular nature. During the year 2022-23, lessee has carried out the drilling more than the proposal to convert the G2/G3 area into G1 area. Exploration work is under progress.

Development :

Sl.No.	Item	Propasals	Actual work	Remarks

2a	Location of development w.r.t.lease area	Development proposal locations for Manganese ore: JLK: N 1659554 to 1659637, E 675127 to 675274. YRD: N 1658732 to 1659003, E 674292 to 674610. RMK: N 1657980 to 1658339, E 674065 to 673419. CBG: N 1657822 to 1658033, E 671376 to 671607. N 1657703 to 1657864, E 671300 to 671412. N 1657609 to 1657819, E 670741 to 670998. SK: KMK(E): CHN: NK: KPTS: Iron Pit: KTIO-A: KTIO-B: KVHIO:	Development proposal locations for Manganese ore: JLK: N 1659554 to 1659637, E 675127 to 675274. YRD: N 1658732 to 1659003, E 674292 to 674610. RMK: N 1657980 to 1658339, E 674065 to 673419. CBG: N 1657822 to 1658033, E 671376 to 671607. N 1657703 to 1657864, E 671300 to 671412. N 1657609 to 1657819, E 670741 to 670998. SK: KMK(E): CHN: NK: KPTS: Iron Pit: KTIO-A: KTIO-B: KVHIO:	Production & Development carried out within the proposed extent.
2b	Separate benches in topsoil, overburden and minerals (Rule 15)	Separate benches proposed in overburden and mineral	Separate benches developed in overburden and mineral is maintained, topsoil during the excavation process has been stacked and also utilized.	--

2c	Stripping ratio or ore to OB ratio	Mn Ore: 1: 25.89 Fe Ore: 1:2.11 (OB: Ore ratio in tonne to tonne) Waste from Mn ore pits- 65,77,029 tonnes Waste from Iron Ore Pits- 33,72,638 tonnes	Mn Ore 1: 25.67 Fe Ore: 1: 1.23 (OB: Ore ratio in tonne to tonne) Waste from Mn ore pits 65,21,495 tonnes Waste from Iron Ore Pits- 12,97,884 tonnes	Violation pointed out under Rule 11(1) of MCDR for not maintaining the proposed stripping ratio.
2d	Quantity of topsoil generation in m3	35702 m3	7021 m3	During inspection lesse team stated that deviation due to lack of movement of top benches for want for tree cutting permission from Forest Department
2e	Quantity of overburden generation in m3	In Mn Pits: 3073378m3 In Iron ore: 1916272 m3 (Total volume : 4989650 m3)	Total volume : 3677116m3	Violation pointed out under Rule 11(1) of MCDR for not achieving the proposed waste quantity.
2f	General remarks of inspecting officers on development of pit w.r.t. type of deposit etc			Lessee has achieved the proposed production, however, not achieved the development (waste handling). Further, proposed production for the year 2023-24 of iron ore in KTIO-A and KTIO-B has not commenced. Violation pointed out under Rule 11(1) of MCDR for not achieving the proposed waste quantity.

Exploitation:

Sl.No.	Item	Propasals	Actual work	Remarks

3a	Number of pit proposed for production	Manganese ore: 10 pits under regular production. Iron ore: Production envisaged from13 pits out of which three are exclusive Iron Ore pits namely KTIO-A, KTIO-B and KVHIO and rest are incidental Iron Ore from MN pits.	Manganese ore: 10 pits under regular production has been worked. Iron ore: Production envisaged from13 pits out of which three are exclusive Iron Ore pits namely KTIO-A, KTIO-B and KVHIO and rest are incidental Iron Ore from MN pits.	Iron Ore Major Production is from KTIO-A and B Block and KVHIO and rest are incidental Iron Ore from Mn pits.
3b	Quantity of ROM mineral production proposed	Mn Ore: 2,54,000 MT Fe Ore: 16,00,000 MT	Mn Ore: 2,53,977.89 MT Fe Ore: 15,99,998.50 MT	Proposed production achieved.
3c	Recovery of sailable/usable mineral from ROM production	Saleable Mn Ore: 100% from ore zone Fe Ore: 100 %	Saleable Mn Ore: 100% from ore zone Fe Ore: 100 %	
3d	Quantity of mineral reject generation	Mn Ore: Nil Fe Ore: Nil	Mn Ore: Nil Fe Ore: Nil	
3e	Grade of mineral rejects generation and threshold value declared.	No proposal for the RY	No Mineral Rejects during the RY	
3f	Quantity of sub grade mineral generation.	No proposal for the RY	No generation of Subgrade Mineral during RY	
3g	Grade of sub grade mineral generation	No proposal for the RY	No generation of Subgrade Mineral during RY	
3h	Manual / Mechanised method adopted for segregating from ROM	Mechanized Method of Mining Operation in Iron ore and Manual Sorting of Manganese Ore Proposed.	Mechanized Method of Mining Operation in Iron ore and Manual Sorting of Manganese Ore carried out.	No Change

3i	Any analysis or beneficiation study proposed and carried out for sub grade mineral and rejects.	No proposal during the RY	Lessee has carried out Pilot scale studies on beneficiation of low grade iron ore (HSIO) through CSIR-IMMT	
3j	Provision of drilling and blasting in mineral benches	Provision of drilling & blasting made has been made both in Iron Ore and Manganese Ore	Controlled Blasting Techniques using NONEL and Slurry Mix Explosive for Development in Iron Ore and Manganese along with Production in Iron Ore and Jack Hammer Drilling and Blasting is used for Production in Manganese Ore.	110 mm dia, Spacing :4 Mtrs & Burden:3 Mtrs and height:8.25 Mtrs
3k	Provision of mining machineries in mineral benches	Proposed mining machineries Excavator-40 No's, Wheel loaders:31 No's, Tippers-201 No's, Deep hole Drill-08 No's, Jack hammer-8 No's Water Tanker-24 No's Explosive Van-4 No's Air Compressor with Jack hammer drill-18 No's	Mining machineries used Excavator-49 No's, Wheel loaders-31 No's, Tippers-241 No's, Water Tanker-21 No's Explosive Van-8 No's Air Compressor-18 No's Others (Non-Elec.) -21 No's Deep hole Drill-15 No's, Air compressor with Jack hammer-18 No's	As reported by lessee team, Mining Machinery has slightly increased in Excavator because the existing machinery are being used from 12-13 years old and the efficiency and handling capacity of equipment has come down and also increase in the tippers is to match the idle cycle time because of lowered efficiency of excavators and increased lead for waste dumping in one or two pits.
3l	Whether height of benches in overburden and mineral suitable for method of mining proposed in MP/SOM	Proposed Bench height & Bench width - 7.5 m	Actual Bench height - maximum 7.5 m Bench width - minimum 7.5 m	Proposed bench height and width maintained.
3m	Total area covered under excavation/pits	470.45 ha during the plan period	449.19 ha	Within the proposed extent

3n	Ore to OB ratio for the pit/mine during the year.	Mn Ore: 1: 25.89 Fe Ore: 1:2.11 (OB: Ore ratio in tonne to tonne)	Mn Ore 1: 25.67 Fe Ore: 1: 1.23 (OB: Ore ratio in tonne to tonne)	Violation pointed out under Rule 11(1) of MCDR for not achieving the proposed waste quantity.
3o	Total area put in use under different heads at the end of year	Area put to use in plan period Area under Mining- 470.45 ha Dumps-433.775 ha Stocks- 114.83 ha Topsoil storage- 3.00 ha Roads- 31.66 ha Infrastructure -25.10 ha Township- 27.52 ha Others- 753.765 ha	Area put to use in plan period Area under Mining- 470.45 ha Dumps-433.775 ha Stocks- 114.83 ha Top soil storage- 3.00 ha Roads- 31.66 ha Infrastructure-25.10 ha Township- 27.52 ha Others- 753.765 ha	Proposed land use was given at 31-03-2023 Dump area includes the stabilized dump covering 109.93 ha
3p	Production of ROM mineral during the last five year period as applicable	Mn Ore- (in tonnes) 2018-19 2,54,000 2019-20 2,54,000 2020-21 2,54,000 2021-22 2,54,000 2022-23 2,54,000 Iron Ore- (in tonnes) 2018-19 16,00,000 2019-20 16,00,000 2020-21 16,00,000 2021-22 16,00,000 2022-23 16,00,000	Mn Ore- (in tonnes) 2018-19 2,53,362.24 2019-20 2,53,053.06 2020-21 2,53,053.00 2021-22 2,53,978.00 2022-23 2,53,977.59 Iron Ore- (in tonnes) 2018-19 15,90,002.00 2019-20 15,95,000.02 2020-21 15,95,000.00 2021-22 15,65,668.00 2022-23 15,99,998.50	Production figures as per Annual returns.

3q	General remarks of inspecting officers on method of mining etc.	The Mine is a fully mechanized mine. Machineries as proposed are engaged for development, Production. Sorting of iron ore done by crushing and screening method. Mn ore sorting is done by manual. The mine is systematically developed by maintaining the bench height and width as proposed.

Solid Waste Management - Dumping:

Sl.No.	Item	Propasals	Actual work	Remarks
4a	Separate dumping of topsoil, OB and mineral rejects (Rule 32,33)	Separate dumps are proposed for topsoil, OB and mineral reject	Separate dumps are maintained for top soil, OB and mineral reject	Top soil, OB are stacked separately. No generation of mineral rejects during the reporting year.

4b	Location of topsoil, OB and mineral reject dumps	Proposed Topsoil Location E660095.000, N 1667032.000 E671140 N1658220 Proposed OB Locations for Manganese Pits: JLK: N 1659364 to 1659612, E 675305 to 675441. YRD: N 1658856 to 1659032, E 674670 to 674934. RMK: N 1657597 to 1657956, E 672950 to 673189. CBG: SK: KMK(E): KMK: NK: KPTS: Iron Pits: KTIO (A&B): KVHIO:	Actual Topsoil Location E660095.000, N 1667032.000 E671144.558 N1658228.026 Actual OB Locations for Manganese Pits: JLK: N 1659364 to 1659612, E 675305 to 675441. YRD: N 1658856 to 1659032, E 674670 to 674934. RMK: N 1657597 to 1657956, E 672950 to 673189. CBG: SK: KMK(E): KMK: NK: KPTS: Iron Pits: KTIO (A&B): KVHIO:
4c	Number of dumps within lease area and outside of lease area	Within lease area-86 OB dumps Outside mining lease area-Nil	Within lease area-86 OB dumps Outside mining lease area-Nil
4d	Location of dumps w.r.t. ultimate pit limit (Rule 16)	Majority of existing dumps of waste are outside the UPL and only few of them are partly within the UPL.	Majority of existing dumps of waste are outside the UPL and only few of them are partly within the UPL.

4e	Number of active and alive dumps.	14 dumps	14 dumps D9, D49A, D102, D14b, D20, D21, D22 ,D24,D25,D30,D37,D39,D40 ,D43	Total 14 dumps were active during the year 2022-23 in working pits. Considering even the non-working pits number of active and inactive dumps are 27.
4f	Number of dead dumps.	No proposal during the year	Nil	As reported by lessee team 45 dumps are stabilized.
4g	Number of dumps established.	Partial proposal for stabilization of different dumps	During the RY 11.730 ha covering the inactive terraces of the active dumps has been stabilized. D14b, D20, D22, D23, D26, D30, D32A, D37, D39, D41	Cumulative 45 dumps are stabilized by coir matting and plantation.
4h	Whether Retaining wall or garland drain all along dumps are there.	Yes	Yes maintained. Cumulative RW of 11,164.40 meters and garland drain of 11,738.50 meters have been constructed.	Retaining wall and garland drain constructed and maintained all along the dumps.
4i	Length of Retaining wall or garland drain all along dumps	Proposed during the year Retaining Wall - 325 mtrs Garland Drain - 337 mtrs	Actual during the year Retaining Wall -467 mtrs Garland Drain -170 mtrs	Earthen drainage made as part of garland drain development.
4j	Number of settling ponds	NIL	NIL	As reported by lessee team 51 No's of settling ponds constructed in the previous years. Cumulatively 26 Stone masonry check dams, 126 Loose Boulder check dams and 50 Rain water harvesting pits have been constructed.

4k	Specific comments of inspecting officer on waste dump management	Lessee has taken efforts to maintain the dumps systematically. retaining walls present along the toe of the dumps. Dumps are systematically terraced. 45 inactive dumps stabilized by using coir matting and plantation over the dumps.

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.	Back filling in already exhausted pits proposed during the year in JLK, YRD and KMK pits	Back Filling carried out in JLK and KMK pits.	No backfilling has been carried out in the YRD pit. Violation pointed out under Rule 11(1) of MCDR.
5b	Area under backfilling of mined out area	11.47 ha	5.80 ha	During inspection Lessee team reported that During the Year 2022-23, Back Filling carried out in KMK pit over an extent of 4.52 hectares and in JLK pit covering 0.56 hectares, Back Filling with over burden in JLK pit is stopped from June-2022 as it was proposed to utilise the pit for backfilling with tailings from proposed wet beneficiation plant.

5c	Concurrent use of topsoil for restoration or rehabilitation of mineral out area (Rule 32)	No proposal for concurrent use of topsoil during back filling	Top Soil has been used for Plantation	--
5d	Total area fully reclaimed and rehabilitated	No proposal	Nil	Backfilling is under progress JLK and KMK pits.
5e	General remarks of inspecting officers on backfilling and reclamation etc.			As per proposal lessee has carried out backfilling in mined-out pits of Mn ore viz. JLK pit and KMK pit. No backfilling has been carried out in the YRD pit. Violation pointed out under Rule 11(1) of MCDR, 2017.

Progressive Mine Clousre Plan:

Sl.No.	Item	Propasals	Actual work	Remarks
6a	Whether Annual report on PMCP submitted on time and correctly. Rule 23 E(2).	To be submitted by 1st July of every year	Annual report on PMCP submitted on 26.06.2023	Submitted within stipulated time
6b	Area available for rehabilitation (ha) .	No Proposal	NIL	Mined out area taken up for back filling during the year 2022-23. As there is no afforestation carried out in backfilled area there is no cost incurred towards watch and aftercare during RY 2022-23.

6c	afforestation done (ha).	No Proposal	NIL	Mined out area taken up for back filling during the year 2022-23. As there is no afforestation carried out in backfilled area there is no cost incurred towards watch and aftercare during RY 2022-23.
6d	No. of saplings planted during the year	No Proposal	NIL	Mined out area taken up for back filling during the year 2022-23. As there is no afforestation carried out in backfilled area there is no cost incurred towards watch and aftercare during RY 2022-23.
6e	Cumulative no .of plants	No Proposal during RY	No Proposal during RY	Mined out area taken up for back filling during the year 2022-23. As there is no afforestation carried out in backfilled area there is no cost incurred towards watch and aftercare during RY 2022-23.
6f	Any other method of rehabilitation	No Proposal during RY	No Proposal during RY	Mined out area taken up for back filling during the year 2022-23. As there is no afforestation carried out in backfilled area there is no cost incurred towards watch and aftercare during RY 2022-23.

6g	Cost incurred on watch and care during the year	No Proposal	NIL	Mined out area taken up for back filling during the year 2022-23. As there is no afforestation carried out in backfilled area there is no cost incurred towards watch and aftercare during RY 2022-23.
6h	Compliance on reclamation and rehabilitation by backfilling (i) Voids available for backfilling (Lx B x D	Backfilling proposed in the mined-out pits of JLK and KMK Pits.	Backfilling carried out mined out pits of JLK and KMK Pits.	
6i	Compliance on reclamation and rehabilitation by backfilling (ii) Voids filled by waste / tailings	11.47 ha	5.08 ha	Filled during the year given as actual
6j	Compliance on reclamation and rehabilitation by backfilling (iii)Afforestation on backfilled area	No Proposal during the RY	No Proposal during the RY	Backfiling not completed to carryout afforestartion
6k	Compliance on reclamation and rehabilitation by backfilling (iv) Rehabilitation by making water reservoir	No Proposal during the RY	Not carried out as there were no Proposal	
6l	Compliance on reclamation and rehabilitation by backfilling (v)any other specific means.	No Proposal during the RY	Not carried out as there were no Proposal.	

6m	Compliance of rehabilitation of waste land within lease (i)afforestation	53,375	89,582	During the year 2022-23 Green Belt- 22841 No's (Gap Plantation) Avenue Plantation-1650 No's (Gap Plantation) On Dumps-65091 No's
6n	Compliance of rehabilitation of waste land within lease (ii)Area rehabilitation (ha)	21.75 ha	10.58 ha	During inspection it is observed that deviation w.r.t to area rehabilitated is due to portion of the terraces which was shown to be afforested are still active, not stabilized for plantation.
6o	Compliance of rehabilitation of waste land within lease (iii)Method of rehabilitation	Plantation & Coir matting	Plantation & Coir matting	As reported by lessee team Rs 88.17 lakhs has been spent towards plantation during RY 2022-23
6p	Compliance of environmental monitoring (core zone and buffer zone)	Environmental monitoring proposed in Core and Buffer Zone for AAQM, Fugitive emissions, Surface water, Ground water, Noise from MoEF & CC recognized laboratory and NABET approved.	Environmental monitoring has been carried out through MoEF & CC and NABET approved Lab Mineral Engineering Services for all the 4 seasons for Ambient air quality (core zone- 4 locations & buffer zone-6 locations), water quality (surface water - 5 locations & Ground water- 5 locations), Noise quality (core zone - 6 location & buffer zone - 6 locations)	All the environmental parameters were observed to be within the permissible limit, for the FY 2022-23 Monitoring has been carried out through Mineral Engineering Services, NABL and NABET accredited laboratory and monitoring has been carried out on weekly/monthly basis.

6q	General remarks of inspecting officers on PMCP compliance and progressive closure operations etc.		Except plantation on the dumps, lessee has carried out the PMCP activities as per proposal. During inspection it is observed that deviation w.r.t to area rehabilitated is due to portion of the terraces which was shown to be afforested are still active, not stabilized for plantation.

Mineral Conservation:

Sl.No.	Item	Propasals	Actual work	Remarks
7a	ROM Mineral dispatch or grade-wise sorting within lease area	Grade wise sorting proposed with in Lease area	Carried out as per proposal	Grade wise sorting done manually with in Lease area for Mn ore and Grade wise sorting done by crushing and screening for iron ore.
7b	Method of grade-wise mineral sorting i.e. manual or mechanical.	Manual for Mn Ore and Mechanical for Iron ore	Manual for Mn Ore and Mechanical for Iron ore is done	Grade wise sorting done manually with in Lease area for Mn ore and Grade wise sorting done by crushing and screening for iron ore

7c	Different grade of mineral sorted out at mines.	Manganese Ore: Below 25% Mn, 25% to below 35% Mn, 35% to below 46 % Mn, 46% and above Mn Iron Ore: 45 % to below 51 % Fe, 51% to below 55% Fe, 55% to below 58% Fe, 58% to below 60% Fe, 60% to below 62% Fe, 62% to below 65% Fe,	Manganese Ore: Below 25% Mn, 25% to below 35% Mn, 35% to below 46 % Mn, 46% and above Mn Iron Ore: 45 % to below 51 % Fe, 51% to below 55% Fe, 55% to below 58% Fe, 58% to below 60% Fe, 60% to below 62% Fe, 62% to below 65% Fe,	IRON ORE Fines Qty in Tones 55-58 671600.270 58-60 487847.240 60-62 4259.260 Sub Total: 1163706.770 Lumps Qty in Tones 50-55 8.5 55-58 88715.190 58-60 343565.910 60-62 4003.130 Sub Total: 4,36,292.730 Grand Total : 15,99,999.500 MANGANESE ORE < 25% Mn 40,751.700 25 % to - 35 % Mn 1,63,373.020 + 35% to 46% Mn 49,391.420 +46% Mn and above 105.00 Total : 2,53,621.140
7d	Any beneficiation process at mines .	No proposal	Crushing and Screening carried out.	Crushing, dry screening for Iron Ore, manual sorting of Mn ore from ROM and Screening and grade wise separation carried out as proposed in the Mining Plan
7e	General remarks of inspecting officer on Mineral conservation and beneficiation issues			Lessee has separated the different grades of iron ore, also lumps and fines by crushing and screening. In case of Mn ore carried out Manual sorting.

Environment:

Sl.No.	Item	Propasals	Actual work	Remarks

8a	Separate removal and utilization of topsoil (Rule 32)	35,702 m3	7021 m3	For lessee removal of topsoil, during inspection lessee reported that due to awaited tree cutting permission from forest Dept. proposed top soil has not removed.
8b	Concurrent use or storage of topsoil	Storage/Use	Stored/used during RY	Out of generated topsoil 7021 m3 has generated out of which 4213 m3 has been used
8c	Separate dumps for overburden, waste rock, rejects and fines (Rule 33)	Separate dumps for overburden proposed	Separate dumps for overburden maintained	Waste and Mineral rejects are stacked separately
8d	Use of overburden, waste rock, rejects and fines dumps for restoring the land to its original use	Overburden and Interstesticial waste proposed for backfilling	Backfilling of mined out area covering 5.08 ha carried out during RY with Overburden and Interstitial waste	Qty backfilled during the year 2022-23 is 608832 m3 in portion of exhausted pits of JLK and KMK. (Figures as per Annual retruns)
8e	Phased restoration, reclamation and rehabilitation of lands affected by mining operations (Pits, dumps etc)	Proposal for Backfilling of mined out pits covering 11.47 ha	About 5.08 ha of mined out pits covered by backfilling.	

8f	Baseline information on existence of plantation and additional plantation done (Rule 41)	Baseline information on existence of plantation available. Prior to start of Mining activity it was a tropical type-2 deciduous forest with Shrubs and small tress. Post mining, lot of afforestation with native species, green belt development, and plantation in barren area has been carried out. Cumulatively at beginning of the year 3434986 saplings planted within lease.	Within ML area 89582. No's of saplings planted @ 85% survival	3524568 No's of saplings are done till 31.03.2023 (Saplings planted includes Herbs, Shrubs, Climbers, and tree species)
8g	Survival rate	80%	85%	
8h	Water sprinkling on roads to control airborne dust	Water sprinkling proposed on haul roads to control airborne dust	Water sprinkling is done regularly on haul roads and mine faces to suppress the dust	As reported by lessee team 21 No's water tankers of different capacity are deployed for sprinkling of water
8i	General remarks of inspecting officer on aesthetic beauty in and around mines area			The asthetic beauty in and around the mine is very good. Lessee has taken efforts to mine area clean with greenery development.

Compliance of Rule 45:

Sl.No.	Item	Propasals	Actual work	Remarks

9a	Status of submission of Monthly and Annual returns	M.R. Submitted up to October-23 A.R. submitted up to FY 2022-23		Annual return submitted on 28.06.2023
9b	Scrutiny of Annual return for information on Mining Engineer, Geologist and Manager	Graduate Mining Engineers: 08 nos. Diploma Mining Engineers: 36 nos. Geologist : 06 nos.	Appears to be correct	
9c	Scrutiny of Annual return on land use pattern for area under pits, reclaimed area, dumps etc.	Area under mining: 449.190 ha, Reclaimed/Rehabilitated-125.390 ha, Waste disposal-317.200 ha, Occupied by plant, buildings, residential, welfare buildings and roads-87.280 ha, Other (Green Belt, Afforestation, Mineral Stocks)-869.310 ha Work Done Under Progressive mine closure plan during the year-11.730 ha	Appears to be correct	Total area covered under mining is 470.45 which includes (449.190 ha of active mining area and 21.26 ha of reclaimed mine area).
9d	Scrutiny of Annual return on afforestation	89582 No's saplings are done with 85% Survival rate	Appears to be correct	
9e	Scrutiny of Annual return on mineral reject generation (Grade and quantity)	Mn Ore: Nil Fe Ore: Nil	-	

9f	Scrutiny of Annual return on ROM stock and/or graded ore	Manganese ore: ROM; Opening stock- 29865.23 Tonnes, Production- 253977.59 Tonnes, Closing stock- 30221.68 Tonnes. Iron ore: ROM; Opening stock- 11686.32 Tonnes, Production- 1599998.50 Tonnes, Closing stock- 11685.320 Tonnes.	Appears to be correct
9g	Scrutiny of Annual return on sale value, Ex. Mine price and production cost	Manganese ore: Cost of Production- Rs 6248 per Tonne Sale value- and Ex. Mine price- 9200 Rs/T. Iron ore: Cost of Production- Rs 1004.49 per Tonne, Sale value & and Ex. Mine price- 3503 Rs/T.	Appears to be correct
9h	Scrutiny of Annual return on fixed assets	48.34 crores	Appears to be correct

9k	Scrutiny of Annual return on mining machineries	Mining machineries used Excavator-49 No's, Wheel loaders-31 No's, Trucks-241 No's, Water Tanker-21 No's Explosive Van-8 No's Air Compressor-18 No's Others (Non-Elec.) -21 No's Deep hole Drill-15 No's, Air compressor with Jack hammer-18 No's	Appears to be correct

I/31718/2024

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

Violation observed				Show couse position			
	Rule NO.	Issued on	Compliance on	Rule NO.	Issued on	Compliance on	
MCDR17	Rule 11(1)	20/12/2023	11/03/2024				

Signed by Sudhakara T L
Date: 14-05-2024 15:59:02
Reason: Approved

Date :

(DR. Sudhakara T.L)

Indian Bureau of Mines