

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

MCDR inspection REPORT

Bangalore regional office

Mine file No : KNT/BLR/FE-201/BNG

Mine code : 30KAR03180

- (i) Name of the Inspecting : **S006**) **SURESH PRASAD**
Officer and ID No.
- (ii) Designation : Regional Controller Mines
- (iii) Accompanying mine : Shri. Shridhar Hegde Agent, Shri. Bhishmadeb Sahoo Gen
Official with
Designation
- (iv) Date of Inspection : 13/10/2022
- (v) Prev. inspection date : 04/03/2020

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** : **20**
- (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/ : 06/09/2015
 Termination date

Geologist

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

Manager

Name : Prakash Babu
 Qualification : FCC
 Appointment/ : 01/07/2021
 Termination date

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

PART - II : OBSERVATION/COMMENTS OF INSPECTING OFFICERS

Exploration :

Sl.No.	Item	Proposals	Actual work	Remarks
1a	Backlog of previous year	No Proposal	No Backlog	
1b	Exploration over lease area for geological axis 1 or 2	50 DTH Holes amounting to total of 1385 mts proposed at G1 level. Exploratory Mining for Manganese was proposed at Kotigundu, Chance and Sunderbencha pits	54 DTH Holes drilled at 50 Mtrs grid interval amounting to total of 2064 mts. Exploratory Mining has been carried out in Chance and Kotigundu during the RY.	Infilling holes within existing G1 and G2 levels drilled. Area under G1=862.41 ha, G2= 266.13 ha. G3=315.00 ha For the year 2022-23 exploration is under progress. Lessee has also carried out Exploratory Mining has been carried out in Kotigundu (KG) and Chance Pit during the year 2021-22 for Manganese Ore.
1c	Exploration Agencies and Expenditure in lakh rupees during the year	Departmental & External 10.00 lakhs	SMIORE 16.00 lakhs	Drill rigs from SMIORE sister concern M/s LIPL was carried out
1d	Balance area to be explored to bring Geological axis in 1 or 2	No Proposal during the modified plan period	Area under G1=862.41 ha, G2= 266.13 ha. G3=315.00 ha	Area proved as non-mineralized is 416.50 ha
1e	Balance reserve as on 01/04/20	Iron Ore (+45 % Fe) Proved: 7,87,44,030 Probable: 13,12,243 Hematitic Siliceous Ore (+35-45 % Fe) Proved: 1,12,47,644 Manganese (+10%Mn) Proved: 1,50,33,422 Probable: 73,133	Iron Ore (+45 % Fe) Proved: 7,87,44,030 Probable: 13,12,243 Hematitic Siliceous Ore (+35-45 % Fe) Proved: 1,12,47,644 Manganese (+10%Mn) Proved: 1,50,33,422 Probable: 73,133	

1f	General remarks of inspecting officers on geology, exploration etc	In the approved RMP, lessee has proposed drilling to bring G3 and G2 level area to G1 level.
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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 1659685TO 1659843, E 675372 TO 675465 YRD: N 1658724 to 1659040 E 674283 to 674650 RMK: N 1657973 to 1658338 E 673346 to 674002 CBG: N 1657507 to 1657833 E 670769 to 671068 CBG: N 1657735 to 1658063 E 671109 to 671505 SK: N 1657790 to 1658220 E 669800 to 670361 SK: N 1657850 to 1657900 E 670340 to 670470 SK: N 1657800 to 1658000 E 670548 to 670740 KMK(E): N 1658747 to 1658382 E 669042 to 669509 KMK: N 1658898 to 1658977 E 668275 to 668416	Development Actual locations for Manganese ore: JLK: N 1659685TO 1659843, E 675372 TO 675465 YRD: N 1658724 to 1659040 E 674283 to 674650 RMK: N 1657973 to 1658338 E 673346 to 674002 CBG: N 1657507 to 1657833 E 670769 to 671068 SK: N 1657790 to 1658220 E 669800 to 670361 SK: N 1657850 to 1657900 E 670340 to 670470 SK: N 1657800 to 1658000 E 670548 to 670740 KMK(E): N 1658747 to 1658382 E 669042 to 669509 KMK: N 1658898 to 1658977 E 668275 to 668416	Iron Pit: Proposal & Actual (KTIO-A): N 1661000 to 1661270 E 674180 to 674496 (KTIO-A): N 1661228 to 1661637 E 673810 to 674235 (KTIO-B): N 1650904 to 1651040 E 692069 to 692339 (KTIO-B): N 1650952 to 1651024 E 692436 to 692661 KVHIO: N 1661346 to 1660850 E 664796 to 665209 Developments carried out within the proposed pits/limits.

2b	Separate benches in topsoil, overburden and minerals (Rule 15)	Separate benches proposed in topsoil, overburden and mineral Proposed	Separate benches in topsoil, overburden and mineral maintained	Carried out as per proposal
2c	Stripping ratio or ore to OB ratio	Mn Ore: 24.27 Fe Ore: 1.17 Waste from Mn ore pits- 6164594 tonnes Waste from Iron Ore Pits- 1854515 tonnes	Mn Ore: 25.59 Fe Ore: 0.79 Waste from Mn ore pits 12,52,388 tonnes Waste from Iron Ore Pits-65,01,092 tonnes	?During the inspection, lessee stated that, deviation in stripping ratio of Mn is due to pockety and irregular habit of Mn mineralization. Deviation in Stripping ratio of Iron ore is due to earlier projected BHQ's during field excavation has exhibited enrichment in Iron Concentration in some of the cross sections and hence such excavations has become part of the ROM being mined in KTIOA and B Blocks . Thus there was shortfall in development quantity.
2d	Quantity of topsoil generation in m3	22,172 m3	25,403 m3	Lessee stated that, 23,903 m3 topsoil has been used and 1,500 m3 has been stocked which will be used during 2022-23 for afforestation.
2e	Quantity of overburden generation in m3	In Mn Pits: 28,58,256 m3 In Iron ore: 9,39,408 m3	Mn Pits: 30,37,893 m3 Iron ore pits: 6,13,583 m3	Refer remarks given at Sl. No. 2c of this report.

2f	General remarks of inspecting officers on development of pit w.r.t. type of deposit etc	Development works are carried out within the proposed grid limits and Benches are systematically maintained as per the approved proposals.
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Exploitation:

Sl.No.	Item	Propasals	Actual work	Remarks
3a	Number of pit proposed for production	Manganese ore: 9 pits under regular production and 3 pits under exploratory pit Iron ore: production envisaged from 12 pits	Manganese ore: 9 pits under regular production and 2 pits under exploratory pit has been worked. Iron ore: production carried out from 12 pits	Iron Ore Major Production is from two pits viz. KTIO-A & B and KVHIO and rest are incidental Iron Ore from Mn pits.
3b	Quantity of ROM mineral production proposed	Mn Ore: 2,54,000 MT (203200 tons saleable & 50800 tons Mineral reject) Iron ore: 15,96,800 MT	Mn Ore: 2,53,978.170 MT Fe Ore: 15,65,668.00 MT	There is no mineral reject generated during the year 2021-22.
3c	Recovery of saleable/usable mineral from ROM production	Saleable Mn Ore: 40% from RoM Iron Ore: 100%	As per proposal	
3d	Quantity of mineral reject generation	Mn Ore: 50,800 MT Fe Ore: Nil	Mn Ore: Nil Fe Ore: Nil	Lessee stated that, all the recovered Mn from ROM has been blended and Sold through E-auction
3e	Grade of mineral rejects generation and threshold value declared.	10 to 25% Mn Grade wise mineral reject Threshold value for Mn ore is Mn 10%	Mn Ore: Nil	All the recovered Mn from RoM has been blended and Sold through E-auction

3f	Quantity of sub grade mineral generation.	No proposal	NIL	
3g	Grade of sub grade mineral generation	No proposal	NIL	
3h	Manual / Mechanised method adopted for segregating from ROM	Mechanized Method of Mining Operation in Iron ore and Manganese with Manual Sorting of Manganese Ore Proposed.	Mechanized Method of Mining Operation in Iron ore and Manganese with Manual Sorting of Manganese Ore carried out.	Iron ore different size sorted by crushing and screening. Manganese ore sorted manual method.
3i	Any analysis or beneficiation study proposed and carried out for sub grade mineral and rejects.	No proposal during the RY	Laboratory Bench Scale Beneficiation studies on upgradation of Iron ore(50-52% Fe) carried out by M/s Delkor TAKRAF during October -2021	Laboratory Bench Scale Beneficiation study carried out for proposal to put beneficiation plant.
3j	Provision of drilling and blasting in mineral benches	Provision of drilling & blasting made	Drilling & Blasting is carried out in combination with Ammonium Nitrate, Slurry explosive and Nonel detonators.	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-42 No's, Wheel loaders:10 No's, Trucks-191 No's, Deep hole Drill-12 No's, Jack hammer-10 No's Water Tanker-21 No's Explosive Van-4 No's Air Compressor-11 No's	Mining machineries used Excavator-45 No's, Wheel loaders-31 No's, Trucks-113 No's, Water Tanker-28 No's Explosive Van-4 No's Air Compressor-11 No's Others (Non-Elec.) -2 No's Deep hole Drill-13 No's, Jack hammer-10 No's	Lessee stated that, there was typographical error on the no. of wheel loaders as 10 in the approved Mining Plan. In actual 31 wheel loaders are in operation. For the dumpers 197 was calculated considering 16 T capacity, but with the revision in axle weight, 25 T tippers are being used hence qty of tippers has come down.

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 - 8 m	Height and width of the benches maintained systematically as per the proposal.
3m	Total area covered under excavation/pits	470.45 ha during the plan period (till 31.03.2023)	463.31 ha	
3n	Ore to OB ratio for the pit/mine during the year.	Proposed Mn Ore: 1: 24.27 and Fe Ore: 1: 1.49	Actual Mn Ore: 25.59 & Fe Ore: 1: 0.79	Refer remarks given at Sl. No. 2c
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-442.52 ha Stocks- 128.44 ha Top soil storage- 3.00 ha Roads- 32.16 ha Infrastructure -25.10 ha Township- 27.52 ha Others- 730.91 ha	Area put to use in plan period Mining- 463.31 ha Dumps-415.60 ha Stocks- 103.83 ha Top soil storage- 3.00 ha Roads- 29.66 ha Infrastructure-23.10 ha Township- 25.52 ha Others- 796.08 ha	Proposed land use was given at 31-03-2023. Dump area includes the stabilized dump covering 109.91 ha

3p	Production of ROM mineral during the last five year period as applicable	Mn Ore-(in tonnes) 2017-18 - 2,54,000 2018-19 - 2,54,000 2019-20 - 2,54,000 2020-21 - 2,54,000 2021-22 - 2,54,000	Mn Ore-(in tonnes) 2017-18 - 2,53,023.50 2018-19 - 2,53,362.24 2019-20 - 2,53,053.06 2020-21 - 2,53,053.00 2021-22 - 2,53,978.00	Production proposed and achieved are within MPAP fixed by State Govt. of Karnataka
		Iron Ore-(in tonnes) 2017-18 - 16,00,000 2018-19 - 16,00,000 2019-20 - 16,00,000 2020-21 - 16,00,000 2021-22 - 16,00,000	Iron Ore-(in tonnes) 2017-18 - 15,81,000.00 2018-19 - 15,90,002.00 2019-20 - 15,95,000.02 2020-21 - 15,95,000.00 2021-22 - 15,65,668.00	
3q	General remarks of inspecting officers on method of mining etc.			The Mine is a fully mechanized mine and machineries(drilling, Loading,Hauling,segregation of ore etc.) as proposed. Drilling and blasting carried out in Iron ore pits. The sorting of iron ore is by crushing and screening and the manganese ore is sorted by manual method.

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 top soil, 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 OB Locations for Manganese Pits: JLK: N 1659360 TO 1659660 E 675480 TO 675870 YRD: N 1658779 TO 1659094 E 674474 TO 674976 N 1659360 TO 1659660 E 675480 TO 675870, RMK: N 1657895 TO 1658240 E 673029 TO 673406, CBG: N 1657290 TO 1657680 E 671200 TO 671800, N 1657550 TO 1657800 E 670570 TO 670800, N 1657900 TO 1655260 E 670600 TO 671000, SK: 1657550 TO 1657800 E 670570 TO 670800 KMK(E): N 1657550 TO 1657800 E 670570 TO 670800, KMK: N 1657900 TO 1655260 E 670600 TO 671000,	Proposed OB Locations for Manganese Pits: JLK: N 1659360 TO 1659660 E 675480 TO 675870 YRD: N 1658779 TO 1659094 E 674474 TO 674976 N 1659360 TO 1659660 E 675480 TO 675870, RMK: N 1657895 TO 1658240 E 673029 TO 673406, CBG: N 1657290 TO 1657680 E 671200 TO 671800, N 1657550 TO 1657800 E 670570 TO 670800, N 1657900 TO 1655260 E 670600 TO 671000, SK: 1657550 TO 1657800 E 670570 TO 670800 KMK(E): N 1657550 TO 1657800 E 670570 TO 670800, KMK: N 1657900 TO 1655260 E 670600 TO 671000,	Iron Pits: KTIO:(A&B): N 1650534 TO 1650730 E 692240 TO 692413 AMK: N 1658125 TO 1658200 E 671242 TO 671330 KVHIO: N 1661967 TO 1661467 E 664462 TO 664838 Top Soil temporary stacks YRD Pit E 674513.142 N1659032.864 RMK Pit 673680.369 1658357.961 There was no generation of mineral rejects during 2021-22 hence no co-ordinate has been shown in actual work of Mineral reject.
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)	The existing dumps of waste are outside the UPL and few stacks of old mineral rejects are within the UPL	The existing dumps of waste are outside the UPL and few stacks of old mineral rejects are within the UPL	
4e	Number of active and alive dumps.	13 dumps	13 dumps	Total 13 dumps were active during the year 2021-22 in working pits. Considering even the non-working pits number of active and inactive dumps are 28.
4f	Number of dead dumps.	No proposal during the year	Nil	Cumulative 45 dumps are stabilized.
4g	Number of dumps established.	No proposal during the year	Nil	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 10,697 meters and garland drain of 11,568 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	Retaining Wall - 1470 mtrs Garland Drain - 1745 mtrs	Retaining Wall -1102.5 mtrs Garland Drain -1300 mtrs	During the inspection it is observed that, the construction work was under progress.
4j	Number of settling ponds	1	Nil. Only De-silting of Settling ponds carried out during the RY.	50 No's of settling ponds constructed in the previous years. Cumulatively 26 Stone masonry check dams, 116 Loose Boulder check dams and 46 Rain water harvesting pits have been constructed.

4k	Specific comments of inspecting officer on waste dump management	There are 86 dumps, in which 45 dumps are stabilized by coir matting & plantation, 28 dumps are inactive located near non-working pits and 13 dumps are active. Lessee has made maximum efforts to stabilize the dumps by terracing, plantation and constructing retaining wall along the toe of the dumps.
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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.	Back filling in already exhausted pits (JLK pit, KTIO-A, KMK) proposed during the year	Back Filling carried out in Jaldikolla Pit and KMK and part of KTIO-A block.	As per exploration data, the mineral exhausted at the proposed locations.
5b	Area under backfilling of mined out area	7.98 ha	6.15 ha	Backfilling in progress at JLK pit & KTIO-A, KMK pits. Qty backfilled during 2021-22 is 207131 m3.
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	Not Applicable	--
5d	Total area fully reclaimed and rehabilitated	No proposal	Nil	Backfilling under Progress

5e	General remarks of inspecting officers on backfilling and reclamation etc.	Backfilling is in progress at Jaldikolla pit & KTIO-A, KMK pits. Quantity backfilled during the year 2021-22 is 207131 m3.
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Progressive Mine Clousre Plan:

Sl.No.	Item	Propasals	Actual work	Remarks
6a	Whether Annual report on PMCP submitted on time and correctly. Rule 23 E(2).	To be submitted by 1st July of every year	Annual report on PMCP submitted on 29.06.2022	Submitted within stipulated time
6b	Area available for rehabilitation (ha) .	No Proposal	No Proposal	
6c	afforestation done (ha).	23.00 ha	22.69 ha	
6d	No. of saplings planted during the year	1,00,000	1,00,850	During the inspection, lessee reported that plantation carried out in the following areas during 2021-22 Green Belt- 37,057 No's On Dumps-14,729 No's Avenue Plantation- 5,182 No's Barren Area-41,882 No's Azadi ka Amruta Mahotsav- 2,000 No's
6e	Cumulative no .of plants	No Proposal	34,34,986	
6f	Any other method of rehabilitation	No Proposal during RY	NIL	

6g	Cost incurred on watch and care during the year	Un skilled for Forest Department 50.00 lakhs	50 un-skilled workers were provided for six months during 2021-22 for watch and ward around lease area in forest land, expenditure involved 54.57 lakhs	The work involved Grass cutting in forest area, making of forest fire lines, watch and ward on fauna, fire fighting.
6h	Compliance on reclamation and rehabilitation by backfilling (i) Voids available for backfilling (Lx B x D	7.98 ha	6.15 ha	Backfilling in progress at JLK pit & KTIO-A, KMK pits. Qty backfilled during 2021-22 is 207131 m3.
6i	Compliance on reclamation and rehabilitation by backfilling (ii) Voids filled by waste / tailings	Backfilling with overburden waste	Backfilling done with OB waste	
6j	Compliance on reclamation and rehabilitation by backfilling (iii)Afforestation on backfilled area	No Proposal during the year	Hence Not carried out during the year	
6k	Compliance on reclamation and rehabilitation by backfilling (iv) Rehabilitation by making water reservoir	No Proposal during the year	Hence Not carried out during the year	
6l	Compliance on reclamation and rehabilitation by backfilling (v)any other specific means.	No Proposal during the year	Hence Not carried out during the year	

6m	Compliance of rehabilitation of waste land within lease (i)afforestation	Afforestation with native species-12500 no's proposed	Afforestation with native species and Gap Plantation carried out during the year- 49064 saplings planted during the year	During the year 2021-22, 4 ha of plantation made in barren area and gap plantation within already afforested area with total 41,882 saplings, 1.00 ha covered under azadi ka amrutmahotsav in barren area with 2000 saplings, and 2.00 ha as avenue plantation with 5182 saplings .
6n	Compliance of rehabilitation of waste land within lease (ii)Area rehabilitation (ha)	2.00 ha	5.00 ha	
6o	Compliance of rehabilitation of waste land within lease (iii)Method of rehabilitation	Afforestation	Afforestation	During the inspection, lessee stated that Rs 50.11 lakhs has been spent towards plantation during RY 2021-22
6p	Compliance of environmental monitoring (core zone and buffer zone)	Environment Monitoring for AAQM, Fugitive, Surface Water, Ground water Noise, soil to be Carried out in Core and Buffer Zones as per prescribed standards from accredited laboratory.	Environment Monitoring for AAQM, Fugitive, Surface Water, Ground water Noise, soil Carried out in Core and Buffer Zones as per from MoEF&CC recognized and NABET accredited laboratory.	All the environmental parameters were observed to be within the permissible limit

6q	General remarks of inspecting officers on PMCP compliance and progressive closure operations etc.	PMCP activities are carried out in accordance with the Approved Mining Plan. However the construction of proposed Retaining wall and garland drain are not completed during the reporting year.
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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 sorting proposed with in Lease area	Grade wise sorting done manually with in Lease area for Mn ore and Grade wise sorting done mechanically with in Lease area for Iron ore	Grade-wise sorting of iron ore and Mn ore done as per proposal.
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	
7c	Different grade of mineral sorted out at mines.	< 25 % Mn, +25% - 35 % Mn, + 35-45 % Mn. Iron Ore: +55-58, +58-60, +60-62, +62 % Fe	< 25 % Mn, + 25% - 35 % Mn, +35% - 45 % Mn. Iron ore: +55-58, +58-60, +60-62, +62 % Fe	Sorting done for Manganese Manually and for Iron ore by crushing and screening.
7d	Any beneficiation process at mines .	No proposal	No such beneficiation process carried out in the mines	Crushing, dry screening for Iron Ore, manual sorting of Mn ore from ROM and Screening and grade wise separation carried out.

7e	General remarks of inspecting officer on Mineral conservation and beneficiation issues	There is no beneficiation plant in the lease. The Mn ore is segregated by Manual method and Iron ore segregated grade wise and size wise into lumps and fines at mine site by crushing & screening method.
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Environment:

Sl.No.	Item	Propasals	Actual work	Remarks
8a	Separate removal and utilization of topsoil (Rule 32)	22,172 m3	25,403 m3	-
8b	Concurrent use or storage of topsoil	Storage/Use	Out of generated topsoil 23903 m3 has been used for afforestation and 1500 m3 has been stocked.	During the inspection lessee told that unused top soil will be utilized for plantation during 2022-23
8c	Separate dumps for overburden, waste rock, rejects and fines (Rule 33)	Separate dumps for overburden/waste proposed	Separate dumps for overburden maintained	Previously produced Mineral reject stacks maintained separately.
8d	Use of overburden, waste rock, rejects and fines dumps for restoring the land to its original use	Overburden and Interstesticia waste proposed for backfilling in KTIO-A, SK, KMK, JLK and Kondahejje pits	Backfilling of the proposed area is under progress.	Qty backfilled during the year 2021-22 is 2,07,536 m3 in mined out pits. .
8e	Phased restoration, reclamation and rehabilitation of lands affected by mining operations (Pits, dumps etc)	Proposal for Backfilling of mined out pits covering 7.98 ha	About 6.15 ha of minedout 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 32,87,228 saplings planted within lease.	Within ML area 100850. No's of saplings planted @ 80% survival	3388078 No's of saplings are done till 31.03.2022
8g	Survival rate	65%	80%	
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	27 No's water tankers of different capacity is deployed
8i	General remarks of inspecting officer on aesthetic beauty in and around mines area			Aesthetic beauty in and around the mine is good. Lessee has taken all efforts are to maintain greenery in and around the mine.

Compliance of Rule 45:

Sl.No.	Item	Propasals	Actual work	Remarks
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9a	Status of submission of Monthly and Annual returns	M.R. Submitted up to September-22 A.R. submitted upto FY 2021-22	Submitted within stipulated time.
9b	Scrutiny of Annual return for information on Mining Engineer, Geologist and Manager	Manager Mining- Shri.Bachalapp a.K, Mining Engineer- Shri.Sunil Kumar GS, Geologist- Shri. Rajesh M Katral	All the said officers were present during the day of inspection
9c	Scrutiny of Annual return on land use pattern for area under pits, reclaimed area, dumps etc.	Area under mining: 463.31 ha, Reclaimed/Rehabilitated- 115.640 ha, Waste disposal- 305.60 ha, Occupied by plant, buildings, residential, welfare buildings and roads-77.28 ha, Other (Green Belt, Afforestation, Mineral Stocks)- 240.500 ha, Purpose-5.50 ha, Work Done Under Progressive mine closure plan during the year-6.15 ha.	Appears to be correct
9d	Scrutiny of Annual return on afforestation	100850 No's saplings are done with 80% Survival rate	Appears to be correct

9e	Scrutiny of Annual return on mineral reject generation (Grade and quantity)	Mn Ore: Nil Fe Ore: Nil	No Mineral rejects are generated during the year 2021-22
9f	Scrutiny of Annual return on ROM stock and/or graded ore	Manganese ore: Appears to be correct ROM; Opening stock- 29563.610 Tonnes, Production- 253978.220 Tonnes, Closing stock- 29865.230 Tonnes. Iron ore: ROM; Opening stock- 11018.120 Tonnes, Production- 1565668.220 Tonnes, Closing stock- 11686.320 Tonnes	
9g	Scrutiny of Annual return on sale value, Ex. Mine price and production cost	Manganese: Cost of Production- Rs 5916.62 per Tonne Sale value- and Ex. Mine price- 10454 Rs/T. Iron ore: Cost of Production- Rs 610 per Tonne, Sale value & and Ex. Mine price- 4527 Rs/T.	Appears to be correct
9h	Scrutiny of Annual return on fixed assets	59.35 crores	Appears to be correct

9k Scrutiny of Excavator-46 Appears to be correct
Annual return on No's,
mining Wheel loaders-
machineries 31 No's,
 Trucks-113
 No's,
 Water Tanker-
 25 No's
 Explosive Van-
 4 No's
 Air
 Compressor-17
 No's
 Pumps (Elec.)-
 28 No's
 Others (Non-
 Elec.) -2 No's
 Crusher/screen
 ing plant -12
 No's

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

Violation observed		Show couse position	
Rule NO.	Issued on Compliance on	Rule NO.	Issued on Compliance on

Date :

(SURESH PRASAD)

Indian Bureau of Mines