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

#### MCDR inspection REPORT

#### Bangalore regional office

Mine file No : KNT/BLR/MN/39/BNG Mine code: 40KAR03014

(i)Name of the Inspecting : **S47** ) DR. Sudhakara T.L

Officer and ID No.

(ii) Designation : Senior Mining Geologist

(iii) Accompaning mine : Shri.Bharath Kumar-Mines Manager, Shri.Jalli Subramany

Official with

Designation

(iv) Date of Inspection : 06/09/2021 Prev.inspection date : 15/02/2021 (v)

PART-I : GENERAL INFORMATION

(a) Mine Name : SMIORE ML NO. 2679

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

(C) Category : A Fully Mechanised

(d) Type of Working Opencast

(e) Postal address

> State : KARNATAKA District BELLARY Village RAMGAD Taluka SANDUR Post office SANDUR

Pin Code

08395- 271066, 080-2361316! FAX No.

E-mail : eps@sandurgroup.com

:

Phone (08395) - 271025/29/40/28,

(f) Police Station : SANDUR

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

Weekly day of rest (h) : SUN

Address for : M/s THE SANDUR MANGANESE & IRON ORES LTD,

correspondance NO.9, BELLARY ROAD, SADASHIVANAGAR,

BANGALORE - 560080

3. : KAR0224 (a) Lease Number (b) Lease area **:** 4335.68

> Period of lease : 20 (C)

(d) Date of Expiry **:** 31/12/1993

Mineral worked 4. : IRON ORE Associated

> Main MANGANESE ORE

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 : Md.Abdul Saleem (Director Mines), Nominated owner

DEOGIRI SANDUR Tq BELLARY

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 : KARTHIK R K, Full Time

Qualification : B E MINING Appointment/ : 15/10/2014

Termination date

Geologist

Name : Jalli.Subramanyam,Full Time

Qualification : M.Sc. Geology Appointment/ : 01/12/2010

Termination date

Manager

Name : BHARATH KUMAR.R.S

Qualification : D.MIN.ENGG WITH F.C.C

Appointment/ : 04/09/2019

Termination date

6. Date of approval of Mining
Plan/Scheme of Mining
Mining Scheme rule 12 MCDR1988
Renewal under rule 22 MCR1960
Modif.of approved Mining Plan

28/04/1992
28/05/1999
Mining Scheme rule 12 MCDR1988
05/12/2013
Modif.of approved Mining Plan

MP review under 17(1) MCR 2016 08/12/2017 MP review under 17(1) MCR 2016 05/10/2018

08/12/2017

Modif.of approved Mining Plan

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	-		Mineralized area explored in G1 level: 57.29 Ha, G2 level: 0Ha, G3 level 42.36 Ha. G3 level area covered under Waste dumps, Mineral Reject stacks and steep hill slope area.
1c	Exploration Agencies and Expenditure in lakh rupees during the year	-	Not applicable	-
1d	Balance area to be explored to bring Geological axis in 1 or 2	No Proposal	Not applicable	G 3 level area 42.36 ha which is covered under dumps, mineral rejects and steep slopes need to be explored under G1 level.
1e	Balance reserve as on 01/04/20	0.795 million tonne Mn ore and 2.382 million tonne iron ore(as on 31/8/2018).	Mn. Ore: 601008 Tonnes, Iron Ore: 2195478 Tonnes.	As per AR submitted for FY 2020-21
1f	General remarks of inspecting officers on geology, exploration etc			There were no exploration proposals during the year 2020-21. Total Mineralized area is about 99 Ha out of which, lessee has explored in G1 level: 57.29 Ha, G2 level: 0Ha, G3 level 42.36 Ha. G3 level explored area covered under Waste dumps, Mineral Reject stacks and steep hill slope area.

l.No.	Item	Propasals	Actual work	Remarks
2a	Location of development w.r.t.lease area	Proposed Location of Development for Manganese Ore:  Neerlabbi (NRLB)- N 1667430 to 1667660 E 659842 to 660179,  Dabaxikolla (DBX)- N 1672920 to 1673120 E 656235 to 656363,  Governor Point (GP)- N 1673600 to 1673850 E 655686 to 655990,  Myadar Banda- N 1658320 to 1658540 E 669149 to 669696.	Actual Location of Development for Manganese Ore:  Neerlabbi (NRLB)- N 1667430 to 1667660 E 659842 to 660179,  Dabaxikolla (DBX)- N 1672920 to 1673120 E 656235 to 656363,  Governor Point (GP)- N 1673600 to 1673850 E 655686 to 655990,  Myadar Banda- Not commenced	Location of Developments are within the proposed locations. Neerlabbi (NRLB)- D to I section line, Dabaxikolla (DBX)- H to M section line, Governor Point (GP)- I to U section line, Development in Myadar Banda not commenced due to awaited permission from Forest Dept. for Tree cutting
2b	Separate benches in topsoil, overburden and minerals (Rule 15)	Separate benches proposed in topsoil, overburden and mineral	Separate benches maintained in topsoil, overburden and mineral	Top soil: 1 Bench, Over burden: 3 benches, Mineral: 6 benches
2c	Stripping ratio or ore to OB ratio	6.42	5.43	The nature of occurrence of Mn ore is of irregular habit. As per A.R. 2020-21 Salable Ore: 31500 tons+ Mineral Reject: 41110 tons OB: 394132 tons
2d	Quantity of topsoil generation in m3	670 Tonnes	Nil	Excavation carried out in broken up area, No top soil generated

2e	Quantity of overburden generation in m3	230276	184174	Mn Ore occurrence are pocket type in nature and of irregular habit.
2f	General remarks of inspecting officers on development of pit w.r.t. type of deposit etc			Except Myadara Banda pit, the Developments carried out within the lease as per the proposal. In Mydadara Banda pit, development not carried out due to awaited permission from Forest Dept. for tree cutting.

## Exploitation:

Sl.No.	Item	Propasals	Actual work	Remarks
3a	Number of pit proposed for production		Working in 03 pits and one exploratory mining pit	Dimension of the pit; Neerlabbi (NRLB)- 138 m X 287 m X 112.5 m, Governor Point (GP)- 600 m X 380 m X 71 m, Dabaxikolla (DBX)- 460 m X 140 m X 49 m, Myadara Banda pit : Priduction not carried out due to awaited permission from Forest Dept. for tree cutting.
3b	Quantity of ROM mineral production proposed	Mn Ore: 32000 T	Mn Ore: 31500 T	Salable Ore: 31,500 tons & Mineral Reject: 41110 tons
3с	Recovery of sailable/usable mineral from ROM production	42%	40%	Manual sorting of salable Mn ore from ROM after dry screening
3d	Quantity of mineral reject generation	Mn Ore: 47156 T Iron Ore: 83680 T	Mn Ore: 41110 T Iron Ore: 34601 T	As per A.R. 2020- 21 Both Mn ore and Iron ore Mineral Rejects are stacked separately as proposed.

3e	Grade of mineral rejects	10 to 22% Mn 35 to 55% Fe	10 to 22% Mn	As per AR 2020-21
	generation and threshold value declared.		35 to 55% Fe	
3f	Quantity of sub grade mineral generation.	No proposal	NIL	NIL
3g	Grade of sub grade mineral generation	No proposal	Not applicable	NIL
3h	Manual / Mechanised method adopted for segregating from ROM	Manual method proposed for segregating from ROM	Manual method adopted for segregating from ROM	Manual method adopted as proposed
3i	Any analysis or beneficiation study proposed and carried out for sub grade mineral and rejects.	No proposal	No such beneficiation study carried out for sub-grade and mineral reject	Dry screening for Mn ore for size fractionation.
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.	100 mm dia, Spacing :4 Mtrs & Burden:3 Mtrs and height:8.25 Mtr.
3k	Provision of mining machineries in mineral benches	Proposed mining machineries Excavator-2 No's, Wheel loaders 2 No's, Trucks-12 No's, Deep hole Drill-1 No's, Jack hammer-4 No's	Mining machineries used Excavator-2 No's, Wheel loaders 2 No's, Trucks-16 No's, Deep hole Drill-2 No's, Jack hammer-3 No's	NIL
31	Whether height of benches in overburden and mineral suitable for method of mining proposed in MP/SOM	height & Bench width -	Except Neerlabbi pit, Bench height 7.5m and bench width 7.5m maintained as proposed. In Neerlabi pit at Bench number 8, between section line GG' and HH', height of the bench is more than 7.5 observed.	Violation issued under Rule 11(1) of MCDR 2017 for not maintaining the bench height as proposed at Neerlabi pit.

3m	Total area covered under excavation/pits	48.44ha at the end of plan period (2022-23)	46.69 ha area of Pit.	As per A.R.2020-21
3n	Ore to OB ratio for the pit/mine during the year.	6.42	5.43	As per A.R. 2020- 21 Salable Ore: 31500 tons+ Mineral Reject: 41110 tons OB: 394132 tons
30	Total area put in use under different heads at the end of year	ure & roads- 6.025 ha. v)Topsoil storage- 0.5 ha At the end	Covered under current (O/C) Workings: 46.69Ha Reclaimed/Rehabilitated: 5/08Ha Used for waste disposal: 37.88Ha Occupied by plant, buildings, residential, welfare buildings & roads: 5.25Ha Other Purpose (R&R Structure): 0.06Ha Work done under progressive mine closure plan during the year: 0.017Ha (As on 01/04/2021).	As per A.R. 2020- 21
3p	Production of ROM mineral during the last five year period as applicable	Mn Ore- (in tonnes) Mn Ore- (in tonnes) 2016-17 7400 2017-18 7400 2018-19 32000 2019-20 32000 2020-21 32000	2016-17 7017 2017-18 7224 2018-19 31761 2019-20 31638.30 2020-21 31500	Salable Mn ore Production as per A.R.

3q General remarks
 of inspecting
 officers on
 method of mining
 etc.

Mining was carried in three pits and in one exploratory pit with 40 % recovery. HEMM were used for Mine operations in combination with drilling and blasting. Manual method adopted for segregation of ore from ROM. Bench height not maintained as proposed in Neerlabbi pit, violation pointed

Solid Waste Management - Dumping:

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

4b Location of topsoil, OB and mineral reject dumps

Proposed OB Neerlabbi (NRLB)-N 1666957 to 1667417 E 659875 to 660335 Dabaxikolla (DBX) N 1672760 to 1673062 E 656324 to 656600 Governor Point (GP)-N 1673600 to

Actual OB Locations: Neerlabbi (NRLB)-N 1666957 to 1667417 E 659875 to 660335 Dabaxikolla (DBX) N 1672760 to 1673062 E 656324 to 656600 Governor Point (GP)-N 1673600 to 1673823 E 655838 to 656054

Location of topsoil, OB & mineral reject dumps are at the proposed locations

1673823 E 655838 to 656054 Myadar Banda-N1658318 to 1658540 E 669710 to 669811

Proposed Mineral reject stacking Locations: Neerlabbi (NRLB)-N 1667093 to 1667296 E 660267 to 660385 N 1667434 to 1667680 E 659654 to 659828 N 1667756 to 1668000 E 669903 to 660089, Dabaxikolla (DBX) N 1672949 to 1673110 E 656289 to 656416, Mineral reject Governor Point (GP)-N 1673528 to 1673625

Proposed stacking Locations: Neerlabbi (NRLB)-N 1667093 to

1667296 E 660267 to 660385 N 1667434 to 1667680 E 659654 to 659828 N 1667756 to1668000 E 669903 to 660089, Dabaxikolla (DBX) N 1672949 to

E 65

Number of dumps within lease area and outside dumps of lease area

Within lease area- 28 OB

lease area-Nil

1673110 E 656289 to 656416, Gover

Within lease area- 28 OB dumps Outside mining lease Outside mining area-Nil

4c

4d	Location of dumps w.r.t. ultimate pit limit (Rule 16)	Outside UPL.	Outside UPL as proposed.	Waste disposal by Backfilling in Neerlabbi, Dabaxi Kolla and Governor Point pits is in progress. Minerals from the pits are exhausted and backfilled.
4e	Number of active and alive dumps.	(NRLB)	Waste disposal by Backfilling in Neerlabbi, Dabaxi Kolla and Governor Point.	On the date of inspection backfilling was in progress in Neerlabbi and Dabaxi Kolla pit.
4f	Number of dead dumps.	No Proposal	NIL	
<b>4</b> g	Number of dumps established.	Proposed as per the approved R&R Plan.	22 No's of dumps are stabilized and 6 No's of dumps are partially stabilized.	Dumps are stabilized by coir mat and plantation.
4h	Whether Retaining wall or garland drain all along dumps are there.	and garland		NIL
4i	Length of Retaining wall or garland drain all along dumps	_	Retaining Wall - 263 X 1.5 X 1.5 Mtrs Garland Drain - 110 X 1.5 X 1.5 Mtrs	As reported by lessee, total TW 5227.1 Cu.M & garland drain 5541.5 Cu.M constructed along the toe of the dumps.
4j	Number of settling ponds	No Proposal	Nil	7 No's of settling ponds constructed in the previous years.
4k	Specific comments of inspecting officer on waste dump management			Waste disposal by backfilling is in progress as per proposal. Terracing of waste dumps done and covered with coir mat.

Actual work

Remarks

Solid Waste Management - Backfilling:

Propasals

Sl.No.

Item

5a	Status of part or full extraction of mineral from mined out area before starting backfilling.	_	Mineral extracted fully before starting back filling	Mn ore is exhausted in the backfilling area
5b	Area under backfilling of mined out area	0.20 ha	0.15 ha in NRLB, DBX & GP after complete extraction of ore	
5c	Concurrent use of topsoil for restoration or rehabilitation of mineral out area (Rule 32)	670 Tonnes	Nil	No top soil is generated during the year 2020-21
5d	Total area fully reclaimed and rehabilitated	No proposal	NIL	5.08 Ha (CD-1.8 ha, DBX-2.68 ha, GP-0.6 ha) Reclamation done by afforestation & Coir mat
5e	General remarks of inspecting officers on backfilling and reclamation etc.			Lessee has commenced the back filling in the Mineral exhausted area of the pits as proposed. In total 5.08 Ha area has been reclaimed by putting coir mat on dumps and plantation

#### Progressive Mine Clousre Plan:

Sl.No.	Item	Propasals	Actual work	Remarks
ба	Whether Annual report on PMCP submitted on time and correctly. Rule 23 E(2).	To be submitted by lst July of every year	Annual report on PMCP submitted on 29.06.2021	Submitted within the stipulated time.
6b	Area available for rehabilitation (ha).	available for rehabilitation	2.8 ha Area gap plantation done on waste dumps, green belt and avenue plantation.	As per AR 2020-21 As reported by lessee
6c	afforestation done (ha).	No Proposal	NIL	

6d	No. of saplings planted during the year	5000 saplings	8559 saplings	As per AR 2020-21
бе	Cumulative no .of plants	No Proposal	390718 nos. of saplings with 70% survival rate	As reported by lessee
6f	Any other method of rehabilitation		Coir matting and gap plantation on dead dumps	
6g	Cost incurred on watch and care during the year	Rs. 45.00 Lakh	Rs.47.96 Lakh	As reported by the lessee
6h	Compliance on reclamation and rehabilitation by backfilling (i) Voids available for backfilling ( Lx B x D	Backfilling proposed in NRLB, DBX, and GP pits.	Backfilling is in progress in NRLB, DBX, and GP pits with OB and waste as proposed.	
6i	Compliance on reclamation and rehabilitation by backfilling (ii) Voids filled by waste / tailings	Backfilling proposed in NRLB, DBX, and GP pits.	0.15 Ha area has been backfilled.	NIL
6j	Compliance on reclamation and rehabilitation by backfilling (iii)Afforestati on on backfilled area	Not mentioned.	Afforestation carried out on stablized backfilled area.	Lessee has carried out afforestation on stablized backfilled area.
6k	Compliance on reclamation and rehabilitation by backfilling (iv) Rehabilitation by making water reservoir	No proposal	NIL	
61	Compliance on reclamation and rehabilitation by backfilling (v)any other specific means.	No proposal	NIL	
6m	Compliance of rehabilitation of waste land within lease (i)afforestation	5000 plants as gap filling.	8559 planted as gap filling, avenue plantation and plantation dumps.	

6n	Compliance of rehabilitation of waste land within lease (ii)Area rehabilitation (ha)	No proposal	NIL	Over the years, a total of 34.00 ha has been rehabilitated by way of plantation
60	Compliance of rehabilitation of waste land within lease (iii)Method of rehabilitation	Not mentioned.	0.15 ha plantation done on the stablized backfilled area.	
6р	Compliance of environmental monitoring (core zone and buffer zone)	Environmental monitoring proposed in Core and Buffer Zone	Environmental monitoring has been carried out 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)	Environmental monitoring report for the year 2020- 21 has been verified. 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.			The PMCP activities have been implemented by lessee as proposed,

### Mineral Conservation:

Sl.No.	Item	Propasals	Actual work	Remarks
7a	ROM Mineral dispatch or grade-wise sorting within lease area	sorting	Grade wise sorting done manually with in Lease area for Mn ore	NIL
7b	Method of grade- wise mineral sorting i.e. manual or mechanical.	for Mn Ore	Crushing, dry screening and manual separation of Mn ore from ROM	NIL
7c	Different grade of mineral sorted out at mines.	Not specified	Mn ore 24-26%, 26-28%, 28-30%, 30-32%, 32-34% and 34% above Mn	Grade wise sorting of Mn ore done manually

7d	Any beneficiation process at mines .	No proposal	No such beneficiation process carried out in the mines	Dry screening and manual separation of Mn ore from ROM
7e	General remarks of inspecting officer on Mineral conservation and beneficiation issues			All the Mn ore is sorted manually from the ROM. The Non-saleable ore above the threshold value is stacked separately as a mineral Reject

#### Environment:

Sl.No.	Item	Propasals	Actual work	Remarks
8a	Separate removal and utilization of topsoil (Rule 32)	removal of	No Topsoil not generated during the year 2020-21	As reported by the Lessee. The earlier handled topsoil stacked separately
8b	Concurrent use or storage of topsoil	No proposal	No Topsoil not generated during the year 2020-21	NIL
8c	Separate dumps for overburden, waste rock, rejects and fines (Rule 33)		Separate dumps for overburden and Mineral rejects 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	OB and waste proposed for backfilling	Concurrent Backfilling is in progress in NRLB, DBX and GP	OB waste rock used for backfilling and Mineral rejects above threshold value stacked separately.
8e	Phased restoration, reclamation and rehabilitation of lands affected by mining operations (Pits, dumps etc)	Backfilling proposed in NRLB,DBX and GP pits after the mineral is completely extracted.	Phased reclamation and rehabilitation of in active dumps in progress. Backfilling is in progress in NRLB, DBX and GP	Phased reclamation and rehabilitation of in active dumps in progress.

8f	Baseline information on existence of plantation and additional plantation done (Rule 41)	5000 Saplings	Within ML area 8559 No's of saplings planted @ 80% survival	As reported by the Lessee, 390718 No's of saplings are done till 31st March 2021.
8g	Survival rate	65%	80%	
8h	Water sprinkling on roads to control airborne dust	sprinkling	Water sprinkling is done regularly on haul roads and mine faces to suppress the dust as proposed	2 No's of water tankers each of 7000 Ltrs and 1 No of 12000 Ltrs capacity is deployed
8i	General remarks of inspecting officer on aesthetic beauty in and around mines area			The aesthetic beauty in and around the mine looks very good. Greenery developed on stabilized dumps.

## Compliance of Rule 45:

Sl.No.	Item	Propasals	Actual work	Remarks
9a	Status of submission of Monthly and Annual returns	Monthly Submitted upto August-2021 Annual Return submitted upto FY 2020-21		M.R. and A.R. are submitted within the stipulated time-line.
9b	Scrutiny of Annual return for information on Mining Engineer, Geologist and Manager	Manager Mining- Shri. Bharath Kumar R.S., Mining Engineer- Shri. Karthik A. K., Geologist- Shri. Jalli Subramanyam	Information of Manager Mining, Mining Engineer and Geologist are correct.	All the three officers were present during the date of inspection.

9c	Scrutiny of Annual return on land use pattern for area under pits, reclaimed area, dumps etc.	period - Area under mining: 46.44	Given information appears to be correct	
9d	Scrutiny of Annual return on afforestation	Within mining lease area- 8559 @ 70% survival	Given information appears to be correct	
9e	Scrutiny of Annual return on mineral reject generation (Grade and quantity)	Mn-41110 (10- 20% Mn) Tonnes, Fe-34601 (35- 55% Fe) Tonnes	Given information appears to be correct	NIL
9f	Scrutiny of Annual return on ROM stock and/or graded ore		Appears to be correct	NIL
9g	Scrutiny of Annual return on sale value, Ex. Mine price and production cost	Cost of Production Rs 5029 per Tons, sale value- 4326.78 and Ex. Mine price- Avg. 6083.74 Rs/T	In the cost of production other taxes not considered during calculation.	Violation issued
9h	Scrutiny of Annual return on fixed assets	Rs. 2675652	Appears to be correct	

9k Scrutiny of Annual return

Annual return on No's, mining Wheel L

machineries

Excavator-2 Machineries given

No's, Appears to be correct Wheel Loader-2

No's,

Trucks- 16 No's,

Water tanker-3

No's

Explosive van-

1 No's Air

 ${\tt Compressor-3}$ 

No's

NIL

PAGE: 18

# 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)	17/09/2021			
MCDR17 Rule 45(7)(a	7 17/09/2021			

Date:

(DR. Sudhakara T.L)

Indian Bureau of Mines