

**INDIAN BUREAU OF MINES  
MINERALS DEVELOPEMMENT 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 : **S19** ) **SANDEEP KUMAR SINGH**  
Officer and ID No.
- (ii) Designation : Assistant Controller Mine
- (iii) Accompanying mine : Shri Bharath Kumar, Manager Mines, Shri J. Subramanya  
Official with  
Designation
- (iv) Date of Inspection : 15/02/2021
- (v) Prev.inspection date : 09/08/2017

**PART-I : GENERAL INFORMATION**

1. (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 :  
FAX No. : 08395- 271066, 080-2361316  
E-mail : eps@sandurgroup.com  
Phone : (08395)- 271025/29/40/28, (
- (f) Police Station : SANDUR
- (g) First opening date : 01/01/1954
- (h) Weekly day of rest : SUN
2. Address for : M/s THE SANDUR MANGANESE & IRON ORES LTD,  
correspondance NO.9, BELLARY ROAD, SADASHIVANAGAR,  
BANGALORE - 560080
3. (a) Lease Number : KAR0224
- (b) Lease area : 4335.68
- (c) Period of lease : 20
- (d) Date of Expiry : 31/12/1993
4. Mineral worked : IRON ORE Associated  
MANGANESE 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 : S.R.SRIDHAR, ED(Mines) of M/s SMIORE LTD  
 The Sandur Manganese & Iron  
 Ore LTD Deogiri-583 112 Tq-  
 Sandur BELLARY KARNATAKA  
 Phone: 08395-271025/28  
 FAX : 08395-271066

Agent : S.R.SRIDHAR  
 BELLARY KARNATAKA  
 Phone:  
 FAX :

Mining Engineer  
 Name : Jayashankar D, Full Time  
 Qualification : BE Mining  
 Appointment/ : 24/05/2013  
 Termination date

Geologist  
 Name : J.Subramanyam, Full Time  
 Qualification : M.Sc. Geology  
 Appointment/ : 01/12/2010  
 Termination date

Manager  
 Name : L.GYANAPRAGESAM  
 Qualification : B.SC, FCC  
 Appointment/ : 27/09/2001  
 Termination date

6. Date of approval of Mining Plan/Scheme of Mining : Existing rule 11 MCDR1988 28/04/1992  
 Mining Scheme rule 12 MCDR1988 15/01/2013  
 Renewal under rule 22 MCR1960 05/12/2013  
 Modif.of approved Mining Plan 25/05/2016  
 MP review under 17(1) MCR 2016 08/12/2017  
 Modif.of approved Mining Plan 08/12/2017  
 MP review under 17(1) MCR 2016 05/10/2018

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

## Exploration :

Sl.No.	Item	Proposals	Actual work	Remarks
1a	Backlog of previous year	No backlog of the previous year	Nil	No Exploration back log
1b	Exploration over lease area for geological axis 1 or 2	4 bore holes with total meterage of 120 m proposed for the year 2019-20 (NRLB&ST block)	8 bore holes with total meterage of 240 m drilled during the year 2019-20. (NRLB& ST block)	Nil
1c	Exploration Agencies and Expenditure in lakh rupees during the year	Not mentioned	Drill machine was hired & exploration carried out departmentally. Total Cost of Exploration- Rs 138300	As reported by the Lessee.
1d	Balance area to be explored to bring Geological axis in 1 or 2	G-3 area of 0.9 ha during the year 2019-20. (NRLB & ST block)	The exploration in the G-3 area of 0.9 ha carried out as per the proposal. (NRLB & ST block)	Nil
1e	Balance reserve as on 01/04/20	0.795 million tonnes of Manganese ore with grade 22-28 % Mn & 2.382 million tonnes of iron ore with grade 54.32 % as on 31.08.2018	673618 tonnes of manganese ore and 2230079 tonnes of iron ore as on 1.04.2020.	As per AR 2019-20.
1f	General remarks of inspecting officers on geology, exploration etc	—	—	The exploratory drilling has been carried out as per the proposals.

## Development :

Sl.No.	Item	Proposals	Actual work	Remarks
--------	------	-----------	-------------	---------

2a	Location of development w.r.t.lease area	Proposed Location of Development for Manganese ore: Neerlabbi (NRLB)- N 1667416 to 1667673, E-659865 to 660179, Dabaxikolla(DB X)- N1673000 to 1673108, E-656210 to 656348, Governor point(GP)- N 1673534 to 1673800, E-655740 to 655988, Myadara Banda- N -1658317 to 1658540, E-669210 to 669696.	Actual location of development for Manganese ore. Neerlabbi (NRLB)- N 1667416 to 1667673, E-659865 to 660179, Dabaxikolla (DBX)- N1673000 to 1673108, E-656210 to 656348, Governor point(GP)- N 1673534 to 1673800, E-655740 to 655988,	The development carried out within the proposed extent.
2b	Separate benches in topsoil, overburden and minerals (Rule 15)	Separate benches proposed in top soil, OB & mineral.	Separate benches maintained in topsoil, OB & mineral	Top soil- 1 Bench, Overburden-3 benches, Mineral-8 benches.
2c	Stripping ratio or ore to OB ratio	1:7.00(in tons)	1:6.44(in tons)	Saleable Manganese Ore - 31638.29 tons, Mineral reject- 39893 tons Total ROM= 71531 tons Waste- 460831 tons.
2d	Quantity of topsoil generation in m3	520 Cum	Nil	No topsoil generation.
2e	Quantity of overburden generation in m3	243764 Cum of OB proposed	209468 Cum of OB generated	As per AR, 2019-20-OB quantity generated- 460831 tons.
2f	General remarks of inspecting officers on development of pit w.r.t. type of deposit etc	-	-	The development has been carried out inside the mine as per the proposal.

---

Exploitation:

Sl.No.	Item	Propasals	Actual work	Remarks
3a	Number of pit proposed for production	Manganese Ore: 4 Pits and 2 exploratory mining pits(NRLB,DBX, GP,Myadara banda, Donikolla & Sink A shortcut)	Actual working carried out in 3 pits(NRLB,DBX & GP)	The managanese ore production carried out within proposed pits.
3b	Quantity of ROM mineral production proposed	76,801 tons of ROM proposed	71531 tons of ROM production	(Saleable ore- 31638.29 tons + Mineral reject- 39893 tons).
3c	Recovery of sailable/usable mineral from ROM production	42 % (32000 tons of Saleable Manganese ore Production proposed)	44 % (31638.29 tons of saleable manganese ore produced)	Nil
3d	Quantity of mineral reject generation	Mn ore-44800 tons(Mineral reject proposed) Iron ore- 56519 tons(Mineral reject proposed)	Mn ore-39893 tons(Mineral reject generated) Iron ore- 143106 tons(Mineral reject generated)	As per AR 2019-20.
3e	Grade of mineral rejects generation and threshold value declared.	Mn ore- 10-26 % Mn Iron ore- 45- 55 % Fe	Mn ore- 10-20 % Mn Iron ore- 35-45 % Fe	As per AR 2019-20.
3f	Quantity of sub grade mineral generation.	No proposal	Nil	Nil
3g	Grade of sub grade mineral generation	No proposal	Nil	Nil
3h	Manual / Mechanised method adopted for segregating from ROM	Manual method	Manual Method (Hand Sorting) adopted for segregating from ROM.	Nil
3i	Any analysis or beneficiation study proposed and carried out for sub grade mineral and rejects.	Beneficiation study carried out.	No beneficiation process carried out within the Lease area.	Only Dry Crushing & screening carried out for Mn ore.

3j	Provision of drilling and blasting in mineral benches	Deep hole Drilling and blasting proposed	Drilling & blasting carried out .	Nil
3k	Provision of mining machineries in mineral benches	Excavator- 2 Nos. Wheel Loader- 2 Nos. Trucks-12 Nos. Deep hole Drill- 1 No. Jack Hammer- 4 Nos.	i) Excavator- 0.9 cum- 2 Nos. ii) Excavator- 1 cum- 1 no. iii) Wheel Loader- 2 Nos. iv) Truck-16 tons-15 nos. v) Truck-25 tons- 2 nos. vi) Water tanker-7000 litre-2 nos. vii) Water tanker-12000 litres- 1no. viii) Deep hole drill- 1 no.	Nil
3l	Whether height of benches in overburden and mineral suitable for method of mining proposed in MP/SOM	Proposed Height 7.5 m for both Overburden and Mineral bench	7.5 m height maintained for both Overburden and Mineral bench.	Nil
3m	Total area covered under excavation/pits	48.44ha at the end of plan period (2022-23)	46.44 ha as on 1.04.2020 for total area under excavation/pits.	As per AR 2019-20.
3n	Ore to OB ratio for the pit/mine during the year.	1:7.00(in tons)	1:6.44(in tons)	Saleable Manganese Ore - 31638.29 tons, Mineral reject- 39893 tons Total ROM= 71531 tons Waste- 460831 tons.

3o	Total area put in use under different heads at the end of year	i)Area under Mining- 48.44 ha ii) Wastedump- 38.78 ha iii)Mineral storage- 2.14 ha iv) Infrastructure & roads- 6.025 ha. v)Topsoil storage- 0.5 ha at the end of plan period (2022-23)	)Covered under current(O/c) workings- 46.44 ha iii)Waste disposal- 37.88ha iv)Occupied by Plants, buildings, residential, welfare& roads-5.525 ha. v)Other purpose(Storage of Mineral reject)- 0.06 ha vi) Reclaimed/Rehabilitated- 5.08 ha. (as on 1.04.2020)	Land use as reported in AR 2019-20.
3p	Production of ROM mineral during the last five year period as applicable	2015-16: 7400 tons 2016-17: 7400 tons 2017-18: 7400 tons 2018-19: 32000 tons 2019-20: 32000 tons (in tonnes)	2015-16: 7080 tons 2016-17: 7017 tons 2017-18: 7223 tons. 2018-19: 31761 tons 2019-20: 31638.29 tons (in tonnes)	(Saleable Mn ore production)
3q	General remarks of inspecting officers on method of mining etc.			Mining was carried in 3 pits with 44 % recovery. HEMM were used for Mine operations in combination with the drilling and blasting.

---

Solid Waste Management - Dumping:

Sl.No.	Item	Propasals	Actual work	Remarks
4a	Separate dumping of topsoil, OB and mineral rejects (Rule 32,33)	Separate dumping proposed for topsoil,OB & Mineral Reject.	Separate dumping maintained for topsoil, OB& Mineral reject as per the proposal	No topsoil generation for the year 2019-20.

4b	Location of topsoil, OB and mineral reject dumps	<p>Proposed OB Locations:NRLB : N1666957 to 1667417, E- 659875 to 660335DBX: N 1672760 to 1673062 E- 656324 to 656600, GP-N 1673600 to 1673823, E-655 838 to 656054, Myadara Banda: N-1658318 to 1658540, E- 669710 to 669811 Proposed Mineral reject stacking: NRLB: 1-N 1667093 to 1667296 , E- 660267 to 660385 2-N-1667434 to 1667680, E- 659654 to 659828 3-N-1667756 to 1668000, E- 669903 to 660089 ,DBX: N 1672949 to 1673110, E- 656289 to 656416, GP: N 1673528 to 1673625, E- 656000 to 656200</p>	<p>Actual OB Locations: NRLB: N1666957 to 1667417, E-659875 to 660335 DBX: N 1672760 to 1673062 E- 656324 to 656600 GP-N 1673600 to 1673823 E-655 838 to 656054, Actual Mineral reject stacking locations NRLB: 1- N 1667093 to 1667296 , E-660267 to 660385 2- N-1667434 to 1667680, E-659654 to 659828 3- N-1667756 to 1668000, E- 669903 to 660089 DBX: N 1672949 to 1673110, E- 656289 to 656416, GP: N 1673528 to 1673625, E- 656000 to 656200,</p>	Nil
4c	Number of dumps within lease area and outside of lease area	29 OB dumps within the lease area.	29 OB dumps present within the Lease area	Very old dumps present since the inception of the mine.
4d	Location of dumps w.r.t. ultimate pit limit (Rule 16)	Outside UPL	Outside UPL	Nil
4e	Number of active and alive dumps.	4 active backfilling location as proposed. (NRLB,DBX,GP, Myadarabanda)	Waste dumping through backfilling in progress in NRLB, DBX & GP pit as proposed.	Nil



4f	Number of dead dumps.	25 dead dumps within ML area	25 dead dumps within ML area	Nil
4g	Number of dumps established.	Not mentioned	22 Nos. of dumps are stabilized and 6 nos of dump are partially stabilized. Stabilized by plantation and coir mat	As reported by the Lessee.
4h	Whether Retaining wall or garland drain all along dumps are there.	Retaining wall & Garland drain proposed along the proposed waste dump	Retaining wall and garland drain construction carried out as per the proposal	Nil
4i	Length of Retaining wall or garland drain all along dumps	80 m Retaining wall and 130 m garland drain proposed	The Toe wall and the Garland drain construction done as per the proposal.	(Location- NRLB block)
4j	Number of settling ponds	No proposal	Nil	Nil
4k	Specific comments of inspecting officer on waste dump management	-	-	Waste disposal by backfilling was adopted as per the proposal.

#### 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.	Backfilling proposed after extracting the mineral fully.	Backfilling carried out in NRLB, DBX& GP pit as per the proposal after complete extraction of ore	Nil
5b	Area under backfilling of mined out area	Total 15.8 ha for waste dumping through backfilling till end of plan period(2022-23)	2.93 ha in NRLB, DBX & GP after complete extraction of ore for the year 2019-20.	-
5c	Concurrent use of topsoil for restoration or rehabilitation of mineral out area (Rule 32)	Topsoil will be preserved and used for plantation as proposed	No topsoil generation for the year 2019-20.	Nil

5d	Total area fully reclaimed and rehabilitated	5.08 ha	5.08 ha(CD- 1.8 ha, DBX- 2.68 ha, GP- 0.6 ha)	Reclamation done by afforestation.
5e	General remarks of inspecting officers on backfilling and reclamation etc.	—	—	Partial backfilling was in progress as per the proposal.

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 before 1st of July every year	Annual PMCP report for the year 2019-20 submitted on 30.06.2020	Nil
6b	Area available for rehabilitation (ha) .	2 to 3 ha within Lease.	2.795 ha within the lease(waste dump, Green belt and Avenue plantation)	2.42 ha afforestation on waste dumps, 0.125 ha afforestation on Green belt and 0.25 ha Avenue plantation.
6c	afforestation done (ha).	2 to 3 ha within Lease.	2.795 ha within the lease(waste dump, Green belt and Avenue plantation)	As reported by the Lessee.
6d	No. of saplings planted during the year	5000 nos. of plants inside ML area proposed	6550 nos. of plants inside ML area with 70 % survival rate(waste dump, Green belt and Avenue plantation)	As reported in AR 2019-20.
6e	Cumulative no .of plants	Not mentioned	307690 nos. of plants.(Inside ML area) including afforestation on backfilled area, dumps, Green belt, Avenue plantation etc.	As reported by the Lessee
6f	Any other method of rehabilitation	No proposal	Nil	Nil
6g	Cost incurred on watch and care during the year	Not mentioned	283.95(lakhs).	As reported by the Lessee .Includes backfilling cost, Afforestation cost and Environmental monitoring cost.

6h	Compliance on reclamation and rehabilitation by backfilling (i) Voids available for backfilling ( L x B x D	Backfilling proposed in DBX, NRLB & GP pits after complete extraction of ore	Backfilling carried out in DBX, NRLB and GP pits as per the plan.	Nil
6i	Compliance on reclamation and rehabilitation by backfilling (ii) Voids filled by waste / tailings	Backfilling proposed in DBX, NRLB & GP pits after complete extraction of ore with waste/OB	Backfilling carried out in DBX, NRLB and GP pits with generated waste/OB as per the plan.	Nil
6j	Compliance on reclamation and rehabilitation by backfilling (iii)Afforestation on on backfilled area	No proposal for afforestation on the backfilled area	Nil	Nil
6k	Compliance on reclamation and rehabilitation by backfilling (iv) Rehabilitation by making water reservoir	No proposal	Nil	Nil
6l	Compliance on reclamation and rehabilitation by backfilling (v)any other specific means.	No proposal	Nil	Nil
6m	Compliance of rehabilitation of waste land within lease (i)afforestation	Not mentioned.	500 nos. of saplings planted in the Green belt area and avenue plantation inside the ML area.	As reported by the Lessee. Total plantation including dumps, Green belt and avenue plantation is 6550 nos.
6n	Compliance of rehabilitation of waste land within lease (ii)Area rehabilitation (ha)	Not mentioned	0.125 ha afforestation done in the Green belt area and 0.25 ha afforestation done as Avenue plantation- Total afforestation carried out in waste land within lease for the yewar 2019-20- 0.375 ha	Nil

6o	Compliance of rehabilitation of waste land within lease (iii)Method of rehabilitation	Afforestation.	Afforestation carried out in total area of 0.75 ha in Greenbelt and Avenue plantation.	Nil
6p	Compliance of environmental monitoring (core zone and buffer zone)	Environmental monitoring proposed for Air, water, noise & Soil for Core and buffer zone.	Environmental monitoring carried out for Air, Water Noise & Soil for both core and buffer zone.	Environmental monitoring report for the period Dec 2019-Feb 2020 checked. All environmental parameters within the permissible limit.
6q	General remarks of inspecting officers on PMCP compliance and progressive closure operations etc.	-	-	The PMCP activities have been implemented in mines as per the proposal,

#### Mineral Conservation:

Sl.No.	Item	Proposals	Actual work	Remarks
7a	ROM Mineral dispatch or grade-wise sorting within lease area	Manual Grade wise sorting proposed for manganese ore.	Manual Grade wise sorting done for Manganese ore.	Nil
7b	Method of grade-wise mineral sorting i.e. manual or mechanical.	Manual sorting for Manganese ore proposed	Manual sorting for Manganese ore carried out	Nil
7c	Different grade of mineral sorted out at mines.	Not mentioned	24-26, 26-28, 28-30, 30-32, 32-34 % Mn	Grade wise sorting done manually
7d	Any beneficiation process at mines	Beneficiation study carried out.	Beneficiation process not carried out inside the mines	Only dry crushing and screening carried out for Manganese ore.
7e	General remarks of inspecting officer on Mineral conservation and beneficiation issues	-	-	All the Mn ore is sorted manually from ROM. The unsaleable ore above the threshold value is stacked as mineral Reject.

## Environment:

Sl.No.	Item	Propasals	Actual work	Remarks
8a	Separate removal and utilization of topsoil (Rule 32)	Separate removal of top soil proposed	No topsoil generated during the year 2019-20.	As reported by the Lessee. The earlier handled topsoil stacked separately
8b	Concurrent use or storage of topsoil	No proposal	No topsoil generated during the year 2019-20.	Nil
8c	Separate dumps for overburden, waste rock, rejects and fines (Rule 33)	Separate dumping proposed for OB and mineral reject.	Separate dumping maintained for OB and mineral Reject.	Waste and mineral Reject are stacked separately.
8d	Use of overburden, waste rock, rejects and fines dumps for restoring the land to its original use	OB/Waste proposed for backfilling	Backfilling carried out in NRLB, DBX and GP as per the proposal.	Nil
8e	Phased restoration, reclamation and rehabilitation of lands affected by mining operations (Pits, dumps etc)	Backfilling proposed iin NRLB, DBX and GP pits after the mineral is completely extracted.	Backfilling carried out in NRLB, DBX and GP as per the proposal.	Nil
8f	Baseline information on existence of plantation and additional plantation done (Rule 41)	Not mentioned	307690 nos. of cumulative plants including afforestation on backfilled area, dumps, Green belt, Avenue plantation etc.	As reported by the Lessee.
8g	Survival rate	65% proposed	70% achieved	As reported in AR 2019-20.
8h	Water sprinkling on roads to control airborne dust	Water sprinkling on roads proposed	Water sprinkling carried out as per the proposal	One Water sprinkler of capacity 12 KL& Two water sprinkler of capacity 7 KL used in the mines for water sprinkling.
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.

## 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 Jan-2021. ***** A.R. of the year 2019-20 submitted on 30.06.2020	M.R. Submitted up to Jan-2021. ***** A.R. of the year 2019-20 submitted on 30.06.2020	Submitted.
9b	Scrutiny of Annual return for information on Mining Engineer, Geologist and Manager	Mining Engineer- Shri Sunil Kumar G.S ii) Geologist- Shri J Subramanyam iii) Manager- Shri L. Gnanapragesam	Information on Mining Engineer, Manager & Geologist provided.	The Mining Engineer Shri Karthik A.K, Mine Manager- Shri Bharath Kumar & Geologist- Shri J. Subramanyam was present during inspection on 15/02/2021. The notice of appointment/termination of Mining Engineer and Mine Manager has been sent by the Lessee in Form-H.
9c	Scrutiny of Annual return on land use pattern for area under pits, reclaimed area, dumps etc.	i)Covered under current(O/c) workings- 46.44 ha iii)Waste disposal- 37.88 ha iv) Occupied by Plants, buildings, residential, welfare& roads-5.525 ha. v)Other purpose(Storage of Mineral reject)- 0.06 ha vi) Reclaimed/Rehabilitated- 5.08 ha.	Appears to be correct.	Nil
9d	Scrutiny of Annual return on afforestation	6550 nos. of plants with 70 % survival rate within the ML area	Appears to be correct	Nil

9e	Scrutiny of Annual return on mineral reject generation (Grade and quantity)	Mn ore-39893 tons Iron ore-143106 tons Mn ore grade-10-20 % Mn Iron ore grade- 35-45 % Fe	Appears to be correct	Nil
9f	Scrutiny of Annual return on ROM stock and/or graded ore	/s- 6134 tons ROM Production-3168.29 tons C/s- 6211 tons Graded ore/saleable Manganese ore-31561.33 tons	The ROM Production quantity for Manganese ore have not been reported correctly in Part-VI (1) (a).	Violation issued.
9g	Scrutiny of Annual return on sale value, Ex. Mine price and production cost	Cost of Production- Rs 4900/ton Ex mine price- Rs. 2198/ton (Below 25 % Mn), Rs. 6351/ton (25 %-35 % Mn), Rs. 10964/ton (35 %-46 % Mn)	The DMF & NMET amount to be also included in the Cost of production.	Violation issued.
9h	Scrutiny of Annual return on fixed assets	Not reported	The Annual return on fixed assets in sec (1), (2) & (3) have not been reported	Violation issued.
9k	Scrutiny of Annual return on mining machineries	i) Excavator- 0.9 cum- 2 Nos. ii) Excavator- 1 cum- 1 no. iii) Wheel Loader- 2 Nos. iv) Truck-16 tons-15 nos. v) Truck-25 tons- 2 nos. vi) Water tanker-7000 litre-2 nos. vii) Water tanker-12000 litres- 1no. viii) Air Compressor- 2 Nos.	Appears to be correct	Nil

**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 45(7)(a)	01/03/2021				

**Date :**

(SANDEEP KUMAR SINGH)

Indian Bureau of Mines