

**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 : **M003**) **G C MEENA**
Officer and ID No.
- (ii) Designation : Regional Controller Mines
- (iii) Accompanying mine : Shri Sridhar Hegde, DGM(Geology)
Official with
Designation
- (iv) Date of Inspection : 12/07/2019
- (v) Prev.inspection date : 19/09/2018

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
E-mail : eps@sandurgroup.com
Phone : (080) 23613166
- (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 : 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 : RAJNISH SINGH
 THE SANDUR MANGANESE & IRON
 ORE LTD DEOGIRI POST,
 SANDUR TALUKA BELLARY
 KARNATAKA
 Phone:
 FAX : (08395) 271066

Agent : Md. Abdul Saleem
 THE SANDUR MANGANESE & IRON
 ORES LT DEOGIRI POST,
 SANDUR TALUKA BELLARY
 KARNATAKA
 Phone: (08395) 271025
 FAX : (08395) 271066

Mining Engineer

Name : SUNIL KUMAR GS,Full Time
 Qualification : B.E.MINING
 Appointment/ : 01/01/2018
 Termination date

Geologist

Name : SHRIDHAR P. HEGDE,Full Time
 Qualification : M. Sc. (Geology)
 Appointment/ : 01/01/2018
 Termination date

Manager

Name : V.JAYAPRAKASH
 Qualification : Dip. in ME
 Appointment/ :
 Termination date

6. Date of approval of Mining	:	MP modif under MCR 1960	01/09/2015
Plan/Scheme of Mining	:	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

PART - II : OBSERVATION/COMMENTS OF INSPECTING OFFICERS

Exploration :

Sl.No.	Item	Proposals	Actual work	Remarks
1a	Backlog of previous year	Nil	No Backlog	78 DTH Confirmatory holes amounting to total of 1876 Mtrs in FY 2017-18
1b	Exploration over lease area for geological axis 1 or 2	15 DTH Holes amounting to total of 405 mts proposed at G1 level.	129 DTH Holes drilled at 50 Mtrs grid interval amounting to total of 6262 mts.	Entire Mineralized area has been explored under G1 stage
1c	Exploration Agencies and Expenditure in lakh rupees during the year	Lessee Rs1.37 lakhs	Lessee Rs21.14 lakhs	Drill machine was hired & exploration carried out by Department
1d	Balance area to be explored to bring Geological axis in 1 or 2	No Proposal	Not applicable	
1e	Balance reserve as on 01/04/20	-	Mn. Ore: ?13016402? Tons, Iron Ore: ?100757785? Tons	As per AR submitted for FY 2018-19
1f	General remarks of inspecting officers on geology, exploration etc	-	-	The exploration 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	Development Proposal in 20 locations	Development carried out only in 15 proposed locations	
2b	Separate benches in topsoil, overburden and minerals (Rule 15)	Top soil benches: 1 no OB: 5 to 6 benches Mineral: 8 to 12 benches	Top soil benches: 1 no OB: 5 to 6 benches Mineral: 8 to 12 benches	
2c	Stripping ratio or ore to OB ratio	Mn ore: 1:6.04 Fe ore: 1: 0.40	Mn ore: 1:10.89 Fe ore: 1: 0.86	
2d	Quantity of topsoil generation in m3	Mn pits: 4500 tonnes Fe pits: 71650 tonnes	Mn pits: 1200 tonnes Fe pits: 762 tonnes	

2e	Quantity of overburden generation in m3	Mn pits: 1688122 m3 Fe pits: 1058709 m3	Mn pits: 23118389 m3 Fe pits: 632157 m3
2f	General remarks of inspecting officers on development of pit w.r.t. type of deposit etc		nil

Exploitation:

Sl.No.	Item	Propasals	Actual work	Remarks
3a	Number of pit proposed for production	Manganese Ore Pits - 12 Iron Ore Pits - 8	Manganese Ore Pits - 12 Iron Ore Pits - 3	
3b	Quantity of ROM mineral production proposed	Mn Ore: 254000 t Fe Ore: 1600000 t	Mn Ore: 253023.46 t Fe Ore: 1581000 t	-
3c	Recovery of sailable/usable mineral from ROM production	Mn Ore: 41% Fe Ore: 43%	Mn Ore: 56% Fe Ore: 68%	-
3d	Quantity of mineral reject generation	Mn Ore: 362855 t Fe Ore: 395989 t	Mn Ore: 202773 t Fe Ore: 734129 t	-
3e	Grade of mineral rejects generation and threshold value declared.	10 to 22% Mn 45 to 55% Fe & 35 to 45% Fe	10 to 22% Mn 45 to 55% Fe & 35 to 45% Fe	-
3f	Quantity of sub grade mineral generation.	-	-	-
3g	Grade of sub grade mineral generation	-	-	-
3h	Manual / Mechanised method adopted for segregating from ROM	For Mn Ore- Manual, For Fe Ore- Mechanized	For Mn Ore- Manual, For Fe Ore-Mechanized	-

3i	Any analysis or beneficiation study proposed and carried out for sub grade mineral and rejects.	no	no	-
3j	Provision of drilling and blasting in mineral benches	Yes	Yes	-
3k	Provision of mining machineries in mineral benches	Proposed mining machineries Excavator-60 No's, Wheel loaders:54 No's, Trucks-377 No's, Deep hole Drill-32 No's, Jack hammer-18 No's Water Tanker-44 No's	Mining machineries used Excavator-45 No's, Wheel loaders-30 No's, Trucks-217 No's, Jack hammer-2 No's Water Tanker-21 No's	-
3l	Whether height of benches in overburden and mineral suitable for method of mining proposed in MP/SOM	Bench height - maximum 7.5 m Bench width - minimum 7.5 m	Bench height - maximum 7.5 m Bench width - minimum 7.5 m	-
3m	Total area covered under excavation/pits	496.33 ha in the plan period	440.13 ha	-
3n	Ore to OB ratio for the pit/mine during the year.	Mn Ore: 6.04 Fe Ore: 0.40	Mn Ore: 10.89 Fe Ore: 0.86	-

3o	Total area put in use under different heads at the end of year	Area put to use in plan period Area under mining: 496.33 ha, Storage for top soil-1.00 ha, Waste dump site-385.02 ha, Mineral storage-143.23, Infrastructure (Workshop, administrative buildings etc-24.10 ha, Roads-35.16 ha, Tailing pond-2.00 ha, Mineral separation plant-2.00 ha, Township Area-25.52 ha	Area under mining: 440.13 ha, Reclaimed/Rehabilitated-110 ha, Waste disposal-487.35 ha, Occupied by plant, buildings, residential, welfare buildings and roads-77.28 ha, Other Purpose-4.70 ha, Work Done Under Progressive mine closure plan during the year-0.800 ha.	-
3p	Production of ROM mineral during the last five year period as applicable	2014-15: Mn Ore- 180000 Fe Ore- 740000 2015-16: Mn Ore- 180000 Fe Ore- 740000 2016-17: Mn Ore-254000 Fe Ore- 1600000 2017-18: Mn Ore-254000 Fe Ore- 1600000 2018-19: Mn Ore-254000 Fe Ore- 1600000 (in tonnes)	2014-15: Mn Ore-153607 Fe Ore-516285 2015-16: Mn Ore-144209 Fe Ore-739744 2016-17: Mn Ore-215254 Fe Ore-1149899 2017-18: Mn Ore-252445 Fe Ore- 1579949 2018-19: Mn Ore-253023.5 Fe Ore- 1581000 (in tonnes)	-
3q	General remarks of inspecting officers on method of mining etc.	Nil	Nil	Nil

Sl.No.	Item	Propasals	Actual work	Remarks
4a	Separate dumping of topsoil, OB and mineral rejects (Rule 32,33)	Separate locations are proposed for OB and mineral reject	OB and mineral rejects are dumped separately	-
4b	Location of topsoil, OB and mineral reject dumps	Proposed as per the approved Modification in Approved Review & Updation of Mining Plan approved on 05/10/2018.	Found to be carried out as per proposals made in the approved Modification in Approved Review & Updation of Mining Plan approved on 05/10/2018.	Since it is a very large Mine the details of location of development and mineral reject dumps proposed and achieved is given as a seperate attachment as Annexure 1,2 and 3.
4c	Number of dumps within lease area and outside of lease area	Within lease area-16 OB dumps Outside mining lease area-Nil	Within lease area-16 OB dumps Outside mining lease area-Nil	Total Numbers of dumps with in lease area are 16
4d	Location of dumps w.r.t. ultimate pit limit (Rule 16)	Waste Dumping in Manganese pits: JLK, YRD, RMK, CBG, SK, KMK(E), KMK, NK, KPTS Iron pits: KTIO (A & B), KVHIO, KH, AMK, RNP, KVH(BG), JLK. Back filling in JLK pit	Waste Dumping in Manganese pits: JLK, YRD, RMK, CBG, SK, KMK(E), KMK, NK, KPTS Iron pits: KTIO (A & B), KVHIO & Back filling in JLK pit.	Minerals from the pits are exhausted and back filled.
4e	Number of active and alive dumps.	16	16	-
4f	Number of dead dumps.	Nil	Nil	Total Numbers of Dead dumps-70
4g	Number of dumps established.	Proposed as per the approved R&R Plan.	NIL	Stabilized by plantation by coir mat and plantation.
4h	Whether Retaining wall or garland drain all along dumps are there.	Retaining wall and garland drain proposed all along the dumps.	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 - 350 M3 Garland Drain - 240 M3	Retaining Wall -6975 M3 Garland Drain - 434 M3	-
4j	Number of settling ponds	Nil	Nil	50 No's of settling ponds constructed in the previous years.
4k	Specific comments of inspecting officer on waste dump management	-	-	-

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.	Proposed back filling after extracting the mineral fully	Mineral extracted fully before starting back filling	-
5b	Area under backfilling of mined out area	0.5 ha during FY 2018-19	0.8 ha in JLK pit after complete extraction of ore	-
5c	Concurrent use of topsoil for restoration or rehabilitation of mineral out area (Rule 32)	No proposal	Top soil generated is stacked separately	Top soil will be utilized for plantation in the plan period
5d	Total area fully reclaimed and rehabilitated	No proposal	5.30 ha (JLK-0.1 ha, CBG-1.2 ha, KMK(E)-0.2 ha, KMK-0.5 ha, NK-1.3 ha, KTIO A-1.00 ha, KTIO B-1.00 ha.	Reclamation done by afforestation
5e	General remarks of inspecting officers on backfilling and reclamation etc.	-	-	-

Progressive Mine Clousre Plan:

Sl.No.	Item	Propasals	Actual work	Remarks
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6a	Whether Annual report on PMCP submitted on time and correctly. Rule 23 E(2).	Yes	Annual report on PMCP submitted on 28.06.2019	-
6b	Area available for rehabilitation (ha) .	20 Ha Gap Filling.	20 Ha Gap Filling.	-
6c	afforestation done (ha).	20 Ha Gap Filling.	42 Ha Gap Filling.	-
6d	No. of saplings planted during the year	50000	57208	-
6e	Cumulative no .of plants	3196721	3253929	-
6f	Any other method of rehabilitation	Coir mat lay on dead dumps	Coir mat Laied on dead dumps.	-
6g	Cost incurred on watch and care during the year	Rs.5 Lakhs	Rs.8 Lakhs	-
6h	Compliance on reclamation and rehabilitation by backfilling (i) Voids available for backfilling (Lx B x D	(L X B X D) JLK=215 X 35 X 15	(L X B X D) JLK=215 X 35 X 15	-
6i	Compliance on reclamation and rehabilitation by backfilling (ii) Voids filled by waste / tailings	0.30 Ha	0.30 Ha	-
6j	Compliance on reclamation and rehabilitation by backfilling (iii)Afforestation on on backfilled area	-	Active backfilling is in progress. There is no chance for afforestation at this stage.	-
6k	Compliance on reclamation and rehabilitation by backfilling (iv) Rehabilitation by making water reservoir	-	Pit bottom is above the water table. So, there is no chance to make water reservoir.	-

6l	Compliance on reclamation and rehabilitation by backfilling (v)any other specific means.	-	Nil- Most suitable is plantation over backfilled area.	-
6m	Compliance of rehabilitation of waste land within lease (i)afforestation	-	Rehabilitation of wasteland within lease has been carried out in the past; however, there is no proposal for present year.	-
6n	Compliance of rehabilitation of waste land within lease (ii)Area rehabilitation (ha)	-	Over the years, a total of 82 ha have been rehabilitated.	-
6o	Compliance of rehabilitation of waste land within lease (iii)Method of rehabilitation	Plantation	Plantation	-
6p	Compliance of environmental monitoring (core zone and buffer zone)	Yes	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).	-
6q	General remarks of inspecting officers on PMCP compliance and progressive closure operations etc.	-	-	-

Mineral Conservation:

Sl.No.	Item	Propasals	Actual work	Remarks
7a	ROM Mineral dispatch or grade-wise sorting within lease area	Grade wise sorting with in Lease area	Grade wise sorting with in Lease area	-

7b	Method of grade-wise mineral sorting i.e. manual or mechanical.	Manual for Mn Ore.	Manual for Mn Ore.	-
7c	Different grade of mineral sorted out at mines.	24-26, 26-28, 28-30, 30-32, 32-34% Mn	24-26, 26-28, 28-30, 30-32, 32-34% Mn	-
7d	Any beneficiation process at mines	No proposal	No such beneficiation process carried out in the mines	Crushing, dry screening and manual separation of Mn ore from ROM
7e	General remarks of inspecting officer on Mineral conservation and beneficiation issues	-	-	-

Environment:

Sl.No.	Item	Propasals	Actual work	Remarks
8a	Separate removal and utilization of topsoil (Rule 32)	Separate removal of Topsoil proposed	Topsoil removed from Manganese Pits CBG, NK and Iron ore pits KTIO-A & B, KVHIO, AMK, RNP, JLK, KH.	Stacked separately
8b	Concurrent use or storage of topsoil	No proposal	Top soil stacked separately	Will be u Used for Plantation and rolling of coir mat over dump slope
8c	Separate dumps for overburden, waste rock, rejects and fines (Rule 33)	Separate dumps for overburden and Mineral rejects proposed	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 JLK and	-

8e	Phased restoration, reclamation and rehabilitation of lands affected by mining operations (Pits, dumps etc)	Proposed during Final Mine Closure plan	Yes, the waste material is being used in backfilling of worked out pit.	-
8f	Baseline information on existence of plantation and additional plantation done (Rule 41)	Baseline information on existence of plantation available	Within ML area 57208. No's of saplings planted @ 70% survival	-
8g	Survival rate	65%	70 %	-
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	21 No's of water tankers each of 12000 Ltrs capacity is deployed
8i	General remarks of inspecting officer on aesthetic beauty in and around mines area	-	-	-

Compliance of Rule 45:

Sl.No.	Item	Propasals	Actual work	Remarks
9a	Status of submission of Monthly and Annual returns	Monthly Returns submitted upto May 2019 and Annual Returns submitted for the year 2018-2019.		
9b	Scrutiny of Annual return for information on Mining Engineer, Geologist and Manager	Manager: H Yellappa Mining Engineer : Sunil Kumar G. S. Geologist : Shridhar P. Hegde	No Change	-

9c	Scrutiny of Annual return on land use pattern for area under pits, reclaimed area, dumps etc.	Under covered O /C workings : 440.130 Ha. Used for waste disposal : 488.350 Ha. Reclaimed: 110 Ha. Infracture : 77.280 Ha.	Appear to be correct.	-
9d	Scrutiny of Annual return on afforestation	57208 saplings	No change.	-
9e	Scrutiny of Annual return on mineral reject generation (Grade and quantity)	Iron Ore: 45% to 55% Fe 734129 Tonnes Manganese Ore 10 to 25% Mn 202773 Tonnes.	Stacked seperately with in the Mining Lease.	-
9f	Scrutiny of Annual return on ROM stock and/or graded ore	Iron Ore 55 to 65% Fe (ROM) 12141.340 Tonnes. Manganese Ore 25 to 46% Mn.(ROM) 23444.810 Tonnes.	Stacked at Mine Head.	-
9g	Scrutiny of Annual return on sale value, Ex. Mine price and production cost	Sale Value: Iron Ore Lumps : 60 to 62% Fe- Rs.3131/- Iron Ore Fines: 60 to 62% Fe- Rs.2019/- Manganese Ore 35 to 46% Mn- Rs.12091/- Production Cost: Rs.484/- per Tonne.	Appear to be Correct.	-
9h	Scrutiny of Annual return on fixed assets	Fixed Assets: Rs.119365850/-	Office building, Mining Machineries, Crushers and Beneficiation units found to be present within the Mining Lease Area.	-
9k	Scrutiny of Annual return on mining machineries	Back Hoe : 45 nos Wheel Loaders: 30 nos Trucks: 217 nos Water tanks: 21 nos	No Change	-

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

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

Date :

(G C MEENA)

Indian Bureau of Mines