

- o/c -
INDIAN BUREAU OF MINES
MINERALS DEVELOPMENT AND REGULATION DIVISION

Mining Plan Modification REPORT

Bangalore regional office

Mine file No : KNT/BLR/MN/39/BNG

Mine code : 40KAR03014

- (i) Name of the Inspecting : 278) KRISHNENDU CHATTERJEE
Officer and ID No.
- (ii) Designation : Junior Mining Geologist
- (iii) Accompanying mine : S/Shri L. Gyanapragasam-Manager and Shridhar P Hegde-
Official with
Designation
- (iv) Date of Inspection : 05/09/2018
- (v) Prev. inspection date : 07/04/2016

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, 1
- (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~~ 140.33 Ha. as per CEC sketch.
- (c) Period of lease : ~~20~~ 50 yrs.
- (d) Date of Expiry : ~~31/12/1993~~ 31/12/2033
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
		Modif.of approved Mining Plan	08/12/2017
		MP review under 17(1) MCR 2016	08/12/2017

PART - II : OBSERVATION/COMMENTS OF INSPECTING OFFICERS

Exploration :

Sl.No.	Item	Proposals	Actual work	Remarks
1a	Backlog of previous year	No proposal	8 DTH confirmatory holes of 199m total depth.	
1b	Exploration over lease area for geological axis 1 or 2	G1	G1	Entire mineralized area has been explored under G1 stage.
1c	Exploration Agencies and Expenditure in lakh rupees during the year	No proposal	For 8 nos. DTH holes, total expenditure was Rs. 39,800/-	
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	No proposal	Manganese ore: 0.82 million tonnes, Iron ore: 2.39 million tonnes.	As on 01.04.2018
1f	General remarks of inspecting officers on geology, exploration etc		No deviation w.r.t exploration was observed during the course of MCDR inspection on 05.09.2018.	

Development :

Sl.No.	Item	Proposals	Actual work	Remarks
2a	Location of development w.r.t. lease area	Within Mining Lease	Within Mining Lease	
2b	Separate benches in topsoil, overburden and minerals (Rule 15)	Yes	Yes	
2c	Stripping ratio or ore to OB ratio	7.84	11.69	
2d	Quantity of topsoil generation in m3	No proposal	Concurrent use for afforestation, not stacked separately	
2e	Quantity of overburden generation in m3	250723 m3	84418 m3	Waste material was used for backfilling.

2f	General remarks of inspecting officers on development of pit w.r.t. type of deposit etc	No deviation w.r.t development was observed during the course of MCDR inspection.
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Exploitation:

Sl.No.	Item	Proposals	Actual work	Remarks
3a	Number of pit proposed for production	3 Pits	3 Pits	Dimension of pits: 1.Governor point pit: 300m x 240m x 80m 2.Dabaxikolla pit: 460m x 170m x 60m 3.Nirlabi pit: 480m x 280m x 160m
3b	Quantity of ROM mineral production proposed	32000 tonnes	7223 tonnes	-77.4% production deviation.
3c	Recovery of sailable/usable mineral from ROM production	15 to 20% recovery,	20% recovery	Manual sorting of salable manganese ore from ROM after dry screening.
3d	Quantity of mineral reject generation	Mn ore: 34,720 tonnes Iron ore: 95,713 tonnes	Mn ore: 9,551 tonnes Iron ore: 25,411 tonnes	Iron ore is stacked separately as mineral reject due to lack of Environment Clearance for the same
3e	Grade of mineral rejects generation and threshold value declared.	10 to 22% Mn 45 to 55% Fe	10 to 22% Mn 45 to 55% Fe	
3f	Quantity of sub grade mineral generation.	No proposal	Nil	
3g	Grade of sub grade mineral generation	No proposal	Not Applicable	
3h	Manual / Mechanised method adopted for segregating from ROM	For Mn Ore- Manual, For Fe Ore-Mechanised	No change.	

3i	Any analysis or beneficiation study proposed and carried out for sub grade mineral and rejects.	No proposal	Manual crushing and dry screening for manganese ore.
3j	Provision of drilling and blasting in mineral benches	Proposed	Yes, maintained.
3k	Provision of mining machineries in mineral benches	Yes proposed	1 no. of hydraulic excavator, 1 no. of wheel loader and 7 nos. of trucks
3l	Whether height of benches in overburden and mineral suitable for method of mining proposed in MP/SOM	Bench height: 5 to 7m Width : 5 to 10m proposed	Bench height: 4 to 7m Width : 6 to 10m.
3m	Total area covered under excavation/pits	1.5 Ha. of excavation area during 2017-18.	0.54 Ha. of area excavated during 2017-18.
3n	Ore to OB ratio for the pit/mine during the year.	1: 7.84	1: 11.69
3o	Total area put in use under different heads at the end of year	95.12 Ha. area total	94.46 Ha. at the end of F.Y. 2017-18.
3p	Production of ROM mineral during the last five year period as applicable	2013-14: 7400 2014-15: 7400 2015-16: 7400 2016-17: 7400 2017-18: 32000 (in tonnes)	2013-14: 3383 2014-15: 7302 2015-16: 7080 2016-17: 7017 2017-18: 7223 (in tonnes)
3q	General remarks of inspecting officers on method of mining etc.		Violation of rule 11(1) was issued to the lessee dated 28.09.2018 for less production, -77.4% production deviation w.r.t. approved proposal.

Solid Waste Management - Dumping:

Sl.No.	Item	Propasals	Actual work	Remarks
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4a	Separate dumping of topsoil, OB and mineral rejects (Rule 32,33)	Proposed	Mineral reject and waste are disposed separately.	
4b	Location of topsoil, OB and mineral reject dumps	Within ML	Within ML	
4c	Number of dumps within lease area and outside of lease area	Within ML: 28 nos. Outside ML: nil	Within ML: 28 nos. Outside ML: nil	No dumping proposed during F.Y. 2017-18.
4d	Location of dumps w.r.t. ultimate pit limit (Rule 16)	Outside UPL proposed.	Outside UPL.	
4e	Number of active and alive dumps.	no proposal	Nil, waste disposal by backfilling in Dabaxikolla, Nirlabi and Governor Point pits.	
4f	Number of dead dumps.	No proposal	25 nos.	
4g	Number of dumps established.	Proposed as per the approved R & R Plan.	19 nos. of dumps stabilized.	
4h	Whether Retaining wall or garland drain all along dumps are there.	Yes proposed.	Constructed and maintained.	
4i	Length of Retaining wall or garland drain all along dumps	Proposed as per approved R&R plan	5392m of Retaining wall and 4555m of garland drain	Height and width are 1mx 1m.
4j	Number of settling ponds	Not specified	7 nos. settling ponds constructed.	
4k	Specific comments of inspecting officer on waste dump management		Waste disposal by concurrent backfilling adopted by the lessee, no deviation w.r.t soild waste management was observed during the course of MCDR inspection on 05.09.2018.	

Solid Waste Management - Backfilling:

Sl.No.	Item	Proposals	Actual work	Remarks
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5a	Status of part or full extraction of mineral from mined out area before starting backfilling.	Mineral barred area proposed.	Proved Barren.	
5b	Area under backfilling of mined out area	0.75 Ha. during F.Y. 2017-18.	0.98 Ha. in Dabaxikolla, Nirlabi and Governor point pit after complete excavation of ore.	
5c	Concurrent use of topsoil for restoration or rehabilitation of mineral out area (Rule 32)	Proposed	Yes.	
5d	Total area fully reclaimed and rehabilitated	No proposal	Total 5.66 Ha (Nirlabi pit 0.96ha, Dabaxikolla pit 4.4 ha and Governor Point 0.3ha).	By afforestation.
5e	General remarks of inspecting officers on backfilling and reclamation etc.		No deviation w.r.t backfilling was observed during the course of MCDR inspection.	

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).	Proposed	Submitted	
6b	Area available for rehabilitation (ha) .	10 Ha Gap filling	10 Ha Gap filling	
6c	afforestation done (ha).	10 Ha.	19.5 Ha. area so far.	
6d	No. of saplings planted during the year	5000 nos.	7700 nos.	
6e	Cumulative no .of plants	Not specified	Apprx. 3 lakh saplings	
6f	Any other method of rehabilitation	Proposed as per the approved R&R Plan	Coir matting and gap plantation on dead dumps.	

6g	Cost incurred on watch and care during the year	Rs.1.5 Lakhs	Rs. 2 Lakhs	
6h	Compliance on reclamation and rehabilitation by backfilling (i) Voids available for backfilling (Lx B x D	Proposed in Dabaxikolla, Nirlabi and Governor point pits after complete excavation of ore.	Dabaxikolla: 215m x 35m x 15m. Nirlabi: 55m x 25m x 8m Governor point: 50m x 20m x 10m	
6i	Compliance on reclamation and rehabilitation by backfilling (ii) Voids filled by waste / tailings	0.75 Ha.	0.98 Ha.	
6j	Compliance on reclamation and rehabilitation by backfilling (iii)Afforestation on on backfilled area	No proposal	Nil	Afforestation not yet started.
6k	Compliance on reclamation and rehabilitation by backfilling (iv) Rehabilitation by making water reservoir	No proposal	Nil	
6l	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	No proposal	No waste land involved within ML.	
6n	Compliance of rehabilitation of waste land within lease (ii)Area rehabilitation (ha)	No proposal	Nil	

6o	Compliance of rehabilitation of waste land within lease (iii) Method of rehabilitation	No proposal	Nil
6p	Compliance of environmental monitoring (core zone and buffer zone)	Proposed	Carried out periodically and results were within permissible limit.
6q	General remarks of inspecting officers on PMCP compliance and progressive closure operations etc.		No deviation w.r.t Progressive Mine Closure Plan was observed during the course of MCDR inspection on 05.09.2018.

Mineral Conservation:

Sl.No.	Item	Proposals	Actual work	Remarks
7a	ROM Mineral dispatch or grade-wise sorting within lease area	Grade wise sorting of manganese ore.	No change.	
7b	Method of grade-wise mineral sorting i.e. manual or mechanical.	Manual sorting of manganese ore.	No deviation.	
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 wet beneficiation proposed.	Crushing, Dry screening and manual separation of Mn ore from ROM.	
7e	General remarks of inspecting officer on Mineral conservation and beneficiation issues		No deviation w.r.t mineral conservation was observed during the course of MCDR inspection.	

Environment:

Sl.No.	Item	Proposals	Actual work	Remarks
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8a	Separate removal and utilization of topsoil (Rule 32)	No proposal.	Concurrent use of top soil for afforestation.
8b	Concurrent use or storage of topsoil	Yes proposed.	Concurrent use
8c	Separate dumps for overburden, waste rock, rejects and fines (Rule 33)	Yes proposed.	Waste and mineral rejects were stacked separately.
8d	Use of overburden, waste rock, rejects and fines dumps for restoring the land to its original use	OB & Waste will be used during Final Mine Closure for back filling	Concurrent backfilling was in progress in part of Dabaxikolla, Nirlabi and Governor Point pits.
8e	Phased restoration, reclamation and rehabilitation of lands affected by mining operations (Pits, dumps etc)	Proposed during Final Mine Closure.	Phased reclamation and rehabilitation of inactive dumps was in progress.
8f	Baseline information on existence of plantation and additional plantation done (Rule 41)	proposed.	Apprx. 3 lakh saplings were planted by the lessee within the ML area.
8g	Survival rate	60 to 70%	70%.
8h	Water sprinkling on roads to control airborne dust	Proposed.	Carried out by water tankers.
8i	General remarks of inspecting officer on aesthetic beauty in and around mines area		No deviation w.r.t environment was observed during the course of MCDR inspection.

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 Oct.- 2018 A.R. Submitted up to 2017-2018	
9b	Scrutiny of Annual return for information on Mining Engineer, Geologist and Manager	Manager Mines: L. Gnanapragesam 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.	Area covered under current O/C working: 45.64 Ha. Used for waste disposal: 42.36 Ha. Reclaimed: 5.08 Ha. Roads & Infrastructure : 5.52 Ha.	Appear to be correct.
9d	Scrutiny of Annual return on afforestation	7700 nos.	No change.
9e	Scrutiny of Annual return on mineral reject generation (Grade and quantity)	Manganese ore: Stacked separately 9551 tonnes, 15% within the ML. to 20% Mn Iron ore: 25411 tonnes, 45 to 55% Fe.	
9f	Scrutiny of Annual return on ROM stock and/or graded ore	25% to < 35% Mn: 3899.46 tonnes 35% to 46% Mn: 28.75 tonnes	Stacked within ML
9g	Scrutiny of Annual return on sale value, Ex. Mine price and production cost	Ex. Mine price: 25% to < 35% Mn: Rs. 5969/ tonne Production Cost: Rs. 5416/ tonne	Appear to be correct

9h	Scrutiny of Annual return on fixed assets	Not mentioned.	Office building, Mining machineries, Crushers & dry screens were present within the ML area.
9k	Scrutiny of Annual return on mining machineries	1 no. of hydraulic excavators, 7 nos. of trucks, 1 no. of wheel loader and 4 nos. of water tankers	No change.

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)	01/10/2018			
MCDR17	Rule 35(2)	01/10/2018			

KChatterjee

Date :

(KRISHNENDU CHATTERJEE)

Indian Bureau of Mines