

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

Inspection under SDF for star rating of mines REPORT

Bangalore regional office

Mine file No : KNT/BLR/FE/160/BNG

Mine code : 30KAR03110

- (i) Name of the Inspecting : **278**) **KRISHNENDU CHATTERJEE**
Officer and ID No.
- (ii) Designation : Junior Mining Geologist
- (iii) Accompanying mine : S/Shri Sudhir Wakhale, General Manager and P.R.V. Pr
Official with
Designation
- (iv) Date of Inspection : 24/11/2018
- (v) Prev.inspection date :

PART-I : GENERAL INFORMATION

1. (a) **Mine Name** : **KARADIKOLLA**
- (b) **Registration NO.** : **IBM/197/2011**
- (c) **Category** : **A Fully Mechanised**
- (d) **Type of Working** : **Opencast**
- (e) **Postal address**
- State : **KARNATAKA**
- District : **BELLARY**
- Village : **BAVIHALLI**
- Taluka : **SANDUR**
- Post office : **BAVIHALLI**
- Pin Code :
- FAX No. : **0832-2521012 (F),**
- E-mail : **mines@chowgule.co.in**
- Phone : **0832-2525000 (O), 888886:**
- (f) **Police Station** : **SANDUR**
- (g) **First opening date** : **31/05/1968**
- (h) **Weekly day of rest** : **SUN**
2. **Address for** : **M/s Chowgule & Co. Pvt. Ltd**
correspondance # **264, COLLEGE ROAD,**
WARD III,HOSPET, BELLARY, KARNATAKA-583201.
3. (a) **Lease Number** : **KAR0170**
- (b) **Lease area** : **459.73**
- (c) **Period of lease** : **20**
- (d) **Date of Expiry** : **22/09/1983**
4. **Mineral worked** : **IRON ORE** **Main**

5. Name and Address of the

Lessee : CHOWGULE AND CO LTD
 Chowgule House, Mormugao
 Harbour Goa-403 803 SOUTH
 GOA GOA
 Phone:0832-2521010
 FAX :0832-2521011 /12

Owner : V.V.Chowgule, MD of M/s Chowgule & Co. Pvt. Ltd.
 Chowgule House Mormugao
 Harbour Goa-403803 SOUTH
 GOA GOA
 Phone: 0832-2521010
 FAX : 0832-2521011 /1

Agent : Sanjay R. Chakraborty
 C/o Chowgule & Company Pvt.
 Ltd. Chowgule House,
 Mormugao Harbour Goa SOUTH
 GOA GOA
 Phone: 0832-2521010
 FAX : 0832-2521011 /1

Mining Engineer
 Name : B.Sanand,Full Time
 Qualification : B.E &2nd Class
 Appointment/ : 09/11/2015
 Termination date

Geologist
 Name : Sudhir Y Wakhale,Full Time
 Qualification : M. Tech (Applied Geology)
 Appointment/ : 09/06/2014
 Termination date

Manager
 Name : PRV Prasad
 Qualification : DIP.IN.MINING&1st class
 Appointment/ : 12/11/2015
 Termination date

6. Date of approval of Mining Plan/Scheme of Mining : Renewal under rule 22 MCR1960 17/02/1993
 Renewal under rule 22 MCR1960 05/11/2003
 Mining Scheme rule 12 MCDR1988 06/12/2013
 MP review under 17(1) MCR 2016 07/12/2017

PART - II : OBSERVATION/COMMENTS OF INSPECTING OFFICERS

Exploration :

Sl.No.	Item	Proposals	Actual work	Remarks
1a	Backlog of previous year	7 nos. of boreholes proposed.	12 nos. of RC boreholes drilled during 2017-18.	
1b	Exploration over lease area for geological axis 1 or 2	G1 & G2	G1 & G2	
1c	Exploration Agencies and Expenditure in lakh rupees during the year	No proposal	By lessee, Expenditure was Rs. 20.29 lakhs	
1d	Balance area to be explored to bring Geological axis in 1 or 2	G1 & G2	G1 & G2	Total 101 nos. of boreholes have been drilled in the ML area with total meterage of 4374.40m.
1e	Balance reserve as on 01/04/20	No proposal	12.06 million tonnes of iron ore.	
1f	General remarks of inspecting officers on geology, exploration etc		No deviation in respect of exploration was observed during the inspection dated 24.11.2018	

Development :

Sl.No.	Item	Proposals	Actual work	Remarks
2a	Location of development w.r.t.lease area	N 1676600 to N 1677000 E 661160 to E 661525	N 1676600 to N 1677000 E 661160 to E 661525	No change in development area
2b	Separate benches in topsoil, overburden and minerals (Rule 15)	Separate benches proposed in ore and OB	In OB 1 bench, in ore 13 benches.	
2c	Stripping ratio or ore to OB ratio	1: 1.66	1: 1.55	
2d	Quantity of topsoil generation in m3	No proposal	Nil	Broken up area by mining was devoid of any top soil.
2e	Quantity of overburden generation in m3	315000 m3	294695 m3	

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

Sl.No.	Item	Propasals	Actual work	Remarks
3a	Number of pit proposed for production	Single working pit proposed in north block during 2017-18.	Single working pit in north block with dimension of 440m (L) x 190m(W) x 60m(D)	Dimensions of other pits located in the ML area: Southern block pit dimension 470m (L) x 180(W) x 40m (D) Central block pit dimension 350m (L) x 120m(D) x 10m (D) Red oxide pit dimension: 220m (L) x 60m (W) x 25m (D)
3b	Quantity of ROM mineral production proposed	380,000 tonnes	379,970 tonnes.	
3c	Recovery of sailable/usable mineral from ROM production	100% proposed	100% salable material from ROM.	
3d	Quantity of mineral reject generation	No proposal	Nil	
3e	Grade of mineral rejects generation and threshold value declared.	No proposal	Not Applicable.	
3f	Quantity of sub grade mineral generation.	No proposal	Not Applicable.	
3g	Grade of sub grade mineral generation	No proposal	Not Applicable.	
3h	Manual / Mechanised method adopted for segregating from ROM	Mechanized method proposed.	Mechanized method adopted.	

3i	Any analysis or beneficiation study proposed and carried out for sub grade mineral and rejects.	No such proposal	Nil
3j	Provision of drilling and blasting in mineral benches	Proposed.	Drilling and blasting carried out only for top laterite strata.
3k	Provision of mining machineries in mineral benches	Mining machineries proposed.	No change.
3l	Whether height of benches in overburden and mineral suitable for method of mining proposed in MP/SOM	Bench height proposed at 5 to 7m, width 7 to 10m.	Bench height maintained at 6 to 7m, width 6 to 9m.
3m	Total area covered under excavation/pits	22.67 ha. proposed.	22.30 Ha.
3n	Ore to OB ratio for the pit/mine during the year.	1: 1.66	1: 1.55
3o	Total area put in use under different heads at the end of year	53.53 Ha.	49.3 Ha.
3p	Production of ROM mineral during the last five year period as applicable	2013-14: 380,000 2014-15: 380,000 2015-16: 380,000 2016-17: 380,000 2017-18: 380,000 (in tonnes)	2013-14: 47,978 2014-15: 379,022 2015-16: 379,793 2016-17: 379,938 2017-18: 379,970 (in tonnes)
3q	General remarks of inspecting officers on method of mining etc.		No deviation in respect of exploitation was observed.

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)	Seperate dumping of OB waste proposed.	Seperate dumping of OB carried out.	
4b	Location of topsoil, OB and mineral reject dumps	Location of OB dump proposed at N 1676200 to N 1676500 and E 662200 to 662600	Active waste dump located at N 1676200 to N 1676500 and E 662200 to 662600 (Central Block)	No mineral reject and top soil generation during 2017-18.
4c	Number of dumps within lease area and outside of lease area	Within ML 5 nos. Outside ML 2 nos.	Within ML 5 nos. Outside ML 2 nos.	Dump nos. EID-3 and EID-4 located outside the ML.
4d	Location of dumps w.r.t. ultimate pit limit (Rule 16)	Proposed outside UPL	Located outside UPL	
4e	Number of active and alive dumps.	1 active dump proposed (AD-6)	1 active dump (AD-6), Extent 2.95 ha.	
4f	Number of dead dumps.	Within ML 4 nos. (ID-1, ID-2, ID-3 and AD-5)	Within ML 4 nos. (ID-1, ID-2, ID-3 and AD-5)	
4g	Number of dumps established.	04 nos. of inactive dumps within ML.	04 nos. of inactive dumps within ML were stabilized.	
4h	Whether Retaining wall or garland drain all along dumps are there.	Proposed.	Retaining wall and garland drain were constructed along the dumps.	
4i	Length of Retaining wall or garland drain all along dumps	No proposal during 2017-18	Cumulative length for retaining wall 2369m and garland drain 3289m (for all dumps).	Adequate retaining wall and garland drain was constructed by the lessee.
4j	Number of settling ponds	No proposal during 2017-18	5 nos. of settling ponds were constructed so far.	
4k	Specific comments of inspecting officer on waste dump management		Waste dump management was carried out as per the approved R&R plan and found to be satisfactory.	

Solid Waste Management - Backfilling:

Sl.No.	Item	Propasals	Actual work	Remarks
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5a	Status of part or full extraction of mineral from mined out area before starting backfilling.	No backfilling proposal during 2017-18.	Nil
5b	Area under backfilling of mined out area	No proposal	Nil
5c	Concurrent use of topsoil for restoration or rehabilitation of mineral out area (Rule 32)	No proposal	Nil
5d	Total area fully reclaimed and rehabilitated	No proposal	Nil
5e	General remarks of inspecting officers on backfilling and reclamation etc.		No backfilling was carried out during 2017-18.

Progressive Mine Closure Plan:

Sl.No.	Item	Proposals	Actual work	Remarks
6a	Whether Annual report on PMCP submitted on time and correctly. Rule 23 E(2).	The Annual Report on PMCP to be submitted within the stipulated time for FY 2017-18 within 1st July 2018	The Annual Report on PMCP submitted on 26/06/2018.	
6b	Area available for rehabilitation (ha) .	No proposal	Nil	
6c	afforestation done (ha).	0.5 Ha.	0.5 ha. in ID-1, ID-2 and ID-3.	
6d	No. of saplings planted during the year	3000 nos.	1592 nos. within ML and 1453 nos. outside ML.	
6e	Cumulative no .of plants	No proposal	Apprx. 30,000 nos. within ML.	
6f	Any other method of rehabilitation	No proposal	By geo textile and afforestation along the dead dump slopes.	

6g	Cost incurred on watch and care during the year	No proposal	Rs. 15 lakhs during 2017-18.
6h	Compliance on reclamation and rehabilitation by backfilling (i) Voids available for backfilling (Lx B x D	No proposal for backfilling during 2017-18	Nil
6i	Compliance on reclamation and rehabilitation by backfilling (ii) Voids filled by waste / tailings	No proposal	Nil
6j	Compliance on reclamation and rehabilitation by backfilling (iii) Afforestation on backfilled area	No proposal	Nil
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 present 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)	Season-wise Environmental monitoring	Season-wise Environmental monitoring were carried out and parameters are within the permissible limit.
6q	General remarks of inspecting officers on PMCP compliance and progressive closure operations etc.		No deviation in respect of PMCP compliance was observed during inspection and it was carried out as per the approved Scheme of Mining.

Mineral Conservation:

Sl.No.	Item	Propasals	Actual work	Remarks
7a	ROM Mineral dispatch or grade-wise sorting within lease area	ROM dispatch after crushing and dry screening.	No change.	
7b	Method of grade-wise mineral sorting i.e. manual or mechanical.	Mechanical	Mechanical	
7c	Different grade of mineral sorted out at mines.	Al +45% Fe proposed.	+55% Fe	
7d	Any beneficiation process at mines	No proposal	Nil	
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	Propasals	Actual work	Remarks
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8a	Separate removal and utilization of topsoil (Rule 32)	No proposal	No Top soil generation during F.Y 2017-18.	
8b	Concurrent use or storage of topsoil	No proposal	Not Applicable.	Old stock of top soil used for plantation on dump slopes.
8c	Separate dumps for overburden, waste rock, rejects and fines (Rule 33)	Seperate dump for OB/ waste proposed.	Seperate dump for OB/ waste maintained.	
8d	Use of overburden, waste rock, rejects and fines dumps for restoring the land to its original use	No proposal	Not applicable as ore not exhausted.	
8e	Phased restoration, reclamation and rehabilitation of lands affected by mining operations (Pits, dumps etc)	No proposal	Mined out pit was not matured for backfilling and water reservoir.	
8f	Baseline information on existence of plantation and additional plantation done (Rule 41)	Entire ML located in the Sandur reserve forest, 3000 plantation proposed during F.Y. 2017-18.	So far 30,000 saplings planted on the old dump areas, safety zone and along the dump slopes, covered an area of 4.2 Ha.	
8g	Survival rate	80%	70 to 80% within ML.	
8h	Water sprinkling on roads to control airborne dust	Proposed.	Water sprayed on working benches, mine haul road and crushing plant area.	
8i	General remarks of inspecting officer on aesthetic beauty in and around mines area		Aesthetic beauty in and around mine was good as lessee had carried out afforestation and other environmental protective measures as per approved Scheme of Mining.	

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 Nov. 2018 A.R. submitted upto - FY 2017-18
9b	Scrutiny of Annual return for information on Mining Engineer, Geologist and Manager	Mining Engineer: B.SANANDA Mines Manager: P.R.V.PRASAD Geologist: RAJESH BHAIP	Mining Engineer: B.SANANDA Mines Manager: P.R.V.PRASAD Geologist: SUDHIR WAKHLE
9c	Scrutiny of Annual return on land use pattern for area under pits, reclaimed area, dumps etc.	Pit/Mining: 22.30 Ha; Dumps: 11.2 Ha Infrastructure /plant/buildings: 5.03 Ha Mineral storage: 6.4 Ha. Green belt: 4.2	Actual also same at that time.
9d	Scrutiny of Annual return on afforestation	1592 nos. within ML.	No change.
9e	Scrutiny of Annual return on mineral reject generation (Grade and quantity)	Nil	No mineral reject generation during 2017-18.
9f	Scrutiny of Annual return on ROM stock and/or graded ore	ROM Closing stock 116982.69 tonnes.	Appear to be correct, stacked within ML.
9g	Scrutiny of Annual return on sale value, Ex. Mine price and production cost	LUMPS: 60-62% Fe: Rs. 2457.25/ tonne 62-65% Fe:Rs. 3184.93/ tonne +65% Fe: Rs. 2992.00/ tonne FINES: 55-58% Fe: Rs. 2040/ tonne 58-60% Fe: Rs. 2301.83/ tonne 60-62% Fe: Rs. 2538.28/ tonne 62-65% Fe: Rs. 2713.83/ tonne Production Cost: Rs. 954.83/ tonne	Appeared to be correct

9h Scrutiny of Annual return on fixed assets Rs. 12566218/- Fixed assets includes office building and mining machineries present within the ML.

9k Scrutiny of Annual return on mining machineries Excavators: 6 nos., Dumpers: 18 nos., Wheel loader: 4 nos., Water tanker : 1 no., Dozer: 1 no. Appeared to be correct.

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 35(2)	10/12/2018	01/02/2019			
MCDR17	Rule 35(2)	10/12/2018				

Date :

(KRISHNENDU CHATTERJEE)

Indian Bureau of Mines