

Mining Scheme Modification Inspection Report Goa Regional Office

Mine File No: MAH/SDG/Fe-46/ Goa

S. N.	Particulars	Details
1	Name of the Mine	Kalane Iron Ore Mine
2	Total Lease Area (Ha) with breakup of Non-forest and forest land	32.25 Ha, Forest Land
3	Mine code	30MSH28029
4	IBM Registration Number under rule 45 of MCDR, 1988	IBM/6114/2011
5	Name of the lessee, Address, phone, email and fax number	M/s MINERALS & METALS 34,AUSHUTOSHNAPEAN SEA ROAD,MUMBAI GREATER BOMBAY, MAHARASHTRA 400036 FAX: 02223645046 srivasta@bom5.vsnl.net.in
6	Village	Kalane
7	Taluk/Mandal	Dodamarg
8	District	Sindhudurg
9	Pin code	416511
10	State	Maharashtra
11	Post office	Kalane
12	Nearest police station	Dodamarg
13	Nearest Railway station	Thivim
14	Date of Grant of Mining Lease	16- March-2009
15	Date of Execution	16- March-2009
16	Date of opening of Mine	
17	Date of first Renewal, if applicable and its period & expiry	NA
18	Date of second Renewal, if applicable and its period & expiry	NA
19	Date of submission of renewal application if Mining Operations are continuing under deemed extension	NA
20	Name of the Nominated Owner with Address, phone, email, fax number and date of appointment	Shri Sandeep Srivastava 34,AUSHUTOSHNAPEAN SEA ROAD,MUMBAI GREATER BOMBAY, MAHARASHTRA 400036 Fax: 02223636207 E-Mail: srivasta@bom5.vsnl.net.in
21	Name of the Mine Agent with Address, phone, email, fax number and date of appointment	Shri Manoj Thakur WSH-4, W BLOCK, SUNSET. BOULVARD, ALTO DHULER MAPUSA, GOA FAX: 0832-2253863

22	Name of the Mines Manager with Address, phone, email, fax number and date of appointment in mines	Shri Amit Kaisukar Kalane Iron Ore Mine of M/s Minerals and Metals Village & PO: Kalane, Taluk: Dodamarg District: Sindhudurg, Maharashtra. E-Mail: amitkaisukar1802@gmail.com Date of appointment: 22.02.2017
23	Name of the Mining Engineer, Qualification and total experience with Address, phone, email, fax number and date of appointment in mine	Shri Kiran Gad Village & PO: Kalane, Taluk: Dodamarg District: Sindhudurg, Maharashtra. E-Mail: amitkaisukar1802@gmail.com . Date of appointment: 01.12.2017
24	Whether Geologist and Mining Engineer appointed in mines satisfy the rule 42 & carrying out their duties as per rule 43 & 44.	Yes
25	Date of Approval of Mining Plan/Modified Mining Plan with five-year period and specific condition in approval letter, if any.	RMP approved dated 01.01.2019 under rule 17(1) of MCR, 2016.
26	Date of Approval of Scheme of Mining/Modified Scheme of Mining with five-year period and specific condition in approval letter, if any.	Modification of approved RMP approved dated 27.11.2020.
27	Mineral(s) granted in lease and proved for mining	Iron Ore
28	Method of Mining(Open cast, Underground)	Open Cast
29	Category (Fully Mechanized, Others or Manual)	Fully Mechanized.
30	Captive/ Non captive	Non-Captive.
31	Date of inspection	27.10.2020
32	Name and designation of the Inspecting Officer	Shri Krishnendu Chatterjee, Senior Mining Geologist.
33	Name of accompanying mine officials with designation	S/Shri Manoj Thakur- Agent, Amit Kaisukar- Mines Manager

Exploration

S.N.	Item	Proposals	Actual work	Remarks
1a	Backlog of previous year	6 nos. of boreholes proposed in 2019-20	19 nos. of core boreholes drilled in 2019-20.	Total meterage drilled 789.50m in 2019-20.
1b	Exploration over lease area for Geological axis 1 or 2.	Proposed for G1	G1 area: 32.25 Ha., G2 area: Nil	
1c	Exploration Agency & Expenditure in lakh Rupees during the year	No proposal	Exploration Agency: Lessee. Expenditure: Rs. 66.90 Lakhs/-	
1d	Balance area to be explored to bring Geological axis in 1 or 2	Proposed for G1.	G1 achieved.	
1e	Balance reserves as on <u>01.04.2020</u>		1.94 million tonnes of Iron Ore.	As on 01.04.2020
1f	General remarks of inspecting officer on geology, exploration etc.	So far, 107 nos. of boreholes are drilled in the ML area with cumulative meterage of 5153.50 m. Entire mineralized area is explored by the lessee under G1 level.		

Development

S.N.	Item	Proposals	Actual work	Remarks
2a	Location of development w.r.t. lease area	From section L-L' to N-N' during 2019-20.	No change.	
2b	Separate benches in topsoil, overburden and mineral (Rule 15)	Separately proposed in ore and OB/waste.	Separate benches in ore and OB are maintained.	Ore benches: 7 nos. and OB benches: 3 nos.
2c	Stripping ratio or ore to OB ratio	1: 3.30	1:2.90	
2d	Quantity of topsoil generation in m3	No proposal	Nil	
2e	Quantity of overburden generation in m3	837991 m3	711237 m3	Tonnage factor: 2.0
2f	General remarks of inspecting officer on development of pit w.r.t. type of deposit etc.	No deviation in respect of location of development was observed during the course of inspection dated 27/10/2020.		

Exploitation

S.N.	Item	Proposals	Actual work	Remarks
3a	Number of pits proposed for production	Single pit proposed.	Single pit.	Dimension of pit: 750m x 280m x 90m.
3b	Quantity of ROM mineral production proposed	500,000 tonnes	500,000 tonnes	
3c	Recovery of salable/usable mineral from ROM production	100% proposed	100% recovery of ROM	
3d	Quantity of mineral reject generation	No proposal	Nil	
3e	Grade of mineral reject generation and threshold value declared	No proposal	Not applicable.	
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	Mechanised mining proposed.	Mechanised	
3i	Any analysis or beneficiation study proposed & carried out for sub-grade mineral and reject	No such proposal given	Nil	
3j	Provision of drilling & blasting in mineral benches	Not proposed	Nil.	
3k	Provision of mining machineries in mineral benches	HEMM Proposed.	HEMM deployed in mineral benches.	
3l	Whether height of benches in overburden and mineral suitable for method of mining proposed in MP/SOM	6m bench height proposed	At places, height of the working benches was made between 10 to 12 m.	Violation of rule 11(1) issued to the lessee dated 10/11/20.
3m	Total area covered under excavation/pits	21 Ha.	21.28 Ha.	Including backfilled area of 6.6 ha.
3n	Ore to OB ratio for the pit/mine during the year	1: 3.30	1:2.90	

3o	Total area put in use under different heads at the end of year	29 Ha. at the end of approved RMP period ending 2023-24.	About 25 Ha. for mining and allied activities upto F.Y. 2019-20.	
3p	Production of ROM mineral during last five-year period, as applicable	2015-16: 735,490 2016-17: 741,874 2017-18: 417,487 2018-19: 257,355 2019-20: 500,000 (in tonnes)	2015-16: 735,421 2016-17: 711,857 2017-18: 127,635 2018-19: Nil 2019-20: 500,000 (in tonnes)	
3q	General remarks of inspecting officer on method of mining etc.	During the course of inspection dated 27/10/20, it was found that, height of the working benches was made between 10 to 12 meters at central working pit. Violation of rule 11(1) is issued to the lessee dated 10/11/20.		

Solid Waste Management-Dumping

S.N.	Item	Proposals	Actual work	Remarks
4a	Separate dumping of topsoil, OB & mineral reject (Rule 32, 33)	Generation of top soil and mineral reject are not proposed in 2019-20. Disposal of waste by backfilling from 54 mRL to 95mRL proposed.	No generation of top soil and mineral. Disposal of waste by backfilling of mined out pit was carried out from 63 mRL to 95 mRL in 2019-20.	
4b	Location of topsoil, OB & mineral reject dumps	No proposal	Nil	OB/Waste disposal by backfilling of mined out pit.
4c	Number of dumps within lease area and outside lease area	No proposal	Within ML : 1 no.	
4d	Location of dumps w.r.t. ultimate pit limit (Rule 16)	No proposal	Within UPL.	
4e	Number of active & alive dumps	No proposal	Nil	
4f	Number of dead dumps	01 no. of old waste dump.	01 no. of old waste dump located within ML area.	
4g	Number of dumps stabilized	01 no.	01 no.	
4h	Whether Retaining wall or garland drain all along dumps are there	Proposed.	Retaining wall and garland drain constructed.	
4i	Length of Retaining wall or garland drain all along dump	Proposed along the periphery of the old dump and backfilled area.	70m of retaining wall and 350m of garland drain constructed.	
4j	Number of settling ponds	No proposal	3 nos. constructed so far.	
4k	Specific comments of inspecting officer on waste dump management.	OB/waste disposal by backfilling of mined out part of the pit was carried out during 2019-20.		

Solid Waste Management-Backfilling

S.N.	Item	Proposals	Actual work	Remarks
5a	Status on part or full extraction of mineral from mined out area before starting backfilling	Proposed within mineral exhausted part of the pit.	Mineral completely excavated from the areas of backfilling.	
5b	Area under backfilling of mined out area	6.00 Ha.	6.6 Ha.	
5c	Concurrent use of topsoil for restoration or rehabilitation of mined out area (Rule 32)	No proposal.	No top soil generation	
5d	Total area fully reclaimed & rehabilitated	No proposal	Nil	
5e	General remarks of inspecting officer on backfilling, reclamation etc	OB/waste disposal by backfilling of mined out part of the pit was carried out during 2019-20.		

Progressive Mine Closure Plan

S.N.	Item	Proposals	Actual work	Remarks
6a	Whether Annual report on PMCP submitted on time and correctly - Rule 23E(2). Details should be given in the format as given in Annexure-20.	Proposed.	Not Submitted for F.Y. 2019-20.	Violation of rule 26(2) issued to the lessee dated 10/11/20.
6b	Area available for rehabilitation (ha)	6 Ha.	6.6 Ha.	By backfilling of mined out pit.
6c	Afforestation done (ha)	No proposal	0.82 Ha. in 2019-20.	
6d	No. of saplings planted during the year	500 nos.	500 nos.	
6e	Cumulative no. of plants	Not specified	Apprx. 4000 nos. within ML area along old dump and the safety barrier.	
6f	Any other specific method of rehabilitation	No proposal	Nil	
6g	Cost incurred on watch & care during the year	No proposal	Nil	
6h	Compliance on reclamation and rehabilitation by backfilling (i) Voids available for backfilling (L x B x D)	6 Ha.	6.6 Ha.	
6i	Compliance on reclamation and rehabilitation by backfilling (ii) Void filled by waste/tailings	No proposal	Not applicable	
6j	Compliance on reclamation and rehabilitation by backfilling (iii) Afforestation on the backfilled area	No proposal	Not applicable	
6k	Compliance on reclamation and rehabilitation by backfilling (iv) Rehabilitation by making water reservoir	No proposal	Not applicable	

6l	Compliance on reclamation and rehabilitation by backfilling (v) Any other specific means	No proposal	Not applicable	
6m	Compliance of Rehabilitation of waste land within lease (i) Afforestation	No proposal	Not applicable	
6n	Compliance of Rehabilitation of waste land within lease (ii) Area rehabilitated (ha)	No proposal	Not applicable	
6o	Compliance of Rehabilitation of waste land within lease (iii) Method of rehabilitation	No proposal	Not applicable	
6p	Compliance of Environmental monitoring (core zone & buffer zone)	Proposed to be carried out on quarterly basis.	Carried out on quarterly basis and parameters are found within permissible limit.	
6q	General remarks of inspecting officer on PMCP compliance & progressive closure operations	Apprx. 4000 nos. samples were planted within ML area within old dump and along the safety barrier. Violation of rule 26(2) issued to the lessee dated 10/11/20 for non-submission of Annual report on PMCP.		

Mineral Conservation

S.N.	Item	Proposals	Actual work	Remarks
7a	ROM Mineral dispatch or grade-wise sorting within lease area	Grade wise sorting within ML area proposed.	Grade wise sorting of ROM.	
7b	Method of grade-wise mineral sorting i.e. manual or mechanical	Mechanical	Mechanical by crushing and dry screening of ROM using mobile screening plant.	
7c	Different grade of mineral sorted out at mines	Proposed for all +45% Fe.	Low grade Iron Ore, +45 to 55% Fe.	
7d	Any beneficiation process at mines	No proposal	Nil	
7e	General remarks of inspecting officer on Mineral conservation & beneficiation issues	No wet beneficiation is involved for up-gradation of ore. ROM is being crushed and dry screened as per the buyers specification.		

Environment

S.N.	Item	Proposals	Actual work	Remarks
8a	Separate removal and utilization of topsoil (Rule 32)	No proposal	No top soil generation during 2019-20.	
8b	Concurrent use or storage of topsoil	No proposal	Nil	
8c	Separate dumps for overburden, waste rock,	Separate dumping of waste not proposed	Waste disposal by backfilling of mined	

	rejects and fines (Rule 33)		out pit.	
8d	Use of overburden, waste rock, rejects and fines dumps for restoring the land to its original use	Backfilling of mined out pit by OB/ waste proposed.	Backfilling of mined out pit is in progress.	
8e	Phased restoration, reclamation and rehabilitation of lands affected by mining operations (Pits, dumps etc)	Phased reclamation of mined out pit by backfilling is proposed.	Phased reclamation of mined out pit by backfilling is in progress.	
8f	Baseline information on existence of plantation & additional plantation done (Rule 41)	Proposed.	Apprx. 4000 nos. samples were planted within ML area within old dump and along the safety barrier.	
8g	Survival rate	Not specified.	Approx. 70%.	
8h	Water sprinkling on roads to control airborne dust	Proposed.	Water tanker sprinkling arrangement on mine road made.	
8i	General remarks of inspecting officer on aesthetic beauty in and around mines area	Aesthetic beauty around the ML area is good.		

Compliance of Rule 45

S.N.	Item	COMMENTS		Remarks
9a	Status of submission of Monthly and Annual returns	M.R. Submitted up to Jan.2021 & A.R. Submitted up to 2019-2020		Submitted within time limit.
S.N.	Item	Details GIVEN in A.R.	Observation of I/Officer	Remarks
9b	Scrutiny of Annual return for information on Mining Engineer, Geologist and Manager	Mining Engineer: Shri Kiran Gad Geologist: Shri Sushant Nikam Manager: Shri Amit Kaisukar	Mining Engineer: Shri Kiran Gad Geologist: Shri Sushant Nikam Manager: Shri Amit Kaisukar	
9c	Scrutiny of Annual return on land use pattern for area under pits, reclaimed area, dumps etc.	Mining: 13.03. Backfilled area: 6.6 Dump: 0.82 Infrastructure & Roads: 0.79 Mineral storage: 1.97 (in Ha.)	Mining and backfilled area : 21.28 Dump: 0.82 Infrastructure & Roads: 0.92 Mineral storage: 1.97 (in Ha.)	
9d	Scrutiny of Annual return on afforestation	500 nos.	500 nos.	
9e	Scrutiny of Annual return on mineral reject generation (Grade & quantity)	Nil	Nil	

9f	Scrutiny of Annual return on ROM stock and/or graded ore	ROM closing stock: Nil Graded ore closing Stock: Below 55% Lumps: 6191 tonnes Below 55% Fines: 25460 tonnes	Actual was also same at that time.	
9g	Scrutiny of Annual return on sale value, Ex. Mine price & production cost	Ex. Mine price: Rs. 1150/ tonne for Below 55% Lumps & Rs. 853 / tonne Below 55% Fines. Production cost: Rs. 862.29/ tonne	Ex-mine price is mentioned incorrectly in the Annual Return. As per the reported sale value in para 5 of the Annual Return, the prices are arriving at Rs. 974.42/ tonne for below 55% Lumps and Rs. 752.91/tonne for below 55% Fines.	Violation of rule 45(7) issued to the lessee dated 10/11/2020.
9i	Scrutiny of Annual return on fixed assets	Estimated market value is furnished as Rs. 125,010,107/-	Appear to be correct.	
9k	Scrutiny of Annual return on mining machineries	Hydraulic Shovel: 5 nos. Wheel Loader: 2 nos. Dozer: 1 no. Dumper: 14 nos.	No change in respect of mining machineries	

Date: 18.03.2021

(KRISHNENDU CHATTERJEE)
Indian Bureau of Mines