

MCDR INSPECTION REPORT

General

S.N.	Particulars	Details
1	Name of the Mine Date of Inspection: Name of Inspecting Officer	Mahamaya Iron Ore Mine 08/09/2017 Rudra N. Mishra (SMG)
2	Total Lease Area (Ha) with breakup of Non-forest and forest land	Non- forest - 1522.67 hect. Forest Land: Nil
3	Mine code	30MPR13004
4	IBM Registration Number under rule 45 of MCDR,1988	IBM/5662/2011
5	Name of the Lease, Address, Phone, email and fax number	Bhilai Steel Plant ,Steel Authority of India,Ispat Bhawan, Lodhi Road,New Delhi. Email: rmdsail@gmail.com Phone No.- 24366219
6	Village	Mahamaya
7	Taluka/Mandal	Mahamaya
8	District	Balod
9	Pin code	491228
10	State	Chhattisgarh
11	Post Office	Mahamaya
12	Nearest Police Station	Mahamaya
13	Nearest Railway Station	Dalli-Rajhara
14	Date of Grant of Mining Lease	04-11-1971
15	Date of Execution	04-11-1971
16	Date of opening of Mine	04-11-1971
17	Date of First Renewal, if applicable and its period & expiry	04-11-2001 to 03-11-2021 Letter No. F-3-47/2003/Khanij dated 13/02/2006
18	Date of Second Renewal, if applicable and its period & expiry	Not Applicable
19	Date of submission of renewal application if Mining Operations are continuing under deemed extension	Not Applicable
20	Name of the Nominated Owner with Address, phone, email, fax number and date of appointment	Shri Kalian Maity, Director (RM & L), Ispat Bhawan, Lodhi Road, New Delhi, Phone No-24366219, Email: rmdsail@gmail.com
21	Name of the Mine Agent with Address, phone, email, fax number and date of appointment	Shri N.K. Mandal, DGM (Jharandalli, Mahamaya, Dulki), Mines Office,IOC Rajhara. Email: nkmandal@sail-bhilaisteel.com Phone : 9407983588
22	Name of the Mine Manager with Address, phone, email, fax number and date of appointment in mines	Shri Kumar Shivesh Mines Manager, Mahamaya Mine, Mines office,Iron Ore Complex.

		Email: kumarshivesh@sail-bhilaisteel.com Phone : 9407982883
23	Name of the Mining Engineer, Qualification and total experience with address, phone, email, fax number and date of appointment in the mine	Shri Manish Jaiswal (B.Tech) Mining Engineer Total Experience: 10 years Mine office, Iron Ore Complex. Email: manishjaiswal@sail-bhilaisteel.com Phone No. 9407982884
24	Whether Geologist and Mining Engineer appointment in mines satisfy the rule 42 & carrying out their duties as per rule 43 & 44.	Geologist is appointed, Geologist : Shri S.K. Shrivastava M.Sc. (Geology)
25	Date of Approval of Mine Plan/Modified Mine Plan with five- year period and specific condition in approval letter, if any.	02-09-2005
26	Date of Approval of Scheme of Mining/Modified Scheme of Mining with five- year period and specific condition in approval letter, if any.	07-04-2017 , No./ Balod/Lauh/Kh.Yo./1074/2017Ra
27	Mineral(s) granted in lease and approved for Mining	Iron Ore
28	Method of Mining (Opencast, Underground)	Opencast
29	Category (Fully Mechanised, Others or Manual)	Fully mechanised
30	Captive/Non-Captive	Captive mine

Exploration

S.N.	Item	Proposals (2016-17)	Actual Work (2016-17)	Remarks
1a	Backlog of previous year	Nil	Nil	There are 50 Bore holes proposed in next four years: 2017-18: 20 2018-19: 10 2019-20: 10 2020-21: 10, Balance area to be explored in G1& G2 Category: 29.6Ha.
1b	Exploration over lease area for Geological axis 1 or 2.	Nil	Nil	
1c	Exploration Agency & Expenditure in Lakh Rupees during the year	Nil	Nil	
1d	Balance area to be explored to bring Geological axis in 1 or 2.	Nil	Nil	
1e	Balance reserves as on 01.04.2017	10.25Million Ton		
1f	General remarks of Inspecting officer on geology, exploration etc.	Iron Ore deposit of Mahamaya Dulki Lease is synclorium type of deposit. The lower most formations exposed are phyllites and schists with Quartz Veins. The ore occurs as cap over contacts of ferruginous Shales and Banded Hematite Quartzites and spread over both the Lithological units. Laterite capping and ferruginous shales etc. occurring above the ore body normally contain low Iron and high alumina percentages and are considered as overburden. Mineral Exploration Corporation Ltd is currently doing the drilling operation. They have assigned to drill 50 bore holes in the lease area.		

Development

S.N	Item	Proposals (2016-17)	Actual Work (2016-17)	Remarks
2a	Location of Development w.r.t. lease area		S2200-2700 & W 500-1000 S1400-1600 & W1000-1200 S400-800 & W1050 -1300	Lapsed period of mining plan 2016-17. Review of Mining Plan approved on 07/04/17
2b	Separate benches in topsoil overburden and mineral (Rule 15)		No Benches in Topsoils, 5 benches in Overburden 10 benches in Ore body	
2c	Stripping ratio or ore to OB ratio	1:0.25	1:0.25	
2d	Quantity of topsoil generation in m ³	Nil	Nil	
2e	Quantity of overburden generation in m ³	232000T (Actual)	231618.7T	
2f	General remarks of Inspecting officer on development of pit w.r.t type of deposit etc.	Development is in order.		

Exploitation

S.N	Item	Proposals (2016-17)	Actual Work (2016-17)	Remarks
3a	Number of pits proposed for production		4	Lapsed period of mining plan 2016-17. Review of Mining Plan approved on 07/04/17
3b	Quantity of ROM mineral production proposed (2016-17)		908629.6T	
3c	Recovery of Salable/usable mineral from ROM production		908629.6T	
3d	Quantity of mineral reject generation		Nil	
3e	Grade of mineral reject generation and threshold value declared		Not Applicable	
3f	Quantity of sub-grade mineral generation		Nil	
3g	Grade of sub-grade mineral generation		Less than 45% Fe.	
3h	Manual/Mechanized method adopted for segregation from ROM		Mechanized method adopted	
3i	Any analysis or beneficiation study proposed & carried out for sub-grade mineral and reject		None	
3j	Provision of drilling & blasting in mineral benches		Yes	
3k	Provision of mining machineries in mineral benches		Yes	

3l	Whether height of benches in overburden and mineral suitable for method of mining proposed in MP/SOM		Yes	Lapsed period of mining plan 2016-17. Review of Mining Plan approved on 07/04/17	
3m	Total area covered under excavation /pits		53.09ha		
3n	Ore to OB ratio for the pit/mine during the year		1:0.25		
3o	Total area put in use under different heads at the end of year		Mining : 53.09ha Mineral storage: 2.37ha Infrastructure and Road: 18.73ha OB/Waste Dump:9.81ha		
3p	Production of ROM mineral during last five-years period, as Applicable	2012-13	959842T		300304.1T
		2013-14	922809T		341650.6T
		2014-15	959960T		791230.9T
		2015-16	959907T	679850.6T	
		2016-17	-----	908629.6T	
3q	General remarks of inspecting officer on method of mining etc	Mahamaya deposit has been divided into three hills, which are known as M1, M2 & M3 hill. Presently mechanised mining operations are being practiced in all three blocks of Mahamaya deposit. Method of mining is Open cast mechanized mining with shovel dumper combination			

Solid Waste Management-Dumping

S.N.	Item	Proposals (2016-17)	Actual Work (2016-17)	Remarks
4a	Separate dumping of topsoil, OB & mineral reject (Rule 32,33)		Yes OB Dump	Lapsed period of mining plan 2016-17. Review of Mining Plan approved on 07/04/17
4b	Location of topsoil, OB & mineral reject dumps		OB Dump Location: S-2150 to 2400 and W-100 to 500.	
4c	Number of Dumps within lease area and outside lease area		Two Dumps within Lease area. One for OB Dump and One for Subgrade Mineral.	
4d	Location of Dumps w.r.t. ultimate pit limit (Rule 16)		Outside of ultimate pit limit	
4e	Number of Active & Alive dumps		Nil	
4f	Number of deed dumps		One	
4g	Number of dumps established		One	

4h	Whether Retaining wall or garland drain all along dumps are there		Yes	
4i	Length of Retaining wall or garland drain all along dump		30m	
4j	Number of settling ponds		13 check dams	
4k	Specific commends of inspecting officer on waste dump management	Waste is being dump at designated place as per approved documents.		

Solid Waste Management-Backfilling

S.N.	Item	Proposals (2016-17)	Actual Work (2016-17)	Remarks
5a	Status on part or full extraction of mineral from mined out area before starting backfilling	Lapsed period of mining plan 2016-17. Review of Mining Plan approved on 07/04/17	M-2 , Pit partly backfill	
5b	Area under backfilling of mined out area		3.00ha	
5c	Concurrent use of topsoil for restoration or rehabilitation of mined out area (Rule 32)		Nil	Topsoil quantity is less and utilized for the Plantation.
5d	Total area fully reclaimed & rehabilitated		2.00ha	
5e	General remarks of inspecting officer on backfilling, reclamation etc		One dumps created and simultaneous back filling is carried out in the worked out area.	

Progressive Mine Closer Plan

S. N.	Item	Proposals (2016-17)	Actual Work (2016-17)	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	Lapsed period of mining plan 2016-17. Review of Mining Plan approved on 07/04/17	No	Violation letter to be issued	
6b	Management of worked/mined out benches		Mining Under progress	50 Plants have been planted in 0.1ha area within lease.	
	Area available for rehabilitation (Ha)		worked/top most benches not available.		
	Afforestation done (ha)				
	No.of saplings planted during the year				
	Cumulative no. of plants				
	Any other specific method of rehabilitation				
Cost incurred on watch & care during the year					
6c	Compliance on reclamation and rehabilitation by backfilling i) Voids available for backfilling (L*B*D) ii) Void filled by waste/tailings		100*100*15 Waste dumping in progress		

	iii) Afforestation on the backfilling iv) Rehabilitation by making water reservoir v) Any other specific means		Backfilled area is not matured for afforestation.	
6d	Compliance of Rehabilitation of waste land within lease i) Afforestation ii) Area rehabilitation iii) Method of rehabilitation		Mining is in progress. Dump area is not matured for afforestation.	
6e	Compliance of Environment monitoring (core zone & buffer zone)		Being Complied	
6f	General remarks of inspecting officer on PMCP compliance & progressive closer operations	PMCP report not submitted. Violation pointed out.		

Mineral Conservation

S.N.	Item	Proposals	Actual Work	Remarks
7a	ROM mineral dispatch or grade wise sorting within lease area	Lapsed period of mining plan 2016-17. Review of Mining Plan approved on 07/04/17	ROM despatch to Rajhara Crushing Plant for processing	
7b	Method of grade-wise mineral sorting i.e. manual or mechanical		Mechanical	
7c	Different grade of mineral sort out at mine		Not Applicable , all grade of minerals blend and feeded to the plant	
7d	Any beneficiation process at mines		None	
7e	General remarks of inspecting officer on Mineral conservation & beneficiation issues	Wet Screening is being done to separate clayey-soil & silica in iron ore.		

Environment

S.N.	Item	Proposals	Actual Work	Remarks
8a	Separate removal and utilization of topsoil (Rule32)	Lapsed period of mining plan 2016-17. Review of Mining Plan approved on 07/04/17	Topsoil is not encountered, already in developed stage.	
8b	Concurrent use or storage of topsoil		Nil	
8c	Separate dumps for overburden waste rock, rejects and fines (Rule 33)		Separate dump for overburden waste	
8d	Use of overburden, waste rock, rejects and fines dumps for restoring the land to its original use		Plantation carried out to restore the mature overburden dump.	

8e	Phased restoration, reclamation and rehabilitation of lands affected by mining operations (Pits, dumps etc)		Top benches not matured and backfilling of pits also in progress.	
8f	Baseline information on existence of plantation & additional plantation done (Rule 41)		50	
8g	Survival rate		84%	
8h	Water sprinkling on roads to control airborne dust		yes in continue Process.	
8i	General remarks of inspecting officer on aesthetic beauty in and around mine area	EMP parameters are regularly being monitored. Well developed thick plantation within and outside the lease area. Due to plantation around the mining area aesthetic beauty increased.		

Compliance of Rule 45

S. N.	Item	Comments	Remarks
9a	Status of submission of monthly and Annual returns	M.R. Submitted upto- July -2017 A.R. submitted upto- 2016-17	
9b	Scrutiny of Annual return for information on Mining Engineer, Geologist and Manager	Yes	
9c	Scrutiny of Annual return on land use pattern for area under pits, reclaimed area, dumps etc.	Area Under Pit: 53.090ha Reclaimed area: 00.00ha Use for waste disposal: 9.810ha Occupied by plant, building residential, welfare building and roads:18.730ha Other purpose (Mineral Storage): 2.370ha	Area for which surface rights are held :84.00 ha.
9d	Scrutiny of Annual return on afforestation	50 number of trees planted during the yr. within lease area.	
9e	Scrutiny of Annual return on mineral reject generation (Grade & Quantity)	None , Zero mineral rejects generated.	
9f	Scrutiny of Annual return on ROM stock and/or grade ore	908629.600 tonne , Fines and lumps : 60% to below 62% of Fe content.	
9g	Scrutiny of Annual return on sale value, Ex.Mine price & production costs	Rs. 783.14 per tonne ex-mine price for fines. Rs.886.54 per tonne for Lumps. Cost of production : Rs 694.90 per tonne.	
9i	Scrutiny of Annual return on Fixed assets	Value of Fixed Assets : Rs 60592153.00	

9k	Scrutiny of Annual return on mining Machinerics	Type of Machinery	Nos. of Unit	Capacity
	Scrutiny of Annual return on mining Machinerics	Shovel (Hydraulic)	6	0.900CUM
		Tipper	48	10.00 CUM
		Blast Hole Drill	1	115.00MM
		Explosive Van	1	5.00 Tonne
		Jeep/Tractor	2	45.00HP
		Water Tanker	2	10000Lt
		Truck	2	8.00Tonne

Details of Violations observed during current inspection and compliance position of earlier violation pointed out:-

नियम	उल्लंघन के प्रकार का विस्तृत ब्यौरा
Rule 26	A yearly report as per the format specified by the Indian Bureau of Mines before 1st day of July every year setting forth of Protective and rehabilitative works carried out has not been submitted for the year 2016-17.
Rule 33	Updated print copy of the surface geological plan and sections has not been submitted before 30th day of June for the year 2016-17.
Rule 35 (2)	The softcopy (in the standard format), of high resolution satellite images obtained from CARTOSAT-2 Satellite LISS-IV sensor on the scale of cadastral map has not been submitted.
Rule 47	Notice of Shaft sinking and boreholes (an intimation in Form-I) has not been submitted.

Mahamaya Iron Ore Mine (1522.67 hect) was also Validated for the evaluation of Star Rating of Mining Lease

Date: 10/10/2017

Name: Rudra N Mishra

Designation: Senior Mining Geologist