

MCDR INSPECTION REPORT

General

S.N.	Particulars	Details
1	Name of the Mine Date of Inspection: Name of Inspecting Officer	Dalli Mechanised & Jharandalli Iron Ore Mine (Rajhara Hill Lease) 07/09/2017 Rudra N. Mishra (SMG)
2	Total Lease Area (Ha) with breakup of Non-forest and forest land	Non- forest : 436.00 hect. Forest Land : 283.60 hect. Total Land : 719.60 hect.
3	Mine code	30MPR13002
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	Kondekasa
7	Taluka/Mandal	Dalli- Rajhara
8	District	Balod
9	Pin code	491228
10	State	Chhattisgarh
11	Post Office	Dalli Rajhara
12	Nearest Police Station	Dalli Rajhara
13	Nearest Railway Station	Dalli-Rajhara
14	Date of Grant of Mining Lease	04-11-1962
15	Date of Execution	30-04-1963
16	Date of opening of Mine	05-11-1962
17	Date of First Renewal, if applicable and its period & expiry	First Renewal: 1988
18	Date of Second Renewal, if applicable and its period & expiry	Second Renewal: 1998 Third Renewal: 01-06-2003 Period : 20years Expiry : 31-05-2023
19	Date of submission of renewal application if Mining Operations are continuing under deemed extension	No. Durg/Iron/Mining-8/Nag/5-Raipur/255 dated 03-08- 2016 Validity- 31-03-2018
20	Name of the Nominated Owner with Address, phone, email, fax number and date of appointment	Shri Kalian Maity, Director (RM & L), Industrial House, 4th to 6th Floor 10 Camac Street, Kolkata- 700017.Email:kalyan.maity@sailex.com, Mobile no.852775508. Date of appointment: 01/03/2013
21	Name of the Mine Agent with Address, phone, email, fax number and date of appointment	Shri Samir Swarup, DGM Cum Agent, Dalli Mechanised Mine & Dalli Iron Ore Mine (Manual) Dalli -Rajhara,PO - Kondekasa, Balod CG-491228, Mobile No.9407983585, email: sswaroop@sailbhilaisteel.com Date of Appointment: 01/08/2013

		Shri N.K. Mandal, DGM (Jharandalli, Mahamaya, Dulki), Mines Office,IOC Rajhara. Email: nkmandal@sail-bhilaisteel.com Phone : 9407983588 Date of Appointment: 18/08/2015
22	Name of the Mine Manager with Address, phone, email, fax number and date of appointment in mines	Shri Srikant Chintala Dalli Mechanised Mine,Dalli Rajhara, Po- Kondekasa, Balod CG-491228, Mobile No.-9407982915, Email: schintala@sail-bhilaisteel.com Date of appointment: 20/07/2012 Shri Pankaj Kumar (Jharandalli Mech Mine) Address- Room No 49,Adminstrative Building,IOC, Rajhara, Post : Dalli- Rajhara,Dist- Balod,491228 (CG) Email:pankajkumar@sail-bhilaisteel.com Date of Appointment: 30/08/2012
23	Name of the Mining Engineer, Qualification and total experience with address, phone, email, fax number and date of appointment in the mine	Shri Satyendra Kumar, Dalli Mech.Mine,AMIE (Mining) 1st Class Mines Manager, 20yrs experience. Address: Room No 49,Adminstrative Building,IOC, Rajhara, Post : Dalli- Rajhara,Dist- Balod,491228 (CG) Email:satyendrakumar@sail-bhilaisteel.com, Date of Appointment: 01/08/2013, ph.9407982903 Shri Vagish Tiwari (Jharandalli Mech Mine) Mining Engineer, 10 years experience Address: Room No 49,Adminstrative Building,IOC, Rajhara, Post : Dalli- Rajhara,Dist- Balod,491228 (CG) Email:vagishtiware@sail-bhilaisteel.com, Date of Appointment: 26/11/2012, ph.9407983629
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 Shamshad Raza M.Tech. (Applied Geology)
25	Date of Approval of Mine Plan/Modified Mine Plan with five-year period and specific condition in approval letter, if any.	Mining Plan : 15/12/2005 Modified Mining Plan : 23/01/2007
26	Date of Approval of Scheme of Mining/Modified Scheme of Mining with five- year period and specific condition in approval letter, if any.	Review of Mining Plan -03/08/2016 (2013-14 to 2017-18), No. Durg/Iron/Mining-8/Nag/5- Raipur/255 dated 03-08-2016
27	Mineral(s) granted in lease and approved for Mining	Iron Ore (Hematite)
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	G1 Category
1b	Exploration over lease area for Geological axis 1 or 2.	13 Borehole 1380 meters	15 Borehole1856.5m	
1c	Exploration Agency & Expenditure in Lakh Rupees during the year	Nil	M/S Mineral Exploration corporation Limited, Nagpur. Exp.: 278.48 Lakh	
1d	Balance area to be explored to bring Geological axis in 1 or 2.	Nil	Nil	
1e	Balance reserves as on 01.04.17	33.87 Million Tonne		
1f	General remarks of Inspecting officer on geology, exploration etc.	Iron Ore deposit of Dalli Rajhara range are associated with BIF (Banded Iron Formations) of Chilpi formation belonging to the Iron ore series of Dharwarian system of Pre-cambrian or Archean age. Lithology comprises dominantly para metamorphic rocks namely BHQ, Phyllite, Mica Schist iron ore and Chlorite schist. Grade of Iron from 62 to 68% Fe. Trend of the formations of the Ore body is E-W with northerly dip of about 40° to 45°. Two set of faults inferred, one pushing iron ore 450meters up towards east and another one pushing iron ore 50 meters up towards west. The lower most formations exposed are Phyllites and Schists with quartz veins and the basement is not clearly discernable. Entire lease area is explored in G1 Category.		

Development

S.N.	Item	Proposals (2016-17)	Actual Work (2016-17)	Remarks
2a	Location of Development w.r.t. lease area	DMM-East-504180 to 505410 North-2273637 to 2273931 (UTM) JM -East-505732 to 506770 North-2273502 to 2274190 (UTM)	DMM-East-504180 to 505410 North-2273637 to 2273931 (UTM) JM -East-505732 to 506770 North-2273502 to 2274190 (UTM)	DMM-Dalli Mech. Mine JM: Jharandali Mech. Mine
2b	Separate benches in topsoil overburden and mineral (Rule 15)	Yes	Yes	
2c	Stripping ratio or ore to OB ratio	DMM- 1:1.07 JM - 1: 0.50	DMM- 1:0.81 JM - 1: 0.79	
2d	Quantity of topsoil generation in m ³	Nil	Nil	
2e	Quantity of overburden generation in m ³	DMM- 1785714.30CuM JM- 446428.50 CuM	DMM- 981035.50CuM JM- 650250.90 CuM	

2f	General remarks of Inspecting officer on development of pit w.r.t type of deposit etc.	Development is in order.
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Exploitation

S.N	Item	Proposals (2016-17)	Actual Work (2016-17)	Remarks
3a	Number of pits proposed for production	02	02	
3b	Quantity of ROM mineral production proposed (2016-17)	5750000T	4532933.80T	
3c	Recovery of Salable/usable mineral from ROM production	5750000T	4532933.80T	
3d	Quantity of mineral reject generation	Nil	Nil	
3e	Grade of mineral reject generation and threshold value declared	< 45% Fe	< 45% Fe	
3f	Quantity of sub-grade mineral generation	675000 T	639051 T	
3g	Grade of sub-grade mineral generation	Proposed (Fe 45 - 55%)	Fe - 49.88%	
3h	Manual/Mechanized method adopted for segregation from ROM	Mechanised	Mechanised	
3i	Any analysis or beneficiation study proposed & carried out for sub-grade mineral and reject	Being carried out on regular basis	Being carried out on regular basis	
3j	Provision of drilling & blasting in mineral benches	Yes	Yes	
3k	Provision of mining machineries in mineral benches	Yes	Yes	
3l	Whether height of benches in overburden and mineral suitable for method of mining proposed in MP/SOM	Yes	Yes	
3m	Total area covered under excavation /pits	129.30ha	129.30ha	
3n	Ore to OB ratio for the pit/mine during the year	DMM- 0.94:1 JM-2.5:1	DMM- 1.23:1 JM- 1.24:1	
3o	Total area put in use under different heads at the end of year	590.30ha	590.30ha	
3p	Production of ROM in Tonnes mineral during last five-years period, as Applicable	2012-13	3500000	5497218
		2013-14	5214000	5045641
		2014-15	4715000	4676009
		2015-16	4603000	4458174.5
		2016-17	5750000	4532933.8
3q	General remarks of inspecting officer on method of mining etc	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	Yes	DMM-Dalli Mech. Mine JM: Jharandali Mech. Mine
4b	Location of topsoil, OB & mineral reject dumps	DMM-OB/Back filling (01) East- 503357 North- 2274312 OB (02) East-505568 North- 2273964 JM-OB (03)- East- 505528 North-2274242 (OB)-4 East 506080 North: 2274348	DMM-OB/Back filling (01) East- 503357 North- 2274312 OB (02) East-505568 North- 2273964 JM-OB (03)- East- 505528 North-2274242 (OB)-4 East 506080 North: 2274348	
4c	Number of Dumps within lease area and outside lease area	With Lease-04 Nos Outside- Nil	With Lease-04 Nos Outside- Nil	
4d	Location of Dumps w.r.t. ultimate pit limit (Rule 16)	Outside UPL	Outside UPL	
4e	Number of Active & Alive dumps	03	03	
4f	Number of deed dumps	JM -02 DMM- Nil	JM -02 DMM- Nil	
4g	Number of dumps established	JM -02 DMM- Nil	JM -02 DMM- Nil	
4h	Whether Retaining wall or garland drain all along dumps are there	Yes	Yes	
4i	Length of Retaining wall or garland drain all along dump	Retaining wall- 400mts Garland drain- 2750mts	Retaining wall- 400mts Garland drain- 2750mts	
4j	Number of settling ponds	Not Proposed	15 nos	
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	Terracing of active dump at 500mRL between 7200-7300N and 5000-5500E to accommodate 3.0 million cu.m of broken rock which will also help in reclaiming	Being done	

		upper terrace at 540mRL and stabilisation of present dump.		
5b	Area under backfilling of mined out area	7.6ha	7.6ha	
5c	Concurrent use of topsoil for restoration or rehabilitation of mined out area (Rule 32)	Not Proposed	will be used after complete stabilization of dump.	No area matured for Reclamation
5d	Total area fully reclaimed & rehabilitated	Nil	NA	
5e	General remarks of inspecting officer on backfilling, reclamation etc	No area is so far matured for Reclamation. 7.6 ha area is backfilling of mined 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	Yes	No	PMCP report not submitted. Violation pointed out.
6b	Management of worked/mined out benches	Not Proposed	Nil	
	Area available for rehabilitation (Ha)			
	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	330X175X42 backfill -ii (RE-2)	Nil	
	i) Voids available for backfilling (L*B*D)	2.5MT	2.5MT	
	ii) Void filled by waste/tailings	Nil	Nil	
	iii) Afforestation on the backfilling	Nil	Nil	
	iv) Rehabilitation by making water reservoir	Nil	Nil	
	v) Any other specific means	Nil	Nil	

6d	Compliance of Rehabilitation of waste land within lease i) Afforestation ii) Area rehabilitation iii) Method of rehabilitation	Nil	Nil	
6e	Compliance of Environment monitoring (core zone & buffer zone)	Proposed	Being done	
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 (2016-17)	Actual Work (2016-17)	Remarks
7a	ROM mineral dispatch or grade wise sorting within lease area	Proposed	Being done	
7b	Method of grade-wise mineral sorting i.e. manual or mechanical	Mechanical screening & washing	Mechanical screening & washing	
7c	Different grade of mineral sort out at mine	Lumps, Fines & Slime	Lumps, Fines & Slime	
7d	Any beneficiation process at mines	Fluidised Bed classifier	Fluidised Bed classifier	
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 (Rule 32)	Not applicable	Present Topsoil is not encountered, already in developed stage.	
8b	Concurrent use or storage of topsoil	Nil	Nil	
8c	Separate dumps for overburden waste rock, rejects and fines (Rule 33)	Proposed	Being maintained	
8d	Use of overburden, waste rock, rejects and fines dumps for restoring the land to its original use	Being Proposed	In -Pit dumping of waste rock for reclamation and rehabilitation of mined out area.	
8e	Phased restoration, reclamation and rehabilitation of lands affected by mining operations (Pits, dumps etc)	Proposed	will be commenced shortly	
8f	Baseline information on existence of plantation & additional plantation done (Rule 41)		DMM within ML = 86.5ha. Outside ML=	

			115ha. Total= 201.5ha JM: Within ML=47.75ha. Outside ML =1.0ha Total=48.75ha	
8g	Survival rate		88%	
8h	Water sprinkling on roads to control airborne dust	Proposed	Being done	
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– Oct -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: 84.080ha Reclaimed area: 09.00ha Use for waste disposal: 10.27ha Occupied by plant, building residential, welfare building and roads:33.640ha Other purpose (Mineral Storage): 6.20ha	Area for which surface rights are held :354.90 ha.
9d	Scrutiny of Annual return on afforestation	800 numbers of trees planted during the yr. within lease area. 90% Survival rate.	
9e	Scrutiny of Annual return on mineral reject generation (Grade & Quantity)	639051T, Fe 49.54%,SiO2-17.89%,Al2O3: 7.87%	
9f	Scrutiny of Annual return on ROM stock and/or grade ore	Opening Stock: 89122.80T ROM: 4524335.80T Closing Stock: 89829.200T Fines and lumps : 60% to below 62% of Fe content.	
9g	Scrutiny of Annual return on sale value, Ex.Mine price & production costs	Rs. 843.68 per tonne ex-mine price for fines. Rs. 1315.19 per tonne for Lumps.	
9i	Scrutiny of Annual return on Fixed assets	Value of Fixed Assets : Rs 389473794.00	

9k	Scrutiny of Annual return on mining Machineries	Type of Machinery	Nos. of Unit	Capacity
Scrutiny of Annual return on mining Machineries		Shovel (Hydraulic)	4	5.500CUM
		Shovel (Hydraulic)	3	2.300CUM
		Shovel (Hydraulic)	2	1.570CUM
		Shovel (Hydraulic)	1	1.200CUM
		Shovel (Mechanical)	2	4.600CUM
		Backhoe	3	5.000CUM
		Dumper	8	50.00 Tonne
		Dumper	3	60.00 Tonne
		Truck	41	18.00 Tonne
		Truck	16	10.00 Tonne
		Dozer	5	350.00HP
		Front End Loader	1	5.500 CUM
		Front End Loader	2	1.400CUM
		Blast Hole Drill (Elect)	1	165.00CUM
		Blast Hole Drill	3	165.00CUM
		Blast Hole Drill	2	115.00MM
		Motor Grader	2	212.00HP
		Motor Grader	1	145.00HP
		Water Tanker	2	28000Lt
		Water Tanker	5	10000Lt
		Explosive Van	1	10.00 Tonne
		Locomotive (Elect)	3	70.00Tonne
		Crusher	1	2100.00T/H
		Crusher	2	900.00T/H
		Crusher	1	750.00T/H
		Crane	1	5.00T
	Crane	2	12.00T	

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

नियम	उल्लंघन के प्रकार का विस्तृत ब्यौरा
Rule 11(4)	The period of mining plan for the lease last approved on 03/08/2016 will be expired on 31/3/2018 and review of mining plan has not been submitted to the competent authority at least one hundred and eighty days before the expiry of five years period for which it was approved on the last occasion, for mining operations for a period of five subsequent years.
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 & 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.

Jharandalli and Dalli Mechanised Iron Ore Mine (719.60 hect) was also Validated for the evaluation of Star Rating of Mining Lease

Date: 20/11/2017

Name: Rudra N Mishra

Designation: Senior Mining Geologist