

MCDR INSPECTION REPORT

1.0 GENERAL

SN	Particulars	Details
1	Name of the Mine	Mahamaya &Dulki IronMines
1.a	Name of inspecting office & designation, Accompanying person	Shri Rajesh Kumar Das Designation -Senior Assistant Controller of mines,Indian Bureau of Mines, Raipur,Shri S.K.Tripathi,Geologist
1.b	Date of inspection	22/01/2019
2	Total Lease Area (Ha) with breakup of Non-forest and forest land	Total lease area : 1522.67 ha Forest Land : 1522.67 ha Non-Forest land : NIL
3	Minecode, File No. CG/DRG/FE-6/NGP	30MPR13004
4	IBM Registration Number under rule 45 of MCDR, 1988	IBM/5662/2011
5	Name of the lessee, Address, phone, email and fax number	Bhilai Steel Plant, SAIL IspatBhawan, Lodhi Road, New Delhi Email: hn.raai@sailex.com,Phone 24366219
6	Village	Mahamaya-Dulki
7	Taluka/Mandal	Mahamaya/Manpur
8	District	Balod&Rajnandgaon
9	Pincode	491228
10	State	Chhattisgarh
11	Post office	Mahamaya/Manpur
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	ShriH N Rai Director(Technical), IspatBhawan, Lodhi Road, New Delhi ,Phone 24366219 Email: hn.raai@sailex.com Date of appointment: 01.08.2018

21	Name of the Mine Agent with Address, phone, email, fax number and date of appointment	Shri N K Mandal DGM (Mahamaya, Dulki, Kalwar Nagur) Mines Office, IOC Rajhara Email: nkmandal@sail-bhilaisteel.com Phone : 9407983588 Date of appointment: 01/08/2013
22	Name of the Mines Manager with Address, phone, email, fax number and date of appointment in mines	Shri Kumar Shivesh Mine Manager, Mahamaya Mine Mines Office, Iron Ore Complex. Phone 9407982883, Email: kumarshivesh@sail-bhilaisteel.com Date of appointment: 18/09/2016
23	Name of the Mining Engineer, Qualification and total experience with Address, phone, email, fax number and date of appointment in mine	Shri Manish Jaiswal B Tech. (Mining Engg.), 10 yrs experience, Mines Office, Iron Ore Complex. Phone 9407982884, Email: manishjaisawal@sail-bhilaisteel.com Date of appointment: 01/01/2013
24	Whether Geologist and Mining Engineer appointed in mines satisfy the rule 42 & carrying out their duties as per rule 43 & 44.	Geologist is appointed Geologist: Shri R K Umare (MM) M.Sc. Geology Shri M Kumar (Dulki) M.Sc. Geology
25	Date of Approval of Mining Plan/Modified Mining 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, बालोद/लौह/खयो-1074/2017-रायपुर/53 for period 2016-17 to 2020-21
27	Mineral(s) granted in lease and proved for mining	Iron Ore
28	Method of Mining (Opencast, Underground)	Open Cast
29	Category (Fully Mechanised, Others or Manual)	Mechanized
30	Captive/Non Captive	Captive

Scientific Mining: Compliance of proposals of approved mining plan/scheme of mining. –

1.0 Exploration

SN	Item	Proposals	Actual work	Remarks
1a	Backlog of previous year	20 holes (1500 m)	8 holes (516 m)	
1b	Exploration over lease area for Geological axis 1 or 2.	20 holes (1500 m)	8 holes (516 m)	
1c	Exploration Agency & Expenditure in lakh Rupees during the year	MECL Rs.2250000/-	MECL Rs.8000000/-	
1d	Balance area to be explored to bring Geological axis in 1 or 2	1373.67 ha (1522.67-149) Balance area to be explored to bring Geological axis in 1 or 2		
1e	Balance reserves as on 01.04.2018		16.69 MT	M1+M2+ M3+D1+D3

1f	General remarks of inspecting officer on geology, exploration etc.	The Iron ore deposit of this region are associated with the metamorphosed banded ferruginous formations consisting of Banded Hematite quartzite/jasper, Mahamaya deposit consist of three blocks namely M1,M2 & M3 and the length of the ore body is 2.1 km(approx).The depth is proved upto maximum of 100m and width is inconsistence and varies fro 30-70m.The strike of ore body almost NS direction and dip varies from 55-65 degree. As mentioned nearly 1373.67 ha. is yet to explored and it is delayed due to naxalite problem.
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2.0Development

SN	Item	Proposals	Actual work	Remarks
2a	Location of development w.r.t. lease area	Mahamaya Mine Pit 1 (M1) N 2264700-2264200, E 499300-498850, Pit 2 (M2) N 2265500-2265300 E 498850-498650, Pit 3 (M3),N 2265500-2265800 E 498750-498550, Dulki Mine Pit 4 (D1),N 2262000-2262200 E 499000-499100	Mahamaya Mine N2264700-2264200 E 499300-498850, N2265500-2265300 E 498850-498650, N 2265500-2265800 E498750-498550, Dulki Mine D1 N 2262000-2262200 E 499000-499100	
2b	Separate benches in topsoil, overburden and mineral (Rule 15)	NIL OB & mineral benches – 10m Dulki Top soil-01m Overburden benches – 03m Mineral benches – 02m	No benches in top soil at present. OB & mineral benches – 10m,Dulki:Top soil-01m Overburden benches – 2m,Mineral benches – 3m	
2c	Stripping ratio or ore to OB ratio	1:0.59	1:0.33	
2d	Quantity of topsoil generation in m3	NIL	4843 m3, 2453cum used for plantation	
2e	Quantity of overburden generation in m3	472727.27 m3	202438.05 m3	
2f	General remarks of inspecting officer on development of pit w.r.t. type of deposit etc.	The development is broadly as per proposal but in Dulki block excavation is extended in 7.5 safety barrier zone and violation accordingly is issue to rectify and reclaimed the area.		

3.0 Exploitation

	Item	Proposals	Actual work	Remarks
3a	Number of pits proposed for production	4	4	In Mahamaya and Dulki block
3b	Quantity of ROM mineral production proposed	1240000 T	1143010.88 T	From 01.04.2017to 31.03.2018
3c	Recovery of saleable/usable mineral from ROM production	1240000 T	1143010.88 T	
3d	Quantity of mineral reject generation	NIL	NIL	
3e	Grade of mineral reject generation and threshold value declared	Not Applicable	Not Applicable	
3f	Quantity of sub-grade mineral generation	NIL	10000 T	Temporary sub grade dump in M3 block, used with blending.
3g	Grade of sub-grade mineral generation	NIL	50.11 Fe%	
3h	Manual / Mechanised method adopted for segregating from ROM	Mechanised	Mechanised	At Crushing & Screening Plant Rajhara/Dalli
3i	Any analysis or beneficiation study proposed & carried out for sub-grade mineral and reject	NIL	NIL	
3j	Provision of drilling & blasting in mineral benches	Yes	Deep hole drilling blasting	
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	58.09 Ha	58.09 Ha	As on 31.03.2018
3n	Ore to OB ratio for the pit/mine during the year	1: 0.83	1 : 0.43	
3o	Total area put in use under different heads at the end of year	Mining 58.09 ha, Mineral Storage 2.37 ha, Infrastructure and roads 18.73 ha, OB/waste dump 9.81 ha	Mining 58.09 ha, Mineral Storage 2.37 ha, Infrastructure and roads 18.73 ha, OB/waste dump 9.81 ha	
3p	Production of ROM mineral during last five-year period, as applicable	2013-14:959923.00T 2014-15:959960.00T 2015-16:959907.00 T 2016-17:908629.60 T 2017-18:1240000.00 T	2013-14: 341650.60 T 2014-15: 791230.90 T 2015-16: 679850.60 T 2016-17: 908629.60 T 2017-18:1143010.88 T	
3q	General remarks of inspecting officer on method of mining etc.	The method of mining is broadly as per proposal using shovel dumper combination and deep hole drilling blasting.		

4.0 Solid Waste Management-Dumping

SN	Item	Proposals	Actual work	Remarks
4a	Separate dumping of topsoil, OB & mineral reject (Rule 32, 33)	OB is to be dumped in back filling in M1. There is no mineral reject. Proposed Top soil generation was NIL.	OB has been dumped in back filling in M1. There is no mineral reject. Top soil has been stacked separately.	
4b	Location of topsoil, OB & mineral reject dumps	Top soil generation: Nil Backfill Dump N-2266000-2266400 E-498500-498700 Mineral reject generation : Nil	Top soil - N-2264550-2264600 E-499300-499400 Backfill Dump N-2266000-2266400 E-498500-498700 Mineral reject generation : Nil	
4c	Number of dumps within lease area and outside lease area	02 within lease 1 over burden 1 Generated Fines	02 within lease 1 over burden 1 Generated Fines	Both dumps are inactive.
4d	Location of dumps w.r.t. ultimate pit limit (Rule 16)	Outside of ultimate pit limit N-2264550-2264900 E-499300-499600	Outside of ultimate pit limit N-2264550-2264900 E-499300-499600	
4e	Number of active & alive dumps	NIL	NIL.	

4f	Number of dead dumps	1	1	
4g	Number of dumps stabilised	1	1	
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	30m	30 m	
4j	Number of settling ponds	13	13	Check dams are of boulder chek dam and some places concrete construction (till date).
4k	Specific comments of inspecting officer on waste dump management	The waste dumping is broadly as per proposal.		

5.0 Solid Waste Management-Backfilling

SN	Item	Proposals	Actual work	Remarks
5a	Status on part or full extraction of mineral from mined out area before starting backfilling	Backfilling is proposed in non-mineralized zone of M1 pit.	Non-mineralized zone of M1 pit is back-filled.	Waste material dumping.
5b	Area under backfilling of mined out area	2.00 Ha	1.36 Ha.	
5c	Concurrent use of topsoil for restoration or rehabilitation of mined out area (Rule 32)	NIL	Top soil is used for plantation in existing dump in south eastern slope	
5d	Total area fully reclaimed & rehabilitated	2.00 ha	2.00 ha	1.00 Ha. land reclaimed and rehabilitated. 1.00 Ha. south eastern slope of inactive overburden Dump reclaimed & rehabilitated.
5e	General remarks of inspecting officer on backfilling, reclamation etc	The lease area is forest area and broken area is less than 150 ha. Therefore waste dumping in Mahamaya pit is in exhaust pit.		

6.0 Progressive Mine Closure Plan

SN	Item	Proposals	Actual work	Remarks
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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	Yes	.
6b	Management of worked/mined out benches i) Area available for rehabilitation (ha) ii) Afforestation done (ha) iii) No. of saplings planted during the year iv) Cumulative no. of plants v) Any other specific method of rehabilitation vi) Cost incurred on watch & care during the year	NIL NIL NIL NIL	NIL NIL 39531 NIL	
6c	Compliance on reclamation and rehabilitation by backfilling i) Voids available for backfilling (L X B X D) ii) Void filled by waste/tailings iii) Afforestation on the backfilled area iv) Rehabilitation by making water reservoir v) Any other specific means	140x147x30m Waste 2.00 Ha. NIL	140x40x30m Waste dumping in progress. Waste 1.00 Ha. NIL	Backfilling is in progress.
6d	Compliance of Rehabilitation of waste land within lease i) Afforestation ii) Area rehabilitated (ha) iii) Method of rehabilitation	NIL NIL NIL	NIL NIL NIL	
6e	Compliance of Environmental monitoring (core zone & buffer zone)	Environmental monitoring has to be done as per norms.	Being complied	

6f	General remarks of inspecting officer on PMCP compliance & progressive	PMCP proposal are broadly implemented as per approve document.
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7.0 Mineral Conservation

SN	Item	Proposals	Actual work	Remarks
7a	ROM Mineral dispatch or grade-wise sorting within lease area	ROM despatch to Rajhara/Dalli Crushing Plant for processing	ROM despatch to Rajhara/Dalli Crushing Plant for processing	
7b	Method of grade-wise mineral sorting i.e. manual or mechanical	Mechanical	Mechanical	
7c	Different grade of mineral sorted out at mines	Not applicable	Not applicable	
7d	Any beneficiation process at mines	Not applicable	Not applicable	
7e	General remarks of inspecting officer on Mineral conservation & beneficiation issues	The low grade mineral is used by blending and processing.		

8.0 Environment

SN	Item	Proposals	Actual work	Remarks
8a	Separate removal and utilization of topsoil (Rule 32)	NIL	Removal 4853 m3 top soil and 2453 m3 utilised.	
8b	Concurrent use or storage of topsoil	NIL	Top soil has been stored and is being utilized for plantation.	
8c	Separate dumps for overburden, waste rock, rejects and fines (Rule 33)	There is no mineral reject.	NIL	
8d	Use of overburden, waste rock, rejects and fines dumps for restoring the land to its original use	Plantation proposed in dump at south eastern slope	Plantation started to restore the mature overburden Dump at south eastern slope 1.00 Ha. 2500 saplings	

8e	Phased restoration, reclamation and rehabilitation of lands affected by mining operations (Pits, dumps etc)	Non-mineralized zone of M1 pit to be back-filled. 2.00 Ha. by waste	1.00 Ha. land reclaimed and rehabilitated. 1.00 Ha. southeastern slope of inactive overburden Dump reclaimed and rehabilitated.	Backfilling is in progress.
8f	Baseline information on existence of plantation & additional plantation done (Rule 41)	Plantation of 5000 plants is proposed in 2017-18.	5000 plants have planted in 2017-18 within mining lease. Cumulative 39531 plants have been planted within mining lease.	
8g	Survival rate	80%	80%	
8h	Water sprinkling on roads to control airborne dust	Continuous process	Continuous process	
8i	General remarks of inspecting officer on aesthetic beauty in and around mines area	The lessee as per proposal complied all environment protection measures i.e. plantation, water sprinkling for dust suppression, monitoring of Air, water, noise, etc therefore no such adverse impact observed on aesthetic beauty in and around mines area.		

9.0 Compliance of Rule 45

S. N.	Item	COMMENTS		Remarks
1	Status of submission of Monthly and Annual returns	Submitted		
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	Yes given	Mining Engineer Shri Manish Jaiwal, Geologist Shri S.K.Shrivastava & Manager Shri Kumar Shivesh	
9c	Scrutiny of Annual return on land use pattern for area under pits, reclaimed area, dumps etc.	Yes given	Covered under o/c working-58.09 ha., used for waste disposal-7.810 ha.,Infrastructure-18.73 ha.,other purpose-2.73 ha.,	

9d	Scrutiny of Annual return on afforestation	Yes given	Within lease area 5000 nos saplings planted			
9e	Scrutiny of Annual return on mineral reject generation (Grade & quantity)	Nil				
9f	Scrutiny of Annual return on ROM stock and/or graded ore	Yes given	51261.061 Tons			
9g	Scrutiny of Annual return on sale value, Ex. Mine price & production cost	Yes given				
9i	Scrutiny of Annual return on fixed assets	Yes given	Rs 104325308/-			
9k	Scrutiny of Annual return on mining machineries	Yes given	Type of machinery	Capacity	No. of units	Electric/ Non-Electric
			Shovel	0.9 cum.	08	Non-Electric
			Tipper	3.33cum	85	Non-Electric
			Blast hole drill	115mm	01	Non-Electric
			Water tanker	10000Lit re	04	Non-Electric
			Wheel Loader	0.9cum	04	Non-Electric

10- Details of violations observed during current inspection and compliance position of earlier violation pointed out:- The present inspection was carried out with Shri R.N.Mishra, SMG for processing of Modification in review of mining plan and during the inspection few shortcomings found under Rule 11(1),45,65(1)&65(2) of MCDR,2017and therefore violation pointed out. The earlier violation complied.

Rajesh Kumar Das, Senior Assistant Controller of Mines & Shri R.N.Mishra,SMG