

MCDR INSPECTION REPORT**1.0 GENERAL**

SN	Particulars	Details
1	Name of inspecting office & designation	Rajesh Kumar Das, Senior Assistant Controller of Mines, Indian Bureau of Mines, Raipur
2	Date of inspection	17/03/2020
3	Name of the Mine	Dongarbor Iron Ore Mine
4	Total Lease Area (Ha) with breakup of Non-forest and forest land	Forest: 80.71 Ha. Non Forest: NIL Total Lease Area: 80.71 Ha.
5	Mine Code	30CHG15001
6	IBM Registration Number under rule 45 of MCDR, 1988	IBM/485/2011
7	Name of the lessee, Address, phone, email and fax number	M/s Sarda Energy & Mineral Limited 73-A, Central Avenue, Nagpur Pin Code: 440018 (Maharashtra) Phone: 0771- 2216100 Fax No.:0771- 2216198 Email: pkjain@seml.co.in Correspondence Address: M/s Sarda Energy & Mineral Limited, Industrial Growth Center, Phase –I, Siltara Raipur, Chhattisgarh – 493111 Phone: 0771- 2216100 Fax No.:0771- 2216198 Email: pkjain@seml.co.in
8	Village	Nearby Village Jakke, Boria
8	Taluka / Mandal / District	Tehsil: Manpur, Distt. Rajnandgaon
10	State	Chhattisgarh
11	Post office & PIN	Khadgaon - 491229
12	Nearest police station	Khadgaon
13	Nearest Railway station	Dalli Rajhara
14	Date of Grant of Mining Lease	15/05/2002 to 14/05/2032 (30 years)
15	Date of Execution	02/01/2003
16	Date of opening of Mine	17/04/2003
17	Date of first Renewal, if applicable and its period & expiry	Not Applicable
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 P. K. Jain, Whole Time Director & Nominated Owner, B-501, Ashoka Ratna, New Vidhan Sabha Marg, Raipur Chhattisgarh – 492007 Phone: +91-9752090007 Fax: 0771- 2216198 Email Id: pkjain@seml.co.in. Date of Appointment: 01/06/2016

21	Name of the Mine Agent with Address, phone, email, fax number and date of appointment	Shri Neeraj Thakur, Head Iron Ore Mines, E-104, Ramniketan Society, Saddu, Raipur (Chhattisgarh) – 492014 Phone: +91-7747013700 Fax: 0771- 2216198 Email: nthakur@seml.co.in Date of Appointment: 01.10.2014
22	Name of the Mines Manager with Address, phone, email, fax number and date of appointment in mines	Shri Srinivas Thakur, Boria Colony, Post Khadgaon, Tehsil: Manpur, District: Rajnandgaon, Chhattisgarh – 491229 Phone: +91 – 8825170248 Fax: 0771- 2216198 Email: sthakur@seml.co.in Date of Appointment: 01/05/2017
23	Name of the Mining Engineer, Qualification and total experience with Address, phone, email, fax number and date of appointment in mine	Shri Ramanand Boria Colony, Post Khadgaon, Tehsil: Manpur, District: Rajnandgaon, Chhattisgarh – 491229 Phone: +91 – 7747013704 Fax: 0771- 2216198 Email: rmand@seml.co.in Date of Appointment: 01/05/2017 Qualification: B.E. Mining Experience: +10 years
24	Whether Geologist and Mining Engineer appointed in mines satisfy the rule 55 & carrying out their duties as per rule 56 & 57.	Shri Sant Das Boria Colony, Post Khadgaon, Tehsil: Manpur, District: Rajnandgaon, Chhattisgarh – 491229 Phone: +91 – 7089347893 Fax: 0771- 2216198 Email: sant.d@seml.co.in Date of Appointment: 02/07/2012 Qualification: M.Sc. Geology Experience: +7 years
25	Date of Approval of Mining Plan/Modified Mining Plan with five-year period and specific condition in approval letter, if any.	Mining Plan approved vide letter no. RNG/Fe/MPLN-625/NGP dated 11/06/1998 Proposal Period: 2003-04 to 2007-08 for 100.0 Ha. area Modified Mining Plan approved vide letter no. RNG/FE/MPLN-625/NGP dated 12/09/2005 Proposal Period: 2005-06 to 2007-08 for 80.71 Ha. Area
26	Date of Approval of Scheme of Mining/Modified Scheme of Mining with five-year period and specific condition in approval letter, if any.	Scheme of Mining approved vide letter no. RNG/Fe/MPLN-625/NGP dated 25/05/2009 Proposal Period: 2008-09 to 2012-13 Scheme of Mining approved vide letter no. RNG/Fe/MPLN-625/NGP dated 06/08/2013 Proposal Period: 2013-14 to 2017-18 Review of Mining approved vide letter no. RNG/FE/MPLN-1126/2017-RPR Raipur dated 14/12/2017 Proposal Period: 2018-19 to 2022-23
27	Mineral(s) granted in lease and proved for mining	Iron Ore
28	Method of Mining(Opencast, Underground)	Opencast

29	Category (Fully Mechanised, Others or Manual)	Category 'A' Fully Mechanised
30	Captive/Non Captive	Captive
31	Existing EC Limit and validity	Iron Ore Production 1.5 Million Tonnes Per Annum obtained from Ministry of Environment and Forest, Government of India, vide letter no. J-11015/195/2006-IA.II(M) New Delhi dated 21/05/2007 valid up to 14/05/2032
32	Status of Financial Assurance as per rule 27 of MCDR, 2017	Rs. 1,05,75,000/- vide Bank Guarantee no. 32700IGL00003617 valid up to 31/03/2023

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	Proposal not given in the approved document for F.Y. 2018-19	Not Applicable	-
1b	Exploration over lease area for Geological axis 1 or 2.	No exploration proposed during 2018-19	Not applicable	
1c	Exploration Agency & Expenditure in lakh Rupees during the year	Not mentioned in the approved document.	Not applicable	-
1d	Balance area to be explored to bring Geological axis in 1 or 2	No exploration proposed in year 2018-19	No exploration carried out in year 2018-19	
1e	Balance reserves as on 01.04.2019 (in Million Tonnes)	Under (111): 6.263 Million Tonnes Under (121): 1.1736 Million Tonnes	Under (111): 7.946 Million Tonnes Under (121): 1.1736 Million Tonnes	Less production w.r.t. proposal
1f	General remarks of inspecting officer on geology, exploration etc.	The area forms a western continuation of the iron ore formation exposed on the well-known Dalli-rajhara iron ore deposit. The major rock formation BHQ, iron ore and ferruginous shale are present in lease area. Broadly the 50% area explored.		

2.0 Development

SN	Item	Proposals	Actual work	Remarks
2a	Location of development w.r.t. lease area (Range in UTM/Local Coordinate/Plot No./Location)	2018-19: N1600 to N2000 and E1740 to E2150 RL 700 to 680 Float: N2310 to N2480 and E1900 to E2000	2018-19: N1570 to N1930 and E1750 to E2170 RL 700 to 685 Float: No excavation	-
2b	Separate benches in topsoil, overburden and mineral (Rule 13)	Topsoil: NIL Inter-burden: 02 Mineral: 02	Topsoil: NIL Inter-burden: 04 Mineral: 02	
2c	Stripping ratio (m3/t) or ore to OB ratio (t/m3)	1: 0.183 m3/t or 5.46 t/m3	1:0.962 m3/t or 1.039 t/m3	
2d	Quantity of topsoil generation in m3	13926 cum	No topsoil generated	
2e	Quantity of overburden generation in m3	188236 cum	406612 cum	

2f	General remarks of inspecting officer on development of pit w.r.t. type of deposit etc.	The development is not as per proposal and it was observed that vertical excavation is more upto 665 RL w.r.t tp proposal of 680 RL. The benches have been developed 8 w.r.t proposal of 4 benches.
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3.0 Exploitation

SN	Item	Proposals	Actual work	Remarks
3a	Number of pits proposed for production	02 nos.	01 no.	
3b	Quantity of ROM mineral production proposed	2018-19: 1099915.00 Metric Tonnes	2018-19: 422699.75 Metric Tonnes	
3c	Recovery of salable/usable mineral from ROM production	100%	100%	
3d	Quantity of mineral reject generation	328512.50 Metric Tonnes	No mineral reject present in the mine.	
3e	Grade of mineral reject generation and threshold value declared	33% Fe.	No mineral reject present in the mine.	
3f	Quantity of sub-grade mineral generation	916595.00 Metric Tonnes (Iron Ore including sub grade)	41459.24 metric tonnes sub grade Iron ore	Not given separately in Review of Mining Plan
3g	Grade of sub-grade mineral generation	-10 mm ore (48% Fe)	-10 mm ore (48% Fe)	
3h	Manual / Mechanised method adopted for segregating from ROM	Mechanised screening & Wet scrubbing for Beneficiation	Mechanised screening & Wet scrubbing for Beneficiation	
3i	Any analysis or beneficiation study proposed & carried out for sub-grade mineral and reject	Wet scrubbing proposed in the approved document.	Being done as per proposal.	
3j	Provision of drilling & blasting in mineral benches	Dia.: 100 mm Depth: 5.0 m Burden: 2.0 m Spacing: 3.0	Dia.: 100 mm Depth: 5.0 m Burden: 2.0 m Spacing: 3.0	
3k	Provision of mining machineries in mineral benches	1. Excavator: 07 nos. with bucket size varies 0.6 cum to 1.6 cum 2. Rear Dumpers: 28 nos. with 16.0 tonnes 3. Front end loader 03 nos. with 1.7 cum 4. Dozer 01 no. with 250HP 5. Wagon drill 02 nos. 6. Air Compressor 02 nos. with 450Cfm capacity 7. Jack Hammer drills 02 nos. 8. Exploder 02 nos. 9. Water Pumps 02 nos. 10. Explosive Van 02	1. Excavator: 07 nos. with bucket size varies 0.6 cum to 1.6 cum 2. Rear Dumpers: 28 nos. with 16.0 tonnes 3. Front end loader 03 nos. with 1.7 cum 4. Dozer 01 no. with 250HP 5. Wagon drill 02 nos. 6. Air Compressor 02 nos. with 450Cfm capacity 7. Jack Hammer drills 02 nos.	

		nos. 11. Jeep 06 nos. 12. Ambulance 01 no.	8. Exploder 02 nos. 9. Water Pumps 02 nos. 10. Explosive Van 02 nos. 11. Jeep 06 nos. 12. Ambulance 01 no.	
3l	Whether height of benches in overburden and mineral suitable for method of mining proposed in MP/SOM	Waste: 05 meters Ore/mineral: 05 meters	Waste: 05 meters Ore/mineral: 05 meters	
3m	Total area covered under excavation/pits	17.50 Ha. Up to end of review period.	Being done as per proposal.	
3n	Ore to OB ratio for the pit/mine during the year (t/M3)	5.44	1.04	(Tonne/M3)
3o	Total area put in use under different heads at the end of year	Pit- 17.50 Ha. Waste/reject- 7.50 Ha. Others-11.906 Ha.	Pit- 15.45 Ha. Waste/reject- 5.19 Ha. Others-13.406 Ha.	
3p	Production of ROM mineral during last five-year period, as applicable (in Metric Tonnes)	Yr- 2014-15: 1290400.00 Metric Tonnes Yr- 2015-16: 1464000.00 Metric Tonnes Yr- 2016-17: 1454400.00 Metric Tonnes Yr- 2017-18: 1460800.00 Metric Tonnes Yr- 2018-19: 1099915.00 Metric Tonnes	Yr- 2014-15: 253893.87 Metric Tonnes Yr- 2015-16: 368068.00 Metric Tonnes Yr- 2016-17: 174269.35 Metric Tonnes Yr- 2017-18: 455377.91 Metric Tonnes Yr- 2018-19: 422699.75 Metric Tonnes	
3q	General remarks of inspecting officer on method of mining etc.	NIL		

4.0 Solid Waste Management-Dumping

SN	Item	Proposals	Actual work	Remarks
4a	Separate dumping of topsoil, OB & mineral reject (Rule 36, 37)	Separate dumping of topsoil, OB/IB, mineral reject and waste has been proposed in the approved document.	Being done as per proposal.	
4b	Location of topsoil, OB & mineral reject dumps (Range in UTM/Local Coordinate/Plot No./Location)	Waste/OB/IB: N2510 to N2760 and E1520 to E1770 Ore/Fines: N2480 to N2520 and E1380 to E1440 N1804 to N1870 and E920 to E1030 White ROM: N2250 to N2310 and E1260 to E1300	Broadly the waste dump is as per proposal but other dump i.e. Slime, BHQ,ROM is not as per proposal.	
4c	Number of dumps within lease area and outside lease area	01 no.	01 no.	
4d	Location of dumps w.r.t. ultimate pit limit (Rule 14)	Proposed beyond ultimate pit limit.	Being done as per proposal.	
4e	Number of active & alive	Active 01 no.	Active 01 no.	

	dumps			
4f	Number of dead dumps	Not proposed in the approved document.	Not applicable	
4g	Number of dumps stabilised	Not proposed in the approved document.	Not applicable	
4h	Whether Retaining wall or garland drain all along dumps are there	Yes available along the dump periphery	Being done as per proposal.	
4i	Length of Retaining wall or garland drain all along dump	Retaining wall- Repair and height extension Garland drain – 200m additional length along the periphery and lease boundary proposed to be carried out during year 2021-22.	The retaining wall is not proper and most of the places it was filled or collapsed.	
4j	Number of settling ponds	Already existing 12 ponds, hence, Not proposed for this year	Existing ponds repaired and maintained only	
4k	Specific comments of inspecting officer on waste dump management	The existing protective measures taken around waste dump are insufficient and it has been found that the waste material was escaping and washing away from the dumps and was contaminating the nearby area and extending outside lease boundary and no retaining wall constructed neither proper terracing done. A proper protective measure should be taken to prevent the escape of the material from the existing waste dumps. The waste, BHQ, Slime and some ROM is dumped in same area.		

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	No such proposal	Not Applicable	
5b	Area under backfilling of mined out area	Nil	Nil	
5c	Concurrent use of topsoil for restoration or rehabilitation of mined out area (Rule 36)	Nil	Nil	No topsoil generate and no mined out area available
5d	Total area fully reclaimed & rehabilitated	Nil	Nil	
5e	General remarks of inspecting officer on backfilling, reclamation etc	No area is matured for backfilling.		

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 23. Details should be given in the format as given in Annexure-20.	Yes, timely submitted	Carry out as per proposal.	
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	i) Nil ii) 2.00 (2018-23) iii) 5000 (2018-23) iv) 10250 (2018-23) v) Nil vi) 300000/-	i) Nil ii) 0.272 (2018-19) iii) 680 (2018-19) iv) 5930 (2018-19) v) Nil vi) 3,60,000/-	Over inactive part of dump yard 280 nos. and over backfilled area 400 nos.
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	i) Nil ii) 2.00 Ha.(2018-23) iii) Total 5000 nos. over 2.00 Ha. Area (2018-23) iv) Nil v) Nil	i) Nil ii) Nil iii) Total 400 nos. over 0.16 Ha. Area iv) Nil v) Nil	
6d	Compliance of Rehabilitation of waste land within lease i) Afforestation ii) Area rehabilitated (ha) iii) Method of rehabilitation	i) Nil ii) Nil iii) Nil	i) 1020 nos. in barren (waste) land area within lease ii) 0.408 Ha. iii) Nil	Near Magazine area and ramps slope and boundary of water recharge pond
6e	Compliance of Environmental monitoring (core zone & buffer zone)	Regular monitoring	The environment monitoring has been carried out as per proposal and their report given in Annual report of Progressive mine closure plan.	
6f	General remarks of inspecting officer on PMCP compliance & progressive	Nil		

7.0 Mineral Conservation

SN	Item	Proposals	Actual work	Remarks
7a	ROM Mineral dispatch or grade-wise sorting within lease area	ROM mineral not proposed for despatch directly and grade wise sorting within lease area proposed	Carried out as per proposal.	
7b	Method of grade-wise mineral sorting i.e. manual or mechanical	Both Manual and Mechanised	Carried out as per proposals	
7c	Different grade of mineral sorted out at mines	Segregation into Lumps /Fines and further gradation after chemical analysis –proposed % Fe content: Below 55% to upto 62 %	Segregation into Lumps /Fines and further gradation after chemical analysis – carried out. % Fe content: Below 55% to upto 62 %	
7d	Any beneficiation process at mines	Mechanical screening and wet scrubbing process at mines proposed.	Carried out as per proposal.	
7e	General remarks of inspecting officer on Mineral conservation & beneficiation issues	The ore is low grade and some material is wet beneficiate to upgrade by washing.		

8.0 Environment

SN	Item	Proposals	Actual work	Remarks
8a	Separate removal and utilization of topsoil (Rule 36)	Proposed in approved plan	NIL quantity of topsoil removed during 2018-19	
8b	Concurrent use or storage of topsoil	Proposed to be stored separately and used in reclamation of mined out area	No top soil generated	
8c	Separate dumps for overburden, waste rock, rejects and fines (Rule 37)	Proposed	Carried out as per approved proposals	
8d	Use of overburden, waste rock, rejects and fines dumps for restoring the land to its original use	Proposed for float area	Not carried out due to non availability of mined out area..	
8e	Phased restoration, reclamation and rehabilitation of lands affected by mining operations (Pits, dumps etc)	Proposed	Afforestation carried out during the year over earlier backfilled area available.	

8f	Baseline information on existence of plantation & additional plantation done (Rule 44)	Total 5000 nos. of plants proposed over reclaimed, backfilled and mined out area during period (2018-23)	Total 1700 nos plants within lease area and outside(400 nos.), Inactive part of dumpyard (280 nos.), barren land available near magazine area, water recharge pond etc (1020 nos.) and other areas outside the lease area residential colony at borla and to individual workers (450 nos)	
8g	Survival rate	Not proposed	Avg.nearly 89.6 %	
8h	Water sprinkling on roads to control airborne dust	Proposed using water tanker (s)	Carried out as per proposal	
8i	General remarks of inspecting officer on aesthetic beauty in and around mines are	No such adverse impact observed during inspection on aesthetic beauty		

9.0 Compliance of Rule 45

S. N.	Item	COMMENTS	Remarks
	Status of submission of Monthly and Annual returns	M.R. Submitted upto – up to date and timely upto feb'20 A.R. submitted upto- up to date and timely 2018-19	

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	Given	Manager Shri S.N.Thakur, Mining Engineer Shri Ramanand & Geologist Shri Sant Das	
9c	Scrutiny of Annual return on land use pattern for area under pits, reclaimed area, dumps etc.		15.45 ha. for mining, Infrastructure 7.50 ha, Waste dump 5.19 ha.	
9d	Scrutiny of Annual return on afforestation	1700 nos within lease.		
9e	Scrutiny of Annual return on mineral reject generation (Grade & quantity)	Nil		
9f	Scrutiny of Annual return on ROM stock and/or graded ore	Mentioned in Annual return		
9g	Scrutiny of Annual return on sale value, Ex. Mine price & production cost	Cost of production is given 1337/- and ex-mine price is ranging from Rs 795/- to Rs 962/-		
9i	Scrutiny of Annual return on fixed assets	Rs 68379411/-		

9k	Scrutiny of Annual return on mining machineries	Detail given in annual return	Excavator 0.6.1.0 & 1.6 cum., wheel loader 1.6 cum & tipper 29 tons capacity	
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10- Details of violations observed during current inspection and compliance position of earlier violation pointed out:-The earlier violation pointed out taken compliance and during present inspection following violations pointed out:

Rule	Nature of Violation observed
11(1)	<p>Mining operations should have been undertaken in accordance with the approved Review of Mining Plan.</p> <p>The Review of Mining Plan was approved vide letter no. राजनंद/ लौह /खयो-1126/2015-रायपुर dated 14.12.2017 and following deviation was observed during inspection</p> <ol style="list-style-type: none"> 1. The mining operation is proposed in 2 pits in ore body IV with one bench and Ore body I with four benches upto 680 RL but working is only carried out in Ore body 1 with 8 benches upto RL 665. 2. The bench width is proposed more than bench height and minimum 5 meters but working is not done as per proposal and width is maintained less than height of benches. 3. The OB dump is not as per proposal and dumping of ROM, BHQ, Waste and slime all are dumped in same places. The waste dump is proposed upto Top RL of 478 but actually the top RL is more than 490 with proper terracing. The slime is stored in between the dump.
37(1)	<p>The existing protective measures taken around waste dump are insufficient and it has been found that the waste material was escaping and washing away from the dumps and was contaminating the nearby area and extending outside lease boundary and no retaining wall constructed neither proper terracing done. A proper protective measure should be taken to prevent the escape of the material from the existing waste dumps.</p>
45(5) (c)(i)	<p>While scrutiny of Annual returns 2018-19 following deviation observed:</p> <ol style="list-style-type: none"> i. The cost of production is mentioned as Rs 1337/- whereas the ex-mine price is Rs 795 to Rs 962 of various grade. ii. In approved review of mining plan the area for plant and infrastructure is mentioned as 2.5 ha. whereas as per annual return it is mentioned 7.50 ha.. iii. As per approved document reclaimed/rehabilitated area is nil whereas 2.656 ha. is mentioned in return.

(Rajesh Kumar Das, Senior Assistant Controller of Mines)