

INDIAN BUREAU OF MINES
MINERALS DEVELOPMENT AND REGULATION DIVISION
MCDR INSPECTION REPORT
BHUBANESWAR REGIONAL OFFICE

General:

SL. No.	Particulars	Details
1	Name of the Mine	Khandbandh Iron Ore Mines
2	Date of inspection	29/9/2023
3	Name of inspecting officer	Prashant S Hegde, RMG
4	Name accompanying mine officials	S/Shri Manoj Kumar, Mines Manager, Sushil Kumar Gond Mining Engineer, Amrit Kumar Behera Geologist and Pradeept Mohapatra, QP
5	Last date of Inspection & Officer	05/03/2023 Shri R.K.Das, DCOM
6	Total Lease Area (Ha) with breakup of Non-forest and forest land	Total Lease area: 35.774 Ha Forest area: 35.774 Ha Non-Forest area: NIL
7	Minecode	30ORI08113
8	IBM Registration Number under rule 45 of MCDR, 2017	IBM/4135/2011
9	Name of the lessee, Address, phone, email and fax number	M/s Sree Metaliks Limited SML House, Main Road , Barbil, Odisha-758035 Phone No: 9437075129 Email: md@sreemetaliks.com smlmines@sreemetaliks.com Fax No: 06767275529
10	Village	Near Village Khandbandh (Baitarani R.F)
11	Taluka/Mandal	Barbil
12	District	Keonjhar
13	Pincode	758034
14	State	Odisha
15	Post office	Khandbandh
16	Nearest police station	Bamebari
17	Nearest Railway station	Jururi
18	Date of Grant of Mining Lease	11.01.2017
19	Date of Execution	11.01.2017
20	Date of opening of Mine	21.03.2018
21	Date of expiry	10.01.2067
22	Name of the Nominated Owner with Address, phone, email, fax number and date of appointment	Shri Mahesh Kumar Agarwal Managing Director SML House, Main Road , Barbil, Odisha-758035 Phone No: 9437075129 Email: md@sreemetaliks.com Fax No: 06767275529
23	Name of the Mine Agent with Address, phone, email, fax number and date of appointment	___do___

24	Name of the Mines Manager with Address, mobile no, email, fax number and date of appointment in mine	Mr. Manoj Kumar At/Po : Khandbandh ; District: Keonjhar, Odisha-758034 Phone No: 90019 94012 Email: smlmines@sreemetaliks.com Date of Appointment: 01.06.2023
25	Name of the Mining Engineer , Qualification and total experience with Address, mobile no, email, fax/phone number and date of appointment in mine	Shri Sushil Kumar Gond Qualification: B.Tech in Mining(Second Class Manager Certified Holder); Experience: 10 years Address: At/Po: Khandbandh ; District: Keonjhar, Odisha-758034. Phone No: 9439551837 Date of Appointment: 01.02.2020
26	Name of the Geologist , Qualification and total experience with Address, mobile no, email, fax number and date of appointment in mine	Shri Amrit Kumar Behera Qualification: M.Sc in Applied Geology; Address: At/Po : Joda ; District: Keonjhar, Odisha-758034. Phone No: 7978419414 Email: amritbeherajsp@gmail.com Date of Appointment: 11.04.2021
27	Date of Approval of Mining Plan/Review of Mining Plan/ their modifications with five-year period and specific condition in approval letter, if any.	1)Approved Modifications of Review of the Mining Plan- 23.02.2021 for a Period from 2021-22 to 2025-26. 2)Draft Modified RMP submitted on 13/09/2023 was under process.
28	Mineral (s) granted in lease and proved for mining	Iron Ore
29	Method of Mining(Open cast, Underground)	Open Cast
30	Category (Fully Mechanised, Others or Manual)	Fully Mechanized
31	Captive/Non Captive	Captive
32	Present EC Capacity	1.5 million tonnes

OBSERVATIONS/COMMENTS OF INSPECTING OFFICER:**1)Exploration:---**

SL.No	Item	Proposals (FY 2022-23)	Actual work	Remarks
1a	Backlog of previous year	FY-21-22: 13 nos of core BHs FY 22-23: NIL	FY-21-22: 14 nos of core BHs drilled FY 22-23: NIL	_____
1b	Exploration over lease area for Geological axis 1 or 2.	Conversion of 3.15 Ha G-2 area to G-1	G-1: 35.774 Ha So far.	Area proved as Non-mineralized: 9.364 Ha
1c	Exploration Agency & Expenditure in lakh Rupees during the year	NA	For FY: 21-22 Thriveni Earth Movers Pvt.Ltd. and	_____

			expenditure 52.02 Lakhs.	
1d	Balance area to be explored to bring Geological axis in 1 or 2	NA	NIL	Entire ML area explored under G-1
1e	Balance reserves as on 01.04.2023	NA	As on 1/4/23 reserves as follows: 122&121: 9.08 Million tonnes (+45% Fe)	Based on latest approved modified RMP dated 23/2/2021.
1f:	General remarks of inspecting Officer on Geology, exploration etc.	The lease area is a part of the Horse-shoe shaped Singhbhum-Bonai-Keonjhar iron ore belt and eastern limb of the synclorium. The general lithological succession is as follows: laterite, Lateritic iron ore, Hard and soft laminated iron ore, Shale, BHJ/BHQ. Considering the information of existing quarries & borehole data, the shape of the mineral deposit is 450m x 400m x 40 m.		

2)Development:--

SL. No.	Item	Proposals (FY 2022-23)	Actual work	Remarks
2a	Location of development w.r.t. lease area	Quarry-1 & 2 E 332295 to E332865 N 2429150 to N 2429590 Sections: E332400 to E332800	Within the proposed location.	_____
2b	Separate benches in topsoil, overburden and mineral	Top soil :NIL Separate benches for OB and mineral.	As per proposal	_____
2c	Stripping ratio or ore to OB ratio	1:0.40	1: 0.59	Ratio in tonnes
2d	Quantity of topsoil generation in m3	NIL	Nil	_____
2e	Quantity of overburden generation in m3	3,02,612 Cum	3,28,630 Cum	Due to rectification of benches.
2f	General remarks of inspecting Officer on development of pit w.r.t. type	Development of pit is being carried out as per the approved modified RMP. Moreover, lessee has submitted draft Modified RMP on 13/09/2023 and same is under process		

	of deposit etc	
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3)Exploitation:--

SL.No.	Item	Proposals (FY 2022-23)	Actual work	Remarks
3a	Number of pits proposed for production	Two	Two	_____
3b	Quantity of ROM mineral production proposed	1,500,004 tonnes	1,100,928 tonnes	Due to delay in obtaining SPCB clearance.
3c	Recovery of salable/usable mineral from ROM production	892,404 tonnes (60 %)	733,889 tonnes (66 %)	+58 % Fe.
3d	Quantity of mineral reject generation	607,600 tonnes	367,039 tonnes	45 to 58 % Fe
3e	Grade of mineral reject generation and threshold value declared	45 to 58 % Fe	45 to 58 % Fe	Threshold value of Iron Ore : +45 % Fe
3f	Quantity of sub-grade mineral generation	Same as para 3d		Sub-grade mineral/mineral reject are being stacked separately & utilized as per market condition.
3g	Grade of sub-grade mineral generation	Same as para 3e		
3h	Manual / Mechanised method adopted for segregating from ROM	Mechanized	Mechanized	_____
3i	Any analysis or beneficiation study	Nil	NIL	_____

	proposed & carried out for sub-grade mineral and reject													
3j	Provision of drilling & blasting in mineral benches	Yes; Hole Dia-115 mm, Bench Height- 6 m, Burden-2.5 m, spacing- 3 m,Hole Depth- 6.6m, Stemming-30 % of the depth of hole, Staggered drilling pattern Blasting:- Controlled Blasting using Nonel shock tubes	As per proposals.	_____										
3k	Provision of mining machineries in mineral benches	Yes; Mechanized Mining by Shovel/excavators & Dumpers (30T) combination.	As per proposals.	_____										
3l	Whether height of benches in overburden and mineral suitable for method of mining proposed in MP/SOM	6m bench height with 9m width	Broadly as per proposals.	_____										
3m	Total area covered under excavation/ pits	27.603 Ha (End of Plan period)	20.537 Ha	Within the limit.										
3n	Ore to OB ratio for the pit/mine during the year	1:0.40	1: 0.59	Ratio in tonnes										
3o	Total area put in use under different heads at the end of year	<table border="1"> <thead> <tr> <th>Particulars</th> <th>Total Area(Ha) at the end of Plan period</th> </tr> </thead> <tbody> <tr> <td>Area under Mining</td> <td>27.603</td> </tr> <tr> <td>Overburden/ Waste dumping</td> <td>NIL (back-filling in existing Pit)</td> </tr> <tr> <td>Mineral Storage</td> <td>3.685</td> </tr> <tr> <td>Infrastructure (Occupied by plants)</td> <td>1.226</td> </tr> </tbody> </table>	Particulars	Total Area(Ha) at the end of Plan period	Area under Mining	27.603	Overburden/ Waste dumping	NIL (back-filling in existing Pit)	Mineral Storage	3.685	Infrastructure (Occupied by plants)	1.226	Broadly within the limit. However, the actual lease area (surface area) utilization information furnished under AR was not matching as compare to submitted draft modified RMP on 13/09/2023 and land-use map submitted along with DAI under rule 34A.	V/L issued under rule 45(7) on 18/10/23.
Particulars	Total Area(Ha) at the end of Plan period													
Area under Mining	27.603													
Overburden/ Waste dumping	NIL (back-filling in existing Pit)													
Mineral Storage	3.685													
Infrastructure (Occupied by plants)	1.226													

		buildings & roads																						
3p	Production of ROM mineral during last five-years period, as applicable	<table border="1"> <tr><td>2018-19</td><td>623,233</td></tr> <tr><td>2019-20</td><td>702,028</td></tr> <tr><td>2020-21</td><td>702,040</td></tr> <tr><td>2021-22</td><td>1,499,808</td></tr> <tr><td>2022-23</td><td>1,500,004</td></tr> </table>	2018-19	623,233	2019-20	702,028	2020-21	702,040	2021-22	1,499,808	2022-23	1,500,004	<table border="1"> <tr><td>2018-19</td><td>613,940</td></tr> <tr><td>2019-20</td><td>699,298</td></tr> <tr><td>2020-21</td><td>701,197</td></tr> <tr><td>2021-22</td><td>701,383</td></tr> <tr><td>2022-23</td><td>1,100,928</td></tr> </table>	2018-19	613,940	2019-20	699,298	2020-21	701,197	2021-22	701,383	2022-23	1,100,928	Unit: In tonnes
2018-19	623,233																							
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2022-23	1,100,928																							
3q	General remarks of inspecting Officer on method of mining etc	Open-cast fully mechinsed mining method is being carried as per approved modified RMP with deep hole drilling & blasting. Moreover, lessee has submitted draft Modified RMP on 13/09/2023 and same is under process.																						

4)Solid Waste Management-Dumping:--

SL.No.	Item	Proposals (FY 2022-23)	Actual work	Remarks
4a	Separate dumping of topsoil, OB & mineral reject	Top-soil: Nil 70 % of OB wastes : Back-filling 30% of OB Wastes: Road maintenance	Broadly as per the proposals.	_____
4b	Location of topsoil, OB & mineral reject dumps	TOP SOIL:-NIL OB: Dump-1 (Backfilling) E 332111 – 332235 N 2429480– 2429655 Mineral Reject: E 332225-332310 N 2429165 – 2429250; E 332300-332350 N 2429435 – 2429505	Broadly as per the proposals.	_____
4c	Number of dumps within lease area and outside lease area	Within Lease Area:1 Outside lease area: Nil	As per proposals.	_____
4d	Location of dumps w.r.t. ultimate pit limit	Dump – 1 Outside of UPL	As per proposals.	OB dump / backfilling in Quarry 1

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4e	Number of active & alive dumps	One	One active	___do__
4f	Number of dead dumps	NIL	NIL	___
4g	Number of dumps stabilised	One	One	Partially stabilized and dumping is taking place in remaining area.
4h	Whether Retaining wall or garland drain all along dumps are there	Yes	Proposals carried out as per approved modified RMP.	___
4i	Length of Retaining wall or garland drain all along dump	NIL	NIL	Maintenance of Existing Retaining wall- 1014 m Garland drain- 740 m are being carried out
4j	Number of settling ponds	NIL	NIL	Maintenance of 2 nos settling ponds are being carried out
4k	Specific comments of inspecting Officer on waste dump management	Overburden wastes back-filling and mineral reject management are being carried out as per the approved proposals.		

5)Solid Waste Management-Backfilling:--

SL.No	Item	Proposals (FY	Actual work	Remarks
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.		2022-23)		
5a	Status on part or full extraction of mineral from mined out area before starting backfilling	Back-filling proposed at exhausted part of Pit/Quarry No-1 (E 332111-332235 & N-2429480-2429655)	Broadly as per the proposals.	_____
5b	Area under backfilling of mined out area	1.006 Ha	1.05 Ha	Cumulative back-filled area so far: 3.49 Ha
5c	Concurrent use of topsoil for restoration or rehabilitation of mined out area	Nil	Nil	No top-soil generation.
5d	Total area fully reclaimed & rehabilitated	NIL	NIL	_____
5e	General remarks of inspecting Officer on backfilling and reclamation etc	Back-filling is being carried out at exhausted part of Pit/Quarry No-1 as per approved modified RMP		

6) Progressive Mine Closure Plan:---

SL.N.	Item	Proposals (FY 2022-23)	Actual work	Remarks
6a	Whether Annual report on PMCP submitted on time and correctly - Rule 26(2). (Hard copy same provided)	Before 1 st July of, 2022-23	Submitted on time	NIL
6b	Management of worked/ mined out benches/dumps 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) Nil iii) NIL iv) NA v) NIL vi) Nil	i) Nil ii) Nil iii) 11,600 (Within ML) iv) 22,518 nos so far (Within ML) v) Plantation vi) NA	11,600 nos saplings planted within ML at safety zone /NW part of dump/back-filled terraces. during year 22-23.
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) 1.006 Ha ii) 211,828 m3 iii) No such proposals iv) No such proposals v) No such proposals	i) 1.05 HA ii) 262,904 m3 iii) Nil iv) Nil v) Nil	1) Back-filling is being carried out at exhausted part of Pit/Quarry No-1 2) Little more development due to rectification of benches.
6d	Compliance of Rehabilitation of waste land within lease i) Afforestation ii) Area rehabilitated (ha) iii) Method of rehabilitation	i) 380 nos at safety zone ii) 0.19 ha iii) Plantation	i) 1,500 nos ii) 0.19 Ha iii) Plantation	1,500 nos of saplings planted at safety zone including gap plantation.
6e	Compliance of Environmental monitoring (core zone & buffer zone)	Environmental monitoring in Core zone and buffer zone will be as per MOEFCC and SPCB guidelines.	Environmental monitoring in Core zone and buffer zone was carried out as per the proposals and parameters are within the limit.	_____
6f	General remarks of inspecting Officer on PMCP compliance & progressive closure operation etc	Lessee has implementing PMCP proposals as per approved modified RMP.		

7) Mineral Conservation:---

SL.No	Item	Proposals ((FY 2022-23)	Actual work	Remarks
7a	ROM Mineral dispatch or grade-wise sorting within lease area	Grade wise sorting by crushing and screening within lease area. (45 to 58 % Fe) and Above 58% Fe)	As per proposals	NIL
7b	Method of grade-wise mineral sorting i.e. manual or mechanical	Mechanical	Mechanical	NIL

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7c	Different grade of mineral sorted out at mines	Iron Ore of different size and grade (CLO & Fines) proposed to be sorted out and dispatched (Iron Grade range- 51-55% Fe, 55-58% Fe, 58-60% Fe, 60-62% Fe & 62-65% Fe)	As per proposals	NIL
7d	Any beneficiation process at mines	None except dry crushing and screening	As per proposals	NIL
7e	General remarks of inspecting Officer on mineral conservation & beneficiation issues	Grade-wise soring & dispatches of ore/mineral for their captive consumption only (FY-2022-23) and there is no mineral conservation issue.		

8)Environment:--

SL.No.	Item	Proposals (FY 2022-23)	Actual work	Remarks
8a	Separate removal and utilization of topsoil	No such proposals.	Nil	_____
8b	Concurrent use or storage of topsoil	No such proposals.	Nil	_____
8c	Separate dumps for overburden, waste rock, rejects and fines	Overburden waste: Back-filling at exhausted part of Pit/Quarry No-1 (E 332111 – 332235 N 2429480–2429655) Mineral Reject: E 332225-332310 N 2429165 – 2429250; & E 332300-332350 N 2429435 – 2429505	Broadly as per the proposals.	_____
8d	Use of overburden, waste rock, rejects and fines dumps for restoring the land to its original use	Back-filling at exhausted part of Pit/Quarry No-1 (1.006 Ha)	Broadly as per the proposals.	Nil
8e	Phased restoration, reclamation and rehabilitation of lands affected by mining	_____ do _____	_____ do _____	_____

	operations (Pits, dumps etc)			
8f	Baseline information on existence of plantation & additional plantation done	380 nos saplings proposed during FY 22-23.	11,600 nos saplings planted within ML at safety zone /NW part of dump/back-filled terraces. during year 22-23 with cumulative of 22,518 nos so far (Within ML)	_____
8g	Survival rate	NA	85 %	_____
8h	Water sprinkling on roads to control airborne dust	Regular sprinkling of water on Haul roads, Waste dumps & crushing plant locations using Water tankers to suppress the dust.	Carried out as per the proposals.	_____
8i	General remarks of inspecting Officer on aesthetic beauty in & around mines area.	Aesthetic beauty in & around mines area is good as lessee implementing the PMCP proposal and carried out plantation as per the proposals.		

9) Compliance of Rule 45

SL.No.	Item	COMMENTS		Remarks.
9a	Status of submission of Monthly and Annual returns	Presently regularly submitting the MRs/ARs on-time.		Nil
S.N.	Item	Details GIVEN in A.R.	Actual in field	_____
9b	Scrutiny of Annual return for information on Mining Engineer, Geologist and Manager	Mines Manager: Shri Manoj Kumar Mining Engineer: Shri Sushil Kumar Gond Geologist: Shri Amrit Kumar Behera	Actual also the same	_____
9c	Scrutiny of Annual return on land use pattern for area under pits, reclaimed area, dumps etc.	(1) Covered under current (O/C) Workings- 20.537 Ha (2) Used for Waste Disposal-NIL (3) Reclaimed :3.49 Ha (4) Occupied by plant, buildings, residential, welfare, buildings and roads- 3.42 Ha (4)Other Purpose (Mineral reject Dump)- 3.283 Ha	Broadly within the limit. However, the actual lease area (surface area) utilization information furnished under AR was not matching as compare to submitted draft modified RMP on 13/09/2023 and land-use map submitted along with DAI under	V/L issued under rule 45(7) on 18/10/23.

			rule 34A.																							
9d	Scrutiny of Annual return on afforestation	11,600 nos within ML	Actual also as per AR	_____																						
9e	Scrutiny of Annual return on mineral reject generation (Grade & quantity)	<p>During year-22-23</p> <table border="1"> <tr> <td>Iron Processed Ore (45-58 % Fe,)</td> <td>3,67,039 tonnes</td> </tr> </table>	Iron Processed Ore (45-58 % Fe,)	3,67,039 tonnes	Appear to be correct.	_____																				
Iron Processed Ore (45-58 % Fe,)	3,67,039 tonnes																									
9f	Scrutiny of Annual return on ROM stock and/or graded ore	<p>As on 31.03.2023 tonnes Stock Iron ROM:NIL</p> <table border="1"> <tr> <th colspan="2">Fines closing stock in tonnes</th> </tr> <tr> <td>51%-55%</td> <td>48,668</td> </tr> <tr> <td>55%-58%</td> <td>145</td> </tr> <tr> <td>58%-60%</td> <td>171</td> </tr> <tr> <td>60%-62%</td> <td>8,149</td> </tr> <tr> <td>62%-65%</td> <td>710</td> </tr> <tr> <td>65% and above</td> <td>11</td> </tr> <tr> <th colspan="2">CLO stock in tonnes</th> </tr> <tr> <td><62% Fe (clo any size)</td> <td>3525</td> </tr> <tr> <td>62%-65% Fe (5-18 mm)</td> <td>5</td> </tr> <tr> <td>62 to 65 % Fe and above(10-40mm)</td> <td>NIL</td> </tr> </table>	Fines closing stock in tonnes		51%-55%	48,668	55%-58%	145	58%-60%	171	60%-62%	8,149	62%-65%	710	65% and above	11	CLO stock in tonnes		<62% Fe (clo any size)	3525	62%-65% Fe (5-18 mm)	5	62 to 65 % Fe and above(10-40mm)	NIL	Appear to be correct.	_____
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62 to 65 % Fe and above(10-40mm)	NIL																									
9g	Scrutiny of Annual return on sale value, Ex. Mine price & production cost	Cost of production & Ex. Mine price : Rs 1648.58 per tonne	Appear to be correct as captive mine	_____																						
9i	Scrutiny of Annual return on fixed assets	Value of Fixed of Assets: Rs 11,40,20,353	Appear to be correct	_____																						
9k	Scrutiny of Annual return on mining machineries	<p>Back Hoe (2.1 cum) : 1 nos ; Back Hoe (1.7 cum) : 1 nos ; Back Hoe (1.5 cum) : 1 nos ; Wheel Loader(1.7 cum): 1nos; Dumpers (30 T):8 nos ; Water tanker: 4nos; Crusher: 1 nos; Dozer: 1nos</p>	Observed to be correct	_____																						

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(10) Violation observed during current inspection and compliance position of earlier violation pointed out:

(a) Compliance position of earlier violation pointed out: During last inspection dated 05/03/2023, the violation of rule 11(1), MCDR 2017 was pointed out and subsequently, said rules complied on 18/10/23.

(b) During current inspection: The violation of Rule 45(7) of MCDR 2017 has been observed and the violation letter issued on 18/10/23.

(11) On-line validation of star rating of templates submitted under rule 35 (FY-2022-23) has been made on 18/10/23 for four star at RO level.

(12) The lessee has submitted DAI/drone survey data under rule 34A for FY 22-23 on 10/07/2023.

Date:18/10/2023

(Prashant S. Hegde)
Regional Mining Geologist