

**INDIAN BUREAU OF MINES
MINERALS DEVELOPEMMENT AND REGULATION DIVISION**

MCDR INSPECTION REPORT

Bhubaneshwar regional office

Mine file No : ORI/IRON/KJR/MCDR-85/BBS

Mine code : 30ORI08113

- (i) Name of the Inspecting : **RKD**) **RAJESH KUMAR DAS**
Officer and ID No.
- (ii) Designation : Deputy Controller Mines
- (iii) Accompanying mine : Shri Lingaraj Mahanta(Mine Manager)
Official with
Designation
- (iv) Date of Inspection : 05/03/2023
- (v) Prev.inspection date : 27/06/2021

PART-I : GENERAL INFORMATION

1. (a) **Mine Name** : **KHANDBANDH IRON ORE MINE**
- (b) **Registration NO.** : **IBM/4135/2011**
- (c) Category : A Mechanised
- (d) Type of Working : Opencast
- (e) Postal address
- State : ORISSA
- District : KEONJHAR
- Village : KHANDBANDH
- Taluka : BARBIL
- Post office : KHANDBANDH
- Pin Code : 758035
- FAX No. : 06767275529
- E-mail : sml@sreemetaliks.com
- Phone : 06767275529
- (f) Police Station : Bamebari
- (g) First opening date : 21/03/2018
- (h) Weekly day of rest : SUN
2. Address for : SHREE METALIKS LIMITED
correspondance SML HOUSE, MAIN ROAD, BARBIL
DIST- KEONJHAR
3. (a) Lease Number :
- (b) Lease area :
- (c) Period of lease :
- (d) Date of Expiry :
4. Mineral worked : IRON ORE Main

5. Name and Address of the

Lessee : M/S SREE METALIKS LIMITED
 KEONJHAR ORISSA
 Phone:
 FAX :

Owner : M/S SREE METALIKS LTD
 KEONJHAR ORISSA
 Phone:
 FAX :

Agent : Mr. Mahesh Kumar Agarwal
 SML House, Main Road ,
 Barbil, KEONJHAR ORISSA
 Phone: 9437075129
 FAX : 6767275529

Mining Engineer

Name : Sri Subit Kumar Sahu, Full Time
 Qualification : B.Tech in Mining
 Appointment/ : 29/03/2018
 Termination date

Geologist

Name : Sri Ranjan Kumar Moharana, Full Time
 Qualification : M.sc in Applied Geology
 Appointment/ : 29/03/2018
 Termination date

Manager

Name : Sri Mahendra Kumar Mohanty
 Qualification : Diploma in Mining (First Class Manager C
 Appointment/ : 29/03/2018
 Termination date

6. Date of approval of Mining	:	MP modif under 17(3) MCR 2016	12/10/2018
Plan/Scheme of Mining	:	MP review under 17(1) MCR 2016	18/11/2020
	:	Modif.approved Mining Scheme	23/02/2021

PART - II : OBSERVATION/COMMENTS OF INSPECTING OFFICERS

Exploration :

Sl.No.	Item	Proposals	Actual work	Remarks
1a	Backlog of previous year	13 bore hole proposed in 2021-22	13 core bore holes drilled broadly as per proposal.	
1b	Exploration over lease area for geological axis 1 or 2	Total lease area 35.774 ha.	Broadly done as per proposal.	
1c	Exploration Agencies and Expenditure in lakh rupees during the year	Not mentioned specifically.	Thriveni Earth Movers Pvt.Ltd. and expenditure 52.02 Lakhs.	
1d	Balance area to be explored to bring Geological axis in 1 or 2	Nil	Nil	
1e	Balance reserve as on 01/04/20		9.52 million tons as on 01.04.2022	
1f	General remarks of inspecting officers on geology, exploration etc			The main rock type found in these mines are laterite,Hematite(massive,Hard Laminated,soft laminated),BHJ/BHQ .The strike of ore body is along NE-SW and dip is due SE varying from 35-45 degree.The lease area broadly explored in Gl.

Development :

Sl.No.	Item	Proposals	Actual work	Remarks
2a	Location of development w.r.t.lease area	Quarry 1:E332280 to E332575,N24293 10 To N2429560, Quarry 2: E332530 to E332880,N24291 44 to 2429295.	In Quarry 1 development not done as per proposal and orientation of benches is also deviated w.r.t. proposal.	violation pointed out.

2b	Separate benches in topsoil, overburden and minerals (Rule 15)	Top soil- Nil, In OB & Mineral separate benches.	Top soil nil, OB and Mineral separate benches but less benches w.r.t proposal.
2c	Stripping ratio or ore to OB ratio	1:0.345	1:0.39
2d	Quantity of topsoil generation in m3	Nil	Nil
2e	Quantity of overburden generation in m3	258515	138123
2f	General remarks of inspecting officers on development of pit w.r.t. type of deposit etc		As mentioned earlier deviation observed in development and accordingly violation pointed out.

Exploitation:

Sl.No.	Item	Propasals	Actual work	Remarks
3a	Number of pit proposed for production	Two Pit	Two Pit	
3b	Quantity of ROM mineral production proposed	1499808 MT	701383 MT	
3c	Recovery of sailable/usable mineral from ROM production	90%	Broadly as per proposal.	
3d	Quantity of mineral reject generation	423588 MT	306485 MT	
3e	Grade of mineral rejects generation and threshold value declared.	Above 45% Fe and below 58%	Above 45% Fe and below 58%	

3f	Quantity of sub grade mineral generation.	423588 MT	306485 MT	
3g	Grade of sub grade mineral generation	Above 45% Fe and below 58%	Above 45% Fe and below 58%	Mineral reject is subgrade ore
3h	Manual / Mechanised method adopted for segregating from ROM	Mechanised	Mechanised	
3i	Any analysis or beneficiation study proposed and carried out for sub grade mineral and rejects.	NA	NA	
3j	Provision of drilling and blasting in mineral benches	Yes ,deep hole drilling with 115mm hole dia.	Broadly as per proposal.	
3k	Provision of mining machineries in mineral benches	Yes,Excavator,Dumper,Loader,Dumper,Drill m/c	Broadly as per proposal.	
3l	Whether height of benches in overburden and mineral suitable for method of mining proposed in MP/SOM	Yes	Some place height is more than proposal.	
3m	Total area covered under excavation/pits	27.603 ha.	22.937 ha.	
3n	Ore to OB ratio for the pit/mine during the year.	1:1.89	1:2.538(OB-276244 tons.ROM-701383 Tons)	
3o	Total area put in use under different heads at the end of year	Mine Pit-27.603 Ha.,Mineral storage-3.685 Ha.,Roads 0.11 ha.,Infrastructure-1.536 ha.	Mine Pit-22.937 Ha.,Mineral storage-2.4 Ha.,Roads 0.14 ha.,Infrastructure-1.060 ha.	

3p	Production of ROM mineral during the last five year period as applicable	2017-18:144900 MT 2018-19: 623233 MT 2019-20:702028 MT 2020-21: 702040 MT 2021-22: 1499808 MT	2017-18:42240 MT 2018-19: 613940 MT 2019-20:699298 MT 2020-21: 701197 MT 2021-22: 701383 MT
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3q	General remarks of inspecting officers on method of mining etc.	The method of mining is by opencast mining with deep hole drilling blasting using HEMM.
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Solid Waste Management - Dumping:

Sl.No.	Item	Propasals	Actual work	Remarks
4a	Separate dumping of topsoil, OB and mineral rejects (Rule 32,33)	Top soil: Nil, OB and Mineral reject seperate dump	Broadly as per proposal.	
4b	Location of topsoil, OB and mineral reject dumps	Top soil- Nil,OB dump(Backfilli ng in Quarry 1),Mineral Reject:N242916 5 to 2429250/E33222 5 to 332310(South west),N2429435 to 2429505/E33230 0 to 332350(Norther n side)	Bckfilling is done in quarry 1 but extended proposed area and mineral reject broadly as per proposal.	
4c	Number of dumps within lease area and outside of lease area	Within lease area one dump	Within lease area one dump	
4d	Location of dumps w.r.t. ultimate pit limit (Rule 16)	OB dump in backfilling in Quarry 1	OB dump in backfilling in Quarry 1	

4e	Number of active and alive dumps.	one	one	
4f	Number of dead dumps.	Nil	Nil	
4g	Number of dumps established.	one	one	
4h	Whether Retaining wall or garland drain all along dumps are there.	Yes, Retaining wall maintenance	Yes, Retaining wall maintenance	
4i	Length of Retaining wall or garland drain all along dumps	Retaining wall : 250mX1mX1.5m Garland Drain: 180mX2mX1m	Retaining wall : 280mX1mX1.5m Garland Drain: 150mX2mX1m	
4j	Number of settling ponds	Maintenance	Maintenance	
4k	Specific comments of inspecting officer on waste dump management			Broadly no major dump and waste dumping is done as backfilling in Quarry 1 therefore complied.

Solid Waste Management - Backfilling:

Sl.No.	Item	Propasals	Actual work	Remarks
5a	Status of part or full extraction of mineral from mined out area before starting backfilling.	Yes	Yes	
5b	Area under backfilling of mined out area	0.9168 ha.	0.820 ha. reported	
5c	Concurrent use of topsoil for restoration or rehabilitation of mineral out area (Rule 32)	NA	NA	Top soil generation Nil
5d	Total area fully reclaimed and rehabilitated	Nil	Nil	

5e	General remarks of inspecting officers on backfilling and reclamation etc.	Backfilling is done in Quarry 1 area but not as proposed area.
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Progressive Mine Clousre Plan:

Sl.No.	Item	Propasals	Actual work	Remarks
6a	Whether Annual report on PMCP submitted on time and correctly. Rule 23 E(2).	Yes	PMCP submitted within time.	
6b	Area available for rehabilitation (ha) .	Nil	Nil	
6c	afforestation done (ha).	0.19	0.888	
6d	No. of saplings planted during the year	380 nos saplings	5600 nos saplings	
6e	Cumulative no .of plants	380	5600	
6f	Any other method of rehabilitation	NA	NA	
6g	Cost incurred on watch and care during the year	Nil	Nil	
6h	Compliance on reclamation and rehabilitation by backfilling (i) Voids available for backfilling (Lx B x D	0.9168 ha.	0.820 ha.	
6i	Compliance on reclamation and rehabilitation by backfilling (ii) Voids filled by waste / tailings	Nil	Nil	

6j	Compliance on reclamation and rehabilitation by backfilling (iii)Afforestation on backfilled area	Nil	Nil
6k	Compliance on reclamation and rehabilitation by backfilling (iv) Rehabilitation by making water reservoir	NA	NA
6l	Compliance on reclamation and rehabilitation by backfilling (v)any other specific means.	NA	NA
6m	Compliance of rehabilitation of waste land within lease (i)afforestation	0.19 ha.	0.888 ha.
6n	Compliance of rehabilitation of waste land within lease (ii)Area rehabilitation (ha)	Nil	Nil
6o	Compliance of rehabilitation of waste land within lease (iii)Method of rehabilitation	Nil	Nil
6p	Compliance of environmental monitoring (core zone and buffer zone)	Proposed as per MOEF and CC guide line.	Broadly as per proposal.

6q	General remarks of inspecting officers on PMCP compliance and progressive closure operations etc.	Broadly complied.
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Mineral Conservation:

Sl.No.	Item	Propasals	Actual work	Remarks
7a	ROM Mineral dispatch or grade-wise sorting within lease area	Gradewise Sorting within the lease area: 45-55%Fe grade and Above 55%Fe grade.	Broadly as per proposal.	
7b	Method of grade-wise mineral sorting i.e. manual or mechanical.	Mechanical	Mechanical.	
7c	Different grade of mineral sorted out at mines.	Gradewise Sorting within the lease area: 45-55%Fe grade and Above 55%Fe grade.	Broadly as per proposal.	
7d	Any beneficiation process at mines .	NA	NA	
7e	General remarks of inspecting officer on Mineral conservation and beneficiation issues			No beneficiation done only crushing and screening and blending of low grade to high grade to get desire grade.

Environment:

Sl.No.	Item	Propasals	Actual work	Remarks
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8a	Separate removal and utilization of topsoil (Rule 32)	Top soil generation Nil	Top soil generation Nil
8b	Concurrent use or storage of topsoil	NA	NA
8c	Separate dumps for overburden, waste rock, rejects and fines (Rule 33)	Seperate dumps for OB and mineral reject proposed	Broadly as per proposal.
8d	Use of overburden, waste rock, rejects and fines dumps for restoring the land to its original use	OB/Waste for backfilling	OB/Waste for backfilling
8e	Phased restoration, reclamation and rehabilitation of lands affected by mining operations (Pits, dumps etc)	Phase wise backfilling proposed in Quarry 1	Broadly as per proposal.
8f	Baseline information on existence of plantation and additional plantation done (Rule 41)	360 nos saplings	5100 nos saplings
8g	Survival rate	Not mentioned specifically.	77% reported
8h	Water sprinkling on roads to control airborne dust	Water tanker of 12 KL proposed for dust suppression.	Water tanker is used for dust suppression and additional 750 mtrs of permanent fixed type water sprinkler installed in permanent haul road for dust suppression.

8i	General remarks of inspecting officer on aesthetic beauty in and around mines area	Broadly complied the Environmental protection parameters.
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Compliance of Rule 45:

Sl.No.	Item	Propasals	Actual work	Remarks
9a	Status of submission of Monthly and Annual returns	As per 45(5) of MCDR,2017	MR of Jan'23 submitted on time and AR of 2021-22 also submitted in time.	
9b	Scrutiny of Annual return for information on Mining Engineer, Geologist and Manager	Yes given	Mine Manager Changed Shri Lingaraj Mahanta.	
9c	Scrutiny of Annual return on land use pattern for area under pits, reclaimed area, dumps etc.	Yes given	Covered under opencat mining-22.937ha.,waste disposal 0.14 ha.Infrastructure and road-1.06 ha.	
9d	Scrutiny of Annual return on afforestation	5600 nos saplings reported	Broadly as per actual.	
9e	Scrutiny of Annual return on mineral reject generation (Grade and quantity)	306485 tons of below 58% Fe reported.		
9f	Scrutiny of Annual return on ROM stock and/or graded ore	ROM stock nil and graded ore of various quality and lump and fines given.		
9g	Scrutiny of Annual return on sale value, Ex. Mine price and production cost	yes given	Captive consumption Ex-mine price & Cost of production Rs 2127.48/-	

9h	Scrutiny of Annual return on fixed assets	125304903 Rs reported	
9k	Scrutiny of Annual return on mining machineries	Yes given	Excavator,Truck,Wheel loader,Dozer,etc.

Details of violations observed during current inspection and compliance position of violation pointed out

Violation observed			Show couse position		
Rule NO.	Issued on	Compliance on	Rule NO.	Issued on	Compliance on
MCDR17	Rule 11(1)	29/03/2023			

Date :

(RAJESH KUMAR DAS)

Indian Bureau of Mines