

INDIAN BUREAU OF MINES
MCDR INSPECTION REPORT

Bhubaneswar Region

General

SL. No.	Particulars	Details
1.	Name of the Mine	Bolani Ores Mines, 5.1 Sq. Mile Lease
2.	Date of Inspection	09.11.2024
3.	Name of Inspection officer:	Sh. Rohita Sethi, Assistant Controller of Mines
4.	Name of official accompanying inspection	Sh. Umesh Kumar Bhasker, Mines Manager Sh. Radhakanta Jena (GM-E&L), Sh. B N Singh , Mining Engineer, Sh. S K Deo (DGM-Mines), Sh. Rajendra Prasad Mondal, Geologist Sh. Swarup Sahoo (Surveyor),
5.	Last date of Inspection & Officer	Last date of Inspection: 13.12.2023 Sh.Arun Kumar ,RCOM & Sh. S K Mahapatra, SMG
6.	Total Lease Area (Ha) with breakup of non-forest and forest land	Lease area = 1321.45 Ha. Forest area = 1312.86 Ha. Non-Forest Area = 8.59 Ha.
7.	Mine Code	30ORI08013
8.	IBM Registration Number under rule 45 of MCDR, 2017	IBM/5662/2011
9.	Name of the lessee, Address, phone, email and fax number.	Steel Authority of India Limited, Ispat Bhawan, Lodhi Road, New Delhi- 110003
10.	Village	Bolani
11.	Taluka/Mandal	Barbil
12.	District	Keonjhar
13.	Pincode	758037
14.	State	Odisha
15.	Post office.	Bolani
16.	Nearest police station	Bolani
17.	Nearest Railway station	Barbil (10 Km)
18.	Date of Grant of Mining Lease	10/04/2060
19.	Date of Execution	11/04/1960
20.	Date of opening of Mine	11/04/1960
21.	Date of expiry	09/04/2030
22.	Name of the Nominated Owner with Address, phone, email, fax	Shri Atanu Bhowmick Director In-Charge,

	number and date of appointment	Rourkela Steel Plant, M/s SAIL Nominated Owner of Odisha Group of Mines Steel Authority of India Ltd. Rourkela - 769011 Phone No. 0661-2510018/24447527 Email-id: rsp.director@sail.in Date of appointment: 11/02/2022
23.	Name of the Mine Agent with Address, phone, email, fax number and date of appointment	Shri Joydev Chattopadhyay , CGM (Mines) Bolani Ores Mines Steel Authority of India Ltd. Rourkela Steel Plant (OGOM) At/Po: Bolani, Dist: Keonjhar State: Odisha, Pin: 758037 Phone No. 8895502970 Fax No. 06767-260172 Email-id: cgbom.rsp@sail.in Date of appointment: 03/05/2021
24.	Name of the Mines Manager with Address, mobile no, email, fax number and date of appointment in mine	Shri U.K.Bhasker , Mines Manager Bolani Ores Mines Steel Authority of India Ltd. Rourkela Steel Plant (OGOM) At/Po: Bolani, Dist: Keonjhar State: Odisha, Pin: 758037 Phone No. 9174739231/ 8895503579 Email-id: bommines@gmail.com Date of appointment: 04/08/2023
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 B.N.Singh , Qualification: B.Tech (Mining Engineering) Experience: Above 25 Years Date of Appointment in mine: 01/08/2023 Phone No. 8895502720 Email-id: singhbn.73@gmail.com bnsingh@sail.in
26.	Name of the Geologist , Qualification and total experience with Address, mobile no, email, fax number and date of appointment in mine	Shri Rajendra Prasad Mondal Qualification: M.Sc (Geology) Experience: Above 24 Years Date of Appointment in mine: 01/04/2024 Phone No. 8895503559 Email-id: geologybom2024@gmail.com rmondal@sail.in
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.	Mining Plan: Approval Letter No.314(3)/89-MCOM(C)/ MP-13, Nagpur dated 15.02.1990 Scheme Of Mining: 314(3)/94-MCCM(CZ)/MP-SCHEME-9 dated 31.03.1995 314(3)/2001-MCCM(C) /MP/S-4, Nagpur, dated 25.10.2002 314(3)/2006-MCCM(C) /MS-13 dated 24.05.2007 314(3)/2009-MCCM(C Z)/MP-23, Nagpur dated 13.01.2010 MS/FM/31-ORI/BHU/2 014-15 dated 03.08.2015 MSM/FM/17-ORI/BHU /2018-19/1088 dated 06.08.2018 RMP/A/19-ORI/BHU/2 019-20 dated 03.11.2019

		MRMP/A/12-ORI/BHU /2020-21 dated 08.09.2020 MRMP-2277/2023-24-IBM_RO_BBS dated 20.06.2024
28.	Mineral (s) granted in lease and proved for mining.	Iron Ore (Hematite)
29.	Method of Mining (Opencast, Underground)	Opencast
30.	Category (Fully Mechanised, Others or Manual)	Fully Mechanized
31.	Captive/Non-Captive	Captive
	Present EC Capacity	12.00 MTPA

Exploration:-

SL.No.	Item	Proposals (FY 2023-24)	Actual work	Remarks
1a	Backlog of previous year	Nil	41 boreholes, 2917 mtrs. in	Lessee has carried out the backlog exploration work as proposed in the year 2020-21 and 2021-22. Cumulative 859 bore holes with 68082mtrs have been carried out by the Lessee.
1b	Exploration over lease area for Geological axis 1 or 2.	NA	G1: 971.30 ha. G2: 0.00 ha.	No proposal of exploration during the reporting year
1c	Exploration Agency & Expenditure in lakh Rupees during the year	NA	278.56Lakhs, M/sThriveni Earthmovers	Nil
1d	Balance area to be explored to bring Geological axis in 1 or 2	Nil	Nil	Entire potential mineralized area explored under G1 Level of exploration
1e	Balance reserves as on 01.04.2024. (Proved + Probable)	Balance reserve as on 01.04.2020 is as below: 111 - 114.9 Mt. 121 - 18. 93 Mt. 122 - 180.22 Mt. ----- -----	Balance reserve as on 01.04.2024 is as below: 111 - 87.38 Mt. 121 - 18. 93 Mt. 122 - 180.21 Mt. ----- --	Nil

		Reserve – 314.05 Mt. 211 - 9.25 Mt. 221 - 37.33 Mt. 222 - 12.600 Mt. ----- ----- Resources – 59.18 Mt.	Reserve – 286.52 Mt. 211 - 9.24 Mt. 221 - 49.73 Mt. 222 - 34.50 Mt. ----- ----- Resources – 93.47 Mt.	
1f	General remarks of inspecting officer on geology, exploration etc.	Bolani Iron Ore Deposit belongs to Singhbhum-Bonai-Keonjhar Iron Ore belt spread over an area of 1500m ² in Jharkhand and Odisha. The rocks exposed in the belt are BIF (BHJ / BHQ), phyllite, shale etc. Entire potential mineralized area explored under G1 Level of exploration.		

Development:--

SL.No	Item	Proposals (FY 2023-24)	Actual work	Remarks
2a	Location of development w.r.t. lease area	Developments are proposed in the following blocks: F-area 324649 - 325022/ 2443810-2444459 G-area 324833 – 324844/ 2445053 - 2445729 D-area 328116-328268/ 2447297-2447761 Panposh: 327041-327265/ 2446103-2446513 B&C area: 325630-326020/ 2445430-2445750	Broadly as per proposal, except B&C area	Violation was issued for no mining operation carried out in B&C area vide violation dated 02.01.2024 based on last inspection. However Lessee has modified the RMP vide approval letter dated 20/06/2024
2b	Separate benches in topsoil, overburden and mineral	Separate benches will be done for topsoil, OB waste and mineral bearing	As per Proposal	Nil

		zone.		
2c	Stripping ratio or Ore to OB ratio	1 : 0.063	1 : 0.18	Nil
2d	Quantity of topsoil generation in m3	NIL	NIL	Nil
2e	Quantity of overburden generation in m3	764548	1307252	NIL
2f	General remarks of inspecting officer on development of pit w.r.t. type of deposit etc.	Development has been carried out in four quarries broadly as per proposal except B& C quarries. Violation was issued based on last inspection vide dated 29.12.2023.		

Exploitation:--

SL.No.	Item	Proposals (FY 2023-24)	Actual work	Remarks
3a	Number of pits proposed for production	5 nos. of pits (Quarry F, G, D, Panposh and B&C) are proposed for production.	Excavation done from 4 nos. of pits.	Violation was issued for no mining operation carried out in B&C area vide violation dated 01.01.2024, based on last inspection.
3b	Quantity of ROM mineral production proposed	11568455	7249258	Violation issued under Rule 11(1) of MCDR-2017 for less production.
3c	Recovery of salable/usable mineral from ROM production	11059148	7249258	Violation issued under Rule 11(1) of MCDR-2017 for less production.
3d	Quantity of mineral reject generation	509307	58140	Violation issued under Rule 11(1) of MCDR-2017 for less generation of mineral reject.
3e	Grade of mineral reject generation	Grade of mineral reject: 45-57% Mn	54.32% Fe	NIL

	and threshold value declared	Threshold value declared: 45%		
3f	Quantity of sub-grade mineral generation	509307	58140	Violation issued under Rule 11(1) of MCDR-2017 for less generation of mineral reject.
3g	Grade of sub-grade mineral generation	Grade of mineral reject: 45-57% Mn Threshold value declared: 45%	54.32% Fe	Nil
3h	Manual / Mechanized method adopted for segregating from ROM	Mechanized method	As per proposal	Nil
3i	Any analysis or beneficiation study proposed & carried out for sub-grade mineral and reject	No beneficiation study is proposed in the lease.	Nil	Nil
3j	Provision of drilling & blasting in mineral benches	Deep hole drilling and blasting	Drilling & blasting carried out as per the proposal during the reporting year.	Nil
3k	Provision of mining machineries in mineral benches	Excavator and Dumper combination.	As per proposal	Nil
3l	Whether height of benches in overburden and mineral suitable for method of mining proposed in MP/SOM	Average bench height and in F&G area proposed is 10m where as in D area & Panposh mines, avg. bench height proposed 6m	As per proposal	Nil
3m	Total area covered under excavation/pits	322.64 Ha. Up to 2024-25	290.80 Ha.	Nil
3n	Ore to OB ratio for the pit/mine during the year	1 : 0.063	1 : 0.18	Nil
3o	Total area put in use under different heads at the end of year	NA	Area covered by pits- 290.80 Ha. Waste dump- 29.83Ha. Reclaimed /Rehabilitated Area- 51.21 Ha. Infrastructures &	Nil_

				Roads- 71.36 Ha.		
3p	Production of ROM mineral during last five-years period , as applicable	Year	ROM in MT	Year	ROM in MT	Capacity enhancement project work is under process.
		2019-20: 11.61MT 2020-21: 11.62MT 2021-22: 9.71MT 2022-23: 10.70MT 2023-24: 11.57MT			2019-20: 5654001T 2020-21: 6039265T 2021-22: 6320642T 2022-23: 7416717T 2023-24: 7249258T	
3q	General remarks of inspecting Officer on method of mining etc.	It is observed that only 61% of production has been achieved against the proposed production. Also, it is observed that there is a major variation in grade of Iron Ore that is mineral Reject (45-57% Fe), produced in the mine with respect to the approved proposal, for which violation issued.				

Solid Waste Management-Dumping:--

SL.No.	Item	Proposals (FY 2023-24)	Actual work	Remarks
4a	Separate dumping of topsoil, OB & mineral reject (Rule 32, 33)	Separate dump yard for OB and Mineral Reject proposed in the approved review of mining plan. No top soil will be generated during the ensuing plan period.	As per proposal	Nil
4b	Location of topsoil, OB & mineral reject dumps	Waste dumping proposed in the following blocks: 324158-324463/ 2444466-2444227 324730-324396/ 2445103-2444863 327443-327424/ 2447213-2447102 326803-327072/ 2446526-2446204 Mineral Reject	As per proposal	Nil

		Stacking proposed in the following locations: 325124-325091/ 2444341-2444260		
4c	Number of dumps within lease area and outside lease area	Dump within lease area: 18 Nos. Dump outside lease area: Nil	Dump within lease area: 18 Nos. Dump outside lease area: Nil	Old fines dump available inside the lease area.
4d	Location of dumps w.r.t. ultimate pit limit	All the dump sites located outside the upl	All the dump sites located outside the upl	Nil
4e	Number of active & alive dumps	Waste dump: 05 nos. Mineral reject dumps: 03 nos. Fines Dump: 04 nos.	Waste dump: 05 nos. Mineral reject dumps: 03 nos. Fines Dump: 04 nos.	Nil
4f	Number of dead dumps	Waste dump: 03 nos. Mineral reject dumps: 02 nos. Fines Dump: 01 nos.	Waste dump: 03 nos. Mineral reject dumps: 02 nos. Fines Dump: 01 nos.	Nil
4g	Number of dumps stabilized	01 no.	01 no.	Nil
4h	Whether Retaining wall or garland drain all along dumps are there	Yes	Yes	Nil
4i	Length of Retaining wall or garland drain all along dump	Construction of Retaining wall Near Waste dump WDF-2 1125 (L) x 1.5 (H) x 1.2 (W) Garland Drain proposed at the toe of D-area Dump WDF-2: 1125 (L) x 1.5 (H) x 1.2 (W)	NIL	Due to Less production/generation of waste and non-availability statutory clearances, on the demarcated area Lessee has not constructed the proposed retaining wall, garland drain and settling pond. Lessee has modified the RMP vide dated 20.06.2024.
4j	Number of settling ponds	1	Nil	
4k	Specific Comments of inspecting	Overburden wastes and mineral reject management are being carried out as per the approved proposals.		

	Officer on waste dump management	
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Solid Waste Management-Backfilling:--

SL.No.	Item	Proposals (FY 2023-24)	Actual work	Remarks
5a	Status on part or full extraction of mineral from mined out area before starting backfilling	No proposal	None of the working pits is completely matured for backfilling	Nil
5b	Area under backfilling of mined out area	No proposal	Nil	Nil
5c	Concurrent use of topsoil for restoration or rehabilitation of mined out area	No Proposal	Nil	Nil
5d	Total area fully reclaimed & rehabilitated	31.46 Ha.	31.46 Ha.	Nil
5e	General remarks of inspecting Officer on backfilling and reclamation etc.	Existing pits were not matured for backfilling as ore/mineral not exhausted completely.		

Progressive Mine Closure Plan: ---

SL.N.	Item	Proposals (FY 2023-24)	Actual work	Remarks
6a	Whether Annual report on PMCP submitted on time and correctly - Rule 26(2). (Hard copy same provided)	Annual report on PMCP to be submitted by 1 st July of every year.	Submitted on time	Nil
6b	Management of worked/mined out	(i)2	(i)2.5	Nil

	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	(ii)0.2 (iii)500 (iv)Nil (v)Nil (vi)1.2 Lakhs	(ii)0.3 (iii)583 (iv)100550 (v)Nil (vi)NA	
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	No Proposal	Nil	Nil
6d	Compliance of Rehabilitation of waste land within lease i) Afforestation ii) Area rehabilitated (ha) iii) Method of rehabilitation	(i)5000 no's (ii)2.0ha (iii)Gap Plantation	(i)5000 no's (ii)2.0ha (iii)Gap Plantation	Lessee has planted 9000 no's of saplings at OML
6e	Compliance of Environmental monitoring (core zone & buffer zone)	Regular monitoring of air water and noise done in core and buffer zones monitoring by outsourcing to NABL accredited agency	Regular monitoring of air water and noise done in core and buffer zones monitoring by outsourcing to NABL accredited agency.	Nil

6f	General remarks of inspecting Officer on PMCP compliance & progressive closure operation etc.	Lessee has implementing PMCP proposals as per approved modified RMP.		
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Mineral Conservation:-

SL.No.	Item	Proposals ((FY 2023-24)	Actual work	Remarks
7a	ROM Mineral dispatch or grade-wise sorting within lease area	Ore/mineral sorting by Dry crushing & screening Plant within lease area.	As per proposal	Nil
7b	Method of grade-wise mineral sorting i.e. manual or mechanical	Mechanical	Mechanical	Nil
7c	Different grade of mineral sorted out at mines	Iron Ore of different size viz. CLO & Fines and Iron Grade range-45-57%Fe,>57Fe;	Whenever mineral rejects encountered, part of the quantity is blended with ROM and rest part stacked separately in the approved mineral reject dumps.	Nil
7d	Any beneficiation process at mines	Beneficiation process includes, wet screening, spiral classifier, hydro cyclone etc.	NIL	Not yet started due to want of statutory clearances.

Environment:-

SL.No.	Item	Proposals (FY 2023-24)	Actual work	Remarks
8a	Separate removal and utilization of topsoil	NIL	NIL	Nil
8b	Concurrent use or storage of topsoil	NIL	NIL	Nil
8c	Separate dumps for overburden, waste rock, rejects and fines	Separate dumps are to be maintained for OB, waste rock, mineral rejects and fines.	Waste and mineral rejects are dumping at earmarked area as per proposal	Nil
8d	Use of overburden, waste rock, rejects and fines dumps for restoring the land to its	NIL	NIL	Nil

	original use			
8e	Phased restoration, reclamation and rehabilitation of lands affected by mining operations (Pits, dumps etc.)	NIL	NIL	Nil
8f	Baseline information on existence of plantation & additional plantation done	5500 saplings are proposed for plantation in 2.2 Ha.	5583 nos. of plantation done over 2.8 ha area during 2023-24	Nil
8g	Survival rate	NA	>90%	Nil
8h	Water sprinkling on roads to control airborne dust	Frequent sprinkling of water on haul roads by mobile sprinklers.	As per proposal	Nil

Compliance of Rule 45

SL.No.	Item	COMMENTS		Remarks.
9a	Status of submission of Monthly and Annual returns	Monthly returns under Rule 45(5)(b)(i) of MCDR 2017 by 10 th day of every month. Annual Return in Form G1 to be submitted under Rule 45(5)(c)(i) of MCDR 2017 by 1 st July of every year.	Timely Submitted by online mode in every month. Annual returns in Form G1 is submitted on date 20.06.2024 .	-----
SL.No.	Item	Details given in A.R. for the year 2023-24	Observation of I/ Officer	
9b	Scrutiny of Annual return for information on Mining Engineer, Geologist and Manager	Sh. Umesh Kumar Bhasker, Mines Manager Sh. B N Singh , Mining Engineer, Sh. Rajendra Prasad Mondal, Geologist	Actual also the same	-----
9c	Scrutiny of Annual return on land use pattern for area under pits, reclaimed area, dumps etc.	Area covered by pits- 290.80 Ha. Waste dump- 29.83Ha. Reclaimed /Rehabilitated Area- 51.21 Ha. Infrastructures & Roads- 71.36 Ha.	Actual also as per AR at that time.	-----
9d	Scrutiny of Annual	During the year 5583	Actual also as	-----

	return on afforestation	saplings planted WML and 9000 sampling planted OML	per AR																	
9e	Scrutiny of Annual return on mineral reject generation (Grade & quantity)	Quantity- 58140 T from unprocessed ore. (54.32% Fe)	It is observed that there is a major variation in grade of Iron Ore that is mineral Reject (45-57% Fe), produced in the mine with respect to the approved proposal, for which violation issued.	-----																
9f	Scrutiny of Annual return on ROM stock and/or graded ore	<p>Closing Stock ROM- 7261566 T</p> <table border="1"> <tr> <td colspan="2">Fines closing stock in tonnes</td> </tr> <tr> <td>51%-below 55%</td> <td>2.54</td> </tr> <tr> <td>55%-below 58%</td> <td>8299</td> </tr> <tr> <td>58%-below 60%</td> <td>5300</td> </tr> <tr> <td>60%-below 62%</td> <td>23514.416</td> </tr> <tr> <td>62%-below 65%Fe</td> <td>1888709.81</td> </tr> <tr> <td colspan="2">CLO stock in tonnes</td> </tr> <tr> <td>62%-below 65% Fe (10 40 mm)</td> <td>87565.09</td> </tr> </table>	Fines closing stock in tonnes		51%-below 55%	2.54	55%-below 58%	8299	58%-below 60%	5300	60%-below 62%	23514.416	62%-below 65%Fe	1888709.81	CLO stock in tonnes		62%-below 65% Fe (10 40 mm)	87565.09	Appears to be correct	-----
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9g	Scrutiny of Annual return on sale value, Ex. Mine price & production cost	<table border="1"> <tr> <td colspan="2">Fines Ex. Mine price</td> </tr> <tr> <td>51%-below 55%</td> <td>290</td> </tr> <tr> <td>55%-below 58%</td> <td>216.83</td> </tr> <tr> <td>58%-below 60%</td> <td>290</td> </tr> </table>	Fines Ex. Mine price		51%-below 55%	290	55%-below 58%	216.83	58%-below 60%	290	Appear to be correct	-----								
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		60%- below 62%	300		
		62%- below 65%Fe	568.25		
		CLO Ex. Mine price			
		62%- below 65% Fe (10 40 mm)	568.25		
9h	Scrutiny of Annual return on fixed assets	Value of Fixed Assets: Rs.390,25,08,513/-		Appear to be correct	-----
9i	Scrutiny of Annual return on mining machineries	Shovel (Hydraulic)-8, Dumpers-9, Drill machine-04, Bull dozer-08 Front end loader-04 Motor Grader-03 Crane-04 Water Tanker-03		Observed to be correct.	-----

(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 13/12/2023, the violation of rule 11(1) of MCDR 2017 was pointed out and subsequently, said rule yet to be complied.

(b) During current inspection: The violation of Rule 11 (1) of MCDR 2017 have been observed and the violation letter issued on 23/01/2025.

(11) The lessee was submitted DAI/drone survey data under rule 34A for FY 23-24 on 31/08/2024.

Rohita Sethi
Assistant Controller of Mines