

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

File No-ORI/IRON/KJR/MCDR-84/BBS

Mine Code- 30ORI08013

**General**

SN	Particulars	Details
1	NameoftheMine	BolaniIron Ore Mine
2	DateofInspection	19.02.2023
3	NameofInspectingOfficer	ShriB L Gurjar,RCOM Shri A K Pany, AME
4	Nameofofficialaccompanyinginspection	ShriJoydevChattopadhyay, CGM (Mines)
5	Lastdateof Inspection&Officer	28.06.2021, ShriRamkishan R, SRACOM
6	TotalLeaseArea(Ha)withbreakupofNon-forestandforestland	ForestLand-1312.86 ha Non Forest Land- 8.59 ha TotalLeasearea-1321.45 ha
7	Minecode	30ORI08013
8	IBMRegistrationNumberunderrule45ofMC DR,2017	IBM/5662/2011
9	Nameofthelessee,Address,phone,emailandfaxnumber	Steel Authority of India Ltd. IspatBhawan, Lodi Road, New Delhi, 110003 Phone No. 011-24367105/24363358 Email-id: director.technical@sail.in
10	Village	Bolani&Balagoda
11	Taluka/Mandal	Barbil
12	District	Keonjhar
13	Pincode	758037
14	State	Odisha
15	Postoffice	Bolani
16	Nearestpolicestation	Bolani
17	NearestRailwaystation	Barbil
18	Dateof Grantof MiningLease	11.04.1960
19	DateofExecution	11.04.1960
20	Date of Expiry	09.04.2030
21	Dateof openingof Mine	11.04.1960
22	Name of the Nominated Owner with Address,phone,email,faxnumberanddateofappointment	ShriAtanuBhowmick Director In-Charge, Rourkela Steel Plant, Steel Authority of India Ltd. Rourkela - 769011 Phone No. 0661-2510018/24447527 Email-id: <a href="mailto:rsp.director@sail.in">rsp.director@sail.in</a> Date of appointment: 11/02/2022
23	Nameof theMineAgentwithAddress,phone,email,faxnumberanddateof appointment	ShriJoydevChattopadhyay, CGM (Mines) Bolani Ores Mines Steel Authority of India Ltd.

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		At/Po: Bolani, Dist: Keonjhar, State: Odisha, Pin: 758037 Phone No. 8895502970 Fax No. 06767-260172 Email-id: cgmbom.rsp@sail.in Date of appointment: 03/05/2021
24	Name of the Mines Manager with Address, phone, email, fax number and date of appointment in mines	Shri B.N. Singh, DGM (Mining) & Mines Manager Bolani Ores Mines Steel Authority of India Ltd. At/Po: Bolani, Dist: Keonjhar State: Odisha, Pin: 758037 Phone No. 8895502720 Fax No. 06767-260172 Email-id: singhbn.73@gmail.com Date of appointment: 31/12/2021
25	Name of the Mining Engineer, Qualification and total experience with Address, phone, email, fax number and date of appointment in mine	Shri Rajesh Kumar, GM (Mining) Qualification: B.Tech (Mining) Experience: Above 25 Years Date of Appointment in mine: 20/07/2019 Phone No. 8986881510 Email-id: bommines@gmail.com rajeshkumar72@sail.in
26	Name of the Geologist, Qualification and total experience with Address, phone, email, fax number and date of appointment in mine	Shri Harihar Sahu, AGM (Geology) Qualification: Post Graduate in Geology Experience: Above 16 Years Date of Appointment in mine: 03/05/2021 Phone No. 8895502456 Email-id: geologybom2022@gmail.com hariharasahu@sail.in
27	Date of Approval of Review of Mining Plan/Modified Mining Plan with five-year period and specific condition in approval letter, if any.	Modification of Review of Mining Plan approved vide letter No. MRMP/A/12-ORI/BHU/2020-21 Dated 08.09.2020 for the period 2020-21 to 2024-25
28	Mineral(s) granted in lease and proved for mining	Iron
29	Method of Mining (Open cast, Underground)	Open cast
30	Category (Fully Mechanised, Others or Manual)	Category-A, Fully Mechanized
31	Captive/Non-Captive	Captive
32	Present ECC Capacity	12000000 Tonnes

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Scientific Mining: Compliance of proposals of approved Mining Plan/Review of mining for the Year 2021-22.

**Exploration**

S.N.	Item	Proposals	Actualwork	Remarks
1a	Backlog of previous year	202 Nos. during the year 2020-21	9 Nos.	Against 367 nos. of proposed bore holes for the year 2020-21 and 2021-22, 352 nos. drilled till Feb-2023 and the exploration work will be completed shortly.
1b	Exploration over lease area during the year for Geological axis 1 or 2.	165 Nos. during the year 2021-22	209 Nos.	
1c	Exploration Agency & Expenditure in lakh Rupees during the year	Not specified	M/s Triveni Earth Movers Private Limited Rs 102936602.00	
1d	Balance area to be explored to bring Geological axis in 1 or 2	232 ha		
1e	Balance reserves as on 01.04.2022	Reserve - : 101.704 Million Tonne Resource : 199.15 Million Tonne Total : 300.854 Million Tonne		
1f	General remarks of inspecting officer on geology, exploration etc.	The exploration work is under progress and entire lease will be explored within year 2023-24.		

**Development**

S.N.	Item	Proposals	Actualwork	Remarks
2a	Location of development w.r.t. lease area	Production has been proposed in B & C, F, G, D and Panposh quarry	Mining has been carried out in F, G, D and Panposh quarry	In B & C area production could not be started due to pending work in laying of conveyor belt for ROM transportation to crushing plant.
2b	Separate benches in topsoil, overburden and mineral	Separate Benches Proposed	Carried out	
2c	Stripping ratio or ore to O ratio	1:0.09	1:0.14	
2d	Quantity of topsoil generation in m <sup>3</sup>	Nil	Nil	
2e	Quantity of overburden/waste generation in m <sup>3</sup>	991327 Cum	1035571 Cum	
2f	General remarks of inspecting officer on development of pit w.r.t. type of deposit etc.	Mechanized open cast mining operation carried out with shovel – dumper combination.		

**Exploitation**

S.N.	Item	Proposals	Actualwork	Remarks
3a	Number of pits proposed for production	Five (05)	Four (04)	
3b	Quantity of ROM production proposed	10701651 tonne	7416717 tonne	

I/6458/2023	3c	Recovery of salable/usable mineral from ROM production	10577853	7047509	
	3d	Quantity of mineral reject generation	123798	369208	
	3e	Grade of mineral reject generation and threshold value declared	Mineral reject- 45 % to 57 % Fe Threshold Value- 45 % Fe	Mineral reject- 45 % to 57 % Fe, Threshold Value- 45 % Fe	
	3f	Quantity of sub-grad mineral generation	Same as mineral reject		
	3g	Grade of sub-grad mineral generation	Same as mineral reject		
	3h	Manual / Mechanized method adopted for segregating from ROM	Mechanized	Mechanized	
	3i	Any analysis or beneficiation study proposed & carried out for sub-grad mineral and reject	No beneficiation study proposed	Nil	
	3j	Provision of drilling & blasting in mineral benches	Provision of drilling & blasting proposed in mineral benches	Deep hole drilling of 115mm dia is done with 4m burden, 4.5m spacing and 10m Depth. Blasting is done with Slurry explosives, Nonel and Electric detonator used.	
	3k	Provision of mining machineries in mineral benches	Excavator – 5.5 to 9.5 Cum Dumper – 100 and 50 tonne	Excavator – 5.5 to 9.5 Cum Dumper – 100 and 50 tonne	
	3l	Whether height of benches in overburden and mineral suitable for method of mining proposed in MP/SOM	Bench Height- 10m, Width- 20m	Bench Height-10m, Width- 20m	
	3m	Total area covered under excavation/pits	290.80 ha	290.80 ha	

1/6458/2023	3n	Ore to OB ratio for the pit/mined during the year	1:0.09	1:0.14	
	3o	Total area put in use under different heads at the end of year	446.79 ha	446.79 ha	
	3p	Production of ROM mineral during last five-year period, as applicable	2017-18 – 10.05 MT 2018-19 - 11.61 MT 2019-20 – 11.62 MT 2020-21 – 9.71 MT 2021-22 - 10.70 MT	2017-18 – 5.232 MT 2018-19 – 5.654 MT 2019-20 – 6.039 MT 2020-21 – 6.320 MT 2021-22 - 7.416 MT	
	3q	General remarks of inspecting officer on method of mining etc.	Mechanized open cast mining operation carried out with shovel – dumper combination.		

### **Solid Waste Management-Dumping**

S.N	Item	Proposals	Actual work	Remarks
4a	Separate dumping of topsoil, OB & mineral reject (Rule 32, 33)	Separate dumping of OB and mineral reject proposed	Carried out	
4b	Location of topsoil, OB & mineral reject dumps	Waste dumping proposed in the following blocks: F-area: 324490-324580/ 2444120-2444400 (WDF-2) 324210-324410/ 2443530-2443810 (WDF-1) G-area: 324390-324680/ 2444920-2445120 (WDG) 326860-325060/ 2444950-2445280 (WDG-1) D-area: 328380-328470/ 2447680- 2447860 327180-328680/ 2446800- 2447300 Panposh: 326780-327100/ 2446320- 2446530 Mineral Reject Stacking proposed in the following locations:	Waste dumping carried out in the following blocks: F-area: 324210-324410/ 2443530-2443810 (WDF-1) G-area: 324390-324680/ 2444920-2445120 (WDG) 326860-325060/ 2444950-2445280 (WDG-1) D-area: 328380-328470/ 2447680- 2447860 327180-328680/ 2446800- 2447300 Panposh: 326780-327100/ 2446320- 2446530 Mineral Reject Stacking carried out in the following locations:	

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		F-area: 325070-325190/ 2444200- 2444390 G-area: 324680-324810/ 2444920- 2445030 D-area: 328230-328370/ 2447420- 2447650 Panposh: 327640-328390/ 2445800- 2446080 B&C area: 325510-325590/ 2445300- 2445420	F-area: 325070-325190/ 2444200- 2444390 G-area: 324680-324810/ 2444920- 2445030 D-area: 328230-328370/ 2447420- 2447650 Panposh: 327640-328390/ 2445800- 2446080	
4c	Numberofdumpswithinleasearea aandoutsideleasearea	Following waste and mineral reject dumps are present within the lease area, no dumps outside. F-area: 4 Nos. (WML) G-area: 3 Nos. (WML) D-area: 4 Nos. (WML)Panposh: 5 Nos. (WML)		
4d	Location of dumps w.r.t.ultimatepitlimit(Rule1 6)	The location of mineral reject dumps are within UPL and waste dumping carried out as per proposed location.		
4e	Numberof active&alivedumps	10	10	
4f	Numberofdead dumps	07	07	
4g	Numberofdumpsstabilized	03	03	
4h	Whether Retaining wall orgarlanddrainallalongdumps arethere	Yes	Yes	
4i	Lengthof Retainingwallor garlanddrainall alongdump	Retaining wall- 720 m, Garland Drain- 720 m	Retaining wall- 293 m, Garland Drain- 293 m	New proposed dump not carriedout.
4j	Numberofsettlingponds	One	Two	
4k	Specificcommentsofinspecting officeronwastedump management	Waste dumping has been carried out as per the proposed location.		

**SolidWasteManagement-Backfilling**

S.N.	Item	Proposals	Actualwork	Remarks
5a	Status on part or full extractionofmineralfrommined outareabeforestartingbackfilling	Mineral not exhausted	Nil	
5b	Areaunderbackfillingofmined outarea	Nil	Nil	
5c	Concurrent useof topsoilfor restorationorrehabilitationofmined outarea(Rule32)	Noproposal	Nil	
5d	Totalareafullyreclaimed& rehabilitated	Noproposal	Nil	
5e	Generalremarksofinspecting officeronbackfilling,re clamationetc.	Mineral not exhausted from quarry and no backfilling proposal.		

**ProgressiveMineClosurePlan**

S.N.	Item	Proposals (Yr.2021-22)	Actual work	Remarks
6a	Whether Annual report on PMCP submitted on time and correctly - Rule 26.	To be submitted before 1 <sup>st</sup> July	Submitted	
6b	Area available for rehabilitation (ha)	Nil	NIL	
6c	Afforestation done (ha)	2.02 ha	4.7 ha	
6d	No. of saplings planted during the year	5500	10205	
6e	Cumulative no. of plants	Total 89135 nos. of tree planted.		-
6f	Any other specific method of rehabilitation	-	-	-
6g	Cost incurred on watch & care during the year	Rs. 72 lakh	Rs. 83.49 lakh	-
6h	Compliance on reclamation and rehabilitation by backfilling (i) Voids available for backfilling (L X B X D).	Nil	Nil	-
6i	Compliance on reclamation and rehabilitation by backfilling (ii) Void filled by waste/tailings.	Nil	Nil	-
6j	Compliance on reclamation and rehabilitation by backfilling (iii) Afforestation on the backfilled area.	Nil	Nil	-
6k	Compliance on reclamation and rehabilitation by backfilling (iv) Rehabilitation by making water reservoir.	Nil	Nil	-
6l	Compliance on reclamation and rehabilitation by backfilling (v) Any other specific means	Nil	Nil	-
6m	Compliance of Rehabilitation of waste land within lease (i) Afforestation	Nil	Nil	-
6n	Compliance of Rehabilitation of waste land within lease (ii) Area rehabilitated (ha) Method of rehabilitation	Nil	Nil	-
6o	Compliance of Rehabilitation of waste land within lease (iii) Method of rehabilitation	Nil	Nil	-

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6p	Compliance of Environmental monitoring (core zone & buffer zone)	Quarterly monitoring of Air and Ground water quality proposed	Monitoring carried out quarterly.	-
6q	General remark of inspecting officer on PMCP compliance and progressive closure operation etc.	Progressive closure operation carried out as per proposal.		

**MineralConservation**

S.N.	Item	Proposals	Actualwork	Remarks
7a	ROM Mineral dispatch or grade-wisewithinleasearea	Grade wise sorting within lease area	Grade wise sorting within lease area	
7b	Methodofgrade-wisemineralsorting i.e.manualormechnical	Mechanized	Mechanized	
7c	Differentgradeofmineralsortedoutatmines	45% to 57 % Fe and above 57%Fe	45% to 57 % Fe and above 57%Fe	
7d	Anybeneficiationprocessatmines	Beneficiation plant exists within lease.	Currently only dry screening and crushing carried out.	
7e	Generalremarksofinspectingofficeron Mineralconservation& beneficiationissues	Beneficiation plant installed in the mine and the same was currently non-operational due lack of forest clearance of tailing disposal area.		

**Environment**

S.N.	Item	Proposals	Actualwork	Remarks
8a	Separateremovalandutilizationoftop soil(Rule32)	No proposal of generation of Topsoil	Not generated	
8b	Concurrentuseorstorageof topsoil	Noproposal	Nil	
8c	Separate dumps for overburden, wasterock, rejectsandfines(Rule 33)	Separate dump proposed	Carried out	
8d	Useofoverburden, wasterock, rejectsandfinesdumpsforrestoringthelandtoitsoriginaluse	Noproposal	Nil	
8e	Phasedrestoration, reclamationandre habilitation of lands affected byminingoperations(Pits, dumpsetc)	Noproposal	Nil	



1/6458/2023	8f	Baseline information on existence of plantation & additional plantation done (Rule 41)	89315 Nos. of cumulative plantation up to 31.03.2022	
	8g	Survival rate	Not specified	80%
	8h	Water sprinkling on roads to control air borne dust	Water sprinkling on haul roads proposed to suppress the dust	Carried out
	8i	General remarks of inspecting officer on aesthetic beauty in and around mines area	The aesthetic beauty in & around the mine area is maintained.	

**Compliance of Rule 45**

S.N.	Item	COMMENTS		Remarks
9a	Status of submission of Monthly and Annual returns	Monthly and Annual Return submitted		
S.N.	Item	Details Given in AR.	Observation of I/Officer	Remarks
9b	Scrutiny of Annual return for information on Mining Engineer, Geologist and Manager	Information on Mining Engineer, Geologist and Manager Furnished in the Annual Return.	The same were appointed.	
9c	Scrutiny of Annual return on land use pattern for area under pits, reclaimed area, dumpsite etc.	Pit – 290.80 Ha Dump – 28.43 Ha Mineral Stack yard, road & Infrastructure - 75.35 Ha	Found to be in order.	
9d	Scrutiny of Annual return on afforestation	10205 Nos.	10205 Nos.	
9e	Scrutiny of Annual return on mineral reject generation (Grade & quantity)	369208 tonne, 50% to 54% FE	369208 tonne, 50% to 54% FE	
9f	Scrutiny of Annual return on ROM stock and/or graded ore	ROM closing stock- 594579 tonne	ROM closing stock- 594579 tonne	
9g	Scrutiny of Annual return on sale value, Ex. Mine price & production cost	Cost of production and Ex-mine price is Rs. 470.00.	Found to be in order.	
9i	Scrutiny of Annual return on fixed assets	Rs. 3311494704.00	Rs. 3311494704.00	
9k	Scrutiny of Annual return on mining machineries	Excavator – 4.5-9.5 M3 Front end Loader-3.2-3.7 M3	Found to be in order.	

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		Dumper – 50-100 tonne Water Tanker- 28 KL Blast Host Drill-150 mm Dozer, Grader		
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**Violation observed during current inspection and compliance position of earlier violation pointed out:**

(a) Compliance position of earlier violation pointed out:- Violations of Rule 11(1) pointed out on 29.06.2021 during earlier inspection for non-compliance of exploration proposal. Against 367 nos. of proposed bore holes for the year 2020-21 and 2021-22, 352 nos. drilled till Feb-2023 and the exploration work will be completed shortly.

(b) During the inspection violation of rule 11(1), 35(2) 4(B) and 37(1) was observed and pointed out .

Date-20.03.2023

(B L  
GURJAR) Regional  
Controller of Mine