

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

MCDR inspection REPORT

Bhubaneshwar regional office

Mine file No : ORI/IRON/SNG/MCDR-1/BBS

Mine code : 30ORI13001

- (i) Name of the Inspecting : 3006) SHRI B L GURJAR
Officer and ID No.
- (ii) Designation : Regional Controller Mines
- (iii) Accompanying mine : Sri U.K. Bhaskar, Mines Manager
Official with
Designation
- (iv) Date of Inspection : 12-APR-22
- (v) Prev.inspection date : 17-MAR-21

PART-I : GENERAL INFORMATION

1. (a) **Mine Name** : BARSUA
- (b) **Registration NO.** : IBM/5662/2011
- (c) **Category** : A Fully Mechanised
- (d) **Type of Working** : Opencast
- (e) **Postal address**
- State : ORISSA
- District : SUNDARGARH
- Village : BARSUA
- Taluka : BONAI
- Post office : TENSA
- Pin Code : 770042
- FAX No. : 06625-236031
- E-mail : gmbimsail@yahoo.co.in
- Phone : 06625-236026
- (f) **Police Station** : Lahunipara
- (g) **First opening date** : 06-JAN-60
- (h) **Weekly day of rest** : SUN
2. **Address for correspondance** : BARSUA IRON MINE OF SAIL
AT/PO-BARSUA
DIST-SUNDERGARH
3. (a) **Lease Number** : ORI0155
- (b) **Lease area** : 77.94
- (c) **Period of lease** :
- (d) **Date of Expiry** : 31-MAR-20
4. **Mineral worked** : IRON ORE Main

5. Name and Address of the

Lessee : M/s Steel Authority of India Ltd (SAIL)
 Ispat Bhwan, Lodhi Road New
 Delhi DELHI DELHI
 Phone:011-24367481-86
 FAX :011-24367015/22467458

Owner : VIVEK GUPTA
 M/s SAIL,Ispat Bhawan Lodi
 Road, New Delhi SUNDARGARH
 ORISSA
 Phone: 011-24367481
 FAX : 011-24367015

Agent : A K SINHA
 M/s SAIL,At/Po-Tensa, PS-
 Lahunipara Dist-Sundargarh
 Odisha SUNDARGARH ORISSA
 Phone: 06625-236026
 FAX : 06625-236031

Mining Engineer

Name : SHRI SANTOSH KUMAR,Full Time
 Qualification : B E MINING
 Appointment/ : 10-FEB-19
 Termination date

Geologist

Name : SHRI R P MANDAL,Full Time
 Qualification : MSC GEOLOGY
 Appointment/ : 04-JUL-16
 Termination date

Manager

Name : SHRI UMESH KUMAR BHASKAR
 Qualification : B TECH MINING
 Appointment/ : 05-FEB-19
 Termination date

6. Date of approval of Mining	:	Mining Scheme rule 12 MCDR1988	22-FEB-02
Plan/Scheme of Mining	:	Mining Scheme rule 12 MCDR1988	04-OCT-07
	:	Renewal under rule 24 MCR1960	28-JUL-08
	:	Mining Scheme rule 12 MCDR1988	04-SEP-15
	:	MP modif under 17(3) MCR 2016	30-APR-19
	:	MP review under 17(1) MCR 2016	08-NOV-19
	:	Modif.approved Mining Scheme	03-FEB-21
	:	MP modif under 17(3) MCR 2016	01-APR-21

PART - II : OBSERVATION/COMMENTS OF INSPECTING OFFICERS

Exploration :

Sl.No.	Item	Proposals	Actual work	Remarks
1a	Backlog of previous year	04 Nos of holes were proposed during the year 2020-21.	02 nos. of holes were drilled against the approved proposal.	Target was not achieved due to COVID situation.
1b	Exploration over lease area for geological axis 1 or 2	109 Holes	69 Holes	Violation letter issued under MCDR 2017 for not achieving the target.
1c	Exploration Agencies and Expenditure in lakh rupees during the year	M/s. Mining Associates Pvt. Ltd. Total budget is Rs. 194.27 Lakh M/s. Gemcokati Expl. Pvt.Ltd. Total budget is Rs. 1586.41 Lakh (for entire Lease)	M/s. Mining Associates Pvt. Ltd. Total budget is Rs. 194.27 Lakh M/s. Gemcokati Expl. Pvt.Ltd. work is going on	
1d	Balance area to be explored to bring Geological axis in 1 or 2	720.182 ha.	462.502 ha.	The exploration work for the remaining 257.68 Ha area is going on.
1e	Balance reserve as on 01/04/20	-	As per approved Modified mining plan dated 01.04.2021, the total reserve & resource as on 31.10.2020 is 130.717 Mt & 107.532 Mt respectively.	
1f	General remarks of inspecting officers on geology, exploration etc			Potential mineralized area wholly explored under G1 level of exploration. The exploration of the remaining part of the lease area is under progress.

Development :

Sl.No.	Item	Proposals	Actual work	Remarks
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2a	Location of development w.r.t. lease area	Area-3: 308600E to 309150 E, 2419450 N to 2420250 N Area-5: 307900 E to 308400 E, 2417100 N to 2417550 N Area 2 & 4: 308150 E to 308350 E, 2418200 N to 2418400 N	Area-3: 308650E to 309100 E, 2419475 N to 2420150 N Area-5: 307900 E to 308350 E, 2417100 N to 2417450 N Area 2 & 4: Nil	
2b	Separate benches in topsoil, overburden and minerals (Rule 15)	Area-3: Overburden- 8 Mineral- 8 Area-5: Overburden- 8 Mineral- 8	Area-3: Overburden- 8 Mineral- 8 Area-5: Overburden- 7 Mineral- 7	
2c	Stripping ratio or ore to OB ratio	1:0.36	1:0.10	
2d	Quantity of topsoil generation in m3	Area-3: 750 Area-5: 15100	Nil	
2e	Quantity of overburden generation in m3	1253345 cubic metre	274628 cubic metre	
2f	General remarks of inspecting officers on development of pit w.r.t. type of deposit etc			Less developement due to less production in mine

Exploitation:

Sl.No.	Item	Propasals	Actual work	Remarks
3a	Number of pit proposed for production	Three	Two	No production in Area 2 & 4 due to less demand in steel plants.
3b	Quantity of ROM mineral production proposed	3498004 T	2873436 T	

3c	Recovery of sailable/usable mineral from ROM production	65%	90%	Less subgrade materials generated during actual excavation area, so proportion of usable ore increased.
3d	Quantity of mineral reject generation	1172682 T	244315 T	
3e	Grade of mineral rejects generation and threshold value declared.	Grade: Fe >45 to <57% Threshold: +Fe 45%	Grade: Fe >45 to <57% Threshold: +Fe 45%	
3f	Quantity of sub grade mineral generation.	1172682 T	244315 T	
3g	Grade of sub grade mineral generation	45-57% Fe	45-57% Fe	
3h	Manual / Mechanised method adopted for segregating from ROM	Mechanical	Mechanical	
3i	Any analysis or beneficiation study proposed and carried out for sub grade mineral and rejects.	beneficiation study proposed	Fe varying from 45% to 57 %	Screening of subgrade materials carried out in departmental laboratory. The +10mm lump recovery varying between 30 to 40% with a quality of 52 to 55% Fe.
3j	Provision of drilling and blasting in mineral benches	drilling & blasting in mineral benches are proposed	Blast hole diameter: 150mm Blasting is done by using ANFO and slurry explosives with NONEL. Burden 3.5m Spacing:5.0m	
3k	Provision of mining machineries in mineral benches	Excavator Bucket Capacity: 4.5m3 Dumper Capacity: 100T/60T/50T	Excavator Bucket Capacity: 4.5m3 Dumper Capacity: 100T/60T/50T	

3l	Whether height of benches in overburden and mineral suitable for method of mining proposed in MP/SOM	10 m Bench Height is proposed	10 m Bench Height is maintained	
3m	Total area covered under excavation/pits	177.50Ha.	177.50Ha.	
3n	Ore to OB ratio for the pit/mine during the year.	1:0.36	1:0.10	
3o	Total area put in use under different heads at the end of year	Area under Excavation: 177.50 ha. Overburden Dump: 2.202 ha. Mineral storage: 71.095 ha. Others: 76.234 ha. Total area: 327.031 ha	Area under Excavation: 177.50 ha. Overburden Dump: 2.202 ha. Mineral storage: 71.095 ha. Others: 76.234 ha. Total area: 327.031 ha.	
3p	Production of ROM mineral during the last five year period as applicable	2017-18: 4.75 MT 2018-19: 3.59 MT 2019-20: 3.50 MT 2020-21: 3.50 MT 2021-22: 3.50 MT	2017-18: 0.09 MT 2018-19: 2.33 MT 2019-20: 2.04 MT 2020-21: 2.41 MT 2021-22: 2.87MT	
3q	General remarks of inspecting officers on method of mining etc.			Less production due to forest clearance was not obtained in our processing area, which hampering the dispatch to steel plant.

Solid Waste Management - Dumping:

Sl.No.	Item	Propasals	Actual work	Remarks
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4a	Separate dumping of topsoil, OB and mineral rejects (Rule 32,33)	Dumping of OB in BWD- 8 and Back Filling at Area-3 Pit: mineral reject ROM in BSD-2&4.	Dumping of OB in BWD- 8 and Back Filling at Area-3 Pit: mineral reject ROM in BSD-2&4.
4b	Location of topsoil, OB and mineral reject dumps	<p>Waste Dump BWD-8: 2418516N to 2419433N;</p> <p>308406E to 308741E Mineral Reject Dumps BSD-1 309298E-309378E 2419814N-2419642N BSD-2 308460E-308664E 2418211N-2418484N BSD-2&4 308204E-308414E 2417810N-2418100N BSD-3 308206E-308288E 2419124N-2419228N BSD-5 309290E-309358E 2420039N-2420083N BSD-7 308618E-308786E 2418912N-2418584N BSD-9 308876E-309036E 2419404N-242419562N</p>	<p>Waste Dump BWD-8: 2418516N to 2419433N; 308406E to 308741E Mineral Reject Dumps BSD-1 309298E-309378E 2419814N-2419642N BSD-2 308460E-308664E 2418211N-2418484N BSD-2&4 308204E-308414E 2417810N-2418100N BSD-3 308206E-308288E 2419124N-2419228N BSD-5 309290E-309358E 2420039N-2420083N BSD-7 308618E-308786E 2418912N-2418584N BSD-9 308876E-309036E 2419404N-242419562N</p>
4c	Number of dumps within lease area and outside of lease area	Waste Dump: 1 no within lease	Waste Dump: 1 no within lease
4d	Location of dumps w.r.t. ultimate pit limit (Rule 16)	outside UPL	outside UPL

4e	Number of active and alive dumps.	Waste Dump: 1 no. (BWD-8) Mineral reject dump: 1 no. (BSD-2&4)	Waste Dump: 1 no. (BWD-8) Mineral reject dump: 1 no. (BSD-2&4)	
4f	Number of dead dumps.	No proposal	Nil	
4g	Number of dumps established.	No proposal	Nil	
4h	Whether Retaining wall or garland drain all along dumps are there.	proposed 750m	Nil	
4i	Length of Retaining wall or garland drain all along dumps	750 METRE	Nil	Violation was issued under rule u/r MCDR, 2017
4j	Number of settling ponds	-No Proposal	nil	
4k	Specific comments of inspecting officer on waste dump management			Separate area for dumping of OB and mineral reject demarcated as per approved proposal

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.	7.8 Ha.	2.0 Ha.	Back filling have been proposed after complete extraction of ore from lower benches of pit-3
5b	Area under backfilling of mined out area	7.8 Ha.	2.0 Ha.	Back filling have been proposed after complete extraction of ore from lower benches of pit-3
5c	Concurrent use of topsoil for restoration or rehabilitation of mineral out area (Rule 32)	No proposal	Nil	
5d	Total area fully reclaimed and rehabilitated	No proposal	Nil	

5e	General remarks of inspecting officers on backfilling and reclamation etc.	Back filling have been proposed after complete extraction of ore from lower benches of pit-3
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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).	Annual report on PMCP was proposed	Submitted in time	
6b	Area available for rehabilitation (ha) .	No proposal	Nil	
6c	afforestation done (ha).	No proposal	Nil	
6d	No. of saplings planted during the year	No proposal	Nil	
6e	Cumulative no .of plants	-	299242 Nos.	
6f	Any other method of rehabilitation	No proposal	Nil	
6g	Cost incurred on watch and care during the year	No proposal	Nil	
6h	Compliance on reclamation and rehabilitation by backfilling (i) Voids available for backfilling (Lx B x D	No proposal	Nil	
6i	Compliance on reclamation and rehabilitation by backfilling (ii) Voids filled by waste / tailings	No proposal	Nil	

6j	Compliance on reclamation and rehabilitation by backfilling (iii) Afforestation on backfilled area	No proposal	Nil
6k	Compliance on reclamation and rehabilitation by backfilling (iv) Rehabilitation by making water reservoir	No proposal	Nil
6l	Compliance on reclamation and rehabilitation by backfilling (v) any other specific means.	No proposal	Nil
6m	Compliance of rehabilitation of waste land within lease (i) afforestation	No proposal	Nil
6n	Compliance of rehabilitation of waste land within lease (ii) Area rehabilitation (ha)	No proposal	Nil
6o	Compliance of rehabilitation of waste land within lease (iii) Method of rehabilitation	No proposal	Nil
6p	Compliance of environmental monitoring (core zone and buffer zone)	Proposed	Quarterly monitoring of AAQ, Water Quality and Noise Level to be carried out through a recognized environmental consultant.
6q	General remarks of inspecting officers on PMCP compliance and progressive closure operations etc.		

Mineral Conservation:

Sl.No.	Item	Propasals	Actual work	Remarks
7a	ROM Mineral dispatch or grade-wise sorting within lease area	Mineral Reject stacked in specified stack within the lease area.	Mineral Reject stacked in specified stack within the lease area from 45 to 57% Fe	
7b	Method of grade-wise mineral sorting i.e. manual or mechanical.	Mechanised	Mechanised	
7c	Different grade of mineral sorted out at mines.	45 - 57% Fe at Dump / Stack	45 - 57% Fe at Dump / Stack	
7d	Any beneficiation process at mines .	No proposal	Nil	
7e	General remarks of inspecting officer on Mineral conservation and beneficiation issues			45 to 57% Fe feed to crusher and partly subgrade materials/mineral reject blended with high grade ore and partly stacked in SG Dump/Stack

Environment :

Sl.No.	Item	Propasals	Actual work	Remarks
8a	Separate removal and utilization of topsoil (Rule 32)	No proposal	Nil	
8b	Concurrent use or storage of topsoil	No proposal	Nil	
8c	Separate dumps for overburden, waste rock, rejects and fines (Rule 33)	Proposed	Waste dump: BSD-8 Mineral reject dump: 8 nos. (BSD-1, 2, 2&4, 3, 4, 5, 7, 9)	
8d	Use of overburden, waste rock, rejects and fines dumps for restoring the land to its original use	No proposal	Nil	

8e	Phased restoration, reclamation and rehabilitation of lands affected by mining operations (Pits, dumps etc)	No proposal	Nil	
8f	Baseline information on existence of plantation and additional plantation done (Rule 41)	No proposal	Nil	Afforestation already done completely on the old mineral reject stacks
8g	Survival rate	No proposal	Nil	
8h	Water sprinkling on roads to control airborne dust	Proposed	Permanent sprinkling system is installed in haulage road and water tanker also routinely used.	
8i	General remarks of inspecting officer on aesthetic beauty in and around mines area			Overburden and waste rock will be used for restoring the land to its original use after completion of the excavation of ore from pits.

Compliance of Rule 45:

Sl.No.	Item	Propasals	Actual work	Remarks
9a	Status of submission of Monthly and Annual returns	Status of submission of Monthly and Annual returns submission	Monthly returns up to March, 2022 and Annual returns submitted for 2020-21	Annual returns for the year 2021-22 is not due to submit as per statute.
9b	Scrutiny of Annual return for information on Mining Engineer, Geologist and Manager	Details Given	Information on Mining engineer, Geologist and Manager of the mine has been furnished	
9c	Scrutiny of Annual return on land use pattern for area under pits, reclaimed area, dumps etc.	Details on land use pattern has been provided	Area covered under excavation: 175.500 Ha; Used for mineral reject stack/retaining wall & garland drain: 82.297 Ha; Roads: 11.48 Ha; Infrastructure: 12.19 Ha.	

9d	Scrutiny of Annual return on afforestation	Not proposed during the year inside the lease	Nil	3000 nos. of saplings planted outside the lease area. Data furnished in annual return 2020-21.
9e	Scrutiny of Annual return on mineral reject generation (Grade and quantity)	Details provided	Mineral Reject generated during the year 2020-21 was 152865 Te. tonnes with 45 to 57% Fe.	
9f	Scrutiny of Annual return on ROM stock and/or graded ore	Details provided	ROM production : 2409988 Tonnes and grade of ROM : 60-62%	
9g	Scrutiny of Annual return on sale value, Ex. Mine price and production cost	Provided	Production cost is Rs. 1563.80/- per Tonne	violation letter issued under rule 45(5) (c) of MCDR, 2017
9h	Scrutiny of Annual return on fixed assets	Details are given	Value of fixed assets Rs. 4315548124 /-	This fixed asset includes jointly with Taldih & Kalta Mines
9k	Scrutiny of Annual return on mining machineries	Details are given	Shovel : 03 Nos. Back Hoe : 02 Nos. Dumper : 09 Nos. Air compressor : 06 Nos. Dozer : 07 Nos.	

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

Violation observed			Show cause position		
Rule NO.	Issued on	Compliance on	Rule NO.	Issued on	Compliance on
MCDR17 Rule 11(1)	29-APR-22				
Rule 45(5)	29-APR-22				

Date :

(SHRI B L GURJAR)

Indian Bureau of Mines