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	Ghoraburhani Sagasahi Iron Ore Mine
2	Date of inspection	09/02/2024
3	Name of inspecting officer	Prashant S Hegde, RMG
4	Name accompanying mine	S/Shri L.D.Babu, Mines Manager cum Mining
	officials	Engineer, Purna Chandra Sahoo, Geologist and
		other mine officials
5	Last date of Inspection & Officer	17/01/2023
		Shri Kewal Krishan, RMG
6	Total Lease Area (Ha) with breakup	139.165 Ha. (126.401 Ha Forest + 12.764 Ha
	of Non-forest and forest land	Non-forest)
7	Minecode	30ORI13071
8	IBM Registration Number under rule 45 of MCDR, 2017	IBM/571/2011
9	Name of the lessee, Address,	M/s ArcelorMittal Nippon Steel India Limited
	phone, email and fax number	Surat Hazira Roadhazira, Chouryasi, District-
		Surat, Gujarat-394270 Phone – 8639867046,
		Email- Lingamagunta.Babu@amns.in
10	Village	Ghoraburhani, Sagasahi & Kalamang
11	Taluka/Mandal	Koira
12	District	Sundargarh
13	Pincode	770048
14	State	Odisha
15	Post office	Koira
16	Nearest police station	Koira
17	Nearest Railway station	Barsuan
18	Date of Grant of Mining Lease	25.03.2021
19	Date of Execution	26.03.2021
20	Date of opening of Mine	09.09.2021
21	Date of expiry	25.03.2071
22	Name of the Nominated Owner with	Shri Dilip Oommen
	Address, phone, email, fax number	Office No.126, 101-104, GCP Business Center,
	and date of appointment	Opp. Memnagar Fire Station, Vijay Cross Road
		Memnagar, Ahmedabad-380014, Gujarat.
		Date of Appointment:20.04.2021
		Email: <u>Dilip.Oommen@amns.in;</u>
23	Name of the Mine Agent with	Shir Sharanappa Kambalii
	Address, phone, email, fax number	Ghoraburhani Sagasahi Iron Ore Mine, Village-
	and date of appointment	Ghoraburhani, PO: Malda, PS: Koira,
		Sundargarh
		Udisna-//UU48
		Email: <u>Snaranappa.Kambalii(@amns.in</u>
24	Nome of the Mines Manager - Still	Date of Appointment: 04.04.2023
24	Address mobile no small far	SIIII L D BAUU Chowshuwhani Sagaanhi Iran Ora Mina Million
1	Address, moone no, email, fax	GIOLADUITIAIII SAGASAIII IFOII OFE IVIIIIE, VIIIAGE-

	number and date of appointment in	Ghoraburhani, PO: Malda, PS: Koira,
	mine	Sundargarh
		Odisha-770048
		Mobile No9880788809
		Email: Lingamagunta.Babu@amns.in
		Date of Appointment:08.09.2021
25	Name of the Mining Engineer ,	Shri L D Babu
	Qualification and total experience	Qualification: AMIE and ME (ISE) Mining
	with Address, mobile no, email,	with 1 st class Mines Manager's Competency
	fax/phone number and date of	Experience: 24 years
	appointment in mine	Address:
		Ghoraburhani Sagasahi Iron Ore Mine, Village-
		Ghoraburhani, PO: Malda, PS: Koira,
		Sundargarh
		Odisha-770048
		Mobile No9880788809
		Email: Lingamagunta.babu@amns.in
		Date of Appointment:08.09.2021
26	Name of the Geologist , Qualification	Purna Chandra Sahoo
	and total experience with Address,	Qualification: MTech-Applied Geology
	mobile no, email, fax number and	Experience: 12 years
	date of appointment in mine	Address:
		Ghoraburhani Sagasahi Iron Ore Mine, Village-
		Ghoraburhani, PO: Malda, PS: Koira,
		Sundargarh
		Odisha-770048
		Email: <u>purna.sahoo@amns.in</u>
		Mobile No9078148272
		Date of Appointment:13.09.2021
27	Date of Approval of Mining	Modified Mining Plan Approved vide letter No.
	Plan/Review of Mining Plan/ their	MPM/A/25-ORI/BHU/2021-22, dated:
	modifications with five-year period	15.02.2022 & the plan period is from 2021-22
	and specific condition in approval	to 2024-25
	letter, if any.	
28	Mineral (s) granted in lease and	Iron Ore
20	proved for mining	
20	Mothod of Mining(Opencest	Open Cast
29	Underground)	Open Gast
30	Category (Fully Machanisod Others	Fully Mechanised
00	or Manual)	
31	Captive/Non Captive	Cantive
22	Drosont EC Connecity	Capuve DOM: 7 162 528 TDA
52	Fresent EC Capacity	TOM. /,102,550 IFA

OBSERVATIONS/COMMENTS OF INSPECTING OFFICER:

1)Exploration:---

SL.No	Item	Proposals	Actual work	Remarks
•		(FY 2022-23)		
1a	Backlog of previous year	FY 21-22: 56	FY 21-22: 65	
		Nos of core/RC	Nos of BHs	
		BHs with 3920	(33nos core +	
		total meterage ;	32nos RC) with	

1b	Exploration over lease area for Geological axis 1 or 2.	FY 22-23: 38 Nos of core/RC BHs with 2660 total meterage; Conversion of entire area under G-1	6663 total meterage ; FY 22-23: 43 Nos of core BHs with 4878 total meterage; Proved Mineralized area: 92.63 Proved Non- Mineralized area area: 46.535 Ha	Entire potentially mineralized area cover under G-1	
1c	Exploration Agency & Expenditure in lakh Rupees during the year	NA	Exploration agency: Gemco Kati Exploration Private; Apc Drilling & Construction Private Expenditure: 713.593 lakhs	NIL	
1d	Balance area to be explored to bring Geological axis in 1 or 2	Conversion of entire area under G-1	NIL; Entire potentially mineralized area cover under G-1		
1e	Balance reserves as on 01.04.2023	NA	Iron Ore (+45 % Fe) reserves (122) : 71.35 million tonnes	Based on approved Modified MP dated 15/2/2022.	
1f:	General remarks of inspecting Officer on Geology, exploration etc.	The lease area is a part of major Horse-shoe shaped Singhbhum-Bonai-Keonjhar iron ore belt/series/formation. This block/ML lies within the Upper shale formation of Koira group. The deposit forms a low northerly plunging "Horse-shoe" shaped synclinorium. The litho-unit observed at ML as follows: Laterite, Ferruginous-shale, Iron ore (HLO, SLO & powdery ore/blue dust), BHJ/BHC. Based on exploration data, the configuration/geometry of ore body as follows. 1980m X 750m X 55m (Avg. Grade:62 % Fe)			

2)Development:--

SL. Item	Proposals (FY 2022-2	23) Actual work	Remarks
No.			
2a Locatio develop nt w.r.t. lease ar	n of North Pit: ome N-2427767 to 2428366 E-322818 to 323200 ea Bottom RL: 580m South Pit:	North Pit: 5, N- 2427880 to 2428280, E-322820 to 323200 Bottom RL: 583m South Pit: South Pit:	Within the proposed limit

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		N-2427373 to 2427790, E-322846 to 323441 Bottom RL: 610m	N- 2427480 to 2427790, E-322850 to 323400 Bottom RL: 624m	
2b	Separate benches in topsoil, overburden and mineral	Separate benches in overburden and minerals	As per proposals	
2c	Stripping ratio or ore to OB ratio	1:0.18	1:0.25	Ratio in tonnes/m3 BD:2; Fresh auctioned mine
2d	Quantity of topsoil generation in m3	2944 m3	598 m3	Fresh auctioned mine.
2e	Quantity of overburden generation in m3	1,307,030 m3	1,055,620 m3	Fresh auctioned mine
2f	General remarks of inspecting Officer on developme nt of pit w.r.t. type of deposit etc	Developments of pits are being modified MP.	carried out within the limit as p	er approved

3)Exploitation:--

SL.No.	Item	Proposals (FV 2022-23)	Actual work	Remarks
За	Number of pits proposed for production	2 pits (North pit & South Pit)	2 pits (North pit & South Pit)	NIL
3b	Quantity of ROM mineral production proposed	7,160,725 tonnes	4,139,231 tonnes (within the limit)	Due to market conditions & captive new mine.
Зс	Recovery of salable/usab le mineral from ROM	5,381,122 tonnes (75 %)	3,781,557 tonnes (88 %)	Total ROM feed for processing is 4,303,882 tonnes (4,139,231 tonnes is from FY 2022- 23 and 1,64,651

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	production			tonnes from the
3d	Quantity of mineral reject			Opening Balance) During FY- 2022-23, 159,333
	generation	1,779,603 tonnes	5,22,325 tonnes	tonnes being utilized based on market demand.
3e	Grade of mineral reject generation and threshold value declared	MR: 45 to 58 % Fe	MR: 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
Зg	Grade of sub-grade mineral generation	Same as para 3e		utilized based on market demand.
3h	Manual / Mechanised method adopted for segregating from ROM	Mechanized	Mechanized	
3i	Any analysis or beneficiatio n study proposed & carried out for sub- grade mineral and reject	Nil	NIL during FY	
Зј	Provision of drilling & blasting in mineral benches	Deep hole drilling blasting of 115 mm dia. holes using nonel detonators	As per proposals.	For Hard rocks/formatio n only.
3k	Provision of mining machineries in mineral benches	Yes, mining by Shovel/Excavators & Dumpers Combination.	As per proposals.	
31	Whether height of benches in overburden	10m bench height with 10 m width.	As per proposals.	

3m	and mineral suitable for method of mining proposed in MP/SOM Total area covered under excavation/ pits	34.24 (End o	5 Ha f FY)	22.815 Ha		Excavation as per the achievement of production.
3n	Ore to OB ratio for the pit/mine during the year	1:0.	18	1:0.25		Ratio in tonnes/m3 BD:2; Fresh auctioned mine
30	Total area put in use under	Particulars	Total Area(Ha) at the end of FY 2022-23	Particulars	Total Area(Ha) at the end of FY 2022-23	Within the limit.
	different heads at the	Area under Mining	34.245	Area under Mining	22.815	
	end of year	Overburden/ Waste dumping	12.687	Overburden/ Waste dumping	10.57	
		Mineral Storage	22.949	Mineral Storage	11.872	
		Area Occupied Infrastructure, plants, buildings , roads etc	38.464	Area Occupied Infrastructure, plants, buildings , roads etc	32.086	
	D. I:	2024 22 2 25	0.64	2021.22.2.5	<u> </u>	TT •. T
зр	of ROM mineral during last five-years period, as applicable	2021-22: 3,35 2022-23: 7,16 2023-24: 7,16	0,61 0,725 2,128	2021-22: 2,74 2022-23: 4,13 2023-24: 4,82	5,042 9,231 0,940 (Up to Jan-24)	Date of opening of mine on 9/9/2021
3q	General remarks of inspecting Officer on method of mining etc			Open-cast method is be MP. The co beneficiation slurry pipelin also under pr ML by state premium of 4	fully mechai eing carried as onstruction of plant (6.56 ne ore transpo rogress. This is Govt. on 2/03 (4.35 %	nized mining s per approved proposed wet MTPA) and ort system was s a e-auctioned /2016 with bid

4)Solid Waste Management-Dumping:--

SL.No	Item	Proposals (FY 2022-23)	Actual work	Remarks
4a	Separate	Separate dumping	of	As per the proposals	

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	dumping of topsoil, OB & mineral	topsoil, OB & mineral reject has been proposed		
4b	Location of topsoil, OB & mineral reject dumps	Topsoil: Near MLB-12 (for Plantation) OB: Waste dump No-2 (N-2428325 to 2428560 & E-322820 to 323040) and Waste dump No-3(N- 2427640 to 2427890 & E- 319675 to 319920) Mineral reject: Proposed temporary mineral Reject Stock-1(N-2427880 to 2428038) & E-323122 to 323272); Stock-2((N- 2427757 to 2427911) & E-323613 to 323750); Stock-3((N-2427755 to 2428000) & E-323862 to 324227); Stock-4((N- 2427245 to 2427405) & E-322916 to 323360);	Top-Soil:Utilizedforplantation.OB: As per the proposals.Mineral reject:At Stock-3 as per the proposalsand considering quantity ofgeneration.	
4c	Number of dumps within lease area and outside lease area	Within lease-3 Nos Outside lease-NIL	Within lease-3 Nos Out- side lease-NIL	
4d	Location of dumps w.r.t. ultimate pit limit	Waste dump -1 & 2 Proposed within the UPL & temporary in nature and Waste dump-3 is outside the UPL	Waste dump -1 & 2 within the UPL & temporary in nature and Waste dump-3 is outside the UPL	Based on exploration
4e	Number of active & alive dumps	2 nos	2 nos	Waste dump-2 & 3
4f	Number of dead dumps	1 nos	1 nos	Waste dump-1
4g	Number of dumps stabilished	NIL	NIL	
4h	Whether Retaining wall or garland drain all along dumps are there	Yes; Proposed all along the OB and Mineral reject dumps	As per proposal	
4i	Length of Retaining	Retaining wall: 1140m Garland drain: 1140m	Retaining wall: 934m Garland drain: 934m (Cum. of 1454 m Retaining wall	NIL

	wall or garland drain all		& cum. Of 1454 m Garland drain constructed so far as per the actual availability of ground	
	along dump		along toe of dump and less	
			quantity of generation OB.	
4j	Number of	NIL	3 nos	
	settling			
	ponds			
4k	Specific comments of	Overburden wastes/ minera carried out as per the approv	al rejects/ top-soil management a /ed proposals.	re not being
	inspecting			
	Officer on			
	waste dump			
	managemen			
	t			

5)Solid Waste Management-Backfilling:--

SL.No	Item	Proposals (FY 2022-23)	Actual work	Remarks
5a	Status on part or full extraction of mineral from mined out area before starting backfilling	No such proposals.	NIL	
5b	Area under backfilling of mined out area	NA	NIL	
5c	Concurrent use of topsoil for restoration or rehabilitation of mined out area	NA	NIL	
5d	Total area fully reclaimed & rehabilitated	NA	NIL	
5e	General remarks of inspecting Officer on backfilling and reclamation etc	Existing pits w ore/mineral not e	vere not matured by xhausted.	backfilling as

6)Progressive Mine Closure Plan:---

SL.N.	Item	Proposals (FY	Actual work	Remarks
		2022-23)		
6a	Whether Annual report	Before 1 st July	Submitted on time	NIL
	on PMCP submitted on	2023		
	time and correctly -			
	Rule 26(2). (Hard copy			
	same provided)			
6b	Management of worked/			
	mined out			
	benches/dumps			No such
	i) Area available for	i)Nil	i)Nil	proposals as
	rehabilitation (ha)			new fresh

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	ii) Afforestation done (ha)	ii) Nil	ii) Nil	auctioned mine.
	iii) No. of saplings	iii) Nil	iii)NIL	
	iv) Cumulative no. of	iv) Nil	iv) NIL	
	v) Any other specific	v)NA	v) NIL	
	vi) Cost incurred on watch & care during the year	vi) NA	vi) NIL	
6c	Compliance on reclamation and rehabilitation by	i)NIL	i)NIL	No such reclamation and
	backfilling i) Voids available for	ii) NIL	ii) NIL	rehabilitation by backfilling
	ii) Void filled by waste/tailings	iii)NIL	iii)NIL	proposals.
	iii) Afforestation on the backfilled area	iv)NIL	iv)NIL	
	iv) Rehabilitation by making water reservoirv) Any other specific means	v)NIL	v)NIL	
6d	Compliance of			
	Rehabilitation of waste	1) Plantation of	1) 1700 nos of sanlings proposals	
	i) Afforestation	saplings at safety	at at safety zone.	Besides 185
	ii) Area rehabilitated	zone.		nos saplings
	(ha) iii) Mothod of	ii)1 Ha	ii)0.7 Ha	planted outside
	rehabilitation	iii) Plantation	iii) Plantation	FY.
6e	Compliance of Environmental	Environmental monitoring in	Environmental monitoring in Core	NIL
	& buffer zone)	buffer zone will	zone was carried out	
	,	be as per MOEF	as per the proposals	
		&CC and SPCB	and parameters are	
6f	General remarks of	Lessee has implem	enting PMCP proposals	s as per
	inspecting Officer on	approved MP.	0 r r	L
	PMCP compliance &			
	operation etc			

7)Mineral Conservation:---

SL.No	Item	Proposals ((FY 2022-23)	Actual work	Remark
.				S

7a	ROM Mineral dispatch or grade-wise sorting within lease area	Grade wise sorting to Fines & CLO by crushing and screening within lease area.	As per proposals	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 (Fines & CLO) and Grade wise sorting and dispatched (Fine Iron Grade range- 58 to 65% Fe) and CLO (5-18 mm &10-40 mm size)	As per proposals (Fine Iron Grade range- 51 to below, 55 %, Fe 55 % to Below 58 %Fe, 58 to below-60 % Fe, 60-below 62% Fe & 62- below 65% Fe) and CLO Below 62% Fe(any size, 62 to 65 % Fe (5-18 mm Size)	NIL
7d	Any beneficiation process at mines	Presently none Except dry crushing & screening	As per proposals.	NIL
7e	General remarks of inspecting Officer on mineral conservation & beneficiation issues	Grade-wise soring to fines/CLO & dispatches of ore/mineral as per the proposals (captive and direct selling) and there is no mineral conservation issue. The construction of proposed wet beneficiation plant (6.56 MTPA) and slurry pipeline ore transport system was also under progress.		

8)Environment:--

SL.No.	Item	Proposals (FY 2022-23)	Actual work	Remarks
8a	Separate removal and utilization of topsoil	Separate removal of topsoil and utilized for plantation proposed.	As per the proposals.	598 m3 topsoil utilized for planation during said FY year.
8b	Concurrent use or storage of topsoil	Separate removal of topsoil and utilized for plantation proposed.	As per the proposals.	Nil
8c	Separate dumps for overburden, waste rock, rejects and fines	Separate dumping of OB wastes & mineral rejects proposed	Carried out as per approved proposals.	NIL
8d	Use of overburden, waste rock, rejects and fines dumps for restoring the land to its original use	No such proposals	NIL	Nil
8e	Phased restoration, reclamation and rehabilitation of lands affected by mining operations (Pits, dumps etc)	No such proposals	NIL	Nil

8f	Baseline information on existence of plantation & additional plantation done	Plantation of 1600 Nos of saplings at safety zone proposed.	1700 nos saplings planted in 0.7 Ha area during FY year 22-23 with cumulative 8984 nos of saplings within ML.	
8g	Survival rate	80	76 %	
8h	Water sprinkling on roads to control airborne dust	Regular sprinkling of water on Haul roads, crushing & screening plant site and dump location etc using Water tankers/sprinklin g 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 ir implementing the plantation as per th	n & around mines area i PMCP proposal an e proposals.	s good as lessee ad carried out

9)Compliance of Rule 45

SL.No.	Item	COMMENTS			
				Remarks.	
9a	Status of submission of Monthly and Annual returns	Regularly submitting the MRs/ARs of	Regularly submitting the MRs/ARs on-time.		
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 L.D.Babu Mining Engineer: Shri L.D. Babu Geologist: Shri Purna Chandra Sahoo	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- 22.815 Ha (2) Used for Waste Disposal- 10.57 Ha (3) Occupied by plant, buildings, residential, welfare, buildings and roads- 32.086 Ha (4) Other Purpose (including Mineral Storage)- 11.872 Ha 	Actual also as per AR.		
9d	Scrutiny of Annual return on	1700 nos within ML	Actual also as per AR		

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	afforestation				
9e	Scrutiny of Annual	During year-22-	23 (Generated)		
	return on mineral reject generation (Grade & quantity)	Iron Unprocessed Ore (45-58 % Fe)	NIL	Actual also as per AR and 159,333 tonnes utilized FY	
		Iron Processed Ore (45-58 % Fe)	5,22,325 tonnes	Market demand.	
9f	Scrutiny of Annual	As on 31.03.20	23 tonnes	Appear to be	
	return on ROM	Stock Iron ROM	1: 3,30,928	correct.	
	stock and/or graded				
	ore	Fines closin	ng stock in		
		ton	nes		
		51%- below 55 % Fe	6,20,632		
		55%- below 58%Fe	2,27,015		
		60%- below	61,729		
		62%	14,193		
		65%Fe	5,03,675		
		above	Nil		
		CLO stock	in tonnes		
		Below 62%	7.06.000		
		Fe (CLO any size)	/,86,320		
		62%- below 65% Fe (5-	1,69,946		
9ø	Scrutiny of Annual	Cost of producti	ion: Rs-3104 44	Ex-mine Price	V/L
58	return on sale value.	per tonne:		calculation i.r.o.	issued.
	Ex. Mine price &	Ex-mine price:		60%-below 62%	
	production cost	Ex-mine Pric	e of Iron ore	Fe Iron ore Fines	
	•	Fines in Rs	per tonne	and 62%-below 65	
		55%- below 58% Fe	1804	%Fe Iron ore Fines were not matching.	
		58%- below 60 %Fe	2251		
		60%- below 62% Fe	4413	•	
		62%- below 65 %Fe	4352		
		Ex-mine Pri	ce for CLU		
		Delow 620/	er tonne		
		Fe (CLO any size)	3922		
		62%- below 65% Fe (5- 10 mm)	6765		
9i	Scrutiny of Annual return on fixed	Fixed Value of <i>A</i> 276,29,17,339	Assets: Rs	Appear to be correct.	

	assets			
9k	Scrutiny of Annual return on mining machineries	Shovel: 19 nos; Wheel Loader:8 nos; Dumpers: 36 nos ; Rock Drill (102 mm): 1 nos;	Observedtobecorrect;However,violationpointedoutfornon-reflectionofdeploymentofcrushing&screeningplant	
			and water-tankers,	

(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 17/01/23, the violation of rule 45(7) of MCDR 2017 was pointed out and subsequently, said rule complied on 5/4/2023.

(b)During current inspection: The violation of Rule 45(7) of MCDR 2017 has been observed and the violation letter issued on 28/02/24.

(11) On-line validation of star rating of templates submitted under rule 35 (FY-2022-23) has been made on 29/02/2024 for Four star at RO level.

(12)The lessee was submitted DAI/drone survey data under rule 34A for FY 22-23 on 01/07/2023.

Date: 29/02/2024

(Prashant S. Hegde) Regional Mining Geologist