MCDR INSPECTION REPORT

1.0 GENERAL

SN	Particulars	Details
	File No.	MCDR-MiFL0FE/1/2022-BBS-IBM_RO_BBS
	Name of Inspecting Officer	Vikram Prakash Deshpande, ACOM
	Date of Inspection	12th January, 2025
1	Name of the Mine	Khondbond Iron and Manganese Mine
2	Total Lease Area (Ha) with breakup of Non-forest and forest land	Total Lease Area (ha) – 978 ha i) Forest area(ha): 875.198 ha ii) Non-Forest(ha): 102.802 ha
3	Mine Code	30ORI08059
4	IBM Registration Number under rule 45 of MCDR, 1988	IBM/4376/2011
5	Name of the lessee, Address, phone, e-mail, and fax number	Tata Steel Limited, 24 Homi Mody Street, Fort. Mumbai-400001, Ph No.: 9262699402 Fax: 06767-272010 Email id: ceo_md_office@tatasteel.com
6	Village	Khondbond, Guruda and Baitarini RF
7	Taluka/Mandal	Barbil
8	District	Keonjhar
9	Pin-code	758034
10	State	Odisha
11	Post office	Joda
12	Nearest police station	Bamebari
13	Nearest Railway station	Banspani
14	Date of Grant of Mining Lease	17.01.1933
15	Date of Execution	20.11.1933
16	Date of opening of Mine	1933
17	Date of 1st Renewal, if applicable and its period & expiry	10.01.1978 w.e.f. 17.01.1963 to 16.01.1983, 20 years
18	Date of 2nd Renewal, if applicable and its period & expiry	27.10.1984 w.e.f. 17.01.1983 to 16.01.2003, 20 years
19	Date of submission of renewal application if Mining Operations are continuing under deemed extension	Not a deemed extension. Lease period extended till 31.03.2030. Supplementary Lease Deed executed on 08.05.2015.
20	Name of the Nominated Owner with Address, phone, email, fax number and date of appointment	**Mr. T. V. Narendran** Northern Town, Jamshedpur, P.O: Bistupur, Dist: East Singhbhum, Jharkhand- 831001, Phone No: 0657-2424602 Email id: narendran@tatasteel.com Date of appointment: 01.11.2013
21	Name of the Mine Agent with Address, phone, email, fax number and date of appointment	**Mr. Gedela V Satyanarayana** Khondbond Iron & Mn Mine, At/PO; Joda Dist: Keonjhar Phone No: - 7763807795 gv.satyanarayan@tatasteel.com Date of appointment: 12.01.2022
22	Name of the Mines Manager with Address, phone, email, fax number and date of appointment in mines	**Mr. Rajesh Kumar,** Khondbond Iron & Mn Mine, At/PO; Joda Dist: Keonjhar Phone No: - 7033094900 raj.k@tatasteel.com Date of appointment: 01.11.2023
23	Name of the Mining Engineer, Qualification and total experience with Address, phone, email, fax number and date of appointment in mine	**Mr. Rajesh Kumar,** Qualification: B.Tech in Mining Engineering Experience: 28 years Khondbond Iron & Mn Mine, At/PO; Deojhar Dist: Keonjhar Phone No:- 7033094900 raj.k@tatasteel.com Date of appointment: 01.11.2023

24	Whether Geologist and Mining Engineer appointed in mines satisfy the rule 42 & carrying out their duties as per rule 43 & 44.	Yes **GEOLOGIST:** **Mr. Dinesh Patra** Qualification: MSc. Tech. in Applied Geology dinesh.patra@tatasteel.com Date of appointment: 25.01.2021 **MINING ENGINEER:** **Mr. Rajesh Kumar** Qualification: B. Tech in Mining Engineering raj.k@tatasteel.com Date of appointment: 01.11.2023
25	Date of Approval of Mining Plan/~~Modified Mining Plan~~ with five-year period and specific condition in approval letter, if any.	Approval of Mining Plan: - Vide Letter No. 314 (3)/2000-MCCM(C)/MP-29 dated 11.12.2001, for the period: 2001-02 to 2007-08
26	Date of Approval of Review of Mining of Mining with five-year period and specific condition in approval letter, if any.	Approval of Review of Mining Plan: - Vide Letter No. BBSR/KJR/IRON-MN/2191/RMP/2022-23 dated 19.01.2023, for the period: 2023-24 to 2027-28
27	Mineral(s) granted in lease and proved for mining	Iron Ore
28	Method of Mining (Opencast, Underground)	Opencast
29	Category (Fully Mechanised, Others or Manual)	Fully Mechanised (Category A)
30	Captive/Non Captive	Captive

Exploration

SN	Item	Proposals	Actual work	Remarks
1a	Backlog of previous year	0	0	
1b	Exploration over lease area for Geological axis 1 or 2.	528 nos. 24645 m	10 nos. 445 m	*Proposed Area situated within un-diverted forest land.*
1c	Exploration Agency & Expenditure in lakh Rupees during the year	Tata Steel Ltd.	Tata Steel Ltd. 40.05 Lakhs	
1d	Balance area to be explored to bring in Geological axis in 1 or 2	125.59 ha	125.59 ha	*Balance area of 0.1 ha (non-mineralized) in G3.*
1e	Balance reserves as on 01.04.2024	**Iron Ore:** • *Reserves at the end of FY'23*= 129891647 T • *Proposed ROM Prodn. in FY'24*= 8000000 • *Proposed balance of reserves at end of FY'24*=121891647 T **Manganese Ore:** • *Reserves at the end of FY'23*= 615467 T • *Proposed ROM Prodn. in FY'24*= 100000 • *Proposed balance of reserves at end of FY'24*=515467 T	**Iron Ore:** • *Reserves at the end of FY'23*= 129891647 T • *Actual ROM Production in FY'24*= 6437688 • *Actual balance of reserves at end of FY'24*=123453959 T **Manganese Ore:** • *Reserves at the end of FY'23*= 615467 T • *Actual ROM Production in FY'24*= 89223 • *Actual balance of reserves at end of FY'24*=526244 T	*Lesser depletion of reserves due to lesser excavation .*
1f	General remarks of inspecting officer on geology, exploration etc.	Khondbond iron and manganese deposit belong to the Iron ore group in the Singhbhum Super Group formed during the Pre-Cambrian era (c. 3100 Ma), of the Dharwarian age as observed from the stratigraphic tables. The are two main ore bodies viz. northern ore body has a strike length of around 2.5 km and southern ore body has a strike length of around 1.8 km. The northern ore body has small ore bodies. The width of the ore bodies varies from 200m to 500m.		

2.0 DEVELOPMENT

SN	Item	Proposals	Actual work	Remarks
2a	Location of development w.r.t. lease area	**Pit 1** N: 2428093 to 2429069 E: 333190 to 333986 **Pit 2** N: 2427301 to 2427667 E: 332730 to 333230 **Pit 3** N: 2424365 to 2425054 E: 331943 to 332405 **Mn Pit 1** N: 2428453 to 2428907	**Pit 1** N: 2428189 to 2428975 E: 333358 to 333968 **Pit 2** N: 2427298 to 2427626 E: 332811 to 333117 **Pit 3** N: 2424385 to 2425017 E: 331953 to 332390 **Mn Pit 1** N: 2428444 to 2428826	Excavation within proposed area. **Avg. Pit Dimensions (L×B×D)** **Pit-1:** 1007.24 × 748.38 × 31 **Pit-2:** 830.99 × 1347.06 × 33 **Pit-3:** 697.7 × 434.77 × 61 **Mn Pit-1:** 359.18 × 512.55 × 63

		E: 331651 to 332296	E: 331675 to 332086	
2b	Separate benches in topsoil, overburden, and mineral (Rule 15)	Separate Benches in Mineral and OB Proposed	Separate Benches in Mineral and OB made	
2c	Stripping ratio or ore to OB ratio	**Iron Ore:** 1: 0.0633 T/m^3 **Mn Ore:** 1: 4.424 T/m^3	**Iron Ore:** 1: 0.0624 T/m^3 **Mn Ore:** 1: 6.124 T/m^3	
2d	Quantity of topsoil generation in m^3	No Top Soil generation proposed during reporting year.	Not Applicable	
2e	Quantity of overburden generation in m^3	OB (Iron Ore): 442400 OB (Mn Ore): 507137	OB (Iron Ore): 402031 OB (Mn Ore): 546472.66	No Significant Change
2f	General remarks of inspecting officer on development of pit w.r.t. type of deposit etc.	The mine workings were confined to 4 pits viz 1,2&3for Iron Ore and 1 Mn viz Pit-1. The development was carried out within the proposed grids as per the approval on the date of inspection.		

3.0 EXPLOITATION

SN	Item	Proposals	Actual work	Remarks
3a	Number of pits proposed for production	4	4	Pit 1, Pit 2, Pit 3, Mn Pit-1
3b	Quantity of ROM mineral production proposed	*Iron ore:* 8000000 T *Mn Ore:* 100000 T	*Iron ore:* 6437687.750 T *Mn Ore*: 89223 T	
3c	Recovery of saleable/usable mineral from ROM production	*Iron Ore:* 6799347 T *Mn Ore:* 85000 T	*Iron Ore:* 5587545.750 T *Mn Ore*: 81175 T	
3d	Quantity of mineral reject generation	*Iron Ore*: 1200653 T *Mn Ore*: 15000 T	*Iron Ore*: 850142 T *Mn Ore*: 8048 T	
3e	Grade of mineral reject generation and threshold value declared	Fe%: 45-58 Mn%: 10-25	**Generation FY'23-24**: Fe% = 54.32 Mn% = 19.70	
3f	Quantity of sub-grade mineral generation	*Iron Ore*: 1200653 T *Mn Ore*: 15000 T	*Iron Ore*: 850142 T *Mn Ore*: 8048 T	
3g	Grade of sub-grade mineral generation	Fe%: 45-58 Mn%: 10-25	**Generation FY'23-24**: Fe% = 54.32 Mn% = 19.70	
3h	Manual / Mechanised method adopted for segregating from ROM	Mechanised and Manual method proposed for segregating from ROM	Mechanised method for Iron Ore and Manual for Manganese Ore	Fe ROM is fed to Dry plant for processing and Wet Plant for beneficiation. For Mn ore, manual sorting is adopted.
3i	Any analysis or beneficiation study proposed & carried out for sub-grade mineral and reject	No such studies proposed	No such studies carried out	No such studies have been proposed in the mining plan.
3j	Provision of drilling & blasting in mineral benches	Drilling and Blasting proposed in mineral benches.	Drilling and blasting were carried out in mineral benches.	**Deep Hole Drilling** **Iron Ore:** Dia:- 165mm Depth: - 12m Spacing: - 4m Burden: - 3m Explosive used: - SME **Mn Ore:** Dia:- 100 mm Depth: - 6.6 m Spacing: - 3 m Burden: - 2.5 m Explosive used: - SME
3k	Provision of mining machineries in			Mining was carried out by Shovel

	mineral benches	Use of HEMMs was proposed in Mineral Benches.	Mechanized O/C mining was carried out engaging HEMMs in the mine.	(2.5 m3) Dumper (10 tonne) combination.
3l	Whether height of benches in overburden and mineral suitable for method of mining proposed in MP/SOM	**Iron ore** Height: 10m Width: 20-25m **Mn ore** Height: 6-8m Width: 10m	Height of benches suitable for method of mining as proposed in mining plan. **Iron ore** Height: 10m Width: 20-25m **Mn ore** Height: 6-8m Width: 10m	
3m	Total area covered under excavation/ pits	236.38 ha	236.807 ha	
3n	Ore to OB ratio for the pit/mine during the year	**Iron Ore:** 1: 0.0633 T/m^3 **Mn Ore:** 1: 4.424 T/m^3	**Iron Ore:** 1: 0.0624 T/m^3 **Mn Ore:** 1: 6.124 T/m^3	
3o	Total area put in use under different heads at the end of year	**Pit:** 236.38 **Dump:** 71.53 ha **Infrastructure:** 10.13 ha **Total:** 491.29 ha	**Pit:** 236.807 ha **Dump:** 69.826 ha **Infrastructure:** 7.147 ha **Total:** 421.936 ha	
3p	Production of ROM mineral during last five-year period, as applicable	**2019-20:** Iron Ore: 5640000 Mn Ore: 59014 **2020-21:** Iron Ore: 8710000 Mn Ore: 100000 **2021-22:** Iron Ore: 8830000 Mn Ore: 250000 **2022-23:** Iron Ore: 11670000 Mn Ore: 350000 **2023-24:** Iron Ore: 8000000 Mn Ore: 100000 *All figures in tons*	**2019-20:** Iron Ore: 3494185.16 Mn Ore: 54169 **2020-21:** Iron Ore: 4437378.13 Mn Ore: 55768 **2021-22:** Iron Ore: 4801367.803 Mn Ore: 44989 **2022-23:** Iron Ore: 7523352.54 Mn Ore: 89879 **2023-24:** Iron Ore: 6437687.750 Mn Ore: 89223 *All figures in tons*	
3q	General remarks of inspecting officer on method of mining etc.	Open-cast mining method with Shovel-Dumper combination was carried out. Deep hole drilling and blasting were carried out in OB and Mineral Benches.		

4.0 SOLID WASTE MANAGEMENT-DUMPING

SN	Item	Proposals	Actual work	Remarks
4a	Separate dumping of topsoil, OB & mineral reject (Rule 32, 33)	Separate dumps for topsoil, waste, and mineral reject.	Separate dumps for topsoil, waste and mineral reject have been maintained.	*Top soil encountered has been utilized in concurrent plantation.*
4b	Location of topsoil, OB & mineral reject dumps	**OB Dump / Backfilling Waste Dumps** **Iron Ore** *(Waste Dump 5A)* N: 2425738 to 2426483 E: 332363 to 332810 (*Waste Dump 5B*) N: 2426639 to 2427065 E: 332424 to 332759 (*Waste Dump C*) N: 2428294 to 2428587 E: 333228 to 333341	**OB Dump / Backfilling Waste Dumps** **Iron Ore** *(Waste Dump 5A)* N: 2426746 to 2426483 E: 332463 to 332807 (*Waste Dump 5B*) N: 2426673 to 2427035 E: 332519 to 332710 (*Waste Dump C*) N: 2428422 to 2428528 E: 333206 to 333326	***Existing Waste Dumps*-** **7 Nos** Names of Waste dumps: Waste Dump 1, Waste Dump 2,Waste Dump 3, Waste Dump 5A, Waste Dump 5B, Waste Dump C, Mn Pit Backfilling Area OZ-XII ***Existing Mineral Reject Dumps*-** **5 nos.** Names of Mineral Reject dumps: Sub-Grade Dump No. 1, 2, 2A, 3, Mn Pit Sub-Grade Dump No.1

SN	Item	Proposals	Actual work	Remarks
		Mn Ore (*Backfilling Area OZ XII – Mn Pit 1*) N: 2428474 to 2428868 E: 331841 to 332303 (*Waste Dump 3*) N: 2428145 to 2428413 E: 331283 to 331648 (*Waste Dump 2*) N: 2428591 to 2428832 E: 331571 to 331820 (*Waste Dump 1*) N: 2428861 to 2429078 E: 331844 to 332112 **Mineral Reject Dumps** **Iron Ore** (*Sub-Grade Dump No. 1*) N: 2427814 to 2428868 E: 333252 to 333455 (*Sub-Grade Dump No. 2*) N: 2427654 to 2428140 E: 332104 to 332768 **Previously utilised dumps** (*Sub-Grade Dump No. 2A*) N: 2425309 to 2425919 E: 332332 to 332605 (*Sub-Grade Dump No. 3*) N: 2426930 to 2427272 E: 332954 to 333052 **Mn Ore** (*Sub-Grade Dump No. 1*) N: 2428931 to 2429094 E: 332264 to 332559	**Mn Ore** (*Backfilling Area OZ XII – Mn Pit 1*) N: 2428528 to 2428803 E: 331868 to 332078 (*Waste Dump 3*) N: 2428245 to 2428391 E: 331309 to 331590 (*Waste Dump 2*) N: 2428591 to 2428832 E: 331571 to 331820 (*Waste Dump 1*) N: 2428861 to 2429078 E: 331844 to 332112 **Mineral Reject Dumps** **Iron Ore** (*Sub-Grade Dump No. 1*) N: 2427870 to 2428059 E: 333280 to 333434 (*Sub-Grade Dump No. 2*) N: 2427668 to 2427819 E: 332547 to 332712 **Previously utilised dumps** (*Sub-Grade Dump No. 2A*) N: 2425309 to 2425919 E: 332332 to 332605 (*Sub-Grade Dump No. 3*) N: 2426930 to 2427272 E: 332954 to 333052 **Mn Ore** (*Sub-Grade Dump No. 1*) N: 2428952 to 2429075 E: 332325 to 332551	
4c	Number of dumps within lease area and outside lease	**WITHIN LEASE AREA:** **Total no. of Waste/Backfilling Dumps - 7** **Iron Ore** *(Waste Dump 5A)* N: 2425738 to 2426483 E: 332363 to 332810 (*Waste Dump 5B*) N: 2426639 to 2427065 E: 332424 to 332759 (*Waste Dump C*) N: 2428294 to 2428587 E: 333228 to 333341 **Mn Ore** (*Backfilling Area OZ XII – Mn Pit 1*) N: 2428474 to 2428868 E: 331841 to 332303 (*Waste Dump 3*) N: 2428145 to 2428413 E: 331283 to 331648 (*Waste Dump 2*) N: 2428591 to 2428832 E: 331571 to 331820 (*Waste Dump 1*)	**WITHIN LEASE AREA:** **Total no. of Waste/Backfilling Dumps - 7** **Iron Ore** *(Waste Dump 5A)* N: 2426746 to 2426483 E: 332463 to 332807 (*Waste Dump 5B*) N: 2426673 to 2427035 E: 332519 to 332710 (*Waste Dump C*) N: 2428422 to 2428528 E: 333206 to 333326 **Mn Ore** (*Backfilling Area OZ XII – Mn Pit 1*) N: 2428528 to 2428803 E: 331868 to 332078 (*Waste Dump 3*) N: 2428245 to 2428391 E: 331309 to 331590 (*Waste Dump 2*) N: 2428591 to 2428832 E: 331571 to 331820 (*Waste Dump 1*)	**Waste Dumps** Mn Pit: Waste Dump 1, Waste Dump 2,Waste Dump 3, Mn Pit Backfilling Area OZ-XII Iron Ore Pit: Waste Dump 5A, Waste Dump 5B, Waste Dump C, **Mineral Reject Dumps** Iron Ore: Sub-Grade Dump No. 1, 2, 2A, 3, Mn Ore: Sub-Grade Dump No.1

SN	Item	Proposals	Actual work	Remarks
		N: 2428861 to 2429078 E: 331844 to 332112 **Total no. of Mineral Reject Dumps -5 Nos.** **Iron Ore** (*Sub-Grade Dump No. 1*) N: 2427814 to 2428868 E: 333252 to 333455 (*Sub-Grade Dump No. 2*) N: 2427654 to 2428140 E: 332104 to 332768 **Previously utilised dumps** (*Sub-Grade Dump No. 2A*) N: 2425309 to 2425919 E: 332332 to 332605 (*Sub-Grade Dump No. 3*) N: 2426930 to 2427272 E: 332954 to 333052 **Mn Ore** (*Sub-Grade Dump No. 1*) N: 2428931 to 2429094 E: 332264 to 332559 **NO DUMPS OUTSIDE LEASE AREA.**	N: 2428861 to 2429078 E: 331844 to 332112 **Total no. of Mineral Reject Dumps -5 Nos.** **Iron Ore** (*Sub-Grade Dump No. 1*) N: 2427870 to 2428059 E: 333280 to 333434 (*Sub-Grade Dump No. 2*) N: 2427668 to 2427819 E: 332547 to 332712 **Previously utilised dumps** (*Sub-Grade Dump No. 2A*) N: 2425309 to 2425919 E: 332332 to 332605 (*Sub-Grade Dump No. 3*) N: 2426930 to 2427272 E: 332954 to 333052 **Mn Ore** (*Sub-Grade Dump No. 1*) N: 2428952 to 2429075 E: 332325 to 332551 **NO DUMPS OUTSIDE LEASE AREA.**	
4d	Location of dumps w.r.t. ultimate pit limit (Rule 16)	**WITHIN UPL** **Backfilling Dumps: 1 Nos.** (*Backfilling Area OZ XII – Mn Pit 1*) N: 2428474 to 2428868 E: 331841 to 332303 **OUTSIDE UPL** **Waste Dumps: 6 Nos.** **Iron Ore** *(Waste Dump 5A)* N: 2425738 to 2426483 E: 332363 to 332810 (*Waste Dump 5B*) N: 2426639 to 2427065 E: 332424 to 332759 (*Waste Dump C*) N: 2428294 to 2428587 E: 333228 to 333341 **Mn Ore** (*Waste Dump 3*) N: 2428145 to 2428413 E: 331283 to 331648 (*Waste Dump 2*) N: 2428591 to 2428832 E: 331571 to 331820 (*Waste Dump 1*) N: 2428861 to 2429078 E: 331844 to 332112 **Mineral Reject Dumps: 5 Nos.** **Iron Ore** (*Sub-Grade Dump No. 1*) N: 2427814 to 2428868 E: 333252 to 333455	**WITHIN UPL** **Backfilling Dumps: 1 Nos.** (*Backfilling Area OZ XII – Mn Pit 1*) N: 2428528 to 2428803 E: 331868 to 332078 **OUTSIDE UPL** **Waste Dumps: 6 Nos.** **Iron Ore** *(Waste Dump 5A)* N: 2426746 to 2426483 E: 332463 to 332807 (*Waste Dump 5B*) N: 2426673 to 2427035 E: 332519 to 332710 (*Waste Dump C*) N: 2428422 to 2428528 E: 333206 to 333326 **Mn Ore** (*Waste Dump 3*) N: 2428245 to 2428391 E: 331309 to 331590 (*Waste Dump 2*) N: 2428591 to 2428832 E: 331571 to 331820 (*Waste Dump 1*) N: 2428861 to 2429078 E: 331844 to 332112 **Mineral Reject Dumps: 5 Nos.** **Iron Ore** (*Sub-Grade Dump No. 1*) N: 2427870 to 2428059 E: 333280 to 333434	**Number of dumps within UPL: 1** ***Names of Backfilling dumps within UPL*** Mn Pit Backfilling Area- OZ XII **Number of waste and mineral reject dumps outside UPL: 11** ***Waste and Mineral Reject Dumps outside UPL:*** Mn Pit: Waste Dump 1, 2, 3, Sub-Grade Dump No. 1 Iron Ore Pit: Waste Dump 5, 5A, C, Sub-Grade Dump No. 1, 2, 2A, 3

SN	Item	Proposals	Actual work	Remarks
		(*Sub-Grade Dump No. 2*) N: 2427654 to 2428140 E: 332104 to 332768 **Previously utilised dumps** (*Sub-Grade Dump No. 2A*) N: 2425309 to 2425919 E: 332332 to 332605 (*Sub-Grade Dump No. 3*) N: 2426930 to 2427272 E: 332954 to 333052 **Mn Ore** (*Sub-Grade Dump No. 1*) N: 2428931 to 2429094 E: 332264 to 332559	(*Sub-Grade Dump No. 2*) N: 2427668 to 2427819 E: 332547 to 332712 **Previously utilised dumps** (*Sub-Grade Dump No. 2A*) N: 2425309 to 2425919 E: 332332 to 332605 (*Sub-Grade Dump No. 3*) N: 2426930 to 2427272 E: 332954 to 333052 **Mn Ore** (*Sub-Grade Dump No. 1*) N: 2428952 to 2429075 E: 332325 to 332551	
4e	Number of active & alive dumps	**ACTIVE WASTE DUMPS-5 NOS.** **Iron Ore** *(Waste Dump 5A)* N: 2425738 to 2426483 E: 332363 to 332810 (*Waste Dump 5B*) N: 2426639 to 2427065 E: 332424 to 332759 (*Waste Dump C*) N: 2428294 to 2428587 E: 333228 to 333341 **Mn Ore** (*Backfilling Area OZ XII – Mn Pit 1*) N: 2428474 to 2428868 E: 331841 to 332303 (*Waste Dump 3*) N: 2428145 to 2428413 E: 331283 to 331648 **ACTIVE MINERAL REJECT DUMPS -5 NOS.** **Iron Ore** (*Sub-Grade Dump No. 1*) N: 2427814 to 2428868 E: 333252 to 333455 (*Sub-Grade Dump No. 2*) N: 2427654 to 2428140 E: 332104 to 332768 (*Sub-Grade Dump No. 2A*) N: 2425309 to 2425919 E: 332332 to 332605 (*Sub-Grade Dump No. 3*) N: 2426930 to 2427272 E: 332954 to 333052 **Mn Ore** (*Sub-Grade Dump No. 1*) N: 2428931 to 2429094 E: 332264 to 332559	**ACTIVE WASTE DUMPS-5 NOS.** **Iron Ore** *(Waste Dump 5A)* N: 2426746 to 2426483 E: 332463 to 332807 (*Waste Dump 5B*) N: 2426673 to 2427035 E: 332519 to 332710 (*Waste Dump C*) N: 2428422 to 2428528 E: 333206 to 333326 **Mn Ore** (*Backfilling Area OZ XII – Mn Pit 1*) N: 2428528 to 2428803 E: 331868 to 332078 (*Waste Dump 3*) N: 2428245 to 2428391 E: 331309 to 331590 **ACTIVE MINERAL REJECT DUMPS -5 NOS.** **Iron Ore** (*Sub-Grade Dump No. 1*) N: 2427870 to 2428059 E: 333280 to 333434 (*Sub-Grade Dump No. 2*) N: 2427668 to 2427819 E: 332547 to 332712 (*Sub-Grade Dump No. 2A*) N: 2425309 to 2425919 E: 332332 to 332605 (*Sub-Grade Dump No. 3*) N: 2426930 to 2427272 E: 332954 to 333052 **Mn Ore** (*Sub-Grade Dump No. 1*) N: 2428952 to 2429075 E: 332325 to 332551	

SN	Item	Proposals	Actual work	Remarks
4f	Number of dead dumps	**DEAD WASTE DUMP- 0 NOS.**	**DEAD WASTE DUMP- 0 NOS**.	
4g	Number of dumps stabilised	**Stabilization of Waste Dump-2 Nos.** **Mn Pit** (*Waste Dump 2*) N: 2428591 to 2428832 E: 331571 to 331820 (*Waste Dump 1*) N: 2428861 to 2429078 E: 331844 to 332112	**Stabilization of Waste Dump-2 Nos.** **Mn Pit** (*Waste Dump 2*) N: 2428591 to 2428832 E: 331571 to 331820 (*Waste Dump 1*) N: 2428861 to 2429078 E: 331844 to 332112	*Waste Dumps 1 &2 have been partially stabilized.*
4h	Whether Retaining wall or garland drain all along dumps	Proposed	Constructed	
4i	Length of Retaining wall or garland drain all along dump	Retaining wall: 1374 m Garland drain: 1389 m	Retaining wall: 1398 m Garland drain: 1398 m	**Areas covered:** Waste Dumps 5A, 5B, C, Sub-Grade Dump No. 3, Pit 1, Mn Pit Backfilling Area
4j	Number of check dams	Check Dam: 1	Check Dam: 1	
4k	Specific comments of inspecting officer	Overburden, mineral and mineral reject management is broadly as per proposal are being carried out as per the approved proposals.		

5.0 SOLID WASTE MANAGEMENT-BACKFILLING

SN	Item	Proposals	Actual work	Remarks
5a	Status on part or full extraction of mineral from mined out area before starting backfilling	Proposed full extraction of mineral from mined out area before starting backfilling (*Backfilling Area OZ XII – Mn Pit 1*) N: 2446422 to 2446797 E: 343929 to 344286	Full extraction of mineral from mined out area done before starting backfilling. (*Backfilling Area OZ XII – Mn Pit 1*) N: 2446422 to 2446797 E: 343929 to 344286	
5b	Area under backfilling of mined out area	4.65 ha	5 ha	
5c	Concurrent use of topsoil for restoration or rehabilitation of mined out area (Rule 32)	Concurrent use proposed	Concurrently utilized	*Topsoil encountered is utilised in concurrent plantation.*
5d	Total area fully reclaimed & rehabilitated	-	-	
5e	General remarks of inspecting officer on backfilling, reclamation etc	Backfilling was carried out in the mine (Mn Pit) and is in progress.		

6.0 PROGRESSIVE MINE CLOSURE PLAN

SN	Item	Proposals	Actual work	Remarks
6a	Whether Annual report on PMCP submitted on time and correctly - Rule 23E (2). Details should be given in the format as given in Annexure-20.	To be submitted by 30th June	Submitted along with Annual Return on 28th June 2024	
6b	Management of worked/mined out benches 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	Void in Mn Pit 1 to be concurrently backfilled. i) Area available for rehabilitation: 0 ii)Afforestation: NA iii)No. of saplings to be planted: 0 iv)Cumulative no. of plants: NA v)Any other specific method: NA	Void in Mn Pit 1 concurrently backfilled. i) Area available for rehabilitation: 0 ii)Afforestation: NA iii)No. of saplings to be planted: 0 iv)Cumulative no. of plants: NA v)Any other specific method: NA	

SN	Item	Proposals	Actual work	Remarks
		vi)Cost incurred on watch and care: NA	vi)Cost incurred on watch and care: 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	i) Voids available for backfilling: ii) Void filled by waste/tailings: 495 × 255 × 40 Waste Dump #2: 4.65 ha iii) Afforestation on the backfilled area = NA iv) Rehabilitation by making water reservoir: NA v) Any other specific means: NA **Total Backfilling area:** 4.65 ha **Backfilling volume**: 0.597 Mm^3	i) Voids utilised for backfilling: ii) Void filled by waste/tailings: 497.45 × 255.89 × 38.91 Waste Dump #2: 5 ha iii) Afforestation on the backfilled area = NA iv) Rehabilitation by making water reservoir: NA v) Any other specific means: NA **Total Backfilling area:** 5 ha **Backfilling volume**: 0.421 Mm^3	
6d	Compliance of Rehabilitation of waste land within lease i) Afforestation ii) Area rehabilitated (ha) iii) Method of rehabilitation	i) Afforestation: 3625 nos. ii) Area rehabilitated (ha): 1.45 ha iii) Method of rehabilitation: Plantation	i) Afforestation: 10560 nos. ii) Area rehabilitated (ha): 2.3 ha iii) Method of rehabilitation: Plantation	
6e	Compliance of Environmental monitoring (core zone & buffer zone)	**Air quality monitoring:** Monthly reporting **Surface Water quality monitoring**: Quarterly reporting **Ground Water quality monitoring**: Quarterly Reporting **Noise survey:** Monthly Reporting	**Air quality monitoring:** Monthly reporting **Surface Water quality monitoring**: Quarterly reporting **Ground Water quality monitoring**: Quarterly Reporting **Noise survey:** Monthly Reporting	Anacon Laboratories has been engaged for monthly monitoring of Environmental Parameters
6f	General remarks of inspecting officer on PMCP compliance & progressive			

7.0 MINERAL CONSERVATION

SN	Item	Proposals	Actual work	Remarks
7a	ROM Mineral dispatch or grade-wise sorting within lease area	ROM Mineral dispatch or grade-wise sorting within lease area proposed	ROM Mineral dispatch or grade-wise sorting within lease area carried out.	**Iron Ore** **CLO:** Fe: 65% - 27,60,998.424 T **Fines:** Fe: 55-58%- 7,418.430 T Fe: 60-62%- 28,307.640 Fe: 62-65%-27,42,487.134 **Mn Ore:** Below 25% Mn: 14185.275 25-35% Mn: 19443.915 35-46% Mn: 33029.040 46 and above Mn: 22564.770
7b	Method of grade-wise mineral sorting i.e. manual or mechanical	For iron ore: Grade-wise sorting not Proposed For Mn ore: Manual sorting proposed	For iron ore: Grade-wise sorting not carried out. For Mn ore: Manual sorting carried out	
7c	Different grade of mineral sorted out at mines	Not Applicable	Not Applicable	
7d	Any beneficiation process at mines	For iron ore Wet Beneficiation with hydrocyclone and paste thickener proposed.	For iron ore Wet Beneficiation with hydrocyclone and paste thickener carried out.	6 MTPA Wet Beneficiation Plant, 2 MTPA Crushing and Screening Plant

7e	General remarks of inspecting officer on Mineral conservation & beneficiation issues	Beneficiation is carried out by the lessee for Iron Ore.

8.0 ENVIRONMENT

SN	Item	Proposals	Actual work	Remarks
8a	Separate removal and utilization of topsoil (Rule 32)	Yes	Yes	*Topsoil encountered was stacked separately and utilised in concurrent plantation.*
8b	Concurrent use or storage of topsoil	Concurrent use & Storage Proposed	Concurrent usage of topsoil for plantation within mines	

8c	Separate dumps for overburden, waste rock, reject and fines (Rule 33)	Separate dumps proposed for OB/Waste dumps – Waste Dumps 1, 2,3, 5A, 5B, C, and Mn Pit Backfilling Area, and for mineral reject - Sub-Grade Dump No. 1,2,2A,3	Separate dumps proposed for OB/Waste dumps – Waste Dumps 1, 2,3, 5A, 5B, C, and Mn Pit Backfilling Area, and for mineral reject - Sub-Grade Dump No. 1,2,2A,3	
8d	Use of overburden, waste rock, reject and fines dumps for restoring the land to its original use	**OB/Backfilling Dump** (*Backfilling Area OZ XII – Mn Pit 1*) N: 2428474 to 2428868 E: 331841 to 332303	**OB/Backfilling Dump** (*Backfilling Area OZ XII – Mn Pit 1*) N: 2428528 to 2428803 E: 331868 to 332078	
8e	Phased restoration, reclamation and rehabilitation of lands affected by mining operations (Pits, dumps etc)	Plantation proposed over an area of 1.45 ha via 3625 nos. of saplings.	Plantation achieved over an area of 2.3 ha via 10560 nos. of saplings.	
8f	Baseline information on existence of plantation & additional plantation done (Rule 41)	Area proposed for plantation: 1.45 ha No. of saplings to be planted: 3625	Previous Area under plantation: 37 ha Previous No. of plants within the lease area: 395996 Area under plantation (FY'24): 2.3 ha No. of saplings planted: 10560 Cumulative area under plantation: 39.3 ha Cumulative no. of plants within the lease: 405556	
8g	Survival rate	85%	85%	
8h	Water sprinkling on roads to control airborne dust	Water sprinkling on roads to control airborne dust Proposed	Water sprinkling on roads to control airborne dust being done using mobile water tankers(50/16/9 KL) and fixed water sprinklers.	
8i	General remarks of inspecting officer on aesthetic beauty in and around mines area	The aesthetic beauty in and around mines area is well maintained.		

9.0 COMPLIANCE OF RULE 45

SN	Item	COMMENTS		Remarks
9a	Status of submission of Monthly and Annual returns	Monthly Return submitted up to : December 2024 Annual Return submitted for FY 2023-2024		
SN	**Item**	**Details given in A.R.**	**Observation of I/O**	**Remarks**
9b	Scrutiny of Annual return for information on Mining Engineer, Geologist and Manager	**Mining Engineer:** Mr. Rajesh Kumar **Geologist:** Mr. Dinesh Patra **Manager:** Mr. Rajesh Kumar	**Mining Engineer:** Mr. Rajesh Kumar **Geologist:** Mr. Dinesh Patra **Manager:** Mr. Rajesh Kumar	
9c	Scrutiny of Annual return on land use pattern for area under pits, reclaimed area, dumps etc.	**Pit:** 236.807 ha **Dump:** 69.826 ha **Infrastructure:** 7.147 ha **Total:** 421.936 ha	Appears to be correct	
9d	Scrutiny of Annual return on afforestation	WML: 3625 Nos.	WML: 10560 Nos.	
9e	Scrutiny of Annual return on mineral reject generation (Grade & quantity)	*Iron Ore*: 850142 T (54.32%) *Mn Ore*: 8048 T (19.70%)	Appears to correct	

9f	Scrutiny of Annual return on ROM stock and/or graded ore	**Iron Ore** **Opening Stock**- 2748231.900 **Production**- 6437687.750 **ROM Feed** – 5735705.620 **Closing Stock**- 3450214.030 **Products:** **CLO Produced:** 2858692.910 **Fines Produced:** 2820467.710 **Dispatch**- 5539211.628 There is no separate stock for graded ore. **Mn Ore** **Opening Stock**- 0 **Production**- 89223 **ROM Feed** – 89223 **Closing Stock**- 0 **Products:** **Below 25% Mn:** 14185.275 **25-35% Mn:** 19443.915 **35-46% Mn:** 33029.040 **46 and above Mn:** 22564.770 **Dispatch**- 84571.05 There is no separate stock for graded ore.	Appears to correct	
9g	Scrutiny of Annual return on sale value, Ex. Mine price & production cost	**Ex-mine price:** Iron Ore: ₹ 2798.95 Mn Ore: ₹ 4883.75 Cost of Production-		
9i	Scrutiny of Annual return on fixed assets	₹ 13438827616	Appears to be correct.	
9k	Scrutiny of Annual return on mining machineries	1.Shovel (5.9/1.1/2.8 m^3)- 4/2/1 2. Dumper- 10 3.Rock Drill- 1 4. Loader (9.1/2.8 m^3) -2/1 5. Dozer (230/530/452 HP)- 1/1/4 6. Grader-1 7. Water Tanker (50/16/9 KL) - 2/1/1	Observed to be correct	

Signed by Vikram Prakash Deshpande
Date: 22-01-2025 16:42:02
(Vikram Prakash Deshpande)
Assistant Controller of Mines,
Indian Bureau of Mines