

MCDR INSPECTION REPORT**General**

S N	Particulars	Details
1	File no	
2	Name of the Inspecting Officer	Shri. Vikram Deshpande, ACOM, BBSR
3	Name of the Mine	Kamarda Chromite Block
4	Total Lease Area (Ha) with breakup of Non-forest and forest land	Total: 107.24 Ha. Forest: 105.78 Non-Forest: 1.46 Ha.
5	Mine code	11ORI19029
6	Date of Inspection	22.06.2023
7	Name of official accompanying inspection	27.12.2023
8	IBM Registration Number under rule 45 of MCDR, 1988	IBM/4376/2011
9	Name of the lessee, Address, phone, email and fax number	Tata Steel Limited, Bombay House,24 Homi Mody Street Fort, Mumbai
10	Village	Kamarda
11	Taluka/Mandal	Kaliapani
12	District	Jajpur
13	Pincode	755028
14	State	Odisha
15	Post office	Kalarangiatta
16	Nearest police station	Kaliapani
17	Nearest Railway station	JK Road
18	Date of Grant of Mining Lease	26.06.2020
19	Date of Execution	26.06.2020
20	Date of opening of Mine	06-11-2020
21	Date of first Renewal, if applicable and its period & expiry	Fresh Grant Period: 50 Yrs. Date of Expiry: 25.06.2070
22	Date of second Renewal, if applicable and its period & expiry	NA
23	Date of submission of renewal application if Mining Operations are continuing under deemed extension	NA
24	Name of the Nominated Owner with Address, phone, email, fax number and date of appointment	Mr. T V Narendran Managing Director Tata Steel Limited, Bunglow No-5, C Road Jamshedpur. Jharkhand, 831001. Mobile: 022-66657274 Mail Id: narendran@tatasteel.com narendran@tatasteel.com, w.e.f : 01-11-2023
25	Name of the Mine Agent with Address, phone, email, fax number and date of appointment	Mr. Naveen Shrivastava, BE(Mining) with FCC, At/P.O.: Kalarangiatta Dist : Jajpur, Orissa – 755028 Mobile: 6287090160 Email: naveen@tatasteel.com Date of appointment-01.07.2023
26	Name of the Mines Manager with Address, phone, email, fax number and date of appointment in mines	Mr. Dibyendu Behera B.Tech(Mining Engineering with FCC (R) At/P.O.: Kalarangiatta Dist : Jajpur, Orissa – 755028 Mobile: 7077686456 Email: dibyendu.behera@tatasteel.com Date of appointment-21.10.2021

I/25494/2024

27	Name of the Mining Engineer & Geologist, Qualification and total experience	Mining engineer Qualification Date of appointment Address phone/email	Mr. Dibyendu Behera B.Tech(Mining Engineering with FCC (R) At/P.O.: Kalarangiatta Dist : Jajpur, Orissa – 755028 Mobile: 7077686456 Email: dibyendu.behera@tatasteel.com Date of appointment-21.10.2021
		Geologist Qualification Date of appointment Address phone/email	Mr. Rajkumar Gandhi Msc. in applied geology At/P.O.: Kalarangiatta Dist : Jajpur, Orissa – 755028 Mobile: 8093028995 Email: rajkumar.gandhi@tatasteel.com Date of appointment-15.10.2022
28	Whether Geologist and Mining Engineer appointed in mines satisfy the rule 42 & carrying out their duties as per rule 43 & 44.	Yes	
29	Date of Approval of Review of Mining Plan/Modified Mining Plan with five-year period and specific condition in approval letter, if any.	MPA/16-ORI/BHU/2020-21 dated. 28.09.2020.	
30	Date of Approval of Scheme of Mining/Modified Scheme of Mining with five-year period and specific condition in approval letter, if any.	NA	
31	Mineral(s) granted in lease and proved for mining	Chromite	
32	Method of Mining(Open cast, Underground)	Open cast	
33	Category (Fully Mechanized, Others or Manual)	Fully Mechanized	
34	Captive/Non Captive	Non-Captive	
35	Environment Clearance grant date & limit of EC	79164/96-MINB1/08-2022 & 0.30 MTPA	
36	CTO	06.11.2023 & 88000 TPA Valid Up to 31.03.2024	

Exploration

S.N.	Item	Proposals(2022-23)	Actual work	Remarks
1a	Backlog of previous year	5	5	Back log of FY 2020-21
1b	Exploration over lease area for Geological axis 1 or 2.	4	9	
1c	Exploration Agency & Expenditure in lakh Rupees during the year	10156311 INR	10156311 INR	Cumulative:137308 71 INR M/s Prime drilling Pvt. Ltd.
1d	Balance area to be explored to bring Geological axis in 1 or 2	Nil	Nil	
1e	Balance reserves as on 01.04.2023 (in MT)		111: 1505908 211: 578610 (111+211): 2084518	
1f	General remarks of inspecting officer on geology, exploration etc.	The Chromite deposits of Sukinda ultramafic field occurs as six more or less parallel bands in Serpentinite. These Chromite bands are locally named as Band 1,2,3,4,5 & 6 and are separated from each other by Serpentinite /Pyroxenite ranging in thickness 120 M to 600 M. The Chromite bands occur in Northern limb of the fold shows the strike E – W to ESE – WNW, dipping 100 – 500 towards south to SSW while those of Southern limb shows the strike NE – SW to WSW dipping 450 – 850 towards NW to NNW		

Development

S.N.	Item	Proposals	Actual work	Remarks
2a	Location of development w.r.t. lease area	378087E – 378559E 2329200N –	378091E – 378550E 2329200N –	FY 2022-23. Within the

I/25494/2024

		2329550N	2329540N	proposed extent.
2b	Separate benches in topsoil, overburden and mineral (Rule 15)	Separate benches in mineral and waste proposed. Separate benches maintained in mineral and OB.	Separate benches in mineral and waste proposed. Separate benches maintained in mineral and OB.	
2c	Stripping ratio or ore to OB ratio (Cu.m/T)	1:5.9	1:4	Less generation of OB during FY 2022-23
2d	Quantity of topsoil generation in m ³	No Proposal	Nil	No top soil generated during the reporting year.
2e	Quantity of overburden/waste generation in m ³	603011	352027	Less generation of OB during FY 2022-23
2f	General remarks of inspecting officer on development of pit w.r.t. type of deposit etc.	The mine working is confined to 1 pit only. The work is being broadly carried out as per proposals in the approved document.		

Exploitation

S.N.	Item	Proposals	Actual work	Remarks
3a	Number of pits proposed for production	1 (Pit 3&4)	1 (Pit 3&4)	Pit Dimension 820m(L)x340m(B)x62m(D)
3b	Quantity of ROM production	102000	87955.388	FY 2022-23
3c	Recovery of salable/usable mineral from ROM production	100%	100%	
3d	Quantity of mineral reject generation	No proposal during reporting year	Nil	
3e	Grade of mineral reject generation and threshold value declared	Not Applicable	Not Applicable	
3f	Quantity of sub-grade mineral generation	No proposal during reporting year	Nil	
3g	Grade of sub-grade mineral generation	Not Applicable	Not Applicable	
3h	Manual / Mechanized method adopted for segregating from ROM	Mechanised method proposed for segregating from ROM	Mechanised and Manual method adopted for segregating from ROM	
3i	Any analysis or beneficiation study proposed & carried out for sub-grade mineral and reject	No proposal during reporting year	Nil	
3j	Provision of drilling & blasting in mineral benches	Drilling and Blasting proposed in mineral benches.	Drilling and blasting was carried out in mineral benches	Dia of DTH: 150 Mtrs. Spacing:3.5m Burden:3.0m
3k	Provision of mining	Use of HEMMs is	Mechanized O/C	Mining is carried out by

I/25494/2024

	machineries in mineral benches	proposed in Mineral Benches.	mining is carried out with engaging HEMMs in mineral benches.	mechanized open cast mining in combination of backhoe(3.0 Cu.m) and Dumper (30 tonne)with deep hole drilling and blasting
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3l	Whether height of benches in overburden and mineral suitable for method of mining proposed in MP/SOM	Height of the benches proposed to be maintained as 6 meter with width of 10-12 m	Height of the benches maintained as 6 meter with width of 10-12 m	
3m	Total area covered under excavation/pits	40.888 Ha.	36.367 Ha.	
3n	Ore to OB ratio for the pit/mine during the year	1:5.9	1:4	FY 2022-23
3o	Total area put in use under different heads at the end of year	(i)Area covered under current (O-C) Workings-40.888 Ha (ii) Used for waste disposal-45.273 Ha (iii) Occupied by plant, buildings, residential, welfare buildings and roads-3.406 Ha (iv) Used for any other purpose-8.310 Ha	(i) Area covered under current (O-C) Workings-36.37 Ha (ii) Used for waste disposal-35.507 Ha (iii) Occupied by plant, buildings, residential, welfare buildings and roads-3.458 Ha (iv) Used for any other purpose-31.908 Ha	FY 2022-23
3p	Production of ROM mineral during last five-year period, as applicable			FY 2020-21 to FY 2022-23
	Year- 2018-19	NA	NA	
	Year- 2019-20	NA	NA	
	Year- 2020-21	35000	35000	
	Year- 2021-22	80000	79998.122	
	Year-2022-23	102000	87955.388	
3q	General remarks of inspecting officer on method of mining etc.	Open-cast fully mechanised mining method with Backhoe-Dumper combination, with 6 m high and width up to 10m and deep drilling and blasting is being broadly carried as per approved document.		

Solid Waste Management-Dumping

S.N	Item	Proposals	Actual work	Remarks
4a	Separate dumping of topsoil, OB & mineral reject (Rule 32, 33)	Separate dump for OB proposed.	Separate dump for OB maintained.	Dump-F
4b	Location of topsoil, OB & mineral reject dumps	Dump-F 378106E-378554E/ 2328520N-2328915N	Dump-F 378106E-378554E/ 2328520N-2328915N	

I/25494/2024

4c	Number of dumps within lease area and outside lease area	OB dumps: 5 Nos.	OB dumps: 5 Nos.	All are inside the lease area.
4d	Location of dumps w.r.t. ultimate pit limit (Rule 16)	Outside of the UPL	Outside of the UPL	
4e	Number of active & alive dumps	1	1	FY 2022-23
4f	Number of dead dumps	0	0	
4g	Number of dumps stabilized	0	0	
4h	Whether Retaining wall or garland drain all along dumps are there	Retaining wall and garland drain proposed all along dumps	Retaining wall and garland drain done all along dumps	
4i	Length of Retaining wall or garland drain all along dump	Retaining Wall:576 m Garland Drain:576 m	Retaining Wall:580 m Garland Drain:575 m	FY 2022-23
4j	Number of settling ponds	One settling pond proposed	One settling pond made	
4k	Specific comments of inspecting officer on waste dump management	Overburden, mineral management is broadly as per proposal are being carried out as per the approved proposals.		

Solid Waste Management-Backfilling

S.N.	Item	Proposals	Actual work	Remarks
5a	Status on part or full extraction of mineral from mined out area before starting backfilling	No proposal during the reporting year	Not Applicable	
5b	Area under backfilling of mined out area	No proposal during the reporting year	Not Applicable	
5c	Concurrent use of topsoil for restoration or rehabilitation of mined out area (Rule 32)	No Top Soil Generation during reporting year	Not Applicable	
5d	Total area fully reclaimed & rehabilitated	No proposal during the reporting year	Not Applicable	
5e	General remarks of inspecting officer on backfilling, reclamation etc	There is no proposal for Backfilling during the reporting year.		

Progressive Mine Closure Plan:

I/25494/2024

Sl.N	Item	Proposals	Actual work	Remarks
6a	Whether Annual report on PMCP submitted on time and correctly. Rule 23 E(2).	Annual report on PMCP to be submitted on 1st July every year. PMCP	PMCP Report Submitted.	
6b	Area available for rehabilitation (ha).	0	0	
6c	afforestation done (ha).	2.18	2.18	FY 2022-23
6d	No. of saplings planted during the year	3490	5459	All within lease area
6e	Cumulative no. of plants	7020	17342	
6f	Any other method of rehabilitation	No such proposal	Nil	
6g	Cost incurred on watch and care during the year	4.73 Lakh INR	8.5 Lakh INR	FY 2022-23
6h	Compliance on reclamation and rehabilitation by backfilling (i) Voids available for backfilling (L x B x D	No such proposal	Nil	
6i	Compliance on reclamation and rehabilitation by backfilling (ii) Voids filled by waste / tailings	No such proposal	Nil	
6j	Compliance on reclamation and rehabilitation by backfilling (iii) Afforestation on backfilled area	No such proposal	Nil	
6k	Compliance on reclamation and rehabilitation by backfilling (iv) Rehabilitation by making water reservoir	No such proposal	Nil	
6l	Compliance on reclamation and rehabilitation by backfilling (v) any other specific means.	No such proposal	Nil	
6m	Compliance of rehabilitation of waste land within lease (i) afforestation	2.18	2.18	FY 2022-23
6n	Compliance of rehabilitation of waste land within lease (ii) Area rehabilitation (ha)	No such proposal	Nil	
6o	Compliance of rehabilitation of waste land within lease (iii) Method of rehabilitation	No such proposal	Nil	
6p	Compliance of environmental monitoring (core zone and buffer zone)	Environmental monitoring in Core zone and buffer zone proposed as per MOEFCC and SPCB guidelines.	Monitoring of Noise, Water etc done.	Env. parameters were observed to be within the permissible limit.
6q	General remarks of inspecting officers on PMCP compliance and progressive closure operations etc.	The lessee has done adequate plantation and is regularly monitoring the Environmental Parameters		

I/25494/2024

Mineral Conservation

S.N.	Item	Proposals	Actual work	Remarks
7a	ROM Mineral dispatch or grade-wise sorting within lease area	Cr2O3 above threshold value of 10% is proposed to be used.	Cr2O3 above threshold value of 10% is used.	
7b	Method of grade-wise mineral sorting i.e. manual or mechanical	Mechanical grade-wise mineral sorting proposed	Mechanical grade-wise mineral sorting carried out	
7c	Different grade of mineral sorted out at mines	Cr2O3 above threshold value of 10% is used.	Cr2O3 above threshold value of 10% is used.	
7d	Any beneficiation process at mines	Only blending proposed.	Blending is done	
7e	General remarks of inspecting officer on Mineral conservation & beneficiation issues	No beneficiation is done except blending.		

Environment

S.N.	Item	Proposals	Actual work	Remarks
8a	Separate removal and utilization of topsoil (Rule 32)	No Top Soil generation proposed	Not Applicable.	
8b	Concurrent use or storage of topsoil	Not Applicable	Not Applicable	
8c	Separate dumps for overburden, waste rock, rejects and fines (Rule 33)	Dump - F proposed for OB disposal.	Dump - F was used for OB disposal.	
8d	Use of overburden, waste rock, rejects and fines dumps for restoring the land to its original use	Not Applicable	Nil	

I/25494/2024

8e	Phased restoration, reclamation and rehabilitation of lands affected by mining operations (Pits, dumps etc.)	Not Applicable	Nil	
8f	Baseline information on existence of plantation & additional plantation done (Rule 41)	-	-	
8g	Survival rate	80%	71%	FY 2022-23
8h	Water sprinkling on roads to control airborne dust	Regular water sprinkling to control the air borne dust.	Water sprinkling by high-capacity mobile water sprinklers of 15 KLD.	
8i	General remarks of inspecting officer on aesthetic beauty in and around mines area	Aesthetic beauty in & around mines area is well maintained. The lessee is implementing the PMCP proposal and has carried out adequate plantation. Sprinkling of water on Haul roads and transport roads using water tanker is done to suppress the dust.		

Compliance of Rule 45

S.N.	Item		Observation of I/Officer	Remarks
9a	Status of submission of Monthly and Annual returns	Monthly returns must be submitted within stipulated time. Annual return for FY 22-23 must be submitted within stipulated time.	Monthly returns must be submitted within stipulated time. Annual return for FY 22-23 must be submitted within stipulated time.	
9b	Scrutiny of Annual return for information on Mining Engineer, Geologist and Manager	Mine Manager-Dibyendu Behera Mining Engineer-Dibyendu Behera Mining Geologist-Rajkumar Gandhi	Mine Manager-Dibyendu Behera Mining Engineer-Dibyendu Behera Mining Geologist-Rajkumar Gandhi	
9c	Scrutiny of Annual return on land use pattern for area under pits, reclaimed area, dumps etc.	Mining-40.888 Ha Dumps-45.723 Ha Occupied by Plant, buildings, residential, welfare buildings & roads- 9.26 Ha Other purpose (Safety zone, Green belt etc.)- 11.369 Ha	Mining-36.367 Ha Dumps-35.507 Ha Occupied by Plant, buildings, residential, welfare buildings & roads- 6.309 Ha Other purpose (Safety zon, Green belt etc.)- 29.057 Ha	
9d	Scrutiny of Annual return on afforestation	2.18	2.18	FY 2022-23
9e	Scrutiny of Annual return on mineral reject generation (Grade & quantity)	No mineral rejection generation proposed	NA	
9f	Scrutiny of Annual return on ROM stock and/or graded ore	102000	87955.388	FY 2022-23
9g	Scrutiny of Annual return on sale value, Ex. Mine price & production cost		Ex-mine price Fines below 40% Cr2O3 per Tonne: Rs.5325.48 Ex-mine price Lumps below 40% Cr2O3 per Tonne: Rs.14970 Production Cost/Tonne:Rs. 9625.81	FY 2022-23
9i	Scrutiny of Annual return on fixed assets	Not Specified	Rs. 214543080	FY 2022-23
9k	Scrutiny of Annual return on mining machineries	1. Drill Machine-03 2. Excavator-08	1. Drill Machine-01 2. Excavator-02	

I/25494/2024

		3. Pay Loader-04 4. Dumper-21 5. Water Tanker-04 6. Dozer-02	3. Dumper-06 4. Water Tanker-01 5. Dozer-01	
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