



TSL/FAMD/KAR/FY25/ 1400  
Date: 26-09-2024

To,  
The Member Secretary,  
Odisha State Pollution Control Board,  
Paribesh Bhawan,  
A/118, Nilakantha Nagar, Unit-VIII,  
Bhubaneswar-751012

**Subject:** Submission of Environmental statement in FORM-V for the year ending 31<sup>st</sup> March 2024 in respect of Kamarda Chromite Block of M/S Tata Steel Ltd.

**Reference:** Rule-14 under Environmental (Protection) Amendment Rule, 1993 (G.S.R 386, 22.04.1993)

Dear Sir,

We are hereby submitting the Annual Environmental Statement in "FORM-V" prescribed under the provisions of above referenced statute, in respect of Kamarda Chromite Block of M/s Tata Steel Ltd., At – Kamarda, Po- Kalarangiatta, Dist- Jajpur, Odisha, for the year ending 31<sup>st</sup> March 2024. A copy of the annual return (annual return submitted to IBM, Govt. of India/Directorate of Mines, Govt. of Odisha) is also attached as Annexure-I.

This is for your kind information and perusal please. Receipt of the same may please be acknowledged.

Thanking You.

Yours faithfully,  
f: Tata Steel Limited

Mines Manager,  
Kamarda Chromite Block

**Copy to:** 1. Regional Officer, SPCB, Kalinganagar, Dhabalagiri Chowk, Jajpur Road (Odisha)  
2. Integrated Regional Office, MoEF&CC, A/3, Rail Vihar, Chandrasekharpur, Bhubaneswar 751023

## **TATA STEEL LIMITED**

Ferro Alloys & Minerals Division Kamarda Chromite Mine Kansa Jajpur Odisha 755 028  
Registered Office Bombay House 24 Homi Mody Street Fort Mumbai 400 001 India  
Tel +91 22 6665 8282 Fax +91 22 6665 7724 Website [www.tatasteel.com](http://www.tatasteel.com)  
Corporate Identity Number L27100MH1907PLC000260



# **Environmental Statement**

**Form – V (FY 2023 – 24)**

**For  
Kamarda Chromite Block**

**Submitted By:**

**Kamarda Chromite Block**

**M/s. Tata Steel Limited**

**At: Kamarda, Po: Kalarangiatta, Block-Sukinda  
District- Jajpur, Odisha -755028**

**FORM-V**

(See Rule 14)

**ENVIRONMENTAL STATEMENT FOR THE FINANCIAL YEAR ENDING THE  
31<sup>st</sup> MARCH 2024****KAMARDA CHROMITE BLOCK, M/s. TATA STEEL LIMITED.****Part A**

<b>i.</b>	<b>Name and address of the owner / occupier of the industry operation or process.</b>	<b>:</b>	Shri T V Narendran (Managing Director) M/s. Tata Steel Limited, Plot No. N3/24, IRC Village, Nayapalli, Bhubaneswar, Odisha – 751 015
<b>ii.</b>	<b>Industry category Primary – (STC code) Secondary – (SIC Code)</b>	<b>:</b>	Primary (SIC): 1000 (Metal Mining) Secondary (SIC): 1060 (Ferro Alloy Ore)
<b>iii.</b>	<b>Production capacity – Units.</b>	<b>:</b>	0.088 MTPA (Chromite Ore)
<b>iv.</b>	<b>Year of establishment.</b>	<b>:</b>	2020
<b>v.</b>	<b>Date of the last Environmental Statement submitted.</b>	<b>:</b>	28.09.2023

**PART-B****Water and Raw Material Consumption****A. Water Consumption for FY 2023-24 (April'2023 to March'2024)**

<b>Process</b>	<b>Cooling</b>	<b>Domestic</b>
84.95 m <sup>3</sup> /day	NA	38.41 m <sup>3</sup> /day

*\*Note: In case of mining operation, the water requirement is for dust suppression, plantation & washing of vehicle which has been taken as process consumption of water, which was consumed from ETP treated water.*

**B. Specific Water Consumption – (April'2023 to March 2024)****(i) Process water consumption per unit of product output**

<b>Name of the Product</b>	<b>Production (MT)</b>	<b>Water consumption per unit of production*</b>
Chrome Ore (ROM)	57223.37	0.54 KL/MT

**(ii) Raw Material Consumption**

The materials consumed during the previous and current financial year are in consumable and supportive ads in nature. The materials which are required to produce Chrome ore from mine quarry are given below:

Name of material	Name of products	Consumption of material per unit of output	
		During previous financial year (2022-23)	During present financial year (2023-24)
Diesel	Chrome Ore (ROM)	8.72 Ltrs./ MT	9.1 Ltrs./ MT
Gas (LPG)		Nil	Nil
Lubricant oil		0.20 Ltrs./ MT	0.1 Ltrs./ MT
Grease		0.015 Kg/ MT	0.004 Kg/ MT
Electricity		21.87 KWH/ MT	34.72 KWH/ MT
Explosives		1.54 Kg/MT	1.38 Kg/MT

**PART-C****{POLLUTION DISCHARGED TO ENVIRONMENT/UNIT OF OUTPUT}**

(Parameters as specified in the consent issued)

**a. Water**

Sl. No.	Parameters	Unit	Result Average	Maximum Permissible Standard	Variation from the prescribed standard (%)	Quantity (Kg/Day)	Remarks for the deviations if any
2.	Suspended Solids	mg/ltr	4.04	100	-96	13.81	Within the prescribed limit
3.	Oil & Grease	mg/ltr	1.3	10	-86.91	4.67	Not Detected in any of the samples.
4.	BOD (3) days at 27°C	mg/ltr	ND	30	BDL	Nil	Below detection limit.
5.	COD	mg/ltr	ND	250	BDL	Nil	Below detection limit
6.	Hexavalent Chromium as Cr +6	mg/ltr	BDL	0.05	BDL	Nil	Below detection limit
7.	Total Chromium as Cr	mg/ltr	BDL	2.0	BDL	Nil	Below detection limit
8.	Nickel as Ni	mg/ltr	BDL	3	BDL	Nil	Below detection limit
9.	Iron as Fe	mg/ltr	0.345	3	-88.5	1.17	Below detection limit

**BDL: Below Detection Limit****b. Air:**

As in mines, there is no point source for emission, mostly we have fugitive dust generated from haul road or blasting so it is not possible to quantify in mass/day.

**PART-D****HAZARDOUS WASTAGES**

**(As specified under Hazardous and Other Wastes (Management and Transboundary Movement) Rules, 2016)**

Hazardous Waste	Total Quantity	
	During the previous financial year (2022-23)	During the current financial year (2023-24)
<b>(a) From process</b>		
Used/Waste Oil	4.78 KL	6.394 KL
Oil Contamination Waste	26.8	38.75 Kg
Oil Filters & filter Materials	225	211
ETP Sludge	14.1 Ton	13.19 Ton
<b>(b) From pollution control facilities</b>	Nil	Nil

**PART-E****Solid Waste**

	Solid Waste	Total Quantity (MT)	
		During the current financial year (2022-23)	During the current financial year (2023-24)
(a)	From process (Overburden)	352027	804185.8
(b)	From pollution control facility	Nil	Nil
(c)	(1) Quantity recycled or re-utilized within the unit	Nil	Nil
	(2) Sold	Nil	Nil
	(3) Disposed	Nil	Nil

**PART-F**

**[Please specify the characterization (in terms of composition and quantum) of hazardous as well as solid wastes and indicate disposal practice adopted for both the categories of wastes.]**

The details composition and characteristics of solid and hazardous waste are given below

<b>Sl. No</b>	<b>Waste Description</b>	<b>Nature of Waste</b>	<b>Composition/ Characteristics</b>	<b>Quantity (2023-24)</b>	<b>Management (Methods of collection and Disposal)</b>
1	Overburden Material	Non-Hazardous (Solid waste)	Quartzite, Laterites, Lateritic soil, Talc schist and serpentine, Nickeliferous limonite	804185.8 Tones	The waste material is dumped in non-mineralized area approved by IBM with all environmental protection measures
2	Used /Waste oil	Hazardous Waste (HW-5.1)	Lead, Arsenic, Cadmium, Chromium, Nickel, PAHs etc.	6.394 KL	Collected and securely stored inside 200Ltr MS Barrels and stored above concrete flooring. Sold to M/s Swaraj Lubricants, authorized by SPCB.
3	Oil contaminated waste	Hazardous waste (HW-5.2)	Consists of oil contaminated cotton, Jute, soaked sand etc.	38.57 Kg	Collected and stored in MS Barrels above concrete flooring for large quantity disposal to authorized agency
4	ETP sludge	Hazardous Waste (HW-34.3)	Composition of Cr, Fe, Al, Si etc.	13.19 Ton	ETP sludge will be disposed through Ramky Enviro Engineers Limited Jajpur (known as CHWTSDF)

### **PART-G**

#### **[Impact of the pollution measures taken on conservation of natural resources and on the cost production]**

##### **a) Dust Suppression**

- Regular water spraying is being carried out on mine haul road, working site, waste dump yard, ore stack yard loading and unloading points by water tankers to reduce the dust levels.
- 500 mtrs of fixed water sprinkler is installed in main haul road.
- Regular water sprinkling on mineral transportation roads passing through the habitation area as well as other strategic point is being done regularly.
- Wet drilling is a common practice during drilling operation to reduce air pollution.

- Pre- wetting of blasting site and controlled blasting is being practiced reducing dust generation.
- The mineral transportation is being carried out by trucks covered with tarpaulin and properly sealed.
- No trucks are being overloaded at any point of time to avoid spillage Ore and OB in the haul road.

**b) Management of surface run - off & mine discharge water**

- All the surface run-off water from one side of the quarry during rainy seasons is allowed to channelize through well maintained garland drains having sedimentation pits. Finally, the surface run-off accumulated at Quarry "1&2" for ground water recharge. Effluent Treatment Plant is constructed for the treatment of excess surface run-off from Quarry 1&2.
- Further, at the other side of the quarry the surface run-off has been properly channelized to a big sump from where the whole water has been diverted to Quarry 3&4.
- From the quarry, water is pumped to an effluent treatment plant for detoxification of Cr<sup>+6</sup> and reduces the Total Suspended Solids (TSS) before any use or discharge.

**c) Solid waste management**

- ❖ Overburden/waste rock is being dumped in the earmarked dump area approved by IBM with suitable terracing. The terraces are stabilized and rehabilitated by massive plantation.
- ❖ Retaining walls have been constructed at the toe of various OB dumps to arrest the flow solid material. Garland drains are constructed in and around the OB dumps for drainage of surface run-off.
- ❖ Settling pits and check dams inside the garland drain have been constructed to arrest the slit/ soil particles in the water. Yearly twice, the settling pits and garland drains have been desilted.

**d) Environmental monitoring.**

- ✓ Regular monitoring of ambient air quality is being carried out at four appropriate locations in core zone and in four locations in buffer zone as per statue.
- ✓ Regular monitoring of Ground water level is being carried out by the installed Piezometric bore wells inside mine lease area.

**e) Afforestation**

About 10800 local samplings are planted in dump for more survival rate with tree density of 2500 per hectare.

**f) Noise reduction**

- Heavy vehicles operating in mines have good noise control system. Silencers are maintained in good conditions.
- Regular maintenance of the vehicles/ machines is carried out to reduce the noise

pollution.

- Controlled blasting is generally practiced minimizing the noise.
- Regular noise level monitoring is being done on monthly basis and the results are found below permissible limit.

**g) Medical facilities and health monitoring**

- ❖ All the employees undergo periodical medical checkup like IME & PME.
- ❖ M/s. Utkal polytechnic an occupational checkup health center at Bhubaneswar is periodically conducting initial and periodical examination of the persons working in the project regularly which is recognized by DGMS, Dhanbad.
- ❖ A first-aid facility is established at Saruabil Mines to cater for local community and employee of Saruabil & Kamarda mines.

**h) ENVIRONMENTAL EXPENDITURE MADE DURING April - 2023 TO March- 2024**

Sl. No.	Expenditure	Amount (In Lakh)
1	<b>ETP operation cost</b>	
	a) Manpower	24.81
	b) ETP Electricity cost	13.49
	c) Chemical cost & Maintenance	7.77
	d) Calibration & Maintenance of sensors & RT-DAS system	1.7
2	Water sprinkling cost for haul road management	16.7
3	Display of Board (Env. Management)	0.7
4	Monitoring & Analysis cost of Air, Water & Noise	33.91
5	Plantation expenditure	17.86
6	EQMS Online Analysis	1.69
7	EQMS Online Data Transmission	0.89
	<b>Total</b>	<b>119.52</b>

**PART-H**

**[Additional measures/investment proposal for environmental protecting including abatement of pollution, preservation of pollution]**

1. Regular maintenance of retaining wall around the foot of the dumps will be provided.
2. More garland drain shall be constructed and maintained all along the dump to channelize the water in a single point of storage as per approved mining plan.
3. One CETP(@1200KL/hr) is planned to construct at Saruabil mines to treat the both mines seepage water and surface run-off water.
4. More fixed sprinklers will be provided to control the haul road dust.
5. For the stability of the dumps regular slope monitoring is done by précised Total Station Equipment.

6. We are engaging consultant from premier institute to study the dump and mines slope stabilities.

### **PART-I**

#### **Any other particular for improving the quality of the environment:**

The management of Tata Steel is committed for prevention of the pollution inside and surrounding the lease hold area. Environmental monitoring is being done in core & buffer zones of the lease area to ascertain & to take preventive measure to keep the parameters within stipulated norms.

#### **Environmental Management Practices**



**Waste dump management with Retaining wall and Garland drain construction**



**Waste dump plantation in FY 2022-23**



**Water sprinkling through movable water tanker & Fixed Sprinkler**



**Vehicle washing with Oil & Grease separation pit**



**Hazardous storage area**



**Roof top Rainwater Harvesting Structures constructed for Ground Water Recharge**



Mines Manager

Kamarda Chromite Block

M/s. Tata Steel Limited.



TSL/FAMD/KAR/FY24/867

Date: 27-06-2024

To,

**The Regional Controller of Mines,**

Indian Bureau of Mines,

Bhubaneswar Region

Plot No. 149, Pokhariput

Bhubaneswar- 751020.

**Sub: Submission of Annual Return in Form – G1 along with Surface Plan and Geological Plan & Sections for the Financial Year 2023-24 in respect of Kamarda Chromite Mine, M/s Tata Steel Limited.**

Dear Sir,

We are submitting herewith the Annual Return in Form – G1 along with Surface Plan and Geological Plan & Sections for the Financial Year 2023-24 in respect of Kamarda Chromite Mine, M/s Tata Steel Limited.

This is for your kind information & needful Please.

Thanking you,

Yours Sincerely,

Mine Manager

Kamarda Chromite Mine

M/s Tata Steel Limited.

Encl: As above.

**TATA STEEL LIMITED**

Ferro Alloys & Minerals Division Kamarda Chromite Mine Kansa Jajpur Odisha 755 028

Registered Office Bombay House 24 Homi Mody Street Fort Mumbai 400 001 India

Tel +91 22 6665 8282 Fax +91 22 6665 7724 Website [www.tatasteel.com](http://www.tatasteel.com)

Corporate Identity Number L27100MH1907PLC000260

**FORM G-1**

[See rule 45(5)(c)(i)]

**For the financial Year 1<sup>st</sup> April, 2023 to 31<sup>st</sup> March, 2024****ANNUAL RETURN**

[To be used for minerals other than Copper, Gold, Lead, Pyrites, Tin, Tungsten, Zinc and precious and semi-precious stones]

To

- (i) The Regional Controller of Mines  
Indian Bureau of Mines  
Bhubaneswar Region,  
PIN:

*(Please address to Regional Controller of Mines in whose territorial jurisdiction the mines falls as notified from time to time by the Controller General, Indian Bureau of Mines under rule 66 of the Mineral Conservation and Development Rules, 2017)*

- (ii) The State Government of Odisha

**PART - I (General)**

<b>1. Details of Mine:</b>	
(a) Registration number allotted by Indian Bureau of Mines (to give registration number of the Lessee-Owner)	IBM/4376/2011
(b) Mine Code (allotted by Indian Bureau of Mines)	11ORI19029
(c) Name of the Mineral	CHROMITE
(d) Name of Mine	KAMARDA CHROMITE MINE
(e) Name(s) of other mineral(s), if any, produced from the same mine	
<b>2. Location of the Mine :</b>	
Village	KAMARDA
Post Office	KALARANGIATTA
Tahsil-Taluk	KALIAPANI
District	JAJAPUR
State	ODISHA
PIN Code	755028
Fax No. :	00000000000
Phone No. :	7077686456
E-mail:	dibyendu.behera@tatasteel.com
Mobile:	7077686456

**3. Name and address of Lessee-Owner (along with fax no. and e-mail):**

Name of Lessee-Owner	M/s. Tata Steel Limited
Address	Bombay House, 24 Homi Modystreet Fort,, Mumbai
District	MUMBAI SUBURBAN
State	MAHARASHTRA
PIN Code	400001
Fax No. :	00000000000
Phone No. :	06742551045
E-mail:	gm.office@tatasteel.com
Mobile:	8092084533
4. Registered Office of the Lessee:	M/s Tata Steel Limited, Bombay House, 24 Homi Mody Street Fort, Mumbai
5. Director in charge :	Mr. T V Narendran (CEO & Managing Director)
6. Agent :	Mr. Naveen Shrivastava
7. Manager :	Mr. Dibyendu Behera
8. Mining Engineer in charge:	Mr. Dibyendu Behera
9. Geologist in charge :	Mr. Rajkumar Gandhi
10. Transferor (previous owner), if any, and date of transfer:	MS B.C. Mohanty and Sons Pvt. Ltd 26/06/2020

**Uploaded Document**Upload PMCP Table in Excel: [PMCP\\_Data\\_of\\_Kamarda\\_Mines\\_for\\_2023-24.xlsx](#)Upload UAV Survey (KML/KMZ File) : [Land\\_Use\\_Kamarda\\_2023-24.kmz](#)**11. Particulars of area operated-Lease**

(Furnish information on items (i) to (vi) lease-wise in case mine workings cover more than one lease)

**Lease - 1**

(i) Lease number allotted by the State Government	061304569302
(ii) Area under lease (hectares):	
Under Forest	105.780 hectares
Outside Forest	1.460 hectares
Total	107.240 hectares
(iii) Date of execution of mining lease deed	26/06/2020
(iv) Period of lease	50
(v) Area for which surface rights are held (hectares)	
Under Forest	88.068 hectares
Outside Forest	0.000 hectares
Total	88.068 hectares

(vi) Date and period of renewal (if applicable)	0		
(vii) In case there is more than one mine in the same lease area, indicate name of mine and mineral produced	Mine Name	Mine Code	Mineral Name
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12. Lease area (surface area) utilisation as at the end of year (hectares):	Under forest	Outside forest	Total
(i) Already exploited and abandoned by opencast (O-C) mining	0.000	0.000	0.000
(ii) Covered under current (O-C) Workings	36.436	0.000	36.436
(iii) Reclaimed-rehabilitated	0.000	0.000	0.000
(iv) Used for waste disposal	35.528	0.016	35.544
(v) Occupied by plant, buildings, residential, welfare buildings and roads	6.467	0.003	6.470
(vi) Used for any other purpose (specify) Green Belt, Nala, Safety zone, etc.	27.349	1.441	28.790
(vii) Work done under progressive mine closure plan during the year	4.117	0.000	4.117
13. Ownership-exploiting Agency of the mine: (Public Sector-Private Sector-Joint Sector)	Private Sector		

## PART-II (Employment and Wages)

1.Number of supervisory staff employed at the mine		
Description	Wholly employed	Partly employed
(i) Graduate Mining Engineer	6	0
(ii) Diploma Mining Engineer	9	0
(iii) Geologist	1	0
(iv) Surveyor	2	0
(v) Other administrative and technical supervisory staff	21	0
Total:	39	0
2. (i) Number of days the mine worked:	308	
(ii) No. of shifts per day:	3	
(iii) Indicate reasons for work stoppage in the mine during the year (due to strike, lockout, heavy rain, non-availability of labour, transport bottleneck, lack of demand, uneconomic operations, etc.) and the number of days of work stoppage for each of the factors separately .	Reasons	No. of days
	Weekly off	51
	Holidays	7

### 3. Employment and salary-wages paid #:

Maximum number of persons employed on any one day during the year:								
(i) In workings below ground on (date) (a) ( number) 0								
(ii) In all in the mine on (date) 01/03/2024 (a) ( number) 238								
Classification	Total number of man days worked during the year			No. of days worked during the year	Average daily number of persons employed			Total Wages - Salary for the year (₹)
	Direct	Contract	Total		Male	Female	Total	
(1)	2(A)	2(B)	2(C)	(3)	4(A)	4(B)	4(C)	(5)
Below Ground	0	0	0	0	0	0	0	0.00
Opencast	5172	53199	58371	308	188	2	190	47067459.00
Above Ground	162	7437	7599	308	24	1	25	5294984.00
Total:	5334.0	60636.0	65970.0	308.000	212.0	3.0	215.0	52362443.00

# To include all employees exclusive to the mine and attached factory, workshop or mineral dressing plant at the mine site

## PART-II A (Capital Structure)

### 1. Value of Fixed Assets\* (₹ 209008153)

(in respect of the mine, beneficiation plant, mine work-shop, power and water installation)

In case this information is furnished as combined information in another mine's return please specify Mine Code-Mine Name:

Mine Name	Mine Code	Mineral Name
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Description	At the beginning of the year (₹)	Additions during the Year (₹)	Sold or discarded during the year (₹)	Depreciation during the year (₹)	Net closing Balance (₹) (2+3)-(4+5)	Estimated market value** (₹)
1	2	3	4	5	6	7
(i) Land***	0	0	0	0	0	0
(ii) Building:						
Industrial	13053072	0	0	573560	12479512	0
Residential	5255314	0	0	92199	5163115	0
(iii) Plant and Machinery including transport equipment	19718593	0	0	1126777	18591816	0
(iv) Capitalised Expenditure such as pre-production exploration, development, major overhaul and repair to machinery etc. (As prescribed under Income Tax Act)	176516101	0	0	3742391	172773710	0
Total:	214543080	0	0	5534927	209008153	0

\* In case the fixed assets are common to more than one mine, furnish combined information for all such mines together in any one of the mine's return. In the returns for other mines, give only a cross reference to the particular mine's return where-in the information is included.

\*\* Optional and may be furnished in respect of items (i), (ii) and (iii) if the mine owner desires.

\*\*\* Including any non-recurring expenditure incurred on the acquisition of land.

### 2. Source of Finance ( at the end of the year) :

(i) Paid up Share Capital (₹)		0
(ii)Own Capital (₹)		0
(iii)Reserve and Surplus (All Types)(₹)		0
(iv)Long Term loans outstanding (#)(₹)		0
Name of the Institution-Source	Amount of Loan (₹)	Rate of Interest
0	0	0

(#) Indicate the names of the lending institutions such as State Finance Corporation, Industrial Development and other Public Corporations, Co-operative Banks, Nationalised Banks and other sources along with the amount of loan from each source and the rate of interest at which loan has been taken.

### 3. Interest and Rent (₹)

(i) Interest paid during the year	0
(ii) Rents (excluding surface rent) paid during the year	0

### PART-III (Consumption of Materials)

1. Quantity and cost of material consumed during the year			
Description	Unit	Quantity	Value (₹)
<b>(i) Fuel</b>			
(a) Coal	Tonnes	0	0
(b) Diesel Oil	Ltrs.	520709	76546302
(c) Petrol	Ltrs.	0	0
(d) Kerosene	Ltrs.	0	0
(e) Gas	Cu.M	0	0
<b>(ii) Lubricant</b>			
(a) Lubricant oil	Ltrs.	5566	1765690
(b) Grease	Kgs.	270	62764
<b>(iii) Electricity</b>			
(a) Consumed	Kwh	1987207	12540419
(b) Generated	Kwh	57360	1720800
(c) Sold	Kwh	0	0
<b>(iv) Explosives (furnish full details in Part IV)</b>			6455471
<b>(v) Tyres</b>	Nos.	0	0
<b>(vi) Timber and Supports</b>			0
<b>(vii) Drill rods and kits</b>	Nos.	0	0
<b>(viii) Other spares and stores</b>			0

2. Royalty, Rents and Payments made to DMF and NMET (₹):		
	Paid for current year	Paid towards past arrears
(a) Royalty	80893563	0
(b) Dead rent	214845	0
(c) Surface rent	631439	0
(d) Payment made to DMF	8089373	0
(e) Payment made to NMET	1617894	0
3. Compensation paid for felling trees during the year (₹)		0
4. Depreciation on fixed assets (₹)		5534927

5. Taxes and cesses		
	Amount in Rupees paid during the year to:	
	Central Govt.	State Govt.
(i) Sales Tax	35593348	28769947
(ii) Welfare cess	0	0
(iii) Other taxes and cesses:-		
(a) Mineral cess	0	0
(b) Cess on dead rent	0	0
(c) Others (please specify) Elect Duty, User fee, Application fees, Vehicle taxes, weighment Charges, etc.	0	1933751
6. Other expenses (₹):		
(i) Overheads		13362658
(ii) Maintenance		0
(iii) Money value of other benefits paid to workmen		0
(iv) Payment made to professional agencies		0

## PART-IV (Consumption of Explosives)

Licensed capacity of magazine: (specify unit separately in kg-tonne, numbers, metres )		<b>Item</b>		<b>Unit</b>	<b>Capacity</b>
		Explosives		Kg.	0
		Detonators		No.s	0
		Fuses		Mts	0
Classification of Explosives	Unit	Quantity consumed during the year		Estimated requirement during the next year	
		Small dia. (upto 32 mm)	Large dia. (above 32 mm)	Small dia. (upto 32 mm)	Large dia. (above 32 mm)
1. Gun Powder	Kg.	0		0	
2. Nitrate Mixture					
a. Loose ammonium nitrate	Kg.	0	0	0	0
b. Ammonium nitrate in cartridged form	Kg.	0	0	0	0
3. Nitro compound	Kg.	122	0	566	0
4. Liquid Oxygen soaked cartridges	Kg.	0	0	0	0
5. Slurry explosives (Mention different trade names) Solar Cartridge	Kg.	0	79250	0	139392
6. Detonators					
i) Ordinary	No.s	0		0	
ii) Electrical					
(a) Ordinary	No.s	274		431	
(b) Delay	No.s	5410		7628	
7. Fuse					
(a) Safety Fuse	Mts	0		0	
(b) Detonating Fuse	Mts	0		0	
8. Plastic ignition cord	Mts	0		0	
9. Others (specify) SME	Kg	20450		79652	

Different sizes of soaked liquid oxygen cartridges to be reported in equivalent kg. as per manufacturer's instruction.

## PART-V (General Geology & Mining)

(Items 2 and 3 to be submitted separately for each mineral)

### 1. Exploration

1(i) Exploration activities during the year:

		At the beginning of the year	During the year	Cumulative	Grid spacing- Dimension
Drilling	No of holes	24	9	33	50X50and100X100
	Metrage	2302	1038	3340	50X50and100X100
Pitting	No of pits	0	0	0	0
	Excavation (in m <sup>3</sup> )	0	0	0	0
Trenching	No of trenches	0	0	0	0
	Excavation (in m <sup>3</sup> )	0	0	0	0
	Length covered (in metre)	0	0	0	0
Expenditure on exploration (₹)		13730871	6770874	20501745	0

1(ii). Any other exploration activity during the year:

0

### 2. Reserves and Resources estimated (in tonnes) (CHROMITE).

Classification	Code	At the beginning of the year 1.4.2023 as per latest approved mining plan- scheme	Assessed during the year	Depletion of reserves during the year	Balance resources as on 31.3.2024
(1)	(2)	(3)	(4)	(5)	(6)= (3+4-5)
<b>A. Mineral Reserve</b>					
1. Proved Mineral Reserve	111	1505908	0	57223	1448685
2. Probable mineral Reserve	121	0	0	0	0
	122	0	0	0	0
3. Total Reserves		1,505,908.00	0.00	57,223.00	1,448,685.00
<b>B. Remaining Resources</b>					
1. Feasibility mineral Resource	211	0	0	0	0
2. Prefeasibility mineral resource	221	578610	0	0	578610
	222	0	0	0	0
3. Measured mineral resource	331	0	0	0	0
4. Indicated mineral resource	332	0	0	0	0
5. Inferred mineral resource	333	0	0	0	0
6. Reconnaissance mineral resource	334	0	0	0	0
7. Total remaining Resources		578,610.00	0.00	0.00	578,610.00
<b>Total (A+B)</b>		2,084,518.00	0.00	57,223.00	2,027,295.00

### 3. Subgrade-Mineral Reject (in tonnes) (CHROMITE)

(Information to be given in respect of mineral fractions generated and stacked- dumped below cut-off grade and above threshold value, if prescribed, having no immediate sale value)

Generation of subgrade-mineral reject (in tonnes)	At the beginning of the year	Generated during the year	Disposed during the year	Total stacked at the end of the year	Average grade of the mineral reject generated
from unprocessed ore	0	0	0	0	0
from processed ore	0	0	0	0	0

### 4. Overburden and Waste (in m<sup>3</sup>)

(Information to be given in respect of overburden- waste and mineral fractions generated below threshold value, if prescribed)

At the beginning of the year	Generated during the year	Disposed in dumps during the year	Backfilled during the year	Total at the end of the year
791178	349646	173763	175883	1140824

### 5. Trees planted- survival rate

Description	Within lease area	Outside lease area
i) Number of trees planted during the year	10800	0
ii) Survival rate in percentage	80	0
iii) Total no. of trees at the end of the year	28142	0

**6. Type of Machinery:** Give the following information for the types of machinery in use such as hoist, fans, drills, loaders, excavators, dumpers, haulages, conveyors, pumps, etc.

Type of machinery	Capacity of each type of machinery	Unit (in which capacity is reported)	No. of machinery	Electrical Non-electrical (specify)	Used in opencast underground (specify)
DOZER	200.000	HP	1	Non Electrical	Opencast
ROCK DRILL (NON-ELEC.)	110.000	MM	1	Non Electrical	Opencast
SHOVEL (HYDRAULIC)	3.200	CUM	1	Non Electrical	Opencast
SHOVEL (HYDRAULIC)	0.900	CUM	1	Non Electrical	Opencast
SHOVEL (HYDRAULIC)	1.800	CUM	1	Non Electrical	Opencast
MOTOR GRADER	196.000	HP	1	Non Electrical	Opencast
TIPPER	19.500	CUM	8	Non Electrical	Opencast
WATER TANKER	18000.000	LITRE	1	Non Electrical	Opencast
PUMPS (ELEC.)	12750.000	L/MN	5	Electrical	Opencast
ELEC. MOTOR	120.000	HP	1	Electrical	Opencast
ELEC. MOTOR	40.000	HP	2	Electrical	Opencast
ELEC. MOTOR	175.000	HP	1	Electrical	Opencast

**7(i) Details of mineral Treatment Plant, if any:** Give a brief description of the process capacity of the machinery deployed and its availability. (Submit Flow Sheet and Material Balance of the Plant separately).

Nil

**(ii) Furnish following information:**

Item		Tonnage	Average Grade
Feed:		0.000	0.000
Concentrates-processed products :	(mention name)	0.000	0.000
By-products-Co-products:	(mention name)	0.000	0.000
Tailings:		0.000	0.000

## PART-VI (PRODUCTION, DESPATCHES AND STOCKS) (CHROMITE)

(To be submitted separately for each mineral)

(Unit of Quantity in Tonnes)

### 1. Type of ore produced:

(Applicable for Iron ore only; tick mark whichever is applicable)

### 2. Production and Stocks of ROM ore at Mine-head

Category	Opening stock	Production	Closing stock
(a) Open Cast workings	0.000	57223.368	0.000
(b) Underground Workings	0.000	0.000	0.000
(c) Dump workings	0.000	0.000	0.000

### 3(i) Grade-wise ROM ore despatches from mine head (\$):

Grade of ROM	Despatches from mine-head	Ex-mine Price (₹)
(a) Below 40% Cr <sub>2</sub> O <sub>3</sub> ROM	0.000	0.00
(b) 40% to below 52 % Cr <sub>2</sub> O <sub>3</sub> ROM	0.000	0.00
(c) 52% and above Cr <sub>2</sub> O <sub>3</sub> ROM	0.000	0.00

(\$): Applicable for iron ore and chromite only. For other minerals data of despatches to be reported in 3(ii)

### 3(ii) Grade-wise Production, Dispatches, Stocks and Ex-mine prices:

Grades**	Opening stock at mine-head	Production	Despatches from mine-head	Closing stock at mine-head	Ex-mine price (₹-Tonne)
<b>(i) Lumps</b>					
(a) Below 40% Cr <sub>2</sub> O <sub>3</sub>	6202.050	22250.347	5638.300	22814.097	3984.32
(b) 40% to below 52 % Cr <sub>2</sub> O <sub>3</sub>	0.000	0.000	0.000	0.000	0.00
(c) 52% and above Cr <sub>2</sub> O <sub>3</sub>	0.000	0.000	0.000	0.000	0.00
<b>(ii) Fines</b>					
(a) Below 40% Cr <sub>2</sub> O <sub>3</sub>	70386.030	34973.021	56479.240	48879.811	6739.29
(b) 40% to below 52 % Cr <sub>2</sub> O <sub>3</sub>	0.000	0.000	0.000	0.000	0.00
(c) 52% and above Cr <sub>2</sub> O <sub>3</sub>	0.000	0.000	0.000	0.000	0.00
(a) CONCENTRATES	0.000	0.000	0.000	0.000	0.00

### 3(iii) In case the mineral is being pulverized in own factory, please give the following particulars (\*):

Grade**	Total quantity of mineral Pulverized (in tonnes)	Total quantity of pulverized mineral produced (for each mesh size)		Total Quantity of pulverized mineral sold during the month		
		Mesh size	Quantity (tonne)	Mesh size	Quantity (tonne)	Ex-factory Sale value (₹)

**3(iv) Average cost of pulverization (\*) : ₹ per tonne**

(\*) : Not applicable for Iron ore, Manganese ore, Bauxite and Chromite

**4. Details of deductions made from sale value for computation of Ex-mine price (₹- Tonne)**

Deduction claimed #	Amount ( in ₹- Tonne)	Remarks
(a) Cost of transportation (indicate loading station and distance from mine in remarks)	0.00	NA
(b) Loading and unloading charges	0.00	NA
(c) Railway freight, if applicable (indicate destination and distance)	0.00	NA
(d) Port Handling charges- export duty (indicate name of port)	0.00	NA
(e) Charges for sampling and analysis	0.00	NA
(f) Rent for the plot at Stocking yard	0.00	NA
(g) Other charges (specify clearly)	0.00	NA
Total (a) to (g)	0.00	

# Not applicable for captive dispatches and ex-mine sales

**5. Sales- Despatches effected for Domestic Purposes and for Exports:**

Grade	Nature of Despatch (indicate whether Domestic Sale or Domestic Transfer or Captive consumption or Export)	For Domestic Purposes				For export		
		Registration number as allotted by the Indian Bureau of Mines to the buyer ##	Consignee name ##	Quantity	Sale value (₹)	Country	Quantity	F.O.B Value (₹)
Below 40% Cr2O3, Fines	DOMESTIC SALE	IBM/22792/2019	A3 MINERALS AND METAL EXPORT PRIVATE LIMITED	248.350	1204179.59			
Below 40% Cr2O3, Fines	DOMESTIC SALE	IBM/4178/2011	ANAND EXPORTS	6069.550	45612496.47			
Below 40% Cr2O3, Lumps	DOMESTIC SALE	IBM/62/2011	BALASORE ALLOYS LIMITED	3480.800	13095701.79			
Below 40% Cr2O3, Fines	DOMESTIC SALE	IBM/62/2011	BALASORE ALLOYS LIMITED	4300.680	25104097.61			
Below 40% Cr2O3, Fines	DOMESTIC SALE	IBM/6143/2011	B. C. MOHANTY & SONS PRIVATE LIMITED	998.430	6627252.98			
Below 40% Cr2O3, Lumps	DOMESTIC SALE	IBM/538/2011	JAI BALAJI INDUSTRIES LIMITED	175.210	675424.04			

Below 40% Cr2O3,Fines	DOMESTIC SALE	IBM/538/2011	JAI BALAJI INDUSTRIES LIMITED	174.170	1012648.76			
Below 40% Cr2O3,Lumps	DOMESTIC SALE	IBM/1129/2011	Jindal Stainless Limited	993.560	4640531.24			
Below 40% Cr2O3,Fines	DOMESTIC SALE	IBM/1129/2011	Jindal Stainless Limited	3609.670	25683824.57			
Below 40% Cr2O3,Fines	DOMESTIC SALE	IBM/5583/2011	K L RESOURCES PVT. LTD.	25862.780	165324147.90			
Below 40% Cr2O3,Lumps	DOMESTIC SALE	IBM/318/2011	METSIL EXPORTS PRIVATE LIMITED	988.730	4053130.61			
Below 40% Cr2O3,Fines	DOMESTIC SALE	IBM/318/2011	METSIL EXPORTS PRIVATE LIMITED	2483.910	14694605.76			
Below 40% Cr2O3,Fines	DOMESTIC SALE	IBM/44290/2021	PRABAL	248.020	1203415.37			
Below 40% Cr2O3,Fines	DOMESTIC SALE	IBM/93/2011	ORISSA CHROME EXPORT & MINING COMPANY LIMITED	4675.840	24841511.56			
Below 40% Cr2O3,Fines	DOMESTIC SALE	IBM/21253/2017	PJ MINERALS INTERNATIONAL PVT LTD	747.760	4108627.35			
Below 40% Cr2O3,Fines	DOMESTIC SALE	IBM/19350/2015	Prime Industries	200.000	969744.01			
Below 40% Cr2O3,Fines	DOMESTIC SALE	IBM/765/2011	RASHMI CEMENT LIMITED	975.920	5995701.46			
Below 40% Cr2O3,Fines	DOMESTIC SALE	IBM/6211/2011	Shree Monolithics Private Limited	248.170	1250544.45			
Below 40% Cr2O3,Fines	CAPTIVE CONSUMPTION	IBM/4376/2011	Tata Steel Limited	587.710	5943538.61			
Below 40% Cr2O3,Fines	CAPTIVE CONSUMPTION	IBM/4376/2011	Tata Steel Limited	1177.520	11908306.86			
Below 40% Cr2O3,Fines	DOMESTIC TRANSFER	IBM/4376/2011	Tata Steel Limited	1979.740	20021209.61			
Below 40% Cr2O3,Fines	DOMESTIC TRANSFER	IBM/5771/2011	Tirumala Balaji Alloys Private Limited	1325.700	13406870.39			
Below 40% Cr2O3,Fines	DOMESTIC TRANSFER	IBM/5307/2011	AARTI STEELS LIMITED	565.320	5717109.43			

## To indicate separately if more than one buyer.

NOTE:- Mine owners are required to substantiate domestic sale value- FOB value for each grade of ore quoted above with copy of invoices (not to be submitted with the return; to be produced whenever required)

**6. Give reasons for increase-decrease in production-nil production, if any, during the year compared to the previous year.**

a) Production as per Business plan within Environment Clearance and Mining Plan limit

**7. Give reasons for increase-decrease in grade wise ex-mine price, if any, during the year compared to the previous year.**

- a) The market price and weighted average price of Below 40% Cr<sub>2</sub>O<sub>3</sub> Fines is higher than previous year. Resulting increase in Ex-Mine Price of Below 40% Cr<sub>2</sub>O<sub>3</sub> Fines. The Ex-Mine Price of Below 40% Cr<sub>2</sub>O<sub>3</sub> Lumps is Lesser than previous year because the Ex-Mine Price has been calculated as per Actual Sale Invoice material value.

Final Submitted

**PART-VII: COST OF PRODUCTION**  
**Cost of production per tonne of ore-mineral produced**

Sl. No.	Item	Cost per tonne (₹)
(i)	Direct Cost	2596.85
	(a) Exploration	193.67
	(b) Mining	2403.18
	(c) Beneficiation(Mechanical Only)	0.00
(ii)	Over-head cost	233.51
(iii)	Depreciation	96.72
(iv)	Interest	0.00
(v)	Royalty	2357.90
(vi)	Payments made to DMF	235.79
(vii)	Payments made to NMET	47.16
(viii)	Taxes	0.00
(ix)	Dead Rent	0.00
(x)	Others (specify) Bid Premium	15216.33
	Total	20784.26

Note: Information given under Part VII will be kept confidential. The Government, however, will be free to utilize the information for general studies without revealing the identity of the firm.

Mineral Name	Production proposal for financial year 2023 - 2024	Production reported during the financial year 2023 - 2024	Difference
CHROMITE	150000	57223.368	92777

I Certify that the information furnished above is correct and complete in all respects.

Place: Kanarda  
Dist: JAJAPUR, ODISHA  
Pin: 755028  
Date: 27.06.24

Signature



Name in full: Dibyendu Behera  
Designation:

Owner-Agent-Mining Engineer-Manager

**Mine Manager**  
**Kanarda Chromite Mine**  
**Tata Steel Limited**

**From: 165.225.124.227 at 2024-06-27 15:04:36**

Esighed by: Guest  
Date: 27/06/2024 03:04:37 PM