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

MD/ ENV/ 829 /120/2023
Date: 28th September 2023

Sub: Environmental Statement of Manmora Manganese Mine, M/s Tata Steel Limited for 2022-23.

Dear Sir

Kindly find attach herewith the Environmental Statement in the prescribed format (Form V) as per "Environmental (Protection) Amendment Rules 1992" of our Manmora Manganese Mine for your kind perusal.

Thanking you,

Yours faithfully
f: Tata Steel Limited

Chief (Mine Planning & Projects), OMQ

Encl: As above

Copy to: The Regional Officer, State Pollution Control Board, At: Baniapata, College Road, Keonjhar - 758001, Odisha

TATA STEEL LIMITED
Mines Division Noamundi 833 217 India
Tel 91 9234301340 Fax 91 6596 290737
Registered Office Bombay House 24 Homi Mody Street Fort Mumbai 400 001 India
Tel 91 22 66658282 Fax 91 22 66657724
Corporate Identity Number L27100MH1907PLC000260 Website www.tatasteel.com

ENVIRONMENTAL STATEMENT

2022-23




MANMORA MANGANESE MINE

TATA STEEL LIMITED

SEPTEMBER 2023

FORM V
[See Rule 14 of Environment (Protection) Rules, 1986]

ENVIRONMENTAL STATEMENT
FOR THE FINANCIAL YEAR ENDING THE 31st MARCH 2023

PART – A

(i)	Name and Address of the Owner / occupier of the industry operation or process.	:	**MANMORA MANGANESE MINE** Nominated Owner :- Mr.T.V.Narendran. Managing Director, M/s TATA Steel Ltd. Jamshedpur, Dist.- East Singhbhum Jharkhand – 831 001 Agent :- Sri. Rajesh Kumar Chief (Joda East Iron Mine), Joda O M & Q, Tata Steel Limited P.O.: Joda, Via : Joda Dist. : Keonjhar, Odisha – 758 034
(ii)	Industry Category	:	Opencast Mining
(iii)	Production Capacity – Units	:	12,000TPA (Manganese Ore)
(iv)	Year of Establishment	:	1956
(v)	Date of the last environmental statement submitted	:	27th September 2022, through letter no. MD/ENV/308/120/2022 for the year 2021-22.

PART – B

Water and Raw Material Consumption

1. Water Consumption m^3/day
   - Process: Nil
   - Cooling: Nil
   - Domestic: Nil *

*Domestic water is not required within the lease area as the employees are residing at Joda East Township which is situated under Joda East land lease.

Name of the Products	Process water consumption per unit of product output	
	During the previous Financial year 2021-22	During the current Financial year 2022-23
	(1)	(2)
1. Manganese Ore	Nil	Nil

Remarks: Manganese Ore is produced by semi mechanized Mining method, which does not involve beneficiation and thus precludes the consumption of water.

2. Raw material consumption

Name of the raw materials	Name of the product	Consumption of raw materials per unit	
		During the previous Financial year 2021-22	During the current Financial year 2022-23
Manganese Ore	Manganese Ore	Year 2021-22 Production:- NIL Despatch :- NIL	Year: 2022-23 Production:- NIL Despatch :- NIL

Remarks: As the entire mineable resource has been depleted, no further mining activities shall be undertaken within the lease hold area is envisaged. However, the production of finished ore will be continued by manual screening and processing of sub-grade mineral and mineral rejects already available at pit head during dry season only.

PART – C

Pollution discharged to environment / unit of output

(Parameter as specified in the Consents issued)

Pollution	Quantity of pollutants discharged (mass/day)	Concentrations of Pollutants in discharges (mass/volume)	Percentage of variation from prescribed standards with reasons
a. Water	Since the Mine is not operational no discharge/pollution of water has been envisaged. However, the six-month average surface water quality data is enclosed as **Annexure – I.** It shows that the concentrations of the pollutants are well within the permissible standards.		
b. Air	Since the Mine is not operational, the dust due to the movement of vehicles in the haul roads, drilling activities etc., is not generated. The monthly average ambient air quality data is enclosed as **Annexure – II.** It shows that the concentrations of the pollutants are well within the permissible standards.		

PART – D

Hazardous Wastes

[As specified under the Hazardous wastes (Management &Handling) Rules, 1989]

Hazardous Wastes	Total Quantity	
	During the previous Financial year	During the current Financial year
	Year 2021-22	Year 2022-23
(i) From Process Waste Oil (in Ltrs.) Used Oil (in Ltrs.) Cotton Waste (in Kgs) Duster (in Nos.) Filters (in Nos.)	Nil*	*Nil**
(ii) From pollution control facilities	Nil	*Nil*

* The mine has no facility for maintenance of equipment deployed at the mine itself. Viewing the close proximity and same management control, the equipment of Manmora Mn. Mine are being maintained at Joda East Iron Mine

PART – E

Solid Wastes

	Total Quantity	
	During the previous Financial year	During the current Financial year
	Year 2021-22	Year 2022-23
a. From Process (Overburden rejects)	Nil	Nil
b. From pollution control facilities	Nil	Nil
c.		
1. Quantity recycled or re-utilized within the unit	Nil	Nil
2. Sold		
3. Disposal	Nil	Nil
	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 these categories of wastes.

- **Characterization of Hazardous Waste: -** No hazardous waste is generated from the mine as the mine is not operational.

- **Disposal Practice:-**
  - SOLID WASTES -The overburden is systematically and scientifically dumped on a geologically barren area and the same will be reclaimed by plantation after being declared inactive.

PART – G

Impact of pollution abatement measures taken on conservation of natural resources and on the cost of production.

1. All the haul roads in the mining area are made up of morum & compacted. Regular repair is being done by dozer & grader after spreading the layer of sweat morum over it.

2. Saplings of various forestry species were planted within and nearby the leasehold area of Manmora Manganese mines with a survival rate of 85%.

3. In addition, Tata Steel Rural Development Society also undertakes the peripheral development activities with a large magnitude.

4. A sufficient amount was spent as a part of Manpower Engagement in the Environment Department in the year 2022-23.

5. To generate awareness among the employees and their families about environment, World Environment Day was celebrated at Joda.

6. Environment Management Department is in function to manage regular environmental monitoring jobs and to ensure operation of environmental safeguards.

PART – H

Additional measures / investment proposal for environmental protection, abatement of pollution, prevention of pollution.

a. Garland drains and toe wall maintenance around the OB dump and tailing dam slopes to check and channelize surface run-off.
b. Gap filling plantation of forestry species shall be done over the inactive waste dump and tailing dam slopes.

PART – I

Any other particulars for improving the quality of environment:

1. Top soils generated during excavation were utilized for dump slope plantation.
2. Measures taken to control Air Pollution: -
   - Water sprinkling on the haul road,
3. Measures taken to control Water Pollution: -
   - Construction of toe wall and garland drain along the dump slope to prevent surface run-off during monsoon.
4. Measures taken to control Noise & Ground Vibration: -
   - Thick plantation has been developed around the mines to provide a canopy cover
   - No drilling and blasting being carried out due to no operational mine.
5. Measures taken to control Land Degradation: -
   - Afforestation around the non-active dump and tailing dam slope for stabilization.
6. The mine is certified with ISO-14001 (Environment Management System)

Shubham

Manager (Environment)

Manager (Environment)
Tata Steel Limited

Annexure –1

Water Pollution: Not applicable as there is no outside discharge of any industrial effluent.

Annexure –2

POLLUTION DISCHARGED TO ENVIROMENT/ UNIT OF OUTPUT
(Parameters as specified in the consent issued)

AIR QUALITY DATA 2022-23
Annual Average Air quality of Manmora Manganese Mine of FY'23

Pollutants	Concentration of pollutants ($\mu g/m^3$)	Standards ($\mu g/m^3$)
Manmora Slime Dam		
1. PM_{10}	57.68	100
2. $PM_{2.5}$	21.26	60
3. SO_2	10.23	80
4. NO_x	19.95	80
5. CO	0.221	4*
Near Rainwater Harvesting		
1. PM_{10}	53.42	100
2. $PM_{2.5}$	18.64	60
3. SO_2	8.50	80
4. NO_x	17.68	80
5. CO	0.244	4*
Near Magazine		
1. PM_{10}	56.11	100
2. $PM_{2.5}$	20.06	60
3. SO_2	9.12	80
4. NO_x	18.78	80
5. CO	0.205	4*
Near Equipment Maintenance		
1. PM_{10}	56.16	100
2. $PM_{2.5}$	19.84	60
3. SO_2	9.77	80
4. NO_x	18.88	80
5. CO	0.202	4*

*Unit of CO is mg/m^3