



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

MD/ ENV/ 308 /120/2022
Date: 27th September 2022

Sub: Environmental Statement of Manmora Manganese Mine, M/s Tata Steel Limited for 2021-22.

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

Sr Manager (Environment), OMQ

Encl: As above

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

TATA STEEL LIMITED

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ENVIRONMENTAL STATEMENT

2021-22

MANMORA MANGANESE MINE

TATA STEEL LIMITED

SEPTEMBER 2022

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

ENVIRONMENTAL STATEMENT
FOR THE FINANCIAL YEAR ENDING THE 31ST MARCH 2022

PART - A

(i)	Name and Address of the Owner / occupier of the industry operation or process.	:	MANMORA MANGANESE MINE <u>Nominated Owner :-</u> Mr.T.V.Narendran. Managing Director, M/s TATA Steel Ltd. Jamshedpur, Dist.- East Singhbhum Jharkhand - 831 001 <u>Agent :-</u> Mr. Saroj Kumar Banerjee Chief (Joda), 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	:	22 nd September 2021, through letter no. MD/ENV/227/120/2021 for the year 2020-21.

PART - B

Water and Raw Material Consumption

1. Water Consumption m³/day
 Process: Nil
 Cooling: Nil
 Domestic: Nil *

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

Name of the Products	<u>Process water consumption per unit of product output</u>	
	During the previous Financial year 2020-21	During the current Financial year 2021-22
	(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 2020-21	During the current Financial year 2021-22
Manganese Ore	Manganese Ore	<u>Year 2020-21</u> Production:- NIL Despatch :- NIL	<u>Year: 2021 -22</u> 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
	<u>Year 2020-21</u>	<u>Year 2021-22</u>
(i) From Process		
Waste Oil (in Ltrs.)		
Used Oil (in Ltrs.)		
Cotton Waste (in Kgs)	Nil*	Nil*
Duster (in Nos.)		
Filters (in Nos.)		
(ii) From pollution control facilities	Nil	Nil

* The mine has no facility for maintenance of equipment deployed at the mine. 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
	<u>Year 2020-21</u>	<u>Year 2021-22</u>
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	Nil	Nil
3. Disposal	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. Gap filling of samplings of various forestry species were planted in the safety zone area of Manmora Manganese mines.

3. In addition, Tata Steel Foundation (TSF) also undertakes the peripheral development activities with a large magnitude.

4. An amount of ₹ 1.5 lakhs was spent as a part of Manpower Engagement in the Environment Department in the year 2021-22.

5. An amount of ₹ 2.50 lakhs was spent towards monitoring of various environmental parameters.

6. Various awareness programs throughout the year conducted in the area which included celebration of World Environment Day, World Water Day, Mine Environment & Mineral Conservation Week, World Bio-diversity Week, Joda Festival etc. In which environment conservation models, current & future proposals are made, environment messages through Nukkad natak, poems, slogans, swachhata drive is been done every year.

7. 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 operations in 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)



**Manager (Environment)
Tata Steel Limited**

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

Annexure -II

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

AIR QUALITY DATA 2021-22
Annual Average Air quality of Manmora Manganese Mine of FY'22

Pollutants	Concentration of pollutants ($\mu\text{g}/\text{m}^3$)	Standards ($\mu\text{g}/\text{m}^3$)
Manmora Slime Dam		
1. PM ₁₀	55.08	100
2. PM _{2.5}	20.03	60
3. SO ₂	9.41	80
4. NO _x	17.62	80
5. CO	0.22	4*
Near Rainwater Harvesting		
1. PM ₁₀	54.38	100
2. PM _{2.5}	20.48	60
3. SO ₂	8.78	80
4. NO _x	16.66	80
5. CO	0.23	4*
Near Magazine		
1. PM ₁₀	55.64	100
2. PM _{2.5}	19.99	60
3. SO ₂	9.06	80
4. NO _x	17.81	80
5. CO	0.22	4*
Near Equipment Maintenance		
1. PM ₁₀	53.39	100
2. PM _{2.5}	20.02	60
3. SO ₂	8.79	80
4. NO _x	17.95	80
5. CO	0.22	4*

*Unit of CO is mg/m³