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

MD/ ENV/ 225 / 120 / 2021
Date: 22nd September 2021

Sub: Environmental Statement of Katamati Iron Mine, M/s Tata Steel Limited for 2020-21.

Dear Sir

Kindly find attach herewith the Environmental Statement in the prescribed format (Form V) as per "Environmental (Protection) Amendment Rules 1992" of our Katamati Iron 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
Tel 91 22 66658282 Fax 91 22 66657724
Corporate Identity Number L27100MH1907PLC000260 Website www.tatasteel.com

ENVIRONMENT STATEMENT
2020-21

KATAMATI IRON MINE

TATA STEEL LIMITED

September 2021

FORM - V
(See Rule -14)

ENVIRONMENT STATEMENT FOR THE FINANCIAL YEAR ENDING THE 31st MARCH, 2021

KATAMATI IRON MINE, M/S TATA STEEL LIMITED

PART–A

1	Name and address of the owner/ occupier of the industry, operation or process	:	Mr. Shirish Shekhar, Chief (Katamati) Katamati Iron Mine, Tata Steel Limited Po.: Noamundi, Dist.-West Singhbhum Jharkhand – 833217 Mr Rahul Kishore, Mines Manager (Katamati) Katamati Iron Mine, Tata Steel Limited Po.: Noamundi, Dist.-West Singhbhum Jharkhand – 833217
	Nominated Owner	:	Mr. Atul Bhatnagar, General Manager, OMQ division, Administrative Building, Noamundi Iron Mine, Tata Steel Limited PO.: Noamundi, Dist.-West Singhbhum Jharkhand – 833217 Mr T V Narendran, Managing Director & CEO, Tata Steel Ltd, PO: Jamshedpur, Dist.: East Singhbhum, Jharkhand-831001
2	Industry Category	:	Opencast Iron Mining Industry (Major)
3	Production Capacity	:	Mine: 13.5 MTPA Iron Ore with mineral beneficiation capacity of 4MTPA.
4	Year of Establishment	:	1933
5	Date of last Environmental Statement submitted.	:	16th September 2020, vide letter no. MD/ENV/811/120/2019 for the year 2019-20.

PART–B
Water and Raw Material Consumption

(i) Water Consumption:

Consumption Head:	**2019-20 (in cu.m/day) (Annual Average)**	**2020-21 (in cu.m/day) (Annual Average)**
Process	Nil	Nil
Spraying in mine pit , services	209.59	233.84
Domestic	Nil	Nil
Name of the product	**Process water consumption per product output (m3/MT)**	
Iron Ore*	Nil	Nil

*Note: The Katamati Iron mine has common colony with Noamundi Iron Mine. Thus domestic water consumption is considered at Noamundi mine only. The mine has only mobile crushing & screening plant at pit head.

ii) Raw Material Consumption

The following items have been consumed/ utilized:

Name of Raw Materials		Name of Product	Consumption of Raw Material	
			During previous financial year (2019-20)	During current financial year (2020-21)
High Speed Diesel		Iron Ore of steel grade	2784995 Litre	3107881 Litre
Lubricants			57759 Litre	25736 Litre
Grease			3094 Kg	2360 Kg
Explosive of all types (Explosive, codex, detonator)	Slurry explosives		1078036 kg	Small dia (up to 32mm)- 2629 Kg Large dia. (above 32 mm)- 13814 Kg
	Detonators			Ordinary - 0 Electrical - 466 nos.
	Detonating Fuse			0
Gas			0	0
Tyres			6 nos.	12 nos.
Drill rods			133 nos.	13 nos.
Electric Power in KWH				
Consumed		Iron Ore of steel grade	532655	2745000

PART–C

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

Pollutants	Quantity of Pollutants discharged (mass / day)	Concentration of of Pollutants discharges (mass / day)	Percentage of variation from prescribed standards with reasons
a) Water	The Katamati Iron Mine is a opencast independent iron mine with mobile crushing & screening plant. No effluent is being generated from mine as well as all mining operations are been restricted to above ground water level. The storm water generated from rainfall during monsoon season is been collected and channelized through various garland drains, check dams and siltation ponds. Last year a wheel washing facility was installed and operated at unit near exit gate to arrest the dust due to transport activity. The water from system is recycled back and sludge is been removed and stored in mine dump. Two sewage treatment plants (STP) of 50 KLD capacity each are installed and operated in common colony at Noamundi and entire water is used for plantation and gardening purpose.		
b) Air	The Katamati Iron Mine is an opencast iron mine with mobile crushing & screening plant. For area lighting small capacity of DG sets are used in mine which are standard as per norms. The air quality in the form of fugitive, dust fall, ambient, respirable is been measured and monitored regularly and is well within limits. To address the fugitive dust various dust sprinklers (fixed, mobile, mist cannon) are also installed in mines.		

Pollutants	Quantity of Pollutants discharged (mass / day)	Concentration of of Pollutants discharges (mass / day)	Percentage of variation from prescribed standards with reasons
Air	Three Continuous Ambient Air Quality Monitoring station (CAAQMS) are also installed in core and buffer zone of Katamati area. Various air quality parameters such as PM10, PM2.5, SOx, NOX, CO etc. are monitored via online with a frequency of every 15 minutes. The data of same has been submitted to State Pollution Control Board server by online. The data of same is also been displayed publicly.. A thick & dense vegetation is also placed in all surrounding the area which significantly reduced the pollution load. **The average results of air quality monitoring is attached as annexure-2.**		

PART–D

HAZARDOUS WASTES

As specified under the Hazardous & Other Waste (Management & Trans boundary Movement) Rules, 2016 and amendment thereof

Hazardous Wastes	Total Quantity	
	During previous financial year (2019-20)	During current financial year (2020-21)
i) From Process		
• Used Oil	28940 Litre	Nil
• Waste containing Oil (Jute etc.)	Nil	Nil
• Waste Used Batteries	Nil	Nil
• Discarded containers	Nil	Nil
ii) From Pollution Control Facility • Waste oil from oil & grease separation pit • Sludge from oil and grease separation pit	Nil. All the Hazardous waste generated is disposed as per law.	

PART–E

SOLID WASTES

Solid wastes from Katamati Iron Mine is been categories in. Overburden/rejects All the materials overburden and old tailings are stocked in designated place inside the mine.

Sources	During previous financial year (2019-20)	During current financial year (2020-21)
a) From Process • From mining as Overburden	1263871 Tonne	1162188 Tonne
b) From Pollution Control Facility	Nil	Nil
c) i. Quantity recycled or reutilized within the unit	Nil	Nil
ii. Quantity sold	Nil	Nil
iii. Quantity disposed	Nil	Nil

PART-F

PLEASE SPECIFY THE CHARACTERISTICS (IN TERMS OF COMPOSITION AND QUANTUM) OF HAZARDOUS AS WELL AS SOLID WASTES AND INDICATE DISPOSAL PRACTICE ADOPTED FOR BOTH THESE CATEGORIES OF WASTES

In the Katamati Iron Mine hazardous waste generated mainly in the form of used oil due to HEMM operation HEMM maintenance in mining. The used oil is disposed to authorized agency for recycling and reuse. During handling and maintenance of HEMM, the oil soaked materials (jute etc.) is been kept and disposed in impervious pit. The hazardous waste such as used batteries are sold to authorized agency.

The other solid waste in the form of overburden, sub-grade mineral and slime/tailings are stocked in designated place.

PART-G

IMPACT OF POLLUTION ABATEMENT MEASURES TAKEN ON CONSERVATION OF NATURAL RESOURCES AND ON THE COST OF PRODUCTION

- Katamati Iron Mine is a mechanized opencast iron mine with crushing & screening plant at pit head. For mineral conservation, various techniques followed, such as blending of waste / subgrade materials, use of low grade ore etc.
- For dust suppression abatement fixed & mobile dust suppression units are installed at Katamati Mine in haul roads.
- A wheel washing facility is also been installed and commissioned at Katamati near exit gate to arrest the air pollution from vehicles.
- Check dams, siltation ponds, toe wall garland drains are constructed as per approved mining plan.

PART-H

ADDITIONAL MEASURES/ INVESTMENT PROPOSAL FOR ENVIRONMENTAL PROTECTION INCLUDING ABATEMENT OF POLLUTION, PREVENTION OF POLLUTION

- Various toe wall, garland drains are made as per progressive mine plan. For mineral conservation measures, slime (processed waste) from pond is been stocked at designated place for future use.
- Three numbers of Continuous Ambient Air Quality Monitoring station (CAAQMS) are also installed & operated regularly at core and buffer zone. Various ambient air quality parameters such as PM10, PM2.5, SOx, NOx, CO etc. are continuously been measured with 15 minutes interval via online. The data of same has been submitted to State Pollution Control Board server by online and the same is also been displayed public domain.

PART-I

ANY OTHER PARTICULARS FOR IMPROVING THE QUALITY OF THE ENVIRONMENT

Katamati Iron Mine of TATA Steel Ltd. is a captive mine and is certified for the Integrated Management System (ISO-9001:2015, ISO-14001:2015 & ISO-45001:2018 and SA:8000) from last two decades.

The unit is having a full-fledged Environmental Management department with well qualified personnel from environmental background to take care of all aspects relating to mines and processing plant of unit. Various parameters are measured in Env lab, which is recommended from State Pollution Control Board. The lab in future is under expansion and shall be accredited for NABL.

A small shoe recycling facility namely "First Feet" is installed at Mine with support of others.

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, Word Bio-diversity Week, Annual Flower & Vegetable Show 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.

The mine has established a dense plantation in mine out area of 126 ha known as Hill 1 & 2 which makes the mine very unique. For conservation of biodiversity I the area, various initiatives such as niche nesting – an artificial nesting box for bird are placed in area, Butterfly Park, Medicinal Park, Green Park, Dorabji Park, Nakshatra Park etc. developed in area. The mines has performed various examples of mineral conservation, upgradation of low grade mineral by various unique techniques, strengthening the social progress by various skill development and job orientation of programmes for stakeholders.

All above efforts make the mine clean – green and sustainable. In the year 2020-21, Rs 1.92 Cr are spent on various environmental activities from Katamati Iron Mine.

Manager (Environment), OMQ

WATER QUALITY DATA 2020-21
Katamati Iron Mine
(Annual Average)

Parameters	SURFACE WATER		SEWAGE TREATMENT PLANT				EFFLUENT TREATMENT PLANT		Standard
	New Town Ship STP 50 KLD		Central Camp STP 50 KLD		Bottom Bin ETP 10 KLD		Hospital ETP 10 KLD		
	Inlet	Outlet	Inlet	Outlet	Inlet	Outlet	Inlet	Outlet	
pH*	6.46	7.16	6.66	6.88	6.34	7.16	6.50	6.83	**5.5–9.0**
TSS (mg/l)	189.10	7.16	76.88	6.88	158.50	7.16	107.50	6.83	**100**
BOD 5 days (mg/l)	74.99	26.00	37.17	20.88	70.52	24.60	42.10	24.50	**30**
COD (mg/l)	233.62	14.11	117.19	7.56	220.77	11.74	135.79	8.23	**250**
Oil & Grease (mg/l)	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	**10**
Iron (mg/l)	0.28	0.19	0.31	0.22	0.25	0.13	0.32	0.22	**3.0**
Faecal Coliform	161.30	85.60	164.63	73.63	154.70	74.80	140.30	63.60	-

Note: BDL – Below detection limit.

WATER QUALITY DATA 2020-21
Katamati Iron Mine
(Annual Average)

Parameters	SURFACE WATER		Standard
	Jojo Nalla Upstream	Jojo Nalla Downstream	
pH*	7.29	7.38	**5.5–9.0**
TSS (mg/l)	BDL (DL-10)	BDL (DL-10)	**100**
BOD 5 days (mg/l)	4.10	5.12	**30**
COD (mg/l)	14.26	17.75	**250**
Iron (mg/l)	0.18	0.16	**0.5**
Total Coliform	<2	<2	**5000**

Note: BDL – Below detection limit.

Annexure - II

AIR QUALITY DATA 2020-21
Annual Average Air quality of Katamati Iron Mine of FY'21

Pollutants	Concentration of pollutants ($\mu g/m^3$)	Standards ($\mu g/m^3$)
Near Office		
1. PM_{10}	57.98	100
2. $PM_{2.5}$	25.37	60
3. SO_2	8.10	80
4. NO_x	16.77	80
5. CO	0.325	4*
Near Plant Site		
1. PM_{10}	58.66	100
2. $PM_{2.5}$	24.55	60
3. SO_2	8.09	80
4. NO_x	17.38	80
5. CO	0.323	4*
Near Pit Office		
1. PM_{10}	57.94	100
2. $PM_{2.5}$	24.07	60
3. SO_2	8.08	80
4. NO_x	16.92	80
5. CO	0.325	4*
Near Murga gate		
1. PM_{10}	64.24	100
2. $PM_{2.5}$	28.97	60
3. SO_2	8.94	80
4. NO_x	14.82	80
5. CO	0.334	4*

*Unit of CO is mg/m^3