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

MD/ ENV/ 348 /120/2019
Date: 25th September 2019

Sub: Environmental Statement of Katamati Iron Mine, TATA Steel Ltd. for 2018-19.

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

Head (Planning), 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

ENVIRONMENT STATEMENT
2018-19

KATAMATI IRON MINE

TATA STEEL LIMITED

September 2019

FORM - V
(See Rule -14)

ENVIRONMENT STATEMENT FOR THE FINANCIAL YEAR ENDING THE 31st MARCH, 2019

KATAMATI IRON MINE, TATA STEEL LIMITED

PART–A

1	Name and address of the owner/ occupier of the industry, operation or process	:	Mr. R. P. Mali 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: 08 MTPA Iron Ore with mobile crushing & screening unit at mine pit head.
4	Year of Establishment	:	1933
5	Date of last Environmental Statement submitted.	:	25th September 2018, vide letter no. MD/ENV/276/120/2018 for the year 2017-18

PART–B
Water and Raw Material Consumption

(i) Water Consumption:

Consumption Head:	2017-18 (in cu.m/day) (Annual Average)	2018-19 (in cu.m/day) (Annual Average)
Process	Nil	Nil
Spraying in mine pit , services	140.30	205.56
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 (2017-18)	During current financial year (2018-19)
High Speed Diesel	Iron Ore of steel grade	3861036 Litre	3235775 Litre
Lubricants		48510 Litre	3150 Litre
Grease		2912 kg	364 Kg
Explosive of all types (Explosive, codex, detonator)		1552648 kg	1259740 kg
Gas		58 cum	13 cum
Tyres		06 nos.	0
Drill rods		26 nos.	116 nos.
Electric Power in KWH			
Consumed	Iron Ore of steel grade	369290	393850

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. Aa sewage treatment plant (STP) of 50 KLD & 10 KLD are installed and operated in common colony at Noamundi and entire water is used for plantation and gardening purpose.		
Pollutants	**Quantity of Pollutants discharged (mass / day)**	**Concentration of of Pollutants discharges (mass / day)**	**Percentage of variation from prescribed standards with reasons**
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. 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 (2017-18)	**During current financial year (2018-19)**
i) From Process • Used Oil • Waste containing Oil (Jute etc) • Waste Used Batteries • Discarded containers	47000 Litre Nil Nil Nil	41040 Litre Nil 51 nos. 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 (2017-18)	During current financial year (2018-19)
a) From Process • From mining as Overburden	504294 Tonne	597348 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.
- In the year 2018-19, on a special drive various toilets / bio-toilets are made in the surrounding area of Katamati.
- 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 & OHSAS-18001:2007 and SA:8000) from last two decades. The unit has obtained various prestigious accolades and is the only a five star rated mine of Jharkhand State.

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 2018-19, Rs 15.79 Cr are spent on various environmental activities from Katamati Iron Mine.

25/09/19

Sr Manager (Environment), OMQ

Annexure - I

WATER QUALITY DATA 2018-19
Katamati Iron Mine
(Annual Average)

Parameters	SURFACE WATER		SEWAGE TREATMENT PLANT				EFFLUENT TREATMENT PLANT		Standard
	JoJo spring water	Jojo Nalla	50 KLD Inlet	50 KLD Outlet	10 KLD Inlet	10 KLD Outlet	10 KLD Inlet	10 KLD Outlet	
pH*	7.38	7.39	6.54	7.28	6.55	7.24	6.05	7.38	5.5–9.0
TSS mg/l	38.00	40.00	110.66	22.00	112.20	24.29	128.00	20.72	100
DO mg/l	5.93	6.38	-	-	-	-	-	-	>4
BOD 5 days mg/l	<1.8	<1.8	56.78	13.25	54.04	12.18	41.79	7.39	30
COD mg/l	21.00	22.50	248.43	39.76	223.41	32	191.95	36.00	250
Fe mg/l	0.41	0.45	0.90	0.24	0.89	0.26	2.00	0.53	3.0

Annexure - 2

AIR QUALITY DATA 2018-19
Annual Average Air quality of Katamati Iron Mine of FY'19

Pollutants	Concentration of pollutants ($\mu g/m^3$)	Standards ($\mu g/m^3$)
Near Office		
1. PM_{10}	1. PM_{10}	1. PM_{10}
2. $PM_{2.5}$	2. $PM_{2.5}$	2. $PM_{2.5}$
3. SO_2	3. SO_2	3. SO_2
4. NO_x	4. NO_x	4. NO_x
Near Plant Site		
1. PM_{10}	1. PM_{10}	1. PM_{10}
2. $PM_{2.5}$	2. $PM_{2.5}$	2. $PM_{2.5}$
3. SO_2	3. SO_2	3. SO_2
4. NO_x	4. NO_x	4. NO_x
Near Mining Site		
1. PM_{10}	1. PM_{10}	1. PM_{10}
2. $PM_{2.5}$	2. $PM_{2.5}$	2. $PM_{2.5}$
3. SO_2	3. SO_2	3. SO_2
4. NO_x	4. NO_x	4. NO_x
Near Slime Dam		
1. PM_{10}	1. PM_{10}	1. PM_{10}
2. $PM_{2.5}$	2. $PM_{2.5}$	2. $PM_{2.5}$
3. SO_2	3. SO_2	3. SO_2
4. NO_x	4. NO_x	4. NO_x