To

Member Secretary
State Pollution Control Board
Paribesh Bhawan
A/118, Nilakantha Nagar
Unit VIII, Bhubaneswar – 751 012
(Odisha)

MD/ENV/276 /120/18
25th September, 2018

Sub: Environment Statement of Katamati Iron Mine, TATA Steel Ltd. for FY 2017-18.

Dear Sir,

Kindly find attached herewith the Environment Statement in the prescribed format (FORM V) as per "Environmental (Protection) Amendment Rules, 1992", of our Katamati Iron Mine, TATA Steel Ltd. for your kind perusal.

Thanking you
Yours faithfully,

f: Tata Steel Limited

Sr. Manager (Environment) OMQ
Encl: As above.

Copy to: Regional Officer, State Pollution Control Board, At: Baniapat, College Road, Dist: 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
2017-18

KATAMATI IRON MINE
TATA STEEL LIMITED

FORM - V
(See Rule -14)

Environment statement for the financial year ending the 31st March, 2018

KATAMATI IRON MINE, TATA STEEL LIMITED

PART–A

i)	Name and address of the owner/ occupier of the industry, operation or process	:	**Mr. R. P. Mali** **Chief (Noamundi)** **Katamati Iron Mine,** **TATA Steel Limited,** **Post: Noamundi, Dist.-West Singhbhum, Jharkhand–833217**
	Nominated Owner	:	Mr T V Narendran, CEO & Managing Director, TATA Steel Limited Jamshedpur-831001
ii)	Industry Category	:	Opencast Iron Mining industry (Major)
iii)	Production Capacity units	:	Mine: 08 MTPA Iron Ore with mobile crushing & screening unit at mine pit
iv)	Year of Establishment	:	1933
v)	Date of last Environmental Statement submitted.	:	26th September 2017 vide letter no. MD/ENV/598/120/17 for the year 2016-17

PART–B

Water and Raw Material Consumption

(i) Water Consumption

Consumption Head:	**2016-17 (in cum/day) (Annual average)**	**2017-18 (in cum/day) (Annual average)**
Process	Nil	Nil
Spraying in mine pit , services	185.00	140.30
Name of the product	**Process water consumption/ product output (m3/MT)**	
	During the Previous financial Year (2016-17)	During the current financial Year (2017-18)
***Iron Ore**	Nil	Nil

*Note: The Katamati Iron mine has common colony with adjacent mine at Noamundi, thus domestic water consumption is considered at Noamundi mine only. The mine has only mobile dry crushing & screening plant (size reduction) 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 (2016-17)	During current financial year (2017-18)
High Speed Diesel	Iron Ore of steel grade	3408316 Litres	3861036 Litres
Lubricants		24133 Litres	48510 Litres
Grease		4805 kgs.	2912 kgs.
Explosives of all types (Explosive, codex, detonator)		1345828 kgs	47492111 kgs.
Gas		90 Cum	58 Cum
Tyres		29 Nos.	06 Nos.
Drill rods		59 Nos.	26 Nos.
Electric Power in KWh Consumed		3,77,842	3,69,290

PART–C

Pollution discharged to Environment / unit of output

(Parameters as specified in the consent issued)

Pollutants	Quantity of Pollutants discharged (mass / day)	Concentration of Pollutants in discharges (mass/day)	Percentage of variation from prescribed standards with reasons
a) Water	The Katamati Iron Mine is a opencast independent iron mine only and has a mobile crushing & screening plant. No effluent is being generated from mine 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. No effluent is been generated from mining activity. In the year 2016-17 a wheel washing facility is installed 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. For common colony of Katamati and Noamundi, a sewage treatment plant (STP) of 50 KLD and 10 KLD at Noamundi are in operation and entire water is used for plantation and gardening purpose. An Effluent treatment plant (ETP) of 10 KLD is installed in common hospital at Noamundi area and entire treated water is used in green park. All the water quality results are attached herewith in annexure-1.		

Pollutants	Quantity of Pollutants discharged (mass / day)	Concentration of Pollutants in discharges (mass/day)	Percentage of variation from prescribed standards with reasons
b) Air	The Katamati Iron mine is an opencast iron mine and thus no point source is available. However, for area lighting small capacity of DG sets are used in mines. 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 installed in core and buffer zone of Katamati area. Various air quality parameters such as PM_{10}, $PM_{2.5}$, SOx, NOx etc are been monitored via online with a frequency of every 15 minutes. The data of same is been submitted to State Pollution Control Board server by online. The data of the same is also been displayed publicly. The monitoring results of air quality monitoring is attached as annexure-2.		

PART–D

Hazardous Wastes

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

Hazardous Wastes	Total Quantity	
	During the previous financial Year (2016-17)	During the Current financial Year (2017-18)
I) From Process: ▪ Used Oil ▪ Waste containing Oil (jute etc) ▪ Waste Used Batteries ▪ Discarded containers	 Nil Nil Nil Nil	 47 Litre NIL 140 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 waste from Katamati Iron Mine is been categories as Overburden/rejects. All the material overburden and tailings are stocked in designated place inside the mine. However, other solid waste is also being generated from mining and processing / beneficiation activity.

Sources	TOTAL QUALITY	
	During the Previous Year (2016-17)	**During the Current Year (2017-18)**
a) From Process: ▪ From Mining as Overburden	3,64,105 MT	5,04,294 MT
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

The Katamati Iron mine generates hazardous waste mainly in the form of used oil. The used oil is being generated from HEMM maintenance used in manning operations. The used oil is disposed to authorized agency for recycling and reuse. During handling and maintenance of HEMM, the oil soaked material (jute etc) is been kept & 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 mechanized opencast iron mine with crushing & screening plant at pit head. For mineral conservation, various techniques are installed and operated by unit, such as blending of waste / subgrade material, use of wet beneficiation process to make waste /low grade ore to high grade for use.

- For dust suppression and abatement fixed and mobile dust suppression units are installed at Katamati Mine.

- In year 2016-17 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 2016-17, on a special drive various toilets / bio- toilets are made in the surrounding areas of Katamati.

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 old slime pond of area is been stocked at designated place for future use.

- Three numbers of Continuous Online Ambient Air Quality monitoring station (CAAQMS) is also installed & operated regularly at core & buffer zone. Various ambient air quality parameters such as PM_{10}, $PM_{2.5}$, SOx, NOx, CO etc. is continuously been measured with 15 min interval via online. The data of the same is been submitted to state pollution control board server via online & the same is also been displayed in 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.

In the year 2016-17 the mine has established a SABAL Centre for Abilities, at Noamundi, which is a CSR initiative of Tata Steel, a joint venture between Tata Steel Skill Development Society, Jamshedpur and EnAble India, Bengaluru. It envisions life of dignity for people with disabilities (PWDs) and its mission is to empower the target group through qualitative programs of skill development and promotion of inclusiveness.

Various awareness programs throughout the year conducted in the area which included celebration of World Environment Day, World Water Day, Mine Environment and Mineral Conservation Week, World Bio-diversity Week, Annual flower and Vegetable Show etc. In which environment conservation models, current & future proposals are made, environment messages through nukkad natak, poems, slogans, swatchhata drive is been done every year. The mine has established a dense planation in mine out area of 126 ha known as Hill 1 & 2, which makes the mine very unique. For conservation of biodiversity in 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, nakshtra 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 makes the mine clean - green and sustainable.

In the year 2016-17, Rs 8.79 been spend on environmental activities per tonne of iron ore produced from Katamati Iron Mine. However, all major environmental initiatives are been considred at adjacent Noamundi Mine of same company.

Sr. Manager (Environment), OMQ

Annexure-1

WATER QUALITY DATA 2017-18
Katamati Iron Mine
(Annual Average)

Parameters	SURFACE WATER		SEWAGE TREATMENT PLANT (located at Noamundi)				EFFLUENT TREATMENT PLANT (located at Noamundi)		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*	7.33	7.35	6.35	7.14	6.36	7.11	6.29	7.17	5.5–9.0
TSS mg/l	28.40	26.80	178.33	22.08	156.42	20.58	135.25	24.0	100
DO mg/l	5.60	5.73	-	-	-	-	-	-	>4
BOD 5 days mg/l	<1.8	<1.8	80.67	8.36	71.84	7.35	56.5	7.85	30
COD mg/l	9.50	12.60	210.0	28.91	189.0	24.58	151.0	24.00	250
Fe mg/l	0.48	0.47	0.94	0.26	0.85	0.25	1.23	0.29	3.0

Annexure 2

AIR QUALITY DATA 2017-18
Annual Average Air of Katamati Iron Mine of FY' 18

Pollutants	Concentration of pollutants (µg/m³)	Standards (µg/m³)
Near Slime Dam		
1. PM_{10}	55.16	100
2. $PM_{2.5}$	27.01	60
3. SO_2	4.42	80
4. NO_x	11.93	80
Office Area		
1. PM_{10}	58.48	100
2. $PM_{2.5}$	27.15	60
3. SO_2	6.70	80
4. NO_x	16.27	80
Near Plant		
1. PM_{10}	69.63	100
2. $PM_{2.5}$	36.42	60
3. SO_2	5.34	80
4. NO_x	14.79	80
Mining Area		
1. PM_{10}	62.26	100
2. $PM_{2.5}$	27.65	60
3. SO_2	7.39	80
4. NO_x	17.76	80