

**ENVIRONMENTAL STATEMENT
2012-13**



NOAMUDI IRON MINE

TATA STEEL LIMITED

SEPTEMBER, 2013

FORM – V
(See rule-14)

Environmental Statement for the financial year ending the 31st March 2013

P A R T – A

i. Name and address of the owner/
occupier of the industry, operation or
process

Noamundi Iron Mine,
Tata Steel Limited
Noamundi-833 217
Dist. Singhbhum West
Jharkhand

Agent Mr Pankaj Satija
Chief (Noamundi)

Nominated Owner Mr H M Nerurkar
Managing Director
Tata Steel Limited
Jamshedpur-831 001

ii. Date of last Environmental Statement
submitted.

September 27, 2012
Vide our letter no. MD/ENV/1044/120/12

P A R T – B

WATER AND RAW MATERIALS CONSUMPTION

1.

Water Consumption m ³ /day	(Average requirement)
Process	6722.53
Cooling (Sprinkling on haul roads)	274.63
Domestic	2198.88

Name of products	Water Consumption for unit of products	
	During the previous financial year (2011-12)	During the current financial year (2012-13)
Iron Ore	2403842 KL	2453727 KL

Note: Based on industrial water consumption for processing of ROM of Noamundi & Katamati Iron Mine.

2. Raw material consumption

Name of raw materials	Name of products	Consumption of raw materials per unit of products	
		During the previous financial year	During the current financial year

This is an opencast mine producing iron ore. As such, no raw material from outside is required. The mine produced 4747615.15 MT of iron ore (ROM) during 2012-13. Production during 2011-12 was 4837062 MT.

PART – C POLLUTION GENERATED

Water:

Results – Annual Average of FY '13

Pollutants	Quantity of pollutants discharged (Kg/day)	Concentration of pollutants mg/litre	Standards mg/litre
Slime Dam discharge	No discharge from the Slime Dam.		
	Water quality of Balijhor Nalla		
	Annual Average		Standard
pH*	7.175		5.5 – 9.0
SS	16.608		30
DO	7.383		>4
BOD 5 days	1.958		30
COD	1.958		250
Fe	0.157		3.0

* All the parameters except pH are in mg/litre

At present there is no discharge from the slime dam. The decanted water from the zero discharge slime dam is recirculated for reuse in the processing plant.

Air:

Results: Annual Average of FY' 13

Pollutants	Qty. of pollutants discharged (Kg/day)	Concentration of pollutants ($\mu\text{g} / \text{m}^3$)	Standards ($\mu\text{g} / \text{m}^3$)
600 m RL Mine face			
1. PM ₁₀	-	51.38	60
2. PM _{2.5}	-	32.25	40
3. SO ₂		9.30	50
4. NO _x	-	9.52	40
Bottom Bin area			
1. PM ₁₀	-	50.00	60
2. PM _{2.5}		30.82	40
3. SO ₂	-	9.16	50
4. NO _x	-	9.38	40
GM's Office			

1. PM ₁₀	-	39.95	60
2. PM _{2.5}		20.60	40
3. SO ₂	-	8.44	50
4. NO _x	-	8.67	40
Near Hospital			
1. PM ₁₀	-	38.20	60
2. PM _{2.5}		19.17	40
3. SO ₂	-	8.28	50
4. NO _x	-	8.50	40

This is an opencast mine and does not have any single point source of air pollutants. Although, DG sets are there but they run only at the time of no supply of electricity. Hence, the quantity of air pollutants discharged in Kg/day cannot be ascertained. The above data show the average ambient air quality data for 2012-13.

P A R T – D

HAZARDOUS WASTES

Hazardous Waste	Total Quantity in Kilograms	
	During the previous financial year	During the current financial year
a) from process	70000 litres	80150 litres
- used oil in liquid form	(350 barrels)	(391 barrels)
- Oily wastes in solid form	8.70 MT	8.50 MT
- Used battery in solid form	29 nos.	128 nos.
b) from pollution control facilities	Nil	Nil

P A R T – E

SOLID WASTES

Solid waste from this mine is generally of two categories i.e. Overburden/rejects removed during mining operations and slime generated in the process of iron ore washing.

Solid Waste	Total Quantity in tonnes	
	During the previous financial year	During the current financial year
a) from process	512000	324100
- Mining OB/rejects		
- Ore washing slimes	614142	965127
b) from pollution control facilities	Nil	Nil
c) Quantity recycled or reutilised	-	-

P A R T – F

The characteristics (in terms of concentrations and quantum) of hazardous as well as solid waste and disposal practice adopted for both this categories of wastes.

- Solid waste generator as overburden and slime are inert. The average chemical composition are

	Overburden	Slime
Fe	51.60	57.90
SiO₂	6.40	5.10
Al₂O₃	9.80	6.10
Phos	0.170	0.150

- Reject materials are systematically and scientifically dumped on a geologically barren area.
- Slime from ore washing plant is separately stored in zero discharge slime dams.

Hazardous Waste

Sl. No	Description of Hazardous Wastes (nature)	Mode of disposal
1	Used oil in liquid form	Used oils are collected in barrels and are sold to authorised dealers.
2	Oily wastes in solid form	Collected and kept in an impervious pit. Once the pit is full, it is covered under soil.

P A R T – G

The impact of the pollution abatement measures taken on conservation of natural resources and on the cost of production:

- Efforts were made to reduce the consumption of lubricant oil used in Heavy Mining Equipments, by timely maintenance, arresting leakages and eliminating spillages.
- Similarly, attempts were also made to reduce the consumption of electricity in operations. In colony also, some electrical light points have been replaced with solar lights to consume electricity. Maintenance of installed solar lights is also regularly done.
- Water spraying on mine haul road by water tankers has reduced the dust levels in the ambient air. The cost of operation and maintenance of water sprinklers during 2012-13 was about ₹ 46.90 lakhs.

- Dust suppression and dust extraction systems employed in the beneficiation plant have improved the work zone environment in the plant. During 2012-13, the mine has spent an amount of ₹ 02.90 lakhs for the same purpose.
- Slime water is stored in zero-discharge slime dams and the decanted water is pumped back for reuse in the beneficiation process. To maintain slime dam, the company has incurred an expenditure of ₹ 212.00 lakhs. Further, a total of ₹ 14.00 lakhs has been spent during the year for recirculation and reuse of water during 2012-13.
- An amount of ₹ 7.20 lakhs was spent towards monitoring of various environmental parameters.
- During 2012-13, a total of 5,000 saplings covering 1.5 ha were planted along with 30,000 sapling of vetiver covering 0.4 ha within the mine lease area. The company spent ₹ 06.30 lakhs for the same purpose.
- To generate awareness among the employees and their families about environment, World Environment Day & MEMC week was celebrated at Noamundi. During 2012-13 an amount of ₹ 2.65 lakh was spent on this account.
- Wet drilling arrangement has been provided in each drill machine, which helps in minimizing the dust generation during the drilling activity. During 2012-13, the mine has spent an amount of ₹ 08.10 lakhs for the same purpose.
- An electronic display board was installed at the main gate for viewing the environmental monitoring data by the public. The company has spent ₹ 01.20 lakhs for its maintenance during 2012-13.
- An amount of ₹ 100.00 lakhs was spent towards construction and maintenance of rain water harvesting structures.
- An amount of ₹ 03.30 lakhs was spent towards study of ground vibration by engaging the expertise of CIMFR, Dhanbad.
- An amount of ₹ 190.00 lakhs was spent towards flocculent/chemical used in thickener/sludge dam so as to minimize the requirement of fresh water.
- An amount of ₹ 01.40 lakhs was spent towards Construction/Maintenance of toe walls, garland drains and settling pit during 2012-13.
- An amount of ₹ 35.00 lakhs was spent towards installation of solar light.
- An amount of ₹ 01.80 lakhs was spent towards maintenance of recycling pit.
- An amount of ₹ 08.00 lakhs was spent towards use of offline filtration unit for hydraulic oil in shovel during the year.
- An amount of ₹ 1.50 lakhs was spent towards maintenance of oil separation pit.
- An amount of ₹ 0.45 lakhs was spent towards recycling of lubricant oil during the year.
- For implementation of EMPs for reduction of diesel consumption, an amount of ₹ 48.00 lakhs was spent during 2012-13.
- An amount of ₹ 320.00 lakhs was spent towards replacement of diesel operated equipment with Uninterrupted Motive Power Supply (UMPS) during 2012-13.
- An amount of ₹ 05.00 lakhs was spent for concreting the floor at equipment maintenance section so as to minimize the dust generation.

- An amount of ₹ 20.00 lakhs was spent for installation of PVC doors during the year.

The above abatement measures have resulted in improvement of air and water quality, reduction in noise exposure, greenery and aesthetics in the mine as well as in residential areas. A total amount of ₹ 1035.70 lakhs was spent on environmental related jobs during this year.

In addition to the above Tata Steel Rural Development Society (TSRDS) is engaged in peripheral developmental activities in villages around the mine. The projects of the Society include irrigation and agricultural extension projects, plantation programmes, creation of SAVE FOREST groups, civic amenities development, medi-care and health education, rural sports, skill development and promotion of rural cultural activities.

P A R T – H

Additional investment proposal for environmental protection including abatement of pollution.

- During next financial year, it is planned to spend ₹ 15.00 lakhs for monitoring of various environmental parameters.
- During 2013-14, an amount of ₹ 10.40 lakhs is planned to spend on horticulture and plantation activities.
- An amount of ₹ 12.00 lakhs is proposed for maintenance and installation of solar lights during the year.
- An amount ₹ 12.00 lakhs is proposed for further strengthening the environmental laboratory by procuring more monitoring equipments.
- Like every year, flower & vegetable show, World Environment day & ME&MC week shall be celebrated towards awareness generation and there is a budgetary provision of ₹ 02.00 lakhs.

P A R T – I

Any other particulars in respect of environmental protection and abatement of pollution.

- The mine is having a full-fledged Environmental Management Department with qualified personnel to take care of all environmental aspects relating to mines of TATA STEEL. This department has in-house capabilities for monitoring various environmental parameters and suggesting to the management necessary abatement measures.
- Dust suppression and Dust extraction system are installed in the plant with to improve the air quality.

- An independent Environmental Laboratory is in operation since 1994 to carry out the monitoring and analytical jobs.
- Two Sewage treatment plants are installed to take care of the domestic sewage.
- Specific water consumption for wet processing of ore has been reduced from gradually by taking several water conservation measures.
- Vehicle emission test are conducted at every six months.
- Ground vibration studies are being conducted regularly with the help of CMRI, Dhanbad to minimise blasting effect.
- Several initiatives are taken to generate awareness among employees, children and local people towards environment and how to preserve it.
- The mine is certified to ISO 9001:2008, ISO 14001:2004 & OHSAS 18001:2007. All the three systems have been integrated and implemented since 1st August, 2008. Moreover, the mine has also been recently certified to SA 8000:2008.



Head (Planning), OMQ