



Regional Officer,  
Jharkhand State Pollution Control Board,  
H.I.G.- 1 Sardar Patel Nagar,  
Housing Colony Hirapur,  
Dhanbad (Jharkhand).

Ref. No.- JMB/ENV/ESSA/05/ 824 /2018

September 24 , 2018

Sub: Annual Environment Statement in Form V for the year 2017-18.

Dear Sir,

We are enclosing herewith Annual Environment Statement in Form-V for the financial year 2017-18 in respect of **Jamadoba Coal Washery** of M/s Tata Steel Limited, Jharia Division for your kind perusal.

Kindly acknowledge the receipt of the same.

Thanking you,

Yours faithfully,

**Sr. Manager (Environment)**

Copy to: Member Secretary, Jharkhand State Pollution Control Board, T.A. Bhawan, H.E. C.  
Campus, Dhurwa, Ranchi, 834004, Jharkhand.

**TATA STEEL LIMITED**

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**FORM – V (See rule – 14 )**  
**Environmental Statement for the financial year ending the 31<sup>st</sup> March -2018**  
**Jamadoba Coal Washery**

**PART – A**

|  |  |
|--|--|
| <b>1.Name and address of the owner/ occupier of the : industry/ operation or process</b> | <b>Jamadoba Coal Washery</b>   |
| <b>Head :</b>  | <b>Mr. Amit Ranjan</b><br>Head(Jamadoba Coal Washery)<br>Tata Steel Ltd., P.O.- Jamadoba<br>Dist.- Dhanbad, Jharkhand-828112 |
| <b>Nominated Owner :</b>   | <b>Mr. T.V.Narendran</b><br>CEO&MD, Tata Steel Ltd<br>Jamshedpur, Dist- East Singhbhum<br>Jharkhand – 831 001                |
| <b>2.Industry category: Primary (STC Code) Secondary (STC Code)</b>                      | Factory regn no. 8964/DNB  |
| <b>3.Production Capacity – Units</b>   | 2.0 MTPA raw coal throughput   |
| <b>4.Year of Establishment</b>   | 1952   |
| <b>5.Date of the last environmental statement submitted</b>                              | 25 <sup>th</sup> September' 2017<br>(Vide Letter<br>No.S&E/ENV/ESSA/05/841/17)   |

**PART – B**

**Water and Raw Material Consumption**

**1. Water Consumption M<sup>3</sup> / day.**

|                  | <b>Water consumption in 2016-2017</b> | <b>Water consumption in 2017-2018</b> |
|------------------|---------------------------------------|---------------------------------------|
| <b>Process</b>   | 688.5 M <sup>3</sup> / day            | 1182.2 M <sup>3</sup> / day           |
| <b>Cooling</b>   | Not Applicable                        | Not Applicable                        |
| <b>Domestic*</b> | 1 M <sup>3</sup> / day                | 1 M <sup>3</sup> / day                |

*\*The domestic water consumption in colonies has been considered in Jamadoba Colliery.*

| <b>Sl. No</b> | <b>Name of the products</b> | <b>Process water consumption per unit of product output.</b> |  |
|---------------|-----------------------------|--|--|
|               |                             | <b>During the previous financial year 2016-2017</b>          | <b>During the current financial year 2017-2018</b> |
| 1.            | Clean Coal                  | 0.49 M <sup>3</sup> /Tonnes                                  | 0.85 M <sup>3</sup> /Tonnes                        |

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 Jamadoba Coal Washery

**2. Raw Material Consumption**

| Sl. No | Name of the Raw Material | Name of the product | Raw Materials consumption per unit production output. |   |
|--------|--------------------------|---------------------|---|---|
|        |                          |                     | During the previous financial year 2016-2017          | During the current financial year 2017-2018 |
| 1.     | Raw Coal                 | Clean Coal          | 2.11 tonne/tonne                                      | 1.99 tonne/tonne                            |
| 2.     | Magnetite                |                     | 0.48 kg/tonne   | 0.85 kg/tonne                               |

\*Industries may use codes if disclosing details of raw materials would violate contractual obligation, otherwise all industries have to name the raw materials used.

**PART – C**

**Pollution discharged to environment / unit of output.**

(Parameter as prescribed in the consent issued)

| Sl. No | Pollution | Quantity of pollutants discharged (mass/ day)   |  | Concentration of pollutants in discharges (Mass/Volume)     |   | Percentage of variation from prescribed standard with reason.                              |                               |
|--------|-----------|---|--|---|---|--|-------------------------------|
| A.     | AIR       | PM <sub>10</sub> Level : 24 Hourly Limit- 100µg/m <sup>3</sup>  | PM <sub>2.5</sub> Level : 24 Hourly Limit- 60µg/m <sup>3</sup> | SO <sub>2</sub> Level: 24 Hourly Limit- 80µg/m <sup>3</sup> | NO <sub>2</sub> Level: 24 Hourly Limit- 80µg/m <sup>3</sup> | Ambient air quality is being measured and all values are within limits as per NAAQS, 2009. |                               |
|        |           | 83.93   | 44.94  | 8.90  | 9.19  |  |                               |
| B.     | WATER     | Zero water discharge (Closed water circuit system). The analysis of water in the final settling tank is as follows: |  |   |   |  | All values are within limits. |
|        |           | <b>Parameter</b>  | <b>Results</b>   | <b>Measurement</b>  | <b>Limit</b>  |  |                               |
|        |           | pH  | 8.1  | pH  | 5.5-9.0   |  |                               |
|        |           | Total Suspended Solid   | 34.3   | mg/ltr.   | 100   |  |                               |
|        |           | Total Dissolved Solid   | 853.0  | mg/ltr.   | 2100  |  |                               |
|        |           | Biological Oxygen Demand  | 8.3  | mg/ltr.   | 30  |  |                               |
|        |           | Chemical Oxygen Demand  | 54.3   | mg/ltr.   | 250   |  |                               |
|        |           | Oil & Grease  | 3.0  | mg/ltr.   | 10  |  |                               |

The washery does not have any single point source of air pollution. Hence, quantitative estimation of air pollutants discharged in Kg/day cannot be ascertained.

**FORM – V (See rule – 14 )**  
**Environmental Statement for the financial year ending the 31<sup>st</sup> March -2018**  
 Jamadoba Coal Washery

**PART – D**  
**Hazardous Wastes**  
 (as specified under The Hazardous and Other Wastes (Management and Transboundary Movement) Rules, 2016)

| SI No | Hazardous Waste                               | Total Quantity                               |   |
|-------|---|--|---|
|       |   | During the previous financial year 2016-2017 | During the current financial year 2017-2018 |
| 1.    | From process<br>Used Oil<br>Lead Acid Battery | 4620 Litres<br>Nil                           | 4575.9 Litres<br>6 Nos                      |
| 2.    | From pollution control facility               | -  | -   |

**PART – E**  
**Solid Wastes**

| SI No | Solid Wastes  | Total Quantity   |  |
|-------|---|--|--|
|       |   | During the previous financial year 2016-2017                               | During the current financial year 2017-2018                                |
| 1.    | From process<br>a. Tailings<br>b. Scrap materials             | 199951 Tonnes<br>120 Tonnes  | 183087 Tonnes<br>139.82 Tonnes   |
| 2.    | Quantity recycled or reutilized within the unit/sold/disposed | All tailings sold to institutionalized customers and scrap sold to dealers | All tailings sold to institutionalized customers and scrap sold to dealers |

**PART – F**

Please specify the characterization (in term of composition and quantum) of hazardous as well as solid wastes and indicate disposal practices adopted for both these categories of wastes.

| Category of Waste                  | Characteristics             | Quantity      | Disposal Practice                                |
|------------------------------------|-----------------------------|---------------|--|
| <b>Solid Waste</b>                 |                             |               |  |
| 1. Tailings                        | Coal of -0.5mm size (Solid) | 183087 Tonnes | All tailings sold to institutionalized customers |
| 2. Steel Scrap and other materials | Solid                       | 139.82 Tonnes | Steel scrap is sold off to vendors.              |
| <b>Hazardous Waste</b>             |                             |               |  |
| 1. Used Oil                        | Used Oil (Liquid)           | 4575.9 Litres | Disposed off to authorized recycler.             |
| 2. Used Battery                    | Lead Acid Battery(Solid)    | 6 Nos         | Disposed off to authorized recycler.             |

**FORM – V (See rule – 14)**  
**Environmental Statement for the financial year ending the 31<sup>st</sup> March -2018**  
Jamadoba Coal Washery

**PART – G**

**Impact of the pollution abatement measures taken on conservation of natural resources and on the cost of production.**

Jamadoba coal washery of TATA Steel Ltd. is an ISO 9001:2015, 14001:2015 and OHSAS 18001 unit, entire coal washing is done by eco-friendly way by using standard practice. Dry-fog system has been already installed to suppress the dust generated at CHP and transfer points of belt conveyor systems and is operated at all times to check fugitive emissions. Adequate fixed-type water sprinklers are also installed at the internal roads of the washery.

| S.No. | Environment Management Activity   | Expenditure in Lakhs |
|-------|---|----------------------|
| 1     | Tailings Management System  | 7.5                  |
| 2     | Dust suppression system   | 7                    |
| 3     | Housekeeping measures includes removing spillage, improvement of roads                            | 24.5                 |
| 4     | Spillage control measures   | 3                    |
| 5     | Mechanical dewatering system  | 25                   |
| 6     | Water spraying on roads for dust control  | 4                    |
| 7     | Chemical Dewatering   | 14.4                 |
| 8     | Horticultural activities including green belt development and regular lawn and garden maintenance | 16.71                |
| 9     | Plantation of saplings and maintenance  | 1.04                 |
|       | <b>Total Cost incurred</b>  | <b>103.15</b>        |

Total annual expenditure incurred towards environmental protection is **Rs. 103.15 lakhs**.

Annual clean coal production of the plant during the year is **4.29 lakh tonnes**.

So the impact of the pollution abatement measures and environment protection shall be **24.03 Rs/ ton of clean coal production**.

**PART – H**

**Additional measures/ investment proposals for environmental protection including abatement of pollution, prevention of pollution**

Fixed type water spraying system inside washery complex is being operated. Further extend to branch road has been done. Dust extraction system is being commissioned in washery expansion project to control the air pollution.

**FORM – V (See rule – 14 )**  
**Environmental Statement for the financial year ending the 31<sup>st</sup> March -2018**  
**Jamadoba Coal Washery**

**PART – I**

**Any other particulars for improving the quality of environment**

1. We are providing safe drinking water from our water treatment plant & MADA to our employees.
2. We are regularly sprinkling water in an around the units, to suppress dust.
3. We provide dust mask to our employees to prevent exposure to dust.
4. Our welfare department arranges to clean the domestic garbages from our colonies to provide better environment.
5. Regular monitoring of Air Quality & mine water analysis by our separate environment management cell.
6. We have already done the tree plantation job and this is a continuous process in company leasehold areas.
7. Regular thrust on Environment awareness conducting training classes at P.T.I., Jamadoba.
8. We are an IMS certified unit (ISO 9001:2015 & 14001:2015 and OHSAS 18001 certified).

**Name of Unit – Jamadoba Coal Washery**

  
**Head, Jamadoba Coal Washery**  
**TATA STEEL LIMITED**