

# **BRAVO SPONGE IRON PRIVATE LIMITED**

CIN: U27106WB1997PTC082921 | GSTIN: 19AACCB5058J1ZH | PAN: AACCB5058J | State: West Bengal | State Code: 19

Ref.: BSIPL/ES/2020-21

Date: 26th October 2021

The Sr. Environmental Engineer

West Bengal Pollution Control Board Asansol Regional Office ADDA Commercial Market (2<sup>nd</sup> Floor), Oppo. Asansol Fire Station, GT Road, Asansol-713301 Dist-Paschim Bardhaman (WB)

Sub: Environment Statement (FY: 2020-2021) of M/s Bravo Sponge Iron Pvt. Limited, Vill-Mahuda, PO-Rukni, Dist-Purulia (WB)-723145

Dear Sir.

With reference to above subject we are submitting herewith the Environment Statement (Form-V) for financial year ending 31st March, 2021 of M/s Bravo Sponge Iron Pvt, Limited, Vill-Mahuda, PO-Rukni, Dist-Purulia (WB) for your kind consideration please.

Kindly acknowledge our submission

Thanking you,

Yours faithfully,

For Bravo Sponge Iron Pvt. Limited

(Authorized Signatory)

Encl: As above.

Copy to:

The IGF & Incharge, GOI, MoEF&CC, Integrated Regional Office, Kolkata, IB-198, Salt Lake City, Sector-III, Kolkata-700106

# FORM – V ENVIRONMENTAL STATEMENT (See rule 14)

# Environmental Statement for the financial year 2020-2021 ending with 31st March

### PART-A

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

Mr. Deepak Kumar Agarwal M/s Bravo Sponge Iron Pvt. Limited Vill. – Mahuda, P.O. – Rukni, P.S. – Para, District – Purulia (WB), PIN – 723145

- ii. Industry category Primary Large Secondary Red
- iii. Production category Iron & Steel
- iv. Year of establishment 2003-04 (Our Group has acquired this establishment in June 2015)
- v. Date of the last environmental statement submitted 23<sup>rd</sup> October 2020

## PART - B

### Water and Raw Material Consumption:

# i. Water consumption in m<sup>3</sup>/d

Process:

88 m<sup>3</sup>/d

Cooling:

280 m<sup>3</sup>/d

Domestic:

15 m<sup>3</sup>/d

| Name of Products | Process water consumption (                  | m <sup>3</sup> ) per unit (MT) of products  |
|------------------|--|---|
|                  | During the previous financial year (2019-20) | During the current financial year (2020-21) |
| Sponge Iron      | 0.18 m <sup>3</sup> /T                       | 0.22 m <sup>3</sup> /T                      |
| Billet           | 0.65 m <sup>3</sup> /T                       | 0.51 m <sup>3</sup> /T                      |
| Electricity      | 0.39 m <sup>3</sup> /MW                      | 0.37 m <sup>3</sup> /MW                     |



## ii. Raw material consumption

| Name of raw      | Name of     | Consumption of raw material per unit of output |   |  |  |  |  |  |  |
|------------------|-------------|--|---|--|--|--|--|--|--|
| materials*       | Products    | During the previous financial year (2019-20)   | During the current financial year (2020-21) |  |  |  |  |  |  |
| DRI Division     |             |  |   |  |  |  |  |  |  |
| Iron Ore         | Sponge      | 1486.69 Kg/T                                   | 1242.30 Kg/T                                |  |  |  |  |  |  |
| Iron Ore Pellet  | Iron        | 203.05 Kg/T                                    | 402.21 Kg/T                                 |  |  |  |  |  |  |
| Coal             |             | 860.47 Kg/T                                    | 999.57 Kg/T                                 |  |  |  |  |  |  |
| Dolomite         |             | 75.17 Kg/T                                     | 57.42 Kg/T                                  |  |  |  |  |  |  |
| SMS Division     |             |  |   |  |  |  |  |  |  |
| Pig Iron         | MS Billet   | 154.33 Kg/T                                    | 184.16 Kg/T                                 |  |  |  |  |  |  |
| Sponge Iron      |             | 874.29 Kg/T                                    | 849.28 Kg/T                                 |  |  |  |  |  |  |
| Scrap            |             | 149.83 Kg/T                                    | 183.37 Kg/T                                 |  |  |  |  |  |  |
| Silico Manganese |             | 15.71 Kg/T                                     | 14.66 Kg/T                                  |  |  |  |  |  |  |
| CPP Division     |             |  |   |  |  |  |  |  |  |
| Coal Fines       | Electricity | 6.99 Kg/KW                                     | 84.76 Kg/KW                                 |  |  |  |  |  |  |
| Dolochar         |             | 775.83 Kg/KW                                   | 494.78 Kg/KW                                |  |  |  |  |  |  |

<sup>\*</sup> Industry may use codes if disclosing details of raw material would violate contractual obligations, otherwise all industries have to name the raw materials used.

## PART-C

# Pollution discharged to environment/unit of output

(Parameter as specified in the consent issued)

# (a) Water

| Parameters | Unit | Quantity of Pollutants discharged (mass/day) | Concentration<br>(mass/volume) | Percentage of<br>variation from<br>prescribed<br>standards with<br>reasons |
|------------|------|--|--------------------------------|--|
|            |      | vater goes to ETP through F                  | Plant Drain Network an         | d after treatment reuse  |

for Green Belt Development and dust suppression purpose.

# (b) Ambient Air Quality

| ı                 | Quantity of<br>Pollutants |  | Concentrati                             | on of Pollutan<br>(μg/m³)                       | ts discharged                                       | Percentage of   |
|-------------------|---------------------------|--|---|---|---|---|
| Pollutants        | discharged<br>(mass/day)  | Near Main<br>Gate<br>(Western<br>Side) | Mahuda<br>Village<br>(Southern<br>Side) | Near<br>Railway<br>Siding<br>(Northern<br>Side) | Near Main<br>Admin<br>building<br>(Eastern<br>Side) | variation from<br>prescribed<br>standards with<br>reasons |
| PM <sub>2.5</sub> | Sampling                  | 44.76                                  | 40.33                                   | 36.32   | 50.67   | 5   |
| PM <sub>10</sub>  | time 24                   | 87.31                                  | 72.14                                   | 74.21   | 83.34   | Maria tha and   |
| SO <sub>2</sub>   | hours                     | 8.10                                   | 5.97                                    | 5.33  | 6.40  | Within the range  |
| NO <sub>X</sub>   |                           | 28.02                                  | 24.01                                   | 22.63   | 28.48   | nge Iro   |

Ambient Air Quality Monitoring reports attached as Annexure-1

# (c) Stack Monitoring Data

| Pollutants | Location                  | Concentration of Pollutants discharged (mg/Nm³) | Percentage of<br>variation from<br>prescribed<br>standards with<br>reasons |
|------------|---------------------------|---|--|
| PM         | DRI Kiln (1&2)<br>Stack-1 | 36.17   |  |
|            | DRI Kiln (3&4)<br>Stack-2 | 43.13   | Within the range   |
|            | Induction Furnace         | 32.51   |  |
|            | AFBC Boiler               | 36.50   |  |

Stack monitoring reports attached as Annexue-2

PART - D

(As specified under Hazardous Wastes (Management & Handling Rules, 1989).

| Hazardous Wastes                  | Total Qua                                   | antity (MT)   |
|-----------------------------------|---|---|
|                                   | During the current financial year (2019-20) | During the current financial year (2020-21)               |
| From Process                      | NIL   | 0.55 MT   |
| (Operation & Maintenance          |   | Annual Return submitted<br>Form-4 copy attached (Annex-3) |
| From Pollution Control Facilities | NIL   | NIL   |

Note: Used oil and waste cotton from cleaning and maintenance activities are collected and stored. Periodically handed over to AuthOrized recycler and common HWM facility.

PART-E

| Solid Wastes                                    | Total Qua                                   | ntity (MT)                                  |
|---|---|---|
|   | During the current financial year (2019-20) | During the current financial year (2020-21) |
| From Process                                    | 10117                                       | 10367                                       |
| From Pollution Control Facilities               | 73874                                       | 64876                                       |
| Quantity recycled or reutilized within the unit | 38761                                       | 40160                                       |

# PART - F

Please specify the characteristics (in terms of concentration and quantum) of hazardous as well as solid wastes and indicate disposal practice adopted for both these categories of wastes.

| Solid waste Type        | Quantity<br>(TPA) | Disposal System                                     |
|-------------------------|-------------------|---|
| Dolochar                | 36049             | Used in CPP for power generation                    |
| Fly Ash                 | 46831             | Provide to Brick Manufactures                       |
| Bottom Ash/Bed Material | 11117             | Used for land filling in our facility               |
| BF flue Dust from DRI   | 6716              | Provided to Brick Manufactures after metal recovery |
| BF flue dust from SMS   | 212               | Used for land filling                               |
| IF Slag                 | 10367             | Used for Road Construction and Land filling         |
| Metal from IF Slag      | 1152              | Reused in SMS                                       |
| MS Scrap & Mill Skull   | 2960              | Reused in SMS                                       |

### PART-G

Impact of the pollution control measures taken on conservation of natural resources and consequently on the cost of production.

List of Environmental Management Programme (EMPs) are given below-

| Description  | Expenditure for Pollution Control measures on Conservation of Natural Resources (Rs. in lakhs) |
|--|--|
| Total Cost towards Air Pollution Control Measures,<br>Environmental Monitoring, EHS Management & training, |  |
| Waste Management System, EHS, Green Belt Development (Plantation & Plant Maintenance), CSR, etc.           | 45.00  |

### PART - H

Additional measures/investment proposal for environmental protection including abatement of pollution.

### Already included in Part G.

We have done the massive plantation for green belt development with indigenous species in consultation with DFO.

### PART - I

### MISCELLANEOUS

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

- (1) We are complying all the directions given by the WBPCB, and getting regular Water & Air consents.
- (2) Periodic Environmental Monitoring being done by NABL accredited laboratory to ascertain the efficiency of OCEMS installed and connected to CPCB server.

# **Enclosure List:**

- 1) Copies of analysis reports (Annexur-1&2)
- 2) Copy of form-4 Annual Return as annexure-3





Certified by ISO 9001:2015, ISO 14001:2015 & ISO 45001:2018











# TEST REPORT

### FORMAT NO: ENV/FM/37

| Name of th | e :   | Bra    | vo Spo  | nge    | e Iron Pvt. Ltd. |         |         |       |             | Ty  | pe of Industry   |     | 1:1   | Steel & Pov    | ver | Unit        |
|------------|-------|--------|---------|--------|------------------|---------|---------|-------|-------------|-----|------------------|-----|-------|----------------|-----|-------------|
| Industry   |       |        |         | 112-27 |                  |         |         |       |             |     |                  |     |       |                |     | ,           |
| Address    | - 1   | Vill   | . – Mol | nud    | a. P.O Rukni, P  | .S Para | , Puru  | lia - | 723145      | Sai | mpling Date      |     | :     | 03.03.2021     | - 0 | 4.03.2021   |
|            |       |        |         |        |                  |         |         |       |             | Pe  | riod of Analysis |     | 1:    | 06,03,2021     | - 0 | 6.03.2021   |
|            |       |        |         |        |                  |         |         |       | _           | Da  | te of Issue      |     | :     | 08.03,2021     |     |             |
| Sampling P | lan & | Proce  | dure    | :      | ENV/SOP/01       | Deviat  | ion fro | m t   | he Sampling | Ме  | thod and Plan    | :   | No    | Type of Sample | :   | Ambient Air |
| Sample ID  | Vo.   | : E    | NV/0    | 5/M    | larch/A/V        |         |         |       | Report No   |     | : ENV/06/Ma      | rcl | n/TR( | A)/V/20-21     |     |             |
| A] GEN     | ERAL  | INFOR  | RMATIC  | ON     |                  |         |         |       |             |     |                  |     |       |                |     |             |
| 1. Loc     | ation | of Sai | mplin   | g      |                  |         | : Ne    | ear I | Main Gate ( | Wes | stern Side)      |     |       |                |     |             |
| 2. Dur     | ation | of Sa  | mplin   | g      |                  |         | : 24    | hrs   | . (10:00 a. | m   | - 10:00 a.m.)    |     |       |                |     |             |

| D1 | METEODOLOGICAL INFORMATION |
|----|----------------------------|

26.0 1. Average Temperature (°C)

2. Average Relative Humidity (%) 50.0 752.0 Barometric Pressure (mm of Hg) 3.

Smell or Odour No Remarkable Smell 4.

5. Weather Condition Clear sky

#### CI RESULTS

| SL.<br>NO. | PARAMETERS                               | UNIT              | METHOD NO.   | RESULTS |
|------------|--|-------------------|--|---------|
| 1.         | Concentration of PM <sub>2,5</sub>       | μg/m <sup>3</sup> | USEPA 1997a, 40 CFR Part 50, Appendix L : 2006   | 44.76   |
| 2.         | Concentration of PM <sub>10</sub>        | μg/m³             | IS 5182 (PART 23): 2006  | 87.31   |
| 3.         | Concentration of SO <sub>2</sub>         | μg/m³             | IS 5182 (Part 2) 2001 & ASTM D 2914-01 reapproved 2007: Sec. 11 (Vol. 11.07) : 2011                    | 8.10    |
| 4.         | Concentration of NO <sub>2</sub>         | μg/m³             | IS 5182 (Part 6) 2006 & ASTM D 1607-91 reapproved 2005 : Sec. 11 (Vol. 11.07) : 2011                   | 28.02   |
| 5.         | Concentration of CO                      | mg/m³             | IS 5182 (Part 10): 1999 reaffirmed 2005 & ASTM D 3162-94 reapproved 2005 : Sec. 11 (Vol. 11.07) : 2011 | 0.17    |
| 6.         | Concentration of Pb                      | μg/m <sup>3</sup> | IS 5182 (Part 22) 2004   | < 0.01  |
| 7.         | Benzo (a) Pyrene (BaP)                   | ng/m³             | IS 5182 (Part 12) : 2004 & ASTM D 6209-98 reapproved<br>2004 : Sec. 11 (Vol. 11.07) : 2011             | <0.36   |
| 8.         | Benzene (C <sub>6</sub> H <sub>6</sub> ) | μg/m³             | IS 5182 (Part 11) 2006 & ASTM D 5466-01 reapproved 2007 : Sec. 11 (Vol. 11.07) : 2011                  | <0.74   |
| 9.         | Ozone (O <sub>3</sub> )                  | μg/m³             | IS 5182 (Part-IX): 1974  | <10.0   |
| 10.        | Ammonia (NH <sub>3</sub> )               | μg/m³             | NIOSH Manual of Analytical Method, 4th Edition 1994, Method 6015, issue 2                              | <4.18   |
| 11.        | Nickel (Ni)                              | ng/m³             | EPA IO 3.2, 1999   | < 0.02  |
|            | Arsenic (As)                             | ng/m³             | EPA IO 3.2, 1999, APHA 23rd Ed 3114C: 2017   | < 0.01  |

Reviewed By:

(Durbadal Chakraborty, Dy. Quality Manager)

Approved By:

(Dr. S. B. Chowdhury, Technical Manager)

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# TEST REPORT

### FORMAT NO: ENV/FM/37

| Name of the<br>Industry | :   | Bravo Spo | nge | Iron Pvt. Ltd.   | •                 |             | Typ | e c | of Industry |      | :   | Steel & Pov    | ver l | Unit        |
|-------------------------|-----|-----------|-----|------------------|-------------------|-------------|-----|-----|-------------|------|-----|----------------|-------|-------------|
| Address                 | :   | Vill Moh  | uda | a. P.O Rukni, P. | S Para, Purulia - | - 723145    | San | npl | ing Date    |      | :   | 03.03.2021     | - 0   | 4.03.2021   |
|                         |     |           |     |                  |                   |             | Per | iod | of Analysis |      | :   | 06.03.2021     | - 0   | 6.03.2021   |
|                         |     |           |     |                  |                   |             | Dat | e o | of Issue    |      | :   | 08.03.2021     |       |             |
| Sampling Plan           | 1&1 | Procedure | :   | ENV/SOP/01       | Deviation from t  | he Sampling | Met | ho  | d and Plan  | :    | No  | Type of Sample | :     | Ambient Air |
| Sample ID No            | . T | : ENV/06  | /M  | arch/A/VI        |                   | Report No.  |     | :   | ENV/06/Ma   | arcl | TR( | A)/VI/20-2     | 1     |             |

| A | GENERAL INFORMATION |
|---|---------------------|
|   |                     |

Mohuda Village (0.5 K.M. from Plant) (Southern Side) 1. Location of Sampling 2.

**Duration of Sampling** 24 hrs. (10:30 a.m. - 10:30 a.m.)

#### METEOROLOGICAL INFORMATION B]

Average Temperature (°C) 26.0 1. 50.0 Average Relative Humidity (%) 2. 752.0 3. Barometric Pressure (mm of Hg)

Smell or Odour No Remarkable Smell 4.

5. Weather Condition Clear sky

#### CI RESULTS

Remarks

| SL.<br>NO. | PARAMETERS                         | UNIT  | METHOD NO.  | RESULTS |
|------------|------------------------------------|-------|---|---------|
| 1.         | Concentration of PM <sub>2.5</sub> | μg/m³ | USEPA 1997a, 40 CFR Part 50, Appendix L : 2006    | 40.33   |
| 2.         | Concentration of PM <sub>10</sub>  | μg/m³ | IS 5182 (PART 23) : 2006                          | 72.14   |
| 3.         | Concentration of SO <sub>2</sub>   | μg/m³ | IS 5182 (Part 2) 2001 & ASTM D 2914-01 reapproved | 5.97    |
|            |                                    |       | 2007: Sec. 11 (Vol. 11.07) : 2011                 |         |
| 4.         | Concentration of NO <sub>2</sub>   | μg/m³ | IS 5182 (Part 6) 2006 & ASTM D 1607-91 reapproved | 24.01   |
|            |                                    |       | 2005 : Sec. 11 (Vol. 11.07) : 2011                |         |

Reviewed By:

(Durbadal Chakraborty, Dy. Quality Manager)

Approved By:

(Dr. S. B. Chowdhury, Technical Manager)

H.O.

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Laboratory

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# VIROCHECK











Recognised by MoEF&CC, WBPCB & JSPCB Accredited by NABL (ISO/IEC 17025:2017) Certified by ISO 9001:2015, ISO 14001:2015 & ISO 45001: 2018

# TEST REPORT

### FORMAT NO: ENV/FM/37

| Name of t     |                     | :     | Bravo Spor  | nge  | Iron Pvt. Ltd. |       |         |     |              |         | T   | ype of Industry   |       | :    | Steel & Po     |       |             |
|---------------|---------------------|-------|-------------|------|----------------|-------|---------|-----|--------------|---------|-----|-------------------|-------|------|----------------|-------|-------------|
| Address       |                     | :     | Vill Moh    | uda. | P.O Rukni      | , P.S | S Para  | , P | urulia - 723 | 145     | S   | ampling Date      |       | :    | 03.03.202      | 1 - 0 | 4.03.2021   |
|               |                     |       | tan second  |      |                | 5     |         |     |              |         | P   | eriod of Analysis |       | :    | 06.03.202      | 1 - 0 | 6.03.2021   |
|               |                     |       |             |      |                |       |         |     |              |         | D   | ate of Issue      |       | :    | 08.03.202      | 1     |             |
| Sampling      | g Plar              | 1 & I | rocedure    | :    | ENV/SOP/0      | 1     | Deviati | on  | from the Sa  | mplin   | g M | Method and Plan   | :     | No   | Type of Sample | :     | Ambient Air |
| Sample II     | D No.               | T     | : ENV/06    | /Ma  | rch/A/VII      |       |         |     | Rep          | ort No  | ),  | : ENV/06/M        | arcl  | n/TR | (A)/VII/20-    | 21    |             |
| A] <u>G</u> I | ENER                | AL I  | NFORMATIO   | N    |                |       |         |     |              |         |     |                   |       | 8    |                |       |             |
|               | ocati               | on o  | of Sampling |      | 15% NT 2       |       | 88      | :   | Near Railw   | ay Sid  | lin | g Area (Norther   | n Sid | de)  |                |       |             |
|               |                     |       | of Sampling |      |                |       |         | :   | 24 hrs. (11  | :00 a.  | m.  | - 11:00 a.m.)     | W EX  |      |                |       |             |
| B] <u>M</u>   | ETEC                | RO    | OGICAL INF  | ORM  | IATION         |       |         |     |              |         |     |                   |       |      |                |       |             |
| 1. A          | vera                | ge T  | emperatur   | e (º | C)             |       |         | :   | 26.0         |         | 3   |                   |       |      |                |       |             |
| 2. A          | vera                | ge F  | elative Hur | midi | ity (%)        |       |         | :   | 50.0         |         |     |                   |       |      |                |       |             |
| 3. B          | aron                | etr   | ic Pressure | (mı  | m of Hg)       |       |         | :   | 752.0        |         |     |                   |       |      |                |       |             |
| 4. Si         | 4. Smell or Odour   |       |             |      |                |       |         | :   | No Remark    | table : | Sm  | ell               |       |      |                |       |             |
| 5. W          | . Weather Condition |       |             |      |                |       |         | :   | Clear sky    |         |     |                   |       |      |                |       |             |

### RESULTS

Remarks

| SL. | PARAMETERS                         | UNIT  | METHOD NO.  | RESULTS |
|-----|------------------------------------|-------|---|---------|
| 1.  | Concentration of PM <sub>2,5</sub> | μg/m³ | USEPA 1997a, 40 CFR Part 50, Appendix L : 2006    | 36.32   |
| 2.  | Concentration of PM <sub>10</sub>  | μg/m³ | IS 5182 (PART 23) : 2006                          | 74.21   |
| 3.  | Concentration of SO <sub>2</sub>   | μg/m³ | IS 5182 (Part 2) 2001 & ASTM D 2914-01 reapproved | 5.33    |
|     |                                    |       | 2007: Sec. 11 (Vol. 11.07): 2011                  |         |
| 4.  | Concentration of NO <sub>2</sub>   | μg/m³ | IS 5182 (Part 6) 2006 & ASTM D 1607-91 reapproved | 22.63   |
|     |                                    |       | 2005 : Sec. 11 (Vol. 11.07) : 2011                |         |

Reviewed By:

(Durbadal Chakraborty, Dy. Quality Manager)

Approved By:

(Dr. S. B. Chowdhury, Technical Manager)

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A]

# VIROCHECK A











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# TEST REPORT

### FORMATNO: ENV/FM/37

| Name of the<br>Industry | :  | Bravo Spo | nge | Iron Pvt. Ltd.  | -                 |             | Туре  | of Industry   |      | :    | Steel & Pov    | ver | Unit        |
|-------------------------|----|-----------|-----|-----------------|-------------------|-------------|-------|---------------|------|------|----------------|-----|-------------|
| Address                 | :  | Vill Moh  | uda | . P.O Rukni, P. | S Para, Purulia - | - 723145    | Samp  | ling Date     |      | :    | 03.03.2021     | - 0 | 4.03.2021   |
|                         |    |           |     |                 |                   |             | Perio | d of Analysis |      | :    | 06.03.2021     | - 0 | 6.03.2021   |
|                         |    |           |     |                 |                   |             | Date  | of Issue      |      | :    | 08.03.2021     |     |             |
| Sampling Plan           | 1& | Procedure | :   | ENV/SOP/01      | Deviation from t  | he Sampling | Metho | od and Plan   | •    | No   | Type of Sample | :   | Ambient Air |
| Sample ID No            |    | : ENV/06  | /Ma | arch/A/VIII     |                   | Report No.  | :     | ENV/06/M      | arcl | n/TR | (A)/VIII/20-   | 21  |             |

| 1. | Location | of Samp | oling |
|----|----------|---------|-------|
|----|----------|---------|-------|

Near Main Administrative Building (Eastern Side)

**Duration of Sampling** 24 hrs. (11:30 a.m. -11:30 a.m.) 2.

#### METEOROLOGICAL INFORMATION B

GENERAL INFORMATION

26.0 1. Average Temperature (°C) Average Relative Humidity (%) 50.0 2. 3. Barometric Pressure (mm of Hg) 752.0

No Remarkable Smell Smell or Odour 4.

Weather Condition Clear sky 5.

#### RESULTS C]

| SL.<br>NO. | PARAMETERS                         | UNIT  | METHOD NO.  | RESULTS |
|------------|------------------------------------|-------|---|---------|
| 1.         | Concentration of PM <sub>2.5</sub> | μg/m³ | USEPA 1997a, 40 CFR Part 50, Appendix L : 2006    | 50.67   |
| 2.         | Concentration of PM <sub>10</sub>  | μg/m³ | IS 5182 (PART 23) : 2006                          | 83.34   |
| 3.         | Concentration of SO <sub>2</sub>   | μg/m³ | IS 5182 (Part 2) 2001 & ASTM D 2914-01 reapproved | 6.40    |
|            |                                    |       | 2007: Sec. 11 (Vol. 11.07): 2011                  |         |
| 4.         | Concentration of NO <sub>2</sub>   | μg/m³ | IS 5182 (Part 6) 2006 & ASTM D 1607-91 reapproved | 28.48   |
|            |                                    |       | 2005 : Sec. 11 (Vol. 11.07) : 2011                |         |

Reviewed By:

(Durbadal Chakraborty, Dy. Quality Manager)

Approved By:

(Dr. S. B. Chowdhury, Technical Manager)

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Branch Office: - Siliguri - Haldia - Durgapur - Dhanbad - Gangtok - Port Blair - Dehradun - New Delhi

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# TEST REPORT

### FORMAT NO: ENV/FM/38

| Name of the<br>Industry | :   | Bravo Spo  | nge | Iron Pvt. Ltd.    | Ð                 |             | Тур  | e o        | of Industry |   | :  | Steel & Pov    | ver l | Unit               |
|-------------------------|-----|------------|-----|-------------------|-------------------|-------------|------|------------|-------------|---|----|----------------|-------|--------------------|
| Address                 | :   | Vill Moh   | uda | a. P.O Rukni, P.: | S Para, Purulia - | 723145      | San  | npl        | ing Date    |   | :  | 03.03.2021     | o .   |                    |
|                         |     |            |     |                   |                   | [           | Per  | ioc        | of Analysis |   | 1: | 06.03.2021     | - 0   | 6.03.2021          |
|                         |     |            |     |                   |                   |             | Dat  | e c        | of Issue    |   | :  | 08.03.2021     |       | , FI               |
| Sampling Plan           | 1&1 | Procedure  | •   | ENV/SOP/01        | Deviation from t  | he Sampling | Met  | tho        | d and Plan  | : | No | Type of Sample | :     | Source<br>Emission |
| Sample ID No            |     | Report No. |     | :                 | ENV/06/M          | arch        | 1/TR | A)/I/20-21 |             |   |    |                |       |                    |

## A. GENERAL INFORMATION ABOUT STACK PROVIDED BY THE INDUSTRY

| Stack Attached to            | :   | Rotary Kiln (No. 1 & 2) attached to common s                         | tack  |   |     |     |
|------------------------------|---|--|---|---|-----|-----|
| Shape of Stack               | :   | Circular   | Height of Stack (mtr.) (from G. L.)           | : | 30. | 0   |
| Materials of<br>Construction | :   | M.S.   | Stack I.D. at sampling point (mtr.)           | : | 1.9 | 0   |
| Capacity                     | : Kiln No.1 - 100 TPD & Kiln No.2 - 95 TPD Height of sampling p |  | Height of sampling port<br>(mtr.) (from G.L.) | : | 14. | 0   |
| Emission Due to              | :   | Oxidation of Coal & Reduction of Fe-Ore                              |   |   |     |     |
| Fuel Used                    | :   | Coal   | Permanent Platform & Ladde                    | r | :   | Yes |
| Working Fuel<br>Consumption  | :   | Rated - 5.63 MT/hr. (each kiln)<br>Working - 5.12 MT/hr. (each Kiln) |   |   |     |     |
| Pollution Control Device     | :   | E.S.P with W.H.R.B   |   |   |     |     |

### B. RESULTS

| SL.<br>NO. | PARAMETERS  | UNIT               | METHOD NO.  |            | RESULTS  |
|------------|---|--------------------|---|------------|----------|
| 1.         | Flue Gas Temperature  | oC                 | IS 11255 (Part 1)   | :          | 138.0    |
| 2.         | Barometric Pressure   | mm of Hg.          | - 189 - 189 - 189 - 189 - 189 - 189 - 189 - 189 - 189 - 189 - 189 - 189 - 189 - 189 - 189 - 189 - 189 - 189 - | 3 E 100 P  | 752.0    |
| 3.         | Velocity of Gas flow  | m/s                | IS 11255 (Part 3)   | :          | 8.06     |
| 4.         | Quantity of Gas flow  | Nm³/hr.            | IS 11255 (Part III)   | 1          | 57752.95 |
| 5.         | Concentration of SO <sub>2</sub>                                      | mg/Nm <sup>3</sup> | IS 11255 (Part 2) 1985 RA 2003  | :          | 608.78   |
| 6.         | Concentration of CO <sub>2</sub>                                      | % (v/v)            | IS 13270 1992 RA 2003   | :          | 10.4     |
| 7.         | Concentration of CO   | %(v/v)             | IS 13270 1992 RA 2003   | :          | <1.0     |
| 8.         | a) Concentration of Particulate<br>Matter (at 10.4% CO <sub>2</sub> ) | mg/Nm³             | IS 11255 (Part - 1) 1985 RA 2003 & ASTM D 3685/D 3685M-98 (reapproved 2005): Sec.                             | \ <b>!</b> | 31.35    |
|            | b) Concentration of Particulate<br>Matter (at 12% CO <sub>2</sub> )   |                    | 11 (Vol. 3 11.07) : 2011  | :          | 36.17    |

Reviewed By:

(Durbadal Chakraborty, Dy. Quality Manager)

Approved By:

(Dr. S. B. Chowdhury, Technical Manager)

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Branch Office: \* Siliguri \* Haldia \* Durgapur \* Dhanbad \* Gangtok \* Port Blair \* Dehradun \* New Delhi

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# TEST REPORT

### FORMAT NO: ENV/FM/38

| Name of the<br>Industry | :     | Bravo Spo | nge | Iron Pvt. Ltd.    | ě                  |             | Тур                              | e ( | of Industry   |   | :  | Steel & Pow    | ver l | Unit               |
|-------------------------|-------|-----------|-----|-------------------|--------------------|-------------|----------------------------------|-----|---------------|---|----|----------------|-------|--------------------|
| Address                 | :     | Vill Moh  | uda | a. P.O Rukni, P.: | S Para, Purulia -  | 723145      | San                              | ıpl | ing Date      |   | :  | 03.03.2021     | v.    |                    |
|                         |       |           |     |                   |                    |             | Per                              | ioc | l of Analysis |   | :  | 06.03.2021     | - 0   | 6.03.2021          |
|                         |       |           |     |                   |                    | [           | Dat                              | e c | of Issue      |   | :  | 08.03.2021     | 93    |                    |
| Sampling Plan           | 1 & 1 | Procedure | :   | ENV/SOP/01        | Deviation from the | ne Sampling | Met                              | ho  | d and Plan    | : | No | Type of Sample | :     | Source<br>Emission |
| Sample ID No            | .     | : ENV/06  | /M  | arch/A/II         |                    | Report No.  | o. : ENV/06/March/TR(A)/II/20-21 |     |               |   |    |                |       |                    |

### A. GENERAL INFORMATION ABOUT STACK PROVIDED BY THE INDUSTRY

| Stack Attached to            | : | Rotary Kiln (No. 3 & 4) attached to commo                            | on stack                                      |   |       |
|------------------------------|---|--|---|---|-------|
| Shape of Stack               | : | Circular   | Height of Stack (mtr.) (from G. L.)           | : | 30.0  |
| Materials of<br>Construction | : | M.S.   | Stack I.D. at sampling point (mtr.)           | : | 1.80  |
| Capacity                     | : | 100 TPD (each)   | Height of sampling port<br>(mtr.) (from G.L.) | : | 15.0  |
| Emission Due to              | : | Oxidation of Coal & Reduction of Fe-Ore                              |   |   |       |
| Fuel Used                    | : | Coal   | Permanent Platform & Ladde                    | r | : Yes |
| Working Fuel<br>Consumption  | : | Rated - 5.63 MT/hr. (each kiln)<br>Working - 5.12 MT/hr. (each Kiln) |   |   |       |
| Pollution Control Device     | : | E.S.P with W.H.R.B   |   |   |       |

### B. RESULTS

| SL.<br>NO. | PARAMETERS  | UNIT               | METHOD NO.   |     | RESULTS  |
|------------|---|--------------------|--|-----|----------|
| 1.         | Flue Gas Temperature  | оС                 | IS 11255 (Part 1)  | :   | 166.0    |
| 2.         | Barometric Pressure   | mm of Hg.          | THE PARTY OF THE PARTY OF  | 4:4 | 752.0    |
| 3.         | Velocity of Gas flow  | m/s                | IS 11255 (Part 3)  | :   | 9.12     |
| 4.         | Quantity of Gas flow  | Nm3/hr.            | IS 11255 (Part III)  | :   | 54823.94 |
| 5.         | Concentration of SO <sub>2</sub>                                      | mg/Nm <sup>3</sup> | IS 11255 (Part 2) 1985 RA 2003   | :   | 640.98   |
| 6.         | Concentration of CO <sub>2</sub>                                      | % (v/v)            | IS 13270 1992 RA 2003  | :   | 10.8     |
| 7.         | Concentration of CO   | %(v/v)             | IS 13270 1992 RA 2003  | :   | <1.0     |
| 8.         | a) Concentration of Particulate<br>Matter (at 10.8% CO <sub>2</sub> ) | mg/Nm <sup>3</sup> | IS 11255 (Part - 1) 1985 RA 2003 & ASTM D 3685/D 3685M-98 (reapproved 2005) : Sec. |     | 38.82    |
|            | b) Concentration of Particulate<br>Matter (at 12% CO <sub>2</sub> )   |                    | 11 (Vol. 3 11.07) : 2011   | :   | 43.13    |

Reviewed By:

Remarks

(Durbadal Chakraborty, Dy. Quality Manager)

Approved By:

(Dr. S. B. Chowdhury, Technical Manager)

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# FORM 4

# [See rules 6(5), 13(8), 16(6) and 20 (2)]

# **Annual Return**

### under

# Hazardous & Other Wastes(Management & Transboundary Movement) Rules, 2016 Transboundary Movement) Rules, 2016

To be submitted to State Pollution Control Board by 30th day of June of every year for the preceding period April to March

Return No:

850788

Period: 2020-2021

| 1. Name of facility/Industry Industry Address of facility/Industry | BRAVO SPONGE IRON PVT. LTD.<br>Vill-Mahuda, PO-Rukni, PS-Para, Dist-Purulia (WB)-723145 |                   |               |            |  |  |
|--|---|-------------------|---------------|------------|--|--|
| 2. UID   | WB029169775   | 7                 |               |            |  |  |
| 3.Authorisation No Date of issue: Date of Expiry                   | Applied For A<br>14/06/2019<br>29/07/2021   | pplication No. hw | 0000000000294 | 6.         |  |  |
| 4. (i) Name of the authorised person & Designation                 | R. K. MISHRA<br>DGM   | 1                 |               |            |  |  |
| (ii) Correspondence Address  | BRAVO SPONGE IRON PVT. LTD.<br>Vill-Mahuda, PO-Rukni, PS-Para, Dist-Purulia (WB)-723145 |                   |               |            |  |  |
| (iii) Mobile No  | 8695621900  |                   |               |            |  |  |
| (iv) Land Line No (with area code)                                 | -   |                   |               |            |  |  |
| (iv) Fax number (with area code)                                   | -   |                   |               |            |  |  |
| (vi) e-mail  | rk.mishra@sh  | akambharigroup.i  | in            |            |  |  |
| (vii) Type of HW Handler   | Generator   |                   |               |            |  |  |
| (viii) If involved in Interstate Movement of HW                    | No  |                   |               |            |  |  |
| 5. Production during the year (product wise), wherever applicable  | Sr.no   | Product<br>Name   | Quantity      | Unit       |  |  |
|  | 1   | Sponge Iron       | 134372.50     | Metric Ton |  |  |
|  | 2   | MS Billet         | 68754.17      | Metric Ton |  |  |

|                   |                 |      | Part            | A. To be | filled by ha   | zardous w                                      | aste gener | ators |   |   |  |
|-------------------|-----------------|------|-----------------|----------|--|--|------------|-------|---|---|--|
| S<br>r.<br>n<br>o | Name of Process | Cate | Waste<br>Stream | Unit     | Quantit<br>y in<br>stock at<br>the<br>beginnin<br>g of the<br>year | Total<br>quantity<br>of waste<br>generate<br>d | dispatch   | y     | y | Quantit<br>y<br>utilised<br>in<br>house | Quantity in storage at the end of the year |

| ł | Schedule I - 13.Production of iron and steel including other ferrous alloys (electric furnaces; steel rolling and finishing mills; Coke oven and by product plant) | Used<br>Oil        | 5.1 | Metric<br>Ton | 0.25<br>Metric<br>Tonnes/Y<br>ear | 0.55<br>Metric<br>Tonnes/Y<br>ear  | 0 Metric<br>Tonnes/Y<br>ear | 0.8<br>Metric<br>Tonnes/Y<br>ear | 0 Metric<br>Tonnes/Y<br>ear | 0 Metric<br>Tonnes/Y<br>ear        | 0 Metric<br>Tonnes/Y<br>ear |
|---|--|--------------------|-----|---------------|-----------------------------------|------------------------------------|-----------------------------|----------------------------------|-----------------------------|------------------------------------|-----------------------------|
| 2 | Schedule I - 13.Production of iron and steel including other ferrous alloys (electric furnaces; steel rolling and finishing mills; Coke oven and by product plant) | Used<br>Cotto<br>n | 5.2 | Metric<br>Ton | 0 Metric<br>Tonnes/Y<br>ear       | 0.165<br>Metric<br>Tonnes/Y<br>ear | 0 Metric<br>Tonnes/Y<br>ear | 0 Metric<br>Tonnes/Y<br>ear      | 0 Metric<br>Tonnes/Y<br>ear | 0.165<br>Metric<br>Tonnes/Y<br>ear | 0 Metric<br>Tonnes/Y<br>ear |

| S<br>r,<br>n | Name of Process | Cate | Waste<br>Stream | Unit | Quantit y in stock at the beginnin g of the | Total<br>quantity<br>received | Quantit<br>y<br>treated |                        | Quantit<br>y<br>processe<br>d other<br>than<br>specified<br>above | Quantity in storage at the end of the year |
|--------------|-----------------|------|-----------------|------|---|-------------------------------|-------------------------|------------------------|---|--|
|              |                 |      |                 |      | year  |                               |                         | after<br>treatme<br>nt |   |  |

| S Name of Process<br>r.<br>n | Categ | Waste<br>Stream | Unit | Quantity<br>in stock<br>at the<br>beginnin<br>g of the<br>year | Quantity<br>of waste<br>received<br>during<br>the year<br>from<br>Domestic<br>sources | Quantity<br>of waste<br>received<br>during<br>the year<br>Imported | Quantity<br>recycled<br>or co-<br>processe<br>d or used | Quantity re- exported (whereve r applicabl e) | Quantity<br>in<br>storage<br>at the<br>end of<br>the year |
|------------------------------|-------|-----------------|------|--|---|--|---|---|---|
|------------------------------|-------|-----------------|------|--|---|--|---|---|---|

|       |  |          | Part D. Detai         | s of Interstate                         | e Movement |                  |           |   |
|-------|--|----------|-----------------------|---|------------|------------------|-----------|---|
| Sr.no | Name of<br>Industry<br>(Within<br>State) | District | Receiving/S<br>ending | Name of<br>Industry<br>(Other<br>State) | State      | Type of<br>Waste | Qty.(MTA) | Purpose<br>(Recycling<br>Disposal/I<br>cineration |

|       | Part D. D                | etails of Import of Ot       | her Waste Import &  | k Recycling                | ,                          |
|-------|--------------------------|------------------------------|---------------------|----------------------------|----------------------------|
| Sr.no | Name of the<br>Importer) | Imported from (country name) | Type of Other waste | Quantity<br>Imported (MTA) | Quantity Recycled<br>(MTA) |

Date:02/08/2021

Place : Purulia

DEEPAK KUMAR AGARWAL

Name of the Occupier or Operator of the disposal facility