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### Report No. - CEMC/ASL/100723/A

**Issued Date-10.07.2023** 

### AMBIENT AIR QUALITY MONITORING TEST REPORT

Name of Company : Ardent Steel Ltd., Keonjhar, Odisha.

Sample Description: Ambient AirDate of Monitoring: 23.06.2023Date of Receiving: 26.06.2023Date of Analysis: 26.06.2023

Sample Collected by : Mr. Rabindranath Das.

### **ANALYSIS RESULT**

| Sl.                    | LOCATION   | MONITORING REPORT             |                                |                             |                      |                         |                                |  |
|------------------------|--|-------------------------------|--------------------------------|-----------------------------|----------------------|-------------------------|--------------------------------|--|
| No.                    | LOCATION   | $\frac{PM_{10}}{(\mu g/m^3)}$ | $\frac{PM_{2.5}}{(\mu g/m^3)}$ | $SO_2$ (µg/m <sup>3</sup> ) | $NO_x$ $(\mu g/m^3)$ | CO (mg/m <sup>3</sup> ) | $NH_3$ $(\mu g/m^3)$           |  |
| 1                      | At the boundary near the water harvesting pond (East Direction)    | 70.0                          | 36.2                           | 15.8                        | 20.6                 | 0.41                    | <20                            |  |
| 2                      | At the Boundary near ESP (South Direction)                         | 64.8                          | 33.4                           | 13.4                        | 17.8                 | 0.3                     | <20                            |  |
| 3                      | At the Boundary near<br>Coal Fines Stock yard<br>(North Direction) | 62.4                          | 32.2                           | 9.2                         | 14.4                 | 0.24                    | <20                            |  |
| 4                      | Near Ball mill,Iron ore fines stock yard                           | 71.6                          | 36.8                           | 15.2                        | 20.6                 | 0.34                    | <20                            |  |
| NAAQ Standard-2009     |  | 100                           | 60                             | 80                          | 80                   | 4.0                     | 400                            |  |
| Methods of<br>Analysis |  | IS: 5182<br>(Part-23)         | IS: 5182<br>(Part-<br>24,2019) | IS: 5182<br>(Part-2)        | IS: 5182<br>(Part-6) | IS: 5182<br>(Part-10)   | IS: 5182<br>(Part-<br>25,2019) |  |

Notes:

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Sample Description: Ambient AirDate of Monitoring: 23.06.2023Date of Receiving: 26.06.2023Date of Analysis: 26.06.2023

Sample Collected by : Mr. Rabindranath Das.

| Sl.                    |  | MONITORING REPORT    |                           |                           |  |                       |                           |  |  |
|------------------------|--|----------------------|---------------------------|---------------------------|--|-----------------------|---------------------------|--|--|
| No.                    | LOCATION   | О3                   | Pb                        | Ni                        | As   | Benzene               | BaP                       |  |  |
| 110.                   |  | (µg/m3)              | (µg/m3)                   | (ng/m3)                   | (ng/m3)  | $(\mu g/m3)$          | (ng/m3)                   |  |  |
| 1                      | At the boundary near the water harvesting pond (East Direction)    | <10                  | <0.06                     | <0.6                      | <0.44  | <1                    | <1                        |  |  |
| 2                      | At the Boundary near ESP (South Direction)                         | <10                  | <0.06                     | <0.6                      | < 0.44   | <1                    | <1                        |  |  |
| 3                      | At the Boundary near<br>Coal Fines Stock yard<br>(North Direction) | <10                  | <0.06                     | <0.6                      | <0.44  | <1                    | <1                        |  |  |
| 4                      | Near Ball mill,Iron ore fines stock yard                           | <10                  | < 0.06                    | <0.6                      | <0.44  | <1                    | <1                        |  |  |
| NAA                    | Q Standard-2009  | 100                  | 1.0                       | 20                        | 6  | 5                     | 1                         |  |  |
| Methods of<br>Analysis |  | IS: 5182<br>(Part-9) | IS: 5182<br>(Part-<br>22) | IS: 5182<br>(Part-<br>26) | As per<br>CPCB<br>method<br>followed<br>by AAS | IS: 5182<br>(Part-11) | IS: 5182<br>(Part-<br>12) |  |  |

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Report No. - CEMC/ASL/100723/F

**Issued Date-10.07.2023** 

### **FUGITIVE EMISSION MONITORING TEST REPORT**

Name of Company : Ardent Steel Ltd., Keonjhar, Odisha.

Sample Description : Fugitive Emission

Date of Monitoring : 23.06.2023
Date of Receiving : 26.06.2023
Date of Analysis : 26.06.2023

Sample Collected by : Mr. Rabindranath Das.

#### **ANALYSIS RESULT**

| Sl.   |   | RESU         | JLT         |
|-------|---|--------------|-------------|
| No.   | LOCATION  | RSPM (μg/m³) | SPM (μg/m³) |
| 1     | Proportioning System (Ash & Coke Fines Bunker)                    | 504          | 1088        |
| 2     | Raw Material Transfer point of Mixture (Mixture Building)         | 442          | 1032        |
| 3     | Ball Mill (Cool Grinding)   | 384          | 1144        |
| 4     | Ball Mill (Flux & Coke Grinding)                                  | 392          | 1080        |
| 5     | Finished Product Transfer points and plant de-dusting system      | 402          | 976         |
| 6     | Travelling Grate & Rotary Kiln                                    | 390          | 930         |
| Stand | lard as per Environment (Protection Act)3 <sup>rd</sup> Amendment |              | 2000*       |
| Rules | 2-2012 by MoEF & CC. at 10 m distance from the source             |              |             |

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Report No. - CEMC/ASL/100723/N

**Issued Date-10.07.2023** 

#### **AMBIENT NOISE MONITORING TEST REPORT**

Name of Company : Ardent Steel Ltd., Keonjhar, Odisha.

Sample Description : Noise Monitoring

Date of Monitoring : 23.06.2023

Sample Collected by : Mr. Rabindranath Das.

#### **ANALYSIS RESULT**

| Sl.<br>No. | Location  | Noise Level<br>In Day Time<br>dB(A) | Noise Level<br>In Night Time<br>dB(A) |
|------------|---|-------------------------------------|---------------------------------------|
| 01         | Ball Mill (Cool Grinding)                                 | 84.4                                | 76.8                                  |
| 02         | Raw Material Transfer point of Mixture (Mixture Building) | 79.8                                | 70.4                                  |

### NATIONAL STANDARD NOISE LEVEL

| Area | Category of Area/Zone | Permissible Limit in dB (A) |            |  |
|------|-----------------------|-----------------------------|------------|--|
| Code |                       | Day Time                    | Night Time |  |
| A    | Industrial Area       | 75                          | 70         |  |
| В    | Commercial Area       | 65                          | 55         |  |
| С    | Residential Area      | 55                          | 45         |  |
| D    | Silence Zone          | 50                          | 40         |  |

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Report No. - CEMC/ASL/100723/St

**Issued Date-10.07.2023** 

### STACK EMISSION MONITORING TEST REPORT

Name of Company : Ardent Steel Ltd., Keonjhar, Odisha.

Sample Description : Stack Monitoring

Date of Monitoring : 23.06.2023

Sample Collected by : Mr. Rabindranath Das.

Stack Height : 30m

### **ANALYSIS RESULT**

| Sl. | Location of Sampling        | Flue Gas   | Concentration of Particulate Matter (PM) in mg/Nm <sup>3</sup> |
|-----|-----------------------------|------------|--|
| No. | 1 8                         | Temp. in K | Result   |
| 01  | ESP                         | 390        | 40   |
|     | Permissible Limit as per CT | 50         |  |

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Notes:

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Report No. - CEMC/ASL/100723/DW

**Issued Date-10.07.2023** 

### **DRINKING WATER TEST REPORT**

Name of Company : Ardent Steel Ltd., Keonjhar, Odisha.

Sample Description: Ground WaterDate of Monitoring: 23.06.2023Date of Receiving: 26.06.2023Date of Analysis: 26.06.2023

Sample Collected by : Mr. Rabindranath Das.
Sample Location : Canteen(RO Water)

### **ANALYSIS RESULT**

| Sl.<br>No | Parameter                                  | Unit  | Desired Limit of<br>drinking water<br>(BIS:10500:2012) | Permissible Limit<br>of drinking water<br>(BIS:10500:2012) | Result |
|-----------|--|-------|--|--|--------|
| 1         | Colour                                     | Hazen | 5  | 15   | <5     |
| 2         | Odour                                      | -     | Agreeable  | Agreeable  | AL     |
| 3         | Taste                                      | -     | Agreeable  | -  | AL     |
| 4         | Turbidity                                  | NTU   | 1  | 5  | <1     |
| 5         | pH Value @ 25°C                            | -     | 6.5-8.5  | No Relaxation  | 6.53   |
| 6         | Total Dissolved Solid                      | mg/l  | 500  | 2000   | 72     |
| 7         | Alkalinity as CaCO <sub>3</sub>            | mg/l  | 200  | 600  | 42     |
| 8         | Total Hardness as CaCO <sub>3</sub>        | mg/l  | 200  | 600  | 46     |
| 9         | Iron as Fe                                 | mg/l  | 0.3  | No Relaxation  | 0.15   |
| 10        | Nitrate as NO <sub>3</sub> <sup>-</sup> -N | mg/l  | 45   | No Relaxation  | 0.8    |
| 11        | Sulphate as SO <sub>4</sub>                | mg/l  | 200  | 400  | 9.2    |
| 12        | Fluoride as F                              | mg/l  | 1.0  | 1.5  | < 0.05 |
| 13        | Calcium as Ca                              | mg/l  | 75   | 200  | 12.6   |
| 14        | Chloride as Cl <sup>-</sup>                | mg/l  | 250  | 1000   | 12.9   |

**N.B:** AL – Agreeable

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Report No. - CEMC/ASL/100723/SW

**Issued Date-10.07.2023** 

## **SURFACE WATER TEST REPORT**

Name of Company : Ardent Steel Ltd., Keonjhar, Odisha.

Sample Description:Surface WaterDate of Monitoring:23.06.2023Date of Receiving:26.06.2023Date of Analysis:26.06.2023

Sample Collected by : Mr. Rabindranath Das.

Sample Location : Reservoir

### **ANALYSIS RESULT**

| Sl.<br>No | Parameter                                  | Unit  | GSR 422E Standards | Result |
|-----------|--|-------|--------------------|--------|
| 1         | Colour                                     | Hazen |                    | 10     |
| 2         | Odour                                      | -     |                    | U/O    |
| 3         | pH Value @ 25°C                            | -     | 5.5-9.0            | 8.2    |
| 4         | Total Dissolved Solid                      | mg/l  | 2100               | 880    |
| 5         | Iron as Fe                                 | mg/l  | 3.0                | 0.98   |
| 6         | Sulphate as SO <sub>4</sub>                | mg/l  | 1000               | 38.8   |
| 7         | Nitrate as NO <sub>3</sub> <sup>-</sup> -N | mg/l  | 50                 | 16.4   |
| 8         | Boron as B                                 | mg/l  | 2.0                | 0.32   |
| 9         | BOD for 3 days @ 27 <sup>0</sup> C         | mg/l  | 30                 | 18     |
| 10        | COD  | mg/l  | 250                | 64     |

N.B: U/O- Un-objectionable

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Report No. - CEMC/ASL/100723/WW

**Issued Date-10.07.2023** 

### **WASTE WATER TEST REPORT**

Name of Company : Ardent Steel Ltd., Keonjhar, Odisha.

Sample Description : Waste Water
Date of Monitoring : 23.06.2023
Date of Receiving : 26.06.2023
Date of Analysis : 26.06.2023

Sample Collected by : Mr. Rabindranath Das.

Sample Location : STP Outlet

### **ANALYSIS RESULT**

| Sl.<br>No. | Parameter               | Unit | Effluent<br>Discharge<br>Standard | Testing Method             | Result |
|------------|-------------------------|------|-----------------------------------|----------------------------|--------|
| 1.         | pH Value @ 25°C         |      | 6.5-9.0                           | APHA 4500 H <sup>+</sup> B | 7.22   |
| 2.         | Total Suspended Solids  | mg/l | <20                               | APHA 2540 D                | 32.4   |
| 3.         | B.O.D for 3 days @ 27°C | mg/l | <10                               | APHA 5210 B                | 8.8    |
| 4.         | COD                     | mg/l | < 50                              | APHA 5220 C                | 40     |
| 5.         | Oil & Grease            | mg/l |                                   | APHA 5520 B                | 3.0    |

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Report No. - CEMC/ASL/100723/BW

**Issued Date-10.07.2023** 

## WATER TEST REPORT

Name of Company : Ardent Steel Ltd., Keonjhar, Odisha.

Sample Description : Bore Well Water

Date of Monitoring : 23.06.2023
Date of Receiving : 26.06.2023
Date of Analysis : 26.06.2023

Sample Collected by : Mr. Rabindranath Das.

Sample Location : Bore Well

#### **GROUND WATER TEST REPORT**

| Slr. |  |       |         |         |         | IS10500:2012        |                      |  |
|------|--|-------|---------|---------|---------|---------------------|----------------------|--|
| No.  | Parameters   | Unit  | BW1     | BW2     | BW3     | Acceptable<br>Limit | Permissible<br>Limit |  |
| 1    | Colour   | Hazen | <05     | <05     | <05     | 5                   | 15                   |  |
| 2    | Odour  |       | AL      | AL      | AL      | AL                  | AL                   |  |
| 3    | Taste  |       | AL      | AL      | AL      | AL                  | AL                   |  |
| 4    | Turbidity  | NTU   | <1.0    | <1.0    | <1.0    | 1                   | 5                    |  |
| 5    | pH Value @ 25°C  | mg/l  | 7.62    | 7.26    | 7.14    | 6.5-8.5             | No Relaxation        |  |
| 6    | Total Hardness<br>(as CaCO <sub>3</sub> )                      | mg/l  | 170     | 162     | 174     | 200                 | 600                  |  |
| 7    | Iron (as Fe)   | mg/l  | 0.22    | 0.24    | 0.2     | 0.3                 | No Relaxation        |  |
| 8    | Chloride (as Cl)   | mg/l  | 40.9    | 43.9    | 38.9    | 250                 | 1000                 |  |
| 9    | Residual, free<br>Chlorine                                     | mg/l  | ND      | ND      | ND      | 0.2                 | 1.0                  |  |
| 10   | Total Dissolved<br>Solids                                      | mg/l  | 262     | 268     | 258     | 500                 | 2000                 |  |
| 11   | Calcium (as Ca)  | mg/l  | 47.7    | 45.45   | 48.82   | 75                  | 200                  |  |
| 12   | Magnesium (as<br>Mg)   | mg/l  | 12.39   | 11.8    | 12.68   | 30                  | 100                  |  |
| 13   | Copper (as Cu)   | mg/l  | < 0.03  | < 0.03  | < 0.03  | 0.05                | 1.5                  |  |
| 14   | Manganese (as Mn)  | mg/l  | < 0.05  | < 0.05  | < 0.05  | 0.1                 | 0.3                  |  |
| 15   | Sulphate (as SO <sub>4</sub> )                                 | mg/l  | 18.8    | 17.4    | 20.2    | 200                 | 400                  |  |
| 16   | Nitrate (as NO <sub>3</sub> )                                  | mg/l  | 6.2     | 5.2     | 6.6     | 45                  | No Relaxation        |  |
| 17   | Fluoride (as F)  | mg/l  | 0.12    | 0.1     | 0.14    | 1.0                 | 1.5                  |  |
| 18   | Phenolic<br>Compounds (as<br>C <sub>6</sub> H <sub>5</sub> OH) | mg/l  | <0.001  | <0.001  | <0.001  | 0.001               | 0.002                |  |
| 19   | Mercury (as Hg)  | mg/l  | < 0.001 | < 0.001 | < 0.001 | 0.001               | No Relaxation        |  |
| 20   | Cadmium (as Cd)  | mg/l  | <0.003  | <0.003  | <0.003  | 0.003               | No Relaxation        |  |
| 21   | Selenium (as Se)   | mg/l  | < 0.001 | < 0.001 | < 0.001 | 0.01                | No Relaxation        |  |
| 22   | Arsenic (as As)  | mg/l  | < 0.001 | < 0.001 | < 0.001 | 0.01                | 0.05                 |  |

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| 23 | Cyanide (as CN)                             | mg/l      | ND     | ND     | ND     | 0.05                    | No Relaxation |
|----|---|-----------|--------|--------|--------|-------------------------|---------------|
| 24 | Lead (as Pb)                                | mg/l      | < 0.01 | < 0.01 | < 0.01 | 0.01                    | No Relaxation |
| 25 | Zinc (as Zn)                                | mg/l      | < 0.05 | < 0.05 | < 0.05 | 5                       | 15            |
| 26 | Chromium (as<br>Cr)                         | mg/l      | < 0.05 | < 0.05 | < 0.05 | 0.05                    | No Relaxation |
| 27 | Mineral Oil                                 | mg/l      | < 0.05 | < 0.05 | < 0.05 | 0.5                     | No Relaxation |
| 28 | Total Alkalinity<br>(as CaCO <sub>3</sub> ) | mg/l      | 148    | 140    | 126    | 200                     | 600           |
| 29 | Aluminium (as<br>Al)                        | mg/l      | < 0.01 | <0.01  | < 0.01 | 0.03                    | 0.2           |
| 30 | Boron (as B)                                | mg/l      | < 0.2  | < 0.2  | < 0.2  | 0.5                     | 1.0           |
| 31 | Total Coliform                              | MPN/100ml | Absent | Absent | Absent | Absent in 100 mL Sample |               |
| 32 | Faecal Coliform                             | MPN/100ml | Absent | Absent | Absent | Absent in 100 mL Sample |               |

**N.B:** AL – Agreeable

\*END OF REPORT\*

Authorized Signatory

Notes:

➤ The result relate only to the sample tested.

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Report No. - CEMC/ASL/100723/SW

**Issued Date-10.07.2023** 

### WASTE TEST REPORT

Name of Company : Ardent Steel Ltd.
Sample Description : Waste material
Date of Monitoring : 23.06.2023
Date of Receiving : 26.06.2023
Date of Analysis : 26.06.2023

Sample Collected by : Mr. B.K.Samantaray

Sampling material : Used Oil

### **ANALYSIS RESULT**

| Sl.<br>No | Parameter                             | Unit of measurement | As per HWMR-2016<br>Schedule-V,Part-A,Max | Used Oil |
|-----------|---------------------------------------|---------------------|---|----------|
| 1         | Polychlorinated biphenyls (PCBs)      | ppm                 | <2  | ND       |
| 2         | Cadmium+Chromium+Nickel (as Cd+Cr+Ni) | ppm                 | 500                                       | 2.0      |
| 3         | Lead (as Pb)                          | ppm                 | 100                                       | 0.4      |
| 4         | Polyaromatic Hydrocarbon              | %                   | 6   | ND       |
| 5         | Arsenic (as As)                       | ppm                 | 5.0                                       | < 0.001  |

<sup>\*</sup>ND-Not Detected, ppm-parts per million

\*END OF REPORT\*

Authorized Signatory

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<sup>\*</sup>The test parameter is within the standard limit