



# CENTRE FOR ENVOTECH AND MANAGEMENT CONSULTANCY PVT. LTD.

An ISO 9001-2015 & OHSAS 45001:2018 Certified Company, Empanelled with OCCL, ORSAC and SPCB of Govt. of Odisha Accredited by NABET, QCI for EIA Studies as 'A' Category Consultant Organization. Empanelled with PCCF(Wildlife) & CWLW, Odisha Enlisted in Construction Industry Development Council (CIDC) established by the Planning Commission (Govt. of India) MoEF&CC, Govt. of India, Recognised Environment Laboratory under Environment (Protection) Act, 1986.

Report No. - CEMC/ASL/160622/A

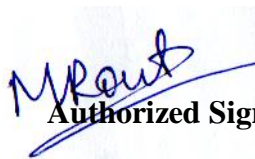
Issued Date-16.06.2022

## AMBIENT AIR QUALITY MONITORING TEST REPORT

Name of Company : Ardent Steel Ltd., Keonjhar, Odisha.  
 Sample Description : Ambient Air  
 Date of Monitoring : 07.06.2022  
 Date of Receiving : 08.06.2022  
 Date of Analysis : 08.06.2022  
 Sample Collected by : Mr. Rabindra Nath Das.

### ANALYSIS RESULT

| Sl. No.                    | LOCATION  | MONITORING REPORT                        |   |   |   |                            |   |
|----------------------------|---|--|---|---|---|----------------------------|---|
|                            |   | PM <sub>10</sub><br>(µg/m <sup>3</sup> ) | PM <sub>2.5</sub><br>(µg/m <sup>3</sup> ) | SO <sub>2</sub><br>(µg/m <sup>3</sup> ) | NO <sub>x</sub><br>(µg/m <sup>3</sup> ) | CO<br>(mg/m <sup>3</sup> ) | NH <sub>3</sub><br>(µg/m <sup>3</sup> ) |
| 1                          | At the boundary near the water harvesting pond (East Direction) | 72.4                                     | 36.2                                      | 12.8                                    | 16.1                                    | 0.5                        | <20                                     |
| 2                          | At the Boundary near ESP (South Direction)                      | 73.1                                     | 36.8                                      | 13.2                                    | 16.6                                    | 0.6                        | <20                                     |
| 3                          | At the Boundary near Coal Fines Stock yard (North Direction)    | 74.3                                     | 38.4                                      | 13.9                                    | 17.8                                    | 0.6                        | <20                                     |
| 4                          | Near Ball mill, Iron ore fines stock yard                       | 75.5                                     | 38.7                                      | 13.4                                    | 15.9                                    | 0.5                        | <20                                     |
| <b>NAAQ Standard-2009</b>  |   | <b>100</b>                               | <b>60</b>                                 | <b>80</b>                               | <b>80</b>                               | <b>4.0</b>                 | <b>400</b>                              |
| <b>Methods of Analysis</b> |   | <b>IS: 5182 (Part-23)</b>                | <b>IS: 5182 (Part-24,2019)</b>            | <b>IS: 5182 (Part-2)</b>                | <b>IS: 5182 (Part-6)</b>                | <b>IS: 5182 (Part-10)</b>  | <b>IS: 5182 (Part-25,2019)</b>          |

  
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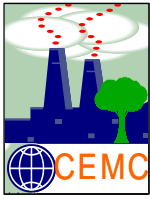
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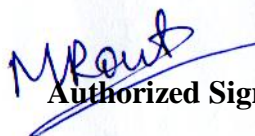
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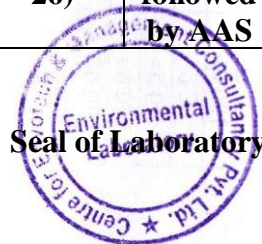
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## AMBIENT AIR QUALITY MONITORING TEST REPORT

Name of Company : Ardent Steel Ltd., Keonjhar, Odisha.  
 Sample Description : Ambient Air  
 Date of Monitoring : 07.06.2022  
 Date of Receiving : 08.06.2022  
 Date of Analysis : 08.06.2022  
 Sample Collected by : Mr. Rabindra Nath Das.

| Sl. No.                    | LOCATION  | MONITORING REPORT                  |                                    |                                  |   |   |                                   |
|----------------------------|---|------------------------------------|------------------------------------|----------------------------------|---|---|-----------------------------------|
|                            |   | O3<br>( $\mu\text{g}/\text{m}^3$ ) | Pb<br>( $\mu\text{g}/\text{m}^3$ ) | Ni<br>( $\text{ng}/\text{m}^3$ ) | As<br>( $\text{ng}/\text{m}^3$ )          | Benzene<br>( $\mu\text{g}/\text{m}^3$ ) | BaP<br>( $\text{ng}/\text{m}^3$ ) |
| 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 Coal Fines Stock yard (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                                |
| <b>NAAQ Standard-2009</b>  |   | <b>100</b>                         | <b>1.0</b>                         | <b>20</b>                        | <b>6</b>                                  | <b>5</b>                                | <b>1</b>                          |
| <b>Methods of Analysis</b> |   | <b>IS: 5182 (Part-9)</b>           | <b>IS: 5182 (Part-22)</b>          | <b>IS: 5182 (Part-26)</b>        | <b>As per CPCB method followed by AAS</b> | <b>IS: 5182 (Part-11)</b>               | <b>IS: 5182 (Part-12)</b>         |

  
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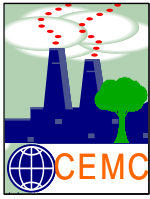
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Report No. - CEMC/ASL/160622/F

Issued Date-16.06.2022

## FUGITIVE EMISSION MONITORING TEST REPORT

Name of Company : Ardent Steel Ltd., Keonjhar, Odisha.  
Sample Description : Fugitive Emission  
Date of Monitoring : 07.06.2022  
Date of Receiving : 08.06.2022  
Date of Analysis : 08.06.2022  
Sample Collected by : Mr. Rabindra Nath Das.

### ANALYSIS RESULT

| Sl. No.  | LOCATION   | RESULT                            |                                  |
|--|--|-----------------------------------|----------------------------------|
|  |  | RSPM ( $\mu\text{g}/\text{m}^3$ ) | SPM ( $\mu\text{g}/\text{m}^3$ ) |
| 1  | Proportioning System (Ash & Coke Fines Bunker)               | 442                               | 1198                             |
| 2  | Raw Material Transfer point of Mixture (Mixture Building)    | 425                               | 1207                             |
| 3  | Ball Mill (Cool Grinding)                                    | 396                               | 1182                             |
| 4  | Ball Mill (Flux & Coke Grinding)                             | 403                               | 1214                             |
| 5  | Finished Product Transfer points and plant de-dusting system | 391                               | 1189                             |
| 6  | Travelling Grate & Rotary Kiln                               | 329                               | 1095                             |
| <b>Standard as per Environment (Protection Act) 3<sup>rd</sup> Amendment Rules-2012 by MoEF &amp; CC. at 10 m distance from the source</b> |  | --                                | <b>2000*</b>                     |

*MR Das*

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Seal of Laboratory



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Report No. - CEMC/ASL/160622/N

Issued Date-16.06.2022

## AMBIENT NOISE MONITORING TEST REPORT

Name of Company : Ardent Steel Ltd., Keonjhar, Odisha.  
Sample Description : Noise Monitoring  
Date of Monitoring : 07.06.2022  
Sample Collected by : Mr. Rabindra Nath Das

### ANALYSIS RESULT

| Sl. No. | Location  | Noise Level In Day Time dB(A) | Noise Level In Night Time dB(A) |
|---------|---|-------------------------------|---------------------------------|
| 01      | Ball Mill (Cool Grinding)                                 | 74.5                          | 69.6                            |
| 02      | Raw Material Transfer point of Mixture (Mixture Building) | 73.6                          | 68.4                            |

### NATIONAL STANDARD NOISE LEVEL

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

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Notes:



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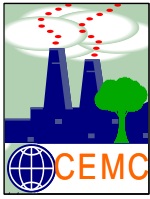
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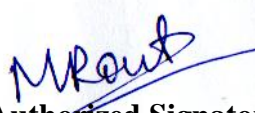
Issued Date-16.06.2022

## STACK EMISSION MONITORING TEST REPORT

Name of Company : Ardent Steel Ltd., Keonjhar, Odisha.  
Sample Description : Stack Monitoring  
Date of Monitoring : 07.06.2022  
Sample Collected by : Mr. Rabinara Nath Das  
Stack Height : 30m

### ANALYSIS RESULT

| Sl. No.                      | Location of Sampling | Flue Gas Temp. in K | Concentration of Particulate Matter (PM) in mg/Nm <sup>3</sup> |
|------------------------------|----------------------|---------------------|--|
|                              |                      |                     | Result   |
| 01                           | ESP                  | 419                 | 59.1   |
| Permissible Limit as per CTO |                      |                     | 50   |

  
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Notes:

Seal of Laboratory

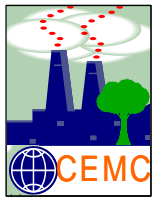


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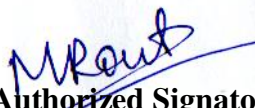
## DRINKING WATER TEST REPORT

Name of Company : Ardent Steel Ltd., Keonjhar, Odisha.  
 Sample Description : Ground Water  
 Date of Monitoring : 07.06.2022  
 Date of Receiving : 08.06.2022  
 Date of Analysis : 08.06.2022  
 Sample Collected by : Mr. Rabindra Nath Das.  
 Sample Location : Canteen(RO Water)

### ANALYSIS RESULT

| Sl. No | Parameter                                  | Unit  | Desired Limit of drinking water (BIS:10500:2012) | Permissible Limit of drinking water (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  | 6.33   |
| 6      | Total Dissolved Solid                      | mg/l  | 500  | 2000   | 103.9  |
| 7      | Alkalinity as CaCO <sub>3</sub>            | mg/l  | 200  | 600  | 38     |
| 8      | Total Hardness as CaCO <sub>3</sub>        | mg/l  | 200  | 600  | 42     |
| 9      | Iron as Fe                                 | mg/l  | 0.3  | No Relaxation  | 0.09   |
| 10     | Nitrate as NO <sub>3</sub> <sup>-</sup> -N | mg/l  | 45   | No Relaxation  | 0.61   |
| 11     | Sulphate as SO <sub>4</sub>                | mg/l  | 200  | 400  | 2.8    |
| 12     | Fluoride as F                              | mg/l  | 1.0  | 1.5  | <0.05  |
| 13     | Calcium as Ca                              | mg/l  | 75   | 200  | 12.02  |
| 14     | Chloride as Cl <sup>-</sup>                | mg/l  | 250  | 1000   | 6.6    |

N.B: AL – Agreeable

  
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 Notes:

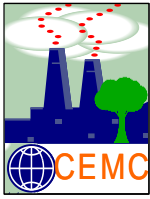


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Report No. - CEMC/ASL/160622/SW

Issued Date-16.06.2022

## SURFACE WATER TEST REPORT

Name of Company : Ardent Steel Ltd., Keonjhar, Odisha.  
Sample Description : Surface Water  
Date of Monitoring : 07.06.2022  
Date of Receiving : 08.06.2022  
Date of Analysis : 08.06.2022  
Sample Collected by : Mr. Rabindra Nath Das.  
Sample Location : Reservoir

## ANALYSIS RESULT

| Sl. No | Parameter                                  | Unit  | GSR 422E Standards | Result |
|--------|--|-------|--------------------|--------|
| 1      | Colour                                     | Hazen | --                 | 10     |
| 2      | Odour                                      | -     | --                 | U/O    |
| 3      | pH Value @ 25°C                            | -     | 5.5-9.0            | 6.91   |
| 4      | Total Dissolved Solid                      | mg/l  | 2100               | 379    |
| 5      | Iron as Fe                                 | mg/l  | 3.0                | 0.34   |
| 6      | Sulphate as SO <sub>4</sub>                | mg/l  | 1000               | 19.2   |
| 7      | Nitrate as NO <sub>3</sub> <sup>-</sup> -N | mg/l  | 50                 | 24.6   |
| 8      | Boron as B                                 | mg/l  | 2.0                | 0.23   |
| 9      | BOD for 3 days @ 27°C                      | mg/l  | 30                 | 3.2    |
| 10     | COD  | mg/l  | 250                | 28     |

N.B: U/O- Un-objectionable

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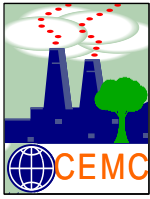


Seal of Laboratory

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MoEF&CC, Govt. of India, Recognised Environment Laboratory under Environment (Protection) Act, 1986.

Report No. - CEMC/ASL/160622/WW


Issued Date-16.06.2022

## WASTE WATER TEST REPORT

Name of Company : Ardent Steel Ltd., Keonjhar, Odisha.  
Sample Description : Waste Water  
Date of Monitoring : 07.06.2022  
Date of Receiving : 08.06.2022  
Date of Analysis : 08.06.2022  
Sample Collected by : Mr. Rabindra Nath Das.  
Sample Location : STP Outlet

## ANALYSIS RESULT

| Sl. No. | Parameter               | Unit | Effluent Discharge Standard | Testing Method             | Result |
|---------|-------------------------|------|-----------------------------|----------------------------|--------|
| 1.      | pH Value @ 25°C         | --   | 6.5-9.0                     | APHA 4500 H <sup>+</sup> B | 6.53   |
| 2.      | Total Suspended Solids  | mg/l | <20                         | APHA 2540 D                | 14.3   |
| 3.      | B.O.D for 3 days @ 27°C | mg/l | <10                         | APHA 5210 B                | 9.6    |
| 4.      | COD                     | mg/l | <50                         | APHA 5220 C                | 36     |
| 5.      | Oil & Grease            | mg/l | --                          | APHA 5520 B                | 0.9    |

  
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Notes:



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Regd. Office: 1<sup>st</sup> Floor, N-5/305, IRC village, Nayapalli, Bhubaneswar-751015, Odisha, India, Mobile: 9861032826  
E-mail- cemc\_consultancy@yahoo.co.in, cemc122@gmail.com, website: www.cemc.in.

Laboratory At: Plot No. 800/1274, Johal, Pahal, Bhubaneswar-752101,  
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Report No. - CEMC/ASL/160622/BW

Issued Date-16.06.2022

## WATER TEST REPORT

Name of Company : Ardent Steel Ltd., Keonjhar, Odisha.  
Sample Description : Bore Well Water  
Date of Monitoring : 07.06.2022  
Date of Receiving : 08.06.2022  
Date of Analysis : 08.06.2022  
Sample Collected by : Mr. Rabindra Nath Das.  
Sample Location : Bore Well

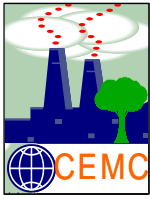
## GROUND WATER TEST REPORT

| Slr. No. | Parameters   | Unit  | BW1    | BW2    | BW3    | IS10500:2012     |                   |
|----------|--|-------|--------|--------|--------|------------------|-------------------|
|          |  |       |        |        |        | Acceptable Limit | Permissible 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  | 7.82   | 7.02   | 7.31   | 6.5-8.5          | No Relaxation     |
| 6        | Total Hardness (as CaCO <sub>3</sub> )                   | mg/l  | 116    | 108    | 126    | 200              | 600               |
| 7        | Iron (as Fe)   | mg/l  | 0.19   | 0.15   | 0.21   | 0.3              | No Relaxation     |
| 8        | Chloride (as Cl)   | mg/l  | 32.9   | 28.9   | 33.9   | 250              | 1000              |
| 9        | Residual, free Chlorine                                  | mg/l  | ND     | ND     | ND     | 0.2              | 1.0               |
| 10       | Total Dissolved Solids                                   | mg/l  | 256    | 245.6  | 270    | 500              | 2000              |
| 11       | Calcium (as Ca)  | mg/l  | 32.5   | 30.3   | 35.6   | 75               | 200               |
| 12       | Magnesium (as Mg)  | mg/l  | 8.4    | 7.8    | 9.8    | 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  | 13.6   | 12.1   | 16.7   | 200              | 400               |
| 16       | Nitrate (as NO <sub>3</sub> )                            | mg/l  | 5.1    | 4.9    | 6.1    | 45               | No Relaxation     |
| 17       | Fluoride (as F)  | mg/l  | 0.17   | 0.4    | 0.19   | 1.0              | 1.5               |
| 18       | Phenolic Compounds (as 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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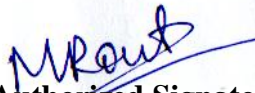
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|    |  |           |        |        |        |                         |               |
|----|--|-----------|--------|--------|--------|-------------------------|---------------|
| 23 | Cyanide (as CN)                          | mg/l      | ND     | 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 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 (as CaCO <sub>3</sub> ) | mg/l      | 120    | 110    | 140    | 200                     | 600           |
| 29 | Aluminium (as 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:**

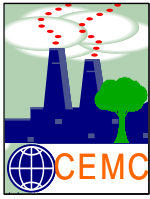
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**E-mail- [cemc\\_consultancy@yahoo.co.in](mailto:cemc_consultancy@yahoo.co.in), [cemc122@gmail.com](mailto:cemc122@gmail.com), website: [www.cemc.in](http://www.cemc.in).**

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Report No. - CEMC/ASL/160622/SW

Issued Date-16.06.2022

Name of Company : Ardent Steel Ltd.  
Sample Description : Waste material  
Date of Monitoring : 07.06.2022  
Date of Receiving : 08.06.2022  
Date of Analysis : 08.06.2022  
Sample Collected by : Mr. Rabindra Nath Das.  
Sampling material : Used Oil

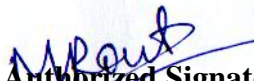
## ANALYSIS RESULT

| Sl. No | Parameter                             | Unit of measurement | As per HWMR-2016 Schedule-V,Part-A,Max | Used Oil |
|--------|---------------------------------------|---------------------|--|----------|
| 1      | Polychlorinated biphenyls (PCBs)      | ppm                 | <2                                     | ND       |
| 2      | Cadmium+Chromium+Nickel (as Cd+Cr+Ni) | ppm                 | 500                                    | 1.09     |
| 3      | Lead (as Pb)                          | ppm                 | 100                                    | 0.21     |
| 4      | Polyaromatic Hydrocarbon              | %                   | 6                                      | ND       |
| 5      | Arsenic (as As)                       | ppm                 | 5.0                                    | <0.001   |

\*ND-Not Detected, ppm-parts per million

\*The test parameter is within the standard limit

**\*END OF REPORT\***

  
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