

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).

### Report No. - CEMC/ASL/050324/A

Issued Date-05.03.2024

## AMBIENT AIR QUALITY MONITORING TEST REPORT

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

Sample Description : Ambient Air
Date of Monitoring : 27.02.2024
Date of Receiving : 29.02.2024
Date of Analysis : 29.02.2024

Sample Collected by : Mr. Rabindranath Das.

### **ANALYSIS RESULT**

Sl.	LOCATION	MONITORING REPORT						
No.	No.		PM <sub>2.5</sub> (μg/m <sup>3</sup> )	$SO_2$ (µg/m <sup>3</sup> )	$NO_x$ ( $\mu g/m^3$ )	CO (mg/m³)	NH <sub>3</sub> (μg/m <sup>3</sup> )	
1	At the boundary near the water harvesting pond (East Direction)	70.2	38.0	16.8	20.2	0.25	<20	
2	At the Boundary near ESP (South Direction)	64.6	34.2	13.4	17.6	0.22	<20	
3	At the Boundary near Coal Fines Stock yard (North Direction)	62.4	33.6	11.8	16.2	0.3	<20	
4	Near Ball mill,Iron ore fines stock yard	73.8	40.2	17.2	20.0	0.36	<20	
NAAQ Standard-2009		100	60	80	80	4.0	400	
Methods of Analysis		IS: 5182 (Part-23)	IS: 5182 (Part- 24,2019)	IS: 5182 (Part-2)	IS: 5182 (Part-6)	IS: 5182 (Part-10)	IS: 5182 (Part- 25,2019)	

## Notes:

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E-mail- cemc\_consultancy@yahoo.co.in, cemc122@gmail.com, website: www.cemc.in.

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Issued Date-05.03.2024

## AMBIENT AIR OUALITY MONITORING TEST REPORT

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

Sample Description: Ambient AirDate of Monitoring: 27.02.2024Date of Receiving: 29.02.2024Date of Analysis: 29.02.2024

Sample Collected by : Mr. Rabindranath Das.

Sl.		MONITORING REPORT								
No.	LOCATION	О3	Pb	Ni	As	Benzene	BaP			
110.		$(\mu g/m3)$	$(\mu g/m3)$	(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 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			
NAA	Q Standard-2009	100	1.0	20	6	5	1			
Methods of Analysis		IS: 5182 (Part-9)	IS: 5182 (Part- 22)	IS: 5182 (Part- 26)	As per CPCB method followed by AAS	IS: 5182 (Part-11)	IS: 5182 (Part- 12)			

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Report No. - CEMC/ASL/050324/F

**Issued Date-05.03.2024** 

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

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

Sample Description : Fugitive Emission

Date of Monitoring : 27.02.2024
Date of Receiving : 29.02.2024
Date of Analysis : 29.02.2024

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	1060
2	Raw Material Transfer point of Mixture (Mixture Building)	452	1102
3	Ball Mill (Cool Grinding)	388	1170
4	Ball Mill (Flux & Coke Grinding)	492	1114
5	Finished Product Transfer points and plant de-dusting system	398	998
6	Travelling Grate & Rotary Kiln	394	994
	lard as per Environment (Protection Act)3 <sup>rd</sup> Amendment -2012 by MoEF & CC. at 10 m distance from the source		2000*

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Report No. - CEMC/ASL/050324/N

Issued Date-05.03.2024

#### AMBIENT NOISE MONITORING TEST REPORT

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

Sample Description : Noise Monitoring

Date of Monitoring : 27.02.2024

Sample Collected by : Mr. Rabindranath 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)	84.2	79.8
02	Raw Material Transfer point of Mixture (Mixture Building)	79.9	72.9

### **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/050324/St

Issued Date-05.03.2024

### STACK EMISSION MONITORING TEST REPORT

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

Sample Description : Stack Monitoring

Date of Monitoring : 27.02.2024

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	391	41
Permissible Limit as per CTO			50

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Report No. - CEMC/ASL/050324/DW

Issued Date-05.03.2024

### **DRINKING WATER TEST REPORT**

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

Sample Description : Ground Water
Date of Monitoring : 27.02.2024
Date of Receiving : 29.02.2024
Date of Analysis : 29.02.2024

Sample Collected by : Mr. Rabindranath 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	6.7
6	Total Dissolved Solid	mg/l	500	2000	68
7	Alkalinity as CaCO <sub>3</sub>	mg/l	200	600	48
8	Total Hardness as CaCO <sub>3</sub>	mg/l	200	600	50
9	Iron as Fe	mg/l	0.3	No Relaxation	0.1
10	Nitrate as NO <sub>3</sub> <sup>-</sup> -N	mg/l	45	No Relaxation	0.6
11	Sulphate as SO <sub>4</sub>	mg/l	200	400	7.2
12	Fluoride as F	mg/l	1.0	1.5	< 0.05
13	Calcium as Ca	mg/l	75	200	13.6
14	Chloride as Cl <sup>-</sup>	mg/l	250	1000	11.2

**N.B:** AL – Agreeable

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Report No. - CEMC/ASL/050324/SW

Issued Date-05.03.2024

## **SURFACE WATER TEST REPORT**

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

Sample Description:Surface WaterDate of Monitoring:27.02.2024Date of Receiving:29.02.2024Date of Analysis:29.02.2024

Sample Collected by : Mr. Rabindranath Das.

Sample Location : Reservoir

### **ANALYSIS RESULT**

Sl. No	Parameter	Unit	GSR 422E Standards	Result
1	Colour	Hazen		5
2	Odour	-		U/O
3	pH Value @ 25°C	-	5.5-9.0	6.1
4	Total Dissolved Solid	mg/l	2100	172
5	Iron as Fe	mg/l	3.0	0.4
6	Sulphate as SO <sub>4</sub>	mg/l	1000	16.2
7	Nitrate as NO <sub>3</sub> <sup>-</sup> -N	mg/l	50	15.8
8	Boron as B	mg/l	2.0	0.14
9	BOD for 3 days @ 27°C	mg/l	30	16.2
10	COD	mg/l	250	50

N.B: U/O- Un-objectionable

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Report No. - CEMC/ASL/050324/WW

**Issued Date-05.03.2024** 

### **WASTE WATER TEST REPORT**

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

Sample Description: Waste WaterDate of Monitoring: 27.02.2024Date of Receiving: 29.02.2024Date of Analysis: 29.02.2024

Sample Collected by : Mr. Rabindranath 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	6.78
2.	Total Suspended Solids	mg/l	<20	APHA 2540 D	34.2
3.	B.O.D for 3 days @ 27°C	mg/l	<10	APHA 5210 B	9.0
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/050324/BW

Issued Date-05.03.2024

## WATER TEST REPORT

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

Sample Description : Bore Well Water

Date of Monitoring : 27.02.2024
Date of Receiving : 29.02.2024
Date of Analysis : 29.02.2024

Sample Collected by : Mr. Rabindranath Das.

Sample Location : Bore Well

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

Slr.						IS10500:2012		
No.	Parameters	Unit	BW1	BW2	BW3	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	7.14	7.22	7.1	6.5-8.5	No Relaxation	
6	Total Hardness (as CaCO <sub>3</sub> )	mg/l	172	162	170	200	600	
7	Iron (as Fe)	mg/l	0.2	0.25	0.22	0.3	No Relaxation	
8	Chloride (as Cl)	mg/l	39.9	41.9	35.9	250	1000	
9	Residual, free Chlorine	mg/l	ND	ND	ND	0.2	1.0	
10	Total Dissolved Solids	mg/l	260	252	266	500	2000	
11	Calcium (as Ca)	mg/l				75	200	
12	Magnesium (as Mg)	mg/l				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	16.6	15.2	14.8	200	400	
16	Nitrate (as NO <sub>3</sub> )	mg/l	6.2	5.8	7.0	45	No Relaxation	
17	Fluoride (as F)	mg/l	< 0.05	0.1	0.14	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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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	140	148	124	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 10	0 mL Sample

N.B: AL – Agreeable

\*END OF REPORT\*

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Report No. - CEMC/ASL/050324/SW

**Issued Date-05.03.2024** 

### WASTE TEST REPORT

Name of Company : Ardent Steel Ltd.
Sample Description : Waste material
Date of Monitoring : 27.02.2024
Date of Receiving : 29.02.2024
Date of Analysis : 29.02.2024

Sample Collected by : Mr. B.K.Samantaray

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	1.5
3	Lead (as Pb)	ppm	100	0.36
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

Votes:

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Laboratory Sea

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



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### Report No. - CEMC/ASL/050324/WW

Issued Date-05.03.2024

## WATER TEST REPORT

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

Sample Description : Waste Water
Date of Monitoring : 27.02.2024
Date of Receiving : 29.02.2024
Date of Analysis : 29.02.2024

Sample Collected by : Mr. Rabindranath Das.

Sample Location : ETP OUTLET

### **ANALYSIS RESULT**

Sl. No.	Parameter	Unit	Effluent Discharge Standard (a)	Testing Method	Result
1.	pH Value @ 25°C	-	6.5-9.0	APHA 4500 H <sup>+</sup> B	7.12
2.	Total Suspended Solids	mg/l	<100	APHA 2540 D	30.2
3.	B.O.D for 3 days @ 27°C	mg/l	<30	IS 3025(Part-44)	17.6
4.	C.O.D	mg/l	<250	APHA 5220 B	48
5.	Oil & grease	mg/l	<10	APHA 5520 B	<1

\*END OF REPORT\*

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Environmental Laboratory

Laboratory Seal

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E-mail- cemc\_consultancy@yahoo.co.in, cemc122@gmail.com, website: www.cemc.in.

Laboratory At: Plot No. 800/1274, Johal, Pahal, Bhubaneswar-752101, Odisha, India, ,Mobile: 7752014842 E-mail: cemclab@yahoo.in



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### Report No. - CEMC/ASL/050324/WW

Issued Date-05.03.2024

## **WATER TEST REPORT**

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

Sample Description: Waste WaterDate of Monitoring: 27.02.2024Date of Receiving: 29.02.2024Date of Analysis: 29.02.2024

Sample Collected by : Mr. Rabindranath Das.

Sample Location : STP INLET

#### **ANALYSIS RESULT**

Sl. No.	Parameter	Unit	Testing Method	Result
1.	pH Value @ 25°C	-	APHA 4500 H <sup>+</sup> B	6.84
2.	Total Suspended Solids	mg/l	APHA 2540 D	120
3.	B.O.D for 3 days @ 27°C	mg/l	IS 3025(Part-44)	140
4.	Faecal Coliform	MPN/100ml	IS 1622	>1600

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### **WATER TEST REPORT**

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Sample Description : Waste Water
Date of Monitoring : 27.02.2024
Date of Receiving : 29.02.2024
Date of Analysis : 29.02.2024

Sample Collected by : Mr. Rabindranath Das.

Sample Location : STP OUTLET

#### **ANALYSIS RESULT**

Sl. No.	Parameter	Unit	Effluent Discharge Standard (a)	Testing Method	Rresult
1.	pH Value @ 25°C	-	6.5-9.0	APHA 4500 H <sup>+</sup> B	7.44
2.	Total Suspended Solids	mg/l	<100	APHA 2540 D	18.6
3.	B.O.D for 3 days @ 27°C	mg/l	<30	IS 3025(Part-44)	22.2
4.	Faecal Coliform	MPN/100ml	<1000	IS 1622	31

\*END OF REPORT\*

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