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Reference No : CEMC/ASL/April-A/21

Name of Company : Ardent Steel Ltd.

Sample Description : Ambient Air Monitoring.

Date of Monitoring : 12.04.2021
Date of Receiving : 14.04.2021
Date of Analysis : 14.04.2021

Sample Collected by : Mr. B.K.Samantaray.

AMBIENT AIR QUALITY TEST REPORT (24 HOURLY AVERAGE)

Date	$PM_{10} \ (\mu g/m^3)$	PM _{2.5} (μg/m ³)	$SO_2 \ (\mu g/m^3)$	NOx (μg/m ³)	CO (mg/m³)	NH ₃ (μg/m ³)	$O_3 \ (\mu g/m^3)$	$Pb (\mu g/m^3)$	Ni (ng/m³)	As (ng/m ³)	Benzene (µg/m³)	BaP (ng/m³)
At the boundary near the water harvesting pond (East Direction)	71.9	38.5	12.8	17.2	0.5	<20	<10	<0.06	<0.6	<0.44	<1	<1
At the Boundary near ESP (South Direction)	67.6	36.8	12.1	16.4	0.5	<20	<10	<0.06	<0.6	<0.44	<1	<1
At the Boundary near Coal Fines Stock yard (North Direction)	72.7	38.6	12.7	17.3	0.6	<20	<10	<0.06	<0.6	<0.44	<1	<1
Near Ball mill,Iron ore fines stock yard	70.5	37.7	12.3	16.1	0.5	<20	<10	<0.06	<0.6	<0.44	<1	<1
NAAQ* Standard	100	60	80	80	4	400	100	1.0	20	6	5	1
Methods of Analysis	IS: 5182 (Part-23)	IS: 5182 (Part- 24,2019)			IS: 5182 (Part-10)	IS: 5182 (Part- 25,2019)		IS: 5182 (Part-22)	As per CPCB method followed by AAS	As per CPCB method followed by AAS		IS: 5182 (Part-12)

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Environmental Studies (EIA & EMP), Monitoring, Forest Diversion Planning, DPR, Wildlife Management Plan, Hazardous & Safety Studies, RS& GIS, Baseline Survey, Hydrological & Geological Studies, Socio-economic Studies, DGPS & ETS Survey.

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Reference No : CEMC/ASL/April-F/21

Name of Company : **Ardent Steel Ltd.**Sample Description : **Fugitive Emission**

Date of Monitoring : 12.04.2021
Date of Receiving : 14.04.2021
Date of Analysis : 14.04.2021

Sample Collected by : Mr. B.K.Samantaray.

FUGITIVE EMISSION TEST REPORT

Sl.		RESULT		
No.	LOCATION	RSPM (µg/m³)	SPM (µg/m³)	
1	Proportioning System (Ash & Coke Fines Bunker)	352	1142	
2	Raw Material Transfer point of Mixture (Mixture Building)	317	1123	
3	Ball Mill (Cool Grinding)	329	1194	
4	Ball Mill (Flux & Coke Grinding)	308	1165	
5	Finished Product Transfer points and plant de-dusting system	296	1099	
6	Travelling Grate & Rotary Kiln	302	1087	
	MoEF Standard for SPM		2000*	

^{*} The standard is applicable at 10 m distance from the source

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Reference No : CEMC/ASL/April-N/21

Name of Company : Ardent Steel Ltd.

Sample Description : Noise Monitoring Report

Date of Monitoring : 12.04.2021

Sample Collected by : Mr. B.K.Samantaray.

NOISE LEVEL STUDY REPORT

Sl. No.	Location	Noise Level In Day Time dB(A)	Noise Level In Night Time dB(A)
01	Ball Mill (Cool Grinding)	74.3	68.7
02	Raw Material Transfer point of Mixture (Mixture Building)	73.1	68.2

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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Reference No : CEMC/ASL/April-St/21

Name of Company : Ardent Steel Ltd.
Sample Description : Stack Monitoring

Date of Monitoring : 12.04.2021
Date of Receiving : 14.04.2021
Date of Analysis : 14.04.2021

Sample Collected by : Mr. B.K.Samantaray.

Stack Height : 30m

STACK EMISSION REPORT

Sl.	Location of Sampling	Flue Gas	Concentration of Particulate Matter (PM) in mg/Nm ³		
No.	•	Temp. in K	Result		
01	ESP	403	49.8		

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Reference No : CEMC/ASL/April-DW/21

Name of Company : Ardent Steel Ltd.
Sample Description : Drinking Water

12.04.2021

Date of Monitoring:12.04.2021Date of Receiving:14.04.2021Date of Analysis:14.04.2021

Sample Collected by : Mr. B.K.Samantaray.
Sample Location : Canteen(RO Water)

GROUND WATER TEST REPORT

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	1	Agreeable	Agreeable	AL
3	Taste	1	Agreeable	-	AL
4	Turbidity	NTU	1	5	<1
5	pH Value @ 25°C	1	6.5-8.5	No Relaxation	6.52
6	Total Dissolved Solid	mg/l	500	2000	56
7	Alkalinity as CaCO ₃	mg/l	200	600	24
8	Total Hardness as CaCO ₃	mg/l	200	600	22
9	Iron as Fe	mg/l	0.3	No Relaxation	0.06
10	Nitrate as NO ₃ -N	mg/l	45	No Relaxation	0.19
11	Sulphate as SO ₄	mg/l	200	400	1.2
12	Fluoride as F	mg/l	1.0	1.5	< 0.05
13	Calcium as Ca	mg/l	75	200	6.01
14	Chloride as Cl ⁻	mg/l	250	1000	2.3

N.B: AL – Agreeable

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Reference No : CEMC/ASL/April-GW/21

Name of Company:Ardent Steel Ltd.Sample Description:Ground WaterDate of Monitoring:12.04.2021

Date of Receiving : 14.04.2021 Date of Analysis : 14.04.2021

Sample Collected by : Mr. B.K.Samantaray.

Sample Location : **BoreWell**

GROUND WATER TEST REPORT

Slr.						IS105	00:2012
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	7.16	7.14	7.12	6.5-8.5	No Relaxation
6	Total Hardness (as CaCO ₃)	mg/l	138	160	156	200	600
7	Iron (as Fe)	mg/l	0.24	0.28	0.28	0.3	No Relaxation
8	Chloride (as Cl)	mg/l	30	33	32	250	1000
9	Residual, free Chlorine	mg/l	ND	ND	ND	0.2	1.0
10	Total Dissolved Solids	mg/l	222	230	228	500	2000
11	Calcium (as Ca)	mg/l	39.28	48.09	47.29	75	200
12	Magnesium (as Mg)	mg/l	9.72	9.72	9.23	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 ₄)	mg/l	14.2	15.2	13.4	200	400
16	Nitrate (as NO ₃)	mg/l	4.5	5.6	4.9	45	No Relaxation
17	Fluoride (as F)	mg/l	0.16	0.18	0.17	1.0	1.5
18	Phenolic Compounds (as C ₆ H ₅ 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
23	Cyanide (as CN)	mg/l	ND	ND	ND	0.05	No Relaxation

Environmental Studies (EIA & EMP), Monitoring, Forest Diversion Planning, DPR, Wildlife Management Plan, Hazardous & Safety Studies, RS& GIS, Baseline Survey, Hydrological & Geological Studies, Socio-economic Studies, DGPS & ETS Survey.

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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 ₃)	mg/l	134	140	138	200	600
29	Aluminium (as Al)	mg/l	< 0.01	< 0.01	< 0.01	0.03	0.2
30	Boron (as B)		< 0.2	< 0.2	< 0.2	0.5	1.0
31	Total Coliform	MPN/100ml	Absent	Absent	Absent	Absent in 100 mL Sample	Absent
32	Faecal Coliform		Absent	Absent	Absent	Absent in 100 mL Sample	Absent

N.B: AL – Agreeable

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Reference No : CEMC/ASL/April-SW/21

Name of Company : Ardent Steel Ltd.

Date of Monitoring : 12.04.2021
Date of Receiving : 14.04.2021
Date of Analysis : 14.04.2021

Sample Collected by : Mr. B.K.Samantaray.
Sample Location : Reservoir(settling pond)

SURFACE WATER TEST REPORT

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	7.45
4	Total Dissolved Solid	mg/l	2100	378.3
5	Iron as Fe	mg/l	3.0	0.34
6	Sulphate as SO ₄	mg/l	1000	16.1
7	Nitrate as NO ₃ -N	mg/l	50	13.9
8	Boron as B	mg/l	2.0	0.14
9	BOD for 3 days @ 27 ^o C	mg/l	30	2.2
10	COD	mg/l	250	24.8

N.B: U/O- Un-objectionable

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Reference No : CEMC/ASL/April-WW/21

Name of Company : Ardent Steel Ltd.
Sample Description : Waste Water
Date of Monitoring : 12.04.2021
Date of Receiving : 14.04.2021
Date of Analysis : 14.04.2021

Sample Collected by : Mr. B.K.Samantaray

Sample Location : STP

ANALYSIS RESULT

Sl. No.	Parameter	Unit	Effluent Discharge Standard	Testing Method	Inlet	Outlet
1.	pH Value @ 25°C		6.5-9.0	APHA 4500 H ⁺ B	7.9	7.49
2.	Total Suspended Solids	mg/l	<20	APHA 2540 D	80.6	10.3
3.	B.O.D for 3 days @ 27°C	mg/l	<10	APHA 5210 B	38	9.0
4.	COD	mg/l	< 50	APHA 5220 C	125	28
5.	Oil & Grease	mg/l		APHA 5520 B	4.2	0.7

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Reference No : CEMC/ASL/April-WT/21

Name of Company : Ardent Steel Ltd.
Sample Description : Waste material
Date of Monitoring : 12.04.2021
Date of Receiving : 14.04.2021
Date of Analysis : 14.04.2021

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	1.24
3	Lead (as Pb)	ppm	100	0.11
4	Polyaromatic Hydrocarbon	%	6	ND
5	Arsenic (as As)	ppm	5.0	< 0.001

^{*}ND-Not Detected, ppm-parts per million

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^{*}The test parameter is within the standard limit