

Recognition by MoEF under Environment (Protection) Act, 1986 (Certified by ISO-14001-2015,ISO 22000-2018, ISO 45001-2018,ISO 9001-2015)

C.M.C Ward No 18 & C.T.C W.No.16 T.S No. 695/A/32/B1, Block No 19 (1st & 2nd Floor) Sanganakallu Road, KEB Circle, Ballari - 583103 Contact No : Mob : 94498 03895, (0) : 08392-255169,

E-mail: msvalbellary2018@gmail.com, labmsv@gmail.com Website: www.msvalbellary.com

MSVAL/A/F/16/03

ANALYSIS REPORT OF AMBIENT AIR OHALITY

1.	Name of the Industry		M/s. The Sandur Manganese & Iron Ores Ltd. (Metal & Ferro Alloys Plant)
2.	Address	:	Vyasanakere, Hanumanahalli Village, Hospet Taluk, Bellary District, Karnataka.
3.	Sample Collected By		MSV Analytical laboratories, Bellary.
4.	Particulars of Sample Collected	:	RDS-460BL, FPS-APM 550
5	Month of Collection	:	June -2022
6.	Name of the location		Smiore Colony
7.	Report Issued Date	:	02.07.2022

	PARAMETERS & THEIR MAXIMUM STANDARS		PM ₁₀ [μg/m³]	PM _{2.5} [μg/m³] MAX STD	SO ₂ [µg/m³]	NO ₂ [μg/m³]	Ammonia [NH ₃] [μg/m ³]	Ozone [O ₃] [µg/m ³] MAX STD 180 IS-5182 (P-2) -2001
Weeks			MAX STD		MAX STD	MAX STD	MAX STD 400 LAB SOP	
		100	60	80	80			
	Protocols		IS-5182 (P-6) - 2006	LAB SOP	IS 5182 (P-9) 1974	IS-5182 (P-23) -2006		
	Report Number	Date of Sampling	RESULTS	RESULTS	RESULTS	RESULTS	RESULTS	RESULTS
[St	MSVAL/2022/4939	06.06.22	57.5	26.4	12.2	16.7	Nil	10.1
1	MSVAL/2022/6100	08.06.22	55.3	26.5	10.1	14.6	Nil	8.2
IInd	MSVAL/2022/6287	10.06.22	58.7	30.7	10.4	18.1	Nil	9.4
	MSVAL/2022/6390	14.06.22	54.6	27.4	10.1	18.2	Nil	8.7
IIIrd	MSVAL/2022/6698	20.06.22	57.5	28.4	14.3	20.3	Nil	10.2
111	MSVAL/2022/6816	23.06.22	61.1	21.4	11.9	19.9	Nil	11.6
IV th	MSVAL/2022/6949	27.06.22	54.7	28.5	8.6	15.7	Nil	10.7
IVai	MSVAL/2022/6980	28.06.22	57.7	24.6	9.6	17.8	Nil	12.4

	PARAMETERS & THEIR STANDARS	Lead [Pb] [μg/m³]	Nickel [Ni] [ng/m³]	Arsenic [As] [ng/m³]	Benzene [C ₆ H ₆] [μg/m³]	Benzo(a)pyrene [Bap] [ng/m³]	Carbon Monoxide [CO] [mg/m ³]	
Weeks	****	1111/110	MAX STD	MAX STD	MAX STD	MAX STD	MAX STD	MAX STD
			1.0	CPCB Procedure	06	5.0	1.0	4.0 CPCB Procedure
	Protocols		IS:5182 (P 11) - 2006		LAB SOP	IS-5182 (P-2) - 2004	LAB SOP	
	REPORT NUMBER	Date of Sampling	RESULTS	RESULTS	RESULTS	RESULTS	RESULTS	RESULTS
J St	MSVAL/2022/4939	06.06.22	0.036	1.35	<0.5	<1.0	<0.5	0.42
1	MSVAL/2022/6100	08.06.22	0.023	1.30	<0.5	<1.0	<0.5	0.34
IInd	MSVAL/2022/6287	10.06.22	0.025	1.04	<0.5	<1.0	<0.5	0.33
11	MSVAL/2022/6390	14.06.22	0.021	1.24	<0.5	<1.0	<0.5	0.23
IIIrd	MSVAL/2022/6698	20.06.22	0.028	1.22	<0.5	<1.0	<0.5	0.34
111-"	MSVAL/2022/6816	23.06.22	0.020	1.36	<0.5	<1.0	<0.5	0.40
IV th	MSVAL/2022/6949	27.06.22	0.026	1.18	<0.5	<1.0	<0.5	0.32
1.4	MSVAL/2022/6980	28.06.22	0.021	1.23	<0.5	<1.0	<0.5	0.20

As per NAAQ Standards INFERENCE Report Status: Measured values For the above parameters are within the limit.

Verified by

Authorized Signature Zeville

Note: 1. The results listed only to the tested samples & applicable parameters;

2. Water samples will destroyed after 10days, Filter papers & Thimbles will be destroyed smooths from the date of issue of test certificate unless otherwise specified. ILC sample will be destroyed after 1 month from the date of test certificate issue.

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MSVAL/A/F/16/03

ANALYSIS REPORT OF AMBIENT AIR OHALITY

1.	Name of the Industry		M/s. The Sandur Manganese & Iron Ores Ltd. (Metal & Ferro Alloys Plant)
2.	Address	:	Vyasanakere, Hanumanahalli Village, Hospet Taluk, Bellary District, Karnataka.
3.	Sample Collected By		MSV Analytical laboratories, Bellary.
4.	Particulars of Sample Collected	:	RDS-460BL, FPS-APM 550
5	Month of Collection		June -2022
6.	Name of the location		Kallahalli Village
7.	Report Issued Date		02.07.2022

	PARAMETERS & THEIR MAXIMUM STANDARS		PM ₁₀ [μg/m³] MAX STD	PM _{2.5} [μg/m³] MAX STD	SO ₂ [μg/m³] MAX STD	NO ₂ [μg/m³]	Ammonia [NH ₃] [µg/m ³]	Ozone [O ₃] [μg/m³]
Weeks						MAX STD	MAX STD	MAX STD
			100	60	80	80	400	180
	Protocols		IS-5182 (P-6) - 2006	LAB SOP	IS 5182 (P-9) 1974	IS-5182 (P-23) -2006	LAB SOP	IS-5182 (P-2) -2001 RESULTS
	Report Number	Date of Sampling	RESULTS	RESULTS RESULTS	RESULTS	RESULTS		
Ist	MSVAL/2022/4942	06.06.22	55.3	18.5	9.8	14.7	Nil	10.9
28	MSVAL/2022/6103	08.06.22	54.3	17.3	13.9	16.7	Nil	8.5
IInd	MSVAL/2022/6288	10.06.22	60.4	24.4	17.1	19.9	Nil	10.4
••	MSVAL/2022/6391	14.06.22	49.5	19.4	9.2	14.3	Nil	6.1
IIIrd	MSVAL/2022/6699	20.06.22	58.9	20.8	11,0	17.3	Nil	9.4
111	MSVAL/2022/6817	23.06.22	56.4	17.6	9.1	13.3	Nil	12.8
IVth	MSVAL/2022/6952	27.06.22	55.5	17.7	8.5	16.5	Nil	9.8
IVai	MSVAL/2022/6983	28.06.22	54.7	17.6	7.4	17.7	Nil	8.3

	PARAMETERS & THEIR MAXIMUM STANDARS		Lead [Pb] [µg/m³]	Nickel [Ni] [ng/m³]	Arsenic [As] [ng/m³]	Benzene [C ₆ H ₆] [µg/m³]	Benzo(a)pyrene [Bap] [ng/m³]	Carbon Monoxide [CO] [mg/m³]
Weeks	****	********	MAX STD	MAX STD	MAX STD	MAX STD	MAX STD	MAX STD
			1.0 IS:5182 (P 11) - 2006	CPCB Procedure	06	5.0	1.0 LAB SOP	4.0
	Protocols				LAB SOP	IS-5182 (P-2) - 2004		CPCB Procedure
	REPORT NUMBER	Date of Sampling	RESULTS	RESULTS	RESULTS	RESULTS	RESULTS	RESULTS
I St	MSVAL/2022/4942	06.06.22	0.028	1.24	<0.5	<1.0	<0.5	0.36
	MSVAL/2022/6103	08.06.22	0.020	1.19	<0.5	<1.0	<0.5	0.27
IInd	MSVAL/2022/6288	10.06.22	0.041	1.25	<0.5	<1.0	<0.5	0,36
•••	MSVAL/2022/6391	14.06.22	0.021	1.19	<0.5	<1.0	<0.5	0.21
IIIrd	MSVAL/2022/6699	20.06.22	0.026	1.36	<0.5	<1.0	<0.5	0.34
111	MSVAL/2022/6817	23.06.22	0.024	1.21	<0.5	<1.0	<0.5	0.32
IV th	MSVAL/2022/6952	27.06.22	0.021	1.14	<0.5	<1.0	<0.5	0.28
1Vai	MSVAL/2022/6983	28.06.22	0.021	1.11	<0.5	<1.0	<0.5	0.22

INFERENCE

As per NAAQ Standards

Report Status: Measured values For the above parameters are within the limit.

Verified by

END OF REPORT

Authorized Signature Recheloe

Note: 1. The results listed only to the tested samples & applicable parameters,

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MSVAL/A/F/16/03

ANALYSIS REPORT OF AMBIENT AIR OUALITY

1.	Name of the Industry	:	M/s. The Sandur Manganese & Iron Ores Ltd. (Metal & Ferro Alloys Plant)
2.	Address		Vyasanakere, Hanumanahalli Village, Hospet Taluk, Bellary District, Karnataka.
3.	Sample Collected By	:	MSV Analytical laboratories, Bellary.
4.	Particulars of Sample Collected	:	RDS-460BL, FPS-APM 550
5	Month of Collection		June -2022
6.	Name of the location		Vysanakere Village
7.	Report Issued Date	:	02.07.2022

	PARAMETERS & THEIR	PM ₁₀ [μg/m³]	PM _{2.5} [μg/m³] MAX STD	SO ₂ [μg/m³]	NO ₂ [μg/m³]	Ammonia [NH ₃] [μg/m ³]	Ozone [O ₃] [μg/m ³] MAX STD 180 IS-5182 (P-2) -2001		
Weeks	Protocols			MAX STD	MAX STD	MAX STD		MAX STD	
Weeks				100	80	80		400	
			IS-5182 (P-6) - 2006	LAB SOP	IS 5182 (P-9) 1974	IS-5182 (P-23) -2006		LAB SOP	
	Report Number	Date of Sampling	RESULTS	RESULTS	RESULTS	RESULTS	RESULTS	RESULTS	
***	MSVAL/2022/4940	06.06.22	52.4	34.3	8.2	11.7	- Nil	8.6	
ISt	MSVAL/2022/6101	08.06.22	52.2	19.4	11.9	13.6	Nil	7.3	
IInd	MSVAL/2022/6289	10.06.22	61.7	17.2	15.4	22.2	Nil	10.8	
11	MSVAL/2022/6392	14.06.22	53.5	18.5	9.3	15.3	Nil	8.1	
TTTed	MSVAL/2022/6700	20.06.22	60.4	18.6	14.0	20.0	Nil	11.4	
IIIrd	MSVAL/2021/6818	23.06.22	53.6	20.7	9.4	15.1	Nil	12.2	
TT Pal-	MSVAL/2022/6950	27.06.22	49.7	35.9	8.4	12.9	Nil	9.3	
IV th	MSVAL/2022/6982	28.06.22	56.7	21.7	7.5	13.4	Nil	8.3	

	PARAMETERS & THEIR STANDARS	Lead [Pb] [µg/m³]	Nickel [Ni] [ng/m³]	Arsenic [As] [ng/m³]	Benzene [C ₆ H ₆] [μg/m³]	Benzo(a)pyrene [Bap] [ng/m³]	Carbon Monoxide [CO] [mg/m³]	
Week	*****	111 100	MAX STD	MAX STD	MAX STD	MAX STD	MAX STD	MAX STD
S			1.0	20	06	5.0	1.0	4.0
	Protocols		IS:5182 (P 11) - 2006	CPCB Procedure	LAB SOP	IS-5182 (P-2) - 2004	LAB SOP	CPCB Procedure
	REPORT NUMBER	Date of Sampling	RESULTS	RESULTS	RESULTS	RESULTS	RESULTS	RESULTS
[St	MSVAL/2022/4940	06.06.22	0.025	1.24	<0.5	<1.0	<0.5	0.28
Isc	MSVAL/2022/6101	08.06.22	0.020	1.22	<0.5	<1.0	<0.5	0.25
IInd	MSVAL/2022/6289	10.06.22	0.028	1.27	<0.5	<1.0	<0.5	0.40
IIId	MSVAL/2022/6392	14.06.22	0.025	1.18	<0.5	<1.0	<0.5	0.28
***-1	MSVAL/2022/6700	20.06.22	0.018	1.18	<0.5	<1.0	<0.5	0.30
IIIrd	MSVAL/2021/6818	23.06.22	0.026	1.16	<0.5	<1.0	<0.5	0.32
VV Pal	MSVAL/2022/6950	27.06.22	0.016	1.20	<0.5	<1.0	<0.5	0.17
IVth	MSVAL/2022/6982	28.06.22	0.019	1.11	<0.5	<1.0	<0.5	0.23

INFERENCE

As per NAAQ Standards

Report Status Measured values For the above parameters are within the limit.

Verified by

Authorized Signature

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MSVAL/A/F/16/03

ANALYSIS REPORT OF AMBIENT AIR QUALITY

1.	Name of the Industry	:	M/s. The Sandur Manganese & Iron Ores Ltd. (Metal & Ferro Alloys Plant)
2.	Address	:	Vyasanakere, Hanumanahalli Village, Hospet Taluk, Bellary District, Karnataka.
3.	Sample Collected By	:	MSV Analytical laboratories, Bellary.
4.	Particulars of Sample Collected	1	RDS-460BL, FPS-APM 550
5	Month of Collection		June -2022
6.	Name of the location	:	Gunda Village
7.	Report Issued Date	: .	02.07.2022

	PARAMETERS & THEIR MAXIMUM STANDARS		PM ₁₀ [μg/m³]	PM _{2.5} [μg/m³]	SO ₂ [μg/m³]	NO₂ [μg/m³]	Ammonia [NH ₃] [μg/m ³]	Ozone [O ₃] [μg/m³]
Weeks			MAX STD	MAX STD	MAX STD	MAX STD	MAX STD	MAX STD
WEEKS			100	60	80	80	LAB SOP	180 IS-5182 (P-2) -2001
	Protocols		IS-5182 (P-6) - 2006	LAB SOP	IS 5182 (P-9) 1974	IS-5182 (P-23) -2006		
	Report Number	Date of Sampling	RESULTS	RESULTS	RESULTS	RESULTS	RESULTS	RESULTS
JSt	MSVAL/2022/4941	06.06.22	54.3	15.4	7.9	14.8	Nil	12.2
1	MSVAL/2022/6102	08.06.22	51.1	16.4	7.3	11.9	Nil	6.1
IInd	MSVAL/2022/6290	10.06.22	60.0	18.9	14.7	20.1	Nil	9.2
	MSVAL/2022/6393	14.06.22	50.4	16.6	9.3	15.3	Nil	8.4
IIIrd	MSVAL/2022/6701	20.06.22	62.5	20.0	12.4	17.5	Nil	9.0
III.s	MSVAL/2022/6819	23.06.22	57.4	15.5	9.5	17.0	Nil	10.4
IVth	MSVAL/2022/6951	27.06.22	53.7	18.9	8.0	16.2	Nil	7.6
IVui	MSVAL/2022/6981	28.06.22	57.7	20.1	7.4	16.0	Nil	8.8

	PARAMETERS & THEIR STANDARS	Lead [Pb] [μg/m³]	Nickel [Ni] [ng/m³]	Arsenic [As] [ng/m³]	Benzene [C ₆ H ₆] [µg/m³]	Benzo(a)pyrene [Bap] [ng/m³]	Carbon Monoxide [CO] [mg/m ³]	
Weeks	********		MAX STD	MAX STD	MAX STD	MAX STD	MAX STD	MAX STD
weeks		1.0	20	06	5.0	1.0	4.0	
	Protocols		IS:5182 (P 11) - 2006	CPCB Procedure	LAB SOP	IS-5182 (P-2) - 2004	LAB SOP	CPCB Procedure
	REPORT NUMBER	Date of Sampling	RESULTS	RESULTS	RESULTS	RESULTS	RESULTS	RESULTS
ŢSt	MSVAL/2022/4941	06.06.22	0.042	1.34	<0.5	<1.0	<0.5	0.33
In	MSVAL/2022/6102	08.06.22	0.015	1.12	<0.5	<1.0	<0.5	0.22
IInd	MSVAL/2022/6290	10.06.22	0.025	1.33	<0.5	<1.0	<0.5	0.46
11	MSVAL/2022/6393	14.06.22	0.022	1.30	<0.5	<1.0	<0.5	0.20
IIIrd	MSVAL/2022/6701	20.06.22	0.030	1.36	<0.5	<1.0	<0.5	0.32
IIIIa	MSVAL/2022/6819	23.06.22	0.022	1.26	<0.5	<1.0	<0.5	0.24
IV th	MSVAL/2022/6951	27.06.22	0.037	1.24	<0.5	<1.0	<0.5	0.20
IVai	MSVAL/2022/6981	28.06.22	0.022	1.19	<0.5	<1.0	<0.5	0.21

INFERENCE

As per NAAQ Standards

Report Status: Measured values For the above parameters are within the limit.

Verified by

Authorized Signature

Note: 1. The results listed only to the tested samples & applicable parameters,
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MSVAL/A/F/18/03

ANALYSIS REPORT FOR SOURCE EMMISSION

Test Report No: TC720722000013441F

Report Issued Date: 23.06.2022

Name of the Industry

M/s. The Sandur Manganese & Iron Ores Ltd.

(Metal & Ferro Alloys Plant)

Vyasanakere, Hanumanahalli Village, Hospet Taluk, Bellary District, Karnataka.

Stack ID 2.

Coke Screening & Store

Sample Collected By 3.

MSV Analytical Laboratories, Bellary.

Particulars of Sample Collected 4.

Sample collected with VSS - 1

Date of Sample Receipt 5. **Analysis Starting Date**

17.06.2022 18.06.2022

6. **Analysis Completion Date** 7.

23.06.2022

Sample Tested as Received 8.

GENERAL DETAILS

GENERALD	L LILLE
Date of Monitoring	17.06.2022
Fuel Used	<u> </u>
Stack Temperature (°C)	155
Velocity (m/s)	8.2
Height (m)	15mtrs AGL
Diameter (m)	0.7
Cross sectional area (m²)	0.38465

RESULTS

Parameters	Protocol	Unit	Result	GSR 277 (E) Standards
Particulate Matter	IS-11255(Part1) - 1985	mg/Nm³	24.5	50
Sulphur dioxide	IS-11255(Part2) - 1985	mg/Nm³	15.3	800
Nitrogen dioxide	IS-11255(Part7) - 2005	mg/Nm³	11.5	500
Carbon Monoxide as(CO)	IS 13270	%	0.25	Max 1%

As per GSR 277 (E) Standards. Report Status :- The analyzed value for above measured parameter is INFERENCE within the limits.

Verified by

Authorized Signature

END OF REPOR'

Note: 1. The results listed only to the tested samples & applicable parameters,

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1.

MSV Analytical Laboratories

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MSVAL/A/F/18/03

ANALYSIS REPORT FOR SOURCE EMMISSION

Test Report No: TC720722000013442F

Report Issued Date: 23.06.2022

M/s. The Sandur Manganese & Iron Ores Ltd. Name of the Industry (Metal & Ferro Alloys Plant)

Vyasanakere, Hanumanahalli Village, Hospet Taluk, Bellary District, Karnataka.

Coke Cutter Stack ID 2.

MSV Analytical Laboratories, Bellary. Sample Collected By 3.

Sample collected with VSS - 1 Particulars of Sample Collected 4.

17.06.2022 **Date of Sample Receipt** 5. 18.06.2022 **Analysis Starting Date** 6. 23.06.2022 **Analysis Completion Date** 7.

Sample Tested as Received 8.

GENERAL DETAILS

Date of Monitoring	17.06.2022		
Fuel Used	()//		
Stack Temperature (°C)	156		
Velocity (m/s)	7.8		
Height (m)	15mtrs AGL		
Diameter (m)	0.7		
Cross sectional area (m²)	0.38465		

RESULTS

Parameters	Protocol	Unit	Result	GSR 277 (E) Standards
Particulate Matter	IS-11255(Part1) - 1985	mg/Nm³	20.5	50
Sulphur dioxide	IS-11255(Part2) - 1985	mg/Nm³	10.2	800
Nitrogen dioxide	IS-11255(Part7) - 2005	mg/Nm³	9.0	500
Carbon Monoxide as(CO)	IS 13270	%	0.18	Max 1%

INFERENCE	As per KSPCB Standards Report Status :- The analyzed value for above measured parameter is within the limits.
-----------	---

Verified by

Authorized Signature



Note: 1. The results listed only to the tested samples & applicable parameters,

2. Water samples will destroyed after 10days, Filter papers & Thimbles will be destroyed 3months from the date of issue of test certificate unless otherwise specified. ILC sample will be destroyed after 1 month from the date of test certificate issue.

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MSVAL/A/F/18/03

ANALYSIS REPORT FOR SOURCE EMMISSION

Test Report No: TC720722000013443F

Report Issued Date: 23.06.2022

Name of the Industry

M/s. The Sandur Manganese & Iron Ores Ltd.

(Metal & Ferro Alloys Plant)

Vyasanakere, Hanumanahalli Village, Hospet Taluk, Bellary District, Karnataka.

Coal Crushing Area Stack ID 2.

Sample Collected By 3.

MSV Analytical Laboratories, Bellary.

Particulars of Sample Collected

Sample collected with VSS - 1

Date of Sample Receipt

17.06.2022 18.06.2022

Analysis Starting Date Analysis Completion Date 7.

Sample Tested as Received

23.06.2022

GENERAL DETAILS

GD:\DIA	
Date of Monitoring	17.06.2022
Fuel Used	
Stack Temperature (°C)	89
Velocity (m/s)	9.8
Height (m)	15mtrs AGL
Diameter (m)	0.75
Cross sectional area (m²)	0.44156

RESILTS

RESULIS				
Parameters	Protocol	Unit	Result	GSR 277 (E) Standards
Particulate Matter	IS-11255(Part1) - 1985	mg/Nm³	24.5	50
Sulphur dioxide	IS-11255(Part2) - 1985	mg/Nm³	13.0	800
Nitrogen dioxide	IS-11255(Part7) - 2005	mg/Nm³	10.4	500
Carbon Monoxide	IS 13270	%	0.20	Max 1%

INFERENCE	As per KSPCB Standards Report Status: The analyzed value for above measured parameter is within the limits.

Verified by

Authorized Signature

END OF REPORT:-

Note: 1. The results listed only to the tested samples & applicable parameters,

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MSVAL/A/F/18/03

ANALYSIS REPORT FOR SOURCE EMMISSION

Test Report No: TC720722000013444F

Report Issued Date: 23.06.2022

1. Name of the Industry

M/s. The Sandur Manganese & Iron Ores Ltd.

(Metal & Ferro Alloys Plant)

Vyasanakere, Hanumanahalli Village, Hospet Taluk, Bellary District, Karnataka.

2. Stack ID

: DG Set 750 KVA

3. Sample Collected By

MSV Analytical Laboratories, Bellary.

4. Particulars of Sample Collected

Sample collected with VSS - 1

5. Date of Sample Receipt6. Analysis Starting Date

: 17.06.2022 : 18.06.2022

7. Analysis Completion Date

: 23.06.2022

8. Sample Tested as Received

GENERAL DETAILS

GENERALD DETTILED		
Date of Monitoring	17.06.2022	
Fuel Used	Diesel	
Stack Temperature (°C)	96	
Velocity (m/s)	7.5	
Height (m)	15mtrs AGL	
Diameter (m)	0.3	
Cross sectional area (m²)	0.07065	

RESULTS

KEDOLITO				
Parameters	Protocol	Unit	Result	KSPCB Consent Standards
Particulate Matter	IS-11255(Part1) - 1985	mg/Nm³	28.5	100
Sulphur dioxide	IS-11255(Part2) - 1985	PPM	23.5	50
Nitrogen dioxide	IS-11255(Part7) - 2005	PPM	15.2	50

INFERENCE

As per KSPCB Consent Standards.

Report Status:- The analyzed value for above measured parameter is

within the limits.

Verified by

END OF REPORT:-

Authorized Signature

Revile

Note: 1. The results listed only to the tested samples & applicable parameters,

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MSVAL/A/F/18/03

ANALYSIS REPORT FOR SOURCE EMMISSION

Test Report No: TTC720722000013445F

Report Issued Date: 23.06.2022 M/s. The Sandur Manganese & Iron Ores Ltd.

Name of the Industry : M/s. The Sandur Manganese (Metal & Ferro Alloys Plant)

Vyasanakere, Hanumanahalli Village, Hospet Taluk, Bellary District, Karnataka. Coke Oven Battery - Passes Through WHRB-1

2. Stack ID : Coke Oven Battery - Passes Through

3. Sample Collected By
 4. Particulars of Sample Collected
 Sample collected with VSS - 1

4. Particulars of Sample Collected : Sample Collected : Sample Collected : 17.06.2022
6. Analysis Starting Date : 18.06.2022
7. Analysis Completion Date : 23.06.2022

8. Sample Tested as Received

GENERAL DETAILS

Date of Monitoring	17.06.2022
Fuel Used	- Oy
Stack Temperature (°C)	42
Velocity (m/s)	6.1
Height (m)	60 mtrs AGL
Diameter (m)	3.4
Cross sectional area (m²)	9.0746

 RESULTS

 Parameters
 Protocol
 Unit
 Result
 GSR 277 (E)

 Standards
 Standards

 ticulate Matter
 IS-11255(Part1) - 1985
 mg/Nm³
 30.5
 50

50 Particulate Matter 800 32.5 IS-11255(Part2) - 1985 mg/Nm3 Sulphur dioxide 500 30.7 mg/Nm3 IS-11255(Part7) - 2005 Nitrogen dioxide **Carbon Monoxide** Max 1% 0.21 % IS 13270 as(CO)

As per GSR 277 (E) Standards.

INFERENCE Report Status :- The analyzed value for above measured parameter is within the limits.

Verified by

Authorized Signature

Revules

-: END OF REPORT:-

Note: 1. The results listed only to the tested samples & applicable parameters,

2. Water samples will destroyed after 10days, Filter papers & Thimbles will be destroyed 3months from the date of issue of test certificate unless otherwise specified. ILC sample will be destroyed after 1 month from the date of test certificate issue.

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MSVAL/A/F/18/03

ANALYSIS REPORT FOR SOURCE EMMISSION

Test Report No: TC720722000013446F

Report Issued Date: 23.06.2022

1. Name of the Industry

M/s. The Sandur Manganese & Iron Ores Ltd.

(Metal & Ferro Alloys Plant)

Vyasanakere, Hanumanahalli Village, Hospet Taluk, Bellary District, Karnataka.

2. Stack ID

: Ferro Alloy Arc Furnace

3. Sample Collected By

MSV Analytical Laboratories, Bellary.

4. Particulars of Sample Collected

: Sample collected with VSS - 1

5. Date of Sample Receipt6. Analysis Starting Date

: 17.06.2022 : 18.06.2022

7. Analysis Completion Date

: 23.06.2022

8. Sample Tested as Received

GENERAL DETAILS

GENERALE	/ LIKIKEU
Date of Monitoring	17.06.2022
Fuel Used	U/\
Stack Temperature (°C)	42
Velocity (m/s)	6.0
Height (m)	35 mtrs AGL
Diameter (m)	2.5
Cross sectional area (m²)	4.90625

RESULTS

Parameters	Protocol	Unit	Result	GSR 277 (E) Standards
Particulate Matter	IS-11255(Part1) - 1985	mg/Nm³	35.1	150

	As per GSR 277 (E) Standards.
INFERENCE	Report Status: The analyzed value for above measured parameter is
IN DREINGE	within the limits.

Verified by

Authorized Signature

END OF REPORT:-

Note: 1. The results listed only to the tested samples & applicable parameters,

Water samples will destroyed after 10days, Filter papers & Thimbies will be destroyed 3months from the date of issue of test certificate unless otherwise specified. ILC sample will be destroyed after 1 month from the date of test certificate issue.

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MSVAL/A/F/18/03

ANALYSIS REPORT FOR SOURCE EMMISSION

Test Report No: TC720722000013447F

Report Issued Date: 23.06.2022

Name of the Industry

M/s. The Sandur Manganese & Iron Ores Ltd.

(Metal & Ferro Alloys Plant)

Vyasanakere, Hanumanahalli Village, Hospet Taluk, Bellary District, Karnataka. Coke Oven Battery - Passes Through WHRB-2

Stack ID

MSV Analytical Laboratories, Bellary.

Sample Collected By 3. Particulars of Sample Collected 4.

Sample collected with VSS - 1

Date of Sample Receipt 5.

17.06.2022

Analysis Starting Date 6. **Analysis Completion Date** 7.

18.06.2022 23.06.2022

Sample Tested as Received 8.

GENERAL DETAILS

Date of Monitoring	17.06.2022
Fuel Used	3217. <u></u>
Stack Temperature (°C)	39
Velocity (m/s)	. 6.1
Height (m)	60 mtrs AGL
Diameter (m)	3.4
Cross sectional area (m²)	9.0746

RESULTS

Parameters	Protocol	Unit	Result	GSR 277 (E) Standards
Particulate Matter	IS-11255(Part1) - 1985	mg/Nm³	32.6	50
Sulphur dioxide	IS-11255(Part2) - 1985	mg/Nm³	26.7	800
Nitrogen dioxide	IS-11255(Part7) - 2005	mg/Nm³	38.5	500
Carbon Monoxide	IS 13270	%	0.15	Max 1%

As per GSR 277 (E) Standards. Report Status: The analyzed value for above measured parameter is within the limits.

Verified by

Authorized Signature

-: END OF REPORT

Note: 1. The results listed only to the tested samples & applicable parameters,

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ANALYSIS REPORT OF WATER QUALITY

Test Report No: MSVAL/2022/6509

Report Issued Date: 21.06.2022

Name of the Industry 1.

M/s. The Sandur Manganese & Iron Ores Ltd.

(Metal & Ferro Allovs Plant)

Vyasanakere, Hanumanahalli Village, Hospet Taluk, Bellary District, Karnataka. Surface water - Tungabhadra Reservoir

Name of the sample 2.

MSV Analytical Laboratories

Sample Collected By 3.

2 Liters

Sample Quantity 4. Sample Description/condition 5.

Good/Satisfactory

Date of Sample Receipt 6. **Analysis Starting Date**

15.06.2022

7. **Analysis Completion date** 8.

16.06.2022 21.06.2022

9.

Sample tested As Received

Standards as per Result Unit **Protocol Parameters** S.No IS - 2296 Physical parameters Agreeable Agreeable IS: 3025(part-7) 1 Taste <1 10 IS: 3025(part-4) 2 Color Un Un IS: 3025(part-5) 3 Odor objectionable objectionable 6.5-8.5 8.02 IS: 3025(part-11) 4 рН μs/cm 1024 ---IS-3025 (part 14) 5 Conductivity **Chemical parameters** 604 500 IS: 3025(part-16) mg/l Total Dissolved Solids 6 80.10 30.2 IS: 3025(part-40) mg/l 7 Calcium as Ca 300 166.8 Total Hardness as CaCO3 IS: 3025(part-21) mg/l 8 24.28 22.18 IS: 3025(part-46) mg/l Magnesium as Mg 9 Nil ---IS: 3025(part-39) mg/l Oil &Grease 10 APHA 23 rd EDITION -Mineral Oil 0.01 Nil mg/l 11 5520 C 400 mg/l 13.8 Sulphate as SO₄ IS: 3025(part-24) 12 33.9 250 IS: 3025(part-32) mg/l Chloride as Cl 13 20 1.26 mg/l IS: 3025(part-34) Nitrate as NO₃ 14 0.3 0.004 mg/l IS: 3025(part-53) 15 Iron as Fe 1.50 0.16 mg/lIS: 3025(part-60) Fluoride as F 16 Bio-chemical Oxygen 2 Nil IS 3025 (Part 44): 1993 mg/l Demand (3 days at 27°C), 17 Max Min 6 6.33 IS 3025 (Part 38): 1993 mg/l Dissolved Oxygen 18 Nil LAB SOP mg/l Free CO2 19 mg/l Nil ---LAB SOP 20 Free Ammonia

INFERENCE

IS - 2296 Standards, BDL - Below Detectable Limit Report Status: - The above parameters are within limits.

End of the Report

Authorized Signature

Reclube

Note: 1. The results listed only to the tested samples & applicable parameters,

2. Water samples will destroyed after 10days, Filter papers & Thimbles will be destroyed 3months from the date of issue of test certificate unless otherwise specified. ILC sample will be destroyed after 1 month from the date of test certificate issue.

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E-mail: msvalbellary2018@gmail.com, labmsv@gmail.com Website: www.msvalbellary.com

MSVAL/W/F/13/00

ANALYSIS REPORT OF WATER QUALITY

Test Report No: MSVAL/2022/6509

Report Issued Date: 21.06.2022

1. Name of the Industry

M/s. The Sandur Manganese & Iron Ores Ltd.

(Metal & Ferro Alloys Plant)

Vyasanakere, Hanumanahalli Village, Hospet Taluk, Bellary District, Karnataka. Surface water – Tungabhadra Reservoir

2. Name of the sample

MSV Analytical Laboratories

Sample Collected By
 Sample Quantity

2 Liters

5. Sample Description/condition

Good/Satisfactory

6. Date of Sample Receipt 7. Analysis Starting Date 15.06.2022 16.06.2022

8. Analysis Completion date

21.06.2022

9. Sample tested As Received

S.No	Parameters	Protocol	Unit	Result	Standards as per IS - 2296
		Chemical parameters	3		
21	Manganese as Mn	APHA 23 rd EDITION -3111 B	mg/l	0.026	0.5
22	Zinc as Zn	IS: 3025(part-49)	mg/l	0.020	15
23	Boron as B	APHA 23 rd EDITION -4500 B	mg/l	Nil	
24	Barium as Ba	APHA 23 rd EDITION -3500 Ba	mg/l	0.003	1.0
25	Silver as Ag	APHA 23 rd EDITION -3500 Ag	mg/l	< 0.001	0.05
26	Arsenic as As	APHA 23 rdEDITION -3112 B	mg/l	< 0.002	0.05
27	Mercury as Hg	APHA 23rd EDITION -3112 B	mg/l	< 0.001	0.001
28	Lead as Pb	APHA 23 rd EDITION -3111 B	mg/l	< 0.002	0.1
29	Cadmium as Cd	APHA 23 rd EDITION -3111 B	mg/l	< 0.001	0.01
30	Chromium as Cr	APHA 23 rd EDITION -3111 B	mg/l	< 0.002	0.05
31	Selenium as Se	APHA 23 rd EDITION -3500 B	mg/l	< 0.001	0.01
32	Cyanide as CN	APHA 23 rd EDITION -4500 D	mg/l	Nil	0.05
33	Phenols	IS: 3025(part-43)	mg/l	Nil	0.002
34	Anionic Detergents as MBAS	IS: 13428-2005	mg/l	<0.1	0.2
35	Percent Sodium	LAB SOP	%	21.44	
36	Sodium Absorption Ratio	LAB SOP	mg/l	11.1	

INFERENCE IS - 2296 Standards, BDL - Below Detectable Limit Report Status: - The above parameters are within limits.

Verified by

**End of the Report

Authorized Signature

Relie

Note: 1. The results listed only to the tested samples & applicable parameters,

Water samples will destroyed after 10 days, Fifter papers & Thimbles will be destroyed 3months from the date of issue of test certificate unless otherwise specified. ILC sample will be destroyed after 1 month from the date of test certificate issue.

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E-mail: msvalbellary2018@gmail.com, labmsv@gmail.com Website: www.msvalbellary.com

MSVAL/A/F/18/03

ANALYSIS REPORT FOR WATER IN MICROBIOLOGY

Test Report No: MSVAL/2022/6509

Report Issued Date: 21.06.2022

1. Name of the Industry

: M/s. The Sandur Manganese & Iron Ores Ltd.

(Metal & Ferro Alloys Plant)

Vyasanakere, Hanumanahalli Village, Hospet Taluk, Bellary District, Karnataka. Surface water - Tungabhadra Reservoir

2. Sample Type

3. Sample Collected By

MSV Analytical Laboratories, Bellary.

4. Sample Quantity

250 ml (Sterilized Bottle)

5. Sample description/condition

Good/satisfactory

6. Date of sample Receipt 7. Analysis Starting Date

15.06.2022 16.06.2022

8. Analysis Completion Date

21.06.2022

9. Sample tested as Received

RESULTS

	Parameters	Protocol	Unit	Result	Standards as per IS - 2296
Г	Total Coliform	IS 1622:1981	MPN/100 ml	14	50

INFERENCE	IS - 2296 Standards, BDL - Below Detectable Limit	
	Report Status: - The above parameters are within limits.	

Verified by

Authorized Signature

End of the Report

1. The results listed only to the tested samples & applicable parameters,

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1.

MSV Analytical Laboratories

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E-mail: msvalbellary2018@gmail.com, labmsv@gmail.com Website: www.msvalbellary.com

MSVAL/W/F/13/00

ANALYSIS REPORT OF WATER QUALITY

Test Report No: MSVAL/2022/6510

M/s. The Sandur Manganese & Iron Ores Ltd.

Report Issued Date: 21.06.2022

(Metal & Ferro Alloys Plant)

Vyasanakere, Hanumanahalli Village, Hospet Taluk, Bellary District, Karnataka. Surface water – Canal Near Vysanakere

Name of the sample
 Surface water - Canal Near
 MSV Analytical Laboratories

4. Sample Quantity : 2 Liters

5. Sample Description/condition : Good/Satisfactory

6. Date of Sample Receipt : 15.06.2022
7. Analysis Starting Date : 16.06.2022
8. Analysis Completion date : 21.06.2022

9. Sample tested As Received

Name of the Industry

S.No	Parameters	Protocol	Unit	Result	Standards as per IS - 2296
		Physical paramete	ers		
1	Taste	IS: 3025(part-7)		Agreeable	Agreeable
2	Color	IS: 3025(part-4)		<5	10
3	Odor	IS: 3025(part-5)	/子	Un objectionable	Un objectionable
4	pH	IS: 3025(part-11)		6.84	6.5-8.5
5	Conductivity	IS-3025 (part 14)	μs/cm	726	
		Chemical paramet	ers		
6	Total Dissolved Solids	IS: 3025(part-16)	mg/l	504	500
7	Calcium as Ca	IS: 3025(part-40)	mg/l	20.2	80.10
8	Total Hardness as CaCO ₃	IS: 3025(part-21)	mg/l	89.8	300
9	Magnesium as Mg	IS: 3025(part-46)	mg/l	9.5	24.28
10	Oil &Grease	IS: 3025(part-39)	mg/l	Nil	
11	Mineral Oil	APHA 23 rd EDITION - 5520 C	mg/l	Nil	0.01
12	Sulphate as SO ₄	IS: 3025(part-24)	mg/l	10.2	400
13	Chloride as Cl	IS: 3025(part-32)	mg/l	23.9	250
14	Nitrate as NO ₃	IS: 3025(part-34)	mg/l	0.52	20
15	Iron as Fe	IS: 3025(part-53)	mg/l	Nil	0.3
16	Fluoride as F	IS: 3025(part-60)	mg/l	0.10	1.50
17	Bio-chemical Oxygen Demand (3 days at 27°C), Max	IS 3025 (Part 44): 1993	mg/l	Nil	2
18	Dissolved Oxygen	IS 3025 (Part 38): 1993	mg/l	6.32	Min 6
19	Free CO2	LAB SOP	mg/l	Nil	
20	Free Ammonia	LAB SOP	mg/l	Nil	

INFERENCE	IS - 2296 Standards, BDL - Below Detectable Limit	
	Report Status: - The above parameters are within limits.	

Verified by

End of the Report

Authorized Signature

Reclude

Note: 1. The results isted only to the tested samples & applicable parameters,

Water samples will destroyed after 10days, Filter papers & Thimbles will be destroyed 3months from the date of issue of test certificate unless otherwise specified. ILC sample will be destroyed after 1 month from the date of test certificate issue.

3. This report is not to be reproduced wholly or in part & cannot be used as evidence in the court of law & should not be used in any advertising media without our special permission in writing.

4. Total liability of our laboratory is limited to the invoice amount. Any dispute arising out of this report is subject to Bellary Jurisdiction only.



Recognition by MoEF under Environment (Protection) Act, 1986 (Certified by ISO-14001-2015,ISO 22000-2018, ISO 45001-2018,ISO 9001-2015)

C.M.C Ward No 18 & C.T.C W.No.16 T.S No. 695/A/32/B1, Block No 19 (1st & 2nd Floor) Sanganakallu Road, KEB Circle, Ballari - 583103 Contact No : Mob : 94498 03895, (0) : 08392-255169,

E-mail: msvalbellary2018@gmail.com, labmsv@gmail.com Website: www.msvalbellary.com

MSVAL/W/F/13/00

ANALYSIS REPORT OF WATER QUALITY

Test Report No: MSVAL/2022/6510

Report Issued Date: 21.06.2022

1. Name of the Industry

M/s. The Sandur Manganese & Iron Ores Ltd.

(Metal & Ferro Alloys Plant)

Vyasanakere, Hanumanahalli Village, Hospet Taluk, Bellary District, Karnataka.

2. Name of the sample

Surface water - Canal Near Vysanakere MSV Analytical Laboratories

%

mg/l

3. Sample Collected By

4. Sample Quantity 5.

2 Liters

Sample Description/condition 6. Date of Sample Receipt

Good/Satisfactory 15.06.2022

7. **Analysis Starting Date** 8. **Analysis Completion date**

16.06.2022

9. Sample tested As Received 21.06.2022

S.No	Parameters	Protocol	Unit	Result	Standards as per IS - 2296
- 10-477 of		Chemical parameter	S		Por 10 mayo
21	Manganese as Mn	APHA 23 rd EDITION -3111 B	mg/l	0.018	0.5
22	Zinc as Zn	IS: 3025(part-49)	mg/l	0.034	15
23	Boron as B	APHA 23 rd EDITION -4500 B	mg/l	Nil	
24	Barium as Ba	APHA 23 rd EDITION -3500 Ba	mg/l	0.002	1.0
25	Silver as Ag	APHA 23 rd EDITION -3500 Ag	mg/l	<0.002	1.0
26	Arsenic as As	APHA 23 rdEDITION -3112 B	mg/l	Aller and the second	0.05
27	Mercury as Hg	APHA 23rd EDITION -3112 B	mg/l	<0.002	0.05
28	Lead as Pb	APHA 23 rd EDITION -3111 B	The state of the s	<0.001	0.001
29	Cadmium as Cd	APHA 23 rd EDITION -3111 B	mg/l	<0.002	0.1
30	Chromium as Cr	APHA 23 rd EDITION -3111 B	mg/l	<0.001	0.01
31	Selenium as Se	APHA 23 rd EDITION -3500 B	mg/l	<0.002	0.05
32	Cyanide as CN	APHA 23 rd EDITION -4500 D	mg/l	<0.001	0.01
33	Phenols		mg/l	Nil	0.05
33		IS: 3025(part-43)	mg/l	Nil	0.002
34	Anionic Detergents as MBAS	IS: 13428-2005	mg/l	<0.1	0.2

INFERENCE

35

36

MBAS

Percent Sodium

Sodium Absorption Ratio

IS - 2296 Standards, BDL - Below Detectable Limit Report Status: - The above parameters are within limits.

LAB SOP

LAB SOP

Verified by

End of the Report

Authorized Signature

0.2

18.8

10.3

Note: 1. The results listed only to the tested samples & applicable parameters,

2. Water samples will destroyed after 10days, Filter papers & Thimbles will be destroyed 3months from the date of issue of test certificate unless otherwise specified. ILC sample will be destroyed after 1 month from the date of test certificate issue.

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E-mail: msvalbellary2018@gmail.com, labmsv@gmail.com Website: www.msvalbellary.com

MSVAL/A/F/18/03

ANALYSIS REPORT FOR WATER IN MICROBIOLOGY

Test Report No: MSVAL/2022/6510

Report Issued Date: 21.06.2022

1. Name of the Industry

: M/s. The Sandur Manganese & Iron Ores Ltd.

(Metal & Ferro Alloys Plant)

Vyasanakere, Hanumanahalli Village, Hospet Taluk, Bellary District, Karnataka.

2. Sample Type

: Surface water - Canal Near Vysanakere

3. Sample Collected By

MSV Analytical Laboratories, Bellary.

4. Sample Quantity

250 ml (Sterilized Bottle)Good/satisfactory

5. Sample description/condition

: 15.06.2022

6. Date of sample Receipt7. Analysis Starting Date

: 16.06.2022

8. Analysis Completion Date

: 21.06.2022

9. Sample tested as Received

RESULTS

Parameters	Protocol	Unit	Result	Standards as per IS - 2296
Total Coliform	IS 1622:1981	MPN/100 ml	18	50

INFERENCE	IS - 2296 Standards, BDL - Below Detectable Limit	
	Report Status: - The above parameters are within limits	

Verified by

John R

*End of the Report**

Authorized Signature

Perse

Note: 1. The results listed only to the tested samples & applicable parameters,

Water samples will destroyed after 10days, Filter papers & Thimbles will be destroyed 3months from the date of issue of test certificate unless otherwise specified. ILC sample will be destroyed after 1 month from the date of test certificate issue.

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MSVAL/W/F/13/00

ANALYSIS REPORT OF WATER QUALITY

Test Report No: MSVAL/2022/6511

Report Issued Date: 21.06.2022

1. Name of the Industry M/s. The Sandur Manganese & Iron Ores Ltd.

(Metal & Ferro Alloys Plant)

Vyasanakere, Hanumanahalli Village, Hospet Taluk, Bellary District, Karnataka. Surface water - Dhananayakana Kere Water

2. Name of the sample Sample Collected By 3.

MSV Analytical Laboratories

Sample Quantity 4.

6.

2 Liters

8

Sample Description/condition 5. **Date of Sample Receipt**

Good/Satisfactory 15.06.2022

Analysis Starting Date 7. 8. **Analysis Completion date** 16.06.2022 21.06.2022

Sample tested As Received

S.No	Parameters	Protocol	Unit	Result	Standards as per IS - 2296
		Physical paramete	ers		
1	Taste	IS: 3025(part-7)		Agreeable	Agreeable
2	Color	IS: 3025(part-4)	7	<5	10
3	Odor	IS: 3025(part-5)		Un objectionable	Un objectionable
4	рН	IS: 3025(part-11)		7.10	6.5-8.5
5	Conductivity	IS-3025 (part 14)	μs/cm	622	•••
	n-	Chemical paramet	ers		
6	Total Dissolved Solids	IS: 3025(part-16)	mg/l	468	500
7	Calcium as Ca	IS: 3025(part-40)	mg/l	18.26	80.10
8	Total Hardness as CaCO ₃	IS: 3025(part-21)	mg/l	83.8	300
9	Magnesium as Mg	IS: 3025(part-46)	mg/l	9.27	24.28
10	Oil &Grease	IS: 3025(part-39)	mg/l	Nil	
11	Mineral Oil	APHA 23 rd EDITION - 5520 C	mg/l	Nil	0.01
12	Sulphate as SO ₄	IS: 3025(part-24)	mg/l	23.4	400
13	Chloride as Cl	IS: 3025(part-32)	mg/l	50.9	250
14	Nitrate as NO ₃	IS: 3025(part-34)	mg/l	2.02	20
15	Iron as Fe	IS: 3025(part-53)	mg/l	0.002	0.3
16	Fluoride as F	IS: 3025(part-60)	mg/l	0.60	1.50
17	Bio-chemical Oxygen Demand (3 days at 27°C), Max	IS 3025 (Part 44): 1993	mg/l	Nil	2
18	Dissolved Oxygen	IS 3025 (Part 38): 1993	mg/l	8.32	Min 6
19	Free CO2	LAB SOP	mg/l	Nil	•••
20	Free Ammonia	LAB SOP	mg/l	Nil	

IS - 2296 Standards, BDL - Below Detectable Limit **INFERENCE** Report Status: - The above parameters are within limits

Verified by

Authorized Signature

Note: 1. The results listed only to the tested samples & applicable parameters,

1. I ne results listed only to the tested samples & applicable parameters,
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MSVAL/W/F/13/00

ANALYSIS REPORT OF WATER QUALITY

Test Report No: MSVAL/2022/6511

Report Issued Date: 21.06.2022

Name of the Industry 1.

M/s. The Sandur Manganese & Iron Ores Ltd.

(Metal & Ferro Alloys Plant)

Vyasanakere, Hanumanahalli Village, Hospet Taluk, Bellary District, Karnataka. Surface water - Dhananayakana Kere Water

2. Name of the sample

3. Sample Collected By MSV Analytical Laboratories

Good/Satisfactory

Sample Quantity 4.

2 Liters

÷

5. Sample Description/condition **Date of Sample Receipt** 6.

15.06.2022

Analysis Starting Date 7.

16.06.2022

Analysis Completion date 8.

21.06.2022

Sample tested As Received

S.No	Parameters	Protocol	Unit	Result	Standards as per IS - 2296
		Chemical parameters	S		
21	Manganese as Mn	APHA 23 rd EDITION -3111 B	mg/l	0.026	0.5
22	Zinc as Zn	IS: 3025(part-49)	mg/l	0.034	15
23	Boron as B	APHA 23 rd EDITION -4500 B	mg/l	Nil	
24	Barium as Ba	APHA 23 rd EDITION -3500 Ba	mg/l	0.002	1.0
25	Silver as Ag	APHA 23 rd EDITION -3500 Ag	mg/l	< 0.001	0.05
26	Arsenic as As	APHA 23 rdEDITION -3112 B	mg/l	< 0.002	0.05
27	Mercury as Hg	APHA 23rd EDITION -3112 B	mg/l	< 0.001	0.001
28	Lead as Pb	APHA 23 rd EDITION -3111 B	mg/l	< 0.002	0.1
29	Cadmium as Cd	APHA 23 rd EDITION -3111 B	mg/l	< 0.001	0.01
30	Chromium as Cr	APHA 23 rd EDITION -3111 B	mg/l	< 0.002	0.05
31	Selenium as Se	APHA 23 rd EDITION -3500 B	mg/l	< 0.001	0.01
32	Cyanide as CN	APHA 23 rd EDITION -4500 D	mg/l	Nil	0.05
33	Phenols	IS: 3025(part-43)	mg/l	Nil	0.002
34	Anionic Detergents as MBAS	IS: 13428-2005	mg/l	<0.1	0.2
35	Percent Sodium	LAB SOP	%	20.3	
36	Sodium Absorption Ratio	LAB SOP	mg/l	12.2	

INFERENCE

IS - 2296 Standards, BDL - Below Detectable Limit Report Status: - The above parameters are within limits.

Verified by

Authorized Signature

End of the Report*

Note: 1. The results listed only to the tested samples & applicable parameters,

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E-mail: msvalbellary2018@gmail.com, labmsv@gmail.com Website: www.msvalbellary.com

MSVAL/A/F/18/03

ANALYSIS REPORT FOR WATER IN MICROBIOLOGY

Test Report No: MSVAL/2022/6511

Report Issued Date: 21.06.2022

Name of the Industry

: M/s. The Sandur Manganese & Iron Ores Ltd.

(Metal & Ferro Alloys Plant)

Vyasanakere, Hanumanahalli Village, Hospet Taluk, Bellary District, Karnataka.

2. Sample Type Surface water - Dhananayakana Kere Water

3. Sample Collected By

MSV Analytical Laboratories, Bellary.

4. Sample Quantity

250 ml (Sterilized Bottle)

5. Sample description/condition

Good/satisfactory

6. Date of sample Receipt

15.06.2022

7. Analysis Starting Date 8. Analysis Completion Date

16.06.2022 21.06.2022

Sample tested as Received

RESULTS

Parameters	Protocol	Unit	Result	Standards as per IS - 2296
Total Coliform	IS 1622:1981	MPN/100 ml	12	50

INFERENCE	IS - 2296 Standards, BDL - Below Detectable Limit	
	Report Status: - The above parameters are within limits.	

*End of the Report**

Authorized Signature

Note: 1. The results listed only to the tested samples & applicable parameters,

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4.

MSV Analytical Laboratories

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E-mail: msvalbellary2018@gmail.com, labmsv@gmail.com Website: www.msvalbellary.com

MSVAL/W/F/13/00

ANALYSIS REPORT OF WATER OUALITY

Test Report No: MSVAL/2022/6512

Report Issued Date: 21.06.2022

1. Name of the Industry

M/s. The Sandur Manganese & Iron Ores Ltd.

(Metal & Ferro Allovs Plant)

Vyasanakere, Hanumanahalli Village, Hospet Taluk, Bellary District, Karnataka.

2. Name of the sample 3. Sample Collected By Surface water - Water body near Narayadevarakere MSV Analytical Laboratories

2 Liters

:

Sample Description/condition 5. 6.

Good/Satisfactory

Date of Sample Receipt 7. **Analysis Starting Date** 8. **Analysis Completion date**

Sample Quantity

15.06.2022 16.06.2022 21.06.2022

Sample tested As Received

S.No	Parameters	Protocol	Unit	Result	Standards as per IS - 2296
		Physical paramet	ers		
_ 1	Taste	IS: 3025(part-7)		Agreeable	Agreeable
2	Color	IS: 3025(part-4)		<5	10
3	Odor	IS: 3025(part-5)	7	Un objectionable	Un objectionable
4	pH	IS: 3025(part-11)		7.32	6.5-8.5
5	Conductivity	IS-3025 (part 14)	μs/cm	668	
		Chemical paramet			3500
6	Total Dissolved Solids	IS: 3025(part-16)	mg/l	564	500
7	Calcium as Ca	IS: 3025(part-40)	mg/l	43.8	80.10
8	Total Hardness as CaCO ₃	IS: 3025(part-21)	mg/l	186.4	300
9	Magnesium as Mg	IS: 3025(part-46)	mg/l	18.6	24.28
10	Oil &Grease	IS: 3025(part-39)	mg/l	Nil	
11	Mineral Oil	APHA 23 rd EDITION - 5520 C	mg/l	Nil	0.01
12	Sulphate as SO ₄	IS: 3025(part-24)	mg/l	33.14	400
13	Chloride as Cl	IS: 3025(part-32)	mg/l	102.9	250
14	Nitrate as NO ₃	IS: 3025(part-34)	mg/l	0.66	20
15	Iron as Fe	IS: 3025(part-53)	mg/l	0.004	0.3
16	Fluoride as F	IS: 3025(part-60)	mg/l	0.50	1.50
17	Bio-chemical Oxygen Demand (3 days at 27°C), Max	IS 3025 (Part 44): 1993	mg/l	Nil	2
18	Dissolved Oxygen	IS 3025 (Part 38): 1993	mg/l	8.02	Min 6
19	Free CO2	LAB SOP	mg/l	Nil	
20	Free Ammonia	LAB SOP	mg/l	Nil	

INFERENCE

IS - 2296 Standards, BDL - Below Detectable Limit Report Status: - The above parameters are within limits.

Verified by

End of the Report

Reville **Authorized Signature**

3. This report is not to be reproduced wholly or in part & cannot be used as evidence in the court of law & should not be used in any advertising media without our special permission in writing.

4. Total liability of our laboratory is limited to the invoice amount. Any dispute arising out of this report is subject to Bellary Jurisdiction only. 5. Sampling is not done by us unless otherwise specified. 6. The tests and/or calibrations marked with an are not accredited by NABL.

Note: 1. The results listed only to the rested samples & applicable parameters,
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MSVAL/W/F/13/00

ANALYSIS REPORT OF WATER OUALITY

Test Report No: MSVAL/2022/6512

Report Issued Date: 21.06.2022

1. Name of the Industry

M/s. The Sandur Manganese & Iron Ores Ltd.

(Metal & Ferro Alloys Plant)

Vyasanakere, Hanumanahalli Village, Hospet Taluk, Bellary District, Karnataka.

2. Name of the sample

Surface water - Water body near

Narayadevarakere

3. Sample Collected By

MSV Analytical Laboratories

4. Sample Quantity

2 Liters

5. Sample Description/condition6. Date of Sample Receipt

Good/Satisfactory 15.06.2022

Analysis Starting Date
 Analysis Completion date

16.06.2022

9. Sample tested As Received

: 21.06.2022

S.No	Parameters	Protocol	Unit	Result	Standards as per IS - 2296
		Chemical parameter	'S	A TOTAL MARKET	
21	Manganese as Mn	APHA 23 rd EDITION -3111 B	mg/l	0.014	0.5
22	Zinc as Zn	IS: 3025(part-49)	mg/l	0.026	15
23	Boron as B	APHA 23 rd EDITION -4500 B	mg/l	Nil	
24	Barium as Ba	APHA 23 rd EDITION -3500 Ba	mg/l	0.002	1.0
25	Silver as Ag	APHA 23 rd EDITION -3500 Ag	mg/l	<0.001	0.05
26	Arsenic as As	APHA 23 rdEDITION -3112 B	mg/l	<0.002	0.05
27	Mercury as Hg	APHA 23rd EDITION -3112 B	mg/l	<0.001	0.001
28	Lead as Pb	APHA 23 rd EDITION -3111 B	mg/l	< 0.002	0.1
29	Cadmium as Cd	APHA 23 rd EDITION -3111 B	mg/l	< 0.001	0.01
30	Chromium as Cr	APHA 23 rd EDITION -3111 B	mg/l	< 0.002	0.05
31	Selenium as Se	APHA 23 rd EDITION -3500 B	mg/l	< 0.001	0.01
32	Cyanide as CN	APHA 23 rd EDITION -4500 D	mg/l	Nil	0.05
33	Phenols	IS: 3025(part-43)	mg/l	Nil	0.002
34	Anionic Detergents as MBAS	IS: 13428-2005	mg/l	<0.1	0.2
35	Percent Sodium	LAB SOP	%	22.2	
36	Sodium Absorption Ratio	LAB SOP	mg/l	11.6	

INFERENCE

IS - 2296 Standards, BDL - Below Detectable Limit Report Status: - The above parameters are within limits.

Verified by

End of the Report

Authorized Signature

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Note: 1. The results listed only to the tested samples & applicable parameters,

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MSVAL/A/F/18/03

ANALYSIS REPORT FOR WATER IN MICROBIOLOGY

Test Report No: MSVAL/2022/6512

Report Issued Date: 21.06.2022

1. Name of the Industry

: M/s. The Sandur Manganese & Iron Ores Ltd.

(Metal & Ferro Alloys Plant)

Vyasanakere, Hanumanahalli Village, Hospet Taluk, Bellary District, Karnataka.

2. Sample Type

3. Sample Collected By

: Surface water - Water body near Narayadevarakere : MSV Analytical Laboratories, Bellary.

4. Sample Quantity

250 ml (Sterilized Bottle)

5. Sample description/condition

Good/satisfactory

6. Date of sample Receipt

15.06.2022

7. Analysis Starting Date

16.06.2022

8. Analysis Completion Date

21.06.2022

9. Sample tested as Received

RESULTS

Parameters	Protocol	Unit	Result	Standards as per IS - 2296
Total Coliform	IS 1622:1981	MPN/100 ml	18	50

INFERENCE IS - 2296 Standards, BDL - Below Detectable Limit Report Status: - The above parameters are within limits.

Verified by

End of the Report*

Authorized Signature

Note: 1. The results listed only to the tested samples & applicable parameters,

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E-mail: msvalbellary2018@gmail.com, labmsv@gmail.com Website: www.msvalbellary.com

MSVAL/W/F/13/00

ANALYSIS REPORT OF WATER QUALITY

Test Report No: MSVAL/2022/6513

Report Issued Date: 21.06.2022

Name of the Industry 1.

M/s. The Sandur Manganese & Iron Ores Ltd.

(Metal & Ferro Alloys Plant)

Vyasanakere, Hanumanahalli Village, Hospet Taluk, Bellary District, Karnataka. Surface water - Pond Water Ayyanahalli

Name of the sample 2. Sample Collected By 3.

MSV Analytical Laboratories

Sample Quantity 4.

2 Liters

Sample Description/condition 5.

Good/Satisfactory 15.06.2022

Date of Sample Receipt 6. **Analysis Starting Date** 7. **Analysis Completion date** 8.

16.06.2022 21.06.2022

S.No	9. Sample tested As Rec Parameters	Protocol	Unit	Result	Standards as per IS - 2296
,, , , , , , , , , , , , , , , , , , ,		Physical paramete	rs		
1	Taste	IS: 3025(part-7)	X	Agreeable	Agreeable
2	Color	IS: 3025(part-4)		<5	10
3	Odor	IS: 3025(part-5)		Un objectionable	Un objectionable
4	Нα	IS: 3025(part-11)		6.68	6.5-8.5
5	Conductivity	IS-3025 (part 14)	μs/cm	542	
<u> </u>	Conductivity	Chemical paramete	ers		
6	Total Dissolved Solids	IS: 3025(part-16)	mg/l	482	500
7	Calcium as Ca	IS: 3025(part-40)	mg/l	28.6	80.10
8	Total Hardness as CaCO ₃	IS: 3025(part-21)	mg/l	148.6	300
9	Magnesium as Mg	IS: 3025(part-46)	mg/l	18.8	24.28
10	Oil &Grease	IS: 3025(part-39)	mg/l	Nil	7284
11	Mineral Oil	APHA 23 rd EDITION - 5520 C	mg/l	Nil	0.01
12	Sulphate as SO ₄	IS: 3025(part-24)	mg/l	23.4	400
13	Chloride as Cl	IS: 3025(part-32)	mg/l	146.9	250
14	Nitrate as NO ₃	IS: 3025(part-34)	mg/l	1.32	20
15	Iron as Fe	IS: 3025(part-53)	mg/l	0.003	0.3
16	Fluoride as F	IS: 3025(part-60)	mg/l	0.26	1.50
17	Bio-chemical Oxygen Demand (3 days at 27°C), Max	IS 3025 (Part 44): 1993	mg/l	Nil 1	2
18	Dissolved Oxygen	IS 3025 (Part 38): 1993	mg/l	6.32	Min 6
19	Free CO2	LAB SOP	mg/l	Nil	
20	Free Ammonia	LAB SOP	mg/l	Nil	

IS - 2296 Standards, BDL - Below Detectable Limit **INFERENCE** Report Status: - The above parameters are within limits.

Verified by

End of the Report

Authorized Signature

Note: 1. The results listed only to the tested samples & applicable parameters,

2. Water samples will destroyed after 10days, Filter papers & Thimbles will be destroyed 3months from the date of issue of test certificate unless otherwise specified. ILC sample will be destroyed after 1 month from the date of test certificate issue.

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Recognition by MoEF under Environment (Protection) Act, 1986 (Certified by ISO-14001-2015,ISO 22000-2018, ISO 45001-2018,ISO 9001-2015)

C.M.C Ward No 18 & C.T.C W.No.16 T.S No. 695/A/32/B1, Block No 19 (1st & 2nd Floor)
Sanganakallu Road, KEB Circle, Ballari - 583103 Contact No : Mob : 94498 03895, (0) : 08392-255169,

E-mail: msvalbellary2018@gmail.com, labmsv@gmail.com Website: www.msvalbellary.com

MSVAL/W/F/13/00

ANALYSIS REPORT OF WATER QUALITY

Test Report No: MSVAL/2022/6513 Report Issued Date: 21.06.2022

1. Name of the Industry : M/s. The Sandur Manganese & Iron Ores Ltd.

(Metal & Ferro Alloys Plant)

Vyasanakere, Hanumanahalli Village, Hospet Taluk, Bellary District, Karnataka. Surface water – Pond Water Ayyanahalli

Name of the sample
 Surface water - Pond Wate
 MSV Analytical Laboratories

4. Sample Quantity : 2 Liters

5. Sample Description/condition : Good/Satisfactory

6. Date of Sample Receipt : 15.06.2022 7. Analysis Starting Date : 16.06.2022 8. Analysis Completion date : 21.06.2022

9. Sample tested As Received

S.No	Parameters	Protocol	Unit	Result	Standards as per IS - 2296
		Chemical parameters	3		
21	Manganese as Mn	APHA 23 rd EDITION -3111 B	mg/l	0.014	0.5
22	Zinc as Zn	IS: 3025(part-49)	mg/l	0.020	15
23	Boron as B	APHA 23 rd EDITION -4500 B	mg/l	Nil	
24	Barium as Ba	APHA 23 rd EDITION -3500 Ba	mg/l	0.002	1.0
25	Silver as Ag	APHA 23 rd EDITION -3500 Ag	mg/l	< 0.001	0.05
26	Arsenic as As	APHA 23 rdEDITION -3112 B	mg/l	< 0.002	0.05
27	Mercury as Hg	APHA 23rd EDITION -3112 B	mg/l	< 0.001	0.001
28	Lead as Pb	APHA 23 rd EDITION -3111 B	mg/l	< 0.002	0.1
29	Cadmium as Cd	APHA 23 rd EDITION -3111 B	mg/l	< 0.001	0.01
30	Chromium as Cr	APHA 23 rd EDITION -3111 B	mg/l	< 0.002	0.05
31	Selenium as Se	APHA 23 rd EDITION -3500 B	mg/l	< 0.001	0.01
32	Cyanide as CN	APHA 23 rd EDITION -4500 D	mg/l	Nil	0.05
33	Phenols	IS: 3025(part-43)	mg/l	Nil	0.002
34	Anionic Detergents as MBAS	IS: 13428-2005	mg/l	<0.1	0.2
35	Percent Sodium	LAB SOP	%	20.8	
36	Sodium Absorption Ratio	LAB SOP	mg/l	10.6	

INFERENCE	IS - 2296 Standards, BDL - Below Detectable Limit	
	Report Status: - The above parameters are within limits.	

Verified by

**End of the Report*

Authorized Signature

Note: 1. The results listed only to the tested samples & applicable parameters,

Water samples will destroyed after 10days, Filter papers & Thimbles will be destroyed 3months from the date of issue of test certificate unless otherwise specified. ILC sample will be destroyed after 1 month from the date of test certificate issue.

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E-mail: msvalbellary2018@gmail.com, labmsv@gmail.com Website: www.msvalbellary.com

MSVAL/A/F/18/03

ANALYSIS REPORT FOR WATER IN MICROBIOLOGY

Test Report No: MSVAL/2022/6513

Report Issued Date: 21.06.2022

1. Name of the Industry

: M/s. The Sandur Manganese & Iron Ores Ltd.

(Metal & Ferro Alloys Plant)

Vyasanakere, Hanumanahalli Village, Hospet Taluk, Bellary District, Karnataka.

2. Sample Type

Surface water - Pond Water Ayyanahalli

3. Sample Collected By

MSV Analytical Laboratories, Bellary.

4. Sample Quantity

250 ml (Sterilized Bottle)

5. Sample description/condition

Good/satisfactory

6. Date of sample Receipt

15.06.2022

7. Analysis Starting Date

16.06.2022

8. Analysis Completion Date

21.06.2022

9. Sample tested as Received

RESULTS

Parameters	Protocol	Unit	Result	Standards as per IS - 2296
Total Coliform	IS 1622:1981	MPN/100 ml	22	50

IS – 2296 Standards, BDL – Below Detectable Limit	
Poport Status: The above parameters are within limits	
	IS – 2296 Standards, BDL – Below Detectable Limit Report Status: - The above parameters are within limits.

End of the Report**

Authorized Signature

Regula

Note: 1. The results listed only to the tested samples & applicable parameters,

2. Water samples will destroyed after 10days, Filter papers & Thimbles will be destroyed 3months from the date of issue of test certificate unless otherwise specified. ILC sample will be destroyed after 1 month from the date of test certificate issue.

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E-mail: msvalbellary2018@gmail.com, labmsv@gmail.com Website: www.msvalbellary.com

MSVAL/W/F/13/03

ANALYSIS REPORT OF WATER QUALITY

Test Report No: MSVAL/2022/6514

Report Issued Date: 21.06.2022

1. Name of the Industry

M/s. The Sandur Manganese & Iron Ores Ltd.

(Metal & Ferro Alloys Plant)

Vyasanakere, Hanumanahalli Village, Hospet Taluk, Bellary District, Karnataka.

2. Name of the sample location

Cooling Tower

3. Sample Collected By

MSV Analytical Laboratories, Bellary

4. Sample Quantity

2 Liters Good/satisfactory

5. Sample Description/condition 6. Date of sample Collection

15.06.2022

7. **Analysis Starting Date**

16.06.2022

8. **Analysis completion Date**

21.06.2022

9.	Sample	Tested	as	Received	

S.No	Parameters	Protocols	Units	Results	Max std limits As per GSR 422 E & KSPCB
T	pH	IS: 3025(part-11)		6.84	6.0-9.0
2	Color	IS: 3025(part-4)	Hazen	5	5-25
3	Odour	IS: 3025(part-5)		Agreeable	Agreeable
4	Total Suspended Solids	IS 3025 (P-17)	mg/l	18	100
5	Oil & Grease	IS: 3025(part-39)	mg/l	4	10
6	Total Chromium as Cr	IS: 3025(part-52)	mg/l	0.06	2.0
7	Total Dissolved Solids	IS: 3025(part-16)	mg/l	1864	2100
8	Dissolve Phosphate as P	IS:3025(part-31)	mg/l	2.02	5.0
9	Bio chemical Oxygen Demand	IS: 3025(part-44)	mg/l	8	30
10	Chemical Oxygen Demand	IS: 3025(part-58)	mg/l	25	250
11	Residual Free Chlorine	IS: 3025(part-26)	mg/l	Nil	1.0

INFERENCE

as per GSR 422 E & KSPCB Standards

Report Status: - Measured values for all the parameters are within the limits.

Verified by

Authorized Signature

Note: 1. The results listed only to the tested samples & applicable parameters,

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