



MSV Analytical Laboratories

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, (O) : 08392-255169,

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

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	:	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

Weeks	PARAMETERS & THEIR MAXIMUM STANDARDS		PM ₁₀ [µg/m ³]	PM _{2.5} [µg/m ³]	SO ₂ [µg/m ³]	NO ₂ [µg/m ³]	Ammonia [NH ₃] [µg/m ³]	Ozone [O ₃] [µg/m ³]
			MAX STD	MAX STD	MAX STD	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
	Report Number	Date of Sampling	RESULTS	RESULTS	RESULTS	RESULTS	RESULTS	RESULTS
I st	MSVAL/2022/4939	06.06.22	57.5	26.4	12.2	16.7	Nil	10.1
	MSVAL/2022/6100	08.06.22	55.3	26.5	10.1	14.6	Nil	8.2
II nd	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
III rd	MSVAL/2022/6698	20.06.22	57.5	28.4	14.3	20.3	Nil	10.2
	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
	MSVAL/2022/6980	28.06.22	57.7	24.6	9.6	17.8	Nil	12.4

Weeks	PARAMETERS & THEIR MAXIMUM STANDARDS		Lead [Pb] [µg/m ³]	Nickel [Ni] [ng/m ³]	Arsenic [As] [ng/m ³]	Benzene [C ₆ H ₆] [µg/m ³]	Benzo(a)pyrene [Bap] [ng/m ³]	Carbon Monoxide [CO] [mg/m ³]
			MAX STD	MAX STD	MAX STD	MAX STD	MAX STD	MAX STD
			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
I st	MSVAL/2022/4939	06.06.22	0.036	1.35	<0.5	<1.0	<0.5	0.42
	MSVAL/2022/6100	08.06.22	0.023	1.30	<0.5	<1.0	<0.5	0.34
II nd	MSVAL/2022/6287	10.06.22	0.025	1.04	<0.5	<1.0	<0.5	0.33
	MSVAL/2022/6390	14.06.22	0.021	1.24	<0.5	<1.0	<0.5	0.23
III rd	MSVAL/2022/6698	20.06.22	0.028	1.22	<0.5	<1.0	<0.5	0.34
	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
	MSVAL/2022/6980	28.06.22	0.021	1.23	<0.5	<1.0	<0.5	0.20

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



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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	:	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

Weeks	PARAMETERS & THEIR MAXIMUM STANDARDS		PM ₁₀ [µg/m ³]	PM _{2.5} [µg/m ³]	SO ₂ [µg/m ³]	NO ₂ [µg/m ³]	Ammonia [NH ₃] [µg/m ³]	Ozone [O ₃] [µg/m ³]
			MAX STD	MAX STD	MAX STD	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
	Report Number	Date of Sampling	RESULTS	RESULTS	RESULTS	RESULTS	RESULTS	RESULTS
I st	MSVAL/2022/4942	06.06.22	55.3	18.5	9.8	14.7	Nil	10.9
	MSVAL/2022/6103	08.06.22	54.3	17.3	13.9	16.7	Nil	8.5
II nd	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
III rd	MSVAL/2022/6699	20.06.22	58.9	20.8	11.0	17.3	Nil	9.4
	MSVAL/2022/6817	23.06.22	56.4	17.6	9.1	13.3	Nil	12.8
IV th	MSVAL/2022/6952	27.06.22	55.5	17.7	8.5	16.5	Nil	9.8
	MSVAL/2022/6983	28.06.22	54.7	17.6	7.4	17.7	Nil	8.3

Weeks	PARAMETERS & THEIR MAXIMUM STANDARDS		Lead [Pb] [µg/m ³]	Nickel [Ni] [ng/m ³]	Arsenic [As] [ng/m ³]	Benzene [C ₆ H ₆] [µg/m ³]	Benzo(a)pyrene [Bap] [ng/m ³]	Carbon Monoxide [CO] [mg/m ³]
			MAX STD	MAX STD	MAX STD	MAX STD	MAX STD	MAX STD
			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
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
II nd	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
III rd	MSVAL/2022/6699	20.06.22	0.026	1.36	<0.5	<1.0	<0.5	0.34
	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
	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.
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END OF REPORT

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	:	Vysanakere, 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

Weeks	PARAMETERS & THEIR MAXIMUM STANDARDS		PM ₁₀ [µg/m ³]	PM _{2.5} [µg/m ³]	SO ₂ [µg/m ³]	NO ₂ [µg/m ³]	Ammonia [NH ₃] [µg/m ³]	Ozone [O ₃] [µg/m ³]
			MAX STD	MAX STD	MAX STD	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
	Report Number	Date of Sampling	RESULTS	RESULTS	RESULTS	RESULTS	RESULTS	RESULTS
I st	MSVAL/2022/4940	06.06.22	52.4	34.3	8.2	11.7	Nil	8.6
	MSVAL/2022/6101	08.06.22	52.2	19.4	11.9	13.6	Nil	7.3
II nd	MSVAL/2022/6289	10.06.22	61.7	17.2	15.4	22.2	Nil	10.8
	MSVAL/2022/6392	14.06.22	53.5	18.5	9.3	15.3	Nil	8.1
III rd	MSVAL/2022/6700	20.06.22	60.4	18.6	14.0	20.0	Nil	11.4
	MSVAL/2021/6818	23.06.22	53.6	20.7	9.4	15.1	Nil	12.2
IV th	MSVAL/2022/6950	27.06.22	49.7	35.9	8.4	12.9	Nil	9.3
	MSVAL/2022/6982	28.06.22	56.7	21.7	7.5	13.4	Nil	8.3

Weeks	PARAMETERS & THEIR MAXIMUM STANDARDS		Lead [Pb] [µg/m ³]	Nickel [Ni] [ng/m ³]	Arsenic [As] [ng/m ³]	Benzene [C ₆ H ₆] [µg/m ³]	Benzo(a)pyrene [Bap] [ng/m ³]	Carbon Monoxide [CO] [mg/m ³]
			MAX STD	MAX STD	MAX STD	MAX STD	MAX STD	MAX STD
			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
I st	MSVAL/2022/4940	06.06.22	0.025	1.24	<0.5	<1.0	<0.5	0.28
	MSVAL/2022/6101	08.06.22	0.020	1.22	<0.5	<1.0	<0.5	0.25
II nd	MSVAL/2022/6289	10.06.22	0.028	1.27	<0.5	<1.0	<0.5	0.40
	MSVAL/2022/6392	14.06.22	0.025	1.18	<0.5	<1.0	<0.5	0.28
III rd	MSVAL/2022/6700	20.06.22	0.018	1.18	<0.5	<1.0	<0.5	0.30
	MSVAL/2021/6818	23.06.22	0.026	1.16	<0.5	<1.0	<0.5	0.32
IV th	MSVAL/2022/6950	27.06.22	0.016	1.20	<0.5	<1.0	<0.5	0.17
	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.
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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	:	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

Weeks	PARAMETERS & THEIR MAXIMUM STANDARDS		PM ₁₀ [µg/m ³]	PM _{2.5} [µg/m ³]	SO ₂ [µg/m ³]	NO ₂ [µg/m ³]	Ammonia [NH ₃] [µg/m ³]	Ozone [O ₃] [µg/m ³]
			MAX STD	MAX STD	MAX STD	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
Report Number	Date of Sampling	RESULTS	RESULTS	RESULTS	RESULTS	RESULTS	RESULTS	RESULTS
I st	MSVAL/2022/4941	06.06.22	54.3	15.4	7.9	14.8	Nil	12.2
	MSVAL/2022/6102	08.06.22	51.1	16.4	7.3	11.9	Nil	6.1
II nd	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
III rd	MSVAL/2022/6701	20.06.22	62.5	20.0	12.4	17.5	Nil	9.0
	MSVAL/2022/6819	23.06.22	57.4	15.5	9.5	17.0	Nil	10.4
IV th	MSVAL/2022/6951	27.06.22	53.7	18.9	8.0	16.2	Nil	7.6
	MSVAL/2022/6981	28.06.22	57.7	20.1	7.4	16.0	Nil	8.8

Weeks	PARAMETERS & THEIR MAXIMUM STANDARDS		Lead [Pb] [µg/m ³]	Nickel [Ni] [ng/m ³]	Arsenic [As] [ng/m ³]	Benzene [C ₆ H ₆] [µg/m ³]	Benzo(a)pyrene [Bap] [ng/m ³]	Carbon Monoxide [CO] [mg/m ³]
			MAX STD	MAX STD	MAX STD	MAX STD	MAX STD	MAX STD
			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	RESULTS
I st	MSVAL/2022/4941	06.06.22	0.042	1.34	<0.5	<1.0	<0.5	0.33
	MSVAL/2022/6102	08.06.22	0.015	1.12	<0.5	<1.0	<0.5	0.22
II nd	MSVAL/2022/6290	10.06.22	0.025	1.33	<0.5	<1.0	<0.5	0.46
	MSVAL/2022/6393	14.06.22	0.022	1.30	<0.5	<1.0	<0.5	0.20
III rd	MSVAL/2022/6701	20.06.22	0.030	1.36	<0.5	<1.0	<0.5	0.32
	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
	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.
------------------	--

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Authorized Signature

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MSVAL/A/F/18/03

ANALYSIS REPORT FOR SOURCE EMISSION

Test Report No : TC720722000013441F

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 : Coke Screening & Store
3. Sample Collected By : MSV Analytical Laboratories, Bellary.
4. Particulars of Sample Collected : Sample collected with VSS - 1
5. Date of Sample Receipt : 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	---
Stack Temperature (°C)	155
Velocity (m/s)	8.2
Height (m)	15mtrs AGL
Diameter (m)	0.7
Cross sectional area (m ²)	0.38465

RESULTS

Parameters	Protocol	Unit	Result	GSR 277 (E) Standards
Particulate Matter	IS-11255(Part1) - 1985	mg/Nm ³	24.5	50
Sulphur dioxide	IS-11255(Part2) - 1985	mg/Nm ³	15.3	800
Nitrogen dioxide	IS-11255(Part7) - 2005	mg/Nm ³	11.5	500
Carbon Monoxide as(CO)	IS 13270	%	0.25	Max 1%

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



:- END OF REPORT:-

Authorized Signature

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MSVAL/A/F/18/03

ANALYSIS REPORT FOR SOURCE EMISSION

Test Report No : TC720722000013442F

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 : Coke Cutter
3. Sample Collected By : MSV Analytical Laboratories, Bellary.
4. Particulars of Sample Collected : Sample collected with VSS - 1
5. Date of Sample Receipt : 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	---
Stack Temperature (°C)	156
Velocity (m/s)	7.8
Height (m)	15mtrs AGL
Diameter (m)	0.7
Cross sectional area (m ²)	0.38465

RESULTS

Parameters	Protocol	Unit	Result	GSR 277 (E) Standards
Particulate Matter	IS-11255(Part1) - 1985	mg/Nm ³	20.5	50
Sulphur dioxide	IS-11255(Part2) - 1985	mg/Nm ³	10.2	800
Nitrogen dioxide	IS-11255(Part7) - 2005	mg/Nm ³	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



:- 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.
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.



MSV Analytical Laboratories

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Sanganakallu Road, KEB Circle, Ballari - 583103 Contact No : Mob : 94498 03895, (O) : 08392-255169,
E-mail : msvalbellary2018@gmail.com, labmsv@gmail.com, Website : www.msvalbellary.com



MSVAL/A/F/18/03

ANALYSIS REPORT FOR SOURCE EMISSION

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.
- Stack ID : Coal Crushing Area
- Sample Collected By : MSV Analytical Laboratories, Bellary.
- Particulars of Sample Collected : Sample collected with VSS - 1
- Date of Sample Receipt : 17.06.2022
- Analysis Starting Date : 18.06.2022
- Analysis Completion Date : 23.06.2022
- Sample Tested as Received

GENERAL DETAILS

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 (m ²)	0.44156

RESULTS

Parameters	Protocol	Unit	Result	GSR 277 (E) Standards
Particulate Matter	IS-11255(Part1) - 1985	mg/Nm ³	24.5	50
Sulphur dioxide	IS-11255(Part2) - 1985	mg/Nm ³	13.0	800
Nitrogen dioxide	IS-11255(Part7) - 2005	mg/Nm ³	10.4	500
Carbon Monoxide as(CO)	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,
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 : msvbellary2018@gmail.com, labmsv@gmail.com, Website : www.msvbellary.com



MSVAL/A/F/18/03

ANALYSIS REPORT FOR SOURCE EMISSION

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)
Vysanakere, 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 Receipt : 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	Diesel
Stack Temperature (°C)	96
Velocity (m/s)	7.5
Height (m)	15mtrs AGL
Diameter (m)	0.3
Cross sectional area (m ²)	0.07065

RESULTS

Parameters	Protocol	Unit	Result	KSPCB Consent Standards
Particulate Matter	IS-11255(Part1) - 1985	mg/Nm ³	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

Authorized Signature

:- END OF REPORT:-



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MSVAL/A/F/18/03

ANALYSIS REPORT FOR SOURCE EMISSION

Test Report No : TTC720722000013445F

Report Issued Date : 23.06.2022

- Name of the Industry : M/s. The Sandur Manganese & Iron Ores Ltd.
(Metal & Ferro Alloys Plant)
Vyasankere, Hanumanahalli Village,
Hospet Taluk, Bellary District, Karnataka.
- Stack ID : Coke Oven Battery - Passes Through WHRB-1
- Sample Collected By : MSV Analytical Laboratories, Bellary.
- Particulars of Sample Collected : Sample collected with VSS - 1
- Date of Sample Receipt : 17.06.2022
- Analysis Starting Date : 18.06.2022
- Analysis Completion Date : 23.06.2022
- Sample Tested as Received

GENERAL DETAILS

Date of Monitoring	17.06.2022
Fuel Used	----
Stack Temperature (°C)	42
Velocity (m/s)	6.1
Height (m)	60 mtrs AGL
Diameter (m)	3.4
Cross sectional area (m ²)	9.0746

RESULTS

Parameters	Protocol	Unit	Result	GSR 277 (E) Standards
Particulate Matter	IS-11255(Part1) - 1985	mg/Nm ³	30.5	50
Sulphur dioxide	IS-11255(Part2) - 1985	mg/Nm ³	32.5	800
Nitrogen dioxide	IS-11255(Part7) - 2005	mg/Nm ³	30.7	500
Carbon Monoxide as(CO)	IS 13270	%	0.21	Max 1%

INFERENCE	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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MSVAL/A/F/18/03

ANALYSIS REPORT FOR SOURCE EMISSION

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)
Vysanakere, 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 Receipt : 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	----
Stack Temperature (°C)	42
Velocity (m/s)	6.0
Height (m)	35 mtrs AGL
Diameter (m)	2.5
Cross sectional area (m ²)	4.90625

RESULTS

Parameters	Protocol	Unit	Result	GSR 277 (E) Standards
Particulate Matter	IS-11255(Part1) - 1985	mg/Nm ³	35.1	150

INFERENCE	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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MSVAL/A/F/18/03

ANALYSIS REPORT FOR SOURCE EMISSION

Test Report No : TC720722000013447F

Report Issued Date : 23.06.2022

1. Name of the Industry : M/s. The Sandur Manganese & Iron Ores Ltd.
(Metal & Ferro Alloys Plant)
Vyasankere, Hanumanahalli Village,
Hospet Taluk, Bellary District, Karnataka.
2. Stack ID : Coke Oven Battery - Passes Through WHRB-2
3. Sample Collected By : MSV Analytical Laboratories, Bellary.
4. Particulars of Sample Collected : Sample collected with VSS - 1
5. Date of Sample Receipt : 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	----
Stack Temperature (°C)	39
Velocity (m/s)	6.1
Height (m)	60 mtrs AGL
Diameter (m)	3.4
Cross sectional area (m ²)	9.0746

RESULTS

Parameters	Protocol	Unit	Result	GSR 277 (E) Standards
Particulate Matter	IS-11255(Part1) - 1985	mg/Nm ³	32.6	50
Sulphur dioxide	IS-11255(Part2) - 1985	mg/Nm ³	26.7	800
Nitrogen dioxide	IS-11255(Part7) - 2005	mg/Nm ³	38.5	500
Carbon Monoxide as(CO)	IS 13270	%	0.15	Max 1%

INFERENCE

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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E-mail : msvbellary2018@gmail.com, labmsv@gmail.com Website : www.msvbellary.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)
Vyasnakere, Hanumanahalli Village,
Hospet Taluk, Bellary District, Karnataka.
2. Name of the sample : Surface water - Tungabhadra Reservoir
3. Sample Collected By : 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
Physical parameters					
1	Taste	IS : 3025(part-7)	---	Agreeable	Agreeable
2	Color	IS : 3025(part-4)	---	<1	10
3	Odor	IS : 3025(part-5)	---	Un objectionable	Un objectionable
4	pH	IS : 3025(part-11)	---	8.02	6.5-8.5
5	Conductivity	IS-3025 (part 14)	µs/cm	1024	---
Chemical parameters					
6	Total Dissolved Solids	IS : 3025(part-16)	mg/l	604	500
7	Calcium as Ca	IS : 3025(part-40)	mg/l	30.2	80.10
8	Total Hardness as CaCO ₃	IS : 3025(part-21)	mg/l	166.8	300
9	Magnesium as Mg	IS : 3025(part-46)	mg/l	22.18	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	13.8	400
13	Chloride as Cl	IS : 3025(part-32)	mg/l	33.9	250
14	Nitrate as NO ₃	IS : 3025(part-34)	mg/l	1.26	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	0.16	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	6.33	Min 6
19	Free CO ₂	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

Authorized Signature

End of the Report



- Note: 1. The results listed only to the tested samples & applicable parameters,
2. Water samples will be destroyed after 10 days, Filter papers & Thimbles will be destroyed 3 months 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/2022/6509

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.
2. Name of the sample : Surface water - Tungabhadra Reservoir
3. Sample Collected By : 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					
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 rd EDITION -3112 B	mg/l	<0.002	0.05
27	Mercury as Hg	APHA 23 rd 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

Authorized Signature

End of the Report



- Note: 1. The results listed only to the tested samples & applicable parameters,
2. Water samples will be destroyed after 10 days, Filter papers & Thimbles will be destroyed 3 months 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)
Vyasnakere, Hanumanahalli Village,
Hospet Taluk, Bellary District, Karnataka.
2. Sample Type : Surface water – Tungabhadra Reservoir
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	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****



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/2022/6510

Report Issued Date: 21.06.2022

1. Name of the Industry : M/s. The Sandur Manganese & Iron Ores Ltd.
(Metal & Ferro Alloys Plant)
Vysanakere, Hanumanahalli Village,
Hospet Taluk, Bellary District, Karnataka.
2. Name of the sample : Surface water – Canal Near Vysanakere
3. Sample Collected By : 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
Physical parameters					
1	Taste	IS : 3025(part-7)	---	Agreeable	Agreeable
2	Color	IS : 3025(part-4)	---	<5	10
3	Odor	IS : 3025(part-5)	---	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 parameters					
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 CO ₂	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

Authorized Signature

End of the Report

- Note: 1. The results listed only to the tested samples & applicable parameters,
2. Water samples will be destroyed after 10 days, Filter papers & Thimbles will be destroyed 3 months 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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Sanganakallu Road, KEB Circle, Ballari - 583103 Contact No : Mob : 94498 03895, (O) : 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)
Vysanakere, Hanumanahalli Village,
Hospet Taluk, Bellary District, Karnataka.
2. Name of the sample : Surface water - Canal Near Vysanakere
3. Sample Collected By : 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					
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	<0.001	0.05
26	Arsenic as As	APHA 23 rd EDITION -3112 B	mg/l	<0.002	0.05
27	Mercury as Hg	APHA 23 rd 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	%	18.8	---
36	Sodium Absorption Ratio	LAB SOP	mg/l	10.3	---

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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Sanganakallu Road, KEB Circle, Ballari - 583103 Contact No : Mob : 94498 03895, (O) : 08392-255169,

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)
Vysanakere, 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)
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.
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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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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/2022/6511

Report Issued Date: 21.06.2022

1. Name of the Industry : M/s. The Sandur Manganese & Iron Ores Ltd.
(Metal & Ferro Alloys Plant)
Vyanakere, Hanumanahalli Village,
Hospet Taluk, Bellary District, Karnataka.
2. Name of the sample : Surface water - Dhananayakana Kere Water
3. Sample Collected By : 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
Physical parameters					
1	Taste	IS : 3025(part-7)	---	Agreeable	Agreeable
2	Color	IS : 3025(part-4)	---	<5	10
3	Odor	IS : 3025(part-5)	---	Un objectionable	Un objectionable
4	pH	IS : 3025(part-11)	---	7.10	6.5-8.5
5	Conductivity	IS-3025 (part 14)	µs/cm	622	---
Chemical parameters					
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 CO ₂	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

Authorized Signature

****End of the Report****

- Note: 1. The results listed only to the tested samples & applicable parameters, 2. Water samples will be destroyed after 10 days, Filter papers & Thimbles will be destroyed 3 months 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. 5. Sampling is not done by us unless otherwise specified. 6. The tests and/or calibrations marked with an are not accredited by NABL.



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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)
Vyasnakere, Hanumanahalli Village,
Hospet Taluk, Bellary District, Karnataka.
2. Name of the sample : Surface water - Dhananayakana Kere Water
3. Sample Collected By : 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					
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 rd EDITION -3112 B	mg/l	<0.002	0.05
27	Mercury as Hg	APHA 23 rd 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

1. Name of the Industry : M/s. The Sandur Manganese & Iron Ores Ltd.
(Metal & Ferro Alloys Plant)
Vyasnakere, 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 : 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	12	50

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

Verified by

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****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/W/F/13/00

ANALYSIS REPORT OF WATER QUALITY

Test Report No : MSVAL/2022/6512

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.
- Name of the sample** : Surface water - Water body near Narayadevarakere
- Sample Collected By** : MSV Analytical Laboratories
- Sample Quantity** : 2 Liters
- Sample Description/condition** : Good/Satisfactory
- Date of Sample Receipt** : 15.06.2022
- Analysis Starting Date** : 16.06.2022
- Analysis Completion date** : 21.06.2022
- Sample tested As Received**

S.No	Parameters	Protocol	Unit	Result	Standards as per IS - 2296
Physical parameters					
1	Taste	IS : 3025(part-7)	---	Agreeable	Agreeable
2	Color	IS : 3025(part-4)	---	<5	10
3	Odor	IS : 3025(part-5)	---	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 parameters					
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 CO ₂	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

- Note : 1. The results listed only to the tested samples & applicable parameters,
2. Water samples will be destroyed after 10 days, Filter papers & Thimbles will be destroyed 3 months 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 : msvbellary2016@gmail.com, labmsv@gmail.com Website : www.msvbellary.com

MSVAL/W/F/13/00

ANALYSIS REPORT OF WATER QUALITY

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/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					
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 rd EDITION -3112 B	mg/l	<0.002	0.05
27	Mercury as Hg	APHA 23 rd 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

Authorized Signature

****End of the Report****



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

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, (O) : 08392-255169,

E-mail : msvbellary2018@gmail.com, labmsv@gmail.com Website : www.msvbellary.com

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 : Surface water - Water body near Narayadevarakere
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	18	50

INFERENCE	IS - 2296 Standards, BDL - Below Detectable Limit Report Status: - The above parameters are within limits.
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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.
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.
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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)
Vyanakere, Hanumanahalli Village,
Hospet Taluk, Bellary District, Karnataka.
2. Name of the sample : Surface water – Pond Water Ayyanahalli
3. Sample Collected By : 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
Physical parameters					
1	Taste	IS : 3025(part-7)	---	Agreeable	Agreeable
2	Color	IS : 3025(part-4)	---	<5	10
3	Odor	IS : 3025(part-5)	---	Un objectionable	Un objectionable
4	pH	IS : 3025(part-11)	---	6.68	6.5-8.5
5	Conductivity	IS-3025 (part 14)	µs/cm	542	---
Chemical parameters					
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	---
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	2
18	Dissolved Oxygen	IS 3025 (Part 38): 1993	mg/l	6.32	Min 6
19	Free CO ₂	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

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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)
Vyasnakere, Hanumanahalli Village,
Hospet Taluk, Bellary District, Karnataka.
2. Name of the sample : Surface water - Pond Water Ayyanahalli
3. Sample Collected By : 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					
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 rd EDITION -3112 B	mg/l	<0.002	0.05
27	Mercury as Hg	APHA 23 rd 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.

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End of the Report



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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

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



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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
5. Sample Description/condition : Good/satisfactory
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
1	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.
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Verified by



:-End of The Report :-

Authorized Signature

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