

The Sandur Manganese & Iron Ores Limited

(An ISO 9001:2015; ISO 14001:2015 and 45001:2018 certified company)
CIN: L85110KA1954PLC000759; Website: www.sandurgroup.com

REGISTERED OFFICE

'SATYALAYA', No.266
Ward No.1, Palace Road
Sandur - 583 119, Ballari District
Karnataka, India
Tel: +91 8395 260301/ 283173-199
Fax: +91 8395 260473



CORPORATE OFFICE

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Bellary Road, Sadashivanagar
Bengaluru - 560 080
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Tel: +91 80 4152 0176 - 79 / 4547 3000
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Ref No: SMIORE/MINES/ENV/2024-25/2678/304

01 June 2024

To,
The Environmental Officer,
Karnataka State Pollution Control Board,
Ward No.25, 4th Main Road,
Kuvempu Nagar,
Ballari - 583104

Dear Sir,

Sub: Submission of reports pertaining to monitoring of environmental parameters for the month of May 2024 in respect of Mining Lease No. 2678.

Ref: 1. Environmental Clearance F.No. IA-J-11015/45/2021-IA-II(M) dated 25 April 2023.
2. Consent for Operation No. AW-341719 dated 02 February 2024.

With reference to the letter cited above, we are enclosing herewith environmental monitoring reports prepared after monitoring the stipulated environmental parameters for the month of May 2024 in respect of Mining Lease No. 2678 of The Sandur Manganese & Iron Ores Limited.

Kindly acknowledge the receipt of the reports.

Thank you,
for The Sandur Manganese & Iron Ores Limited,

Md. Abdul Saleem,
Whole Time Director
& Company Secretary.



Encl: Monitoring Reports

ENVIRONMENTAL MONITORING REPORT

May, 2024

Project : Mining Lease No. 2678
Deogiri Manganese & Iron Ore Mine,
Kammathuru Iron Ore Mine,
Subrayanahalli Manganese & Iron Ore Mine,
Sandur Taluk, Ballari Dist, Karnataka.

Lessee

The Sandur Manganese & Iron Ores Limited

ENVIRONMENTAL LABORATORY

(Unit of Mineral Engineering Services)

(Accredited by NABL &, MOEF&CC Under E(P) 1986)

*#948, 2nd Cross, Kammanahalli Main Road,
St Thomas Town Post, Bangalore- 560 084, Karnataka,*

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TEST REPORT

Table No.1

AMBIENT AIR QUALITY

Name of the Client : The Sandur Manganese & Iron Ores Limited
 Name of the Project : Mining Lease No. 2678
 Sample Collected by : Environmental Laboratory (Unit of Mineral Engineering Services)
 Station at & Code : A1, Mine Pit (SK) / (CBG)
 Duration : 24 Hrs
 Issue date : 01.06.2024
 Reference IS 5182 & Lab SOP

Date of Sampling	Lab Code	Sulphur Dioxide (SO ₂), µg/m ³	Nitrogen Dioxide (NO ₂), µg/m ³	Particulate Matter		Carbon Monoxide* (CO), mg/m ³
				PM ₁₀ , (µg/m ³)	PM _{2.5} , (µg/m ³)	
08.05.2024	N/24/05/2-0090	11	13	63	37	0.51
09.05.2024	N/24/05/2-0148	12	15	55	30	0.38
15.05.2024	N/24/05/4-0084	11	13	39	19	0.46
16.05.2024	N/24/05/4-0121	9	12	43	22	0.43
22.05.2024	N/24/05/4-0331	6	15	45	29	0.35
23.05.2024	N/24/05/4-0365	12	13	61	31	0.28
29.05.2024	N/24/05/5-0161	6	17	40	29	0.54
30.05.2024	N/24/05/5-0184	12	15	44	24	0.48
Limits for Industrial , Residential, Rural and other Areas		80 24 Hrs	80 24 Hrs	100 24 Hrs	60 24 Hrs	2 8 Hr

Arshiya Kousar
 ARSHIYA KOUSAR
 Dy. T.M. - Chemical

Govt. Analyst / Authorised Signatory

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TEST REPORT

Table No.2

AMBIENT AIR QUALITY

Name of the Client : The Sandur Manganese & Iron Ores Limited						
Name of the Project : Mining Lease No. 2678						
Sample Collected by : Environmental Laboratory (Unit of Mineral Engineering Services)						
Station at & Code : A2, Kammathuru (within ML Area)						
Duration : 24 Hrs						
Issue date : 01.06.2024						
Reference IS 5182 & Lab SOP						
Date of Sampling	Lab Code	Sulphur Dioxide (SO ₂), µg/m ³	Nitrogen Dioxide (NO ₂), µg/m ³	Particulate Matter		Carbon Monoxide* (CO), mg/m ³
				PM ₁₀ , (µg/m ³)	PM _{2.5} , (µg/m ³)	
08.05.2024	N/24/05/2-0091	13	14	58	29	0.36
09.05.2024	N/24/05/2-0149	11	9	49	20	0.52
15.05.2024	N/24/05/4-0085	10	15	47	19	0.47
16.05.2024	N/24/05/4-0122	7	10	59	30	0.35
22.05.2024	N/24/05/4-0332	9	11	35	21	0.32
23.05.2024	N/24/05/4-0366	10	12	48	24	0.42
29.05.2024	N/24/05/5-0162	8	11	38	19	0.24
30.05.2024	N/24/05/5-0185	9	13	57	28	0.31
Limits for Industrial , Residential, Rural and other Areas		80 24 Hrs	80 24 Hrs	100 24 Hrs	60 24 Hrs	2 8 Hr

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TEST REPORT

Table No.3

AMBIENT AIR QUALITY

Name of the Client : The Sandur Manganese & Iron Ores Limited						
Name of the Project : Mining Lease No. 2678						
Sample Collected by : Environmental Laboratory (Unit of Mineral Engineering Services)						
Station at & Code : A3, Deogiri (within ML Area)						
Duration : 24 Hrs						
Issue date : 01.06.2024						
Reference IS 5182 & Lab SOP						
Date of Sampling	Lab Code	Sulphur Dioxide (SO ₂), µg/m ³	Nitrogen Dioxide (NO ₂), µg/m ³	Particulate Matter		Carbon Monoxide* (CO), mg/m ³
				PM ₁₀ , (µg/m ³)	PM _{2.5} , (µg/m ³)	
08.05.2024	N/24/05/2-0092	10	16	64	36	0.36
09.05.2024	N/24/05/2-0150	8	9	49	23	0.53
15.05.2024	N/24/05/4-0086	12	14	40	19	0.35
16.05.2024	N/24/05/4-0123	10	11	54	30	0.46
22.05.2024	N/24/05/4-0333	11	12	36	18	0.41
23.05.2024	N/24/05/4-0367	13	17	39	22	0.32
29.05.2024	N/24/05/5-0163	14	15	40	21	0.38
30.05.2024	N/24/05/5-0186	7	13	51	27	0.35
Limits for Industrial , Residential, Rural and other Areas		80 24 Hrs	80 24 Hrs	100 24 Hrs	60 24 Hrs	2 8 Hr

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TEST REPORT

Table No.4

AMBIENT AIR QUALITY

Name of the Client : The Sandur Manganese & Iron Ores Limited
Name of the Project : Mining Lease No. 2678
Sample Collected by : Environmental Laboratory (Unit of Mineral Engineering Services)
Station at & Code : A4, SBH Plot (Mine Boundary)
Duration : 24 Hrs
Issue date : 01.06.2024
Reference IS 5182 & Lab SOP

Date of Sampling	Lab Code	Sulphur Dioxide (SO ₂), µg/m ³	Nitrogen Dioxide (NO ₂), µg/m ³	Particulate Matter		Carbon Monoxide* (CO), mg/m ³
				PM ₁₀ , (µg/m ³)	PM _{2.5} , (µg/m ³)	
08.05.2024	N/24/05/2-0093	9	10	56	34	0.27
09.05.2024	N/24/05/2-0151	7	15	48	23	0.44
15.05.2024	N/24/05/4-0087	11	13	58	32	0.36
16.05.2024	N/24/05/4-0124	9	16	33	19	0.38
22.05.2024	N/24/05/4-0334	7	10	48	25	0.42
23.05.2024	N/24/05/4-0368	10	12	55	29	0.48
29.05.2024	N/24/05/5-0164	13	18	40	26	0.24
30.05.2024	N/24/05/5-0187	11	15	61	33	0.36
Limits for Industrial , Residential, Rural and other Areas		80 24 Hrs	80 24 Hrs	100 24 Hrs	60 24 Hrs	2 8 Hr

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Table No.5

AMBIENT AIR QUALITY

Name of the Client	: The Sandur Manganese & Iron Ores Limited					
Name of the Project	: Mining Lease No. 2678					
Sample Collected by	: Environmental Laboratory (Unit of Mineral Engineering Services)					
Station at & Code	: A5, Subbarayanahalli (within ML Area)					
Duration	: 24 Hrs					
Issue date	: 01.06.2024					
Reference	IS 5182 & Lab SOP					
Date of Sampling	Lab Code	Sulphur Dioxide (SO ₂), µg/m ³	Nitrogen Dioxide (NO ₂), µg/m ³	Particulate Matter		Carbon Monoxide* (CO), mg/m ³
				PM ₁₀ , (µg/m ³)	PM _{2.5} , (µg/m ³)	
08.05.2024	N/24/05/2-0094	7	11	63	38	0.31
09.05.2024	N/24/05/2-0152	10	13	57	23	0.36
15.05.2024	N/24/05/4-0088	9	10	35	20	0.41
16.05.2024	N/24/05/4-0125	13	11	44	24	0.45
22.05.2024	N/24/05/4-0335	11	13	46	26	0.39
23.05.2024	N/24/05/4-0369	9	15	40	19	0.26
29.05.2024	N/24/05/5-0165	10	16	43	22	0.32
30.05.2024	N/24/05/5-0188	8	18	58	30	0.33
Limits for Industrial , Residential, Rural and other Areas		80 24 Hrs	80 24 Hrs	100 24 Hrs	60 24 Hrs	2 8 Hr

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Table No.6

AMBIENT AIR QUALITY

Name of the Client	: The Sandur Manganese & Iron Ores Limited					
Name of the Project	: Mining Lease No. 2678					
Sample Collected by	: Environmental Laboratory (Unit of Mineral Engineering Services)					
Station at & Code	: A6, Appayyanahalli (Narayanpura)					
Duration	: 24 Hrs					
Issue date	: 01.06.2024					
Reference	IS 5182 & Lab SOP					
Date of Sampling	Lab Code	Sulphur Dioxide (SO ₂), µg/m ³	Nitrogen Dioxide (NO ₂), µg/m ³	Particulate Matter		Carbon Monoxide* (CO), mg/m ³
				PM ₁₀ , (µg/m ³)	PM _{2.5} , (µg/m ³)	
10.05.2024	N/24/05/2-0199	10	16	49	29	0.25
11.05.2024	N/24/05/3-0018	9	11	50	23	0.44
13.05.2024	N/24/05/4-0002	7	12	54	30	0.39
14.05.2024	N/24/05/4-0047	8	9	40	21	0.26
24.05.2024	N/24/05/4-0402	9	11	41	37	0.31
25.04.2024	N/24/05/5-0002	11	16	39	20	0.36
27.05.2024	N/24/05/5-0047	15	19	42	25	0.42
28.05.2024	N/24/05/5-0106	8	13	54	28	0.34
Limits for Industrial , Residential, Rural and other Areas		80 24 Hrs	80 24 Hrs	100 24 Hrs	60 24 Hrs	2 8 Hr

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TEST REPORT

Table No.7

AMBIENT AIR QUALITY

Name of the Client	: The Sandur Manganese & Iron Ores Limited					
Name of the Project	: Mining Lease No. 2678					
Sample Collected by	: Environmental Laboratory (Unit of Mineral Engineering Services)					
Station at & Code	: A7, Vitalanagar (Navalatti)					
Duration	: 24 Hrs					
Issue date	: 01.06.2024					
Reference	IS 5182 & Lab SOP					
Date of Sampling	Lab Code	Sulphur Dioxide (SO ₂), µg/m ³	Nitrogen Dioxide (NO ₂), µg/m ³	Particulate Matter		Carbon Monoxide* (CO), mg/m ³
				PM ₁₀ , (µg/m ³)	PM _{2.5} , (µg/m ³)	
10.05.2024	N/24/05/2-0200	9	19	36	20	0.42
11.05.2024	N/24/05/3-0019	10	16	54	30	0.44
13.05.2024	N/24/05/4-0003	9	11	44	28	0.33
14.05.2024	N/24/05/4-0048	14	15	40	24	0.35
24.05.2024	N/24/05/4-0403	11	17	49	34	0.28
25.04.2024	N/24/05/5-0003	8	14	49	30	0.28
27.05.2024	N/24/05/5-0048	9	16	37	20	0.33
28.05.2024	N/24/05/5-0107	10	22	51	28	0.39
Limits for Industrial , Residential, Rural and other Areas		80 24 Hrs	80 24 Hrs	100 24 Hrs	60 24 Hrs	2 8 Hr

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TEST REPORT

Table No.8

AMBIENT AIR QUALITY

Name of the Client : The Sandur Manganese & Iron Ores Limited
 Name of the Project : Mining Lease No. 2678
 Sample Collected by : Environmental Laboratory (Unit of Mineral Engineering Services)
 Station at & Code : A8, Swamihalli
 Duration : 24 Hrs
 Issue date : 01.06.2024
 Reference IS 5182 & Lab SOP

Date of Sampling	Lab Code	Sulphur Dioxide (SO ₂), µg/m ³	Nitrogen Dioxide (NO ₂), µg/m ³	Particulate Matter		Carbon Monoxide* (CO), mg/m ³
				PM ₁₀ , (µg/m ³)	PM _{2.5} , (µg/m ³)	
10.05.2024	N/24/05/2-0201	7	11	43	26	0.26
11.05.2024	N/24/05/3-0020	8	13	50	28	0.35
13.05.2024	N/24/05/4-0004	9	13	54	27	0.45
14.05.2024	N/24/05/4-0049	10	15	46	24	0.35
24.05.2024	N/24/05/4-0404	9	12	53	28	0.31
25.04.2024	N/24/05/5-0004	10	10	41	22	0.25
27.05.2024	N/24/05/5-0049	12	15	51	35	0.29
28.05.2024	N/24/05/5-0108	8	13	47	28	0.33
Limits for Industrial , Residential, Rural and other Areas		80 24 Hrs	80 24 Hrs	100 24 Hrs	60 24 Hrs	2 8 Hr

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TEST REPORT

Table No.9

AMBIENT AIR QUALITY

Name of the Client	: The Sandur Manganese & Iron Ores Limited					
Name of the Project	: Mining Lease No. 2678					
Sample Collected by	: Environmental Laboratory (Unit of Mineral Engineering Services)					
Station at & Code	: A9, Yeswanthanagar					
Duration	: 24 Hrs					
Issue date	: 01.06.2024					
Reference	IS 5182 & Lab SOP					
Date of Sampling	Lab Code	Sulphur Dioxide (SO ₂), µg/m ³	Nitrogen Dioxide (NO ₂), µg/m ³	Particulate Matter		Carbon Monoxide* (CO), mg/m ³
				PM ₁₀ , (µg/m ³)	PM _{2.5} , (µg/m ³)	
10.05.2024	N/24/05/2-0202	12	10	56	27	0.42
11.05.2024	N/24/05/3-0021	11	18	41	22	0.44
13.05.2024	N/24/05/4-0005	8	10	48	25	0.42
14.05.2024	N/24/05/4-0050	9	13	42	19	0.26
24.05.2024	N/24/05/4-0405	10	15	50	29	0.36
25.04.2024	N/24/05/5-0005	10	12	35	25	0.33
27.05.2024	N/24/05/5-0050	12	22	45	27	0.45
28.05.2024	N/24/05/5-0109	11	12	50	28	0.25
Limits for Industrial , Residential, Rural and other Areas		80 24 Hrs	80 24 Hrs	100 24 Hrs	60 24 Hrs	2 8 Hr

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TEST REPORT

Table No.10

AMBIENT AIR QUALITY

Name of the Client	: The Sandur Manganese & Iron Ores Limited					
Name of the Project	: Mining Lease No. 2678					
Sample Collected by	: Environmental Laboratory (Unit of Mineral Engineering Services)					
Station at & Code	: A10, Tonasigeri					
Duration	: 24 Hrs					
Issue date	: 01.06.2024					
Reference	IS 5182 & Lab SOP					
Date of Sampling	Lab Code	Sulphur Dioxide (SO ₂), µg/m ³	Nitrogen Dioxide (NO ₂), µg/m ³	Particulate Matter		Carbon Monoxide* (CO), mg/m ³
				PM ₁₀ , (µg/m ³)	PM _{2.5} , (µg/m ³)	
10.05.2024	N/24/05/2-0198	11	14	40	23	0.55
11.05.2024	N/24/05/3-0017	9	11	53	24	0.45
13.05.2024	N/24/05/4-0001	14	19	47	25	0.30
14.05.2024	N/24/05/4-0046	13	17	38	21	0.36
24.05.2024	N/24/05/4-0401	9	12	46	25	0.26
25.04.2024	N/24/05/5-0001	11	14	30	19	0.32
27.05.2024	N/24/05/5-0046	12	18	46	25	0.46
28.05.2024	N/24/05/5-0097	12	16	51	23	0.44
Limits for Industrial , Residential, Rural and other Areas		80 24 Hrs	80 24 Hrs	100 24 Hrs	60 24 Hrs	2 8 Hr

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TEST REPORT

Table No. 11

Fugitive Emission

Name of the Client	: The Sandur Manganese & Iron Ores Limited		
Name of the Project	: Deogiri Manganese & Iron Ore Mine (ML NO. 2678)		
Sample Collected by	: Environmental Laboratory (Unit of Mineral Engineering Services)		
Duration	: 08 Hrs		
Issue Date	: 01.06.2024		
Station at & Code	Date of sample	Lab Code	Particulate mater (µg/m³)
FA1, Mine Face / Benches	15.05.2024	N/24/05/4-0089	245
FA2, Haulage Road / Service Road	15.05.2024	N/24/05/4-0090	365
FA3, Crushing & Screening Plant	15.05.2024	N/24/05/4-0091	245
FA4, Mineral Staock Yard / Loading	15.05.2024	N/24/05/4-0092	208
FA5, Active Waste Dump	15.05.2024	N/24/05/4-0093	185
Ref : Environmental (Protection) Rules, 2010 (Sixth Amendment)			
			Particulate mater (µg/m³)
Permissible limits for Fugitive Emissions			600 µg/m³

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TEST REPORT

Table No. 12

Fugitive Emission

Name of the Client	: The Sandur Manganese & Iron Ores Limited		
Name of the Project	: Kammathuru Iron Ore (KTIO) (ML No. 2678)		
Sample Collected by	: Environmental Laboratory (Unit of Mineral Engineering Services)		
Duration	: 08 Hrs		
Issue Date	: 01.06.2024		

Station at & Code	Date of sample	Lab Code	Particulate mater ($\mu\text{g}/\text{m}^3$)
FA1, Mine Face / Benches	10.05.2024	N/24/05/2-0203	208
FA2, Haulage Road / Service Road	10.05.2024	N/24/05/2-0204	256
FA3, Crushing & Screening Plant	10.05.2024	N/24/05/2-0205	315
FA4, Mineral Stock Yard / Loading	10.05.2024	N/24/05/2-0206	245
FA5, Active Waste Dump	10.05.2024	N/24/05/2-0207	356

Ref : Environmental (Protection) Rules, 2010 (Sixth Amendment)

Particulate mater ($\mu\text{g}/\text{m}^3$)

Permissible limits for Fugitive Emissions **600 $\mu\text{g}/\text{m}^3$**

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TEST REPORT

Table No. 13

Fugitive Emission

Name of the Client	: The Sandur Manganese & Iron Ores Limited		
Name of the Project	: Subrayanahalli Manganese & Iron Ore Mine (ML NO. 2678)		
Sample Collected by	: Environmental Laboratory (Unit of Mineral Engineering Services)		
Duration	: 08 Hrs		
Issue Date	: 01.06.2024		
Station at & Code	Date of sample	Lab Code	Particulate mater ($\mu\text{g}/\text{m}^3$)
FA1, Mine Face / Benches	24.05.2024	N/24/05/4-0406	296
FA2, Haulage Road / Service Road	24.05.2024	N/24/05/4-0407	388
FA3, Crushing & Screening Plant	24.05.2024	N/24/05/4-0408	268
FA4, Mineral Stock Yard / Loading	24.05.2024	N/24/05/4-0409	245
FA5, Active Waste Dump	24.05.2024	N/24/05/4-0410	395
Ref : Environmental (Protection) Rules, 2010 (Sixth Amendment)			
			Particulate mater ($\mu\text{g}/\text{m}^3$)
Permissible limits for Fugitive Emissions			600 $\mu\text{g}/\text{m}^3$

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TEST REPORT

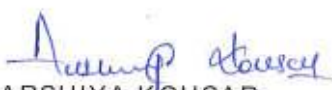
Table No. 14

Analysis Report of Dust Fall Measurement

1	Name of the Client	The Sandur Manganese & Iron Ores Limited
2	Name of the Project	Mining Lease No. 2678
3	Month	01.05.2024 to 31.05.2024
4	Sample Type	Total Dust Fall Rate
5	Duration of Monitoring	One Month
6	Issue Date	01.06.2024

Result

Code	Location	Result	unit	Reference Method
DF1	Deogiri mines office	0.061	g/m ² month	IS 5182 (Part 01) : 2006
DF2	Kammathuru (Near School)	0.053	g/m ² month	IS 5182 (Part 01) : 2006
DF3	Appayyanahalli	0.018	g/m ² month	IS 5182 (Part 01) : 2006
DF4	Subbarayanahalli (Near Hospital)	0.028	g/m ² month	IS 5182 (Part 01) : 2006
DF5	Yeswanthanagar (Near Railway Track)	0.025	g/m ² month	IS 5182 (Part 01) : 2006


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TEST REPORT

Table No. 15

AMBIENT NOISE LEVEL DATA

Report No : M00424055

Client	: The Sandur Manganese & Iron Ores Limited						
Project	: Mining Lease No. 2678						
Sample Collected by	: Environmental Laboratory (Unit of Mineral Engineering Services)						
Date of monitoring	: 22.05.2024						
Issue Date	: 01.06.2024						
Code No.	Monitoring stations	Day			Night		
		L _{min}	L _{eq}	L _{max}	L _{min}	L _{eq}	L _{max}
Corezone							
N1	Mine Pit (SK/CBG)	39.0	52.3	59.0	34.0	44.5	48.6
N2	Kammathuru ML Area	38.0	58.5	68.0	35.0	43.0	47.0
N3	Deogiri ML Area	38.0	53.7	58.7	34.0	43.0	48.0
N4	SBS Plot (Mine Boundary)	36.5	49.3	55.0	34.0	41.2	46.5
N5	SB Halli ML Area	42.0	57.6	65.0	35.3	42.4	46.0
N6	Mine area	45.0	58.8	64.0	34.0	41.9	49.3
Bufferzone							
N7	Appayanahalli (Narayanapura)	41.0	51.3	56.0	34.0	42.4	46.5
N8	Vitthalanagar (Navalatti)	38.0	51.2	57.0	34.0	42.9	46.0
N9	Swamihalli	38.5	48.3	53.8	37.0	44.2	48.0
N10	Yeshwanthnagar	38.0	48.6	54.7	34.0	41.9	47.3
N11	Tonasingeri	36.0	50.2	55.6	34.0	42.4	46.1
N12	Kumaraswamy Temple	38.0	52.9	58.3	35.0	43.4	48.0
Permissible Limits of Ambient Noise Levels as per CPCB Guidelines							
Leq. Limit dB(A)							
		Day	Night				
Industrial areas		75	70				
Commercial area		65	55				
Residential area		55	45				

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TEST REPORT

Table No. 16

Report No : N007724053

Name of the Client	: The Sandur Manganese & Iron Ores Limited
Name of the Project	: Mining Lease No. 2678
Sample Collected by	: Environmental Laboratory (Unit of Mineral Engineering Services)
Particulars of sample collected	: STP1, Inlet Water sample from 100 KLD STP, Deogiri
Date of sample collection	: 14.05.2024
Lab Code	: N/24/05/3-0077
Issue Date	: 21.05.2024
Ref: G S R 1265 (e) and Schedule VI (Rule 3A of EP rule 1986)	

Sl. No.	Sample Code	STP1	Method of Testing
	Parameters	Results	
1	pH	6.72	IS 3025 (P-11)2017
2	Biochemical Oxygen Demand BOD ₅ 27 ^o C, mg/l	46	IS 3025 (P-44) 1993 RA 2019
3	Total Suspended Solids, at 105 ^o C, mg/l	115	IS 3025 (P-16)1984 RA 2017
4	Fecal coliform, MPN/100ml	4	APHA-23 rd Edition

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TEST REPORT

Table No. 17

Report No : N007824053

Name of the Client	: The Sandur Manganese & Iron Ores Limited
Name of the Project	: Mining Lease No. 2678
Sample Collected by	: Environmental Laboratory (Unit of Mineral Engineering Services)
Particulars of sample collected	: STP2, Outlet Water sample from 100 KLD STP, Deogiri
Date of sample collection	: 14.05.2024
Lab Code	: N/24/05/3-0078
Issue Date	: 21.05.2024
Ref: G S R 1265 (e) and Schedule VI (Rule 3A of EP rule 1986)	

Sl. No.	Sample Code	STP2	Sewage Effluent Discharge Standards	Method of Testing
	Parameters	Results		
1	pH	6.89	5.5 to 9.0	IS 3025 (P-11) 2017
2	Biochemical Oxygen Demand BOD ₅ 27°C, mg/l	12	<30	IS 3025 (P-44) 1993 RA 2019
3	Total Suspended Solids, at 105°C, mg/l	32	<50	IS 3025 (P-16) 1984 RA 2017
4	Fecal coliform, MPN/100ml	2	<1000	APHA-23 rd Edition

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TEST REPORT

Table No. 18

Report No : N007924053

Name of the Client	: The Sandur Manganese & Iron Ores Limited
Name of the Project	: Mining Lease No. 2678
Sample Collected by	: Environmental Laboratory (Unit of Mineral Engineering Services)
Particulars of sample collected	: ETP1, Inlet Water sample from 10 KLD ETP, Deogiri
Date of sample collection	: 14.05.2024
Lab Code	: N/24/05/3-0079
Issue Date	: 21.05.2024
Ref: G S R 952 (e) and Schedule VI (Rule 3A of EP rule 1986)	

Sl. No.	Sample Code	ETP1	Method of Testing
	Parameters	Results	
1	pH	6.79	IS 3025 (P-11)2017
2	Chemical Oxygen Demand (COD)	240	IS 3025 (P-58) 2006 RA 2017
3	Total Suspended Solids, at 105°C, mg/l	890	IS 3025 (P-16)1984 RA 2017
4	Oil & Grease, mg/l	42	IS 3025 (Part-39)

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TEST REPORT

Table No. 19

Report No :N008024053

Name of the Client	: The Sandur Manganese & Iron Ores Limited
Name of the Project	: Mining Lease No. 2678
Sample Collected by	: Environmental Laboratory (Unit of Mineral Engineering Services)
Particulars of sample collected	: ETP2, Outlet Water sample from 10 KLD ETP, Deogiri
Date of sample collection	: 14.05.2024
Lab Code	: N/24/05/3-0080
Issue Date	: 21.05.2024
Ref: G S R 952 (e) and Schedule VI (Rule 3A of EP rule 1986)	

Sl. No.	Sample Code	ETP2	General Standards For Effluent Discharge of Environmental Pollutants	Method of Testing
	Parameters	Results		
1	pH	7.18	5.5 to 9.0	IS 3025 (P-11)2017
3	Chemical Oxygen Demand (COD)	42	<150	IS 3025 (P-58) 2006 RA 2017
3	Total Suspended Solids, at 105°C, mg/l	24	<50	IS 3025 (P-16)1984 RA 2017
4	Oil & Grease, mg/l	<1.0	<10	IS 3025 (Part-39)

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Table No. 20

Name of the Client	: The Sandur Manganese & Iron Ores Limited
Name of the Project	: Mining Lease No. 2678
Sample Collected by	: Environmental Laboratory (Unit of Mineral Engineering Services)
Particulars of sample collected	: SW1 - Durgammakolla spring water, SW2 - JLK spring water SW3 - Katrasinghkolla spring water
Date of sample collection	: 14.05.2024
Date of sample receipt	: 16.05.2024
Issue Date	: 21.05.2024
Ref:IS : 2296, 1982 Class C Norms (Stream Water Standards)	

Lab Code		N/24/05/2-0081	N/24/05/2-0082	N/24/05/2-0083	Limits For Stream Water Standards	Method of Testing
Sl.No.	Parameters	Results				
		SW1	SW2	SW3		
1	pH	7.13	6.60	7.35	6.5 to 8.5	IS:3025(Part-11)2022
2	Colour (Hazen Units), Max	<1.0	<1.0	<1.0	300	IS:3025(Part-4)2021
3	Odour	Agreeable	Agreeable	Agreeable	-	IS:3025 (P-5) 2018
4	Total Dissolved Solids (mg/l), Max	480	170	130	1500	IS:3025(Part-16)2023
5	Total Suspended Solids, mg/l	24	12	30	-	IS 3025 (P-17) 2022
6	Dissolved Oxygen (as O ₂), mg/l, Max	5.1	5.4	5.0	Min 4	IS:3025(Part-38)1989RA 2019
7	Biochemical Oxygen Demand (as O ₂), mg/l	<3.0	<3.0	<3.0	3	IS:3025(P-44) 2014
8	Oil & Grease, mg/l	<1.0	<1.0	<1.0	0.1	IS:3025(Part 39)2021
9	Total Hardness (as CaCO ₃),mg/l,Max	220	80	30	-	IS:3025 (P-21):2009 RA 2019
10	Sulphates as SO ₄ (mg/l), Max	27.8	1.4	10.6	400	IS:3025(P-24)Sec 1 2022
11	Phosphates (as P), mg/l	<0.05	<0.05	<0.05	-	IS 3025 (P-31) Sec 1 2022
12	Chloride (as Cl),mg/l, Max	72.4	19.9	31.04	600	IS:3025(Part-32) ;1988RA2019
13	Fluoride (as F),mg/l, Max	0.3	<0.1	0.3	1.5	APHA 23rd Edition 4500F
14	Sulphide (as H ₂ S) , mg/l, Max	<0.01	<0.01	<0.01	-	IS:3025 (P-29):1986 RA 2019
15	Boron (as B), mg/l, Max	<0.1	<0.1	<0.1	-	IS:3025 (Part-57)2021
16	Iron (as Fe),mg/l, Max	0.028	0.032	0.09	50	IS:3025(P-2) 2019
17	Percent of Sodium (%)	20	47	32	-	IS 11624 .2009
18	Residual Sodium Carbonate (meq/l)	1.8	<0.5	<0.5	-	IS:2488 (P-5) 1976
19	Total Coliform, MPN/100ml	39	43	49	5000	IS:1622:1981

END OF REPORT

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TEST REPORT

Table No.21

Table No.2

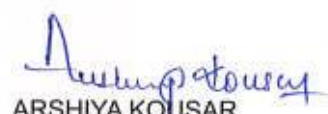
Name of the Client	: The Sandur Manganese & Iron Ores Limited				
Name of the Project	: Mining Lease No. 2678				
Sample Collected by	: Environmental Laboratory (Unit of Mineral Engineering Services)				
Particulars of sample collected	: SW4 - Hari Shankar Spring Water, SW5 - Narihalla Dam water				
Date of sample collection	: 14.05.2024				
Date of sample receipt	: 16.05.2024				
Issue Date	: 21.05.2024				
Ref:IS : 2296, 1982 Class C Norms (Stream Water Standards)					
Lab Code		N/24/05/2-0084	N/24/05/2-0085	Limits For Stream Water Standards	Method of Testing
Sl.No.	Parameters	Results			
		SW4	SW5		
1	pH	6.61	7.89	6.5 to 8.5	IS:3025(Part-11)2022
2	Colour (Hazen Units), Max	<1	<1	300	IS:3025(Part-4)2021
3	Odour	Agreeable	Agreeable	-	IS:3025 (P-5) 2018
4	Total Dissolved Solids (mg/l), Max	92.0	638.0	1500	IS:3025(Part-16)2023
5	Total Suspended Solids, mg/l	<5.0	41	-	IS 3025 (P-17) 2022
6	Dissolved Oxygen (as O ₂), mg/l, Max	5.10	5.20	Min 4	IS:3025(Part-38)1989RA 2019
7	Biochemical Oxygen Demand (as O ₂), mg/l	<3	<3	3	IS:3025(P-44) 2014
8	Oil & Greease, mg/l	<0.1	<0.1	0.1	IS:3025(Part 39)2021
9	Total Hardness (as CaCO ₃),mg/l,Max	28	228	-	IS:3025 (P-21):2009 RA 2019
10	Sulphates as SO ₄ (mg/l), Max	2.5	46	400	IS:3025(P-24)Sec 1 2022
11	Phosphates (as P), mg/l	<0.05	<0.05	-	IS 3025 (P-31) Sec 1 2022
12	Chloride (as Cl),mg/l, Max	5.42	136.45	600	IS:3025(Part-32) ;1988RA2019
13	Fluoride (as F),mg/l, Max	0.3	0.2	1.5	APHA 23rd Edition 4500F
14	Sulphide (as H ₂ S) , mg/l, Max	<0.01	<0.01	-	IS:3025 (P-29):1986 RA 2019
15	Boron (as B), mg/l, Max	<0.1	<0.1	-	IS:3025 (Part-57)2021
16	Iron (as Fe),mg/l, Max	0.075	0.019	50	IS:3025(P-2) 2019
17	Percent of Sodium (%)	40.90	23.70	-	IS 11624 .2009
18	Residual Sodium Carbonate (meq/l)	<0.05	<0.05	-	IS:2488 (P-5) 1976
19	Total Coliform, MPN/100ml	46	84	5000	IS:1622:1981

""END OF REPORT""


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TEST REPORT

Table No. 22

Name of the Client		: The Sandur Manganese & Iron Ores Limited					
Name of the Project		: Mining Lease No. 2678					
Sample Collected by		: Environmental Laboratory (Unit of Mineral Engineering Services)					
Particulars of sample collected		: GW1 - Deogiri Mine Office Bore water, GW2 - Kammaturu Bore water, GW3 - Appayyanahalli (Narayanpura) Bore water					
Date of sample collection		: 14.05.2024					
Issue Date		: 21.05.2024					
Ref : IS:10500-2012 Norms Amendment - 4 (Drinking Water Standards)							
Lab Code		N/24/05/2-0086	N/24/05/2-0087	N/24/05/2-0088	Desirable Limits	Permissible Limits	Method of Testing
Sl. No.	Sample Code	GW1	GW2	GW3			
	Parameters	Results					
1	Colour (Hazen Units)	<1	<1	<1	5	15	IS:3025 (P-4) 2021
2	Odour	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	IS:3025 (P-5) 2018
3	pH Value	6.58	6.71	6.89	6.5 to 8.5	6.5 - 8.5	IS:3025 (P-11) 2022
4	Turbidity,NTU, Max	<0.1	<0.1	<0.1	1	5	IS:3025 (P-10)1984 RA 2017
5	Electrical Conductivity (µmhos/cm)	194.0	1534.0	1874.0	--	--	IS 3025 (P-14)
6	Total Dissolved Solids,mg/l, Max	130.0	908.0	1280.0	500	2000	IS:3025 (P-16)1984 RA2017
7	Aluminium (as Al), Max	<0.005	0.009	0.080	0.03	0.2	IS:3025 (P-2)2019
8	Boron (as B), mg/l, Max	<0.1	<0.1	<0.1	0.5	2.4	IS:3025 (Part-57)2021
9	Calcium (as Ca),mg/l, Max	22.44	131.46	137.87	75	200	IS:3025 (P-40)1991 RA 2019
10	Copper (as Cu),mg/l, Max	0.01	0.005	0.041	0.05	1.5	IS:3025 (P-2)2019
11	Chloride as Cl (mg/l),mg/l, Max	8.61	301.11	366.11	250	1000	IS:3025 (P-32) 1988 RA 2019
12	Fluoride (as F),mg/l, Max	<0.1	0.50	0.70	1	1.5	IS:3025 (P-60) 2008 RA 2019
13	Iron (as Fe),mg/l, Max	0.008	0.028	0.148	1.0	1.0	IS:3025 (Part-2) 2019
14	Magnesium (as Mg)mg/l, Max	4.86	41.80	59.79	30	100	IS:3025 (P-46)1994 RA 2019
15	Manganese (as Mn),mg/l, Max	<0.001	0.006	0.027	0.1	0.3	IS:3025 (P-2) 2019
16	Nitrates (as NO ₃),mg/l, Max	0.40	8.56	7.88	45	45	IS:3025 (P-34)Sec 1 2023
17	Selenium (as Se),mg/l	<0.005	<0.005	<0.005	0.01	0.01	IS:3025(P-2) 2019
18	Sulphates (as SO ₄),mg/l, Max	25.10	18.20	224.00	200	400	IS:3025 (P-24) Sec 1 2022
19	Alkalinity (as CaCO ₃) mg/l, Max	40.00	260.0	475.0	200	600	IS:3025 (P-23):1986 RA 2019
20	Total Hardness (as CaCO ₃),mg/l,Max	38.0	500.0	590.0	200	600	IS:3025 (P-21):2009 RA 2019
21	Zinc (as Zn),mg/l, Max	<0.005	0.14	0.16	5	15	IS:3025 (P-2) 2019
22	Sodium, (as Na), mg/l, Max	15	84	115	-	-	IS:3025 (Part-45) 1993 RA2019
23	Potassium, (as K), mg/l, Max	4	12	5	-	-	IS:3025 (Part-45)
24	Cadmium (as Cd),mg/l, Max	<0.001	<0.001	<0.001	0.003	0.003	IS:3025 (P-2) 2019
25	Cyanide (as CN),mg/l, Max	<0.01	<0.01	<0.01	0.05	0.05	IS:3025 (P-27)Sec 1 2021
26	Lead (as Pb),mg/l, Max	<0.005	<0.005	<0.005	0.01	0.01	IS:3025 (P-2) 2019
27	Mercury (as Hg),mg/l, Max	<0.0005	<0.0005	<0.0005	0.001	0.001	USPEA 200.7 Rev 4.4
28	Arsenic (as As),mg/l, Max	<0.002	<0.002	<0.002	0.01	0.01	IS:3025 (P-2) 2019
29	Total Chromium (as Cr),mg/l, Max	<0.001	<0.001	<0.001	0.05	0.05	IS:3025 (P-52) 2014
30	Escherichia coli/100ml	Not Detected	Not Detected	Not Detected	Shall not be detectable in any 100ml Sample		IS:15185:2016 RA 2021
31	Total Coliform /100ml)	Not Detected	Not Detected	Not Detected			IS:15185:2016 RA 2021

"END OF REPORT"

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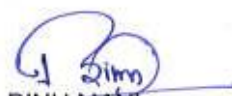
TEST REPORT

Table No. 23

Table No. 2.

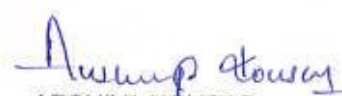
Name of the Client		: The Sandur Manganese & Iron Ores Limited				
Name of the Project		: Mining Lease No. 2678				
Sample Collected by		: Environmental Laboratory (Unit of Mineral Engineering Services)				
Particulars of sample collected		: GW4 - SB Halli Bore water (near hospital), GW5 - Yeshwanthnagar Bore water (near railway track)				
Date of sample collection		: 14.05.2024				
Issue Date		: 21.05.2024				
Ref : IS:10500-2012 Norms Amendment - 4 (Drinking Water Standards)						
Lab Code		N/24/05/2-0089	N/24/05/2-0090	Desirable Limits	Permissible Limits	Method of Testing
Sl. No.	Sample Code	GW4	GW5			
	Parameters	Results				
1	Colour (Hazen Units)	<1	<1	5	15	IS:3025 (P-4) 2021
2	Odour	Agreeable	Agreeable	Agreeable	Agreeable	IS:3025 (P-5) 2018
3	pH Value	7.05	7.11	6.5 to 8.5	6.5 - 8.5	IS:3025 (P-11) 2022
4	Turbidity,NTU, Max	<0.1	<0.1	1	5	IS:3025 (P-10)1984 RA 2017
5	Electrical Conductivity (µmhos/cm)	1945.0	1690.0	--	--	IS 3025 (P-14)
6	Total Dissolved Solids,mg/l, Max	1360.0	1160.0	500	2000	IS:3025 (P-16)1984 RA2017
7	Aluminium (as Al), Max	0.061	0.037	0.03	0.2	IS:3025 (P-2)2019
8	Boron (as B), mg/l, Max	<0.1	<0.1	0.5	2.4	IS:3025 (Part-57)2021
9	Calcium (as Ca),mg/l, Max	113.82	92.18	75	200	IS:3025 (P-40)1991 RA 2019
10	Copper (as Cu),mg/l, Max	0.038	0.01	0.05	1.5	IS:3025 (P-2)2019
11	Chloride as Cl (mg/l),mg/l, Max	484.37	297.13	250	1000	IS:3025 (P-32) 1988 RA 2019
12	Fluoride (as F),mg/l, Max	0.50	0.60	1	1.5	IS:3025 (P-60) 2008 RA 2019
13	Iron (as Fe),mg/l, Max	0.298	0.063	1.0	1.0	IS:3025 (Part-2) 2019
14	Magnesium (as Mg)mg/l, Max	56.87	85.00	30	100	IS:3025 (P-46)1994 RA 2019
15	Manganese (as Mn),mg/l, Max	0.008	<0.001	0.1	0.3	IS:3025 (P-2) 2019
16	Nitrates (as NO ₃),mg/l, Max	4.56	8.50	45	45	IS:3025 (P-34)Sec 1 2023
17	Selenium (as Se),mg/l	<0.005	<0.005	0.01	0.01	IS:3025(P-2) 2019
18	Sulphates (as SO ₄),mg/l, Max	93.00	65.20	200	400	IS:3025 (P-24) Sec 1 2022
19	Alkalinity (as CaCO ₃) mg/l, Max	351.5	455.0	200	600	IS:3025 (P-23):1986 RA 2019
20	Total Hardness (as CaCO ₃),mg/l,Max	518.0	580.0	200	600	IS:3025 (P-21):2009 RA 2019
21	Zinc (as Zn),mg/l, Max	0.072	0.028	5	15	IS:3025 (P-2) 2019
22	Sodium, (as Na), mg/l, Max	187	109	--	--	IS:3025 (Part-45) 1993 RA2019
23	Potassium, (as K), mg/l, Max	5	<1.0	--	--	IS:3025 (Part-45)
24	Cadmium (as Cd),mg/l, Max	<0.001	<0.001	0.003	0.003	IS:3025 (P-2) 2019
25	Cyanide (as CN),mg/l, Max	<0.01	<0.01	0.05	0.05	IS:3025 (P-27)Sec 1 2021
26	Lead (as Pb),mg/l, Max	<0.005	<0.005	0.01	0.01	IS:3025 (P-2) 2019
27	Mercury (as Hg),mg/l, Max	<0.0005	<0.0005	0.001	0.001	USPEA 200.7 Rev 4.4
28	Arsenic (as As),mg/l, Max	<0.002	<0.002	0.01	0.01	IS:3025 (P-2) 2019
29	Total Chromium (as Cr),mg/l, Max	<0.001	<0.001	0.05	0.05	IS:3025 (P-52) 2014
30	Escherichia coli/100ml	Not Detected	Not Detected	Shall not be detectable in any 100ml Sample		IS:15185:2016 RA 2021
31	Total Coliform /100ml)	Not Detected	Not Detected			IS:15185:2016 RA 2021

"END OF REPORT"


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TEST REPORT

Table No. 24

Name of the Client			: The Sandur Manganese & Iron Ores Limited				
Name of the Project			: Mining Lease No. 2678				
Particulars of sample			: Soil Samples				
Sample Collected by			: Environmental Laboratory (Unit of Mineral Engineering Services)				
Date of sample collection			: 14.05.2024				
Issue Date			: 01.06.2024				
Lab Code			N/24/05/3-0093	N/24/05/3-0094	N/24/05/3-0095	N/24/05/3-0096	N/24/05/3-0097
SL. No.	Sample Code		S1	S2	S3	S4	S5
	PARAMETERS	Unit	Results				
PHYSICAL PROPERTIES							
1	Colour	--	Red Soil	Red Soil	Red Soil	Red Soil	Red Soil
2	Textural class	--	Clay Loam	Sandy Loam	Clay Loam	Clay Loam	Clay Loam
3	Size Distribution						
	Sand	%	32.22	38.66	33.25	31.25	38.96
	Clay	%	37.66	30.09	24.53	42.63	24.22
	Silt	%	30.12	21.25	42.22	26.12	24.22
4	Moisture Content	%	7.12	6.12	6.8	5.9	6.5
5	Bulk Density	gm/cc	1.96	1.78	1.8	1.98	1.8
6	Water holding capacity	%	34.62	32.52	22.45	28.32	29.88
7	pH	--	6.92	6.85	7.42	7.42	6.52
8	EC	m.mohs/cm	0.192	0.263	0.23	0.252	0.158
Chemical Properties							
9	Organic Carbon	%	0.51	0.41	0.16	1.85	2.32
10	Nitrogen as N	Kg/Ha	120	265	122	126	210
11	Phosphorous as P	Kg/Ha	8.25	9.41	7.22	7.32	7.42
12	Potassium as K ₂ O	Kg/Ha	180	142	110	128	136
13	Sodium as Na	mg/kg	34	26	54	35	46
14	Chloride as Cl	mg/kg	125	115	120	140	320
15	Sulphate as SO ₄	mg/kg	46	48	30	25	45
Sample Locations :							
S1 - Top soil (Kammathuru)							
S2 - Top soil (Deogiri)							
S3 - Top soil (SB Halli)							
S4 - Active Dump 1							
S5 - Active Dump 2							

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TEST REPORT

Table No. 25

Name of the Client			: The Sandur Manganese & Iron Ores Limited				
Name of the Project			: Mining Lease No. 2678				
Particulars of sample			: Soil Samples				
Sample Collected by			: Environmental Laboratory (Unit of Mineral Engineering Services)				
Date of sample collection			: 14.05.2024				
Issue Date			: 01.06.2024				
Lab Code			N/24/05/3-0098	N/24/05/3-0099	N/24/05/3-0100	N/24/05/3-0101	N/24/05/3-0102
SL. No.	Sample Code		S6	S7	S8	S9	S10
	PARAMETERS	Unit	Results				
PHYSICAL PROPERTIES							
1	Colour	--	Red Soil	Red Soil	Red Soil	Red Soil	Red soil
2	Textural class	--	Clay Loam	Clay Loam	Slity Clay	Slity Clay	Clay Loam
3	Size Distribution						
	Sand	%	36.21	34.88	42.32	36.88	40.10
	Clay	%	31.51	32.6	24.2	26.23	27.54
	Silt	%	32.28	32.52	33.48	36.89	32.36
4	Moisture Content	%	6.99	6.72	7.28	5.22	4.32
5	Bulk Density	gm/cc	1.82	1.88	1.96	1.66	1.49
6	Water holding capacity	%	40	34	34	38	38
7	pH	--	7.63	7.63	7.6	7.78	7.85
8	EC	m.mohs/cm	0.458	0.449	0.432	0.348	0.588
Chemical Properties							
9	Organic Carbon	%	0.52	0.63	0.52	0.48	0.41
10	Nitrogen as N	Kg/Ha	133	128	132	142	126
11	Phosphorous as P	Kg/Ha	38	35	50	48	42
12	Potassium as K ₂ O	Kg/Ha	148	138	149	149	128
13	Sodium as Na	mg/kg	52	52	44	46	36
14	Chloride as Cl	mg/kg	36	34	36	38	32
15	Sulphate as SO ₄	mg/kg	30	32	34	36	42
Sample Locations :							
S6 - Appayyanahalli agriculture land							
S7 - Vitthalanagar agriculture land							
S8 - Swamihalli agriculture land							
S9 -Tonasigere agriculture land							
S10 - Yeshwanthnagar agriculture land							

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TEST REPORT

Table No. 26

Stack Monitoring Report

Report No. 010324053

Name of the Client :	The Sandur Manganese & Iron Ores Limited
Name of the Mine :	Subrayanahalli Manganese & Iron Ore Mine (ML NO. 2678)
Location :	KVH Iron Ore Mines
Stack ID & Capacity :	DG 1010 KVA (808 KW)
Sample Collected by :	Environmental Laboratory (Unit of Mineral Engineering Services)
Date of Collection :	14.05.2024
Particulars of Sample Collected :	Emissions from stack collected through stack sample VSS1
Date of Sample Receipt :	16.05.2024
Issue date :	27.05.2024

STACK DETAILS

1	Fuel Used	Diesel
2	Ambient Temperature (°C)	31
3	Stack Temperature (°C)	179
4	Velocity (m/s)	15.01
5	Stack diameter (M)	0.30
6	Quantity of flue Gas Discharged into atmosphere (Nm ³ /hr)	3400
7	Sample Condition When Received	Satisfactory
8	Model of the Equipment used for Monitoring	Vayubodhan Stack Sampler VSS1
9	Serial No. of the Equipment	338 DTH 14
10	Calibration done on and due on	Done on 19.11.2022 and Due on 18.11.2024
11	Sampling and Analysis Method	IS 11255 & flue gas analyser

Pollutional Parameters (Result)

Sl.No	Parameters	Unit	Results	Standard
1	NOx (as NO ₂) (as 15% O ₂), dry basis	ppmv	41.78	360
2	NMHC (as C) (at 15 % O ₂)	mg/Nm ³	38.66	100
3	PM (as C) (at 15 % O ₂)	mg/Nm ³	38.00	75
4	CO (at 15 % O ₂)	(mg/Nm ³	78.00	150

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TEST REPORT

Table No. 27

Stack Monitoring Report

Report No. N010424053

Name of the Client :	The Sandur Manganese & Iron Ores Limited
Name of the Mine :	Deogiri Manganese & Iron Ore Mine (ML NO. 2678)
Location :	Deogiri - Work Shop
Stack ID & Capacity :	DG Set 160 KVA Doosan Light Source
Sample Collected by :	Environmental Laboratory (Unit of Mineral Engineering Services)
Date of Collection :	14.05.2024
Particulars of Sample Collected :	Emissions from stack collected through stack sample VSS1
Date of Sample Receipt :	16.05.2024
Issue date :	27.05.2024

STACK DETAILS

1	Fuel Used	Diesel
2	Ambient Temperature (°C)	31
3	Stack Temperature (°C)	138
4	Velocity (m/s)	6.75
5	Stack diameter (M)	0.15
6	Quantity of flue Gas Discharged into atmosphere (Nm ³ /hr)	301
7	Sample Condition When Received	Satisfactory
8	Model of the Equipment used for Monitoring	Vayubodhan Stack Sampler VSS1
9	Serial No. of the Equipment	338 DTH 14
10	Calibration done on and due on	Done on 19.11.2022 and Due on 18.11.2024
11	Sampling and Analysis Method	IS 11255 & flue gas analyser

Pollutional Parameters (Result)

Sl.No	Parameters	Unit	Results	Standard
1	Particulate Matter	g/Kw-hr	0.06	<0.2
2	CO	g/Kw-hr	0.04	<3.5
3	Nox +HC	g/Kw-hr	0.241	<4.0

INFERENCE

as per KSPCB

Report Status - The measured values for the above parameters for those standards have been specified were observed to be within the said standards

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TEST REPORT

Table No. 28

Stack Monitoring Report

Report No. N010524053

Name of the Client :	The Sandur Manganese & Iron Ores Limited
Name of the Mine :	Deogiri Manganese & Iron Ore Mine (ML NO. 2678)
Location :	RMK Pump House
Stack ID & Capacity :	DG Set 50 KVA water Pumping
Sample Collected by :	Environmental Laboratory (Unit of Mineral Engineering Services)
Date of Collection :	14.05.2024
Particulars of Sample Collected :	Emissions from stack collected through stack sample VSS1
Date of Sample Receipt :	16.05.2024
Issue date :	27.05.2024

STACK DETAILS

1	Fuel Used	Diesel
2	Ambient Temperature (°C)	31
3	Stack Temperature (°C)	150
4	Velocity (m/s)	5.48
5	Stack diameter (M)	0.15
6	Quantity of flue Gas Discharged into atmosphere (Nm ³ /hr)	237
7	Sample Condition When Received	Satisfactory
8	Model of the Equipment used for Monitoring	Vayubodhan Stack Sampler VSS1
9	Serial No. of the Equipment	338 DTH 14
10	Calibration done on and due on	Done on 19.11.2022 and Due on 18.11.2024
11	Sampling and Analysis Method	IS 11255 & flue gas analyser

Pollutional Parameters (Result)

Sl.No	Parameters	Unit	Results	Standard
1	Particulate Matter	g/Kw-hr	0.02	<0.2
2	CO	g/Kw-hr	0.08	<3.5
3	Nox +HC	g/Kw-hr	0.46	<4.0

INFERENCE

as per KSPCB

Report Status - The measured values for the above parameters for those standards have been specified were observed to be within the said standards

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TEST REPORT

Table No. 29

Stack Monitoring Report

Report No. N010624053

Name of the Client :	The Sandur Manganese & Iron Ores Limited
Name of the Mine :	Deogiri Manganese & Iron Ore Mine (ML NO. 2678)
Location :	CBG Weigh Bridge
Stack ID & Capacity :	DG Set 20 KVA Doosan Light Source
Sample Collected by :	Environmental Laboratory (Unit of Mineral Engineering Services)
Date of Collection :	14.05.2024
Particulars of Sample Collected :	Emissions from stack collected through stack sample VSS1
Date of Sample Receipt :	16.05.2024
Issue date :	27.05.2024

STACK DETAILS

1	Fuel Used	Diesel
2	Ambient Temperature (°C)	31
3	Stack Temperature (°C)	110
4	Velocity (m/s)	7.21
5	Stack diameter (M)	0.15
6	Quantity of flue Gas Discharged into atmosphere (Nm ³ /hr)	345
7	Sample Condition When Received	Satisfactory
8	Model of the Equipment used for Monitoring	Vayubodhan Stack Sampler VSS1
9	Serial No. of the Equipment	338 DTH 14
10	Calibration done on and due on	Done on 19.11.2022 and Due on 18.11.2024
11	Sampling and Analysis Method	IS 11255 & flue gas analyser

Pollutional Parameters (Result)

Sl.No	Parameters	Unit	Results	Standard
1	Particulate Matter	g/Kw-hr	0.14	<0.2
2	CO	g/Kw-hr	0.21	<3.5
3	Nox +HC	g/Kw-hr	0.91	<4.0

INFERENCE

as per KSPCB

Report Status - The measured values for the above parameters for those standards have been specified were observed to be within the said standards

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TEST REPORT

Table No. 30

Stack Monitoring Report

Report No. N10724053

Name of the Client :	The Sandur Manganese & Iron Ores Limited
Name of the Mine :	Deogiri Manganese & Iron Ore Mine (ML NO. 2678)
Location :	BMM Plot
Stack ID & Capacity :	DG Set 100 KVA Doosan Light Source
Sample Collected by :	Environmental Laboratory (Unit of Mineral Engineering Services)
Date of Collection :	14.05.2024
Particulars of Sample Collected :	Emissions from stack collected through stack sample VSS1
Date of Sample Receipt :	16.05.2024
Issue date :	27.05.2024

STACK DETAILS

1	Fuel Used	Diesel
2	Ambient Temperature (°C)	31
3	Stack Temperature (°C)	128
4	Velocity (m/s)	12.97
5	Stack diameter (M)	0.15
6	Quantity of flue Gas Discharged into atmosphere (Nm ³ /hr)	592
7	Sample Condition When Received	Satisfactory
8	Model of the Equipment used for Monitoring	Vayubodhan Stack Sampler VSS1
9	Serial No. of the Equipment	338 DTH 14
10	Calibration done on and due on	Done on 19.11.2022 and Due on 18.11.2024
11	Sampling and Analysis Method	IS 11255 & flue gas analyser

Pollutional Parameters (Result)

Sl.No	Parameters	Unit	Results	Standard
1	Particulate Matter	g/Kw-hr	0.05	<0.2
2	CO	g/Kw-hr	0.06	<3.5
3	Nox +HC	g/Kw-hr	0.14	<4.0

INFERENCE

as per KSPCB

Report Status - The measured values for the above parameters for those standards have been specified were observed to be within the said standards

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TEST REPORT

Table No. 31

Stack Monitoring Report

Report No. N010824053

Name of the Client :	The Sandur Manganese & Iron Ores Limited
Name of the Mine :	Subrayanahalli Manganese & Iron Ore Mine (ML NO. 2678)
Location :	SBS -PLOT-SB HALLI
Stack ID & Capacity :	DG Set 160 KVA Mineral Processing
Sample Collected by :	Environmental Laboratory (Unit of Mineral Engineering Services)
Date of Collection :	15.05.2024
Particulars of Sample Collected :	Emissions from stack collected through stack sample VSS1
Date of Sample Receipt :	16.05.2024
Issue date :	27.05.2024

STACK DETAILS

1	Fuel Used	Diesel
2	Ambient Temperature (°C)	33
3	Stack Temperature (°C)	142
4	Velocity (m/s)	8.37
5	Stack diameter (M)	0.15
6	Quantity of flue Gas Discharged into atmosphere (Nm ³ /hr)	8.37
7	Sample Condition When Received	Satisfactory
8	Model of the Equipment used for Monitoring	Vayubodhan Stack Sampler VSS1
9	Serial No. of the Equipment	338 DTH 14
10	Calibration done on and due on	Done on 19.11.2022 and Due on 18.11.2024
11	Sampling and Analysis Method	IS 11255 & flue gas analyser

Pollutional Parameters (Result)

Sl.No	Parameters	Unit	Results	Standard
1	Particulate Matter	g/Kw-hr	0.06	<0.2
2	CO	g/Kw-hr	0.05	<3.5
3	Nox +HC	g/Kw-hr	0.25	<4.0

INFERENCE

as per KSPCB

Report Status - The measured values for the above parameters for those standards have been specified were observed to be within the said standards

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TEST REPORT

Table No. 32

Stack Monitoring Report

Report No. N010924053

Name of the Client :	The Sandur Manganese & Iron Ores Limited
Name of the Mine :	Subrayanahalli Manganese & Iron Ore Mine (ML NO. 2678)
Location :	KVH IO MINES - SB HALLI
Stack ID & Capacity :	DG Set 35 KVA Doosan Light Source
Sample Collected by :	Environmental Laboratory (Unit of Mineral Engineering Services)
Date of Collection :	15.05.2024
Particulars of Sample Collected :	Emissions from stack collected through stack sample VSS1
Date of Sample Receipt :	16.05.2024
Issue date :	27.05.2024

STACK DETAILS

1	Fuel Used	Diesel
2	Ambient Temperature (°C)	33
3	Stack Temperature (°C)	115
4	Velocity (m/s)	6.42
5	Stack diameter (M)	0.15
6	Quantity of flue Gas Discharged into atmosphere (Nm ³ /hr)	303
7	Sample Condition When Received	Satisfactory
8	Model of the Equipment used for Monitoring	Vayubodhan Stack Sampler VSS1
9	Serial No. of the Equipment	338 DTH 14
10	Calibration done on and due on	Done on 19.11.2022 and Due on 18.11.2024
11	Sampling and Analysis Method	IS 11255 & flue gas analyser

Pollutional Parameters (Result)

Sl.No	Parameters	Unit	Results	Standard
1	Particulate Matter	g/Kw-hr	0.160	<0.2
2	CO	g/Kw-hr	0.10	<3.5
3	Nox +HC	g/Kw-hr	0.13	<4.0

INFERENCE

as per KSPCB

Report Status - The measured values for the above parameters for those standards have been specified were observed to be within the said standards

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TEST REPORT

Table No. 33

Stack Monitoring Report

Report No. N011024053

Name of the Client :	The Sandur Manganese & Iron Ores Limited
Name of the Mine :	Subrayanahalli Manganese & Iron Ore Mine (ML NO. 2678)
Location :	KVH IO MINES - SB HALLI
Stack ID & Capacity :	DG Set 125 KVA Doosan Light Source
Sample Collected by :	Environmental Laboratory (Unit of Mineral Engineering Services)
Date of Collection :	15.05.2024
Particulars of Sample Collected :	Emissions from stack collected through stack sample VSS1
Date of Sample Receipt :	16.05.2024
Issue date :	27.05.2024

STACK DETAILS

1	Fuel Used	Diesel
2	Ambient Temperature ($^{\circ}\text{C}$)	3
3	Stack Temperature ($^{\circ}\text{C}$)	140
4	Velocity (m/s)	10.63
5	Stack diameter (M)	0.15
6	Quantity of flue Gas Discharged into atmosphere (Nm^3/hr)	471
7	Sample Condition When Received	Satisfactory
8	Model of the Equipment used for Monitoring	Vayubodhan Stack Sampler VSS1
9	Serial No. of the Equipment	338 DTH 14
10	Calibration done on and due on	Done on 19.11.2022 and Due on 18.11.2024
11	Sampling and Analysis Method	IS 11255 & flue gas analyser

Pollutional Parameters (Result)

Sl.No	Parameters	Unit	Results	Standard
1	Particulate Matter	g/Kw-hr	0.070	<0.2
2	CO	g/Kw-hr	0.05	<3.5
3	Nox +HC	g/Kw-hr	0.11	<4.0

INFERENCE

as per KSPCB

Report Status - The measured values for the above parameters for those standards have been specified were observed to be within the said standards

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TEST REPORT

Table No. 34

Stack Monitoring Report

Report No. N011124053

Name of the Client :	The Sandur Manganese & Iron Ores Limited
Name of the Mine :	Kammathuru Iron Ore (KTIO) (ML No. 2678)
Location :	KTIO - Dump
Stack ID & Capacity :	DG Set 7.5 KVA Doosan Light Source
Sample Collected by :	Environmental Laboratory (Unit of Mineral Engineering Services)
Date of Collection :	15.05.2024
Particulars of Sample Collected :	Emissions from stack collected through stack sample VSS1
Date of Sample Receipt :	16.05.2024
Issue date :	27.05.2024

STACK DETAILS

1	Fuel Used	Diesel
2	Ambient Temperature ($^{\circ}\text{C}$)	33
3	Stack Temperature ($^{\circ}\text{C}$)	140
4	Velocity (m/s)	6.48
5	Stack diameter (M)	0.15
6	Quantity of flue Gas Discharged into atmosphere (Nm^3/hr)	287
7	Sample Condition When Received	Satisfactory
8	Model of the Equipment used for Monitoring	Vayubodhan Stack Sampler VSS1
9	Serial No. of the Equipment	338 DTH 14
10	Calibration done on and due on	Done on 19.11.2022 and Due on 18.11.2024
11	Sampling and Analysis Method	IS 11255 & flue gas analyser

Pollutional Parameters (Result)

Sl.No	Parameters	Unit	Results	Standard
1	Particulate Matter	g/Kw-hr	0.110	<0.2
2	CO	g/Kw-hr	0.08	<3.5
3	Nox +HC	g/Kw-hr	0.46	<4.0

INFERENCE

as per KSPCB

Report Status - The measured values for the above parameters for those standards have been specified were observed to be within the said standards

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