

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

'SANDUR HOUSE', No.9
Bellary Road, Sadashivanagar
Bengaluru - 560 080
Karnataka, India
Tel: +91 80 4152 0176 - 79 / 4547 3000
Fax: +91 80 4152 0182

Ref No: SMIORE/MINES/ENV/2024-25/2678/929

08 October 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 September 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-345054 dated 18 September 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 September 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,

Manjunath Prabhu,
Chief Operating Officer



Encl: Monitoring Reports



MINES OFFICE: Deogiri - 583112, Sandur Taluk, Ballari District

Tel: +91 8395 271025 / 28 / 29 / 40; Fax: +91 8395 271066

PLANT OFFICE: Metal & Ferroalloy Plant, Vyasankere, Mariyammanahalli - 583 222, Hosapete Taluk, Ballari District

Tel: +91 8394 244450 / 244335

ENVIRONMENTAL MONITORING REPORT

September, 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
Sandur,

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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(UNIT OF MINERAL ENGINEERING SERVICES)

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Gazette Notification No. legal 42(3)/2022 dated 22.07.2022 Recognition valid upto 23.05.2023

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TC-6172

TEST REPORT 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 : 01.10.2024
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)	
04.09.2024	N/24/09/3-0059	8	10	54	25	0.32
05.09.2024	N/24/09/3-0145	7	13	55	32	0.35
09.09.2024	N/24/09/4-0006	6	11	50	28	0.42
10.09.2024	N/24/09/4-0048	10	13	54	32	0.26
20.09.2024	N/24/09/5-0149	9	13	48	27	0.21
21.09.2024	N/24/09/5-0196	5	12	36	19	0.25
23.09.2024	N/24/09/6-0002	9	14	58	32	0.27
24.09.2024	N/24/09/6-0055	8	13	42	25	0.22
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

948, 2nd Cross, St. Thomas Town Post, Kammanahalli, Bangalore - 560 084.

Phone : 080-25432969 E-mail : mesbng@gmail.com, www.envtest.in



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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 : 01.10.2024
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)	
04.09.2024	N/24/09/3-0060	10	13	50	22	0.24
05.09.2024	N/24/09/3-0146	6	15	40	25	0.44
09.09.2024	N/24/09/4-0007	10	15	40	22	0.28
10.09.2024	N/24/09/4-0049	11	17	48	28	0.36
20.09.2024	N/24/09/5-0150	9	14	57	29	0.35
21.09.2024	N/24/09/5-0197	11	16	53	27	0.41
23.09.2024	N/24/09/6-0003	8	10	53	28	0.45
24.09.2024	N/24/09/6-0056	10	12	46	25	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

Arshiya Kousar
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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	: 01.10.2024					
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)	
04.09.2024	N/24/09/3-0061	9	11	38	21	0.22
05.09.2024	N/24/09/3-0147	8	15	45	21	0.22
09.09.2024	N/24/09/4-0008	11	14	38	22	0.28
10.09.2024	N/24/09/4-0050	10	15	45	24	0.35
20.09.2024	N/24/09/5-0151	10	11	52	27	0.33
21.09.2024	N/24/09/5-0198	9	11	48	25	0.26
23.09.2024	N/24/09/6-0004	8	10	50	26	0.21
24.09.2024	N/24/09/6-0057	11	13	51	28	0.28
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.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	: 01.10.2024					
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)	
04.09.2024	N/24/09/3-0062	10	14	40	25	0.36
05.09.2024	N/24/09/3-0148	6	12	41	30	0.35
09.09.2024	N/24/09/4-0009	8	11	31	19	0.33
10.09.2024	N/24/09/4-0051	7	12	39	21	0.25
20.09.2024	N/24/09/5-0152	6	14	43	23	0.28
21.09.2024	N/24/09/5-0199	8	15	54	28	0.26
23.09.2024	N/24/09/6-0005	5	11	47	24	0.22
24.09.2024	N/24/09/6-0058	7	13	53	29	0.27
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 : 01.10.2024						
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)	
04.09.2024	N/24/09/3-0063	12	15	53	27	0.41
05.09.2024	N/24/09/3-0149	5	11	35	27	0.28
09.09.2024	N/24/09/4-0010	8	15	48	25	0.38
10.09.2024	N/24/09/4-0052	6	10	51	28	0.26
20.09.2024	N/24/09/5-0153	9	11	43	23	0.45
21.09.2024	N/24/09/5-0200	7	10	50	26	0.22
23.09.2024	N/24/09/6-0006	12	16	56	30	0.25
24.09.2024	N/24/09/6-0059	11	13	49	27	0.38
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.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 : 01.10.2024
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)	
04.09.2024	N/24/09/3-0064	9	12	47	23	0.22
05.09.2024	N/24/09/3-0150	6	14	40	24	0.42
09.09.2024	N/24/09/4-0011	9	12	37	19	0.32
10.09.2024	N/24/09/4-0053	6	10	42	25	0.46
20.09.2024	N/24/09/5-0154	10	14	40	22	0.44
21.09.2024	N/24/09/5-0201	8	10	55	32	0.28
23.09.2024	N/24/09/6-0007	5	11	52	27	0.42
24.09.2024	N/24/09/6-0060	6	12	46	25	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.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 : 01.10.2024
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)	
04.09.2024	N/24/09/3-0065	10	13	49	25	0.28
05.09.2024	N/24/09/3-0151	8	15	48	25	0.33
09.09.2024	N/24/09/4-0012	6	14	40	30	0.23
10.09.2024	N/24/09/4-0054	8	15	49	27	0.28
20.09.2024	N/24/09/5-0155	5	11	39	26	0.45
21.09.2024	N/24/09/5-0202	7	13	33	23	0.31
23.09.2024	N/24/09/6-0008	8	12	58	33	0.26
24.09.2024	N/24/09/6-0061	6	11	51	28	0.24
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

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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 : 01.10.2024
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)	
04.09.2024	N/24/09/3-0066	8	11	40	22	0.35
05.09.2024	N/24/09/3-0152	10	12	54	27	0.35
09.09.2024	N/24/09/4-0013	5	9	45	22	0.35
10.09.2024	N/24/09/4-0055	8	11	41	20	0.28
20.09.2024	N/24/09/5-0156	9	12	45	28	0.22
21.09.2024	N/24/09/5-0203	10	13	52	29	0.42
23.09.2024	N/24/09/6-0009	12	16	50	28	0.32
24.09.2024	N/24/09/6-0062	9	11	46	27	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

Arshiy Kousar
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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 : 01.10.2024
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)	
04.09.2024	N/24/09/3-0067	11	14	54	30	0.42
05.09.2024	N/24/09/3-0153	9	11	50	26	0.22
09.09.2024	N/24/09/4-0014	5	9	42	24	0.22
10.09.2024	N/24/09/4-0056	11	13	39	20	0.26
20.09.2024	N/24/09/5-0157	7	12	53	28	0.28
21.09.2024	N/24/09/5-0204	6	11	48	27	0.33
23.09.2024	N/24/09/6-0010	10	9	54	28	0.23
24.09.2024	N/24/09/6-0063	12	14	57	30	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

Arshiya Kousar
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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	: 01.10.2024					
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)	
04.09.2024	N/24/09/3-0068	10	13	47	26	0.22
05.09.2024	N/24/09/3-0154	12	17	51	29	0.25
09.09.2024	N/24/09/4-0005	9	11	46	23	0.21
10.09.2024	N/24/09/4-0047	10	14	53	28	0.28
20.09.2024	N/24/09/5-0148	10	11	37	25	0.22
21.09.2024	N/24/09/5-0195	7	9	42	24	0.25
23.09.2024	N/24/09/6-0001	4	9	49	29	0.31
24.09.2024	N/24/09/6-0054	9	12	54	31	0.38
Limits for Industrial ,		80	80	100	60	2
Residential, Rural and other Areas		24 Hrs	24 Hrs	24 Hrs	24 Hrs	8 Hr

Arshiy Kousar
ARSHIYA KOUSAR
Dy. T.M. Chemical

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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 : 01.10.2024			
Station at & Code	Date of sample	Lab Code	Particulate mater ($\mu\text{g}/\text{m}^3$)
FA1, Mine Face / Benches	05.09.2024	N/24/09/3-0155	256
FA2, Haulage Road / Service Road	05.09.2024	N/24/09/3-0156	325
FA3, Crushing & Screening Plant	05.09.2024	N/24/09/3-0157	245
FA4, Mineral Stock Yard / Loading	05.09.2024	N/24/09/3-0158	185
FA5, Active Waste Dump	05.09.2024	N/24/09/3-0159	362
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. 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 : 01.10.2024			
Station at & Code	Date of sample	Lab Code	Particulate mater ($\mu\text{g}/\text{m}^3$)
FA1, Mine Face / Benches	23.09.2024	N/24/09/6-0011	253
FA2, Haulage Road / Service Road	23.09.2024	N/24/09/6-0012	234
FA3, Crushing & Screening Plant	23.09.2024	N/24/09/6-0013	354
FA4, Mineral Stock Yard / Loading	24.09.2024	N/24/09/6-0064	185
FA5, Active Waste Dump	24.09.2024	N/24/09/6-0065	362
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		: 01.10.2024	
Station at & Code	Date of sample	Lab Code	Particulate mater ($\mu\text{g}/\text{m}^3$)
FA1, Mine Face / Benches	20.09.2024	N/24/09/5-0158	254
FA2, Haulage Road / Service Road	20.09.2024	N/24/09/5-0159	366
FA3, Crushing & Screening Plant	20.09.2024	N/24/09/5-0160	245
FA4, Mineral Stock Yard / Loading	20.09.2024	N/24/09/5-0205	212
FA5, Active Waste Dump	20.09.2024	N/24/09/5-0206	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. 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	01.09.2024 to 30.09.2024
4	Sample Type	Total Dust Fall Rate
5	Duration of Monitoring	One Month
6	Issue Date	01.10.2024

Result

Code	Location	Result	unit	Reference Method
DF1	Deogiri mines office	0.018	g/m ² month	IS 5182 (Part 01) : 2006
DF2	Kammathuru (Near School)	0.010	g/m ² month	IS 5182 (Part 01) : 2006
DF3	Appayyanahalli	0.009	g/m ² month	IS 5182 (Part 01) : 2006
DF4	Subbarayanahalli (Near Hospital)	0.013	g/m ² month	IS 5182 (Part 01) : 2006
DF5	Yeswanthanagar (Near Railway Track)	0.014	g/m ² month	IS 5182 (Part 01) : 2006

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TEST REPORT

Table No. 15

AMBIENT NOISE LEVEL DATA

Report No : ELMES0112409

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	: 23.09.2024						
Issue Date	: 01.10.2024						
Code No.	Monitoring stations	Day			Night		
		L _{min}	L _{eq}	L _{max}	L _{min}	L _{eq}	L _{max}
Corezone							
N1	Mine Pit (SK/CBG)	40.0	49.8	57.0	34.0	42.3	46.8
N2	Kammathuru ML Area	42.0	52.6	60.0	35.0	43.9	48.0
N3	Deogiri ML Area	37.0	49.7	55.3	33.6	42.4	47.2
N4	SBS Plot (Mine Boundary)	42.0	50.4	57.2	34.0	41.7	46.2
N5	SB Halli ML Area	38.0	48.7	54.2	33.9	43.1	47.3
N6	Mine area	37.0	53.7	58.4	34.0	41.6	46.2
Bufferzone							
N7	Appayanahalli (Narayanapura)	37.3	49.4	54.8	34.0	39.4	44.7
N8	Vitthalanagar (Navalatti)	38.0	50.0	56.1	34.0	43.0	46.3
N9	Swamihalli	35.0	45.7	52.0	34.0	41.5	44.0
N10	Yeshwanthnagar	36.0	48.3	54.2	33.5	40.1	44.3
N11	Tonasingeri	35.0	49.9	53.7	34.0	41.5	44.8
N12	Kumaraswamy Temple	37.0	48.5	55.0	35.0	38.8	44.2
<u>Permissible Limits of Ambient Noise Levels as per CPCB Guidelines</u>							
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

SOURCE NOISE LEVEL DATA

Report No : ELMES0122409

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		: 24.09.2024					
Issue Date		: 01.10.2024					
Code No.	Monitoring stations	Day			Night		
		L _{min}	L _{eq}	L _{max}	L _{min}	L _{eq}	L _{max}
Source							
N1	Mine Face	41.0	68.5	78.3	During operation		
N2	Haulage Road	40.0	68.1	78.0	During operation		
N3	Crushing & Screening Plant	47.0	70.5	80.0	During operation		
N4	Mineral Staoock Yard	38.0	55.4	62.0	During operation		
N5	Active Waste Dump	43.0	66.1	75.0	During operation		
Heavy Earth Moving Machineries							
N6	Mobile Crusher Capacity : 250 TPH (MSP-4)	38.0	70.1	80.0	During operation from 10mts distance		
N7	Power Screening Chieftain 2100 : Capacity : 350 TPH	40.0	63.3	72.0	During operation from 10mts distance		
N8	Sandvik/ MSP-7 : Capacity : 250 TPH	39.2	63.3	73.2	During operation from 10mts distance		
N9	Chieftatn-1400/MSP-8 : Capacity : 250 TPH	42.0	59.8	69.0	During operation from 10mts distance		
N10	Terex-Pegson /MCP-1 (cone Crusher) : Capacity : 250 TPH	38.0	65.1	75.0	During operation from 10mts distance		
N11	Terex-Pegson /MCP-1 (Jaw Crusher) : Capacity : 250 TPH	41.0	67.4	77.3	During operation from 10mts distance		
N12	DG 1010 KVA (808 KW)	37.0	71.8	80.0	During operation from 10mts distance		
N13	Wheel Loader	42.0	76.9	81.0	During operation in side of the cabin		
		39.0	73.7	76.5	During operation 10mts outside of the cabin		
N14	Tata Hitachi 200LC	48.0	76.7	83.0	During operation in side of the cabin		
		43.0	73.4	75.6	During operation 10mts outside of the cabin		
N15	Volvo Hitachi EC260 BLC	46.0	76.7	80.0	During operation in side of the cabin		
		44.0	69.7	76.0	During operation 10mts outside of the cabin		
N16	Excavator EC2100 Operator	45.0	74.8	82.0	During operation in side of the cabin		
		41.0	67.8	78.0	During operation 10mts outside of the cabin		
Permissible limits as per ILO Code of Practice				Permissible Limits of Ambient			
For Unprotected ear - 8 hrs working shift				Noise Levels as per CPCB Guidelines			
Warning limit - 85 dB(A)				Leq. Limit dB(A)			
Danger limit - 90 dB(A)				Day Night			
Worker not to be exposed for more than 115 dB(A)				Industrial areas 75 70			
With ear protection -				Commercial area 65 55			
130 dB(A) 'Impulse' or 120 dB(A) 'Fast'				Residential area 55 45			
No entry when noise level exceeds 140 dB(A)							

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TEST REPORT

Table No. 17

Report No : N026324093

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	: 10.09.2024
Lab Code	: N/24/09/3-0263
Issue Date	: 23.09.2024
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	6.90	IS 3025 (P-11)2017
2	Biochemical Oxygen Demand BOD ₃ 27 ⁰ C, mg/l	30	IS 3025 (P-44) 1993 RA 2019
3	Total Suspended Solids, at 105 ⁰ C, mg/l	220	IS 3025 (P-16)1984 RA 2017
4	Fecal coliform, MPN/100ml	10	APHA-23 rd Edition


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TEST REPORT

Table No. 18
Report No : N026324093

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	: 10.09.2024
Lab Code	: N/24/09/3-0264
Issue Date	: 23.09.2024
Ref :	Discharge Standards for Treated Sewage Utilized for Landscape/Irrigation/Secondary Purposes

Sl. No.	Parameters	units	Results	Tolerance Limit	Method of Testing
1	pH	-	7.05	6.5 - 9.0	IS 3025 (P-11)2017
2	Biochemical Oxygen Demand BOD ₃ 27 ⁰ C	mg/l	8.67	<10	IS 3025 (P-44) 1993 RA 2019
3	Chemical Oxygen Demand (COD)	mg/l	30	<50	IS 3025 (P-58) 2006 RA 2017
4	Total Suspended Solids, at 105 ⁰ C	mg/l	10	<20	IS 3025 (P-16)1984 RA 2017
5	Ammonium (H4-N)	mg/l	1.3	<5	IS:3025 (P-34) 2023
6	Total Nitrogen (N-Total)	mg/l	4.2	<10	IS 3025 (Part-34)
7	Fecal coliform	MPN/100ml	2	<100	IS:15185 :2016 RA 2021


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TEST REPORT

Table No. 19

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	: 10.09.2024
Date of sample receipt	: 11.09.2024
Issue Date	: 23.09.2024
Ref:IS : 2296, 1982 Class C Norms (Stream Water Standards)	

Lab Code		N/24/09/3-0253	N/24/09/3-0254	N/24/09/3-0255	Limits For Stream Water Standards	Method of Testing
Sl.No.	Parameters	Results				
		SW1	SW2	SW3		
1	pH	7.81	6.85	7.33	6.5 to 8.5	IS:3025(Part-11)2022
2	Colour (Hazen Units), Max	1	10	5	300	IS:3025(Part-4)2021
3	Odour	Agreeable	Agreeable	Agreeable	-	IS:3025 (P-5) 2018
4	Total Dissolved Solids (mg/l), Max	270	152	110	1500	IS:3025(Part-16)2023
5	Total Suspended Solids, mg/l	24	10	40	-	IS 3025 (P-17) 2022
6	Dissolved Oxygen (as O ₂), mg/l, Max	5.1	5.6	5.3	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	200	52	42	-	IS:3025 (P-21):2009 RA 2019
10	Sulphates as SO ₄ (mg/l), Max	42	10.5	8.1	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	30	46	50	600	IS:3025(Part-32) ;1988RA2019
13	Fluoride (as F),mg/l, Max	0.5	0.32	0.25	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	0.013	0.038	0.05	50	IS:3025(P-2) 2019
17	Percent of Sodium (%)	12	30	33	-	IS 11624 .2009
18	Residual Sodium Carbonate (meq/l)	1.4	<0.5	<0.5	-	IS:2488 (P-5) 1976
19	Total Coliform, MPN/100ml	50	280	120	5000	IS:1622:1981

""END OF REPORT""


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TEST REPORT

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 : SW4 - Hari Shankar Spring Water, SW5 - Narihalla Dam water
Date of sample collection : 10.09.2024
Date of sample receipt : 11.09.2024
Issue Date : 23.09.2024
Ref:IS : 2296, 1982 Class C Norms (Stream Water Standards)

Sl.No.	Parameters	Results		Limits For Stream Water Standards	Method of Testing
		SW4	SW5		
1	pH	6.66	8.02	6.5 to 8.5	IS:3025(Part-11)2022
2	Colour (Hazen Units), Max	5.0	5.00	300	IS:3025(Part-4)2021
3	Odour	Agreeable	Agreeable	-	IS:3025 (P-5) 2018
4	Total Dissolved Solids (mg/l), Max	56.0	330.0	1500	IS:3025(Part-16)2023
5	Total Suspended Solids, mg/l	12	24	-	IS 3025 (P-17) 2022
6	Dissolved Oxygen (as O ₂), mg/l, Max	5.60	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 & Grease, mg/l	<0.1	<0.1	0.1	IS:3025(Part 39)2021
9	Total Hardness (as CaCO ₃),mg/l,Max	22	155	-	IS:3025 (P-21):2009 RA 2019
10	Sulphates as SO ₄ (mg/l), Max	5	80	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	80	85	600	IS:3025(Part-32) ;1988RA2019
13	Fluoride (as F),mg/l, Max	0.4	0.7	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	0.083	0.03	50	IS:3025(P-2) 2019
17	Percent of Sodium (%)	26.00	23.00	-	IS 11624 .2009
18	Residual Sodium Carbonate (meq/l)	<0.05	<0.05	-	IS:2488 (P-5) 1976
19	Total Coliform, MPN/100ml	100	200	5000	IS:1622:1981

""END OF REPORT""


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TEST REPORT

Table No. 21

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		: 10.09.2024					
Issue Date		: 23.09.2024					
Ref : IS:10500-2012 Norms Amendment - 4 (Drinking Water Standards)							
Sl. No.	Lab Code	N/24/09/3-0258	N/24/09/3-0259	N/24/09/3-0260	Desirable Limits	Permissible Limits	Method of Testing
	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	6.85	6.56	7.44	6.5 to 8.5	6.5 - 8.5	IS:3025 (P-11) 2022
4	Turbidity, NTU, Max	1.0	2.4	1.8	1	5	IS:3025 (P-10) 1984 RA 2017
5	Electrical Conductivity (µmhos/cm)	162.0	380.0	1580.0	--	--	IS 3025 (P-14)
6	Total Dissolved Solids, mg/l, Max	88.0	206.0	900.0	500	2000	IS:3025 (P-16) 1984 RA 2017
7	Aluminium (as Al), Max	<0.005	<0.005	<0.005	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	6.41	24.80	132.20	75	200	IS:3025 (P-40) 1991 RA 2019
10	Copper (as Cu), mg/l, Max	<0.005	<0.005	<0.005	0.05	1.5	IS:3025 (P-2) 2019
11	Chloride as Cl (mg/l), mg/l, Max	12.00	40.00	190.00	250	1000	IS:3025 (P-32) 1988 RA 2019
12	Fluoride (as F), mg/l, Max	<0.1	0.55	0.92	1	1.5	IS:3025 (P-60) 2008 RA 2019
13	Iron (as Fe), mg/l, Max	<0.05	<0.05	<0.05	1.0	1.0	IS:3025 (Part-2) 2019
14	Magnesium (as Mg), mg/l, Max	0.88	15.50	82.60	30	100	IS:3025 (P-46) 1994 RA 2019
15	Manganese (as Mn), mg/l, Max	<0.001	0.004	<0.001	0.1	0.3	IS:3025 (P-2) 2019
16	Nitrates (as NO ₃), mg/l, Max	1.80	5.60	32.50	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	16.00	32.60	86.00	200	400	IS:3025 (P-24) Sec 1 2022
19	Alkalinity (as CaCO ₃), mg/l, Max	30.00	110.0	500.0	200	600	IS:3025 (P-23):1986 RA 2019
20	Total Hardness (as CaCO ₃), mg/l, Max	32.0	126.0	570.0	200	600	IS:3025 (P-21):2009 RA 2019
21	Zinc (as Zn), mg/l, Max	<0.005	<0.005	<0.005	5	15	IS:3025 (P-2) 2019
22	Sodium, (as Na), mg/l, Max	10	80	82	-	-	IS:3025 (Part-45) 1993 RA 2019
23	Potassium, (as K), mg/l, Max	2	10	8	-	-	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. 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		: GW4 - SB Halli Bore water (near hospital), GW5 - Yeshwanthnagar Bore water (near railway track)				
Date of sample collection		: 10.09.2024				
Issue Date		: 23.09.2024				
Ref : IS:10500-2012 Norms Amendment - 4 (Drinking Water Standards)						
Lab Code		N/24/09/3-0261	N/24/09/3-0262	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	7.97	7.12	6.5 to 8.5	6.5 - 8.5	IS:3025 (P-11) 2022
4	Turbidity,NTU, Max	1.2	1.8	1	5	IS:3025 (P-10)1984 RA 2017
5	Electrical Conductivity (µmhos/cm)	1600.0	2300.0	—	—	IS 3025 (P-14)
6	Total Dissolved Solids,mg/l, Max	928.0	1340.0	500	2000	IS:3025 (P-16)1984 RA2017
7	Aluminium (as Al), Max	<0.005	<0.005	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	88.1	92.1	75	200	IS:3025 (P-40)1991 RA 2019
10	Copper (as Cu),mg/l, Max	<0.005	<0.005	0.05	1.5	IS:3025 (P-2)2019
11	Chloride as Cl (mg/l),mg/l, Max	175.00	380.00	250	1000	IS:3025 (P-32) 1988 RA 2019
12	Fluoride (as F),mg/l, Max	0.52	0.91	1	1.5	IS:3025 (P-60) 2008 RA 2019
13	Iron (as Fe),mg/l, Max	0.077	0.062	1.0	1.0	IS:3025 (Part-2) 2019
14	Magnesium (as Mg)mg/l, Max	97.20	65.60	30	100	IS:3025 (P-46)1994 RA 2019
15	Manganese (as Mn),mg/l, Max	<0.001	<0.001	0.1	0.3	IS:3025 (P-2) 2019
16	Nitrates (as NO ₃),mg/l, Max	24.00	36.50	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	126.00	240.00	200	400	IS:3025 (P-24) Sec 1 2022
19	Alkalinity (as CaCO ₃) mg/l, Max	480.0	400.0	200	600	IS:3025 (P-23):1986 RA 2019
20	Total Hardness (as CaCO ₃),mg/l,Max	620.0	500.0	200	600	IS:3025 (P-21):2009 RA 2019
21	Zinc (as Zn),mg/l, Max	<0.005	<0.005	5	15	IS:3025 (P-2) 2019
22	Sodium, (as Na), mg/l, Max	166	90	—	—	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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TC-6172

TEST REPORT

Table No. 23

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		: 10.09.2024					
Issue Date		: 01.10.2024					
Lab Code		N/24/09/3-0265	N/24/09/3-0266	N/24/09/3-0267	N/24/09/3-0268	N/24/09/3-0269	
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	%	31.88	35.88	32.51	31.89	36.22
	Clay	%	41.79	34.00	29.07	39.76	37.57
	Silt	%	26.33	30.12	38.42	28.35	26.21
4	Moisture Content	%	7.18	6.7	6.91	6.13	7.12
5	Bulk Density	gm/cc	1.48	1.77	1.52	1.91	1.46
6	Water holding capacity	%	31.88	28.42	21.21	26.85	23.96
7	pH	--	6.78	6.42	7.23	7.42	6.28
8	EC	m.mohs/cm	0.191	0.265	0.188	0.249	0.169
Chemical Properties							
9	Organic Carbon	%	0.60	0.30	0.17	1.92	2.51
10	Nitrogen as N	Kg/Ha	128	241	123	132	188
11	Phosphorous as P	Kg/Ha	6.38	8.78	7.21	7.59	7.31
12	Potassium as K ₂ O	Kg/Ha	182	133	122	130	138
13	Sodium as Na	mg/kg	30	24	63	30	40
14	Chloride as Cl	mg/kg	128	115	162	140	316
15	Sulphate as SO ₄	mg/kg	34	35	38	36	40
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. 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		: 10.09.2024					
Issue Date		: 01.10.2024					
Lab Code			N/24/09/3-0270	N/24/09/3-0271	N/24/09/3-0272	N/24/09/3-0273	N/24/09/3-0274
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	%	34.23	32.12	39.85	38.45	40.21
	Clay	%	35.55	38.67	26.84	25.33	28.51
	Silt	%	30.22	29.21	33.31	36.22	31.28
4	Moisture Content	%	7.28	6.82	7.46	6.15	5.35
5	Bulk Density	gm/cc	1.96	2.42	1.82	1.72	1.81
6	Water holding capacity	%	37.32	30	33.91	38	36
7	pH	--	7.52	6.95	7.26	7.23	7.53
8	EC	m.mohs/cm	0.462	0.485	0.45	0.386	0.532
Chemical Properties							
9	Organic Carbon	%	0.61	0.66	0.55	0.58	0.42
10	Nitrogen as N	Kg/Ha	136	132	138	158	130
11	Phosphorous as P	Kg/Ha	35	48	52	54	44
12	Potassium as K ₂ O	Kg/Ha	140	162	151	149	138
13	Sodium as Na	mg/kg	58	48	42	59	38
14	Chloride as Cl	mg/kg	32	33	32	42	34
15	Sulphate as SO ₄	mg/kg	36	37	34	38	44
Sample Locations :							
S6 - Appayyanahalli agriculture lan							
S7 - Vitthalanagar agriculture land							
S8 - Swamihalli agriculture land							
S9 -Tonasigere agriculture land							
S10 - Yeshwanthnagar agriculture land							

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TEST REPORT

Table No. 25

Stack Monitoring Report

Report No. N000124093

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 :	05.09.2024
Particulars of Sample Collected :	Emissions from stack collected through stack sample VSS1
Date of Sample Receipt :	09.09.2024
Issue date :	01.10.2024

STACK DETAILS

1	Fuel Used	Diesel
2	Ambient Temperature ($^{\circ}\text{C}$)	29
3	Stack Temperature ($^{\circ}\text{C}$)	169
4	Velocity (m/s)	14.70
5	Stack diameter (M)	0.30
6	Quantity of flue Gas Discharged into atmosphere (Nm^3/hr)	3351
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	NO_x (as NO_2) (as 15% O_2), dry basis	ppmv	28.00	360
2	NMHC (as C) (at 15 % O_2)	mg/ Nm^3	35.11	100
3	PM (as C) (at 15 % O_2)	mg/ Nm^3	29.00	75
4	CO (at 15 % O_2)	(mg/ Nm^3)	47.00	150

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TEST REPORT

Table No. 26

Stack Monitoring Report

Report No. N000224093

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		: 10 KVA TOWER LIGHT DG - Lighting		
Sample Collected by		: Environmental Laboratory (Unit of Mineral Engineering Services)		
Date of Collection		: 05.09.2024		
Particulars of Sample Collected		: Emissions from stack collected through stack sample VSS1		
Date of Sample Receipt		: 09.09.2024		
Issue date		: 01.10.2024		
STACK DETAILS				
1	Fuel Used	Diesel		
2	Ambient Temperature (°C)	29		
3	Stack Temperature (°C)	137		
4	Velocity (m/s)	6.72		
5	Stack diameter (M)	0.15		
6	Quantity of flue Gas Discharged into atmosphere (Nm ³ /hr)	300		
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	0.04	<0.2
2	CO	g/Kw-hr	0.21	<3.5
3	Nox +HC	g/Kw-hr	0.993	<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 Stack Monitoring Report

Table No. 27

Report No. N000324093

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 :	10KVA DG Sert - Water pumping
Sample Collected by :	Environmental Laboratory (Unit of Mineral Engineering Services)
Date of Collection :	05.09.2024
Particulars of Sample Collected :	Emissions from stack collected through stack sample VSS1
Date of Sample Receipt :	09.09.2024
Issue date :	01.10.2024

STACK DETAILS

1	Fuel Used	Diesel
2	Ambient Temperature (°C)	29
3	Stack Temperature (°C)	150
4	Velocity (m/s)	5.74
5	Stack diameter (M)	0.15
6	Quantity of flue Gas Discharged into atmosphere (Nm ³ /hr)	248
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	0.07	<0.2
2	CO	g/Kw-hr	0.38	<3.5
3	Nox +HC	g/Kw-hr	0.89	<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 Stack Monitoring Report

Table No. 28

Report No. N000424093

Name of the Client :	The Sandur Manganese & Iron Ores Limited
Name of the Mine :	Kammathuru Iron Ore (KTIO) (ML No. 2678)
Location :	KTIO D-04 DUMP
Stack ID & Capacity :	7.5 KVA DG SET (Open DG) - Lighting
Sample Collected by :	Environmental Laboratory (Unit of Mineral Engineering Services)
Date of Collection :	05.09.2024
Particulars of Sample Collected :	Emissions from stack collected through stack sample VSS1
Date of Sample Receipt :	09.09.2024
Issue date :	01.10.2024

STACK DETAILS

1	Fuel Used	Diesel
2	Ambient Temperature (°C)	29
3	Stack Temperature (°C)	132
4	Velocity (m/s)	7.45
5	Stack diameter (M)	0.15
6	Quantity of flue Gas Discharged into atmosphere (Nm ³ /hr)	337
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	0.09	<0.2
2	CO	g/Kw-hr	0.49	<3.5
3	Nox +HC	g/Kw-hr	0.65	<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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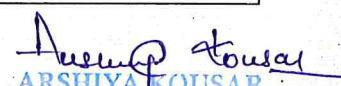
TEST REPORT Stack Monitoring Report

Table No.29

Report No :N024924093

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		: 35 KVA DG SET - Lighting		
Sample Collected by		: Environmental Laboratory (Unit of Mineral Engineering Services)		
Date of Collection		: 10.09.2024		
Particulars of Sample Collected		: Emissions from stack collected through stack sample VSS1		
Date of Sample Receipt		: 11.09.2024		
Issue date		: 01.10.2024		
STACK DETAILS				
1	Fuel Used	Diesel		
2	Ambient Temperature (°C)	28		
3	Stack Temperature (°C)	115		
4	Velocity (m/s)	8.86		
5	Stack diameter (M)	0.15		
6	Quantity of flue Gas Discharged into atmosphere (Nm ³ /hr)	419		
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	0.08	<0.2
2	CO	g/Kw-hr	0.02	<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 Stack Monitoring Report

Table No. 30

Report No : N025024093

Name of the Client : The Sandur Manganese & Iron Ores Limited
Name of the Mine : Deogiri Manganese & Iron Ore Mine (ML NO. 2678)
Location : K-Kolla W/Pump
Stack ID & Capacity : 100 KVA DG SET - Water pumping
Sample Collected by : Environmental Laboratory
(Unit of Mineral Engineering Services)
Date of Collection : 10.09.2024
Particulars of Sample Collected : Emissions from stack collected through stack sample VSS1
Date of Sample Receipt : 11.09.2024
Issue date : 01.10.2024

STACK DETAILS

1	Fuel Used	Diesel
2	Ambient Temperature (°C)	28
3	Stack Temperature (°C)	136
4	Velocity (m/s)	8.31
5	Stack diameter (M)	0.15
6	Quantity of flue Gas Discharged into atmosphere (Nm ³ /hr)	372
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	0.09	<0.2
2	CO	g/Kw-hr	0.07	<3.5
3	Nox +HC	g/Kw-hr	0.37	<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 Stack Monitoring Report

Table No. 31

Report No : N025124093

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 :	250 KVA DG SET - Lighting
Sample Collected by :	Environmental Laboratory (Unit of Mineral Engineering Services)
Date of Collection :	10.09.2024
Particulars of Sample Collected :	Emissions from stack collected through stack sample VSS1
Date of Sample Receipt :	11.09.2024
Issue date :	01.10.2024

STACK DETAILS

1	Fuel Used	Diesel
2	Ambient Temperature (°C)	28
3	Stack Temperature (°C)	160
4	Velocity (m/s)	10.25
5	Stack diameter (M)	0.15
6	Quantity of flue Gas Discharged into atmosphere (Nm ³ /hr)	433
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	0.03	<0.2
2	CO	g/Kw-hr	0.10	<3.5
3	Nox +HC	g/Kw-hr	0.12	<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 : N025224093

Name of the Client : The Sandur Manganese & Iron Ores Limited
Name of the Mine : Deogiri Manganese & Iron Ore Mine (ML NO. 2678)
Location : Deogiri 86 Quarters
Stack ID & Capacity : 35 KVA DG SET - Colony Ligting
Sample Collected by : Environmental Laboratory
(Unit of Mineral Engineering Services)
Date of Collection : 10.09.2024
Particulars of Sample Collected : Emissions from stack collected through stack sample VSS1
Date of Sample Receipt : 11.09.2024
Issue date : 01.10.2024

STACK DETAILS

1	Fuel Used	Diesel
2	Ambient Temperature (°C)	28
3	Stack Temperature (°C)	110
4	Velocity (m/s)	8.06
5	Stack diameter (M)	0.15
6	Quantity of flue Gas Discharged into atmosphere (Nm ³ /hr)	385
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	0.09	<0.2
2	CO	g/Kw-hr	0.13	<3.5
3	Nox +HC	g/Kw-hr	0.31	<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

Name of the Client	: The Sandur Manganese & Iron Ores Limited
Name of the Mine	: Kammathuru Iron Ore Mine (KTIO) (ML No. 2678)
Mobile Crusher Capacity	: 350 TPH
Sample Collected by	: Environmental Laboratory (Unit of Mineral Engineering Services)
Sample Condition When Received	: Satisfactory
Model of the Equipment used for Monitoring	: Emissions from stack collected through stack sample VSS1
Serial No. of the Equipment	: 338 DTH 14
Calibration done on and due on	: Done on 19.11.2022 and Due on 18.11.2024
Sampling and Analysis Method	: IS 11255
Date of Collection	: 21.09.2024
Date of Sample Receipt	: 23.09.2024
Issue date	: 01.10.2024

STACK DETAILS

1	Mobile Crusher Make & code	Power Screening Chieftain 2100	Terex India Pvt Ltd (Jaw Crusher)	Terex India Pvt Ltd (Cone Crusher)	Terex India Pvt Ltd (Jaw Crusher)
2	Lab Code	N/24/09/5-0207	N/24/09/5-0208	N/24/09/5-0209	N/24/09/5-0210
3	Stack height (M)	8	8	8	8
4	Stack diameter (M)	0.07	0.20	0.20	0.20
5	Stack Temperature ($^{\circ}$ C)	32	36	31	35
6	Velocity (m/s)	11.43	10.04	11.94	12.16
7	Quantity of flue Gas Discharged into atmosphere (Nm^3/hr)	148	1018	1232	1238

Pollutional Parameters (Result)

Sl.No	Parameters	Results			
1	Particulate matter (mg/Nm^3)	42	46	52	45
Particulate matter (mg/Nm^3)		100			
Permissible limits		100			

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TEST REPORT

Table No. 34

Stack Monitoring Report

Name of the Client	: The Sandur Manganese & Iron Ores Limited
Name of the Mine	: Kammathuru Iron Ore Mine (KTIO) (ML No. 2678)
Mobile Crusher Capacity	: 250 TPH
Sample Collected by	: Environmental Laboratory (Unit of Mineral Engineering Services)
Sample Condition When Received	: Satisfactory
Model of the Equipment used for Monitoring	: Emissions from stack collected through stack sample VSS1
Serial No. of the Equipment	: 338 DTH 14
Calibration done on and due on	: Done on 19.11.2022 and Due on 18.11.2024
Sampling and Analysis Method	: IS 11255
Date of Collection	: 23.09.2024
Date of Sample Receipt	: 25.09.2024
Issue date	: 01.10.2024

STACK DETAILS

1	Mobile Crusher Make & code	Sandvik/ MSP-7	Extech/MSP-7	Chieftatn-1400/MSP-8	Turbo Chieftain-1400/MSP-8
2	Lab Code	N/24/09/5-0282	N/24/09/5-0283	N/24/09/5-0284	N/24/09/5-0285
3	Stack height (M)	8	8	8	48
4	Stack diameter (M)	0.13	0.13	0.07	0.07
5	Stack Temperature ($^{\circ}$ C)	30	34	36	30
6	Velocity (m/s)	11.62	12.34	12.81	11.92
7	Quantity of flue Gas Discharged into atmosphere (Nm^3/hr)	508	533	164	155

Pollutional Parameters (Result)

Sl.No	Parameters	Results			
1	Particulate matter (mg/Nm^3)	43	53	49	46
Particulate matter (mg/Nm^3)		100			
Permissible limits		100			

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TEST REPORT

Table No. 35

Stack Monitoring Report

Name of the Client	: The Sandur Manganese & Iron Ores Limited		
Name of the Mine	: Kammathuru Iron Ore Mine (KTIO) (ML No. 2678)		
Mobile Crusher Capacity	: 250 TPH		
Sample Collected by	: Environmental Laboratory (Unit of Mineral Engineering Services)		
Sample Condition When Received	: Satisfactory		
Model of the Equipment used for Monitoring	: Emissions from stack collected through stack sample VSS1		
Serial No. of the Equipment	: 338 DTH 14		
Calibration done on and due on	: Done on 19.11.2022 and Due on 18.11.2024		
Sampling and Analysis Method	: IS 11255		
Date of Collection	: 24.09.2024		
Date of Sample Receipt	: 25.06.2024		
Issue date	: 01.10.2024		
STACK DETAILS			
1	Mobile Crusher Make & code	Terex-Pegson /MCP-1 (cone Crusher)	Terex-Pegson /MCP-1 (Jaw Crusher)
2	Lab Code	N/24/09/5-0286	N/24/09/5-0287
3	Stack height (M)	8	8
4	Stack diameter (M)	0.20	0.20
5	Stack Temperature ($^{\circ}\text{C}$)	29	33
6	Velocity (m/s)	11.98	12.87
7	Quantity of flue Gas Discharged into atmosphere (Nm^3/hr)	1244	1219
Pollutional Parameters (Result)			
Sl.No	Parameters	Results	
1	Particulate matter (mg/Nm^3)	52	20
Permissible limits		Particulate matter (mg/Nm^3) 100	

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TEST REPORT

Table No. 36

Stack Monitoring Report

Report No. N016124095

Name of the Client : The Sandur Manganese & Iron Ores Limited				
Name of the Mine : Deogiri Manganese & Iron Ore Mine (ML NO. 2678)				
Stack ID & Capacity		: Mobile Crusher Capacity : 250 TPH (MSP-4)		
Sample Collected by		: Environmental Laboratory (Unit of Mineral Engineering Services)		
Date of Collection		: 20.09.2024		
Particulars of Sample Collected		: Emissions from stack collected through stack sample VSS1		
Date of Sample Receipt		: 23.09.2024		
Issue date		: 01.10.2024		
STACK DETAILS				
1	Fuel Used	Diesel		
	Stack height (M)	8		
	Stack diameter (M)	0.13		
2	Stack Temperature ($^{\circ}\text{C}$)	38		
3	Velocity (m/s)	12.61		
5	Quantity of flue Gas Discharged into atmosphere (Nm^3/hr)	1272		
6	Sample Condition When Received	Satisfactory		
7	Model of the Equipment used for Monitoring	Vayubodhan Stack Sampler VSS1		
8	Serial No. of the Equipment	338 DTH 14		
9	Calibration done on and due on	Done on 19.11.2022 and Due on 18.11.2024		
10	Sampling and Analysis Method	IS 11255		
Pollutional Parameters (Result)				
Sl.No	Parameters	Unit	Results	Permissible limits
1	Particulate Matter	mg/Nm^3	46	100

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TEST REPORT

Table No. 37

Report No : N0257A24093

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	: Kammathuru Mines Run off Water
Date of sample collection	: 10.09.2024
Lab Code	: N/24/09/3-0257A
Issue Date	: 23.09.2024
Ref: G S R 1265 (e) and Schedule VI (Rule 3A of EP rule 1986)	

Sl. No.	Parameters	Results	General Standards For Effluent Discharge of Environmental Pollutants	Method of Testing
1	pH	6.95	5.5 to 9.0	IS 3025 (P-11) 2022
2	COD (mg/l), Max	30	250	IS 3025 (P-58) 2006 RA2022
3	Total Suspended Solids (mg/l), Max	33	Non Rainy Day 50, Rainy Day 100	IS 3025 (P-17) 2022
4	Total Dissolved Solids (TDS) mg/l	122	--	IS 3025(P- 16)02022
5	Dissolved Oxygen (as O ₂), mg/l	5.3	--	IS:3025(P-38) 1981 RA.2019
6	Iron (as Fe), mg/l	0.141	3	IS 3025 (P-2) 2019
7	Manganese (as Mn), mg/l	0.058	2	IS 3025 (P-2) 2019

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TEST REPORT

Table No. 38

Report No : N0257B24093

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	: Deogiri Mines Run off Water
Date of sample collection	: 10.09.2024
Lab Code	: N/24/09/3-0257B
Issue Date	: 23.09.2024
Ref: G S R 1265 (e) and Schedule VI (Rule 3A of EP rule 1986)	

Sl. No.	Parameters	Results	General Standards For Effluent Discharge of Environmental Pollutants	Method of Testing
1	pH	6.54	5.5 to 9.0	IS 3025 (P-11) 2022
2	COD (mg/l), Max	26	250	IS 3025 (P-58) 2006 RA2022
3	Total Suspended Solids (mg/l), Max	34	Non Rainy Day 50, Rainy Day 100	IS 3025 (P-17) 2022
4	Total Dissolved Solids (TDS) mg/l	138	--	IS 3025(P- 16)02022
5	Dissolved Oxygen (as O ₂), mg/l	5.5	--	IS:3025(P-38) 1981 RA 2019
6	Iron (as Fe), mg/l	0.175	3	IS 3025 (P-2) 2019
7	Manganese (as Mn), mg/l	0.059	2	IS 3025 (P-2) 2019

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TEST REPORT

Table No. 39

Report No : N0257C24093

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	: SB Halli Mines Run off Water
Date of sample collection	: 10.09.2024
Lab Code	: N/24/09/3-0257C
Issue Date	: 23.09.2024
Ref: G S R 1265 (e) and Schedule VI (Rule 3A of EP rule 1986)	

Sl. No.	Parameters	Results	General Standards For Effluent Discharge of Environmental Pollutants	Method of Testing
1	pH	6.55	5.5 to 9.0	IS 3025 (P-11) 2022
2	COD (mg/l), Max	40	250	IS 3025 (P-58) 2006 RA2022
3	Total Suspended Solids (mg/l), Max	44	Non Rainy Day 50, Rainy Day 100	IS 3025 (P-17) 2022
4	Total Dissolved Solids (TDS) mg/l	130	--	IS 3025(P- 16)02022
5	Dissolved Oxygen (as O ₂), mg/l	5.8	--	IS:3025(P-38) 1981 RA 2019
6	Iron (as Fe), mg/l	0.158	3	IS 3025 (P-2) 2019
7	Manganese (as Mn), mg/l	0.036	2	IS 3025 (P-2) 2019

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TEST REPORT

Table No. 40

RESULTS OF RESIPARBLE AIR-BORNE DUST SURVEY

Name of the Owner : Sandur Manganese & Iron Ores Limited

Name of the Mine : Deogiri Manganese & Iron Ore Mine (ML NO. 2678)

Sample Collected by: Mr. Noor Basha

Report No : ELMES0172409

Issue Date : 01.10.2024

PERSONAL SAMPLER

SL. NO	DATE OF SAMPLE COLLECTION	Filter paper code	Lab Code	LOCATION / CATEGORY	Name of the person	DURATION OF SAMPLING			Volume of air (Lts)	DUST CONCENTRATION mg/m ³ RPM	*PERMISSIBLE LIMIT mg/m ³
						FROM	TO	TOTAL HRS			
1	23.09.2024	216	FS/24/09/5-0001	Excavator EC2100 Operator	T Thippeswamy	09:30	17:00	7:30	641.3	0.94	3
2	23.09.2024	217	FS/24/09/5-0002	Mine worker	Naveen Kumar	09:35	17:05	7:30	1091.3	1.10	4
3	23.09.2024	218	FS/24/09/5-0003	Drilling Operator	Mallesha	09:40	17:15	7:35	625.6	1.92	3
4	23.09.2024	219	FS/24/09/5-0004	Tipper Driver	R Kotresh	09:45	17:20	7:35	648.4	1.23	3
5	24.09.2024	222	FS/24/09/5-0007	Tipper Driver	N Gangadhar	09:15	16:30	7:15	598.1	1.17	3
6	24.09.2024	229	FS/24/09/5-0008	Wheel Loader Hibustan 2021-D Operator	Parasuram	09:10	16:35	7:25	611.9	1.47	3
7	24.09.2024	230	FS/24/09/5-0009	Excavator Operator	Fakruddin	09:20	16:25	7:05	605.6	1.32	3
8	24.09.2024	231	FS/24/09/5-0010	Spotter Waste Dump	Rushendra Reddy	09:30	17:00	7:30	641.3	1.40	3

STATIC SAMPLER

SL. NO	DATE OF SAMPLE COLLECTION	Filter paper code	Lab Code	LOCATION / CATEGORY	Name of the person	DURATION OF SAMPLING			Volume of air (Lts)	DUST CONCENTRATION mg/m ³ RPM	*PERMISSIBLE LIMIT mg/m ³
						FROM	TO	TOTAL HRS			
9	23.09.2024	220	FS/24/09/5-0005	Loading Point	Static	9:50	17:15	7:25	618.6	1.13	3
10	23.09.2024	221	FS/24/09/5-0006	Haulage Road	Static	9:00	17:20	8:20	1000.0	1.30	3
11	24.09.2024	232	FS/24/09/5-0011	Dumping Point	Static	9:45	17:10	7:25	618.6	1.62	3
12	24.09.2024	233	FS/24/09/5-0012	Weigh Bridge	Static	09:50	17:00	7:10	752.5	1.46	3

*Note: Free Silica Analysis report for Deogiri Manganese & Iron Ore Mine (ML NO. 2678) show less than 5% Free silica
the permissible limit for dust concentration shall be 3 mg/m³ (Ref : DGMS Reg 124(2) of MMR,1961)

Arshya Fousar
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Dy. T.M. Chemical
Govt. Analyst / Authorised Signatory

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ENVIRONMENTAL LABORATORY

(UNIT OF MINERAL ENGINEERING SERVICES)

Accredited by NABL (TC-6172) Recognised by BIS, FSSAI & CPCB:MoEFCC under E(P) A 1986 Vide
Gazette Notification No. legal 42(3)/2022 dated 22.07.2022 Recognition valid upto 23.05.2023

ISO 45001:2018 Certified Laboratory



TC-6172

Table No. 41

TEST REPORT Free Silica Analysis Report

Name of the Owner : Sandur Manganese & Iron Ores Limited

Name of the Mine : Deogiri Manganese & Iron Ore Mine (ML NO. 2678)

Sample Collected by: Mr. Noor Basha

Report No : FS0001-001224095

Issue Date : 01.10.2024

SL.NO	DATE OF SAMPLE COLLECTION	LOCATION / CATEGORY	Name of the person / Static	Free Silica Content (%)	Free Silica Limits (%)
PERSONAL SAMPLER					
1	23.09.2024	Excavator EC2100 Operator	T Thippeswamy	ND	5
2	23.09.2024	Mine worker	Naveen Kumar	ND	5
3	23.09.2024	Drilling Operator	Mallesha	ND	5
4	23.09.2024	Tipper Driver	R Kotresh	ND	5
5	24.09.2024	Tipper Driver	N Gangadhar	ND	5
6	24.09.2024	Wheel.Loader Hibustan 2021-D Operator	Parasuram	ND	5
7	24.09.2024	Excavator Operator	Fakruddin	ND	5
8	24.09.2024	Spotter Waste Dump	Rushendra Reddy	ND	5
STATIC SAMPLER					
9	Loading Point	Loading Point	Static	ND	5
10	Haulage Road	Haulage Road	Static	ND	5
11	Dumping Point	Screening Plant	Static	ND	5
12	Weigh Bridge	Dumping Point	Static	ND	5

Note: ND-Not Detected, Detection Level : 0.0005%

Arshiy Kousar
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