

# *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/2024-25/2679/150

08 May 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 April 2024 in respect of Mining Lease No. 2679.

Ref: 1. Environmental Clearance No. 110015/88/2006-IA.II(M) dated 24 January 2007.  
2. Consent for Operation No. AW-337273 dated 10 April 2023.

With reference to the letters cited above, we are enclosing herewith environmental monitoring reports prepared after monitoring the stipulated environmental parameters for the month of April 2024 in respect of Mining Lease No. 2679 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

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



National Accreditation Board for  
Testing and Calibration Laboratories

**CERTIFICATE OF ACCREDITATION**

**ENVIRONMENTAL LABORATORY (UNIT OF MINERAL  
ENGINEERING SERVICES)**

has been assessed and accredited in accordance with the standard

**ISO/IEC 17025:2017**

**"General Requirements for the Competence of Testing &  
Calibration Laboratories"**

for its facilities at

#948, 2ND CROSS, ST. THOMAS TOWN POST, KAMMANAHALLI MAIN ROAD, BENGALURU,  
BENGALURU URBAN, KARNATAKA, INDIA

in the field of

**TESTING**

Certificate Number: TC-6172

Issue Date: 24/05/2023

Valid Until: 23/05/2025

This certificate remains valid for the Scope of Accreditation as specified in the annexure subject to continued satisfactory compliance to the above standard & the relevant requirements of NABL.  
(To see the scope of accreditation of this laboratory, you may also visit NABL website [www.nabl-india.org](http://www.nabl-india.org))

Name of Legal Identity : ENVIRONMENTAL LABORATORY (UNIT OF MINERAL ENGINEERING SERVICES)

Signed for and on behalf of NABL



N. Venkateswaran  
Chief Executive Officer





Speed Post

केन्द्रीय प्रदूषण नियंत्रण बोर्ड  
CENTRAL POLLUTION CONTROL BOARD  
पर्यावरण, वन एवं जलवायु परिवर्तन मंत्रालय भारत सरकार  
MINISTRY OF ENVIRONMENT FOREST & CLIMATE CHANGE GOVT OF INDIA

F.No. LB/99/7/2021-INST LAB-HO-CPCB-HO/Pvt./ (601)

Dated: 28<sup>th</sup> January 2023  
07<sup>th</sup> June 2023

Recognition Certificate

To,

Head of Laboratory,  
M/s Environmental Laboratory (Unit of Mineral Engineering Services),  
#948, 2<sup>nd</sup> Cross, St. Thomas Town Post, Kammanahalli Road, Bengaluru--560084,  
Karnataka.

**Subject:** Recognition of M/s Environmental Laboratory (Unit of Mineral Engineering Services), #948, 2<sup>nd</sup> Cross, St. Thomas Town Post, Kammanahalli Road, Bengaluru--560084, Karnataka, as Environmental laboratory under the Environmental (Protection) Act- 1986.

Sir,

I am directed to refer the online application, dated 27/10/2022 for the recognition of your laboratory under Environmental (Protection) Act, 1986. Based on the recommendations of the concerned Division, approval of Competent Authority for recognition of Environmental laboratories and your acceptance of the revised terms and conditions at Annexure-III & IV of the guidelines for recognition of environmental laboratories, CPCB approves the renewal of recognition M/s Environmental Laboratory (Unit of Mineral Engineering Services), #948, 2<sup>nd</sup> Cross, St. Thomas Town Post, Kammanahalli Road, Bengaluru--560084, Karnataka and shall be notified in the Gazette of India. Considering the current requirement of mandatory accreditation/ certifications of the laboratory, this recognition shall be valid up to 23/05/2025.

2. As sought in the aforementioned application, M/s Environmental Laboratory (Unit of Mineral Engineering Services), #948, 2<sup>nd</sup> Cross, St. Thomas Town Post, Kammanahalli Road, Bengaluru--560084, Karnataka may undertake the following tests:

- Physical Tests**-Conductivity, Colour, pH, Fixed & Volatile Solids, Total Solids, Total Dissolved Solids, Total Suspended Solids, Turbidity, Temperature, Velocity & Discharge Measurement of Industrial Effluent Stream, Flocculation Test (Jar test), Odour, Salinity, Settleable Solids and Sludge Volume Index.
- Inorganic (General and Non-metallic):** Acidity, Alkalinity, Ammonical Nitrogen, Chloride, Chlorine Residual, Dissolved Oxygen, Fluoride, Total Hardness, Total Kjeldahl Nitrogen (TKN), Nitrite Nitrogen, Nitrate Nitrogen, Phosphate, Sulphate, Silica, Cyanide and Sulphide.
- Inorganic (Trace Metals):** Boron, Cadmium, Calcium, Total Chromium, Chromium Hexavalent, Copper, Iron, Lead, Magnesium, Mercury, Nickel, Potassium, Sodium, Sodium Absorption Ratio, Zinc, Arsenic, Aluminium, Barium, Selenium, Tin, Antimony, Cobalt and Vanadium,
- Organics (General) and Trace Organics:** Biochemical Oxygen Demand (BOD), Chemical Oxygen Demand (COD), Oil and Grease, Phenolic Compounds, Pesticides (each) (Organo-Chlorine and Organo Nitrogen-Phosphorus), Surfactant, Tanin & Lignin, Poly-Chlorinated biphenyl (PCB's) each, Poly-Nuclear Aromatic Hydrocarbon (PAH).
- Microbiological Test:** Total Coliform, Faecal Coliform, *E. coli*, *Faecal Streptococci* and Total Plate Count.
- Toxicological Tests:** Bioassay Method for Evaluation of Toxicity using Fish and Measurement of Toxicity Using *Daphnia* or Other Organism.
- Biological Test:** Macrophytic Identification, Planktonic Identification Count and Chlorophyll.

‘परिवेश भवन’ पर्वी अर्जुन नगर, दिल्ली-110032

Contd.

Parivesh Bhawan, East Arjun Nagar, Delhi-110032

दूरभाष/Tel : 43102030, 22305792, वेबसाइट/Website : www.cpcb.nic.in



- viii. **Characterization of Hazardous Waste:** Corrosivity, Ignibility (Flash point) and Measurement of Heavy Metals/Pesticides in the Waste/Leachate.
- ix. **Soil/Sludge/Sediment and Solid Waste:** Boron, Cation Exchange Capacity (CEC), Electrical Conductivity, Nitrogen (Available), Organic Carbon/Matter (Chemical Method), pH, Phosphorous (Available), Phosphate (Ortho), Phosphate (Total), Potassium, SAR in Soil Extract, Sodium, Soil moisture, TKN, Calorific Value, Ammonia, Bicarbonate, Calcium, Calcium Carbonate, Chloride, Colour, H.Acid, Heavy Metal, Magnesium, Nitrate, Nitrite, PAH, Pesticide, Potash (Available), Sulphate, Sulphur, Total Organic Carbon, Total Water Soluble Salt and Water Holding Capacity.
- x. **Ambient Air/ Fugitive Emissions:** Nitrogen Dioxide (NO<sub>2</sub>), Sulphur Dioxide (SO<sub>2</sub>), Total Suspended Particulate Matter, Respirable Suspended Particulate Matter PM<sub>10</sub>, Ammonia, Carbon Monoxide, Chlorine, Lead, Ozone, Benzene Toluene Xylene (BTX), Polycyclic Aromatic Hydrocarbon (PAH) Benzo-a-Pyrene & others and PM<sub>2.5</sub>.
- xi. **Stack Gases/ Source Emission:** Particulate Matter, Sulphur Dioxide, Velocity & Flow, Carbon Dioxide, Carbon Monoxide, Temperature, Oxygen, Oxides of Nitrogen, Acid Mist, Ammonia, Total Hydrocarbon, Hydrogen Sulphide and Carbon Disulphide.
- xii. **Noise Level:** Noise Level Measurement (20-140 dBA) and Ambient Noise and Source Specific Noise.
- xiii. **Meteorological:** Ambient Temperature, Wind Direction, Wind Speed, Relative Humidity, Solar Radiation and Rainfall.

3. Further, the following analysts have been approved as Government Analysts.

- i. M. Sachin Raju
- ii. Binu Mani
- iii. Arshiya Kousar

- 4. The laboratory shall compulsorily participate in the Analytical Quality Exercise conducted by the Central Pollution Control Board (CPCB) to ascertain the capability of the laboratory and analysis carried out and shall submit quarterly progress report to CPCB.
- 5. The surprise inspection/periodic surveillance of the recognized environment laboratory will be undertaken by CPCB to assess its proper functioning systematic operation and reliability of data generated at the laboratory.
- 6. It is also mandatory for the laboratory to have requisite accreditations of the ISO: 17025 and ISO:45001 and its renewal as per accreditation rules. This recognition is subject to such accreditations and renewals as applicable. The laboratory is required to apply online for further renewal of recognition through CPCB web portal after renewal of the mandatory accreditations / certifications concerned.
- 7. The laboratory should compulsorily follow the accepted terms and conditions. In case of serious non-compliance of any of the terms and conditions, the laboratory may be black listed for a minimum period of two years and civil/criminal proceedings, as applicable, may be initiated for performing functions on behalf of the Government in an unauthorized manner.

Yours faithfully,

डॉ. के. रंगनाथन / Dr. K. Ranganathan  
 वैज्ञानिक 'E' सरकारी विश्लेषक / Scientist 'E' Govt. Analyst  
 केंद्रीय प्रदूषण नियंत्रण बोर्ड  
 Central Pollution Control Board  
 पर्यावरण, वन एवं जलवायु परिवर्तन मंत्रालय, भारत सरकार  
 (Mo Environment, Forest & Climate Change, Govt. of India)  
 परियेश भवन, पूर्वी अर्जुन नगर, दिल्ली-110032  
 Parivesh Bhawan, East Arjun Nagar, Delhi-110032

K. Ranganathan 7/6/23  
 (Dr. K. Ranganathan)  
 Scientist-E & Divisional Head  
 Instrumentation laboratory



# **ENVIRONMENTAL MONITORING REPORT**

**April, 2024**

**Project : Ramgad Manganese & Iron Ore Mine  
ML No. 2679  
Sandur Taluk, Ballari Dist., Karnataka.**

**Lessee**

**M/s. Sandur Manganese & Iron Ores Limited  
Sandur,  
Ballari District, Karnataka**

## **ENVIRONMENTAL LABORATORY**

**(Unit of Mineral Engineering Services)**

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

#948, 2<sup>nd</sup> Cross, Kammanahalli Main Road,  
St Thomas Town Post, Bangalore- 560 084, Karnataka,

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# ENVIRONMENTAL LABORATORY

(UNIT OF MINERAL ENGINEERING SERVICES LLP)

Recognised by BIS, FSSAI, ISO:45001:2018 Certified Laboratory

Recognised by MoEFCC(CPCB) under E(P) Act 1986 recognition valid upto 23.05.2025

## 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. 2679  
 Sample Collected by : Environmental Laboratory (Unit of Mineral Engineering Services)  
 Station at & Code : A1, Core Zone (ML Area)  
 Duration : 24 Hrs  
 Issue date : 02.05.2024  
 Reference IS 5182 & Lab SOP

Date of Sampling	Lab Code	Sulphur Dioxide (SO <sub>2</sub> ), µg/m <sup>3</sup>	Nitrogen Dioxide (NO <sub>2</sub> ), µg/m <sup>3</sup>	Particulate Matter		Carbon Monoxide* (CO), mg/m <sup>3</sup>
				PM <sub>10</sub> , (µg/m <sup>3</sup> )	PM <sub>2.5</sub> , (µg/m <sup>3</sup> )	
03.04.2024	N/24/04/2-0054	10	16	56	36	0.28
04.04.2024	N/24/04/2-0059	8	9	49	29	0.22
10.04.2024	N/24/04/2-0169	11	14	54	30	0.23
11.04.2024	N/24/04/2-0175	10	22	51	28	0.31
17.04.2024	N/24/04/3-00189	7	11	43	25	0.35
18.04.2024	N/24/04/3-00200	8	13	58	34	0.24
26.04.2024	N/24/04/5-0033	9	13	54	27	0.25
27.04.2024	N/24/04/5-0044	10	15	50	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 Tel/fax : 25432968. E-mail : mesbng@gmail.com, www.envtest.in



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(UNIT OF MINERAL ENGINEERING SERVICES LLP)

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Recognised by MoEFCC(CPCB) under E(P) Act 1986 recognition valid upto 23.05.2025

## 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. 2679						
Sample Collected by : Environmental Laboratory (Unit of Mineral Engineering Services)						
Station at & Code : A2, Core Zone (Myadara Banda Block)						
Duration : 24 Hrs						
Issue date : 02.04.2024						
Reference IS 5182 & Lab SOP						
Date of Sampling	Lab Code	Sulphur Dioxide (SO <sub>2</sub> ), µg/m <sup>3</sup>	Nitrogen Dioxide (NO <sub>2</sub> ), µg/m <sup>3</sup>	Particulate Matter		Carbon Monoxide* (CO), mg/m <sup>3</sup>
				PM <sub>10</sub> , (µg/m <sup>3</sup> )	PM <sub>2.5</sub> , (µg/m <sup>3</sup> )	
03.04.2024	N/24/04/2-0055	9	17	43	27	0.26
04.04.2024	N/24/04/2-0060	9	10	46	24	0.33
10.04.2024	N/24/04/2-0170	12	15	51	26	0.28
11.04.2024	N/24/04/2-0176	8	13	47	24	0.21
17.04.2024	N/24/04/3-00190	7	16	40	27	0.26
18.04.2024	N/24/04/3-00201	12	10	50	29	0.31
26.04.2024	N/24/04/5-0034	12	15	41	23	0.35
27.04.2024	N/24/04/5-0045	9	13	56	31	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

*Arushi 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 Tel/fax : 25432968. E-mail : mesbng@gmail.com, www.envtest.in





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Recognised by MoEFCC(CPCB) under E(P) Act 1986 recognition valid upto 23.05.2025

## 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. 2679						
Sample Collected by : Environmental Laboratory (Unit of Mineral Engineering Services)						
Station at & Code : A3, Core Zone (Governor Point)						
Duration : 24 Hrs						
Issue date : 02.05.2024						
Reference IS 5182 & Lab SOP						
Date of Sampling	Lab Code	Sulphur Dioxide (SO <sub>2</sub> ), µg/m <sup>3</sup>	Nitrogen Dioxide (NO <sub>2</sub> ), µg/m <sup>3</sup>	Particulate Matter		Carbon Monoxide* (CO), mg/m <sup>3</sup>
				PM <sub>10</sub> , (µg/m <sup>3</sup> )	PM <sub>2.5</sub> , (µg/m <sup>3</sup> )	
03.04.2024	N/24/04/2-0056	8	12	36	21	0.22
04.04.2024	N/24/04/2-0061	9	13	48	25	0.26
10.04.2024	N/24/04/2-0171	12	17	52	29	0.35
11.04.2024	N/24/04/2-0177	10	15	50	29	0.31
17.04.2024	N/24/04/3-00191	8	12	48	26	0.28
18.04.2024	N/24/04/3-00202	12	13	55	33	0.25
26.04.2024	N/24/04/5-0035	8	12	50	28	0.36
27.04.2024	N/24/04/5-0046	11	14	47	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.

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Recognised by MoEFCC(CPCB) under E(P) Act 1986 recognition valid upto 23.05.2025

## 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. 2679						
Sample Collected by : Environmental Laboratory (Unit of Mineral Engineering Services)						
Station at & Code : A4, Core Zone (Neerlabi)						
Duration : 24 Hrs						
Issue date : 02.05.2024						
Reference IS 5182 & Lab SOP						
Date of Sampling	Lab Code	Sulphur Dioxide (SO <sub>2</sub> ), µg/m <sup>3</sup>	Nitrogen Dioxide (NO <sub>2</sub> ), µg/m <sup>3</sup>	Particulate Matter		Carbon Monoxide* (CO), mg/m <sup>3</sup>
				PM <sub>10</sub> , (µg/m <sup>3</sup> )	PM <sub>2.5</sub> , (µg/m <sup>3</sup> )	
03.04.2024	N/24/04/2-0057	9	11	53	28	0.27
04.04.2024	N/24/04/2-0062	8	19	48	25	0.29
10.04.2024	N/24/04/2-0172	9	10	43	21	0.32
11.04.2024	N/24/04/2-0178	12	16	53	29	0.33
17.04.2024	N/24/04/3-00192	8	14	50	27	0.25
18.04.2024	N/24/04/3-00203	11	17	57	34	0.21
26.04.2024	N/24/04/5-0036	7	12	51	29	0.32
27.04.2024	N/24/04/5-0047	9	15	56	34	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*  
ARSHIYA KOUSAR  
Dy. T.M. - Chemical

Govt. Analyst / Authorised Signatory

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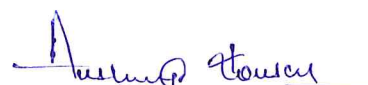
Recognised by MoEFCC(CPCB) under E(P) Act 1986 recognition valid upto 23.05.2025

## TEST REPORT

Table No.5

### AMBIENT AIR QUALITY

Name of the Client : The Sandur Manganese & Iron Ores Limited						
Name of the Project : Mining Lease No. 2679						
Sample Collected by : Environmental Laboratory (Unit of Mineral Engineering Services)						
Station at & Code : A5, Ramghad village						
Duration : 24 Hrs						
Issue date : 02.05.2024						
Reference IS 5182 & Lab SOP						
Date of Sampling	Lab Code	Sulphur Dioxide (SO <sub>2</sub> ), µg/m <sup>3</sup>	Nitrogen Dioxide (NO <sub>2</sub> ), µg/m <sup>3</sup>	Particulate Matter		Carbon Monoxide* (CO), mg/m <sup>3</sup>
				PM <sub>10</sub> , (µg/m <sup>3</sup> )	PM <sub>2.5</sub> , (µg/m <sup>3</sup> )	
03.04.2024	N/24/04/1-0073	12	15	54	26	<0.2
04.04.2024	N/24/04/1-0115	15	18	51	24	<0.2
10.04.2024	N/24/04/2-0101	16	20	58	26	<0.2
11.04.2024	N/24/04/2-0189	13	17	61	32	<0.2
17.04.2024	N/24/04/3-00162	14	16	54	27	<0.2
18.04.2024	N/24/04/3-00212	11	15	59	29	<0.2
26.04.2024	N/24/04/5-0007	13	17	58	25	<0.2
27.04.2024	N/24/04/5-0058	16	16	52	28	<0.2
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  
Dy. T.M. - Chemical

Govt. Analyst / Authorised Signatory

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## TEST REPORT

Table No.6

### AMBIENT AIR QUALITY

<b>Name of the Client : The Sandur Manganese &amp; Iron Ores Limited</b> <b>Name of the Project : Mining Lease No. 2679</b> <b>Sample Collected by : Environmental Laboratory (Unit of Mineral Engineering Services)</b> <b>Station at &amp; Code : A6, Dharmapura village</b> <b>Duration : 24 Hrs</b> <b>Issue date : 02.05.2024</b> <b>Reference IS 5182 &amp; Lab SOP</b>						
Date of Sampling	Lab Code	Sulphur Dioxide (SO <sub>2</sub> ), µg/m <sup>3</sup>	Nitrogen Dioxide (NO <sub>2</sub> ), µg/m <sup>3</sup>	Particulate Matter		Carbon Monoxide* (CO), mg/m <sup>3</sup>
				PM <sub>10</sub> , (µg/m <sup>3</sup> )	PM <sub>2.5</sub> , (µg/m <sup>3</sup> )	
03.04.2024	N/24/04/1-0065	13	15	48	29	0.23
04.04.2024	N/24/04/1-0108	10	14	58	33	0.33
10.04.2024	N/24/04/2-0094	10	12	54	28	0.21
11.04.2024	N/24/04/2-0181	9	10	50	26	0.25
17.04.2024	N/24/04/3-00157	12	13	44	30	0.27
18.04.2024	N/24/04/3-00207	14	15	56	34	0.26
26.04.2024	N/24/04/5-0002	12	16	54	29	0.22
27.04.2024	N/24/04/5-0053	10	14	61	33	0.31
<b>Limits for Industrial , Residential, Rural and other Areas</b>		<b>80</b> 24 Hrs	<b>80</b> 24 Hrs	<b>100</b> 24 Hrs	<b>60</b> 24 Hrs	<b>2</b> 8 Hr

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

Govt. Analyst / Authorised Signatory

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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. 2679						
Sample Collected by : Environmental Laboratory (Unit of Mineral Engineering Services)						
Station at & Code : A7, Garaga village						
Duration : 24 Hrs						
Issue date : 02.05.2024						
Reference IS 5182 & Lab SOP						
Date of Sampling	Lab Code	Sulphur Dioxide (SO <sub>2</sub> ), µg/m <sup>3</sup>	Nitrogen Dioxide (NO <sub>2</sub> ), µg/m <sup>3</sup>	Particulate Matter		Carbon Monoxide* (CO), mg/m <sup>3</sup>
				PM <sub>10</sub> , (µg/m <sup>3</sup> )	PM <sub>2.5</sub> , (µg/m <sup>3</sup> )	
03.04.2024	N/24/04/2-0058	11	13	45	26	0.26
04.04.2024	N/24/04/2-0063	12	19	49	19	0.35
10.04.2024	N/24/04/2-0173	10	13	50	27	0.33
11.04.2024	N/24/04/2-0179	9	11	45	23	0.31
17.04.2024	N/24/04/3-00193	13	17	48	25	0.22
18.04.2024	N/24/04/3-00204	9	11	53	29	0.26
26.04.2024	N/24/04/5-0037	10	18	55	33	0.27
27.04.2024	N/24/04/5-0048	12	13	44	21	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

Govt. Analyst / Authorised Signatory

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

Phone : 080-25432969 Tel/fax : 25432968. E-mail : mesbng@gmail.com, www.envtest.in



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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. 2679						
Sample Collected by : Environmental Laboratory (Unit of Mineral Engineering Services)						
Station at & Code : A8, Yeswanthanagar						
Duration : 24 Hrs						
Issue date : 02.05.2024						
Reference IS 5182 & Lab SOP						
Date of Sampling	Lab Code	Sulphur Dioxide (SO <sub>2</sub> ), µg/m <sup>3</sup>	Nitrogen Dioxide (NO <sub>2</sub> ), µg/m <sup>3</sup>	Particulate Matter		Carbon Monoxide* (CO), mg/m <sup>3</sup>
				PM <sub>10</sub> , (µg/m <sup>3</sup> )	PM <sub>2.5</sub> , (µg/m <sup>3</sup> )	
03.04.2024	N/24/04/1-0066	11	13	43	32	<0.2
04.04.2024	N/24/04/1-0109	14	18	59	33	0.23
10.04.2024	N/24/04/2-0095	8	10	57	30	0.31
11.04.2024	N/24/04/2-0182	11	16	54	29	0.40
17.04.2024	N/24/04/3-00158	12	14	50	26	0.28
18.04.2024	N/24/04/3-00208	10	12	53	35	0.33
26.04.2024	N/24/04/5-0003	11	15	48	27	0.28
27.04.2024	N/24/04/5-0054	10	16	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

Govt. Analyst / Authorised Signatory

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

Phone : 080-25432969 Tel/fax : 25432968. E-mail : mesbng@gmail.com, www.envtest.in





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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. 2679						
Sample Collected by : Environmental Laboratory (Unit of Mineral Engineering Services)						
Station at & Code : A9, Subbarayanahalli						
Duration : 24 Hrs						
Issue date : 02.05.2024						
Reference IS 5182 & Lab SOP						
Date of Sampling	Lab Code	Sulphur Dioxide (SO <sub>2</sub> ), µg/m <sup>3</sup>	Nitrogen Dioxide (NO <sub>2</sub> ), µg/m <sup>3</sup>	Particulate Matter		Carbon Monoxide* (CO), mg/m <sup>3</sup>
				PM <sub>10</sub> , (µg/m <sup>3</sup> )	PM <sub>2.5</sub> , (µg/m <sup>3</sup> )	
03.04.2024	N/24/04/1-0067	6	12	45	34	<0.2
04.04.2024	N/24/04/1-0110	8	10	55	33	<0.2
10.04.2024	N/24/04/2-0096	6	15	63	30	<0.2
11.04.2024	N/24/04/2-0183	9	10	53	31	<0.2
17.04.2024	N/24/04/3-00159	11	16	65	23	<0.2
18.04.2024	N/24/04/3-00209	12	16	50	25	<0.2
26.04.2024	N/24/04/5-0004	11	13	52	29	<0.2
27.04.2024	N/24/04/5-0055	9	14	46	23	<0.2
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 Tel/fax : 25432968. E-mail : mesbng@gmail.com, www.envtest.in





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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. 2679						
Sample Collected by : Environmental Laboratory (Unit of Mineral Engineering Services)						
Station at & Code : A10, Siddapura village						
Duration : 24 Hrs						
Issue date : 02.05.2024						
Reference IS 5182 & Lab SOP						
Date of Sampling	Lab Code	Sulphur Dioxide (SO <sub>2</sub> ), µg/m <sup>3</sup>	Nitrogen Dioxide (NO <sub>2</sub> ), µg/m <sup>3</sup>	Particulate Matter		Carbon Monoxide* (CO), mg/m <sup>3</sup>
				PM <sub>10</sub> , (µg/m <sup>3</sup> )	PM <sub>2.5</sub> , (µg/m <sup>3</sup> )	
08.04.2024	N/24/04/2-0080	11	12	63	34	0.30
10.04.2024	N/24/04/2-0174	10	11	50	29	0.24
17.04.2024	N/24/04/3-00194	12	13	52	27	0.36
18.04.2024	N/24/04/3-00205	14	18	56	28	0.25
24.04.2024	N/24/04/4-0171	13	15	46	24	0.26
25.04.2024	N/24/04/4-0178	9	11	51	25	0.22
29.04.2024	N/24/05/1-0021	10	14	56	32	0.25
30.04.2024	N/24/05/1-0026	12	16	54	27	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

*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 Tel/fax : 25432968. E-mail : mesbng@gmail.com, www.envtest.in



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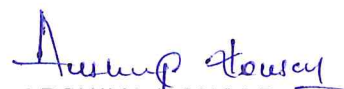
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## TEST REPORT

Table No. 11

### Fugitive Emission

<b>Name of the Client</b> : The Sandur Manganese & Iron Ores Limited <b>Name of the Project</b> : Mining Lease No. 2679 <b>Sample Collected by</b> : Environmental Laboratory (Unit of Mineral Engineering Services) <b>Duration</b> : 08 Hrs <b>Issue Date</b> : 02.05.2024			
Station at & Code	Date of sample	Lab Code	Particulate mater ( $\mu\text{g}/\text{m}^3$ )
FA1, Loading point	26.04.2024	N/24/04/5-0038	415
FA2, Dumping point	26.04.2024	N/24/04/5-0039	526
FA3, Haulage Road	26.04.2024	N/24/04/5-0040	496
FA4, Stack Yard	27.04.2024	N/24/04/5-0049	288
FA5, Drilling Point	27.04.2024	N/24/04/5-0050	380
FA6, Waste Point	27.04.2024	N/24/04/5-0051	340
Ref : Environmental (Protection) Rules, 2010 (Sixth Amendment)  <div style="text-align: right;"> <b>Particulate mater ( <math>\mu\text{g}/\text{m}^3</math> )</b>   <b>Permissible limits for Fugitive Emissions</b>      600 <math>\mu\text{g}/\text{m}^3</math> </div>			

  
 ARSHIYA KOUSAR  
 Dy. T.M. - Chemical

Govt. Analyst / Authorised Signatory

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

Phone : 080-25432969 Tel/fax : 25432968. E-mail : mesbng@gmail.com, www.envtest.in





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## TEST REPORT

Table No. 12

### 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. 2679
3	Month	01.04.2024 to 30.04.2024
4	Sample Type	Total Dust Fall Rate
5	Duration of Monitoring	One Month
6	Issue Date	02.05.2024

### Result

Code	Location	Result	unit	Reference Method
DF1	Mine Office Area	0.015	g/m <sup>2</sup> month	IS 5182 (Part 01) : 2006
DF2	Near Crusher Area	0.021	g/m <sup>2</sup> month	IS 5182 (Part 01) : 2006

*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 Tel/fax : 25432968. E-mail : mesbng@gmail.com, www.envtest.in



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## TEST REPORT

Table No. 13

### AMBIENT NOISE LEVEL DATA

Report No : M002240405

Name of the Client		: The Sandur Manganese & Iron Ores Limited					
Name of the Project		: Mining Lease No. 2679					
Sample Collected by		: Environmental Laboratory (Unit of Mineral Engineering Services)					
Date of monitoring		: 26.04.2024					
Issue Date		: 02.05.2024					
Code No.	Monitoring stations	Day			Night		
		L <sub>min</sub>	L <sub>eq</sub>	L <sub>max</sub>	L <sub>min</sub>	L <sub>eq</sub>	L <sub>max</sub>
Corezone							
N1	Core zone ML Area	40.0	50.6	58.0	35.0	42.3	46.3
N2	Myadara Banda Block	39.0	47.2	53.0	34.5	41.2	44.0
N3	Goerner Point	42.0	51.3	57.6	35.0	42.2	46.0
N4	Neerlabbi	40.0	52.5	59.0	35.0	43.0	48.3
Buffer zone							
N5	Ramgad village	36.0	50.7	56.0	34.0	44.6	48.0
N6	Dharmapura	37.0	52.7	57.3	37.6	43.8	48.2
N7	Garaga village	36.0	49.0	53.7	34.0	39.5	44.0
N8	Yeshwanthanagar	40.0	52.6	58.4	34.0	42.8	47.0
N9	Subbarayanahalli	36.0	47.5	52.0	34.0	40.1	43.0
N10	Siddapura	39.0	53.0	59.0	34.0	43.4	49.0
<u>Permissible Limits of Ambient Noise Levels as per CPCB Guidelines</u>							
Leq. Limit dB(A)							
DayNight							
Industrial areas		75		70			
Commercial area		65		55			
Residential area		55		45			

*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 Tel/fax : 25432968. E-mail : mesbng@gmail.com, www.envtest.in





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## TEST REPORT

Table No.14

Name of the Client		: The Sandur Manganese & Iron Ores Limited					
Name of the Project		: Mining Lease No. 2679					
Sample Collected by		: Environmental Laboratory (Unit of Mineral Engineering Services)					
Particulars of sample collected		: SW1 - Ragavapura kere water, SW2 - Dhananayakana kere water					
		: SW3 - Narihalla Upstream water, SW4 - Narihalla Downstream water					
Date of sample collection		: 26.04.2024					
Ref:IS : 2296, 1982 Class C Norms (Stream Water Standards)							
Sample Code		SW1	SW2	SW3	SW4	Limits For Stream Water Standards	Method of Testing
SI.No.	Lab Code	Dry	Dry	Dry	Dry	6.5 to 8.5	IS:3025(Part-11)2022
	Parameters						
1	pH						
2	Colour (Hazen Units), Max						
3	Odour						
4	Total Dissolved Solids (mg/l), Max						
5	Total Suspended Solids, mg/l						
6	Dissolved Oxygen (as O <sub>2</sub> ), mg/l, Max						
7	Biochemical Oxygen Demand (as O <sub>2</sub> ), mg/l						
8	Oil & Greease, mg/l						
9	Total Hardness (as CaCO <sub>3</sub> ),mg/l,Max						
10	Sulphates as SO <sub>4</sub> (mg/l), Max						
11	Phosphates (as P), mg/l						
12	Chloride (as Cl),mg/l, Max						
13	Fluoride (as F),mg/l, Max						
14	Sulphide (as H <sub>2</sub> S) , mg/l, Max						
15	Boron (as B), mg/l, Max						
16	Iron (as Fe),mg/l, Max						
17	Percent of Sodium (%)						
18	Residual Sodium Carbonate (meq/l)						
19	Total Coliform, MPN/100ml						

"END OF REPORT"

  
 BINUMANI  
 T.M. - Microbiology  
 ARSHIYA KOUSAR  
 Dy. T.M. - Chemical  
 Govt. Analyst / Authorised Signatory

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

Phone : 080-25432969 Tel/fax : 25432968. E-mail : mesbng@gmail.com, www.envtest.in



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## TEST REPORT

Table No. 15

Name of the Client		: The Sandur Manganese & Iron Ores Limited					
Name of the Project		: Mining Lease No. 2679					
Sample Collected by		: Environmental Laboratory (Unit of Mineral Engineering Services)					
Particulars of sample collected		: GW1 - Project Site Core Zone Borewell water, GW2 - Ramghad Bore water, GW3 - Dharmapura Bore water					
Issue Date		: 02.05.2024					
Ref : IS:10500-2012 Norms Amendment - 4 (Drinking Water Standards)							
Date of sample collection		26.04.2024	26.04.2024	04.04.2024	Desirable Limits	Permissible Limits	Method of Testing
Lab Code		ED/24/04/4-0033	ED/24/04/4-0034	ED/24/04/1-0032			
Sample Code		GW1	GW2	GW3			
Sl. No.	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	6.50	6.30	7.63	6.5 to 8.5	6.5 - 8.5	IS:3025 (P-11) 2022
4	Turbidity, NTU, Max	1.2	0.9	2.38	1	5	IS:3025 (P-10):1984 RA 2017
5	Electrical Conductivity (µmhos/cm)	227.3	220.1	1295.0	--	--	IS 3025 (P-14)
6	Total Dissolved Solids, mg/l, Max	170.0	180.0	875.0	500	2000	IS:3025 (P-16):1984 RA2017
7	Aluminium (as Al), Max	0.016	0.02	<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	18.34	20.00	117.83	75	200	IS:3025 (P-40):1991 RA 2019
10	Copper (as Cu), mg/l, Max	0.052	0.046	<0.005	0.05	1.5	IS:3025 (P-2):2019
11	Chloride as Cl (mg/l), mg/l, Max	19.99	34.48	297.78	250	1000	IS:3025 (P-32) 1988 RA 2019
12	Fluoride (as F), mg/l, Max	0.20	<0.1	0.46	1	1.5	IS:3025 (P-60) 2008 RA 2019
13	Iron (as Fe), mg/l, Max	0.132	0.028	<0.005	1.0	1.0	IS:3025 (Part-2) 2019
14	Magnesium (as Mg), mg/l, Max	9.09	3.03	76.99	30	100	IS:3025 (P-46):1994 RA 2019
15	Manganese (as Mn), mg/l, Max	0.01	0.031	0.004	0.1	0.3	IS:3025 (P-2) 2019
16	Nitrates (as NO <sub>3</sub> ), mg/l, Max	<0.1	1.45	6.01	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 <sub>4</sub> ), mg/l, Max	1.40	1.40	249.20	200	400	IS:3025 (P-24) Sec 1 2022
19	Alkalinity (as CaCO <sub>3</sub> ), mg/l, Max	69.3	49.5	27.6	200	600	IS:3025 (P-23):1986 RA 2019
20	Total Hardness (as CaCO <sub>3</sub> ), mg/l, Max	80.0	60.0	630.0	200	600	IS:3025 (P-21):2009 RA 2019
21	Zinc (as Zn), mg/l, Max	0.021	0.471	<0.005	5	15	IS:3025 (P-2) 2019
22	Sodium, (as Na), mg/l, Max	7.5	14	10	--	--	IS:3025 (Part-45) 1993 RA2019
23	Potassium, (as K), mg/l, Max	<1.0	<1.0	<1.0	--	--	IS:3025 (Part-45) 1993 RA2019
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	0.007	0.007	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"

  
 BINUMANI  
 T.M. - Microbiology  
 ARSHIYA KOUSAR  
 Dy. T.M. - Chemical  
 Govt. Analyst / Authorised Signatory

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

Phone : 080-25432969 Tel/fax : 25432968. E-mail : mesbng@gmail.com, www.envtest.in





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## TEST REPORT

Table No. 16

Name of the Client		: The Sandur Manganese & Iron Ores Limited					
Name of the Project		: Mining Lease No. 2679					
Sample Collected by		: Environmental Laboratory (Unit of Mineral Engineering Services)					
Particulars of sample collected		: GW4 - Garaga Bore water, GW5 - Yeshwanthnagar Bore water, GW5 - Subbarayanahalli Bore water					
Issue Date		: 02.05.2024					
Ref : IS:10500-2012 Norms Amendment - 4 (Drinking Water Standards)							
Date of sample collection		26.04.2024	19.04.2024	19.04.2024	Desirable Limits	Permissible Limits	Method of Testing
Sl. No.	Lab Code	ED/24/04/4-0035	ED/24/04/3-0084	ED/24/04/3-0083			
	Sample Code	GW4	GW5	GW6			
	Parameters	Results					
1	Colour (Hazen Units)	<1	<1.0	<1.0	5	15	IS:3025 (P-4) 2021
2	Odour	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	IS:3025 (P-5) 2018
3	pH Value	7.48	7.07	7.14	6.5 to 8.5	6.5 - 8.5	IS:3025 (P-11) 2022
4	Turbidity, NTU, Max	0.7	1.0	0.3	1	5	IS:3025 (P-10) 1984 RA 2017
5	Electrical Conductivity (µmhos/cm)	968.3	2007.0	1874.0	--	--	IS 3025 (P-14)
6	Total Dissolved Solids, mg/l, Max	670.0	1360.0	1280.0	500	2000	IS:3025 (P-16) 1984 RA2017
7	Aluminium (as Al), Max	0.017	0.061	0.083	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	60.12	113.82	137.87	75	200	IS:3025 (P-40) 1991 RA 2019
10	Copper (as Cu), mg/l, Max	0.052	0.038	0.041	0.05	1.5	IS:3025 (P-2) 2019
11	Chloride as Cl (mg/l), mg/l, Max	181.44	484.37	366.11	250	1000	IS:3025 (P-32) 1988 RA 2019
12	Fluoride (as F), mg/l, Max	0.40	0.50	0.66	1	1.5	IS:3025 (P-60) 2008 RA 2019
13	Iron (as Fe), mg/l, Max	0.015	0.397	0.147	1.0	1.0	IS:3025 (Part-2) 2019
14	Magnesium (as Mg), mg/l, Max	40.40	5687.00	59.79	30	100	IS:3025 (P-46) 1994 RA 2019
15	Manganese (as Mn), mg/l, Max	0.005	1.811	0.027	0.1	0.3	IS:3025 (P-2) 2019
16	Nitrates (as NO <sub>3</sub> ), mg/l, Max	7.39	0.12	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 <sub>4</sub> ), mg/l, Max	51.60	93.00	227.80	200	400	IS:3025 (P-24) Sec 1 2022
19	Alkalinity (as CaCO <sub>3</sub> ), mg/l, Max	49.5	351.5	475.2	200	600	IS:3025 (P-23):1986 RA 2019
20	Total Hardness (as CaCO <sub>3</sub> ), mg/l, Max	310.0	518.0	590.0	200	600	IS:3025 (P-21):2009 RA 2019
21	Zinc (as Zn), mg/l, Max	0.025	0.061	0.16	5	15	IS:3025 (P-2) 2019
22	Sodium, (as Na), mg/l, Max	81	187	115	--	--	IS:3025 (Part-45) 1993 RA2019
23	Potassium, (as K), mg/l, Max	<1.0	5	<1.0	--	--	IS:3025 (Part-45) 1993 RA2019
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	0.008	<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"


  
 BINUMANI ARSHIYA KOUSAR  
 T.M. - Microbiology Dy. T.M. - Chemical  
 Govt. Analyst / Authorised Signatory

# 948, 2nd Cross, St. Thomas Town Post, Kammanahalli, Bangalore - 560 084.  
 Phone : 080-25432969 Tel/fax : 25432968. E-mail : mesbng@gmail.com, www.envtest.in



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## TEST REPORT

Table No. 17

Name of the Client		: The Sandur Manganese & Iron Ores Limited			
Name of the Project		: Mining Lease No. 2679			
Particulars of sample		: Soil Samples			
Sample Collected by		: Environmental Laboratory (Unit of Mineral Engineering Services)			
Sample Collected by		: Environmental Laboratory			
Date of sample collection		: 26.04.2024			
Issue Date		: 06.05.2024			
Lab Code			ED/24/04/5-0084	ED/24/04/5-0085	ED/24/04/5-0086
SL. No.	Sample Code		S1	S2	S3
	PARAMETERS	Unit	Results		
PHYSICAL PROPERTIES					
1	Colour	--	Red soil	Red soil	Red Soil
2	Textural class	--	Clay Loam	Clay Loam	Sandy Loam
3	Size Distribution				
	Sand	%	34.36	32.48	45.3
	Clay	%	30.49	20.48	22.66
	Silt	%	34.37	47.04	35.32
4	Moisture Content	%	4.88	5.66	6.88
5	Bulk Density	gm/cc	1.63	1.72	1.9
6	Water holding capacity	%	30.28	28.63	46
7	pH	--	6.32	7.36	7.46
8	EC	m.mohs/cm	0.279	0.112	0.670
Chemical Properties					
9	Organic Carbon	%	0.38	0.13	0.72
10	Nitrogen as N	Kg/Ha	180	156	132
11	Phosphorous as P	Kg/Ha	7.62	7.66	36
12	Potassium as K <sub>2</sub> O	Kg/Ha	156	118	140
13	Sodium as Na	mg/kg	33	54	32
14	Chloride as Cl	mg/kg	244	138	38
15	Sulphate as SO <sub>4</sub>	mg/kg	122	72	32
Sample Locations :					
S1 - Coe Zone (ML Area)					
S2 - Ramghad agriculture land					
S3 - Dharmapura agriculture land					

*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 Tel/fax : 25432968. E-mail : mesbng@gmail.com, www.envtest.in





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## TEST REPORT

Table No. 18

Name of the Client		: The Sandur Manganese & Iron Ores Limited			
Name of the Project		: Mining Lease No. 2679			
Particulars of sample		: Soil Samples			
Sample Collected by		: Environmental Laboratory   (Unit of Mineral Engineering Services)			
Date of sample collection		: 26.04.2024			
Issue Date		: 06.05.2024			
Lab Code			ED/24/04/5-0087	ED/24/04/3-0103	ED/24/04/3-0096
SL. No.	Sample Code		S4	S5	S6
	PARAMETERS	Unit	Results		
PHYSICAL PROPERTIES					
1	Colour	--	Red Soil	Red soil	Red Soil
2	Textural class	--	Sandy Loam	Clay Loam	Clay Loam
3	Size Distribution				
	Sand	%	40.25	40.60	30.64
	Clay	%	20.22	20.78	22.48
	Silt	%	32.58	32.23	46.90
4	Moisture Content	%	5.14	4.26	6.3
5	Bulk Density	gm/cc	1.47	1.46	1.88
6	Water holding capacity	%	38	38	24.63
7	pH	--	7.52	7.62	7.52
8	EC	m.mohs/cm	0.335	0.584	0.229
Chemical Properties					
9	Organic Carbon	%	0.41	0.44	0.19
10	Nitrogen as N	Kg/Ha	126	130	120
11	Phosphorous as P	Kg/Ha	42	46	6.91
12	Potassium as K <sub>2</sub> O	Kg/Ha	138	132	105
13	Sodium as Na	mg/kg	28	40	56
14	Chloride as Cl	mg/kg	32	36	128
15	Sulphate as SO <sub>4</sub>	mg/kg	30	38	32
Sample Locations :					
S4 - Garaga agriculture land					
S5 - Yeshwanthnagar agriculture land					
S6 - Subbarayanahalli agriculture land					

*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 Tel/fax : 25432968. E-mail : mesbng@gmail.com, www.envtest.in



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## TEST REPORT

Table No. 19

### Stack Monitoring Report

Report No. M01024045

Name of the Client : The Sandur Manganese & Iron Ores Limited				
Name of the Mine : Ramgad Manganese & Iron Ore Mine (ML NO. 2679)				
Location		: Mining Lease No. 2679		
Stack ID & Capacity		: DG Set 35 KVA Ramgad-KK1 Mines		
Sample Collected by		: Environmental Laboratory (Unit of Mineral Engineering Services)		
Date of Collection		: 29.04.2024		
Particulars of Sample Collected		: Emissions from stack collected through stack sample VSS1		
Date of Sample Receipt		: 30.04.2024		
Issue date		: 06.05.2024		
<b>STACK DETAILS</b>				
1	Fuel Used	Diesel		
2	Ambient Temperature (°C)	35		
3	Stack Temperature (°C)	110		
4	Velocity (m/s)	5.8		
5	Stack diameter (M)	0.15		
6	Quantity of flue Gas Discharged into atmosphere (Nm³/hr)	270		
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		
<b>Pollutional Parameters (Result)</b>				
Sl.No	Parameters	Unit	Results	Standard
1	Particulate Matter	g/Kw-hr	0.145	<0.2
2	CO	g/Kw-hr	0.10	<3.5
3	Nox +HC	g/Kw-hr	0.14	<4.0
INFERENCE		as per KSPCB <b>Report Status</b> - The measured values for the above parameters for those standards have been specified were observed to be within the said standards		

  
 ARSHIYA KOUSAR  
 Dy. T.M. - Chemical

Govt. Analyst / Authorised Signatory

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

Phone : 080-25432969 Tel/fax : 25432968. E-mail : mesbng@gmail.com, www.envtest.in





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### TEST REPORT

Table No. 20

#### Stack Monitoring Report

Report No. M01124045

Name of the Client : The Sandur Manganese & Iron Ores Limited				
Name of the Mine : Ramgad Manganese & Iron Ore Mine (ML NO. 2679)				
Location		: Mining Lease No. 2679		
Stack ID & Capacity		: DG Set 20 KVA Ramgad Mines		
Sample Collected by		: Environmental Laboratory (Unit of Mineral Engineering Services)		
Date of Collection		: 29.04.2024		
Particulars of Sample Collected		: Emissions from stack collected through stack sample VSS1		
Date of Sample Receipt		: 30.04.2024		
Issue date		: 06.05.2024		
STACK DETAILS				
1	Fuel Used	Diesel		
2	Ambient Temperature (°C)	35		
3	Stack Temperature (°C)	131		
4	Velocity (m/s)	2.4		
5	Stack diameter (M)	0.15		
6	Quantity of flue Gas Discharged into atmosphere (Nm <sup>3</sup> /hr)	107		
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	0.107	<0.2
2	CO	g/Kw-hr	0.05	<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

*Arushi 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 Tel/fax : 25432968. E-mail : mesbng@gmail.com, www.envtest.in