

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

No: SMIORE/MN/080525/ 174

08 May 2025

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

Dear Sir,


Sub: Submission of reports pertaining to monitoring of environmental parameters for the month of April 2025 in respect of Mining Lease No. 2679.

Ref: 1. EC Identification No. EC24B0000KA5391575N dated 01 September 2024.
2. Consent for Operation No. AW-337273 dated 10 April 2023.

With reference to the letter cited above, we are enclosing herewith environmental monitoring reports from NABET accredited and MoEFCC empaneled laboratory M/s Mineral Engineering Services as per stipulated environmental parameters in Environmental Clearance and Consent for Operation-Expansion for the month of April 2025 in respect of Mining Lease No. 2679, Ramghad Manganese & Iron Ore Mine of The Sandur Manganese & Iron Ores Limited.

Kindly request you to acknowledge receipt of the reports and oblige.

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


Krishna Reddy
Vice President - Mines



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 LLP)**

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: 24/05/2025

Valid Until: 23/05/2027

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)

Name of Legal Entity: MINERAL ENGINEERING SERVICES LLP

Signed for and on behalf of NABL




Anuja Anand
Director


N. Venkateswaran
Chief Executive Officer



LIFE
Lifestyle For
Environment



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

12th June 2025

F. No. LB/99/7/2021-INST LAB-HO-CPCB-HO/Pvt./554

Recognition Letter

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

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

Sir,

With reference to your application dated 19/03/2025 along with acceptance of the terms & conditions of the guidelines for recognition of environmental laboratories under the Environmental (Protection) Act, 1986, submitted to Central Pollution Control Board (CPCB), the Competent Authority of CPCB has accorded approval for renewal of recognition of Environmental laboratory and Govt. Analysts. Subsequently, M/s **Environmental Laboratory (Unit of Mineral Engineering Services), 948 2nd Cross St Thomas Town Post, Kammanahalli, Bengaluru-560084, Karnataka** shall be notified considering the current requirement of mandatory accreditation / certifications of the laboratory with a validity up to 23/05/2028 (for three years), subject to validity of ISO/IEC 17025 and IS/ISO 45001.

2. The following analysts have been approved as Government Analysts:

1. Sh. M. Sachin Raju
2. Smt. Arshiya Kousar
3. Smt. Binu Mani

3. The laboratory should compulsorily follow the accepted terms and conditions and may undertake the following tests:

- a) **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 (SVI).
- b) **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, Cyanide, Silica and Sulphide.
- c) **Inorganic (Trace Metals):** Boron, Cadmium, Calcium, Total Chromium, Chromium Hexavalent, Copper, Iron, Lead, Magnesium, Mercury, Nickel, Potassium, Sodium, Sodium Absorption Ratio (SAR), Zinc, Arsenic, Aluminium, Antimony, Barium, Cobalt, Selenium, Silver, Tin and Vanadium.
- d) **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), Poly-Chlorinated Biphenyl (PCB's) each, Polynuclear Aromatic Hydrocarbon (PAH), Surfactants and Tannin & Lignin.
- e) **Microbiological Test:** Total Coliform, Faecal Coliform, *E. coli*, Faecal Streptococci and Total Plate Count.
- f) **Toxicological Tests:** Bioassay Method for Evaluation of Toxicity Using Fish (90% survival of fish after 96 hrs in 100% effluent) and Measurement of toxicity using Daphnia or other organism.

contd.

‘परिवेश भवन’ पर्वी अर्जुन नगर, दिल्ली-110032

Parivesh Bhawan, East Arjun Nagar, Delhi-110032

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



- g) **Biological Test:** Macrophytic Identification, Planktonic Identification Count and Chlorophyll.
- h) **Characterization of Hazardous Waste:** Corrosivity, Ignibility (Flash Point) and Measurement of Heavy Metals/Pesticides in the Waste/Leachate.
- i) **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, Potash(Available), Sulphate, Sulphur, Total Organic Carbon (TOC), Total Water Soluble Salt and Water Holding Capacity.
- j) **Ambient Air/ Fugitive Emissions:** Nitrogen Dioxide (NO₂), Sulphur Dioxide (SO₂), Total Suspended Particulate Matter, Respirable Suspended Particulate Matter (PM₁₀), Ammonia, Carbon monoxide, Chlorine, Lead, Ozone, Benzene Toluene Xylene (BTX), Polycyclic Aromatic Hydrocarbon (PAH) Benzo-a-Pyrene & others and PM_{2.5}.
- k) **Stack Gases/ Source Emission:** Particulate Matter, Sulphur Dioxide, Velocity & Flow, Carbon Dioxide, Carbon Monoxide, Temperature, Oxygen, Oxides of Nitrogen, Acid Mist, Ammonia, Chlorine, Total Hydrocarbon, Hydrogen Sulphide and Carbon Disulphide.
- l) **Noise Level:** Noise level measurement (20 to 140 dba) and Ambient Noise & Source Specific Noise.
- m) **Meteorological:** Ambient Temperature, Wind Direction, Wind Speed, Relative Humidity, Solar Radiation and Rain Fall.
4. The laboratory shall compulsorily participate in the Analytical Quality Control (AQC) Exercise conducted by the CPCB to ascertain the capability of the laboratory and analysts. The lab shall submit quarterly progress report on the sample analysis carried out to CPCB.
5. The surprise inspection / periodic surveillance of the recognized environment laboratory will be undertaken to assess its proper functioning systematic operation and reliability of data generated at the laboratory by a Joint Team as per the Notification.
6. The laboratory should have the mandatory requisite accreditation and certificate of the ISO: 17025 and ISO: 45001 as per rules. This recognition is subject to such accreditations and renewals as applicable and 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.
7. **M/s Environmental Laboratory (Unit of Mineral Engineering Services), Bengaluru, Karnataka** is required to apply for further renewal of recognition through online using CPCB web portal (<https://cpcbepalab.in/epalab>) before expiry of recognition with mandatory accreditation / certification concerned.

Yours faithfully,

MNSI
12/6/2024
Divisional Head
Instrumentation Laboratory

फा. सं. एलबी-2021/7/99/इंस्टलैब-एचओ-सीपीसीबी-एचओ / प्राइवेट / 554

मान्यता पत्र

सेवा में,

प्रयोगशाला प्रमुख,
मैसर्स एनवायरनमेंटल लैबोरेटरी (यूनिट ऑफ मिनरल इंजीन्यरिंग सर्विसेस एलएलपी),
948 दूसरी क्रॉस सेंट थॉमस टाउन पोस्ट,
कम्पनहल्ली, बेंगलुरु-560084,
कर्नाटक।

विषय: पर्यावरण (संरक्षण) अधिनियम, 1986 के अंतर्गत पर्यावरणीय प्रयोगशाला के रूप में मैसर्स एनवायरनमेंटल लैबोरेटरी (यूनिट ऑफ मिनरल इंजीन्यरिंग सर्विसेस एलएलपी), 948 दूसरी क्रॉस सेंट थॉमस टाउन पोस्ट, कम्पनहल्ली, बेंगलुरु-560084, कर्नाटक की मान्यता के बारे में।

महोदय,

केंद्रीय प्रदूषण नियंत्रण बोर्ड (के.प्र.नि.बोर्ड) को पर्यावरण (संरक्षण) अधिनियम, 1986 के अंतर्गत पर्यावरण प्रयोगशालाओं की मान्यता के लिए दिशानिर्देशों के निबंधन और शर्तों की स्वीकृति के साथ आपके दिनांक 19/03/2025 के प्रस्तुत आवेदन के संदर्भ में, के.प्र.नि.बोर्ड के सक्षम प्राधिकारी ने पर्यावरण प्रयोगशाला और सरकार के विश्लेषक की मान्यता के नवीनीकरण को अनुमोदन प्रदान किया है। तदनुसार, मैसर्स एनवायरनमेंटल लैबोरेटरी (यूनिट ऑफ मिनरल इंजीन्यरिंग सर्विसेस एलएलपी), 948 दूसरी क्रॉस सेंट थॉमस टाउन पोस्ट, कम्पनहल्ली, बेंगलुरु-560084, कर्नाटक को भारत की राजपत्र अधिसूचना में प्रयोगशाला की अनिवार्य प्रत्यायन/प्रमाणन की वर्तमान अपेक्षा को ध्यान में रखते हुए दिनांक 23/05/2028 (तीन साल) तक आईएसओ/ आईईसी 17025 और आईएस/आईएसओ 45001 की वैधता के साथ अधिसूचित किया जाएगा।

2. निम्नलिखित विश्लेषकों को सरकारी विश्लेषक के रूप में अनुमोदित किया गया है:

1. श्री. एम. सचिन राजू
2. श्रीमती अर्शिया कौसर
3. श्रीमती. बिनु मणि

3. प्रयोगशाला अनिवार्य रूप से स्वीकृत निबंधन और शर्तों का पालन करते हुए निम्नलिखित परीक्षणों करेगी:

- क. **भौतिक परीक्षण:** चालकता, रंग, पीएच, स्थिर और वाष्पशील ठोस, कुल ठोस, कुल विलीन ठोस, कुल निलंबित ठोस, आविलता, तापमान, वेग एवं निर्वहन औद्योगिक बहिःस्राव धारा का विसर्जन मापन, फ्लोक्यूलेशन टेस्ट (जार टेस्ट), गंध, लवणता, निपटान योग्य ठोस और आपंक वॉल्यूम इंडेक्स (एसवीआई)।
- ख. **अकार्बनिक (सामान्य और गैर-धात्विक):** अम्लता, क्षारीयता, अमोनिकल नाइट्रोजन, क्लोराइड, क्लोरीन अवशिष्ट, विलीन ऑक्सीजन, फ्लोराइड, कुल कठोरता, कुल केजेलडहल नाइट्रोजन (टीकेएन), नाइट्राइट नाइट्रोजन, नाइट्रेट नाइट्रोजन, फॉस्फेट, सल्फेट, साइनाइड, सिलिका और सल्फाइड।
- ग. **अकार्बनिक (सूक्ष्म मात्रिक धातु):** बोरोन, कैडमियम, कैल्शियम, टोटल क्रोमियम, क्रोमियम हेक्सावैलेंट, तांबा, लोहा, सीसा, मैग्नीशियम, पारा, निकल, पोटेशियम, सोडियम, सोडियम अवशोषण अनुपात (एसएआर), जिंक, आर्सेनिक, एल्युमीनियम, एंटीमनी, बेरियम, कोबाल्ट, सेलेनियम, सिल्वर, टिन और वैनेडियम।
- घ. **ऑर्गेनिक्स (सामान्य) और ट्रेस ऑर्गेनिक्स:** बायोकेमिकल ऑक्सीजन डिमांड (बीओडी), रासायनिक ऑक्सीजन डिमांड (सीओडी), तेल और ग्रीस, फेनोलिक यौगिक, कीटनाशक (प्रत्येक) (ऑर्गेनो-क्लोरीन और ऑर्गेनो नाइट्रोजन-फॉस्फोरस), पॉली-क्लोरीनेटेड बाइफिनाइल (पीसीबी) (प्रत्येक), पॉलीन्यूक्लियर एरोमैटिक हाइड्रोकार्बन (पीएच), सर्फेक्टेंट और टैनिन & लिग्निन।
- ङ. **सूक्ष्म जीवविज्ञान परीक्षण:** टोटल कोलीफॉर्म, फीकल कोलीफॉर्म, ई.कोली, फीकल स्ट्रेप्टोकोक्की, स्ट्रेप्टोकोक्की और टोटल प्लेट काउंट।
- च. **आविष विज्ञानी परीक्षण:** मछली का उपयोग करके विषाक्तता के मूल्यांकन के लिए जैव परख विधि (100% प्रवाह में 96 घंटे के बाद मछली का 90% जीवित रहना), और डैफ़निया या अन्य जीव का उपयोग करके विषाक्तता का मापन।

जारी.

- छ. **जैविक परीक्षण:** मैक्रोफाइटिक पहचान, प्लवक पहचान गणना और क्लोरोफिल।
- ज. **परिसंकटमय अपशिष्ट का लक्षण वर्णन:** संक्षारकता, ज्वलनशीलता (फ्लैश प्वाइंट) और अपशिष्ट & निक्षालक में भारी धातुओं/पीड़कनाशियों का मापन।
- झ. **मृदा/आपंक/तलछट और ठोस अपशिष्ट:** बोरॉन, कटियन एक्सचेंज क्षमता (सीईसी), विद्युत चालकता, नाइट्रोजन (उपलब्ध), कार्बनिक कार्बन/पदार्थ (रासायनिक विधि), पीएच, फास्फोरस (उपलब्ध), फॉस्फेट (ऑर्थो), फॉस्फेट (कुल), पोटेशियम, मृदा के अर्क में एसएआर, सोडियम, मृदा की नमी, टीकेएन, कैलोरी मान, अमोनिया, बाइकार्बोनेट, कैल्शियम, कैल्शियम कार्बोनेट, क्लोराइड, रंग, एच एसिड, भारी धातु, मैग्नीशियम, नाइट्रेट, नाइट्राइट, पोटेश (उपलब्ध), सल्फेट, सल्फर, कुल कार्बनिक कार्बन (टीओसी), कुल पानी में घुलनशील नमक और जल धारण क्षमता।
- ञ. **परिवेशी वायु/पलायक उत्सर्जन:** नाइट्रोजन डाइऑक्साइड (एनओ₂), सल्फर डाइऑक्साइड (एसओ₂), कुल निलंबित विविक्त कण, श्वसन योग्य निलंबित कण पदार्थ (पीएम₁₀), अमोनिया, कार्बन मोनोऑक्साइड, क्लोरीन, सीसा, ओजोन, बेंजीन टोल्यूनि जाइलीन (बीटीएक्स), पॉलीसाइक्लिक एरोमैटिक हाइड्रोकार्बन (पीएच) बेंजो-ए-पाइरिन और अन्य और पीएम_{2.5}।
- ट. **चिमनी गैसें/स्रोत उत्सर्जन:** पार्टिकुलेट मैटर, सल्फर डाइऑक्साइड, वेग और प्रवाह, कार्बन डाइऑक्साइड, कार्बन मोनोऑक्साइड, तापमान, ऑक्सीजन, नाइट्रोजन के ऑक्साइड, एसिड धुंध, अमोनिया, कुल हाइड्रोकार्बन, हाइड्रोजन सल्फाइड और कार्बन डाइसल्फाइड।
- ठ. **रव (शोर) स्तर:** शोर स्तर माप (20 से 140 डीबीए) और परिवेश रव & स्रोत विशिष्ट रव।
- ड. **मौसम संबंधी:** परिवेश का तापमान, हवा की दिशा, हवा की गति, सापेक्ष आर्द्रता, सौर विकिरण और वर्षा।

4. प्रयोगशाला और विश्लेषकों की क्षमता का पता लगाने के लिए प्रयोगशाला को के.प्र.नि. बोर्ड द्वारा आयोजित विश्लेषणात्मक गुणवत्ता नियंत्रण) एक्ज्यूसी (अभ्यास में अनिवार्य रूप से भाग लेना होगा। प्रयोगशाला किए गए नमूना विश्लेषण पर के.प्र.नि. बोर्ड को तिमाही प्रगति रिपोर्ट प्रस्तुत करेगी।
5. अधिसूचना के अनुसार, एक संयुक्त दल द्वारा मान्यता प्राप्त पर्यावरण प्रयोगशाला का औचक निरीक्षण/आवधिक निगरानी उस के उचित कामकाज, व्यवस्थित प्रचालन और प्रयोगशाला में तैयार किए गए आंकड़ों की विश्वसनीयता का निर्धारण करने के लिए की जाएगी।
6. प्रयोगशाला के पास नियमानुसार ISO/IEC: 17025)2017 (और IS/ ISO: 45001 का अपेक्षित प्रत्यायन और प्रमाण पत्र होना चाहिए। यह मान्यता यथा लागू प्रत्यायन और नवीनीकरण के अधीन है और किसी भी निबंधन और शर्तों के गंभीर गैर-अनुपालन के मामले में, प्रयोगशाला को न्यूनतम दो साल की अवधि के लिए ब्लैकलिस्ट किया जा सकता है और सरकार की ओर से अनधिकृत तरीके से कार्य करने के लिए, यथा लागू सिविल/आपराधिक कार्यवाही शुरू की जा सकती है।
7. **मैसर्स एनवायरनमेंटल लैबोरेटरी (यूनिट ऑफ मिनरल इंजीनियरिंग सर्विसेस एलएलपी), बेंगलुरु, कर्नाटक** को संबंधित अनिवार्य प्रत्यायन/प्रमाणीकरण के साथ मान्यता की समाप्ति से पूर्व केंद्रीय प्रदूषण नियंत्रण बोर्ड के वेबपोर्टल (<https://cpcbepalab.in/epalab>) का उपयोग कर के ऑनलाइन मान्यता के नवीनीकरण के लिए आवेदन करना अपेक्षित है।

भवदीय,
 12/6/2024
 प्रभागप्रमुख
 उपकरणीय प्रयोगशाला

ENVIRONMENTAL MONITORING REPORT

Project	Ramgad Manganese Ore Mine ML No. 2679
Location	Ramgad village, Sandur Taluk, Ballari Dist, Karnataka
Client	M/s. The Sandur Manganese & Iron Ores Limited
Office Address	Sandur, Ballari District, Karnataka
Monitoring Month	April -2025

ENVIRONMENTAL LABORATORY

(Unit of Mineral Engineering Services LLP)

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

#948, 2nd Cross, Kammanahalli Main Road,

St Thomas Town Post,

Bangalore- 560 084, Karnataka

LIST OF TABLES

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TEST REPORT

Table No.1

AMBIENT AIR QUALITY

Name of the Client : The Sandur Manganese & Iron Ores Limited
Name of the Project : Mining Lease No. 2679
Sample Collected by : Environmental Laboratory (Unit of Mineral Engineering Services LLP)
Particulars of sample collected : A1 - Core Zone (ML Area)
Duration : 24 Hrs
Issue date : 02.05.2025
Reference IS 5182 & Lab SOP

Date of Sampling	Report No	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)	
04.04.2025	N009025041	6	10	61	35	0.35
05.04.2025	N001525042	8	11	56	28	0.28
11.04.2025	N029225042	7	13	50	25	0.45
12.04.2025	N000125043	12	15	54	27	0.36
14.04.2025	N005025043	11	13	45	23	0.27
15.04.2025	N010325043	9	15	50	30	0.21
23.04.2025	N026925044	10	16	47	28	0.48
24.04.2025	N028525044	14	14	55	33	0.36
28.04.2025	N005025045	11	13	48	27	0.32
29.04.2025	N011825045	10	14	63	35	0.22
Limits for Industrial , Residential, Rural and other Areas		80 24 Hrs	80 24 Hrs	100 24 Hrs	60 24 Hrs	4 1 Hr

Note : * Parameters monitored for period of 1 hr

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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. 2679
Sample Collected by : Environmental Laboratory (Unit of Mineral Engineering Services LLP)
Particulars of sample collected : A2 - Core Zone (Myadara Banda Block)
Station & Code : & A2
Duration : 24 Hrs
Issue date : 02.05.2025
Reference IS 5182 & Lab SOP

Date of Sampling	Report No	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)	
04.04.2025	N009225041	11	12	53	26	0.33
05.04.2025	N001725042	9	11	46	26	0.42
11.04.2025	N029425042	10	13	56	32	0.28
12.04.2025	N000325043	11	15	50	27	0.26
14.04.2025	N005225043	13	15	48	29	0.21
15.04.2025	N010525043	10	14	40	25	0.31
23.04.2025	N027125044	10	12	54	28	0.41
24.04.2025	N028725044	9	10	50	26	0.22
28.04.2025	N005225045	12	13	44	30	0.28
29.04.2025	N012025045	14	15	36	21	0.31
Limits for Industrial , Residential, Rural and other Areas		80 24 Hrs	80 24 Hrs	100 24 Hrs	60 24 Hrs	4 1 Hr

Note : * Parameters monitored for period of 1 hr

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TEST REPORT

Table No.3

AMBIENT AIR QUALITY

Name of the Client : The Sandur Manganese & Iron Ores Limited
Name of the Project : Mining Lease No. 2679
Sample Collected by : Environmental Laboratory (Unit of Mineral Engineering Services LLP)
Particulars of sample collected : A3 - Core Zone (Governor Point)
Duration : 24 Hrs
Issue date : 02.05.2025
Reference IS 5182 & Lab SOP

Date of Sampling	Report No	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)	
04.04.2025	N009325041	12	16	54	29	0.45
05.04.2025	N001825042	10	14	59	33	0.36
11.04.2025	N029525042	11	13	57	30	0.22
12.04.2025	N000425043	14	18	59	32	0.45
14.04.2025	N005325043	8	10	55	29	0.38
15.04.2025	N010625043	11	16	54	27	0.28
23.04.2025	N027225044	12	14	50	26	0.24
24.04.2025	N028825044	10	12	35	21	0.36
28.04.2025	N005325045	11	15	48	27	0.42
29.04.2025	N012125045	10	16	58	33	0.51
Limits for Industrial , Residential, Rural and other Areas		80 24 Hrs	80 24 Hrs	100 24 Hrs	60 24 Hrs	4 1 Hr

Note : * Parameters monitored for period of 1 hr

ARSHIYA KOUSAR
By T.M. - Chemical
Govt. Analyst / Authorised Signatory

Arshiyaa Kouasar
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Note : This report is subject to the terms and conditions mentioned overleaf.



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TEST REPORT

Table No.4

AMBIENT AIR QUALITY

Name of the Client : The Sandur Manganese & Iron Ores Limited
Name of the Project : Mining Lease No. 2679
Sample Collected by : Environmental Laboratory (Unit of Mineral Engineering Services LLP)
Particulars of sample collected : A4 - Core Zone (Neerlabi)
Duration : 24 Hrs
Issue date : 02.05.2025
Reference IS 5182 & Lab SOP

Date of Sampling	Report No	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)	
04.04.2025	N009425041	8	12	54	28	0.26
05.04.2025	N001925042	8	10	56	32	0.35
11.04.2025	N029625042	8	12	47	25	0.22
12.04.2025	N000525043	9	10	53	31	0.28
14.04.2025	N005425043	11	16	44	23	0.42
15.04.2025	N010725043	12	16	50	25	0.33
23.04.2025	N027325044	11	13	52	29	0.26
24.04.2025	N028925044	9	14	60	34	0.24
28.04.2025	N005425045	12	15	53	28	0.26
29.04.2025	N012225045	11	13	55	31	0.32
Limits for Industrial , Residential, Rural and other Areas		80 24 Hrs	80 24 Hrs	100 24 Hrs	60 24 Hrs	4 1 Hr

Note : * Parameters monitored for period of 1 hr

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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 LLP)
 Particulars of sample collected : A5 - Ramghad village
 Duration : 24 Hrs
 Issue date : 02.05.2025
 Reference IS 5182 & Lab SOP

Date of Sampling	Report No	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)	
04.04.2025	N009525041	14	16	44	29	0.44
05.04.2025	N002025042	13	15	50	25	0.35
11.04.2025	N029725042	9	12	57	33	0.25
12.04.2025	N000625043	11	14	54	27	0.36
14.04.2025	N005525043	9	13	58	28	0.24
15.04.2025	N010825043	10	14	61	33	0.12
23.04.2025	N027425044	11	16	41	24	0.20
24.04.2025	N029025044	12	18	53	29	0.25
28.04.2025	N005525045	10	11	48	26	0.31
29.04.2025	N012325045	7	9	44	24	0.27
Limits for Industrial , Residential, Rural and other Areas		80	80	100	60	4
		24 Hrs	24 Hrs	24 Hrs	24 Hrs	1 Hr

Note : * Parameters monitored for period of 1 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. 2679
 Sample Collected by : Environmental Laboratory (Unit of Mineral Engineering Services LLP)
 Particulars of sample collected : A6 - Dharmapura village
 Duration : 24 Hrs
 Issue date : 02.05.2025
 Reference IS 5182 & Lab SOP

Date of Sampling	Report No	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)	
04.04.2025	N009625041	12	14	54	32	0.36
05.04.2025	N002125042	10	12	47	28	0.33
11.04.2025	N029825042	13	15	49	25	0.25
12.04.2025	N000725043	7	9	53	26	0.41
14.04.2025	N005625043	10	12	50	29	0.25
15.04.2025	N010925043	9	11	48	27	0.36
23.04.2025	N027525044	14	16	50	28	0.24
24.04.2025	N029125044	13	14	35	18	0.22
28.04.2025	N005625045	10	12	42	25	0.36
29.04.2025	N012425045	9	13	51	28	0.25
Limits for Industrial , Residential, Rural and other Areas		80 24 Hrs	80 24 Hrs	100 24 Hrs	60 24 Hrs	4 1 Hr

Note : * Parameters monitored for period of 1 hr

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

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 LLP)
 Particulars of sample collected : A7 - Garaga village
 Duration : 24 Hrs
 Issue date : 02.05.2025
 Reference IS 5182 & Lab SOP

Date of Sampling	Report No	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)	
04.04.2025	N009725041	10	12	46	26	0.31
05.04.2025	N002225042	13	15	49	27	0.22
11.04.2025	N029925042	12	16	53	29	0.25
12.04.2025	N000825043	9	11	43	22	0.21
14.04.2025	N005725043	10	13	46	26	0.20
15.04.2025	N011025043	7	9	49	28	0.3
23.04.2025	N027625044	11	13	53	29	0.25
24.04.2025	N029225044	10	12	52	27	0.21
28.04.2025	N005725045	12	14	46	25	0.22
29.04.2025	N012525045	10	12	40	22	<0.2
Limits for Industrial , Residential, Rural and other Areas		80 24 Hrs	80 24 Hrs	100 24 Hrs	60 24 Hrs	4 1 Hr

Note : * Parameters monitored for period of 1 hr

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

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 LLP)
 Particulars of sample collected : A8 - Yeswanthanagar
 Duration : 24 Hrs
 Issue date : 02.05.2025
 Reference IS 5182 & Lab SOP

Date of Sampling	Report No	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)	
04.04.2025	N008525041	11	15	42	23	0.24
05.04.2025	N001125042	14	16	59	39	0.28
07.04.2025	N009925042	11	14	54	26	0.31
08.04.2025	N017925042	9	11	48	24	0.31
18.04.2025	N020525043	13	15	60	33	0.42
19.04.2025	N001125044	11	14	55	31	0.45
21.04.2025	N009025044	12	16	51	40	0.23
22.04.2025	N018725044	13	16	45	26	0.38
28.04.2025	N004825045	9	12	51	29	0.24
29.04.2025	N011625045	10	14	58	30	0.46
Limits for Industrial , Residential, Rural and other Areas		80 24 Hrs	80 24 Hrs	100 24 Hrs	60 24 Hrs	4 1 Hr

Note : * Parameters monitored for period of 1 hr

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TEST REPORT

Table No.9

AMBIENT AIR QUALITY

Name of the Client : The Sandur Manganese & Iron Ores Limited
 Name of the Project : Mining Lease No. 2679
 Sample Collected by : Environmental Laboratory (Unit of Mineral Engineering Services LLP)
 Particulars of sample collected : A9 - Subbarayanahalli
 Station & Code : & A9
 Duration : 24 Hrs
 Issue date : 02.05.2025
 Reference IS 5182 & Lab SOP

Date of Sampling	Report No	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)	
04.04.2025	N008125041	12	15	58	30	0.45
05.04.2025	N000725042	12	18	39	25	0.22
07.04.2025	N009525042	12	13	45	28	0.36
08.04.2025	N017525042	10	16	50	30	0.21
18.04.2025	N020125043	12	16	49	24	0.24
19.04.2025	N000725044	11	14	52	29	0.26
21.04.2025	N008625044	9	12	56	32	0.31
22.04.2025	N018325044	10	15	47	26	0.25
28.04.2025	N004425045	14	16	36	20	0.34
29.04.2025	N011225045	13	15	44	24	0.22
Limits for Industrial , Residential, Rural and other Areas		80 24 Hrs	80 24 Hrs	100 24 Hrs	60 24 Hrs	4 1 Hr

Note : * Parameters monitored for period of 1 hr

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TEST REPORT

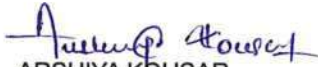
Table No.10

AMBIENT AIR QUALITY

Name of the Client : The Sandur Manganese & Iron Ores Limited
Name of the Project : Mining Lease No. 2679
Sample Collected by : Environmental Laboratory (Unit of Mineral Engineering Services LLP)
Particulars of sample collected : A10 - Siddapura village
Duration : 24 Hrs
Issue date : 02.05.2025
Reference IS 5182 & Lab SOP

Date of Sampling	Report No	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)	
04.04.2025	N009125041	8	12	54	28	0.25
05.04.2025	N001625042	9	14	61	33	0.48
11.04.2025	N029325042	12	15	57	29	0.36
12.04.2025	N000225043	14	15	50	27	0.33
14.04.2025	N005125043	12	13	43	24	0.24
15.04.2025	N010425043	10	12	53	28	0.22
23.04.2025	N027025044	10	13	58	30	0.25
24.04.2025	N028625044	8	12	56	28	0.20
28.04.2025	N005125045	7	10	50	29	0.42
29.04.2025	N011925045	12	14	48	30	0.35
Limits for Industrial , Residential, Rural and other Areas		80 24 Hrs	80 24 Hrs	100 24 Hrs	60 24 Hrs	4 1 Hr

Note : * Parameters monitored for period of 1 hr


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TEST REPORT

Table No. 11

Fugitive Emission

Name of the Client	: The Sandur Manganese & Iron Ores Limited		
Name of the Project	: Mining Lease No. 2679		
Sample Collected by	: Environmental Laboratory (Unit of Mineral Engineering Services LLP)		
Duration	: 08 Hrs		
Issue Date	: 02.05.2025		
Particulars of sample collected	Date of sample	Report No	Particulate mater ($\mu\text{g}/\text{m}^3$)
FA1, Loading point	11.04.2025	N030025042	356
FA2, Dumping point	11.04.2025	N030125042	485
FA3, Haulage Road	11.04.2025	N030225042	465
FA4, Stack Yard	12.04.2025	N000925043	521
FA5, Drilling Point	12.04.2025	N001025043	436
FA6, Waste Dumping Point	12.04.2025	N001125043	375
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

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	01.04.2025 to 30.04.2025
4	Sample Type	Total Dust Fall Rate
5	Duration of Monitoring	One Month
6	Issue Date	02.05.2025

Result

Code	Particulars of sample collected	Result	unit	Reference Method
DF1	Mine Office Area	0.031	g/m ² month	IS 5182 (Part 01) : 2006
DF2	Near Crusher Area	0.045	g/m ² month	IS 5182 (Part 01) : 2006

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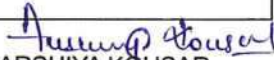
TEST REPORT

Table No. 13

AMBIENT NOISE LEVEL DATA

Report No : ELMES132504

Name of the Client		: The Sandur Manganese & Iron Ores Limited					
Name of the Project		: Mining Lease No. 2679					
Particulars of Sample		: Noise levels					
Sample Collected by		: Environmental Laboratory (Unit of Mineral Engineering Services LLP)					
Date of monitoring		: 11.04.2025					
Issue Date		: 21.04.2025					
Code No.	Monitoring stations	Day			Night		
		L _{min}	L _{eq}	L _{max}	L _{min}	L _{eq}	L _{max}
Corezone							
N1	Core zone ML Area	38.0	56.6	65.2	36.0	45.9	52.0
N2	Myadara Banda Block	40.0	57.9	66.5	35.6	44.7	48.0
N3	Goerner Point	38.2	50.6	58.0	34.0	44.5	52.0
N4	Neerlabbi	37.0	57.9	67.2	35.0	47.1	56.2
Permissible Limits of Ambient Noise Levels as per CPCB Guidelines							
		Leq. Limit dB(A)					
		Day		Night			
Industrial areas		75		70			
Code No.	Monitoring stations	Day			Night		
		L _{min}	L _{eq}	L _{max}	L _{min}	L _{eq}	L _{max}
Buffer zone							
N5	Ramgad village	37.0	52.5	59.2	34.0	41.5	48.0
N6	Dharmapura	39.2	47.8	53.0	35.2	42.3	46.0
N7	Garaga village	36.8	48.2	54.2	35.0	41.6	45.8
N8	Yeshwanthanagar	38.3	51.5	57.0	34.0	42.7	47.0
N9	Subbarayanahalli	36.0	52.8	58.0	35.3	44.8	52.0
N10	Siddapura	42.0	53.6	59.2	34.0	43.2	49.0
Permissible Limits of Ambient Noise Levels as per CPCB Guidelines							
		Leq. Limit dB(A)					
		Day		Night			
Commercial area		65		55			
Residential area		55		45			


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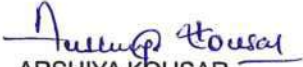
TEST REPORT

Table No. 14

NOISE LEVEL DATA

Report No : EELMES0102503

Name of the Client		: M/s. Sandur Manganese & Iron Ores Limited			
Name of the Project		: Mining Lease No. 2679			
Particulars of Sample		: Noise levels			
Sample Collected by		: Environmental Laboratory (Unit of Mineral Engineering Services LLP)			
Date of monitoring		: 12.04.2025			
Issue Date		: 21.04.2025			
Code No.	Monitoring stations	Day			Remarks
		L _{min}	L _{eq}	L _{max}	
Source					
N1	Loading Point	44.0	66.4	75.0	During operation
N2	Dumping Point	42.0	71.7	78.0	During operation
N3	Haulage Road	46.0	72.2	78.0	During operation
Permissible Limits of Ambient Noise Levels as per CPCB Guidelines					
		Leq. Limit dB(A)			
		Day	Night		
Industrial areas		75	70		
Heavy Earth Moving Machineries					
N4	Wheel Loader	43.2	79.1	86.0	During operation in side of the cabin
		40.0	74.6	81.0	During operation 10mts outside of the cabin
N5	Tata Hitachi 200LC	40.0	71.4	76.0	During operation in side of the cabin
		41.0	68.3	74.0	During operation 10mts outside of the cabin
Permissible limits as per ILO Code of Practice					
For Unprotected ear - 8 hrs working shift					
Warning limit - 85 dB(A)					
Danger limit - 90 dB(A)					
Worker not to be exposed for more than 115 dB(A)					
With ear protection -					
130 dB(A) 'Impulse' or 120 dB(A) 'Fast'					
No entry when noise level exceeds 140 dB(A)					


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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 LLP)
Particulars of sample collected	: SW1 - Ragavapura kere water, SW2 - Dhananayakana kere water : SW3 - Narihalla Upstream water, SW4 - Narihalla Downstream water
Date of sample collection	: 11.04.2025
Date of sample receipt	: 12.04.2025
Issue Date	: 23.04.2025
Ref : IS : 2296, Water Quality Standards	

Sl.No.	Report No	M009525042	M009625042	-	-	Limits	Method of Testing
		SW1	SW2	SW3	SW4		
Samples Code		Results					
Parameters							
1	pH	8.98	7.93			6.5 to 8.5	IS:3025(Part-11)2022
2	Colour (Hazen Units)	3	1			300	IS:3025(Part-4)2021
3	Odour	Agreeable	Agreeable			-	IS:3025 (P-5) 2018
4	Total Dissolved Solids (mg/l)	168	172			1500	IS:3025(Part-16)2023
5	Total Suspended Solids, mg/l	40	70			-	IS 3025 (P-17) 2022
6	Dissolved Oxygen (as O ₂), mg/l,	5.1	5.3			Min 4	IS:3025(Part-38)1989RA 2019
7	Biochemical Oxygen Demand (as O ₂), mg/l	<3.0	<3.0			3	IS:3025(P-44) 2014
8	Total Hardness (as CaCO ₃),mg/l	94.0	78			-	IS:3025 (P-21):2009 RA 2019
9	Sulphates as SO ₄ (mg/l)	9.2	10.6	Dry	Dry	400	IS:3025(P-24)Sec 1 2022
10	Phosphates (as P), mg/l	<0.05	<0.05			-	IS 3025 (P-31) Sec 1 2022
11	Chloride (as Cl),mg/l	21.00	27			600	IS:3025(Part-32) ;1988RA2019
12	Fluoride (as F),mg/l	0.78	0.82			1.5	APHA 23rd Edition 4500F
13	Sulphide (as H ₂ S) , mg/l	<0.01	<0.01			-	IS:3025 (P-29):1986 RA 2019
14	Boron (as B), mg/l	<0.1	<0.1			-	IS:3025 (Part-57)2021
15	Iron (as Fe),mg/l	<0.005	<0.005			50	IS:3025(P-2) 2019
16	Percent of Sodium (%)	16	12			-	IS 11624 .2009
17	Residual Sodium Carbonate (meq/l)	<0.05	<0.05			-	IS:2486 (P-5) 1976
18	Total Coliform, MPN/100ml	310	320			5000	IS:1622:1981

""END OF REPORT""

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TEST REPORT

Table No. 16

Stack Monitoring Report

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 LLP)
Instrument used for sampling	: Emissions collected through stack sampler
Date of Collection	: 11.04.2025
Date of Sample Receipt	: 12.04.2025
Report No	: M009725042
Issue date	: 21.04.2025

STACK DETAILS

1	Fuel Used	Diesel
2	Ambient Temperature (°C)	33
3	Stack Temperature (°C)	145
4	Velocity (m/s)	8.13
5	Stack diameter (M)	0.15
6	Quantity of flue Gas Discharged into atmosphere (Nm ³ /hr)	347
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 due date	15.07.2025
11	Test Method	IS 11255 & flue gas analyser

Pollutional Parameters (Result)

Sl.No	Parameters	Unit	Results	Standard
1	Particulate Matter	g/Kw-hr	0.110	<0.2
2	CO	g/Kw-hr	0.080	<3.5
3	NOx +HC	g/Kw-hr	0.160	<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. 17

Stack Monitoring Report

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 LLP)
Instrument used for sampling :	Emissions collected through stack sampler
Date of Collection :	11.04.2025
Date of Sample Receipt :	12.04.2025
Report No :	M009825042
Issue date :	21.04.2025

STACK DETAILS

1	Fuel Used	Diesel
2	Ambient Temperature (°C)	34
3	Stack Temperature (°C)	140
4	Velocity (m/s)	7.98
5	Stack diameter (M)	0.15
6	Quantity of flue Gas Discharged into atmosphere (Nm ³ /hr)	345
7	Sample Condition When Received	Satisfactory
8	Model of the Equipment used for Monitoring	Vayubodhan Stack Sampler VSS1
9	Serial No. of the Equipment	338 DTH 14
10	Calibration due date	15.07.2025
11	Test Method	IS 11255 & flue gas analyser

Pollutional Parameters (Result)

Sl.No	Parameters	Unit	Results	Standard
1	Particulate Matter	g/Kw-hr	0.100	<0.2
2	CO	g/Kw-hr	0.210	<3.5
3	NOx +HC	g/Kw-hr	0.380	<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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