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/241120/1075

20 November 2024

To
Integrated Regional Office (IRO),
Ministry of Environment, Forests and Climate Change,
EC Division
Kendriya Sadan, 4th Floor, E & F Wing,
17th Main Road, II Block, Koramangala,
Bengaluru - 560034.

Dear Sir,

Sub: Submission of six-monthly compliance status report for EC IDENTIFICATION NO: EC23A001KA158909 dated 25 April 2023 in respect of ML. No. 2678 for the period 01 April 2024 to 30 September 2024.

Ref: Environmental Clearence vide EC IDENTIFICATION NO: EC23A001KA158909 dated 25 April 2023

As per specific conditions A(viii), A (ix) and A(x) of the above-mentioned Environmental Clearance (EC), we hereby submit the six-monthly compliance status report for the period from 01 April 2024 to 30 September 2024 regarding Mining Lease No.2678 of The Sandur Manganese & Iron Ores Limited.

We would like to submit that the online uploading of compliance on Parivesh Portal-2 has not happened as we are facing an issue with Verification of E-KYC documentation. Upon the escalation of this to the Ministry, the root cause of the non-verification of E-KYC has been found to be non-fetching of the information of Company's PAN from the NSDL Data Base. We have initiated the steps with concerned Department to facilitate this integration of Company's PAN to NSDL Data base. As this will take some time, we are submitting the six-monthly compliance report through E-mail to the registered mail id.

We request your good self to kindly acknowledge receipt of the same.

Thank you,

for The Sandur Manganese & Iron Ores Limited.,

Krishna Reddy
Vice President Mines

25/11/2024

भारत सरकार GOVERNMENT OF INDIA
पर्यावरण, वन एवं जलवायु परिवर्तन मंत्रालय
Ministry of Environment & Forests
क्षेत्रीय कार्यालय (दक्षिणी क्षेत्र)
Regional Office (Southern Zone)
बेंगलूरु Bangalore

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SIX MONTHLY COMPLIANCE TO THE CONDITIONS STIPULATED IN ENVIRONMENTAL CLEARANCE FOR MINING LEASE NO. 2678 OF THE SANDUR MANGANESE & IRON ORES LIMITED FOR THE PERIOD APRIL – SEPTEMBER 2024.
EC IDENTIFICATION NO: EC23A001KA158909

A. SPECIFIC CONDITIONS		
Sl. No.	**Conditions**	**Status of Compliance**
i.	This Environmental Clearance will be valid upto 31.12.2033 only.	Noted and acknowledged.
ii.	The Project Proponent shall obtain the necessary permission to work in the forest land beyond 14.03.2027.	**Noted and Agreed with.** The process of deemed extension of the Forest Clearance as per MMDR (A) Act is under Progress. Application seeking deemed extension to State Forest Department has been made vide letter No SMIORE/MN/240430/01 dated 30 April 2024 and application for deemed extension is under process.
iii.	After the issuance of this Environmental Clearance (EC), the Project Proponent shall approach the CEC for ceiling limit of ores to be mined per year in accordance with the directions of Hon'ble Supreme Court.	After the issuance of Environment Clearance on 25 April 2023, application was made to Central Empowered Committee (CEC) seeking fixation of Maximum Permissible Annual Production on 26 April 2023. Copy of the letter enclosed as **Annexure-1.** The CEC accorded Approval for Maximum permissible Annual Production of Iron Ore for 3.81 Million tonnes per annum vide letter No F.No.2-75/CEC/SC/2020-Pt.XI (Vol. II) dated 19.10.2023. Copy of the same enclosed as **Annexure-2.** The CEC had accorded approval for maximum permissible annual production of Manganese for 0.55 million tonnes per annum vide letter No F.No.2-75/CEC/SC/2023-Pt.XI (Vol.11) dated 22 February 2023 based on the previous EC and the same production capacity of Manganese ore has been retained in current EC also. Copy enclosed as **Annexure-3.**
iv.	The Project Proponent shall ensure that the low-grade ore shall be effectively utilized. PP should also explore the possibility of utilizing the mineral rejects by blending.	A Research and Development (R&D) study was conducted by CSIR-IMMT with the objective of utilizing Hematitic siliceous ore (mineral reject). Lean grade ores are being blended and made marketable. The EC for Iron Ore was taken for 4.5 million tonnes per annum out of which 3.81

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A. SPECIFIC CONDITIONS		
Sl. No.	**Conditions**	**Status of Compliance**
		Million tonnes per annum has been accorded approval by the CEC and another 0.55 Million tonnes per annum production of Hematitic Siliceous Ore which are low grades (35-45 %) Fe has also been cleared by the technical committee on production enhancement and is under purview of CEC for grant of approval for the same. With this the total Production of Iron Ore from the mining lease would be 4.36 million tonnes vis-à-vis 4.5 million tonnes, thus ensuring proper mineral conservation and blending and marketability of low-grade ores. Copy of the extract of Technical Committee Proceedings on Production enhancement recommending 0.55 MTPA of Hematitic Siliceous Ore is enclosed as **Annexure-4.**
v.	The Project Proponent should install the one Continuous Ambient Air Quality Monitoring Stations (CAAQMS) as per the scientific study and in consultation with CPCB/SPCB. The real time data so generated should be displayed digitally at entry and exit gate of mine lease area for public display and shall be linked to server of CPCB/SPCB.	**Complied.** Continuous Ambient Air Quality Monitoring Station (CAAQMS) equipped with gaseous and dust analyzers approved by the United States Environmental Protection Agency (USEPA) with valid certification installed in Deogiri & Subbarayanahalli in consultation with KSPCB. The locations for the CAAQMS were determined in concurrence by KSPCB which are within the mine lease area. Additionally, 2 no's digital display boards and weather monitoring systems were installed at the site to provide real-time air quality data and weather conditions. Photographs are enclosed as **Annexure-5.**
vi.	The Project Proponent shall adhere to the proposed dumper capacity of 25 tonnes as per approved Review of Mining Plan dated 19.09.2022. However, the Project Proponent needs to explore the possibility of increasing transportation through conveyor belt to reduce the impact due to transportation by road.	We are using tippers/dumpers of 25 tonner capacity for our mining operations as per the proposal made in the review and Updation of mining plan dated 19 September 2022. Expert opinion was taken by CSIR-CIMFR wherein they have suggested that as the production of Iron ore and Manganese Ore are minimal and is staggered across multiple pits it might not be feasible to have a conveyor for transportation. Extract of recommendations enclosed as **Annexure-6.**

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A. SPECIFIC CONDITIONS		
Sl. No.	**Conditions**	**Status of Compliance**
vii.	The Project Proponent shall continue to monitor the air quality, noise level, water quality, water level and ground vibration during drilling and blasting at the edge of the mine, near the village, crusher and at other sensitive receptors and such collected data shall be submitted quarterly to the Ministry's Integrated Regional Office.	**Complied** Monitoring of air quality, water quality, groundwater level & Quality, noise level, and ground vibrations studies at the stations prescribed in the EIA/EMP are being carried out in accordance with the prescribed standards and periodicity by M/s Mineral Engineering Services an environmental laboratory duly recognized under section 12(1)(b) of the Environment (Protection) Act, 1986, and holding valid accreditation by National Accreditation Board for Testing and Calibration Laboratories (NABL). Quarterly environment monitoring reports are being submitted to the Ministry's Integrated Regional Office (IRO). Certificate of accreditation from NABET/NABL and recognition by MOEFCC for the laboratory is enclosed in **Annexure-7.** Copy of the quarterly reports submitted to IRO of MOEFCC is enclosed in **Annexure-8.**
viii.	The Project Proponent needs to implement the recommendations of the slope stability study of the dumps carried out by National Institute of Rock Mechanics. The implementation status of the same shall be submitted to the Ministry's Integrated Regional Office (IRO) along with the six-monthly compliance report.	**Complied** The National Institute of Rock Mechanics (NIRM) was engaged to conduct a Slope Stability Study for the dumps, and the design recommendations for Dump Management regarding height, width and angle of slope have been integrated into both the ongoing and proposed dump management plan. The engineering structures for dump management, as recommended by ICFRE, have been successfully completed for the inactive sections of waste dumps, and the construction of the proposed structures will also be initiated as the dump advances. The Factor of Safety assessed for the dump slopes, both for existing and conceptual stages, meets or exceeds the DGMS-prescribed value of 1.5. Field Photographs of implementation enclosed in **Annexure -9.**

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A. SPECIFIC CONDITIONS		
Sl. No.	**Conditions**	**Status of Compliance**
ix.	The Project Proponent needs to implement the recommendations of the Slope Stability Studies that has been carried out for the Mine Pits carried out by National Institute of Technology, Karnataka, Surathkal. The implementation status of the same shall submitted to the Ministry's Integrated Regional Office (IRO) along with the six-monthly compliance report.	**Complied.** The Slope Stability study of benches was carried out by the National Institute of Technology (NITK), Surathkal, and based on the recommendations of the Slope Stability Study report at Kammatharu Iron Ore Mine and Subbarayanahalli Manganese & Iron Ore Mine, permission from Directorate General Of Mines Safety (DGMS) has been obtained under Rule 106 (2)(b) vide letter No: 330763/SZ/Bellary Region1/Perm/2023/260389 dated 08 January 2024 and vide letter No: 261898/SZ/Bellary Region-1/Perm/2023/260434 dated 08 January 2024 is being implemented with as per the relaxation given for the final pit configuration. Copy of the permission obtained from DGMS for the implementation of recommendations of slope stability studies are enclosed in **Annexure-10.**
x.	The Project Proponent needs to submit the proof of submission of funds made to the Forest Dept. For the approved Wildlife Conservation plan and its initiation/commencement by Forest Department to IRO/Ministry. The Project Proponent should follow-up the status of implementation on Wildlife Conservation Plan from the Forest Officials and the same shall be submitted to the Ministry's Integrated Regional Office in the six-monthly compliance report.	**Complied.** Based on the approved Wild Life Management Plan by Chief of Wildlife Warden and PCCF Wildlife and subsequent demand notice raised by the Deputy Conservator of Forests for remittance of cost towards implementation of wildlife management plan ₹1,43,95,000/- (One crore, forty-three lakh, ninety-five thousand rupees) was paid to the State Forest Department towards the implementation of Wildlife Conservation Plan vide UTR No UTIBR52024020500483244 dated 05 February 2024. Copy of the covering letter having particulars of payment enclosed in **Annexure-11.**
xi.	The Project Proponent needs to use modern equipment's such as Camera Traps for ensuring presence and movement of wild animals in the study area in consultation with Wildlife Wing of Forest Department. Appropriate interventions shall be taken to minimize stress	**Complied.** As part of approved Wildlife management plan budgetary outlay of ₹ 1.43 crore made was inclusive of use of Modern equipment's such as camera traps, watch and ward, binoculars etc. Accordingly, remittance has been made vide

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	conditions for wild animals and to avoid Man-Animal conflict.	UTIBR52024020500483244 dated 05 February 2024 to Forest Department, Government of Karnataka. Copy of letter stating the remittance made enclosed in **Annexure-11.**
xii.	The Project Proponent needs to install permanent water sprinklers along the haul road and the approach road. Further, 10 nos. of fog canons/mist sprayer of at least 40 m throw shall be installed at various locations in the mine area.	The installation of permanent water sprinklers along the major haul roads and the approach road has been done and complied with. Field photographs of implementation is enclosed in **Annexure-12**. Additionally, mist cannons with a minimum throw of 40 meters have been installed at Kammatharu Iron Ore Mine and Subbarayanahalli Manganese & Iron Ore Mine. Two truck mounted dry fog dust suppression system with a throw of 40 meters has been commissioned at Deogiri & Subbarayanahalli Manganese & Iron Ores Mines. Processing for additional procurement of another six-mist spray system is under progress. Field photographs of implementation is enclosed in **Annexure-13.**
xiii.	The air pollution control equipment like bag filters, vacuum suction hoods, dry fogging system etc., shall be installed at crushers, and other areas prone to air pollution. PP shall take necessary measures to avoid generation of fugitive dust emissions. The dense plantation shall be carried out in the vicinity of the crusher. The stack emission monitoring of the crusher shall be carried out at periodic intervals.	**Noted and complied.** The conveyors of the fixed crushing and screening plants are fitted with GI Hood covers, water spraying system has been provided at transfer points. Mobile Screening plants are provided with water spray system. Photographs of implementation is enclosed in **Annexure-14.** Stack emission monitoring for the crusher is conducted at regular intervals, and the monitoring reports are submitted quarterly to the IRO & KSPCB.
xiv.	The Project Proponent shall approach the Ministry's Integrated Regional Office to ensure the compliance of the point no. 6 of Forest Clearance dated 14.03.2007 "The approval period of twenty years shall be divided in four phases of five years duration each. Felling of trees shall be done under strict supervision of the Forest Department in a phased manner, i.e., extent of area to be broken up in one phase only shall be taken up for felling of trees at the start	**Noted and complied.** The felling of trees is carried out in a phased manner, as stipulated in condition number 6 of the forest clearance, under the direct supervision and guidance of the State Forest Department.

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	of mining operation in that particular phase. Similarly, other phases shall be taken up for felling of trees after the end of mining operation in the preceding phase".	
xv.	The Project Proponent shall explore the possibility of using at least 20% of electric vehicles instead of diesel operation within three years.	**Will be complied.** The feasibility of incorporating a minimum of 20% electric vehicles into the project's operations will be explored during the project implementation period.
xvi.	The Project Proponent shall take adequate measures to prevent the pilferage of mineral.	**Noted & complied.** Adequate measures by securing the exit gates, CC TV Surveillance, and deployment of Security have been taken to prevent pilferage of mineral. It is ensured that ores which moves out of the mine lease area has valid mineral dispatch permits/trip sheets and other valid documents.
xvii.	The Project Proponent should adopt the proper mitigation measures as proposed under EMP with budgetary provision of Rs. 41.48 Crores. The adoption of mitigation measures and monitoring of the same as proposed in the EMP shall be done under the supervision of the qualified environmental personnel. The implementation status of the same shall be submitted to the Ministry's Integrated Regional Office.	The implementation and monitoring of the proposed Environmental Management Plan (EMP) are conducted by a qualified environmental management team, comprising professionals with diverse backgrounds, including environmental scientists, environmental engineers, a botanist, and a horticulturist. Implementation status will be reported in the Six Monthly Compliance reports. Expenditure incurred towards implementation of EMP for the period April to September 2024 is enclosed in **Annexure – 15.**
xviii.	NoC from Central Ground Water Authority (CGWA) / Concerned Local authority, as the case may be, shall be obtained before drawing the ground water for the project activities, State Pollution Control Board / Pollution Control Committees shall not issue the Consent to Operate (CTO) under Air (Prevention and Control of Pollution) Act and Water (Prevention and Control of Pollution) Act till the project proponent shall obtain such permission.	**Complied.** NoC has been obtained from Karnataka Ground Water Authority on 16.02.2024 Vide no KG No: KGWAN1554866756) for abstraction of ground water of 5498 m^3/day copy of the NoC obtained is enclosed in **Annexure -16.** Consent for operation for the enhanced production limits has been given after duly obtaining the NoC for abstraction of Ground water.

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A. SPECIFIC CONDITIONS		
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xix.	The Project Proponent shall conduct third party audit of compliance of EC condition at an interval one year and its report shall be submitted to IRO, MoEF&CC.	**Initiated** Compliance to third party audit of Compliance to EC Conditions will be conducted through Center of Mining Environment, Center for Excellence MOEFCC from IIT-ISM Dhanbad.
xx.	The Project Proponent shall establish in house (at project site) environment laboratory for measurement of environment parameter with respect to air quality and water (surface and ground). A dedicated team to oversee environment management shall be setup at site which should comprise of environment engineers, laboratory chemist and staff for monitoring of air, water quality parameters on routine basis instead of engaging environment monitoring laboratories/consultants. Any non-compliance or infringement should be reported to the concerned authority.	Monitoring of air quality, water quality, groundwater level & Quality, noise level, and ground vibrations studies at the stations prescribed in the EIA/EMP are being carried out in accordance with the prescribed standards and periodicity by M/s Mineral Engineering Services an environmental laboratory duly recognized under section 12(1)(b) of the Environment (Protection) Act, 1986, and holding valid accreditation by National Accreditation Board for Testing and Calibration Laboratories (NABL). Quarterly environment monitoring reports are being submitted to the Ministry's Integrated Regional Office (IRO). The mining location is very remote spread over distance of 16 kilometres in multiple blocks and we are facing difficulties in retaining the qualified environmental engineers & associated dedicated team who are opting for moveout from the organization for their better prospects. Also, for entire mines operations, power is managed through DG sets except at the camp facility where Power supply is through GESCOM. To Comply with Monitoring we have installed CAAQMS stations along with ongoing practise of third party sampling would be continued.
xxi.	The budget of Rs. 0.93 Crores to address the concerns raised by the public in the public hearing to be completed within 3 years from the date of start of mining operations. PP shall comply with all action plans made for public hearing concerns and make regular maintenance and record the progressive activity	The activities proposed during the public hearing will be kept separate from the Corporate Social Responsibility initiatives. The implementation of action plan involving skill development, public conveyance, road, and health care facilities, women development etc., was formulated in response to concerns raised during public

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	outcomes. The Project Proponent shall ensure that the activities proposed under the public hearing is different from the CSR activities.	consultation will be carried out within three years of initiating enhanced production operations.
xxii.	The Project Proponent shall also organize an employment-based apprenticeship/internship training program every year with appropriate stipend for the youth and other programs to enhance the skill of the local people. The data should be maintained for the training imparted to the persons and the outcome of the training, for the assessment of the training program should be analyzed periodically and improved accordingly.	Multiple employment-based apprenticeship and internship training programs are conducted annually, offering appropriate stipends to local youth. A total of 15 local youths from neighboring villages were trained in the reporting period (April 2024 to September 2024), specializing in trades such as electrical, mechanical, fitter, etc. Training record is enclosed as **Annexure-17.**
xxiii.	The Project Proponent needs to provide the RO drinking water supply to the local people	SMIORE has established Water treatment Plants at Deogiri and Subbarayanahalli and has established Overhead tanks for Piped Water supply. It is also supplying treated water to Ramghad Village and Kammatharu by water tankers. Photographs of Water treatment plant is enclosed in **Annexure-18**
xxiv.	The Project Proponent shall ensure the survival rate of 95% for planting the gap plantation and new plantation. The Project Proponent shall make the actual count on the saplings planted and its survival rate and in case of failure of achievement of 95% survival rate, action plan for achieving the target survival rate shall be submitted to the Ministry's Integrated Regional Office. Project proponent shall use saplings of 10 ft height for plantation.	Efforts are being made to ensure 95 % of survival of planted saplings by deploying watch and ward. Some of the initiatives taken are as follows 1) Watering to plants by using drip irrigation, sprinkler system, spray using rain guns fitted to tankers. 2) De-weeding around the plants. 3) Scrapping and Hoeing of Soil 4) Use of vermicompost and farmyard Manure **5)** Expert advice from Scientists of ICFRE for promoting growth and increase of survival rate. Photographs of implementation enclosed in **Annexure-19.**
xxv.	The Project Proponent should periodically monitor and maintain the health records of the mine workers digitally prior to mining	In accordance with statutory requirements, initial medical examinations of mine workers are conducted before induction into employment and

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A. SPECIFIC CONDITIONS		
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	operations, at the time of operation of mine and post mining operations. Regular surveillance shall be carried through regular occupational health check-up every year for mine workers. PP shall also organize medical camp for the benefit of the local people and also monitor the health impacts due to mining activity.	periodic medical examinations through occupational health check-ups are conducted as per the rules prescribed under Rule 29B (a)(i) of The Mines Rules, 1955, issued by the Ministry of Labour. Additionally, speaclised medical camps are being organised for the benefit of the employees, their dependents, and the residents of neighboring villages. SMIORE for the benefit of public at large is maintaining dispensaries at Deogiri, Subbarayanahalli, Yeshwantnagar and a Community Health Center "Arogya" at Sandur. All these health centers has qualified doctors and state of art medical infrastructure. Photographs are enclosed in **Annexure-20.**
xxvi.	The mining lease holders shall, after ceasing mining operations, undertake re-grassing the mining area and any other area which may have been disturbed due to their mining activities and restore the land to a condition which is fit for growth of fodder, flora, fauna etc. The implementation report of the above-mentioned condition shall be submitted to the Ministry's Integrated Regional Office.	**Noted and accepted.** Regrassing and land restoration will be carried out in accordance with the Approved Final Mine Closure plan at the Final Mine Closure. A status report will be submitted to the IRO to provide updates on the progress during the implementation period FY 2033-34.

STANDARD CONDITIONS		
Sl. No.	**Conditions**	**Status of Compliance**
I	**Statutory Compliance**	
1	This Environmental Clearance (EC) is subject to orders/judgment of Hon'ble Supreme Court of India, Hon'ble High Court, Hon'ble NGT and any other Court of Law, common cause conditions as may be applicable.	**Noted and accepted.** We are committed to ensuring compliance with the orders and judgments of the Hon'ble Supreme Court of India, the Hon'ble High Court, the Hon'ble National Green Tribunal (NGT), and any other court of law, as well as any relevant common cause conditions.
2	The Project Proponent complies with all the statutory requirements and judgment of Hon'ble Supreme Court dated 2nd August 2017 in Writ Petition (Civil) No. 114 of 2014 in matter of	**Noted and accepted.** The Specific directives outlined in the judgment of the Hon'ble Supreme Court dated 2 August 2017, in Writ Petition (Civil) No. 114 of 2014 in the matter of Common Cause versus Union of

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STANDARD CONDITIONS		
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	Common Cause versus Union of India & Ors before commencing the mining operations.	India & Ors was for Government of Odisha, However the relevant point if applicable to us from the statutory point of view will be complied with.
3	The State Government concerned shall ensure that mining operation shall not be commenced till the entire compensation levied, if any, for illegal mining paid by the Project Proponent through their respective Department of Mining & Geology in strict compliance of Judgment of Hon'ble Supreme Court dated 2nd August 2017 in Writ Petition (Civil) No. 114 of 2014 in matter of Common Cause versus Union of India & Ors.	**Not Applicable.** The Joint Team constituted by the Hon'ble Supreme Court to look into the illegalities in Karnataka State has confirmed that *"No Illegalities were found vis-à-vis the sanctioned lease boundary; owners of the Lessee Company have voluntarily handed over more than 2,000 hectares of forest land owned by them to the state government, and which has no parallel in the State; and the Lessee Company has an excellent track record of undertaking mining operations in accordance with the law".*
4	The Project Proponent shall follow the mitigation measures provided in MoEF&CC's Office Memorandum No. Z-11013/57/2014-IA.II(M) dated 29th October, 2014, titled "Impact of mining activities on Habitations-Issues related to the mining project wherein habitations and villages are the part of mine lease areas or habitations and villages are surrounded by the mine lease area".	**Noted and accepted.** Will ensure compliance to and implementation of the relevant mitigation measures specified in the Ministry of Environment, Forest and Climate Change (MoEFCC)'s Office Memorandum No. Z-11013/57/2014-IA.II(M) dated 29 October, 2014.
5	A copy of EC letter will be marked to concerned Panchayat/local NGO etc., if any, from whom suggestion/representation has been received while processing the proposal.	**Complied.** The copy of the Environmental Clearance (EC) was given to the concerned Panchayat at Deogiri for their official notification. Copy of the acknowledgments letter submitted to panchayats are enclosed in **Annexure-21.**
6	State Pollution Control Board/Committee shall be responsible for display of this EC letter at its Regional Office, District Industries Centre and Collector's Office/Tehsildar's Office for 30 days.	**Complied.** A copy of the Environmental Clearance (EC) was provided to the Regional Office of the KSPCB vide SMIORE/MN/230428/04 dated 28 April 2023. Similarly, a copy of the EC was submitted to the Deputy Commissioner (District Collector), Ballari vide SMIORE/MN/230428/05 and to Tehsildar, Sandur vide SMIORE/MN/230428/06 also dated 29 April 2023 with a request to display the EC in their respective offices for 30 days.

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STANDARD CONDITIONS		
Sl. No.	**Conditions**	**Status of Compliance**
		Copies of letters acknowledged from departments are enclosed in **Annexure-22.**
7	The Project Authorities should widely advertise about the grant of this EC letter by printing the same in at least two local newspapers, one of which shall be in vernacular language of the concerned area. The advertisement shall be done within 7 days of the issue of the clearance letter mentioning that the instant project has been accorded EC and copy of the EC letter is available with the State Pollution Control Board/Committee and website of the Ministry of Environment, Forest and Climate Change (www.parivesh.nic.in). A copy of the advertisement may be forwarded to the concerned MoEF&CC Regional Office for compliance record.	**Complied.** The Environmental Clearance (EC) for Mining Lease No.2678 of SMIORE was granted by the MoEFCC on 25 April 2023. This announcement was made through advertisements in two local newspapers: English version was published in The New Indian Express, and a Kannada (vernacular language) advertisement was featured in Prajavani. Both the advertisements were published on 27 April 2023. The copy of the advertisement was submitted to Environmental Officer, Regional Office, KSPCB, Ballari and IRO, MoEFCC, Bengaluru for compliance and record-keeping. Copy of the publication made is enclosed in **Annexure-23.**
8	The Project Proponent shall inform the MoEF&CC of any change in ownership of the mining lease. In case there is any change in ownership or mining lease is transferred, PP needs to apply for transfer of EC as per provisions of the para 11 of EIA Notification, 2006 as amended from time to time.	**Noted and accepted.** MoEF&CC will be notified of any change in mining lease ownership. In the event of any change in ownership or mining lease transfer, an application for EC transfer will be submitted in accordance with the provisions of Paragraph 11 of the EIA Notification, 2006, as amended.
II	**Air Quality Monitoring and Preservation**	
9	The Project Proponent shall install a minimum of 3 (three) online Ambient Air Quality Stations with 1 (one) in upwind and 2 (two) in downwind direction based on long term climatological data about wind direction such that an angle of 120° is made between the monitoring locations to monitor critical parameters, relevant for mining operations, of air pollution viz. PM10, PM2.5, NO2, CO and SO2 etc., as per the methodology mentioned in NAAQS Notification No. B-29016/20/90/PCI/I, dated 18.11.2009 covering the aspects of transportation and use of heavy machinery in the impact zone. The ambient air quality shall also be monitored at	**Complied**. Subsequent to obtaining EC on 25 April 2023, Continuous Ambient Air Quality Monitoring Stations (CAAQMS) equipped with gaseous and dust analyzers approved by the United States Environmental Protection Agency (USEPA) with valid certification and digital display were installed in consultation with KSPCB. As per the suggestions received from KPSCB the CAAQMS strategically positioned in the predominant wind direction, with one station in upwind and two stations in downwind direction, aligned at 120° angles to each other to monitor

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	prominent places like office building, canteen etc. as per the site condition to ascertain the exposure characteristics at specific places. The above data shall be digitally displayed within 03 months in front of the main Gate of the mine site.	critical air quality parameters outlined in NAAQS Notification No. B-29016/20/90/PCI/I, dated 18.11.2009. Ambient air quality will be monitored in accordance with the prescribed conditions of Environmental Clearance.
10	Effective safeguard measures for prevention of dust generation and subsequent suppression (like regular water sprinkling, metaled construction etc.) shall be carried out in areas prone to air pollution where in high levels of PM10 and PM 2.5 are evident such as haul road, loading and unloading point and transfer points. The fugitive dust emissions from all sources shall be regularly controlled by installation of required equipments/machineries and preventive maintenance. Use of suitable water-soluble chemical dust suppressing agents may be explored for better effectiveness of dust control system. It shall be ensured that air pollution level conform to the standards prescribed by the MoEF&CC/Central Pollution Control Board.	**Complied.** Effective safeguard measures have been adopted to prevent dust generation. These include the transportation of minerals in tarpaulin-covered tippers, Water sprinklers on haul roads, use of wet drilling, upgrading of road infrastructure by Cement concreting and asphalting, Hood covers for the Crushing and screening plants, induction of mist cannons at stock yards and crushing and screening plants, deployment of truck mounted dry fog system for suppression of dust on haul roads/mine faces, watering through tankers have been implemented. Use of water-soluble chemical dust suppressing agents will be explored during the enhanced production stage. It is ensured that the air pollution levels conform to the standards prescribed by the MoEF&CC and the Central Pollution Control Board. Field photographs of implementation enclosed in **Annexure-24.**
III	**Water Quality Monitoring and Preservation**	
11	In case, immediate mining scheme envisages intersection of ground water table, then Environmental Clearance shall become operational only after receiving formal clearance from CGWA. In case, mining operation involves intersection of ground water table at a later stage, then PP shall ensure that prior approval from CGWA and MoEF&CC is in place before such mining operations. The permission for inter section of ground water table shall essentially be based on detailed hydro-geological study of the area.	**Noted and agreed.** Based on the Hydrogeological Studies carried out through Former Regional Director of Central Ground Water Board and having the particulars of water table from Ground Water department and getting it incorporated in the mining plan, Intersecting the groundwater table is not envisaged either currently or at the conceptual stage of mining operations. As per the approved Review and Updation of mining plan Water table is at 560 mRL and Mining operations till conceptual stage planned is till 795 mRL, hence intersection not forecasted.

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12	Project Proponent shall regularly monitor and maintain records w.r.t. ground water level and quality in and around the mine lease by establishing a network of existing wells as well as new piezo-meter installations during the mining operation in consultation with Central Ground Water Authority/ State Ground Water Department. The report on changes in Ground water level and quality shall be submitted on six-monthly basis to the Regional Office of the Ministry, CGWA and State Groundwater Department/ State Pollution Control Board.	**Complied.** A total of 8 piezometers borewells in the Core Zone and 11 open wells in the Buffer Zone are monitored using Static Level Water Recorder and another 4 with Digital Water recorder with telemetry system has been installed. For the financial year 2024-25, water level monitoring is recorded during the monsoon period (May-2024) and the post-monsoon period (August-2024), and the data is enclosed as **Annexure- 25**. The monitoring reports are regularly submitted to Karnataka Ground Water authority on quarterly basis. Field photographs of Ground water monitoring are enclosed in **Annexure-26.**
13	The Project Proponent shall undertake regular monitoring of natural water course, water resources/springs and perennial nallahs existing/flowing in and around the mine lease including upstream and downstream. Sufficient number of gullies shall be provided at appropriate places within the lease for management of water. The parameters to be monitored shall include their water quality vis-a-vis suitability for usage as per CPCB criteria and flow rate. It shall be ensured that no obstruction and/or alteration be made to water bodies during mining operations without justification and prior approval of MOEF&CC. The monitoring of water courses/bodies existing in lease area shall be carried out four times in a year viz. pre-monsoon (April-may), Monsoon (August), post-monsoon (November) and winter (January) and the record of monitored data may be sent regularly to Ministry of Environment, Forest and Climate Change and its Regional Office, Central Ground Water Authority and Regional Director, Central Ground Water Board, State Pollution Control Board and Central Pollution Control Board, clearly showing the trend analysis on six-monthly basis.	**Complied.** There exists no natural water source or springs or perennial nallahs which flows in the mining lease area either in upstream and downstream. The drainages from the mines which are seasonal drains in eastern and western direction of the mine lease for which engineering measures as suggested under surface water management like check dams, silt settling tanks, and rainwater harvesting pits by ICFRE/Hydrogeological Studies has been constructed. Sample Photographs of structures built are enclosed in **Annexure-27.** Regular monitoring of runoff water from the mine lease area is conducted during monsoon June-September four times during monsoon season, This monitoring is performed by environmental laboratory that is duly recognized under section 12(1)(b) of the Environment (Protection) Act, 1986 and holds valid accreditation by NABL. Monitoring reports and the analyzed trends of water quality are regularly submitted to the IRO, Karnataka Ground Water authority and to Karnataka State Pollution Control Board.

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14	Quality of polluted water generated from mining operations which include Chemical Oxygen Demand (COD) in mines run-off; acid mine draining and metal contamination in runoff shall be monitored along with Total Suspended Solids (TDS), Dissolved Oxygen (DO), pH and Total Suspended Solids (TSS). The monitored data shall be uploaded on the website of the company as well as displayed at the project site in public domain, on a display board, at a suitable location near the main gate of the Company. The circular no. dated 2.05.2009 issued by Ministry of Environment, Forest and Climate Change may also be referred to in this regard.	**Complied.** The runoff water from the mines is channelised through drainage to the Silt Settling tanks, Rainwater harvesting tanks and Check Dams. It has been ensured that toe walls and garland drains has been constructed at the bottom of the waste dump to arrest the flow of silt from Dumps. In-active terraces are taken under Grassification and Coir matting. Thus, it is ensured that there are less suspended solids in the runoff water. Water quality parameters prescribed in the standard conditions of EC are consistently monitored. The monitored reports are being displayed in public domain. Further, water quality data is periodically uploaded as both quarterly and six-monthly reports on the Company's website. Sample Filed Photographs of implementation is enclosed in **Annexure-28.**
15	Project Proponent shall plan, develop and implement rainwater harvesting measures on long term basis to augment ground water resources in the area in consultation with Central Ground Water Board/ State Groundwater Department. A report on amount of water recharged needs to be submitted to Regional Office MoEF&CC annually.	**Complied.** Hydrogeological studies conducted in April 2024, through the Former Regional Director of the Central Ground Water Board, as well as a consultant recognized by NABET and the Ministry of Jal Shakti for groundwater modelling in mining projects, have estimated that 11,226 m^3/day has been recharged to the groundwater as per GEC Norms. Within the mine lease area, a total of 46 rainwater harvesting pits. Silt Settling Tanks (51), Stone masonry check dams(26), and loose boulder check dams(116) have already been constructed to enhance and facilitate groundwater recharge. Additionally, it is proposed that similar engineering structures will be undertaken in the upcoming period to further augment groundwater recharge. Abstract of Recharge to Ground water from the Hydrogeological Studies enclosed in **Annexure-29.**

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16	Industrial waste water (workshop and waste water from the mine) should be properly collected and treated so as to conform to the notified standards prescribed from time to time. The standards shall be prescribed through Consent to Operate (CTO) issued be concerned State Pollution Control Board (SPCB). The workshop effluent shall be treated after its initial passage through oil and grease trap.	**Being Complied.** A 10 KLD capacity Effluent Treatment Plant (ETP) and an Oil Grease Trap System has been established within the mine premises to cater to need of the effluents getting generated from the light motor vehicle maintenance don't at workshop. The entire mining machinery and HEMM are contractual in nature and all the maintenance and washing of this machinery is done at the OEM facility/Contractor and not in the mine lease premises. Additionally, 50 KLD ETP is proposed to be constructed within the mine lease. The effluent generated by the automobile workshop is collected and treated effectively. The treated water complies with the standards outlined in G.S.R.952(E) of the Environment (Protection) Second Amendment Rules, 2019, applicable to automobile service station/bus depot or workshops. Regular Monitoring of water quality parameters is conducted by an environmental laboratory that is duly recognized under section 12(1)(b) of the Environment (Protection) Act, 1986 and holds valid accreditation by NABL.
17	The water balance/water auditing shall be carried out and measure for reducing the consumption of water shall be taken up and reported to the Regional Office of the MoEF&CC and State Pollution Control Board/Committee.	**Complied.** Water balance and water audit from Central Ground water board accredited auditor has been carried out and the audit report has been submitted to Karnataka Ground Water authority, IRO of MOEFCC and to State Pollution Control Board vide letter No SMIORE/MN/241019/1008 dated 28 October 2024. Acknowledged copy enclosed in **Annexure-30.**
IV	**Noise and Vibration Monitoring and Prevention**	
18	The peak particle velocity at 500m distance or within the nearest habitation, whichever is closer shall be monitored periodically as per applicable DGMS guidelines.	**Complied.** Peak Particle Velocity (PPV) during blasting process is being monitored as per the applicable DGMS guidelines and the monitoring is performed by an environmental laboratory that is duly recognized under section 12(1)(b) of the

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		Environment (Protection) Act, 1986 and holds valid accreditation by NABL. Copy of latest report enclosed in **Annexure-31.**
19	The illumination and sound at night at project sites disturb the villages in respect of both human and animal population. Consequent sleeping disorders and stress may affect the health in the villages located close to mining operations. Habitations have a right for darkness and minimal noise levels at night. PPs must ensure that the biological clock of the villages is not disturbed; by orienting the floodlights/masks away from the villagers and keeping the noise levels well within the prescribed limits for day/night hours.	**Noted and complied.** As of now mining operations are carried out in two shifts operations. It has been ensured that necessary precautionary measures are taken to ensure that neighboring villages and residents are not disrupted by light or sound during the second shift operations.
20	The Project Proponent shall take measures for control of noise levels below 85dBA in the work environment. The workers engaged in operations of HEMM, etc., should be provided with ear plugs/muffs. All personnel, including laborers working in dusty areas shall be provided with protective respiratory devices along with adequate training, awareness and information on safety and health aspects. The PP shall be held responsible in case it has been found that workers/personnel/laboureres are working without personal protective equipment.	**Noted and complied.** Adequate measures have been taken to maintain the noise level below 85dBA in the work environment. The mine workers engaged in operating HEMM, and other mining operations are being supplied with protective respiratory devices and earplugs/muff to avoid exposure to high noise levels. Comprehensive training, awareness, and information on safety and health aspects are provided to all the workers of mine. Strict enforcement of personal protective equipment (PPE) in the work environment are being ensured so that no worker will be working without PPEs.
V	**Mining Plan**	
21	The Project Proponent shall adhere to approved mining plan, inter alia, including, total excavation (quantum of mineral, waste, over burden, inter burden and top soil etc.); mining technology; lease area; scope of working (method of mining, overburden & dump management, O.B& dump mining, mineral transportation mode, ultimate depth of mining , concurrent reclamation and reclamation at mine closure; land use of the mine lease area at various	The mine working are aligned with respect to the approved Mining Plan in accordance with the proposals made therein with respect to production, development, dump management, top soil, mineral transportation, progressive reclamation and rehabilitation.

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	stages of mining scheme as well as at the end -of - life; etc.).	
22	The land -use of the mine lease area at various stages of mining scheme as well as at the end-of-life shall be governed as per the approved Mining Plan. The excavation vis-à-vis backfilling in the mine lease area and corresponding afforestation to be raised in the reclaimed area shall be governed as per approved mining plan. PP Shall ensure the monitoring and management of rehabilitated areas until the vegetation becomes self-sustaining. The compliance status shall be submitted half-yearly to the MoEFCC and its concerned Regional Office.	**Noted and agreed.** The land use (Existing and Conceptual) has been approved in the Review and Updation of the Mining Plan by the IBM. Proposals of backfilling, afforestation on dumps align with the approved plan in vogue. Reclamation of waste dumps by afforestation covering 119 hectares, 21.66 ha of mined pits by backfilling and afforestation and 27.45 ha of mined out pits has been reclaimed by afforestation. Photographs are enclosed in **Annexure-32.** Efforts such as de-weeding, scrapping, hoeing, irrigation through tankers, sprinklers, use of vermicompost, manure to foster the growth of vegetation has been undertaken by the company.
VI	**Land reclamation**	
23	The Overburden (O.B), waste and topsoil generated during the mining operations shall be stacked at Earmarked OB dump site(s) only and it should not be kept active for a long period of time. The physical parameters of the OB / waste dumps / topsoil dump like height, width and angle of slope shall be governed as per the approved Mining Plan and the guidelines/ circulars issued by D.G.M.S. The topsoil shall be used for land reclamation and plantation.	**Complied.** The Overburden (O.B), waste, and topsoil generated from mining operations are systematically dumped at designated OB dump site(s) as per the yearly production and development proposals approved in the Review and Updation of Mining Plan. These dumps are further stabilized through the geo-textile coir matting and the plantation of native species, adhering to the guidelines set forth by ICFRE. The physical parameters of the OB / waste dumps / topsoil dump like height, width and angle of slope is maintained as per the approved Review and Updation of Mining Plan and ICFRE approved R & R plan. Topsoil is being used in land reclamation and plantation activities. Engineering measures for dump management as prescribed has been implemented and also is being continued as part of progressive mining operations.

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24	The slope of dumps shall be vegetated in scientific manner with suitable native species to maintain the slope stability, prevent erosion and surface run off. The selection of local species regulates local climatic parameters and help in adaptation of plant species to the microclimate. The gullies formed on slopes should be adequately taken care of as it impacts the overall stability of dumps. The dump mass should be consolidated with the help of dozer/ compactors thereby ensuring proper filling/levelling of dump mass. In critical areas, use of geo textiles/geo-membranes / clay liners / Bentonite etc. Shall be undertaken for stabilization of the dump.	**Agreed and complied.** The stabilization of the dumps is carried out in scientific and systematic manner, adhering to Reclamation and Rehabilitation (R&R) plan prescribed by Indian Council of Forestry Research and Education. Soling of terraces with topsoil, laying of coir mats, Grassification of dumps, plantation with native plant species implemented. Use of Vermicompost, farmyard manure, are used for enhancing growth and stabilization of dumps. Inward sloping of dump terraces with proper drainage facility are maintained to prevent formation of gullies.
25	Catch drains, setting tanks and siltation ponds of appropriate size shall be constructed around the mine working, mineral yards and Top Soil/OB/Waste dumps to prevent run off of water and flow of sediments directly into the water bodies (Nallah/ River/ Pond etc.) The collected water should be utilized for watering the mine area, roads, green belt development, plantation etc. The drains/sedimentation sumps etc. shall be de-silted regularly, particularly after monsoon season, and maintained properly.	**Complied.** Scientific and robust surface water management measures such as catch drains, rainwater harvesting tanks, settling tanks, check dams and siltation ponds of appropriate size are constructed in accordance with the ICFRE prescribed R&R plan. The drains/sedimentation sumps etc. are maintained with regular de-silting, particularly before and after the monsoon season, to ensure effective surface water management. Continuing further too such engineering structures will be constructed and maintained. Photographs are enclosed in **Annexure-33.**
26	Check dams of appropriate size, gradient and length shall be constructed around mine pit and OB dumps to prevent storm run-off and sediment flow into adjoining water bodies. A safety margin of 50% shall be kept for designing of sump structures over and above peak rainfall (based on 50 years data) and maximum discharge in the mine and its adjoining area which shall also help in providing adequate retention time period thereby allowing proper settling of sediments/ silt material. The sedimentation pits/sumps shall be constructed at the corners of the garland drains.	**Complied.** Check dams of appropriate size, gradient and length have been constructed and maintained as per the drainage pattern in the lease area as prescribed by the ICFRE in R&R Plan. The engineering design made by domain experts from ICFRE has considered the co-efficient of runoff based on the legacy rainfall data to prevent storm run-off and sediment flow into adjoining water bodies. Photographs are enclosed in **Annexure-34.**

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VII	**Transportation**	
27	No Transportation of the minerals shall be allowed in case of roads passing through villages/ habitations. In such cases, PP shall construct a 'bypass road for the purpose of transportation of minerals leaving an adequate gap (say at least 200 meters) so that the adverse impact of sound and dust along with chances of accidents could be mitigated. All costs resulting from widening and strengthening of the existing public road network shall be borne by the PP in consultation with nodal State Govt. Department. transportation of minerals through road movement in case of existing village/ rural roads shall be allowed in consultation with nodal State Govt. Department only after required strengthening such that the carrying capacity of roads is increased to handle the traffic load. The pollution due to transportation load on the environment will be effectively controlled and water sprinkling will also be done regularly. Vehicular emission shall be kept under control and regularly monitored. Project should obtain Pollution Under Control (PUC) certificate for all the vehicles from authorized pollution testing centers. [If applicable in case of road transport].	**Complied.** Cement Concrete roads have been constructed to enhance road infrastructure, increasing its capacity to accommodate higher traffic loads while concurrently reducing pollution associated with road transportation. Regular maintenance of Pollution Under Control (PUC) certificates for all vehicles is diligently carried out. SMIORE in association with other mining leases has contributed 27 crore and has made cement concreting of 35 km of ore evacuation roads. Furthermore, while prescribing the Maximum annual production by the CEC, the evacuation capacity of the roads are studied through Domain experts as per IRC-1964 guidelines and recommendations are made with.
28	The Main haulage road within the mine lease should be provided with a permanent water sprinkling arrangement for dust suppression. Other roads within the mine lease should be wetted regularly with tanker-mounted water sprinkling system. The other areas of dust generation like crushing zone, material transfer points, material yards etc. should invariably be provided with dust suppression arrangements. The air pollution control equipment like bag filters, vacuum suction hoods, dry fogging system etc. shall be installed at Crushers, belt-conveyors and other areas prone to air pollution. The belt conveyor should be fully covered to avoid generation of dust while transportation. PP shall take	**Complied.** Permanent and mobile water sprinkling systems are arranged in dust-prone areas. Pollution control equipment like hood cover for conveyors, water spray system using tankers, mist canyons are put in place. Bag filters and vacuum suction hoods are not feasible to be put in place considering the smaller capacity of crushing and screening plants and many of them are mobile in nature. SMIORE has commissioned downhill pipe conveyor system for ore evacuation from Kammatharu Iron Ore Mine to PMBR railway siding. The project is awaiting Stage-2 clearance from MoEFCC under Forest Conservation Act

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	necessary measures to avoid generation of fugitive dust emissions.	and subsequent to obtaining CFO from KSPCB will be put to use. Photographs enclosed in **Annexure -35.**
VIII	**Green Belt**	
29	The Project Proponent shall develop greenbelt in 7.5m wide safety zone all along the mine lease boundary as per the guidelines of CPCB in order to arrest pollution emanating from mining operations within the lease. The whole Green belt shall be developed within first 5 years starting from windward side of the active mining area. The development of greenbelt shall be governed as per the EC granted by the Ministry irrespective of the stipulation made in approved mine plan.	**Complied.** It is affirmed that greenbelt, with native species, has been developed in a 7.5m wide safety zone along the boundary in accordance with the conditions stipulated in Environmental Clearance (EC) granted by the MoEF&CC. Field photographs are enclosed in **Annexure-36.**
30	The Project Proponent shall carryout plantation/ afforestation in backfilled and reclaimed area of mining lease, around water body along the roadsides, in community areas etc. by planting the native species in consultation with the State Forest Department/ Agriculture Department/ Rural development department / Tribal Welfare Department/ Gram Panchayat such that only those species be selected which are of use to the local people. The CPCB guidelines in this respect shall also be adhered. The density of the trees should be around 2500 saplings per Hectare. Adequate budgetary provision shall be made for protection and care of trees.	**Complied and ongoing.** Plantation and afforestation activities are ongoing in backfilled portion of the mined-out pits, inactive terraces of the mine dumps, green belt safety zone, avenue plantation along haul roads and in community spaces/ township area. Since inception SMIORE has planted more than 38 lakh saplings including herbs, shrubs, climbers and native species. Native species are being planted at the EC-recommended density of 2,500 saplings/hectare. For the period April-September 2024 we have planted 34719 Saplings. Saplings of 8-10 feet height are also being procured from Forest Nursery and afforestation is being carried out by taking into confidence local forest authorities.

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31	The Project Proponent shall make necessary alternative arrangements for livestock feed by developing grazing land with a view to compensating those areas which are coming within the mine lease. The development of such grazing land shall be done in consultation with the State Government. In this regard, Project Proponent should essentially implement the directions of the Hon'ble Supreme Court with regard to acquisition of grazing land. The sparse trees on such grazing ground, which provide midday shelter from the scorching sun, should be scrupulously guarded / protected against felling and plantation of such trees should be promoted.	Land has been identified in the periphery of the mining lease falling under the revenue area. Developing into grazing land will be done in consultation concerned department.
IX	**Public hearing and human health issues**	
32	Project Proponent shall make provision for the housing for workers/ labours or shall construct labour camps within/ outside (company owned land) with necessary basic infrastructure/ facilities like fuel for cooking, mobile toilets, mobile STP, safe drinking water, medical health care, creche for kids etc. The housing may be provided in the form of temporary structures which can be removed after the completion of the project-related infrastructure. The domestic waste water should be treated with STP in order to avoid contamination of underground water.	**Complied.** The Company has built labour quarters within the lease area, providing roads, solar lights, toilets, healthcare, gardens, schools, and safe drinking water. Subsidized LPG connections are provided and subsidized rations are supplied. A 100 KLD STP using SBR technology treats domestic effluent. Subsequent to the project's commencement, an additional STP with a capacity of 200 KLD is being commissioned for which Consent for Establishment (CFE) has been obtained from KSPCB. Currently Feasibility studies are under way for setting up of 200 KLD STP.
X	**Corporate Environment Responsibility (CER)**	
33	The Project Proponent shall submit the time- bound actin plan to the concerned regional office of the Ministry within 6 months from the date of issuance of environmental clearance for undertaking the activities committed during public consultation by the project proponent and as discussed by the EAC, in terms of the provisions of the MoEF&CC Office Memorandum NO.22-65/2017-IA.III dated 30 September 2020. The action plan shall be	**Complied.** In fulfilment of the Corporate Environmental Responsibility (CER) commitments made during the public consultation, a time-bound action plan has been prepared and submitted to IRO - MOEF&CC , and it will be implemented within three years from the commencement of the project. Copy of the action plan submitted to IRO MOEFCC is enclosed as **Annexure- 37** vide letter

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	implemented within three years of commencement of the project.	No SMIORE/MN/241019/973 dated 21 October 2024.
XI	**Miscellaneous**	
34	The Project Proponent shall prepare digital map (land use & land cover) of the entire lease area once in five years purpose of monitoring land use pattern and submit a report to concerned Regional Office of the MoEF&CC.	**Complied.** A Land Use Land Cover (LULC) digital map has been prepared along with the Conceptual land use in KML Format when the Review and Updation of Mining Plan was made for obtaining EC. For every modification of mining plan undertaken Land use and Land cover in form of Conceptual Land use is approved by IBM. Such approved Conceptual Land use plan is was uploaded as part of EIA/EMP and as agreed Land Use and Land Cover map will be submitted to IRO MOEFCC
35	The Project Authorities should inform to the Regional Office regarding date of financial closures and final approval of the project by the concerned authorities and the date of start of land development work.	**Noted and agreed with.** Information will be provided to the Regional Office regarding the date of financial mine closures and final approval of the project by the concerned authorities, and the date of commencement of land development work.
36	The Project Proponent shall submit six monthly compliance reports on the status of the implementation of the stipulated environmental safeguards to the MOEFFCC & its concerned Regional Office, Central Pollution Control Board and State Pollution Control Board.	Six-monthly compliance reports on the "status of the implementation of the stipulated environmental safeguards" is submitted to the MOEFFCC through Parivesh Portal and physical copies are also provided to Regional Office and Karnataka State Pollution Control Board.
37	A separate 'Environmental Management Cell' with suitable qualified manpower should be set-up under the control of a Senior Executive. The Senior Executive shall report directly to Head of the Organization. Adequate number of qualified Environmental Scientist and Mining Engineers shall be appointed and submit a report to RO, MoEF&CC.	**Complied.** A separate 'Environmental Management Cell,' consisting of professionals with diverse backgrounds, including, environmental engineers, botanists, mining engineers and geologists have been setup. The functional head of the team directly reports to the Vice President Mines who is the unit head.
38	The concerned Regional Office of the MoEF&CC shall randomly monitor compliance of the stipulated conditions. The project authorities should extend full cooperation to the MoEF&CC officer(s) by	Agree to extend full cooperation and support to the MoEF&CC Officer(s) by furnishing the requisite data, information, and monitoring

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	furnishing the requisite data / information / monitoring reports.	reports to enable the monitoring of compliance with the stipulated conditions.
39	In pursuant to Ministry's O.M No 22-34/2018-IA.III dated 16.01.2020 to comply with the direction made by Hon'ble Supreme Court on 8.01.2020 in W.P (Civil) No 114/2014 in the matter Common Cause vs Union Of India, the mining lease holder shall after ceasing mining operations, undertake regressing the mining area and any other area which may have been disturbed due to other mining activities and restore the land to a condition which is fit for growth of fodder, flora, fauna etc.	**Noted.** We adhere to the commitment of rehabilitating the mining area and affected surroundings through the scientific implementation of the approved mine closure plan, aiming to restore the land for fodder, flora, fauna, and ecological elements. We will comply with the Ministry's Office Memorandum No. 22-34/2018-IA.III (16 January 2020) and the Supreme Court's directives from 8 January 2020 in W.P (Civil) No. 114/2014 (Common Cause vs. Union of India), which are legally binding on mining leaseholders.
40	The Ministry of any other competent authority may alter/modify the above conditions or stipulate any further condition in the interest of environment protection.	**Noted and agreed.**
41	Concealing factual a data failure to comply with any or submission of false/ fabricated data and of the conditions mentioned above may result in withdrawal of this clearance and attract action under the provisions of Environment (Protection) Act,1986.	**Noted and agreed.** We commit to accurate and truthful data submission in compliance with specified conditions. We understand that concealing facts or submitting false information is a serious violation, which may lead to the withdrawal of environmental clearance and legal action under the Environment (Protection) Act, 1986.
C.	**STANDARD EC CONDITIONS FOR MINERAL BENEFICIATION PLANTS**	
I	**Statutory Compliance**	**Compliance Status**
1	The project proponent shall obtain forest clearance under the provisions of Forest (Conservation) Act, 1986, in case of the diversion of forest land for non-forest purpose involved in the project.	The proposal of the proposed beneficiation plant is within the mine lease which has already obtained Forest Clearance valid till 13.03.2027 and deemed extension of the same is under progress.
2	The project proponent shall obtain clearance from the National Board for Wildlife, if applicable.	Not applicable
3	The project proponent shall prepare a Site-specific Conservation Plan & Wildlife Management Plan and approved by the Chief Wildlife Warden. The recommendations of the approved Site-Specific Conservation Plan / Wildlife Management Plan shall be implemented in consultation with the State Forest	The proposed beneficiation plant is within mine lease of 2678. Already as per the approved Site Specific Wildlife conservation plan approved by the chief of Wild Life Warden & PCCF Wildlife vide letter No PCCF/WLD/CR-84/2020-21, a sum

STANDARD CONDITIONS		
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	Department. The implementation report shall be furnished along with the six-monthly compliance report. (In case of the presence of Schedule-I species in the study area).	of INR 1,43,95,000/- (One crore, forty-three lakh, ninety-five thousand rupees) was paid to the State Forest Department towards the implementation of Wildlife Conservation Plan vide ref. no. SMIORE/HO/ENV/MINES/2023-24/52 dated 09 September 2023. As part of approved Wildlife management plan budgetary outlay of ₹ 1.4395 crore made was inclusive of use of Modern equipment's such as camera traps, watch and ward, binoculars etc. Accordingly, remittance has been made vide UTR No to Forest Department, Government of Karnataka. Copy of letter stating the remittance made enclosed in Annexure-11.
4	The project proponent shall obtain Consent to Establish / Operate under the provisions of Air (Prevention & Control of Pollution) Act, 1981 and the Water (Prevention & Control of Pollution) Act, 1974 from the concerned State Pollution Control Board / Committee.	Consent to Establishment has been obtained from the Karnataka State Pollution Control Board vide authorization number CTE-339450 dated 04.09.2023 under the Provision of Air (Prevention & Control of Pollution) Act, 1981 and the Water (Prevention & Control of Pollution) Act 1974.
5	The project proponent shall obtain the necessary permission from the Central Ground Water Authority, in case of drawl of ground water / from the competent authority concerned in case of drawl of surface water required for the project.	NoC was obtained from Karnataka Ground Water Authority on 16.02.2024 Vide no KG No: KGWAN1554866756) for abstraction of ground water of 5498 m3/day copy of the NoC obtained is enclosed in Annexure -16. There are no plans of withdrawl of any surface water for the project as of now.
6	The project proponent shall obtain authorization under the Hazardous and other Waste Management Rules, 2016 as amended from time to time.	Authorization for Handling, Storage and Disposal of Hazardous waste has been obtained vide authorization number H-123295 dated 21.04.2023 valid till 30/06/2028 from Karnataka State Pollution Control Board for Mining Lease 2678. Upon commissioning of Beneficiation Plant, if required authorization will be amended for the revised quantities.
II	**Air Quality Monitoring and Preservation**	
7	The project proponent shall install 24x7 continuous emission monitoring system at process stacks to monitor stack emission with respect to standards prescribed in Environment (Protection) Rules 1986 as amended from time to time and connected to SPCB and CPCB online servers and calibrate this	The proposal of setting up a Beneficiation plant to subjected to having other necessary requirements of Power and Water in place. The location of the intended beneficiation plant is coming will be Deogiri wherein already a Continuous Ambient

SANDUR MANGANESE & IRON ORES LTD.

STANDARD CONDITIONS		
Sl. No.	**Conditions**	**Status of Compliance**
	system from time to time according to equipment supplier specification through labs recognized under Environment (Protection) Act, 1986 or NABL accredited laboratories. Monitor fugitive emissions in the plant premises.	Air Quality Monitoring station has been commissioned.
8	The project proponent shall monitor fugitive emissions in the plant premises at least once in every quarter through labs recognized under Environment (Protection) Act, 1986.	**Noted and agreed.** Fugitive emission monitoring will be done and the report will be submitted in every quarter after commissioning and after duly obtaining CFO from Karnataka State Pollution Control Board.
9	The project proponent shall install system to carryout Continuous Ambient Air Quality monitoring for common / criterion parameters relevant to the main pollutants released (e.g., PM10 and PM2.5 in reference to PM emission, and SO2 and NOx in reference to SO2 and NOx emissions) within and outside the plant area at least at four locations (one within and three outside the plant area at an angle of 120'each). covering upwind and downwind directions.	**Complied.** The proposal of setting up a Beneficiation plant to subjected to having other necessary requirements of Power and Water in place. The location of the intended beneficiation plant will be at Deogiri wherein already a Continuous Ambient Air Quality Monitoring station has been commissioned. The intended location of proposed Beneficiation plant to be setup is at distance of 0.6 km from the already setup CAAQMS station, Hence this station can measure the AAQ. Apart from this another CAAQMS station as suggested by KSPCB is also commissioned at Subbarayanahalli.
10	The project proponent shall submit monthly summary report of continuous stack emission and air quality monitoring and results of manual stack monitoring and manual monitoring of air quality / fugitive emissions to Regional Office of MoEF&CC, Zonal office of CPCB and Regional Office of SPCB along with six-monthly monitoring report.	**Noted and will be complied.** Monthly and Six monthly monitoring reports of CEMS & AAQMS will be submitted commissioning and after duly obtaining CFO from Karnataka State Pollution Control Board.
11	Appropriate Air Pollution Control (APC) system shall be provided for all the dust generating points including fugitive dust from all vulnerable sources, so as to comply prescribed stack emission and fugitive emission standards.	**Noted and will be complied.** It will be ensured that before commissioning the proposed Beneficiation plant Appropriate Air Pollution Control (APC) system will be provided for all the dust generating points including fugitive dust from all vulnerable sources, to comply with prescribed stack emission and fugitive emission standards.

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STANDARD CONDITIONS		
Sl. No.	**Conditions**	**Status of Compliance**
12	The project proponent use leak proof trucks / dumpers carrying ore and other raw materials and cover them with tarpaulin.	**Noted and will be complied.** It will be ensured upon commission that dumpers/tippers carrying Iron Ore will be covered with tarpaulins
13	Wind shelter fence and chemical spraying shall be provided on the raw material stock piles.	**Noted and will be complied.** It will be ensured that before commissioning the proposed Beneficiation plant.
14	Design the ventilation system for adequate air changes as per ACGIH document for all tunnels, motor houses, Oil Cellars.	**Noted and will be complied.** It will be ensured that before commissioning the proposed Beneficiation plant.
III	**Water Quality Monitoring and Preservation**	
15	The project proponent shall install 24x7 continuous effluent monitoring system with respect to standards prescribed in Environment (Protection) Rules 1986 as amended from time to time and connected to SPCB and CPCB online servers and calibrate these system from time to time according to equipment supplier specification through labs recognized under Environment (Protection) Act, 1986 or NABL accredited laboratories.	It is to submit that upon commissioning of the Beneficiation plant there would be no generation of effluents envisaged. Only wastewater from the domestic usage would be generated which would be treated at the 200 KLD STP which is under process of commissioning at Deogiri.
16	The project proponent shall monitor regularly ground water quality at least twice a year (pre and post monsoon) at sufficient numbers of piezometers / sampling wells in the plant and adjacent areas through labs recognized under Environment (Protection) Act, 1986 and NABL accredited laboratories.	**Complied.** The water quality from existing borewells in the vicinity of the proposed beneficiation plants has already been monitored by NABL recognized Laboratory twice a year and reports are submitted to concerned regulatory authorities.
17	The project proponent shall submit monthly summary report of continuous effluent monitoring and results of manual effluent testing and manual monitoring of ground water quality to Regional Office of MoEF&CC, Zonal office of CPCB and Regional Office of SPCB along with six-monthly monitoring report.	**Agreed and will be complied.** Monitoring will be done subsequently monthly and Six monthly monitoring reports of effluent will be submitted.
18	The project proponent shall provide the slime disposal facility with impervious lining and collection wells for seepage. The water collected from the slime pond shall be treated and recycled.	Agreed and will be installed slime disposal facility.
19	Adhere to 'Zero Liquid Discharge'.	**Noted and agreed.**

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STANDARD CONDITIONS		
Sl. No.	**Conditions**	**Status of Compliance**
		Upon commissioning of the beneficiation plant, the Process water from the Beneficiation will be recycled. Waste Water generated from domestic use will be treated at the 200 KLD STP under verge of commissioning at Deogiri. There would be no trade effluents going to be generated from the beneficiation plant as no chemicals would be used.
20	Sewage Treatment Plant shall be provided for treatment of domestic wastewater to meet the prescribed standards.	**Noted and agreed.** Upon commissioning of the beneficiation plant, the Wastewater generated from domestic use will be treated at the 200 KLD STP under verge of commissioning at Deogiri.
21	Garland drains and collection pits shall be provided for each stock pile to arrest the run-off in the event of heavy rains and to check the water pollution due to surface run off.	**Noted and agreed.** During the commissioning of the proposed beneficiation plant, Garland drains and collection pits will be constructed.
22	The project proponent shall practice rainwater harvesting to maximum possible extent.	**Noted and agreed.** Roof top rainwater harvesting will be done taken for implementation upon commissioning of the beneficiation plant.
23	The project proponent shall make efforts to minimize water consumption in the steel plant complex by segregation of used water, practicing cascade use and by recycling treated water.	**Noted and agreed.**
IV	**Noise Monitoring and Prevention**	
24	Noise level survey shall be carried as per the prescribed guidelines and report in this regard shall be submitted to Regional Officer of the Ministry as a part of six-monthly compliance report.	**Noted and agreed.** Upon commissioning and operationalizing the beneficiation plant, Ambient Noise level Monitoring shall be carried out at the ambient locations and reports will be sent to SPCB along with Monthly report. Noise level monitoring within the plant units will be monitored as per the schedule of Occupational Health & Safety Management Systems (ISO 45001:2018).
25	The ambient noise levels should conform to the standards prescribed under E(P)A Rules, 1986 viz. 75 dB(A) during day time and 70 dB(A) during night time.	**Noted and agreed.** Acoustic hoods, silencers, enclosures will be provided for meeting the ambient noise standards.
V	**Energy Conservation measures**	

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STANDARD CONDITIONS		
Sl. No.	**Conditions**	**Status of Compliance**
26	Provide solar power generation on rooftops of buildings, for solar light system for all common areas, street lights, parking around project area and maintain the same regularly;	**Noted and agreed.** Upon commissioning of the beneficiation plant, Roof top Solar Panels will be installed buildings and for all common areas, Street Lights, for harnessing the solar energy.
27	Provide LED lights in their offices and residential areas.	Noted and agreed. Upon commissioning of the beneficiation plant, LED Lights will be provided at the beneficiation plant office and as external street lights.
VI	**Waste management**	
28	The waste oil, grease and other hazardous waste shall be disposed of as per the Hazardous & Other waste (Management & Transboundary Movement) Rules, 2016.	**Noted and agreed.** Upon commissioning of the beneficiation plant, generated will be disposed of as per Hazardous & Other waste (Management & Transboundary Movement) Rules, 2016. Authorization for Handling, Storage and Disposal of Hazardous waste has been obtained vide authorization number H-123295 dated 21.04.2023 valid till 30/06/2028 from Karnataka State Pollution Control Board for Mining Lease 2678. Upon commissioning of Beneficiation Plant, if required authorization will be amended for the revised quantities.
29	Kitchen waste shall be composted or converted to biogas for further use (to be decided on case-to-case basis depending on type and size of plant).	**Noted and agreed.** It is a centralized canteen facility wherein the vegetative waste is already used for making of compost.
VII	**Green Belt and EMP**	
30	Green belt shall be developed in an area equal to 33% of the plant area with a native tree species in accordance with CPCB guidelines. The greenbelt shall inter alia cover the entire periphery of the plant.	It is to submit that the proposed Beneficiation plant is proposed to be setup within the mining lease itself. Already green belt of 57 Ha has been developed and maintained all-round the mine lease and afforestation has been carried out on dumps, non-mineral bearing areas. Green belt upon commissioning of the plant will be developed along the periphery of the proposed plant.
31	The project proponent shall prepare GHG emissions inventory for the plant and shall submit the	**Noted and Agreed.** Will be complied upon commissioning of the proposed plant.

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STANDARD CONDITIONS		
Sl. No.	**Conditions**	**Status of Compliance**
	programme for reduction of the same including carbon sequestration including plantation.	
VIII	**Public hearing and Human health issues**	
32	Emergency preparedness plan based on the Hazard identification and Risk Assessment (HIRA) and Disaster Management Plan shall be implemented.	**Noted.** Organisation is ISO 45001:2018 certified under Occupational Health and Safety Management. Emergency preparedness plan will be prepared based on HIRA and Disaster management plan will be implemented.
33	The project proponent shall carry out heat stress analysis for the workmen who work in high temperature work zone and provide Personal Protection Equipment (PPE) as per the norms of Factory Act.	Noted. But it is to submit that this condition will be Not applicable because of no major exposure of personnel to heat will be there as it will be only beneficiation activity.
34	Provision shall be made for the housing of construction labour within the site with all necessary infrastructure and facilities such as fuel for cooking, mobile toilets, mobile STP, safe drinking water, medical health care, creche etc. The housing may be in the form of temporary structures to be removed after the completion of the project.	**Noted.** Provision will be made for the housing of construction labour within the site with all necessary infrastructure and facilities such as fuel for cooking, mobile toilets, safe drinking water, and Medical Health Care, will be provided during the construction phase.
35	Occupational health surveillance of the workers shall be done on a regular basis and records maintained as per the Factories Act.	**Noted and Agreed.** It is to submit that proposed beneficiation plant will be within the mine lease area and it attracts statutes and provisions of Mines act and rules thereof. Accordingly, Initial and Periodical Medical examination for the employees are being carried out at OHS recognized hospital Arogya maintained by SMIORE, same would be extended to workers going to be engaged at the Beneficiation plant also.
IX	**Corporate Environment Responsibility**	
36	The project proponent shall submit the time-bound action plan to the concerned regional office of the Ministry within 6 months from the date of issuance of environmental clearance for undertaking the activities committed during public consultation by the project proponent and as discussed by the EAC, in terms of the provisions of the MoEF&CC Office Memorandum No.22-65/2017-IA.III dated 30	**Complied.** In fulfilment of the Corporate Environmental Responsibility (CER) commitments made during the public consultation, a time-bound action plan has been prepared and submitted to IRO - MOEF&CC, and it will be implemented within three years from the commencement of the

SANDUR MANGANESE & IRON ORES LTD. SANDUR

STANDARD CONDITIONS		
Sl. No.	**Conditions**	**Status of Compliance**
	September, 2020. The action plan shall be implemented within three years of commencement of the project.	project. Copy of the action plan submitted to IRO MOEFCC is enclosed as **Annexure- 37.**
37	The company shall have a well laid down environmental policy duly approve by the Board of Directors. The environmental policy should prescribe for standard operating procedures to have proper checks and balances and to bring into focus any infringements / deviation / violation of the environmental / forest / wildlife norms/ conditions. The company shall have defined system of reporting infringements / deviation / violation of the environmental / forest / wildlife norms / conditions and / or shareholders / stake holders. The copy of the board resolution in this regard shall be submitted to the MoEF&CC as a part of six-monthly report.	**Complied.** The Sandur Manganese & Iron Ores Limited is ISO 14001:2015 certified under Environment Management system. Company has well laid down Environmental Policy duly approved by the Managing Director of the Company. Company has setup Environment Cell at unit level to address all the issues and concerns pertaining to environment and also to undertaken implementation of environment management plan in a time bound manner as per all the relevant laws and statutes.
38	A separate Environmental Cell both at the project and company head quarter level, with qualified personnel shall be set up under the control of senior Executive, who will directly to the head of the organization.	**Complied.** SMIORE has setup Environment Management Cell with qualified and competent personnels at the mine level. The functional head of the Cell directly reports to the Vice President- Mines Operation.
39	Action plan for implementing EMP and environmental conditions along with responsibility matrix of the company shall be prepared and shall be duly approved by competent authority. The year wise funds earmarked for environmental protection measures shall be kept in separate account and not to be diverted for any other purpose. Year wise progress of implementation of action plan shall be reported to the Ministry / Regional Office along with the Six-Monthly Compliance Report.	**Will be complied.** Upon commissioning of the Mineral Beneficiation plant, Action plan for implementing Environment Management Plan with responsibility matrix will be submitted upon due approval from competent authority. Year wise action plan of Progress of implementation of action plan will be reported to IRO in the six monthly compliance report.
40	Self-environmental audit shall be conducted annually. Every three years third party environmental audit shall be carried out.	**Noted and agreed upon.** For the Beneficiation plant, Self-Environmental audit will be conducted annually and Every three years third party environmental audit will be carried out upon commissioning of the plant.

SANDUR MANGANESE & IRON ORES LTD. ★ SANDUR

STANDARD CONDITIONS		
Sl. No.	**Conditions**	**Status of Compliance**
		For the mines, Compliance to third party audit of Compliance to EC Conditions will be conducted through Center of Mining Environment, Center for Excellence MOEFCC IIT-ISM Dhanbad.
41	All the recommendations made in the Charter on Corporate Responsibility for Environment Protection (CREP) for the Mineral Beneficiation plants shall be implemented.	**Noted and agreed upon.** The proposed beneficiation plant is within mine lease of 2678. In fulfilment of the Corporate Environmental Responsibility (CER) commitments made during the public consultation, a time-bound action plan has been prepared and submitted to IRO - MOEF&CC, and it will be implemented within three years from the commencement of the project. Copy of the action plan submitted to IRO MOEFCC is enclosed as **Annexure- 37.**
X	**Miscellaneous**	
42	The project proponent shall make public the environmental clearance granted for their project along with the environmental conditions and safeguards at their cost by prominently advertising it at least in two local newspapers of the District or State, of which one shall be in the vernacular language within seven days and in addition this shall also be displayed in the project proponent's website permanently.	**Complied.** Advertisement through publication of Public Notice in Newspapers of The New **Indian Express & Prajavani**) made on Thursday dated 27.04.2023. The copy of the publication made submitted to IRO MOEFCC and also to Karnataka State Pollution Control Board.
43	The copies of the environmental clearance shall be submitted by the project proponents to the Heads of local bodies, Panchayats and Municipal Bodies in addition to the relevant offices of the Government who in turn has to display the same for 30 days from the date of receipt.	**Complied.** A copy of EC letter has been marked and displayed in nearby Gram panchayats. Acknowledgment from the panchayat are enclosed in **Annexure-38.**
44	The project proponent shall upload the status of compliance of the stipulated environment clearance conditions, including results of monitored data on their website and update the same on half-yearly basis.	**Complied.** Environment Clearance Conditions Compliance Status report uploaded in our company website.
45	The project proponent shall monitor the criteria pollutants level namely; PM10, SO2, Nox (ambient levels as well as stack emissions) or critical sectoral parameters, indicated for the projects and display the	**Complied.** Installed two number of LED Display boards at the convenient location for disclosure of Ambient

SANDUR MANGANESE & IRON ORES LTD. ★ SANDUR

STANDARD CONDITIONS		
Sl. No.	**Conditions**	**Status of Compliance**
	same at a convenient location for disclosure to the public and put on the website of the company.	Air Quality levels to the public. The photographs of the LED board are enclosed in **Annexure-39.**
46	The project proponent shall submit six-monthly reports on the status of the compliance of the stipulated environmental conditions on the website of the Ministry of Environment, Forest and Climate Change at environment clearance portal.	**Complied.** Six Monthly compliance reports are submitted/uploaded on Parivesh Portal.
47	The project proponent shall submit the environmental statement for each financial year in Form-V to the concerned State Pollution Control Board as prescribed under the Environment (Protection) Rules, 1986, as amended subsequently and put on the website of the company.	**Complied.** Form V has been submitted to KSPCB as per prescribed under the Environment (Protection) Rules, 1986, as amended subsequently and put on the website of the company for the preceding FY 2023-24 on. Copy of the acknowledgment enclosed in **Annexure-40.**
48	The project proponent shall inform the Regional Office as well as the Ministry, the date of financial closure and final approval of the project by the concerned authorities, commencing the land development work and start of production operation by the project.	**Noted and agreed.**
49	The project authorities must strictly adhere to the stipulations made by the State Pollution Control Board and the State Government.	Noted and Agreed with. We will adhere to the stipulations made by the KPSCB and by the State Government.
50	The project proponent shall abide by all the commitments and recommendations made in the EIA / EMP report, commitments made during Public Hearing and also that during their presentation to the Expert Appraisal Committee.	We agree to abide by all the commitments and recommendations made in the EIA / EMP report, commitment made during Public Hearing and also that during our presentation to the Expert Appraisal Committee.
51	No further expansion or modification in the plant shall be carried out without prior approval of the Ministry of Environment, Forests and Climate Change (MoEF&CC).	**Noted and agreed with.**

Thanking You
For The Sandur Manganese & Iron Ores Limited

Krishna Reddy
Vice President Mines

SANDUR MANGANESE & IRON ORES LTD. SANDUR

The Sandur Manganese & Iron Ores Limited

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

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Fax: +91 80 4152 0182

SMIORE / MN / 230426 / 01

26 April 2023

The Central Empowered Committee
(Constituted by the Hon'ble Supreme Court)
2nd Floor, Chanakya Bhawan, Chanakyapuri
New Delhi - 110 021

Dear Sir,

Sub: Request to consider enhancement in Maximum Permissible Annual Production (MPAP) of iron ore from 1.60 to 4.50 Million Tons Per Annum (MTPA) from Mining Lease No.2678 (Old No.2580) in accordance with the Environmental Clearance (EC) issued by Ministry of Environment, Forest & Climate Change (MOEF&CC).

Ref: EC No. EC23A001KA158909 in File No.-IA-J-11015/45/2021-IA-II(M) dated 25 April 2023

We write to bring to your kind notice that while granting approval of MPAP for iron ore vide CEC's letter No.2-75/CEC/SC/2015-Pt.II dated 18 March 2016, MPAP was restricted at 1.60 MTPA based on the EC available for the Mining Lease. We have now obtained EC from the MoEFCC vide EC No.EC23A001KA158909 dated 25 April 2023 (copy enclosed as **Annexure - 01**) enhancing the iron ore production from 1.60 to 4.50 MTPA.

Review and Updation of the Mining Plan has been recently approved by the Indian Bureau of Mines vide letter No.279/281/91/BNG-VOL II-1130 dated 19 September 2022 (copy enclosed as **Annexure - 02**). The estimated iron ore resources (inclusive of hematitic siliceous iron ore) as per United Nations Framework Classification (UNFC) system in the approved Review and Updation of mining plan is 101 Million Tons. Copies of relevant pages of the approved Review and Updation of mining plan are enclosed as **Annexure - 03**.

As per the approved Review and Updation of the mining plan the balance waste that can be accommodated in dumps identified in Iron Ore sections after deducting the total volume occupied under the said dumps (as on 31 March 2023) with in the approved capacity of dumps of the R&R Plan approved by the CEC vide letter dated 28 August 2012, and also by considering the revised stripping ratio of 0.697 (actual stripping ratio for preceding five years of the approval of Review and Updation of mining plan) based on the guideline issued by the CEC letter vide letter no F. No: 2-75ICECISCI2cJI7 Pt. VIII dated 8 December 2022, the MPAP based on dump criteria will be 6.25 MTPA.

27/4/2023

RECEIVED CENTRAL EMPOWERED COMMITTEE
(Constituted by Hon'ble Supreme Court of India)
2nd Floor, Chanakya Bhawan
Chanakya Puri
New Delhi - 110 021

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

Pursuant to our request to CEC seeking enhancement in Manganese Ore Production, ICFRE has submitted its report on observation on production enhancement of Iron and manganese ore mine (ML No.2678) of The Sandur Manganese & Iron Ores Limited vide letter number No-1-68(A)/2012-ADG(EM)/R&R Plan/BCT(Karnataka)/ICFRE/1231 dated 7 October 2022 has submitted its report to CEC where in Road capacities for both Manganese and Iron Ore were evaluated as 20.16 MTPA.

As per the criteria of % share to arrive at MPAP w.r.t., to EC adopted in this report for Iron Ore and Manganese and considering the new EC for the enhanced Iron Ore Production of 4.50 MTPA and 0.55 MTPA for Manganese the revised % share would be 89% in respect of Iron Ore and 11 % in respect of Manganese. Hence the permissible annual production assignable based on increased axle load and improvement on infrastructure being undertaken by The Sandur Manganese and Iron Ore Limited for ML.No 2678 is 17.94 MTPA in Iron Ore and 2.21 MTPA in Manganese Ore. Relevant pages of ICFRE's report pertaining to permissible limit based on road capacity is enclosed as **Annexure - 04**.

The summary of permissible annual production on three criteria is tabulated as below :

Description	Quantity (MTPA)
Based on Reserves	5.05
Based Dumps	6.25
Based on Roads	17.94

In light of the above, based on least of the above three criteria, MPAP would be 5.05 MTPA based on reserves being the minimum, However, EC granted by the MoEFCC being 4.50 MTPA of iron ore production, we request you to kindly accord your approval for MPAP of 4.50 MTPA.

Thank You

for The Sandur Manganese & Iron Ores Limited

Md. Abdul Saleem
Director (Mines)

Encl: A/a

सत्यमेव जयते

CENTRAL EMPOWERED COMMITTEE

Constituted by the Hon'ble SUPREME COURT OF INDIA

F.No. 2-75/CEC/SC/2020-Pt.XI (Vol.II) **Dated: 19th October 2023**

To

The Chief Secretary
Government of Karnataka
Bangalore

Sub: Enhancement of permissible production limit in respect of Category- "A" & "B" and auctioned mining leases.

Sir

Please refer to Government of Karnataka, Commerce & Industries Department letter No. CI 03 MMM 2023 dated 7.10.2023 on the above subject. The CEC, after examining in detail the recommendations of the Technical Committee and report of the ICFRE and keeping in view the Hon'ble Supreme Court order dated 13.4.2012 and Judgment dated 18.4.2013, decision of CEC in the meeting held on 01.12.2015 & 7.12.2022 and the direction in Judgment dated 14.12.2017 of the Hon'ble Supreme Court, hereby approves the revised permissible annual production in respect of following mining lease as per the details given below and subject to conditions in para 2.

Sl. No.	Name of Lessee, ML No.	Current PAP (in MMT)	Recommended PAP (in MMT)	Remarks
1.	M/s. R. Praveen Chandra, ML No. 2294	1.40	**1.798**	Based on reserves subject to production of EC for enhanced quantitiy
2.	M/s. S.A.Thawab & Co., ML No. 2488	0.0675	**0.15**	Based on EC Capacity
3.	M/s. JSW Steel Ltd., (auctioned mine, ML No. 014, old No. 2346)	1.00	**3.66**	Based on reserves subject to obtaining EC on the enhanced MPAP
4.	M/s.Sandur Manganese & Iron Ore Ltd., Ml No. 2678	1.60	**3.81**	Based on reserves

2nd Floor, Chanakya Bhawan, Chanakya Puri, New Delhi-21 Tel : 011-21610612, 21610613
Fax : 24101925, Email : cecindia202@gmail.com, Website: www.cecindia.nic.in

5.	M/s. Sri Kumaraswamy Mineral Exports Pvt. Ltd., ML No. 2141	2.38	**2.80**	Based on road capacity

2. The above approval is subject to the following conditions:

a) the State Government will ensure that the sum total of annual production from all the lessees excluding the e-auctioned Category "C" mines, does not exceed 35 MMT in District Bellary;

b) in the event it is found that the sum total of annual production is exceeding the limits mentioned at (a) above the lease wise permissible annual production of all the operating leases will automatically stand reduced on pro rata basis against the approved PAP given in this letter in such a way that the actual annual production does not exceed 35 MMT in District Bellary and 15 MMT in District Chitradurga and Tumkur;

c) in respect of ML No. 2294 of M/s. R. Praveen Chandra only in principal approval for the enhancement is issued and enhancement now approved will come into effect only after production of the Environment Clearance issued by MoEF&CC for enhanced annual production. CEC will thereafter issue specific final approval after considering the actual annual production quantity approved in the EC;

d) in respect of ML No. 014 of M/s. JSW Steel Ltd. only in principal approval for the enhancement is issued and enhancement now approved will come into effect only after production of the Environment Clearance issued by MoEF&CC for enhanced annual production. CEC will thereafter issue specific final approval after considering the actual annual production quantity approved in the EC;

e) permission for use of 0.42 MMT per annum additional road capacity recommended by the Technical Committee in respect of M/s. SKME, ML No. 2141 is subject to review and revision and is permitted purely on provisional basis till other lessees come up with enhancement proposals based on higher reserve / dump capacity or installation of Conveyor Belt facility by M/s. SKME, whichever is earlier.

f) the State Government will ensure that the lessees are having all the requisite statutory approvals.

Yours faithfully

(Amarnatha Shetty)
Member Secretary

Copy to :

1. The Secretary (Mines), Government of Karnataka, Bangalore
2. The Additional Chief Secretary, Forest, Ecology and Environment Department, Government of Karnataka.
3. The Principal Chief Conservator of Forests, Aranya Bhawan, Bangalore.
4. Chairman, Monitoring Committee, Bangalore
5. Controller of Mines (SZ), Indian Bureau of Mines, Bangalore
6. Director, Mines & Geology, Government of Karnataka, Bangalore
7. Secretary General, Federation of Indian Mineral Industries, New Delhi
8. FIMI, Southern Region, Bangalore
9. Concerned Lessees.

सत्यमेव जयते

CENTRAL EMPOWERED COMMITTEE

Constituted by the Hon'ble SUPREME COURT OF INDIA

F.No. 2-75/CEC/SC/2023-Pt.XI (Vol.II) **Dated: 22nd February 2023**

To

The Chief Secretary
Government of Karnataka
Bangalore

Sub: Enhancement of permissible production limit in respect of Category- "A" and "B" mining leases.

Sir

Please refer to Government of Karnataka, Commerce & Industries Department letter No. CI 03 MMM 2023 dated 9.2.2023 on the above subject. The CEC, after examining in detail the recommendations of the Technical Committee and report of the ICFRE and keeping in view the Hon'ble Supreme Court order dated 13.4.2012 and Judgment dated 18.4.2013, decision of CEC in the meeting held on 01.12.2015 and 7.12.2022 and the direction in Judgment dated 14.12.2017 of the Hon'ble Supreme Court, hereby approves the revised permissible annual production in respect of following mining leases as per the details given below:

Sl. No.	Name of Lessee, ML No.	Current PAP (in MMT)	Revised PAP (in MMT)	Remarks
1	M/s. Sandur Manganese & Iron Ore Ltd., ML No. 2678	0.254	**0.55**	Based on EC for Manganese Ore
2	M/s. Sri Kumaraswamy Mineral Exports Pvt. Ltd.., ML No. 2141	1.94	**2.38**	Based on reserves / road capacity

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2. The above approval is subject to the following conditions:

a) the State Government will ensure that the sum total of annual production from all the lessees excluding the e-auctioned Category "C" mines, does not exceed 35 MMT in District Bellary;

b) in the event it is found that the sum total of annual production is exceeding the limits mentioned at (a) above the lease wise permissible annual production of all the operating leases will automatically stand reduced on pro rata basis against the approved PAP given in this letter in such a way that the actual annual production does not exceed 35MMT in District Bellary; and

c) the State Government will ensure that the lessees are having all the requisite statutory approvals.

d) permission for use of 0.47 MMT per annum road capacity recommended by the Technical Committee in respect of M/s. SKME, ML No. 2141 is subject to review and revision and is permitted purely on provisional basis till other lessees come up with enhancement proposals based on higher reserve / dump capacity or installation of Conveyor Belt facility by M/s. SKME, whichever is earlier.

Yours faithfully

(Amarnatha Shetty)
Member Secretary

Copy to :

1. The Secretary (Mines), Government of Karnataka, Bangalore
2. The Additional Chief Secretary, Forest, Ecology and Environment Department, Government of Karnataka.
3. The Principal Chief Conservator of Forests, Aranya Bhawan, Bangalore.
4. Chairman, Monitoring Committee, Bangalore
5. Controller of Mines (SZ), Indian Bureau of Mines, Bangalore
6. Director, Mines & Geology, Government of Karnataka, Bangalore
7. Secretary General, Federation of Indian Mineral Industries, New Delhi
8. FIMI, Southern Region, Bangalore
9. Concerned Lessees.

Proceedings of the Technical Committee meeting held on 08.07.2024 with regard to enhancement permissible annual production in respect of 'A' and auctioned 'C' Category Mining leases.

Members Present in the Meeting:

SL No	Name of the Officer	Designation
1	Sri. T Mahanthesha	Chairman & Additional Director (Joined through VC)
2	Dr. C.V Raman	Joint Director, DMG
3	Dr. Sudhir Kumar	Deputy Director General, ICFRE.
4	Sri. R. N Selvan	Expert Member, ICFRE
5	Sri. P. Rajeshdurai	Director, GSI Bengaluru
6	Dr. Sudhakara T L	Senior Mining Geologist, IBM
7	Sri. M.C Kumar	Deputy Director, R &D, DMG, Bengaluru
8	Sri. H.M. Khyum Ali	Director, FIMI South, Bengaluru.
9	Sri. Rakesh M M	Representative, FIMI
10	Sri. D.B Yuvaraj	Senior Geologist, DMG, Bengaluru.
11	Smt. Monisha G Y	Geologist, DMG, Bengaluru
12	Sri. Prakash S	Geologist, DMG, Ballari

The Chairman, Technical Committee welcomed all the members to the meeting. He briefed the purpose of convening the meeting.

Further, the Chairman re-iterated the CEC guidelines dated 01.12.2015, for consideration of production enhancement which are here under:

(1) Any change in the stripping ratio or in the bulk density used by the ICFRE for assessing the dump capacity will not be considered except where calculation mistakes are found to have taken place.

(2) Increase in the infrastructure capacity, except in respect of the roads within the mining lease, will be considered only after the SPV becomes operational and additional infrastructure capacities are found to have been created.

(3) Additional mineral resources found during the exploration and /or additional area identified for overburden dumps will be considered for increase in the permissible annual production

- **The total production based on dump capacity is 1.36 MTPA (6.815/5).**

ICFRE has prepared dump management plan and suggested environmental protective measures in addition to already suggested measures in the approved R & R Plan **(Annexure - 3)**.

The Technical Committee after due deliberation and discussions has arrived at dump capacity as **1.36 MTPA,** by considering the revised dump area and re-calculated stripping ratio.

Technical Committee with regard to present enhancement has arrived at MPAP in respect of ML No 013 is as shown in table below:

in MMT

Based on reserves/resources	Based on Dump capacity	Based on Road capacity	EC Capacity	Recommended annual production Quantity
0.743	1.36	1.35	1.8	**0.743**

*Committee after detailed discussions and deliberations recommends for consideration of **0.743** million tonnes as permissible annual production based on reserves which is minimum among the three criterions.*

2. M/s Sandur Manganese & Iron Ore Limited ML No.2678 (Old No. 2580) :-

Earlier the Technical Committee in the meeting held on 20.09.2023 has reviewed the enhancement proposal of this mine. In the said meeting maximum permissible production limit was recommended as 3.81 MTPA by considering only the Hematitic iron ore resources. The Hematitic Siliceous Ore resources were not considered for arriving MPAP as lessee has shown the hematitic siliceous ore as mineral reject in the mining plan and lessee has not yet erected the beneficiation plant as proposed in the mining plan. Recommendation of the committee is as under:

"Committee recommends for consideration of 3.81 million tonnes as permissible annual production based on reserves capacity, which is minimum among the above criterions, subject to approval of CEC. Further, after commencement of beneficiation plant and incorporating the usability and marketability of the hematitic siliceous ore in the mining plan, the MPAP may be considered as 4.36 MMT as explained above."

Accordingly, based on the above recommendations CEC vide letter dated: 19.10.2023 has approved the maximum permissible annual production as 3.81 MTPA.

Further, CEC vide letter dated: 19.10.2023 has sought the clarification as under:

Threshold limit fixed by IBM for siliceous iron ore is of 35% or above. The Fe content in the siliceous ore of SMIORE mine is stated to be 40.32% (average) and hence it is marketable. M/s JSW limited procures siliceous grade ore from lessees and does beneficiation in its beneficiation plant. Hence there appears to be no justification for treating the siliceous ore reserves in respect of SMIORE on a different footing. It is stated by FIMI that siliceous ore is intermixed with the hematite ore in the same mining pit. As such siliceous ore also gets mined along with the hematite ore. There is no logic in withholding sale of siliceous ore after it is mined out. The IBM has fixed the threshold value of 35%Fe in respect of siliceous ore only after considering the commercial value of the ore.

In the circumstance a clarification from Technical Committee as to why the siliceous ore in respect of SMIORE is required to be

beneficiated for sale by lessee (SMIORE) whereas other lessees are permitted sell directly without beneficiation.

In response, the Technical Committee in its meeting proceedings dated 03.11.2023 has submitted the clarification stating that in case of A and B category mining leases, the Technical Committee is considering the siliceous ore for arriving the MPAP only when lessees incorporate the blending plan, marketability of the ore and usability of the siliceous ore in the mining plan as the mining plan is the key document for consideration of production enhancement. Further, CEC in its minutes of the meeting dated 01.12.2015 has also clarified as below:

> *(c) additional mineral resources found during the exploration and/ or additional areas identified for over burden dumps will be considered for increase in the permissible annual production provided the same are incorporated in the approved mining plan/ scheme of mining/ or approved by the IBM; and".*

In case of SMIORE, production of siliceous iron ore was not included in the reserves in the approved mining plan. As per the Mineral Conservation and Development Rules 2017 (MCDR), mining operations shall be carried out as per approved mining plan.

In response, lessee i.e. SMIORE has modified the mining plan by incorporating the pattern of usability and marketability of hematitic siliceous iron ore during the plan period of 2024-25 to 2027-28 to have production of 3.81 MTPA of Hematitic ore and 0.55 MTPA of Hematitic Siliceous ore. Same was duly approved by IBM on 10.05.2024.

CEC vide letter dated: 11.07.2024 has forwarded the representation of SMIORE with regard to allocation of additional maximum permissible annual

production (MPAP) of 0.55 MTPA of Hematitic Siliceous Ore, to the State Government. Accordingly, same was reviewed in this meeting.

After verifying the 'Modifications to the Approved Mining Plan' (MAMP) dated: 10.05.2024, it is observed that lessee has incorporated the pattern of usability and marketability of siliceous iron ore. The details incorporated in the approved mining plan against the Technical Committee queries are provided at **Annexure - 4.**

The maximum permissible annual production limit for both Hematitic Iron Ore and Hematitic Siliceous Iron Ore has been separately provided in the IBM approved 'Modifications to the Approved Mining Plan' (MAMP).

All the members of the committee by considering the 'Modifications to the Approved Mining Plan' (MAMP) opined that separate maximum permissible production limit may be recommended for Hematitic Siliceous ore. Hence, Maximum Permissible Annual Production (MPAP) limit for Hematitic Siliceous ore may be considered as 0.55 MTPA in addition to the already approved MPAP for Hematitic Ore of 3.81 MTPA.

*Committee after detailed discussions and deliberations recommends for consideration of **0.55** million tonnes as permissible annual production separately for Hematitic Siliceous ore in addition to the already approved MPAP for Hematitic Ore of 3.81 MTPA (Total MPAP- 0.55+3.81=4.36 MTPA).*

3. M/s KIOCL Limited (Old No. 0020) :-

Ministry of Mines, Govt. of India vide letter No. 4/3/2016-M. VI dated 05.12.2016 has accorded approval to reserve an area of 470.40 ha for mining of Iron and Manganese ore at Devadari Hill Range, Sandur Taluk, Bellary District, Karnataka under Section 17A (2) of Mines & Mineral (Development and Regulation) Act (MMDR) 1957 and Amendment Act 2015 in favour of M/s.

Annexure-5

Continuous Ambient Air Quality Monitoring Station installed at Mining Lease No 2678

सीएसआईआर– केन्द्रीय खनन एवं ईंधन अनुसंधान संस्थान
CSIR-Central Institute of Mining and Fuel Research
(वैज्ञानिक तथा औद्योगिक अनुसंधान परिषद / Council of Scientific & Industrial Research)
(अंतर्गत वैज्ञानिक तथा औद्योगिक अनुसंधान विभाग, विज्ञान और प्रौद्योगिकी मंत्रालय,भारत सरकार)
(Under the Department of Scientific & Industrial Research, Ministry of Science & Technology, Govt. of India)
बरवा रोड, धनबाद – 826015, झारखण्ड, भारत / Barwa Road, Dhanbad - 826015, Jharkhand, India
(आई एस ओ 9001 प्रमाणित संस्थान / ISO 9001 Certified Institute)

Ref. No. - CSIR-CIMFR/Sandur/2023/ Date: 16th February, 2023

To
The Director (Mines)
The Sandur Manganese & Iron Ores Limited
Satyalaya, Door No. 266, Ward No. 1
Palace Road, Sandur
Ballari- 583 119
Karnataka

Sir,

Please find the opinion on the report entitled "**Possibility of Deploying Higher Capacity Dumpers 50-60 t with higher capacity shovel at The Sandur Manganese & Iron Ores Limited (SMIORE), Karnataka**" for your kind perusal and necessary action at your end.

Thanks with regards

Yours' faithfully,

16/02/2023

(S. K. Mandal)
HORG, Mine Mine Mechanisation & Technology Development

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सीएसआईआर-केंद्रीय खनन एवं ईंधन अनुसंधान संस्थान, धनबाद
CSIR-CENTRAL INSTITUTE OF MINING AND FUEL RESEARCH, DHANBAD
वैज्ञानिक तथा औद्योगिक अनुसंधान परिषद
(Council of Scientific & Industrial Research)

ADDENDUM

Opinion report on the Possibility of Deploying of Higher Capacity of Dumpers of 50-60 tonner with higher capacity Shovel at The Sandur Manganese & Iron Ores Limited (SMIORE), Mining Lease No 2678, Sandur Taluk, Ballari District Karnataka.

प्रायोजक /Sponsor: The Sandur Manganese and Iron Ores Limited, Sandur Taluk, Bellary, Karnataka

फ़रवरी, २०२३ /February, 2023

quality due to dilution would also make it non-saleable.

c. Also, it is to be noted that both in Iron Ore and Manganese Pits there are phyllites and rocks are friable in nature and area experiences average of 600 mm rainfall, deployment of higher capacity dumper and shovel and will increase the load on floor of the strata /mine benches and this may cause weathering effect and results in slushy ground condition during monsoon period.

25. It is proposed to operate 13-14 pits for having Iron Ore RoM to beneficiation plant. All these pits are staggered along strike length of 16 kilometers. It is observed from the Production and Development proposal envisaged for enhancement that the handling of Iron ore RoM per day would range from as low as 320 tonnes per day up to average of 1139 tonnes per day across other 10-11 pits except that of Alamaradakolla which is about 10,000 tonnes/day. As the handling quantity from multiple pits are very low techno economically it may not be feasible to have conveyor line for transporting the RoM. As the lead distance from Alamaradakolla to the beneficiation plant is only about 2.87 kiliometers, hence it would be economical to shift RoM with 15 dumpers. Moreover, the installation of conveyor belts along the face would require extended bench width to accommodate the its frame structure as well as space for the turning radius of the Front End Loader which would not be feasible for this type of the deposit.

16/02/23

Dr. Sujit Kumar Mandal
Chief Scientist & HoRG
Central Institute of Mining & Fuel Research
Barwa Road, Dhanbad-826001

6/2/23

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26. It is to be noted that the operations are not confined to a very small area but rather will extend to 16 kilometers within the mining lease wherein lessee has invested huge money for building up road infrastructure. Hence this would not create any traffic congestion in the mine lease area.

27. As the production of ore is not concentrated from one pit, deployment of large capacity dumpers to serve scattered source will lead reduced productivity of system.

Considering all the above cited facts and findings from the field visits, data and documents reviewed, we are of the view that enhancement in dumper capacity from 16 tonner to 25 tonner itself is challenging and it is not advisable to recommend to deploy higher capacity dumper of 50-60 tonner and higher capacity excavator to this mining lease no 2678 of The Sandur Manganese and Iron Ores Limited and they may at best consider tipper capacity up to 25 tonner and excavator from 0.9 to 1.8 or 2.2 Cu. m capacity.

The bench design parameters currently being followed and proposed to be followed as per the approved Review and Updation of the mining plan is Scientifically designed taking into account the style of mineralisation, recovery of the mineral, optimum utilisation of the mineral resources and sustenance of the mine throughout its life.

16/02/2023

Dr. Sujit Kumar Mandal
Chief Scientist & HoRG
Central Institute of Mining & Fuel Research
Barwa Road, Dhanbad-826001

16/02/23

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Hence, we are of the joint opinion that further modification to the mining plan by incorporating the higher capacity machinery may not be necessary for this enhanced production of Iron ore from 1.6 MTPA to 4.5 MTPA and for Manganese Production of 0.55 MTPA.

16/02/2023

Dr. Sujit Kumar Mandal
Chief Scientist & HORG
Mine Mechanisation & Technology Development
CSIR-CIMFR

16/02/23

Mr. Prashant
Sr. Principal Scientist & Head of Section
Mine Back Filling Division
CSIR- CIMFR

Date: 16-02-2023

Dr. Sujit Kumar Mandal
Chief Scientist & HoRG
Central Institute of Mining & Fuel Research
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भारत सरकार
Govt. of India
श्रम एवं रोजगार मंत्रालय
Ministry of Labour & Employment
खान सुरक्षा महानिदेशालय
Directorate-General of Mines Safety

NO: 330763|SZ|Bellary Region 1|Perm|2023|260389 Ballari, Date: 08/01/2024

प्रेषक:

खान सुरक्षा निदेशक / Director of Mines Safety,

बल्लारी क्षेत्र-1, बल्लारी / Ballari Region-1, Ballari.

सेवा में:

Shri Md. Abdul Saleem, Nominated Owner,

Kammathuru Iron Ore Mine (ML No.-2678 Mine Code:330763, LIN: 1-3483-9125-8) of

M/s The Sandur Manganese & Iron Ores Ltd,

Deogiri Village, Sandur Taluk,

Ballari District, Karnataka State-583112

विषय: **Relaxation for final pit configuration under Regulation 106(2)(b) of the Metalliferous Mines Regulations, 1961 with deployment of Heavy Earth Moving Machinery (HEMM) in conjunction with deep hole drilling & blasting at Kammathuru Iron Ore Mine (ML No.-2678) of M/s The Sandur Manganese & Iron Ores Ltd., situated at Kammathuru & Deogiri Villages, Sandur Taluk, District Ballari, Karnataka State.**

महोदय,

Please refer to your application submitted vide No. SMIORE/DGMS/231103/ dated 09.11.2023 and online application ID-260389, dated 07.11.2023 on the above subject along with Surface Plan No.SMIORE04/KTIOM/2023/0015 dated 15.03.2023 showing existing workings of entire lease, Surface Plan No.SMIORE04/KTIOM-A/2023/0014A(ii) dated 15.03.2023 showing existing workings & Plan No.SMIORE04/KTIOM-A/2023/0014A(iii) dated 15.03.2023 showing existing and proposed workings of Block-A, and Cross section vide No. SMIORE04/KTIOM-A/2023/14B(iii) dated 15.03.2023 showing existing and proposed cross sections of Block-A, Surface Plan No. SMIORE04/KTIOM-B/2023/0015A(ii) dated 15.03.2023 showing existing workings & Plan No.SMIORE04/KTIOM-B/2023/15A(iii) dated 15.03.2023 showing existing and proposed workings of Block-B, and Cross section vide No. SMIORE04/KTIOM-A/2023/15B(iii) dated 15.03.2023 showing existing and proposed cross sections of Block-B, enclosed therewith.

The matter has since been examined on the basis of information furnished in your application under reference and shown on the enclosed plan submitted by you.

In exercise of the powers conferred on the Chief Inspector of Mines (also designated as Director-General of Mines Safety) under the provisions of Regulation 106(2)(b) of the Metalliferous Mines Regulations, 1961 and by virtue of the authorization granted to me by the Chief Inspector of Mines (also designated as Director-General of Mines Safety) under Section 6(1) of the Mines Act, 1952, I, hereby **grant relaxations from the said provisions and permit you to work at Kammathuru Iron Ore**

Mine (ML No.-2678) of M/s The Sandur Manganese & Iron Ores Ltd., situated at Sy.No. 1, 2, 3, 5, 6, 7(P), 14, 15, 17, 36(P), 37 and 38) in Kammathuru and Deogiri villages, Sandur taluk, Ballari district, Karnataka state, by deployment of Heavy Earth Moving Machineries (HEMMs) in conjunction with deep hole blasting to make final pit configuration before closing the mine as shown in surface plan vide No.SMIORE04/KTIOM-A/2023/0014A(iii) dated 15.03.2023 showing existing and proposed workings of Block-A, and Cross section vide No. SMIORE04/KTIOM-A/2023/14B(iii) dated 15.03.2023 showing existing and proposed cross sections of Block-A & surface plan vide No.SMIORE04/KTIOM-B/2023/15A(iii) dated 15.03.2023 showing existing and proposed workings of Block-B, and Cross section vide No. SMIORE04/KTIOM-A/2023/15B(iii) dated 15.03.2023 showing existing and proposed cross sections of Block-B) in between grid values N- 1660900 to 1661300; E- 674320 to 674730 of Block A & in between grid values N- 1659440 to 1660980; E- 674900 to 677060 of Block B, subject to the following conditions, as stipulated hereunder, being complied with:

1.0 GENERAL:

1.1 Except where otherwise provided for in this relaxation, all provisions of the Metalliferous Mines Regulations, 1961 relating to opencast working, use of explosive, use of machinery, appointment of officials and competent persons, etc. shall be strictly complied with.

2.0 OPENCAST WORKING:

2.1 Height and Width of benches at final pit configuration between grid values N- 1660900 to 1661300; E- 674320 to 674730 of Block A & between grid values N- 1659440 to 1660980; E- 677060 to 674900 of Block B shall be as under:

a. The height of the benches in overburden, mineral or other rock formation shall not be more than 7.5m.
b. The width of any bench shall not be less than 4.0m.
c. The slope angle of each bench shall not be more than 70^0.
d. Keeping in view of the above restrictions, overall slope of modified benches shall not exceed 43^0 (degree).
e. A ramp interconnecting benches shall be maintained at both the ends.
f. The final angles of slopes, as mentioned in clauses (a), (b) and (c) above, shall not be formed except at the cessation stage of the quarry.
g. The bench height, the bench width, ramp width, overall pit slope etc., shall be so designed that the Factor of Safety for the modified benches at any point is not less than 1.80 under wet condition.
h. Maximum pit depth with above conditions shall not be more than 145m in B Block and 214m in A Block..
i. The main haulage roads maintained at bottom most level of the pit shall be at a safe distance from the toe of bottom most bench. (Minimum one and half times the height of high wall).

2.2 The precautions laid down and recommendations made by National Institute of Technology Karnataka, Surathkal's study report titled "Scientific study on slope stability analysis of Kammathuru Iron Ore Mine (ML No.-2678) of M/s The Sandur Manganese and Iron Ores Limited", vide project code : TC/MN/JB-159 dated October, 2023 shall be implemented.

2.3 Continual recording and assessment of geo-technical conditions encountered shall be done in order to make a comparison with those predicted.

2.4 (i) A scientific agency/ institution shall be engaged for monitoring of benches, slopes etc. regarding withdrawal of men and machinery to safety in case of any movement of benches, slopes etc.

(ii) A Safe Operations Procedure (SOP) shall be framed and implemented for monitoring Pit slope.

2.5 Regular Pit slope monitoring shall be done at least twice a day using total station having requisite level of accuracy by fixing prisms at suitable intervals. Adequate number of survey stations shall be created and beacons/reflectors shall be installed as to cover the entire length, breadth and depth of the quarries as per the recommendations of the scientific institution/agency.

2.6 A record of horizontal and vertical displacements shall be maintained and plot the readings of all such stations installed with respect to time in a graph. In the event of any sharp or asymptotic increase in the slope/gradient of the plots so generated, all work in the section/pit shall immediately be stopped. Intimation thereof shall be sent to this Directorate in writing and work in the section/pit shall not resume till express written permission is accorded to the effect by this Directorate.

2.7 Regular inspections of slope, crests and faces, especially along access ramps and above working areas, shall be made by a person not below the rank of Assistant Manager and by the geologist/geo-technical engineer. During rainy season/rains, frequent inspections shall be made.

2.8 Record of inspections made by the Mine Manager, Assistant Manager and by the geologist/geo-technical engineer shall be kept maintained in a bound paged book, any evidence of tensile cracks along slope, crest or potentially unstable blocks on slope faces shall be recorded. Appropriate action of removal of machinery and withdrawal of persons shall be taken to safety in case of any movement of benches, slopes etc and intimation thereof shall be sent to this Directorate in writing. Work in the section/pit shall not resume till express permission is accorded to the effect by this Directorate.

2.9 Effective garland drains shall be provided and kept maintained all around opencast working to collect run-off rain water before it reaches the mine slopes. These drains should be kept clear of silt and debris and interconnected to drain out rain water away from the mine working.

2.10 Mapping of weak zone, faults and bedding planes shall be done regularly.

2.11 Pre-split controlled blasting technique shall be adopted to minimize the damage to the slope mass and at ultimate pit slope. Such blast hole should be properly drilled, charged, stemmed and fired, with respect to different benches to avoid back break and toe formation, Ground vibration induced due to deep hole blasting shall also be monitored regularly.

2.12 No waste rock/overburden/stock yard dumping shall be made all along the mine boundary where relaxation of permission under reference has been granted so as to cause additional dead load over pit profile/slope and making them unstable.

2.13 No manual workers shall be employed where Heavy Earth Moving Machineries are deployed in the mine.

3.0 All the other conditions shall remain unchanged as stipulated in the permission granted under regulation 106 (2)(b) of the Metalliferous Mines Regulations, 1961 from this Directorate.

4.0 In the event of any change in the circumstances connected with this relaxation which is likely to endanger the life of persons employed in the mine or the mine, the mining operations for which this relaxation has been granted shall be stopped forthwith and intimation thereof shall be sent to this Directorate. The said mining operations shall not be resumed without express and fresh permission in writing from this Directorate.

5.0 If at any time any one of the conditions, subject to which this permission has been granted, is violated or not complied with, this relaxation shall be deemed to have been revoked with immediate effect.

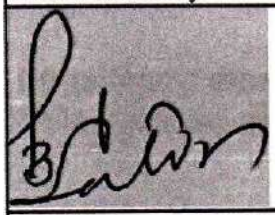
6.0 This relaxation may be amended or withdrawn at any time if considered necessary in the interest of safety.

7.0 This relaxation is being granted under Regulation 106(2)(b) of the Metalliferous Mines Regulations, 1961 only without prejudice to any other provisions of law which may be or may become applicable at any time.

8.0 This Directorate shall be informed as soon as the mining operations are commenced in accordance with the above relaxation. Intimation about completion of the mining operations should also be sent promptly and in any case not letter than one month thereof.

9.0 The relaxation shall remain valid for a period of 5 (Five) years from the date of issue of this letter.

10.0 A copy of this conditions governing shall always be kept in the office of the mines manager.

Your Faithfully

BIPUL BEHARI SATIAR (DIRECTOR - BELLARY REGION 1)
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भारत सरकार
Govt. of India
श्रम एवं रोजगार मंत्रालय
Ministry of Labour & Employment
खान सुरक्षा महानिदेशालय
Directorate-General of Mines Safety

NO: 361898|SZ|Bellary Region 1|Perm|2023|260434 Ballari, Date: 08/01/2024

प्रेषक:

खान सुरक्षा निदेशक / Director of Mines Safety,

बल्लारी क्षेत्र-1, बल्लारी / Ballari Region-1, Ballari.

सेवा में:

Shri Md. Abdul Saleem, Nominated Owner,

Subbarayanahalli Iron Ore & Manganese Mine (ML No.2678, Mine Code : 361898, LIN: 1-6314-0257-7) of

M/s The Sandur Manganese & Iron Ores Ltd.,

Deogiri Village, Sandur Taluk,

Ballari District, Karnataka State-583112

विषय: **Relaxation for final pit configuration under Regulation 106(2)(b) of the Metalliferous Mines Regulations, 1961 with deployment of Heavy Earth Moving Machinery (HEMM) in conjunction with deep hole drilling & blasting at Subbarayanahalli Iron Ore & Manganese Mine (ML No.2678) of M/s The Sandur Manganese and Iron Ores Limited,, situated at Subbarayanahalli village, Sandur taluk, Ballari district, Karnataka state-Reg.**

महोदय,

Please refer to your application submitted vide No. SMIORE/DGMS/231103/ dated 09.11.2023 and online application ID-260434, dated 09.11.2023 on the above subject along with Surface plan plan No.SMIORE02/SBH/KVHIO/2023/13 dated 06.10.2023, and Surface Plan No.SMIORE02/SBH/KVHIO/2023/22A(iii) dated 06.10.2023 showing existing and proposed workings of Kanivehalli Iron Ore and Cross section vide No. SMIORE02/SBH/KVHIO/2023/22B(iii) dated 06.10.2023 showing existing and proposed cross sections of Kanivehalli Iron Ore, enclosed therewith.

The matter has since been examined on the basis of information furnished in your application under reference and shown on the enclosed plan submitted by you.

In exercise of the powers conferred on the Chief Inspector of Mines (also designated as Director-General of Mines Safety) under the provisions of Regulation 106(2)(b) of the Metalliferous Mines Regulations, 1961 and by virtue of the authorization granted to me by the Chief Inspector of Mines (also designated as Director-General of Mines Safety) under Section 6(1) of the Mines Act, 1952, I, hereby **grant relaxations from the said provisions and permit you to work at Subbarayanahalli iron ore & manganese mine (ML No. 2678) of M/s The Sandur Manganese and Iron Ores Limited, situated at Subbarayanahalli village, Sandur taluk, Ballari district, Karnataka state, by deployment of Heavy Earth Moving Machineries (HEMMs) in conjunction with deep hole blasting to make final pit configuration before closing the mine as shown in the Surface plan plan**

No.SMIORE02/SBH/KVHIO/2023/13 dated 06.10.2023 showing existing workings and surface plan bearing No No.SMIORE02/SBH/KVHIO/2023/22A(iii) dated 06.10.2023 showing existing and proposed workings of Kanivehalli Iron Ore in between grid values N- 1660860 to 1661430; E- 665020 to 665250, subject to the following conditions, as stipulated hereunder, being complied with:

1.0 GENERAL:

1.1 Except where otherwise provided for in this relaxation, all provisions of the Metalliferous Mines Regulations, 1961 relating to opencast working, use of explosive, use of machinery, appointment of officials and competent persons, etc. shall be strictly complied with.

2.0 OPENCAST WORKING:

2.1 Height and Width of Benches at final pit configuration between grid values N- 1660860 to 1661430; E- 665020 to 665250 shall be as under:

a. The height of the benches in overburden, mineral or other rock formation shall not be more than 7.5m.
b. The width of any bench shall not be less than 3.5m.
c. The slope angle of each bench shall not be more than 70^0.
d. Keeping in view of the above restrictions, overall slope of modified benches shall not exceed 52^0 (degree).
e. A ramp interconnecting benches shall be maintained at both the ends.
f. The final angles of slopes, as mentioned in clauses (a), (b) and (c) above, shall not be formed except at the cessation stage of the quarry.
g. The bench height, the bench width, ramp width, overall pit slope etc., shall be so designed that the Factor of Safety for the modified benches at any point is not less than 2.011 under wet condition.
h. Maximum pit depth with above conditions shall not be more than 157.5m.
i. The main haulage roads maintained at bottom most level of the pit shall be at a safe distance from the toe of bottom most bench. (Minimum one and half times the height of high wall).

2.2 The precautions laid down and recommendations made by National Institute of Technology Karnataka, Surathkal's study report titled "Scientific study on slope stability analysis of Kanivehalli Iron Ore Mine (ML No.-2678) of M/s The Sandur Manganese and Iron Ores Limited", vide project code : TC/MN/JB-160 dated October, 2023 shall be implemented.

2.3 Continual recording and assessment of geo-technical conditions encountered shall be done in order to make a comparison with those predicted.

2.4 (i) A scientific agency/ institution shall be engaged for monitoring of benches, slopes etc. regarding withdrawal of men and machinery to safety in case of any movement of benches, slopes etc.

(ii) A Safe Operations Procedure (SOP) shall be framed and implemented for monitoring Pit slope.

2.5 Regular Pit slope monitoring shall be done at least twice a day using total station having requisite level of accuracy by fixing prisms at suitable intervals. Adequate number of survey stations shall be created and beacons/reflectors shall be installed as to cover the entire length, breadth and depth of the quarries as per the recommendations of the scientific institution/agency.

2.6 A record of horizontal and vertical displacements shall be maintained and plot the readings of all such stations installed with respect to time in a graph. In the event of any sharp or asymptotic increase in the slope/gradient of the plots so generated, all work in the section/pit shall immediately be stopped. Intimation thereof shall be sent to this Directorate in writing and work in the section/pit shall not resume till express written permission is accorded to the effect by this Directorate.

2.7 Regular inspections of slope, crests and faces, especially along access ramps and above working areas, shall be made by a person not below the rank of Assistant Manager and by the geologist/geo-technical engineer. During rainy season/rains, frequent inspections shall be made.

2.8 Record of inspections made by the Mine Manager, Assistant Manager and by the geologist/geo-technical engineer shall be kept maintained in a bound paged book, any evidence of tensile cracks along slope, crest or potentially unstable blocks on slope faces shall be recorded. Appropriate action of removal of machinery and withdrawal of persons shall be taken to safety in case of any movement of benches, slopes etc and intimation thereof shall be sent to this Directorate in writing. Work in the section/pit shall not resume till express permission is accorded to the effect by this Directorate.

2.9 Effective garland drains shall be provided and kept maintained all around opencast working to collect run-off rain water before it reaches the mine slopes. These drains should be kept clear of silt and debris and interconnected to drain out rain water away from the mine working.

2.10 Mapping of weak zone, faults and bedding planes shall be done regularly.

2.11 No waste rock/overburden/stock yard dumping shall be made all along the mine boundary where relaxation of permission under reference has been granted so as to cause additional dead load over pit profile/slope and making them unstable.

2.12 Pre-split controlled blasting technique shall be adopted to minimize the damage to the slope mass and at ultimate pit slope. Such blast hole should be properly drilled, charged, stemmed and fired, with respect to different benches to avoid back break and toe formation, Ground vibration induced due to deep hole blasting shall also be monitored regularly.

2.13 No manual workers shall be employed where Heavy Earth Moving Machineries are deployed in the mine.

3.0 All the other conditions shall remain unchanged as stipulated in the permission granted under regulation 106 (2)(b) of the Metalliferous Mines Regulations, 1961 from this Directorate.

4.0 In the event of any change in the circumstances connected with this relaxation which is likely to endanger the life of persons employed in the mine or the mine, the mining operations for which this relaxation has been granted shall be stopped forthwith and intimation thereof shall be sent to this Directorate. The said mining operations shall not be resumed without express and fresh permission in writing from this Directorate.

5.0 If at any time any one of the conditions, subject to which this permission has been granted, is violated or not complied with, this relaxation shall be deemed to have been revoked with immediate effect.

6.0 This relaxation may be amended or withdrawn at any time if considered necessary in the interest of safety.

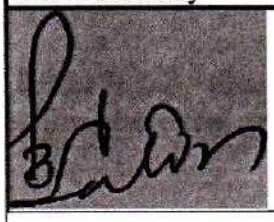
7.0 This relaxation is being granted under Regulation 106(2)(b) of the Metalliferous Mines Regulations, 1961 only without prejudice to any other provisions of law which may be or may become applicable at any time.

8.0 This Directorate shall be informed as soon as the mining operations are commenced in accordance with the above relaxation. Intimation about completion of the mining operations should also be sent promptly and in any case not letter than one month thereof.

9.0 The relaxation shall remain valid for a period of 5 (Five) years from the date of issue of this letter.

10.0 A copy of this conditions governing shall always be kept in the office of the mines manager.

Your Faithfully



BIPUL BEHARI SATIAR (DIRECTOR - BELLARY REGION 1)

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DEBIT	CREDIT	bal	
3,22,365	-	3,22,365	PO 4100001572 100% ADVANCE
-	-1,83,466	1,38,899	Towards Purchase of HYVA Tipper Safety items
			Towards Purchase of PROXIMITY WARNING DEVICE

ಕರ್ನಾಟಕ ಸರ್ಕಾರ

GOVERNMENT OF KARNATAKA

ಉಪ ಅರಣ್ಯ ಸಂರಕ್ಷಣಾಧಿಕಾರಿಗಳು,
ಬಳ್ಳಾರಿ ವಿಭಾಗ, ಬಳ್ಳಾರಿ ರವರ ಕಛೇರಿ

Office of the
Deputy Conservator of Forests
Ballari Division, Ballari

ರೇಡಿಯೋ ಪಾರ್ಕ್, ಐಟಿಐ ಕಾಲೇಜ್ ಎದುರುಗಡೆ, ಕಿರು ಮೃಗಾಲಯ ಆವರಣ, ಬಳ್ಳಾರಿ-583102

Radio Park, Opp. ITI College,
Mini Zoo Compound, Ballari
Telephone: 08392-240797
Email: dcfbellaryt@gmail.com

No.M1/MNG/SMIORE/ML No.2678/2018-19 Dated:03.02.2024

To

M/s. Sandur Manganese and Iron Ores Ltd (SMIORE)
Registered Office, Lakshmipur,
Sandur, Ballari District – 583 119

Sir,

Sub: Wildlife Conservation Plan for seeking enhancement in Environmental Clearance(EC) of Mining Lease No.2678 of M/s. SMIORE Ltd, Sandur

Ref 1) Letter No. PCCF/WL/D/CR-84/2020-21 Dt.22.03.2021 of the Principal Chief Conservator of Forests (Wildlife) & Chief Wildlife Warden, Bangalore

2) Your letter Dt.09.09.2023 & 28.12.2023 [addressed to the Principal Chief Conservator of Forests (Wildlife) & Chief Wildlife Warden, Bangalore].

3) Your letter Dt. 01.02.2024.

4) Order No. APAJI 70 FWL 2023 Bangalore Dt. 12.01.2024 of Government of Karnataka

* * * * *

With reference to the above subject, the Principal Chief Conservator of Forests (Wildlife) & Chief Wildlife Warden, Bangalore has approved 'Wildlife Conservation Plan' for an amount of Rs. 1,43,95,000/- (Rs. One crore forty three lakh ninety five thousand ruppes only) vide letter under Ref(2). In this regard, you have requested the undersigned to raise demand notice for remittance of above said amount vide letters under(2) & (3).

Further, as per the directions issued by the Government of Karnataka [vide order No. APAJI 70 FWL 2023 Bangalore Dt. 12.01.2024], amount related to Ballari Division in respect of Wildlife Conservation Plan / Wildlife Mitigation plan to be remitted to 'Kali Tiger Conservation Pratishtan' (i.e.M/s. Secretary Dandeli, Anshi Tiger Foundation and Deputy Conservator of Forests, Wildlife Division, Dandeli).

Therefore, it is requested to remit the amount of Rs. 1,43,95,000/- (Rs. One crore forty three lakh ninety five thousand ruppes only) to following account as per direction issued by the Government of Karnataka.

Name of Account	M/s. Secretary Dandeli, Anshi Tiger Foundation and Deputy Conservator of Forests, Wildlife Division, Dandeli
Account No	520101218147976
IFSC Code	UBIN0901253

Further, it is directed to submit the 'Payment confirmation' to this office after the payment made.

Yours Faithfully,

Deputy Conservator of Forests,
Ballari Division, Ballari

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/HO/ENV/MINES/2023-24/2678/ 118

08 February 2024

To,
The Deputy Conservator of Forests,
Ballari Division,
Ballari.

Dear Sir,

Sub: Payment confirmation regarding the implementation of Wildlife Conservation Plan for Mining Lease No.2678 of SMIORE Ltd.

Ref. 1. No: M1/MNG/SMIORE/ML No.2678/2018-19 dated 03rd February 2024.
2. EC. ID. No: EC23A001KA158909 dated 25th April 2023.

In compliance with the directive issued by the Government of Karnataka and the subsequent demand notice issued by your office, as referenced 1. above, an amount of INR 1,43,95,000/- (One crore, forty-three lakh, ninety-five thousand rupees only) was remitted on 05.02.2024 with reference UTR. No: UTIBR52024020500483244 in favor of M/s. Secretary Dandeli, Anshi Tiger Foundation, and Deputy Conservator of Forest, Wildlife Division, Dandeli, for the implementation of the wildlife conservation plan formulated by The Sandur Manganese and Iron Ores Limited.

Furthermore, we have been directed by the Ministry of Environment, Forests, and Climate Change (MoEF&CC) vide reference 2, to submit the six-monthly status report regarding the implementation of the Wildlife Conservation Plan to the Ministry's Integrated Regional Office, along with the Environmental Clearance (EC) compliance report. Therefore, we kindly request your cooperation in providing updates on the implementation status every six months.

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

Md. Abdul Saleem
Whole Time Director
& Company Secretary.

THE SANDUR MANGANESE & IRON ORES LTD. SANDUR

Deputy Conservator of Forests, Ballari Division, Ballari.
Sign: ......
Dt: 9/02/24

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

Annexure-12


WATER TANKER

Annexure-13

Commissioning of mist canyons at Kammatharu Iron Ore Mines

Mist canyons in Operation at Mines

Mist Canyons in operation at Kanivehalli Iron ore Mine

Truck mounted dry fog dust suppression system deployed at Deogiri Mine

Dust suppression on haul roads using mist cannon

Mist cannon deployed for operation at SBH Mine

Annexure-14

Water spray system at the Mobile Screening Plants

Conveyor hood cover for the fixed Crushing and Screening Plant

Water Spray for the fixed Crushing and Screening Plant

Adoption of wet drilling at Mines

Dust extraction system during secondary drilling

The Sandur Manganese & Iron Ores Limited

STATEMENT OF ENVIRONMENT EXPENDITURE FROM 01 APRIL TO 30 SEPTEMBER 2024 IN RESPECT OF MINING LEASE, NO 2678

Sl. No	Activity	Expenditure Incurred in ₹
1	Third Party Environment Monitoring	6,44,450.00
2	Procuring and Commissioning of CAAQMS	1,76,00,000.00
3	Procuring and Commissioning of Mist Cannons	55,50,222 .00
4	Procuring and Commissioning of Digital Water level recorders with telemetry	2,50,000.00
5	Flow meters for STP	2,64,000.00
6	Engaging Water Tanker for Dust suppression	2,36,11,302.00
7	Cost towards procurement of Geo coir mats	10,71,525.00
8	Diesel Generator for Truck mounted Mist Cannons	9,50,000.00
9	Dust Suppression system for Down Hill Conveyor	45,00,000.00
10	Professional Charges for Water audit	3,88,680.00
11	Afforestation, after care, Scrapping and Hoeing of Soil, de weeding, bush clearance	69,70,788.00
12	De-silting of Engineering Structures	56,974.00
13	Construction of Retaining wall	4,35,600.00
14	Procurement for Nursery	2,69,400
		3,87,68,269.00

for The Sandur Manganese & Iron Ores Limited

Krishna Reddy
Vice President Mines

ಕರ್ನಾಟಕ ಸರ್ಕಾರ

Karnataka Ground Water Authority

K.S.F.C Bhavan, Thimmaiah Road, Bengaluru- 560052, Karnataka.

E-mail: gwdkar@gmail.com, Ph No: 080-22268732

No: KGWAN1554866756 ***Dated : 16-02-2024***

NO OBJECTION CERTIFICATE - FORM 3 A RULE(6)

Permission For Digging/Drilling A Well/ Borewell/ Extraction Of Groundwater For Industrial/ Commercial/ Entertainment Or Other Use

M/s THE SANDUR MANGANESE AND IRON ORES LIMITED
The Sandur Manganese & Iron Ores Ltd 'Satyalaya', Door No 266,
Ward No-1, Palace Road, Sandur, Ballari – 583119, Karnataka.

Above Person/Company is permitted for extraction of groundwater at below mentioned location(s):

SL NO.	*LOCATION*
1	*Forest area- ML No 2678, Kenchammanakolla-1, Sonduru taluk*
2	*Forest Area- ML No 2678, Kenchammanakolla-2, Sonduru taluk*
3	*Forest Area- ML.No 2678, Kenchammanakolla-8, Sonduru taluk*
4	*Forest Area- ML.No 2678, Kenchammanakolla-9, Sonduru taluk*
5	*Mining Lease No 2678, Ranjithpura Road, Sonduru taluk*
6	*Forest Area, Jaladikolla, Sonduru taluk*
7	*Revenue Area, Mining Lease No 2678, Ramakolla, Sonduru taluk*
8	*Forest Area, Mining Lease No 2678, Alamaradakolla, Sonduru taluk*
9	*Forest Area Mining Lease No 2678, Chinnabudanagundu, Sonduru taluk*
10	*Forest Area Mining Lease No 2678, Kanivehalli BG, Sonduru taluk*
11	*Forest Area Mining Lease No 2679, Central Deposit, Sonduru taluk*
12	*Forest Area Mining Lease No 2679, Kadlekana-1, Sonduru taluk*
13	*Forest Area Mining Lease No 2679, GovernorPoint, Sonduru taluk*

From (13) Bore Wells For Mining Use, Subject To The Following Conditions :-

- The firm may abstract **5498 m3/day** (not exceeding **2006770 m3/year**) of groundwater through (13) bore wells only. No additional groundwater abstraction structures to be constructed for this purpose without prior approval of the KGWA.
- This NOC is valid for 2 years from the date of issue of this letter.
- As per the categorization of taluks, Sonduru taluk in Ballari district fall under Safe taluk category. Hence, the Groundwater Abstraction/Restoration Charges to be paid is Rs. 16494 per day.
- The Firm at its own cost shall install piezometer/s, at suitable locations and execute groundwater regime monitoring programme in and around the project area on regular basis in consultation with the Senior Geologist, District Groundwater Office, Groundwater Directorate, **Ballari** District.

NO. OF PIEZOMETERS	***MONITORING MECHANISM***		
	MANUAL	***DWLR***	***DWLR WITH TELEMETRY***
2	***0***	***1***	***1***

- The firm shall submit the water audit report to KGWA through certified auditors within One year of issue of NOC for more than 100KLD Ground water users.
- The well should not be used for drawing water for any other use other than applied for.
- The withdrawal of water should be better managed to avoid wastage of water
- The utilized water should be recycled and reused after necessary treatment
- The construction of rain water harvesting structures in the vicinity of the well/ bore well shall be as per the technical opinion of Senior Geologist, District Groundwater Office, Groundwater Directorate,**Ballari** District.
- The utilization of water will be subject to the regulation from time to time based on the extraction of water from the well/bore well
- The pollution of groundwater resources should be avoided
- Water meter has to be installed and data on groundwater draft is to be maintained and submitted every month to the Authority concerned. The groundwater quality to be monitored twice in a year during pre-monsoon and post monsoon periods.
- **M/s THE SANDUR MANGANESE AND IRON ORES LIMITED** shall, in consultation with the Senior Geologist, District Groundwater Office, Groundwater Directorate, **Ballari** District, implement groundwater recharge measures for augmenting the groundwater resources of the area.
- The photographs of the recharge structures after completion of the same are to be furnished immediately to the Senior Geologist, District Groundwater Office, Groundwater Directorate, **Ballari** District, for verification.
- The abstraction/restoration charges should be deposited to the Karnataka Groundwater Authority account in the form of DD / Cash.
- The groundwater monitoring data in respect of Point No. 4 & 12 to be submitted to Senior Geologist, District Groundwater Office, Groundwater Directorate, **Ballari** District on regular basis at least once in a year.
- The permission is liable to be cancelled in case of non-compliance of any of the conditions as mentioned in Point No. 1 to 15.
- The Karnataka Groundwater (Regulation for Protection of Sources of Drinking Water) Act, 1999 should be followed scrupulously.
- This NOC is subject to prevailing Central/State Government rules /laws or Court orders related to construction of bore well/ groundwater withdrawal /construction of recharge or conservation structures /discharge of effluents or any such matter as applicable.
- This NOC does not absolve the applicant / proponent of his obligation / requirement to obtain other

statutory and administrative clearances from other statutory and administrative authorities.

BANK ACCOUNT DETAILS ARE GIVEN BELOW		
Bank	:	**CANARA BANK**
Account Holder	:	**CHAIRMAN, KGWA**
Account No	:	**0788201052332**
IFSC	:	**CNRB0000788**
Account Type	:	**CURRENT ACCOUNT**

- It is also informed that during the renewal of the NOC, depending upon the hydrogeological condition the category of the area and the site conditions, the quantity will vary from permitted quantity. The company should make alternate arrangements for the reducing quantity for sustaining their industrial activity by means of availing water through local bodies or using the urban waste water after proper treatment.
- The fee that will be levied by the government for the groundwater usage is applicable from the date such orders are issued by the government.
- The firm is bound to obey the directions of NGT/ court orders that are existing and that may be laid down in future in matters related to Groundwater withdrawal.
- ADDITIONAL CONDITIONS : 1) M/s. The Sandur Manganese & Iron Ores Ltd (Mining Lease No-2678 and 2679 Deogiri, Taluk Sandur, Ballari District) is permitted to abstract 5498 (Industrial-4200 and mining and Domestic pupose-1298 m3/day (not exceeding 2006770 m3/year) of groundwater through Sixty Three (63) bore wells for Industrial and Mining purpose in Industry and Mining categories only. No additional groundwater abstraction structures to be constructed for this purpose without prior approval of the KGWA. 2)This NOC is valid for Three years from 15.02.2024 to 14.02.2026. 3)As per the categorization of taluks, Sandur taluk in Ballari district fall under Safe taluk category. Hence, the Groundwater Abstraction Charges to be paid is Rs.15845 per day at the rate of Rs-3.00 per KLD and Rs-2.5 per KLD. 4)The Firm at its own cost shall install two piezometers with , DWLR with Telemetry at suitable locations and execute groundwater regime monitoring programme in and around the project area on regular basis in consultation with the Senior Geologist, District Groundwater Office, Groundwater Directorate, Ballari District. 5)The firm shall submit the water audit report through certified auditors within one year of completion of the same to KGWA. 6)As per District committee recommendation in future, if scarcity for supply of drinking water to the public arise, M/s. The Sandur Manganese & Iron Ores Ltd should abide to supply water from its bore wells for the drinking water needs in and around the plant area. 7)Separate compliance, audit report and groundwater usage charges paid should be submitted. If any balance payment for groundwater usage charges pending during the renewal application time, it should be paid as per the usage. 8) The above seven additional conditions prevail with reference to annual groundwater extraction limit, NOC validity, Purpose, abstraction charges to be paid and monitoring piezometer.

This NOC has been issued as per the proceedings drawn from the meeting held under the Chairmanship of Deputy Commissioner, District Groundwater Committee, Ballari District on 29-12-2023 and the proceedings drawn from the Karnataka Groundwater Authority meeting held under the Chairmanship of Secretary & Chairman, Minor Irrigation and Groundwater Development Department and Karnataka Groundwater Authority on 25.01.2024..

To,

M/S THE SANDUR MANGANESE AND IRON ORES LIMITED
The Sandur Manganese & Iron Ores Ltd 'Satyalaya', Door No 266,
Ward No-1, Palace Road, Sandur, Ballari – 583119, Karnataka.

Copy For Information To,

1. The Deputy Commissioner, Ballari District
2. Regional Director, Central Groundwater Board, SWR.
3. The Director, Groundwater Directorate and Member Secretary, Karnataka Groundwater Authority, KSFC Bhavana, Bengaluru
4. The Deputy Director, Groundwater Directorate, KSFC Bhavana, Bengaluru

Place : Ballari

Date : 16-02-2024

(E-SIGN SIGNATURE)

Signature of Designated Officer

Karnataka Groundwater Authority

The Sandur Manganese & Iron Ores Limited

STATEMENT OF ENVIRONMENT EXPENDITURE FROM 01 APRIL TO 30 SEPTEMBER 2024 IN RESPECT OF MINING LEASE, NO 2678

Sl. No	Activity	Expenditure Incurred in ₹
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12	De-silting of Engineering Structures	56,974.00
13	Construction of Retaining wall	4,35,600.00
14	Procurement for Nursery	2,69,400
		3,87,68,269.00

for The Sandur Manganese & Iron Ores Limited

Krishna Reddy
Vice President Mines

Annexure-18

Water treatment Plant at Deogiri of 30 KL Capacity

Water Storage tanks at Deogiri for supply of treated water

Water Storage Plant at Subbarayanahalli

Overhead tank at Subbarayanahalli for water supply

Water treatment plant at Subbarayanahalli

Annexure-19

Vermi compost unit at Nursery

Spread of farm yard manure for Plantation on Dumps

Spread of Topsoil in Backfilled Area for Plantation at KMK Mine Pit

Scrapping and Hoeing of Soil around the plantation

Scrapping and Hoeing of Soil around the plantation

Annexure-20

Arogya Community Health Centre at Sandur

Specialised Health Camps at Sandur

Medical Infrastructure at Arogya Community Health Centre

Dispensary at Deogiri

Dispensary at Subbarayanahalli

O/C

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/2023-24/2678/

28 April 2023

The President,
Deogiri Panchayat,
Deogiri – 583112.

Dear Sir,

Sub: Submission of Environmental Clearance (EC) accorded by Ministry of Environment, Forest & Climate Change (MoEFCC) to the expansion project of Mining Lease No.2678 of The Sandur Manganese & Iron Ores Limited.

We are pleased to inform you that MoEFCC - Impact Assessment Division has granted EC to the below mentioned expansion proposal of The Sandur Manganese & Iron Ores Limited vide EC Identification No.EC23A001KA158909 dated 25 April 2023 under the provisions of EIA Notification 2006 for increase of iron ore production from 1.60 to 4.50 million tonnes per annum (MTPA), while retaining manganese ore production at 0.55 MTPA along with proposed 7.0 MTPA Ore Beneficiation Plant, 1.2 km Down Hill Conveyor System & 0.15 MTPA Crushing & Screening Plant of iron ore and manganese ore mine (Mining Lease No.2678) of The Sandur Manganese & Iron Ores Limited.

A copy of Environmental Clearance (EC) to be given to the panchayat for information.

Accordingly, we request you to acknowledge receipt of the same.

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

Deepak CA

Deepak Cukkae Anilkumar
Senior Manager

Encl: Environmental Clearance (EC) dated 25 April 2023 with Identification No.EC23A001KA158909.

02/05/2023

The Sandur Manganese & Iron Ores Limited

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SMIORE / MN / 230428 / 05

28 April 2023

The Deputy Commissoiner
Ballari District
Ballari - 583101

Dear Sir,

Sub: Displaying a copy of Environmental Clearance (EC) accorded by Ministry of Environment, Forest & Climate Change (MoEFCC) to the expansion project of Mining Lease No.2678 of The Sandur Manganese & Iron Ores Limited (SMIORE)

We are pleased to inform you that MoEFCC - Impact Assessment Division has granted EC to the below mentioned expansion proposal of The Sandur Manganese & Iron Ores Limited (SMIORE) vide EC Identification No.EC23A001KA158909 dated 25 April 2023 under the provisions of EIA Notification 2006.

Project Description: Increase of iron ore production from 1.60 to 4.50 Million Tons Per Annum (MTPA), while retaining manganese ore production at 0.55 MTPA along with proposed 7.0 MTPA Ore Beneficiation Plant, 1.2 km Down Hill Conveyor System & 0.15 MTPA Crushing & Screening Plant of iron ore and manganese ore mine (Mining Lease No.2678) of The Sandur Manganese & Iron Ores Limited.

As per the conditions stipulated in the EC, a copy of the EC should be displayed at Collectorate of Ballari District, Regional Office of State Pollution Control Board, Tehasildar Office of Sandur for 30 days for public viewing.

Accordingly, we request you to display the EC copy on your notice board.

Thank You
for The Sandur Manganese & Iron Ores Limited

Md. Abdul Saleem
Director (Mines)

SANDUR MANGANESE & IRON ORES LTD.

29 APR 2023

Encl: EC dated 25 April 2023 with Identification No.EC23A001KA158909

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SMIORE / MN / 230428 / 04

28 April 2023

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

Dear Sir,

Sub: Displaying a copy of Environmental Clearance (EC) accorded by Ministry of Environment, Forest & Climate Change (MoEFCC) to the expansion project of Mining Lease No.2678 of The Sandur Manganese & Iron Ores Limited (SMIORE)

We are pleased to inform you that MoEFCC - Impact Assessment Division has granted EC to the below mentioned expansion proposal of The Sandur Manganese & Iron Ores Limited (SMIORE) vide EC Identification No.EC23A001KA158909 dated 25 April 2023 under the provisions of EIA Notification 2006.

Project Description: Increase of iron ore production from 1.60 to 4.50 Million Tons Per Annum (MTPA), while retaining manganese ore production at 0.55 MTPA along with proposed 7.0 MTPA Ore Beneficiation Plant, 1.2 km Down Hill Conveyor System & 0.15 MTPA Crushing & Screening Plant of iron ore and manganese ore mine (Mining Lease No.2678) of The Sandur Manganese & Iron Ores Limited.

As per the conditions stipulated in the EC, a copy of the EC should be displayed at Collectorate of Ballari District, Regional Office of State Pollution Control Board, Tehasildar Office of Sandur for 30 days for public viewing.

Accordingly, we request you to display the EC copy on your notice board.

Thank You
for The Sandur Manganese & Iron Ores Limited

Md. Abdul Saleem
Director (Mines)

Encl: EC dated 25 April 2023 with Identification No.EC23A001KA158909

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SMIORE / MN / 230428 / 06

28 April 2023

The Tehsildar
Sandur Taluka
Sandur - 583119

Dear Sir,

Sub: Displaying a copy of Environmental Clearance (EC) accorded by Ministry of Environment, Forest & Climate Change (MoEFCC) to the expansion project of Mining Lease No.2678 of The Sandur Manganese & Iron Ores Limited (SMIORE)

We are pleased to inform you that MoEFCC - Impact Assessment Division has granted EC to the below mentioned expansion proposal of The Sandur Manganese & Iron Ores Limited (SMIORE) vide EC Identification No.EC23A001KA158909 dated 25 April 2023 under the provisions of EIA Notification 2006.

Project Description: Increase of iron ore production from 1.60 to 4.50 Million Tons Per Annum (MTPA), while retaining manganese ore production at 0.55 MTPA along with proposed 7.0 MTPA Ore Beneficiation Plant, 1.2 km Down Hill Conveyor System & 0.15 MTPA Crushing & Screening Plant of iron ore and manganese ore mine (Mining Lease No.2678) of The Sandur Manganese & Iron Ores Limited.

As per the conditions stipulated in the EC, a copy of the EC should be displayed at Collectorate of Ballari District, Regional Office of State Pollution Control Board, Tehasildar Office of Sandur for 30 days for public viewing.

Accordingly, we request you to display the EC copy on your notice board.

Thank You
for The Sandur Manganese & Iron Ores Limited

Md. Abdul Saleem
Director (Mines)

SANDUR MANGANESE & IRON ORES LTD

Encl: EC dated 25 April 2023 with Identification No.EC23A001KA158909

Received
TAHASILDAR, SANDUR
29/4/23

The Sandur Manganese & Iron Ores Limited

(An ISO 9001:2015; ISO 14001:2015 and 45001:2018 certified company)
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Ref No: SMIORE/MINES/ENV/2024-25/653

07 August 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 groundwater level and groundwater quality monitoring reports in respect of Mining Lease No. 2678 & 2679 for the monsoon season.

Ref: 1. KGWA NOC No.: KGWAN1554866756 dated 16 February 2024.
2. Environmental Clearance F.No. IA-J-11015/45/2021-IA-II(M) dated 25 April 2023.

We herewith submitting the groundwater level and groundwater quality monitoring data carried out for the monsoon season from the borewells and piezometers established in the core zone and buffer zone (Annexure-I), in respect of Mining Lease No. 2678 and 2679 of The Sandur Manganese & Iron Ores Limited, Sandur Taluk, Ballari District as per the conditions stipulated in NOC obtained from Karnataka Ground Water Authority and Environmental Clearance obtained from Ministry of Environment, Forest & Climate Change.

Kindly acknowledge receipt of the same.

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

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

The Sandur Manganese & Iron Ores Ltd. DEOGIRI

09/08/24
LETTER RECEIVED
Senior Geologist
District Ground Water Office
Ballari - 583 103

Encl: Annexure I & Groundwater Quality Report.

Copy to: 1) Senior Geologist, District Ground Water office, Ballari.
2) Integrated Regional Office, MoEF & CC, Bengaluru.
3) Member Secretary, Central Pollution Control Board.

Groundwater Level data for Monsoon Season in Core Zone

Sl No.	Bore well ID	Co-Ordinates in UTM (WGS84)		Bore well Locations	Depth of Water Level (m) BGL	Depth of Bore well (m)
		Easting	Northing			
1	RNJP	673779	1660983	Kammathuru	11.20	78.96
2	KKNH	676990	1659103	Kenchammanakolla	9.10	48.78
3	JLK	675442	1659438	Jaladikolla	31.15	48.78
4	RMK	673755	1658789	Ramakolla	77.70	117.38
5	AMK	671690	1658042	Alamaradakolla	33.10	97.26
6	CBG	671154	1657187	Chinnabudanagundu	39.05	122.56
7	KMK	668640	1658078	Kanigemaradakolla	81.40	127.74
8	NK	667610	1658284	Neerkolla	44.25	74.39
9	KVH BG	664282	1662003	Kanivehalli BG	40.35	92.68
10	CD	660030	1666841	Central Deposit	62.36	122.56

Groundwater Level data for Monsoon Season in Buffer Zone

Sl No.	Open well ID	Co-Ordinates in UTM (WGS84)		Open well Locations	Depth of Water Level (m) BGL	Depth of Open well (m)
		Easting	Northing			
1	1B2	647018	1677767	Dhanapur	2.15	5.85
2	2B3	645293	1672805	Devalapur	7.10	11.54
3	2A2	666523	1668210	Sandur	1.85	13.7
4	2B1	672619	1673264	Taranagar	9.40	10.74
5	3B5	675330	1659288	Deogiri	2.05	
6	1C1	656172	1657563	Bandri	1.35	8.26
7	1A4	664421	1650802	Choranuru	0.10	7.2
8	1B1	679131	1660998	Appayanahalli	1.25	8.22
9	2B2	675375	1648539	Sheliyappanahalli	0.10	22.64
10	1A1	688523	1655346	Melina kanive	1.00	8.27
11	NW	677609	1671717	Lingadahalli	2.10	12.05

The Sandur Manganese & Iron Ores Ltd. DEOGIRI

National Accreditation Board for Testing and Calibration Laboratories

NABL

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)

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

Signed for and on behalf of NABL

N. Venkateswaran
Chief Executive Officer

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

Speed Post

F.No. LB/99/7/2021-INST LAB-HO-CPCB-HO/Pvt./ 1601

Dated: 28th January 2023
07th June 2023

Recognition Certificate

To,

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

Subject: Recognition of M/s Environmental Laboratory (Unit of Mineral Engineering Services), #948, 2nd 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, 2nd 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, 2nd Cross, St. Thomas Town Post, Kammanahalli Road, Bengaluru--560084, Karnataka** may undertake the following tests:

   i. **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.
   ii. **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.
   iii. **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,
   iv. **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).
   v. **Microbiological Test:** Total Coliform, Faecal Coliform, *E. coli, Faecal Streptococci* and Total Plate Count.
   vi. **Toxicological Tests:** Bioassay Method for Evaluation of Toxicity using Fish and Measurement of Toxicity Using Daphnia or Other Organism.
   vii. **Biological Test:** Macrophytic Identification, Planktonic Identification Count and Chlorophyll.

Contd.

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_2), Sulphur Dioxide (SO_2), Total Suspended Particulate Matter, Respirable Suspended Particulate Matter PM_{10}, Ammonia, Carbon Monoxide, Chlorine, Lead, Ozone, Benzene Toluene Xylene (BTX), Polycyclic Aromatic Hydrocarbon (PAH) Benzo-a-Pyrine & others and $PM_{2.5}$.

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,

K. Ranganathan 7/6/23

(Dr. K. Ranganathan)
Scientist-E & Divisional Head
Instrumentation laboratory

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

ENVIRONMENTAL LABORATORY

(UNIT OF MINERAL ENGINEERING SERVICES)

ISO 45001:2018

Recognised by BIS, FSSAI, ISO:45001:2018 Certified Laboratory
Recognised by MoEFCC(CPCB) under E(P) Act 1986 & recognition is valid upto 23.05.2025

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	: GW1 - Deogiri Mine Office Bore water, GW2 - Kammaturu Bore water, GW3 - Appayyanahalli (Narayanpura) Bore water
Date of sample collection	: 09.07.2024
Issue Date	: 17.07.2024

Ref : IS:10500-2012 Norms Amendment - 4 (Drinking Water Standards)

Sl. No.	Lab Code / Sample Code / Parameters	N/24/07/02-0067 GW1	N/24/07/02-0068 GW2	N/24/07/02-0069 GW3	Desirable Limts	Permissible Limts	Method of Testing
		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	6.54	6.75	7.12	6.5 to 8.5	6.5 - 8.5	IS:3025 (P-11) 2022
4	Turbidity,NTU, Max	<0.1	<0.1	<0.1	1	5	IS:3025 (P-10)1984 RA 2017
5	Electrical Conductvity (µmhos/cm)	120.0	290.0	1050.0	--	--	IS 3025 (P-14)
6	Total Dissolved Solids,mg/l, Max	80.0	180.0	658.0	500	2000	IS:3025 (P-16)1984 RA2017
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	12.00	24.00	121.82	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	16.72	42.00	133.32	250	1000	IS:3025 (P-32) 1988 RA 2019
12	Fluoride (as F),mg/l, Max	<0.1	<0.1	<0.1	1	1.5	IS:3025 (P-60) 2008 RA 2019
13	Iron (as Fe),mg/l, Max	<0.005	<0.005	<0.005	1.0	1.0	IS:3025 (Part-2) 2019
14	Magnesium (as Mg)mg/l, Max	4.86	14.58	39.66	30	100	IS:3025 (P-46)1994 RA 2019
15	Manganese (as Mn),mg/l, Max	<0.001	<0.001	<0.001	0.1	0.3	IS:3025 (P-2) 2019
16	Nitrates (as NO_3),mg/l, Max	2.30	1.53	18.00	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	12.50	5.80	78.90	200	400	IS:3025 (P-24) Sec 1 2022
19	Alkalinity (as $CaCO_3$) mg/l, Max	10.00	75.0	325.0	200	600	IS:3025 (P-23):1986 RA 2019
20	Total Hardness (as $CaCO_3$),mg/l,Max	50.0	120.0	467.0	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	5	12	64	-	-	IS:3025 (Part-45) 1993 RA2019
23	Potassium, (as K), mg/l, Max	<1	4	15	-	-	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"

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

ENVIRONMENTAL LABORATORY

(UNIT OF MINERAL ENGINEERING SERVICES)

ISO 45001:2018

Recognised by BIS, FSSAI, ISO:45001:2018 Certified Laboratory
Recognised by MoEFCC(CPCB) under E(P) Act 1986 & recognition is valid upto 23.05.2025

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	: GW4 - SB Halli Bore water (near hospital), GW5 - Yeshwanthnagar Bore water (near railway track)
Date of sample collection	: 09.07.2024
Issue Date	: 17.07.2024

Ref : IS:10500-2012 Norms Amendment - 4 (Drinking Water Standards)

Sl. No.	Lab Code / Sample Code / Parameters	N/24/07/02-0070 GW4 Results	N/24/07/02-0071 GW5 Results	Desirable Limts	Permissible Limts	Method of Testing
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	7.21	6.86	6.5 to 8.5	6.5 - 8.5	IS:3025 (P-11) 2022
4	Turbidity,NTU, Max	<0.1	<0.1	1	5	IS:3025 (P-10)1984 RA 2017
5	Electrical Conductvity (µmhos/cm)	1590.0	1180.0	--	--	IS 3025 (P-14)
6	Total Dissolved Solids,mg/l, Max	1050.0	860.0	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	121.84	97.29	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	254.98	47.14	250	1000	IS:3025 (P-32) 1988 RA 2019
12	Fluoride (as F),mg/l, Max	<0.1	<0.1	1	1.5	IS:3025 (P-60) 2008 RA 2019
13	Iron (as Fe),mg/l, Max	<0.005	<0.005	1.0	1.0	IS:3025 (Part-2) 2019
14	Magnesium (as Mg)mg/l, Max	23.33	52.06	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	44.00	1.80	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	58.50	74.00	200	400	IS:3025 (P-24) Sec 1 2022
19	Alkalinity (as $CaCO_3$) mg/l, Max	405.0	570.0	200	600	IS:3025 (P-23):1986 RA 2019
20	Total Hardness (as $CaCO_3$),mg/l,Max	400.0	460.0	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	164	135	--	--	IS:3025 (Part-45) 1993 RA2019
23	Potassium, (as K), mg/l, Max	25	21	--	--	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"

BINUMANI
T.M. - Microbiology

ARSHIYA KOUSAR
Dy. T.M. Chemical

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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	: GW1 - Project Site Core Zone Borewell water, GW2 - Ramghad Bore water, GW3 - Dharmapura Bore water
Issue Date	: 21.06.2024

Ref : IS:10500-2012 Norms Amendment - 4 (Drinking Water Standards)

	Date of sample collection	12.06.2024	12.06.2024	12.06.2024			
	Lab Code	N/24/06/3-0154	N/24/06/3-0155	N/24/06/3-0156	Desirable Limts	Permissible Limts	Method of Testing
Sl. No.	Sample Code / Parameters	GW1	GW2	GW3			
		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	6.69	6.71	6.85	6.5 to 8.5	6.5 - 8.5	IS:3025 (P-11) 2022
4	Turbidity,NTU, Max	0.5	<0.1	2.10	1	5	IS:3025 (P-10)1984 RA 2017
5	Electrical Conductvity (µmhos/cm)	295.0	320.0	1170.0	--	--	IS 3025 (P-14)
6	Total Dissolved Solids,mg/l, Max	180.0	195.0	732.0	500	2000	IS:3025 (P-16)1984 RA2017
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	24.04	31.07	97.29	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	42.00	19.26	99.86	250	1000	IS:3025 (P-32) 1988 RA 2019
12	Fluoride (as F),mg/l, Max	0.20	0.40	0.50	1	1.5	APHA 23rd Edition 4500F
13	Iron (as Fe),mg/l, Max	<0.005	<0.005	<0.005	1.0	1.0	IS:3025 (Part-2) 2019
14	Magnesium (as Mg)mg/l, Max	14.58	11.40	52.06	30	100	IS:3025 (P-46)1994 RA 2019
15	Manganese (as Mn),mg/l, Max	<0.001	<0.001	<0.001	0.1	0.3	IS:3025 (P-2) 2019
16	Nitrates (as NO_3),mg/l, Max	1.53	3.46	4.62	45	45	IS:3025 (P-34) 2024
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	6.50	18.20	84.90	200	400	IS:3025 (P-24) Sec 1 2022
19	Alkalinity (as $CaCO_3$) mg/l, Max	75.0	155.0	480.0	200	600	IS:3025 (P-23):1986 RA 2019
20	Total Hardness (as $CaCO_3$),mg/l,Max	120.0	124.0	457.0	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	12	18	32	--	--	IS:3025 (Part-45) 1993 RA2019
23	Potassium, (as K), mg/l, Max	2	<1	6	--	--	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	<0.002	<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-2) 2019
30	Escherichia coli/100ml	Not Detected	Not Detected	Not Detected	Shall not be detectable in		IS:15185:2016 RA 2021
31	Total Coliform /100ml)	Not Detected	Not Detected	Not Detected	any 100ml Sample		IS:15185:2016 RA 2021

"END OF REPORT"

BINU MANI
T.M. - Microbiology
Govt. Analyst / Authorised Signatory

ARSHIYA KOUSAR
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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
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	: 24.06.2024

Ref : IS:10500-2012 Norms Amendment - 4 (Drinking Water Standards)

	Date of sample collection	12.06.2024	10.06.2024	10.06.2024			
	Lab Code	N/24/06/3-0157	N/24/06/3-0106	N/24/06/3-0105	Desirable Limts	Permissible Limts	Method of Testing
Sl. No.	Sample Code / Parameters	GW4	GW5	GW6			
		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	7.15	7.43	7.50	6.5 to 8.5	6.5 - 8.5	IS:3025 (P-11) 2022
4	Turbidity,NTU, Max	0.8	<0.1	<0.1	1	5	IS:3025 (P-10)1984 RA 2017
5	Electrical Conductvity (µmhos/cm)	1090.0	1178.0	1388.0	--	--	IS 3025 (P-14)
6	Total Dissolved Solids,mg/l, Max	682.0	980.0	1100.0	500	2000	IS:3025 (P-16)1984 RA2017
7	Aluminium (as Al), Max	<0.005	0.018	0.043	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	116.92	129.05	138.94	75	200	IS:3025 (P-40)1991 RA 2019
10	Copper (as Cu),mg/l, Max	<0.005	0.014	0.036	0.05	1.5	IS:3025 (P-2)2019
11	Chloride as Cl (mg/l),mg/l, Max	128.25	266.13	402.61	250	1000	IS:3025 (P-32) 1988 RA 2019
12	Fluoride (as F),mg/l, Max	0.20	0.30	0.60	1	1.5	APHA 23rd Edition 4500F
13	Iron (as Fe),mg/l, Max	<0.005	0.081	0.094	1.0	1.0	IS:3025 (Part-2) 2019
14	Magnesium (as Mg)mg/l, Max	56.02	46.66	39.66	30	100	IS:3025 (P-46)1994 RA 2019
15	Manganese (as Mn),mg/l, Max	<0.001	0.013	0.084	0.1	0.3	IS:3025 (P-2) 2019
16	Nitrates (as NO_3),mg/l, Max	14.90	3.90	6.20	45	45	IS:3025 (P-34) 2024
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	102.00	48.00	71.80	200	400	IS:3025 (P-24) Sec 1 2022
19	Alkalinity (as $CaCO_3$) mg/l, Max	375.0	362.0	397.8	200	600	IS:3025 (P-23):1986 RA 2019
20	Total Hardness (as $CaCO_3$),mg/l,Max	522.0	514.0	510.0	200	600	IS:3025 (P-21):2009 RA 2019
21	Zinc (as Zn),mg/l, Max	<0.005	0.071	0.15	5	15	IS:3025 (P-2) 2019
22	Sodium, (as Na), mg/l, Max	48	150	210	--	--	IS:3025 (Part-45) 1993 RA2019
23	Potassium, (as K), mg/l, Max	6	14	18	--	--	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	<0.002	<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-2) 2019
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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Annexure-24

Ensuring trucks exit with tarpaulins

CC road for Ore transportation

Haul road at Mines

Upgradation of road infrastructure

Asphalting of Ore transportation road outside the mine lease

Water tankers for suppression of dust on haul roads

Sprinklers fitted along major haul roads

Sprinklers along major haul roads

Sprinklers fitted along major haul roads

Sprinklers fitted along major haul roads

Water tankers used for dust suppression

Water tankers used for dust suppression

Commissioning of mist canyons at Kammatharu Iron Ore Mines

Mist canyons in Operation at Mines

Mist Canyons in operation at Kanivehalli Iron ore Mine

Truck mounted dry fog dust suppression system deployed at Deogiri Mine

Dust suppression on haul roads using mist cannon

Mist cannon deployed for operation at SBH Mine

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
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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/2024-25/653

07 August 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 groundwater level and groundwater quality monitoring reports in respect of Mining Lease No. 2678 & 2679 for the monsoon season.

Ref: 1. KGWA NOC No.: KGWAN1554866756 dated 16 February 2024.
2. Environmental Clearance F.No. IA-J-11015/45/2021-IA-II(M) dated 25 April 2023.

We herewith submitting the groundwater level and groundwater quality monitoring data carried out for the monsoon season from the borewells and piezometers established in the core zone and buffer zone (Annexure-I), in respect of Mining Lease No. 2678 and 2679 of The Sandur Manganese & Iron Ores Limited, Sandur Taluk, Ballari District as per the conditions stipulated in NOC obtained from Karnataka Ground Water Authority and Environmental Clearance obtained from Ministry of Environment, Forest & Climate Change.

Kindly acknowledge receipt of the same.

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

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

The Sandur Manganese & Iron Ores Ltd. DEOGIRI

09/08/24
LETTER RECEIVED
Senior Geologist
District Ground Water Office
Ballari - 583 103

Encl: Annexure I & Groundwater Quality Report.

Copy to: 1) Senior Geologist, District Ground Water office, Ballari.
2) Integrated Regional Office, MoEF & CC, Bengaluru.
3) Member Secretary, Central Pollution Control Board.

Groundwater Level data for Monsoon Season in Core Zone

Sl No.	Bore well ID	Co-Ordinates in UTM (WGS84)		Bore well Locations	Depth of Water Level (m) BGL	Depth of Bore well (m)
		Easting	Northing			
1	RNJP	673779	1660983	Kammathuru	11.20	78.96
2	KKNH	676990	1659103	Kenchammanakolla	9.10	48.78
3	JLK	675442	1659438	Jaladikolla	31.15	48.78
4	RMK	673755	1658789	Ramakolla	77.70	117.38
5	AMK	671690	1658042	Alamaradakolla	33.10	97.26
6	CBG	671154	1657187	Chinnabudanagundu	39.05	122.56
7	KMK	668640	1658078	Kanigemaradakolla	81.40	127.74
8	NK	667610	1658284	Neerkolla	44.25	74.39
9	KVH BG	664282	1662003	Kanivehalli BG	40.35	92.68
10	CD	660030	1666841	Central Deposit	62.36	122.56

Groundwater Level data for Monsoon Season in Buffer Zone

Sl No.	Open well ID	Co-Ordinates in UTM (WGS84)		Open well Locations	Depth of Water Level (m) BGL	Depth of Open well (m)
		Easting	Northing			
1	1B2	647018	1677767	Dhanapur	2.15	5.85
2	2B3	645293	1672805	Devalapur	7.10	11.54
3	2A2	666523	1668210	Sandur	1.85	13.7
4	2B1	672619	1673264	Taranagar	9.40	10.74
5	3B5	675330	1659288	Deogiri	2.05	
6	1C1	656172	1657563	Bandri	1.35	8.26
7	1A4	664421	1650802	Choranuru	0.10	7.2
8	1B1	679131	1660998	Appayanahalli	1.25	8.22
9	2B2	675375	1648539	Sheliyappanahalli	0.10	22.64
10	1A1	688523	1655346	Melina kanive	1.00	8.27
11	NW	677609	1671717	Lingadahalli	2.10	12.05

The Sandur Manganese & Iron Ores Ltd. DEOGIRI

National Accreditation Board for Testing and Calibration Laboratories

NABL

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)

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

Signed for and on behalf of NABL

N. Venkateswaran
Chief Executive Officer

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

Speed Post

F.No. LB/99/7/2021-INST LAB-HO-CPCB-HO/Pvt./ 1601

Dated: 28th January 2023
07th June 2023

Recognition Certificate

To,

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

Subject: Recognition of M/s Environmental Laboratory (Unit of Mineral Engineering Services), #948, 2nd 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, 2nd 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, 2nd Cross, St. Thomas Town Post, Kammanahalli Road, Bengaluru--560084, Karnataka** may undertake the following tests:

   i. **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.
   ii. **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.
   iii. **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,
   iv. **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).
   v. **Microbiological Test:** Total Coliform, Faecal Coliform, *E. coli, Faecal Streptococci* and Total Plate Count.
   vi. **Toxicological Tests:** Bioassay Method for Evaluation of Toxicity using Fish and Measurement of Toxicity Using Daphnia or Other Organism.
   vii. **Biological Test:** Macrophytic Identification, Planktonic Identification Count and Chlorophyll.

Contd.

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_2), Sulphur Dioxide (SO_2), Total Suspended Particulate Matter, Respirable Suspended Particulate Matter PM_{10}, Ammonia, Carbon Monoxide, Chlorine, Lead, Ozone, Benzene Toluene Xylene (BTX), Polycyclic Aromatic Hydrocarbon (PAH) Benzo-a-Pyrine & others and $PM_{2.5}$.

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,

K. Ranganathan 7/6/23

(Dr. K. Ranganathan)
Scientist-E & Divisional Head
Instrumentation laboratory

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

ENVIRONMENTAL LABORATORY

(UNIT OF MINERAL ENGINEERING SERVICES)

ISO 45001:2018

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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	: GW1 - Deogiri Mine Office Bore water, GW2 - Kammaturu Bore water, GW3 - Appayyanahalli (Narayanpura) Bore water
Date of sample collection	: 09.07.2024
Issue Date	: 17.07.2024

Ref : IS:10500-2012 Norms Amendment - 4 (Drinking Water Standards)

Sl. No.	Lab Code / Sample Code / Parameters	N/24/07/02-0067 GW1	N/24/07/02-0068 GW2	N/24/07/02-0069 GW3	Desirable Limts	Permissible Limts	Method of Testing
		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	6.54	6.75	7.12	6.5 to 8.5	6.5 - 8.5	IS:3025 (P-11) 2022
4	Turbidity,NTU, Max	<0.1	<0.1	<0.1	1	5	IS:3025 (P-10)1984 RA 2017
5	Electrical Conductvity (µmhos/cm)	120.0	290.0	1050.0	--	--	IS 3025 (P-14)
6	Total Dissolved Solids,mg/l, Max	80.0	180.0	658.0	500	2000	IS:3025 (P-16)1984 RA2017
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	12.00	24.00	121.82	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	16.72	42.00	133.32	250	1000	IS:3025 (P-32) 1988 RA 2019
12	Fluoride (as F),mg/l, Max	<0.1	<0.1	<0.1	1	1.5	IS:3025 (P-60) 2008 RA 2019
13	Iron (as Fe),mg/l, Max	<0.005	<0.005	<0.005	1.0	1.0	IS:3025 (Part-2) 2019
14	Magnesium (as Mg)mg/l, Max	4.86	14.58	39.66	30	100	IS:3025 (P-46)1994 RA 2019
15	Manganese (as Mn),mg/l, Max	<0.001	<0.001	<0.001	0.1	0.3	IS:3025 (P-2) 2019
16	Nitrates (as NO_3),mg/l, Max	2.30	1.53	18.00	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	12.50	5.80	78.90	200	400	IS:3025 (P-24) Sec 1 2022
19	Alkalinity (as $CaCO_3$) mg/l, Max	10.00	75.0	325.0	200	600	IS:3025 (P-23):1986 RA 2019
20	Total Hardness (as $CaCO_3$),mg/l,Max	50.0	120.0	467.0	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	5	12	64	-	-	IS:3025 (Part-45) 1993 RA2019
23	Potassium, (as K), mg/l, Max	<1	4	15	-	-	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"

BINUMANI
T.M. - Microbiology

ARSHIYA KOUSAR
Dy. T.M. Chemical

Govt. Analyst / Authorised Signatory

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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	: GW4 - SB Halli Bore water (near hospital), GW5 - Yeshwanthnagar Bore water (near railway track)
Date of sample collection	: 09.07.2024
Issue Date	: 17.07.2024

Ref : IS:10500-2012 Norms Amendment - 4 (Drinking Water Standards)

Sl. No.	Lab Code / Sample Code / Parameters	N/24/07/02-0070 GW4 Results	N/24/07/02-0071 GW5 Results	Desirable Limts	Permissible Limts	Method of Testing
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	7.21	6.86	6.5 to 8.5	6.5 - 8.5	IS:3025 (P-11) 2022
4	Turbidity,NTU, Max	<0.1	<0.1	1	5	IS:3025 (P-10)1984 RA 2017
5	Electrical Conductvity (µmhos/cm)	1590.0	1180.0	--	--	IS 3025 (P-14)
6	Total Dissolved Solids,mg/l, Max	1050.0	860.0	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	121.84	97.29	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	254.98	47.14	250	1000	IS:3025 (P-32) 1988 RA 2019
12	Fluoride (as F),mg/l, Max	<0.1	<0.1	1	1.5	IS:3025 (P-60) 2008 RA 2019
13	Iron (as Fe),mg/l, Max	<0.005	<0.005	1.0	1.0	IS:3025 (Part-2) 2019
14	Magnesium (as Mg)mg/l, Max	23.33	52.06	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	44.00	1.80	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	58.50	74.00	200	400	IS:3025 (P-24) Sec 1 2022
19	Alkalinity (as $CaCO_3$) mg/l, Max	405.0	570.0	200	600	IS:3025 (P-23):1986 RA 2019
20	Total Hardness (as $CaCO_3$),mg/l,Max	400.0	460.0	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	164	135	--	--	IS:3025 (Part-45) 1993 RA2019
23	Potassium, (as K), mg/l, Max	25	21	--	--	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"

BINUMANI
T.M. - Microbiology

ARSHIYA KOUSAR
Dy. T.M. Chemical

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ENVIRONMENTAL LABORATORY

(UNIT OF MINERAL ENGINEERING SERVICES LLP)

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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	: GW1 - Project Site Core Zone Borewell water, GW2 - Ramghad Bore water, GW3 - Dharmapura Bore water
Issue Date	: 21.06.2024

Ref : IS:10500-2012 Norms Amendment - 4 (Drinking Water Standards)

	Date of sample collection	12.06.2024	12.06.2024	12.06.2024			
	Lab Code	N/24/06/3-0154	N/24/06/3-0155	N/24/06/3-0156	Desirable Limts	Permissible Limts	Method of Testing
Sl. No.	Sample Code / Parameters	GW1	GW2	GW3			
		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	6.69	6.71	6.85	6.5 to 8.5	6.5 - 8.5	IS:3025 (P-11) 2022
4	Turbidity,NTU, Max	0.5	<0.1	2.10	1	5	IS:3025 (P-10)1984 RA 2017
5	Electrical Conductvity (µmhos/cm)	295.0	320.0	1170.0	--	--	IS 3025 (P-14)
6	Total Dissolved Solids,mg/l, Max	180.0	195.0	732.0	500	2000	IS:3025 (P-16)1984 RA2017
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	24.04	31.07	97.29	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	42.00	19.26	99.86	250	1000	IS:3025 (P-32) 1988 RA 2019
12	Fluoride (as F),mg/l, Max	0.20	0.40	0.50	1	1.5	APHA 23rd Edition 4500F
13	Iron (as Fe),mg/l, Max	<0.005	<0.005	<0.005	1.0	1.0	IS:3025 (Part-2) 2019
14	Magnesium (as Mg)mg/l, Max	14.58	11.40	52.06	30	100	IS:3025 (P-46)1994 RA 2019
15	Manganese (as Mn),mg/l, Max	<0.001	<0.001	<0.001	0.1	0.3	IS:3025 (P-2) 2019
16	Nitrates (as NO_3),mg/l, Max	1.53	3.46	4.62	45	45	IS:3025 (P-34) 2024
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	6.50	18.20	84.90	200	400	IS:3025 (P-24) Sec 1 2022
19	Alkalinity (as $CaCO_3$) mg/l, Max	75.0	155.0	480.0	200	600	IS:3025 (P-23):1986 RA 2019
20	Total Hardness (as $CaCO_3$),mg/l,Max	120.0	124.0	457.0	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	12	18	32	--	--	IS:3025 (Part-45) 1993 RA2019
23	Potassium, (as K), mg/l, Max	2	<1	6	--	--	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	<0.002	<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-2) 2019
30	Escherichia coli/100ml	Not Detected	Not Detected	Not Detected	Shall not be detectable in		IS:15185:2016 RA 2021
31	Total Coliform /100ml)	Not Detected	Not Detected	Not Detected	any 100ml Sample		IS:15185:2016 RA 2021

"END OF REPORT"

BINU MANI
T.M. - Microbiology
Govt. Analyst / Authorised Signatory

ARSHIYA KOUSAR
Dy. T.M. - Chemical
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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
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	: 24.06.2024

Ref : IS:10500-2012 Norms Amendment - 4 (Drinking Water Standards)

	Date of sample collection	12.06.2024	10.06.2024	10.06.2024			
	Lab Code	N/24/06/3-0157	N/24/06/3-0106	N/24/06/3-0105	Desirable Limts	Permissible Limts	Method of Testing
Sl. No.	Sample Code / Parameters	GW4	GW5	GW6			
		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	7.15	7.43	7.50	6.5 to 8.5	6.5 - 8.5	IS:3025 (P-11) 2022
4	Turbidity,NTU, Max	0.8	<0.1	<0.1	1	5	IS:3025 (P-10)1984 RA 2017
5	Electrical Conductvity (µmhos/cm)	1090.0	1178.0	1388.0	--	--	IS 3025 (P-14)
6	Total Dissolved Solids,mg/l, Max	682.0	980.0	1100.0	500	2000	IS:3025 (P-16)1984 RA2017
7	Aluminium (as Al), Max	<0.005	0.018	0.043	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	116.92	129.05	138.94	75	200	IS:3025 (P-40)1991 RA 2019
10	Copper (as Cu),mg/l, Max	<0.005	0.014	0.036	0.05	1.5	IS:3025 (P-2)2019
11	Chloride as Cl (mg/l),mg/l, Max	128.25	266.13	402.61	250	1000	IS:3025 (P-32) 1988 RA 2019
12	Fluoride (as F),mg/l, Max	0.20	0.30	0.60	1	1.5	APHA 23rd Edition 4500F
13	Iron (as Fe),mg/l, Max	<0.005	0.081	0.094	1.0	1.0	IS:3025 (Part-2) 2019
14	Magnesium (as Mg)mg/l, Max	56.02	46.66	39.66	30	100	IS:3025 (P-46)1994 RA 2019
15	Manganese (as Mn),mg/l, Max	<0.001	0.013	0.084	0.1	0.3	IS:3025 (P-2) 2019
16	Nitrates (as NO_3),mg/l, Max	14.90	3.90	6.20	45	45	IS:3025 (P-34) 2024
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	102.00	48.00	71.80	200	400	IS:3025 (P-24) Sec 1 2022
19	Alkalinity (as $CaCO_3$) mg/l, Max	375.0	362.0	397.8	200	600	IS:3025 (P-23):1986 RA 2019
20	Total Hardness (as $CaCO_3$),mg/l,Max	522.0	514.0	510.0	200	600	IS:3025 (P-21):2009 RA 2019
21	Zinc (as Zn),mg/l, Max	<0.005	0.071	0.15	5	15	IS:3025 (P-2) 2019
22	Sodium, (as Na), mg/l, Max	48	150	210	--	--	IS:3025 (Part-45) 1993 RA2019
23	Potassium, (as K), mg/l, Max	6	14	18	--	--	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	<0.002	<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-2) 2019
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"

BINU MANI
T.M. - Microbiology
Govt. Analyst / Authorised Signatory

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

Annexure-26


Samsung Quad Camera


Samsung Quad Camera


Samsung Quad Camera

Digital Water level recorder installed at Ramghad

Digital water level recorder installed at Kammatharu Iron Ore Mine

Annexure-27

Cleaned Silt Settling tank and Rainwater harvesting pit at CBG Section, Deogiri

Silt Settling tank at SK Section, Deogiri

View of Silt Settling tank and Rainwater Harvesting pit at SK Section, Deogiri

Cleaned Silt Settling tank and Rainwater harvesting tank at CBG Section, Deogiri

Cleaned Silt settling tank and RWHP at KVHIO, SB Halli

Cleaned Silt settling tank and RWHP at D49 in KVHIO, SB Halli

Rain water accumulation in Silt settling tank and RWHP at CBG Section, Deogiri

Water accumulation in Silt Settling tank and RWHP

Water accumulation at Silt settling Tank at Kammatharu Iron Ore Mine

Stone Masonry Check dam at ML No 2678

Loose boulder check dam outside the mine lease area

Silt Settling tank at Ramghad Section

Silt Settling tank at Subbarayanahalli

Loose boulder check dam at Deogiri

Loose boulder check dam at Deogiri section

Loose boulder check dam at Subbarayanahalli section

Loose boulder check dam at Subbarayanahalli section

Stone Masonry check dam at Deogiri Section

Stone Masonry check dam at Deogiri Section

Stone Masonry check dam at Subbarayanahalli Section

Stone Masonry check dam at Subbarayanahalli Section

Stone Masonry check dam at Subbarayanahalli Section

Stone Masonry check dam at Subbarayanahalli Section

Annexure-28

View of the retaining wall built at Kammatharu Iron Ore Mine

View of the retaining wall built at Kammatharu Iron Ore Mine

Accumulated rain water at water harvesting pit at Kammatharu Iron Ore Mine

Toe wall at Kanivehalli Iron Ore Section of Subbarayanahalli

Toe wall built at CBG Section in Deogiri

Garland drains in the mine

Toe wall built at CBG Section in Deogiri

Garland drain along toe of waste dump

Stone pitched garland drain along toe of waste dump

Garland drain at Mines

Rain water flowing through Garland drain at Mines

Annexure-29

Cleaned Silt Settling tank and Rainwater harvesting pit at CBG Section, Deogiri

Silt Settling tank at SK Section, Deogiri

View of Silt Settling tank and Rainwater Harvesting pit at SK Section, Deogiri

Cleaned Silt Settling tank and Rainwater harvesting tank at CBG Section, Deogiri

Cleaned Silt settling tank and RWHP at KVHIO, SB Halli

Cleaned Silt settling tank and RWHP at D49 in KVHIO, SB Halli

Rain water accumulation in Silt settling tank and RWHP at CBG Section, Deogiri

Water accumulation in Silt Settling tank and RWHP

Water accumulation at Silt settling Tank at Kammatharu Iron Ore Mine

Stone Masonry Check dam at ML No 2678

Loose boulder check dam outside the mine lease area

Silt Settling tank at Ramghad Section

Silt Settling tank at Subbarayanahalli

Loose boulder check dam at Deogiri

Loose boulder check dam at Deogiri section

Loose boulder check dam at Subbarayanahalli section

Loose boulder check dam at Subbarayanahalli section

Stone Masonry check dam at Deogiri Section

Stone Masonry check dam at Deogiri Section

Stone Masonry check dam at Subbarayanahalli Section

Stone Masonry check dam at Subbarayanahalli Section

Stone Masonry check dam at Subbarayanahalli Section

Stone Masonry check dam at Subbarayanahalli Section

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

SMIORE/MN/241019/1008

28 October 2024

The Additional Director
Ministry of Environment, Forests & Climate Change
Integrated Regional Office
Kendriya Sadan, Koramangala
Bengaluru-34

Dear Sir

Sub: Submission of copy of the Water Audit report from accredited CGWB Auditor in respect of Mining Lease No 2678 of The Sandur Manganese & Iron Ores Limited.

Ref: Environmental Clearance granted by Ministry of Environment, Forests and Climate Change (MOEFCC) vide EC23A001KA158909 dated 25 April 2023.

With reference to the above subject at its Mining Lease No 2678 The Sandur Manganese & Iron Ores Limited was granted Environmental Clearance by MOEFCC vide EC23A001KA158909 dated 25 April 2023 for Increase of Iron Ore production from 1.60 to 4.50 MTPA retaining the Manganese Ore production at 0.55 MTPA along with proposed 7.0 MTPA Beneficiation Plant, 1.2 km Down Hill Conveyor System, & 0.15 MTPA Crushing & Screening Plant of Iron Ore and Manganese Ore Mine.

As per the Standard condition put forth in the EC at point no 17 of Water Quality Monitoring and Preservation we are herewith submitting the copy of Water Audit report from the Central Ground Water Board accredited auditor for your office records.

We request your good self to kindly acknowledge the receipt of the same and oblige.

Thank you
for The Sandur Manganese & Iron ores Limited

Krishna Reddy
Vice President Mines

The Sandur Manganese & Iron Ores Ltd.

30/10/2024

भारत सरकार GOVERNMNT OF INDIA
पर्यावरण, वन एवं जलवायु परिवर्तन मंत्रालय
Ministry of Environment & Forests
क्षेत्रीय कार्यालय (दक्षिणी क्षेत्र)
Regional Office (Southern Zone)
बंगलूरु Bangalore

BLASTING VIBRATION STUDIES

PROJECT: Subbarayanahalli Manganese and Iron Ore Mine (ML NO. 2678)

Section: Kanigamarada Kolla
Subbarayanahalli Village,
Sandur Taluk, Bellary District, Karnataka State

Lessee

The Sandur Manganese & Iron Ores Ltd.,

Sandur Taluk,
Bellary District,
Karnataka State.

CONSULTANT

MINERAL ENGINEERING SERVICES
Accredited By NABET (QCI)
Mining & Environmental Engineers
25/XXV, Club Road, Ballari- 583 103.
Tel/Fax: 08392-267421
E-mail:mes_msraju@yahoo.co.uk

BLASTING VIBRATION STUDIES

PROJECT: Subbarayanahalli Manganese and Iron Ore Mine (ML NO. 2678)

Section: Neerkolla
Subbarayanahalli Village,
Sandur Taluk, Bellary District, Karnataka State

Lessee

The Sandur Manganese & Iron Ores Ltd.,

Sandur Taluk,
Bellary District,
Karnataka State.

August-2024

CONSULTANT

MINERAL ENGINEERING SERVICES
Accredited By NABET (QCI)
Mining & Environmental Engineers
25/XXV, Club Road, Ballari- 583 103.
Tel/Fax: 08392-267421
E-mail:mes_msraju@yahoo.co.uk

A study of Ground Vibration and Air blast due to blasting at Subbarayanahalli Manganese and Iron Ore Mine (ML No. 2678) Section-Neerkolla in Deogiri, Subbarayanahalli, Ramgad & Kammuthuru Villages, Sandur Taluk, Ballari District, Karnataka State

Introduction :

Blasting is conducted using explosives in opencast mines for breaking hard rock formations. The Out of the total energy of explosives only 20 to 30% is utilized for fragmentation. The rest of the energy is wasted in the form of ground vibrations, fly rock, air overpressure and noise.

The blasting can cause ground vibrations and noise and have a negative impact on the persons and other living beings in addition to the likely damage caused to buildings and sensitive structures in the vicinity. Blasting results in both ground and airborne vibration. Air borne vibrations result in audible noise and vibration known as air blast.

Statutory Provisions:

The Directorate General of Mines Safety issued a circular vide (DGMS) (Tech)/(S&T) Circular No. 7 of 1997 dated 29.08.1997 for compliance by all the mine owners using explosives for blasting.

The circular envisages that all the mine operators design their blasting operations to see that the peak particle velocity (ppv) at any given distance from the site of blasting to any building or sensitive structure at various frequency limits is within the permissible limits as given in **Table No. 1.**

Table No.1 : Permissible Peak Particle Velocity (ppv) at the foundation level of structures in Mining areas in mm/s.

Type of structure	Dominant excitation Frequency, Hz		
	<8 Hz	8-25 Hz	>25 Hz
(A) Building/structures not belong to the owner			
(i) Domestic house/structures (kuchha, brick & cement)	5	10	15
(ii) Industrial Building (RCC & Framed structures)	10	20	25
(iii) Objects of historical importance & sensitive structures	2	5	10
(B) Building belonging to owner with limited span of life			
(i) Domestic houses/structures (kuchha, brick & cement)	10	15	25
(ii) Industrial Building (RCC & Framed structures)	15	25	50

It is obligatory that the mine operator abide by the above permissible limits by suitably designing the blast.

The factors affecting particle velocity of ground vibration are type and amount of explosive used/delay, distance from the charge to the point of observation; geological, structural and physical properties of the rock that transmits the vibrations, height of structures and blast geometry. Use of safe charge/delay, proper spacing and burden, inclined holes, deck charge, air deck, sequential blasting, cleaning off loose pieces of rocks from the blast site and proper stemming shall reduce ground vibrations.

In the present case there is no sensitive and other structures close-by. Therefore it was decided to locate the seismograph at 245 m distance. **Table No.2** shows the inhabitations and other structures around the mine which are more than 700m away.

Table No. 2: Location of villages from place of blasting

Subbarayanahalli Manganese and Iron Ore Mine (ML No. 2678) Section-Neerkolla			
Location	Direction	Distance (m)	RL (m)
Subbarayanahalli Village	NNE	710	1015
Kumar Swamy Temple	NE	1500	907
Deogiri Village	E	7510	996
Ankammanahalli Village	W	4750	663
Nandihalli Village	NNE	4300	635
Narasingpur Village	NE	7360	630

A **Google map** showing the blasting site locations are enclosed vides **Fig.1** respectively.

Blasting Studies

Blasting studies were conducted at Subbarayanahalli Manganese and Iron Ore Mine (ML No. 2678) Section-Neerkolla on 01.08.2024 using a Nomis Seismograph for recording the frequencies and Peak Particle Velocity and noise levels. The data sheet with details of blast is given below vide **Table No. 3**.

Table No. 3 : Blast No.1 Vibration study report of Subbarayanahalli Manganese and Iron Ore Mine (ML No. 2678) Section-Neerkolla

Sl. No.	Description	
1	Blast No.	1
2	Location	N $15^0$00'08.0" E $76^0$33'27.6"
3	No. of holes	14
4	Depth of holes (m)	8.0
5	Burden(m) x spacing (m)	3 x 3.5
6	Diameter of hole (mm)	100 mm
7	Explosives used	Ammonium Nitrate & Solar Prime (83 mm cartridges) nonel detonators
8	Total Explosives used (kg)	311.6
9	Maximum charge/delay (kg)	22.25
10	Location of Nomis Seismograph	N $15^0$00'8.8" E $76^0$33'35.8"

PPV (mm/sec)	3.24
Frequency (Hz)	4.4
Air Pressure Level (dBL)	109.5

The waveform graphs for the blasts enclosed Annexure-1

Results :

The results show that at 245 m distance itself both ground vibrations (ppv) are well within the permissible limits for the blast design parameters chosen.

Table No. 4 : Results of study for conducted at Blast Subbarayanahalli Manganese and Iron Ore Mine Section of Neerkolla Mine (ML No. 2678)

Particulars	Blast - 1	Permissible limits for Domestic Houses/ Structure
PPV (mm/s)	3.24	5
Frequency (Hz)	4.4	<8

Therefore, it may be concluded from the above study that the blast parameters used for the above blast are safe to continue in future also which shall not affect any buildings and sensitive structures which are located at more than 700m distance.

For MINERAL ENGINEERING SERVICES

MINERAL ENGG SERVICES BELLARY.

(M.S. RAJU)
Consultant

Date : 26.08.2024
Place : Ballari

Version 4.2.4
Executable Date: 18Oct2017

Nomis Seismographs, Inc.

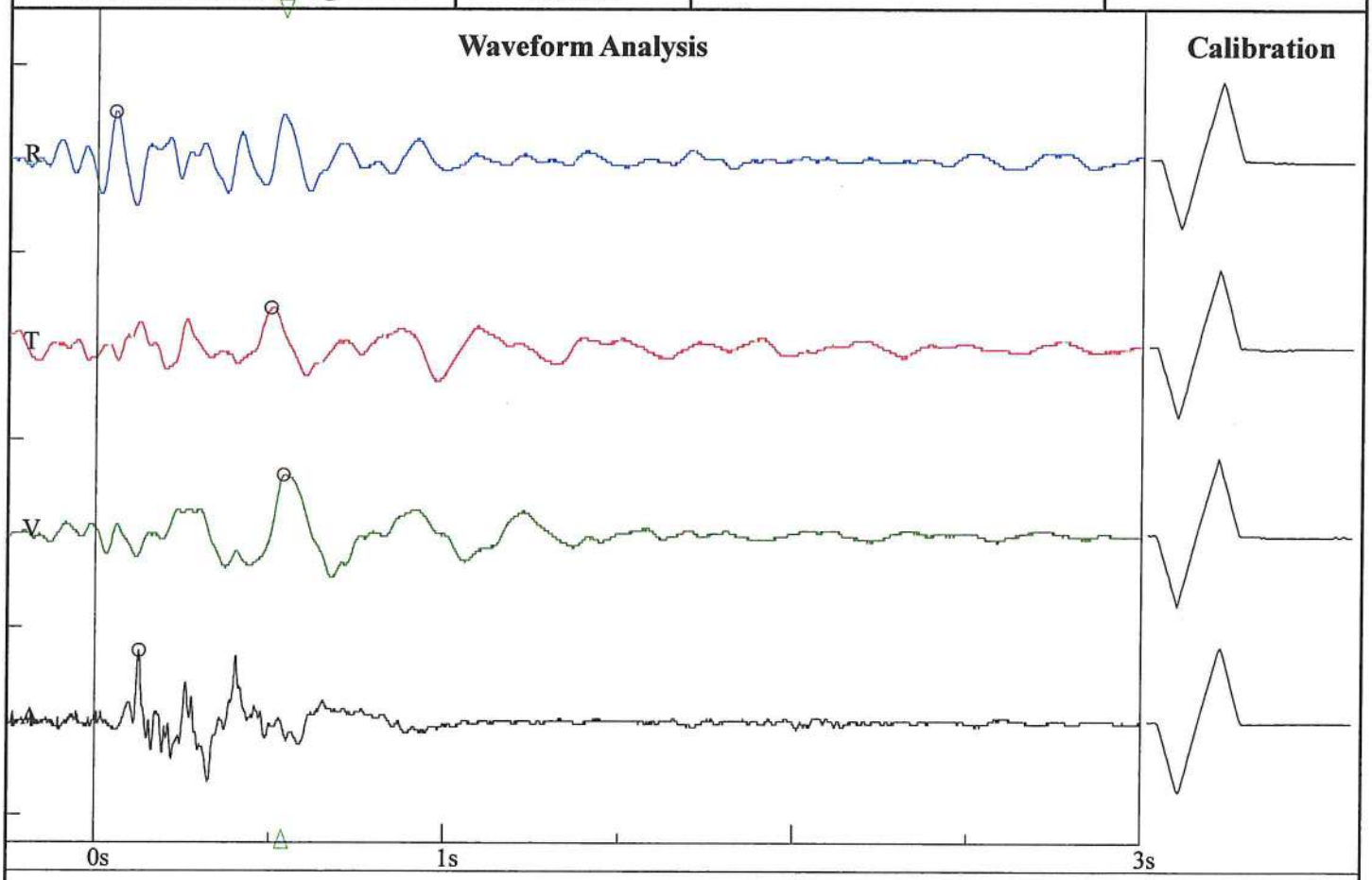
Mineral Engineering Services - Report

Telephone: 25/XXV Club Road Ballari

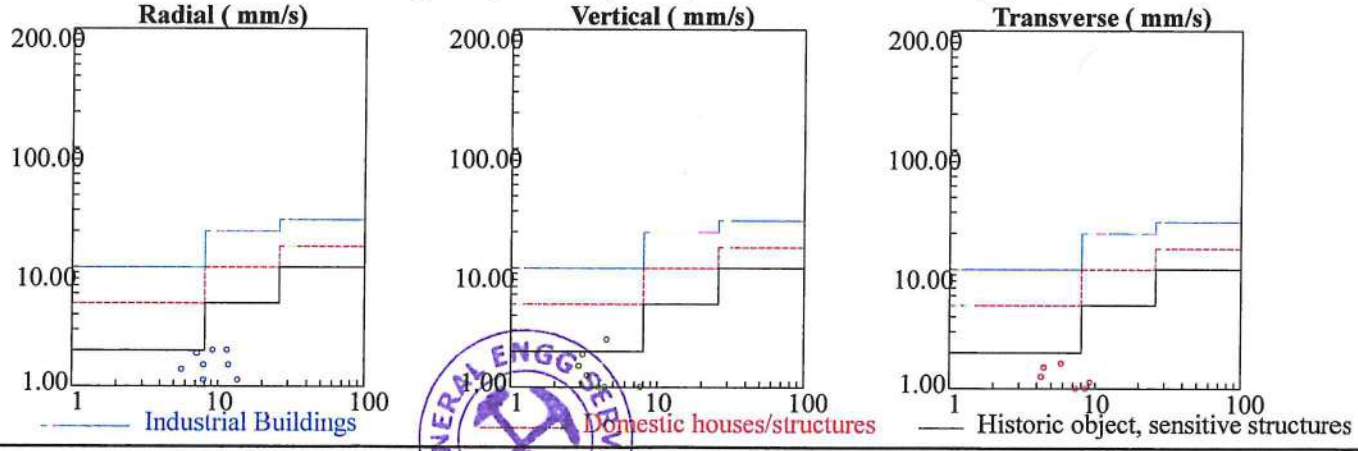
Company: The Sandur Manganese & Iron Or es Ltd.,
Location: Subbarayanahalli Section of Neerkolla Section
Operator: Yerriswamy G
Notes: 14 Nos of holes of 100mm dia, 8 m depth, 3.5m Spacing and 3m Burden

01/08/2024 at 13:26:06 Event # 19
Graph: 20617
Last Calibration: 10/07/2024
Record Duration: 3 sec
Sample Rate: 1024/sec

Amplitudes / Frequencies	Trigger >>> Peak	Scales / Triggers	Charge / Distance
○ Radial: 2.032 mm/s @ 11.3 Hz	49.8 ms	Air Scale: .00799 kPa/div.	Wgt. Per Delay: 3 kg
○ Transverse: 1.651 mm/s @ 5.8 Hz	498.0 ms	Seismic Scale: 4.06 mm/s/div.	Distance: 245 m
○ Vertical: 2.540 mm/s @ 4.4 Hz	536.1 ms	Air Trigger: N	Scaled Distance: 137.5
○ Air: 109.5 dBL @ 18.2Hz / .006kPa	126.0 ms	Seismic Trigger: .889 mm/s	
▽ Vector Sum: 3.24 mm/s @ 4.4 Hz	536.1 ms		

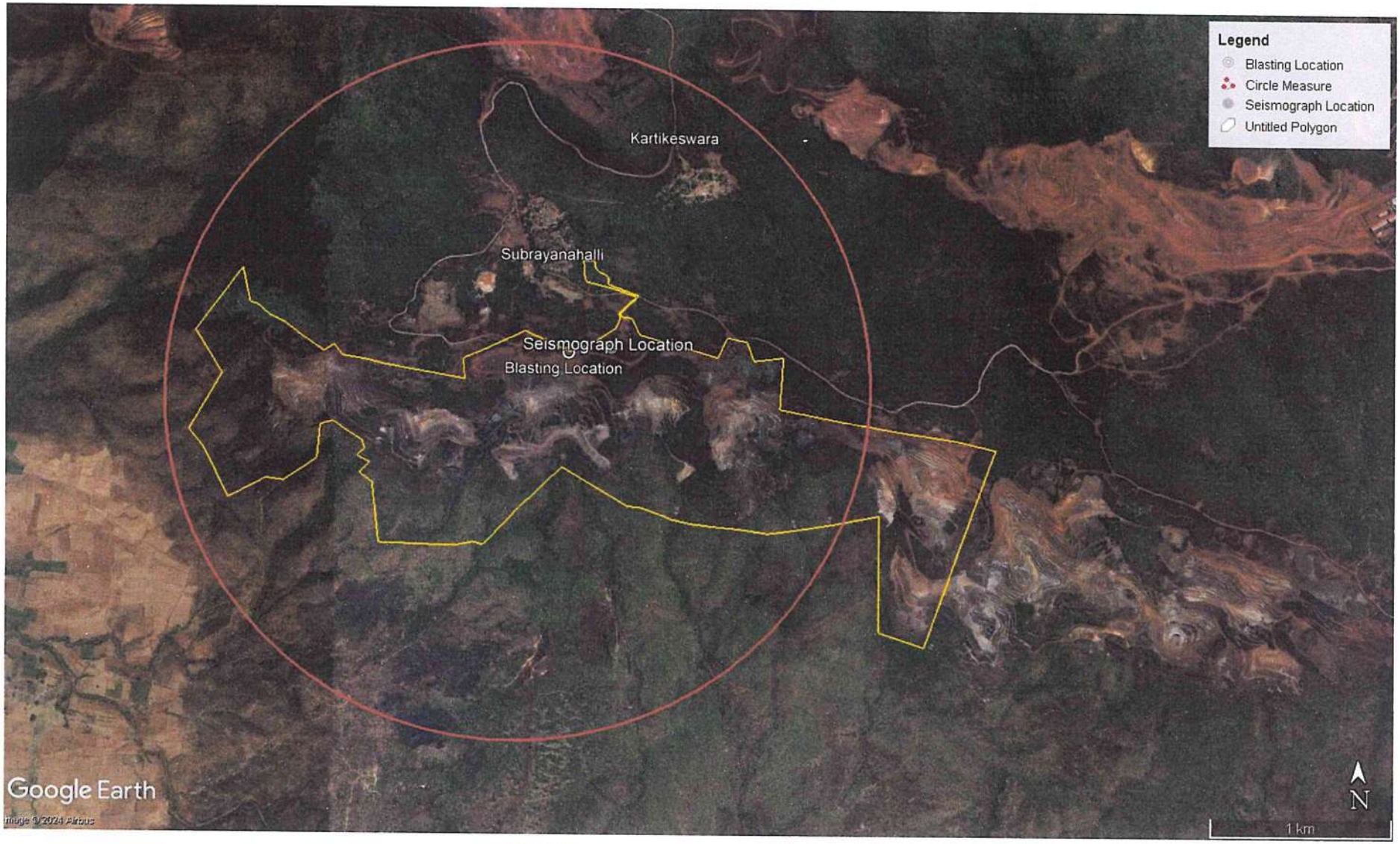


Frequency vs. Amplitude Plot - DGMS India (A)



MINERAL ENGG. SERVICES BELLARY.

Google Map Showing Location of Blasting Site at Subbarayanahalli Manganese and Iron Ore Mine (ML No. 2678) Section-Neerkolla



MINERAL ENGG SERVICES BELLARY

Fig-1

BLASTING VIBRATION STUDIES

PROJECT: DEOGIRI MANGANESE & IRON ORE MINE (ML NO. 2678)

Section : Yerrandari (YRD)

Deogiri Village,
Sandur Tehsil, Bellary District, Karnataka State

Lessee
The Sandur Manganese & Iron Ore Ltd.,

CONSULTANT

MINERAL ENGINEERING SERVICES
Accredited By NABET (QCI)
Mining & Environmental Engineers
25/XXV, Club Road, BALLARI - 583 103.

Tel/Fax:08392-267421
E-mail:mes_msraju@yahoo.co.uk

A study of Ground Vibration and Airblast due to blasting at

Deogiri Manganese and Iron Ore (ML.No 2678)

SECTION : YERRANDARI (YRD)

The Sandur Manganese & Iron Ores Ltd., Deogiri, Subbarayanahalli, Ramgad & Kammuthuru Villages, Sandur Tehsil, Bellary District, Karnataka State

Introduction :

Blasting is conducted using explosives in opencast mines for breaking hard rock formations out of the total energy of explosives only 20 to 30% is utilized for fragmentation. The rest of the energy is wasted in the form of ground vibrations, fly rock, air overpressure and noise.

The blasting can cause ground vibrations and noise and have a negative impact on the persons and other living beings in addition to the likely damage caused to buildings and sensitive structures in the vicinity. Blasting results in both ground and airborne vibration. Air borne vibrations result in audible noise and vibration known as air blast.

Statutory Provisions :

The Directorate General of Mines Safety issued a circular vide (DGMS) (Tech)/(S&T) Circular No. 7 of 1997 dated 29.08.1997 for compliance by all the mine owners using explosives for blasting.

The circular envisages that all the mine operators design their blasting operations to see that the peak particle velocity (ppv) at any given distance from the site of blasting to any building or sensitive structure at various frequency limits is within the permissible limits as given in **Table No. 1.**

Table No. 1 : Permissible Peak Particle Velocity (ppv) at the foundation level of structures in Mining areas in mm/s.

Type of structure	Dominant excitation Frequency, Hz		
	<8 Hz	8-25 Hz	>25 Hz
(A) Building/structures not belong to the owner			
(i) Domestic house/structures (kuchha, brick & cement)	5	10	15
(ii) Industrial Building (RCC & Framed structures)	10	20	25
(iii) Objects of historical importance & sensitive structures	2	5	10
(B) Building belonging to owner with limited span of life			
(i) Domestic houses/structures (kuchha, brick & cement)	10	15	25
(ii) Industrial Building (RCC & Framed structures)	15	25	50

It is obligatory that the mine operator abide by the above permissible limits by suitably designing the blast.

The factors affecting particle velocity of ground vibration are type and amount of explosive used/delay, distance from the charge to the point of observation; geological, structural and physical properties of the rock that transmits the vibrations, height of structures and blast geometry. Use of safe charge/delay, proper spacing and burden, inclined holes, deck charge, air deck, sequential blasting, cleaning off loose pieces of rocks from the blast site and proper stemming shall reduce ground vibrations.

In the present case there is no sensitive and other structures close-by. Therefore it was decided to locate the seismograph at 330m distance. The inhabitations and other structures around the mine, which are more than 500m away.

A **Google map** showing the blasting site locations are enclosed vide **Fig. 1** respectively.

Blasting Studies

Blasting studies were conducted at Deogiri Manganses & Iron Ore (ML.No 2678) Section- YRD on 31.08.2024 using a Nomis Seismograph for recording the frequencies and Peak Particle Velocity and noise levels. The data sheet with details of blast is given below vide **Table No. 2**.

Table No. 2 : Blast No.1 Vibration study report of Deogiri Manganese & Iron Ore Mine (ML.No 2678) Section - YRD

Sl. No.	Description	
1	Blast No.	1
2	Location	N 15^{0}00'02.9" E 76^{0}37'25.4"
3	No. of holes	30
4	Depth of holes (m)	8.5
5	Burden(m) x spacing (m)	3 x 2.5
6	Diameter of hole (mm)	110
7	Explosives used	Ammonium Nitrate & Solar Prime (83 mm cartridges) nonel detonators
8	Total Explosives used (kg)	866.9
9	Maximum charge/delay (kg)	28.99
10	Location of Nomis Seismograph	N 15^{0}00'13.7" E 76^{0}37'27.2"

Distance(m)	330 m
PPV (mm/sec)	1.75
Frequency (Hz)	14.6
Air Pressure Level (dBL)	133.3

The waveform graph for the blast is enclosed

Results :

The results show that at 330m distance itself ground vibrations (ppv) are well within the permissible limits for the blast design parameters chosen.

Table No. 3: Results of Vibration study for Blast at Deogiri Manganese & Iron Ore Mine (ML.No 2678) Section-YRD

Particulars	Blast - 1	Permissible limits for Domestic Houses/ Structure
PPV (mm/s)	1.75	10
Frequency (Hz)	14.6	8-25

Therefore, it may be concluded from the above study that the blast parameters used for the above blast are safe to continue in future also which shall not affect any buildings and sensitive structures which are located at more than 500m distance.

For MINERAL ENGINEERING SERVICES

(M.S. RAJU)
Consultant

Date : 31.08.2024
Place : Ballari

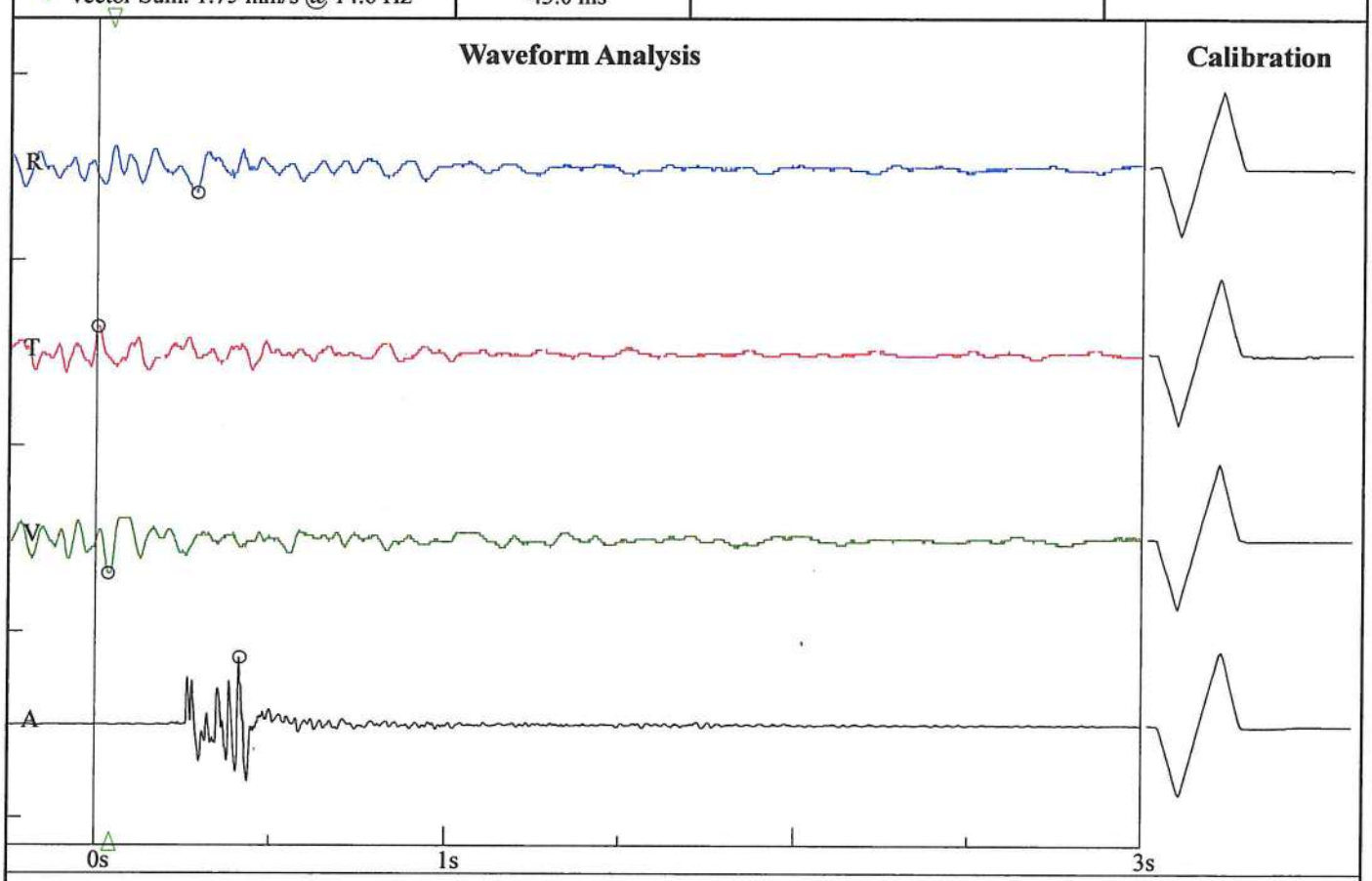
Mineral Engineering Services - Report

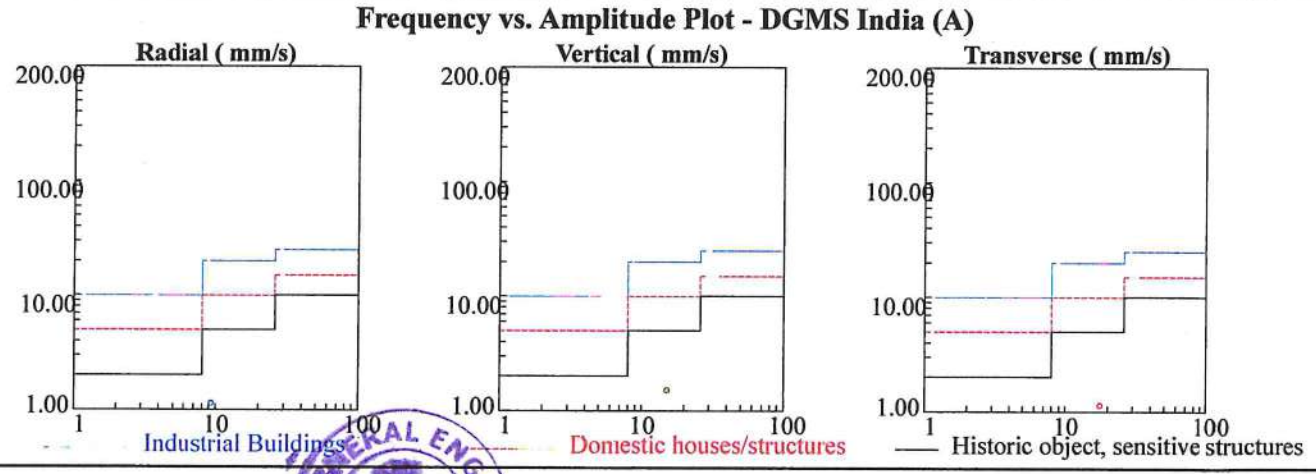
Telephone: 25/XXV Club Road Ballari

Company: The Sandur Manganese & Iron Ores Ltd.,
Location: Yerrandari (YRD) Section
Operator: S Kumar Swamy
Notes: 30 Nos of holes of 110 mm dia, 8.5m depth, 3 m Spacing and 2.5m Burden

31/08/2024 at 13:32:48 Event # 50
Graph: 20617
Last Calibration: 10/07/2024
Record Duration: 3 sec
Sample Rate: 1024/sec

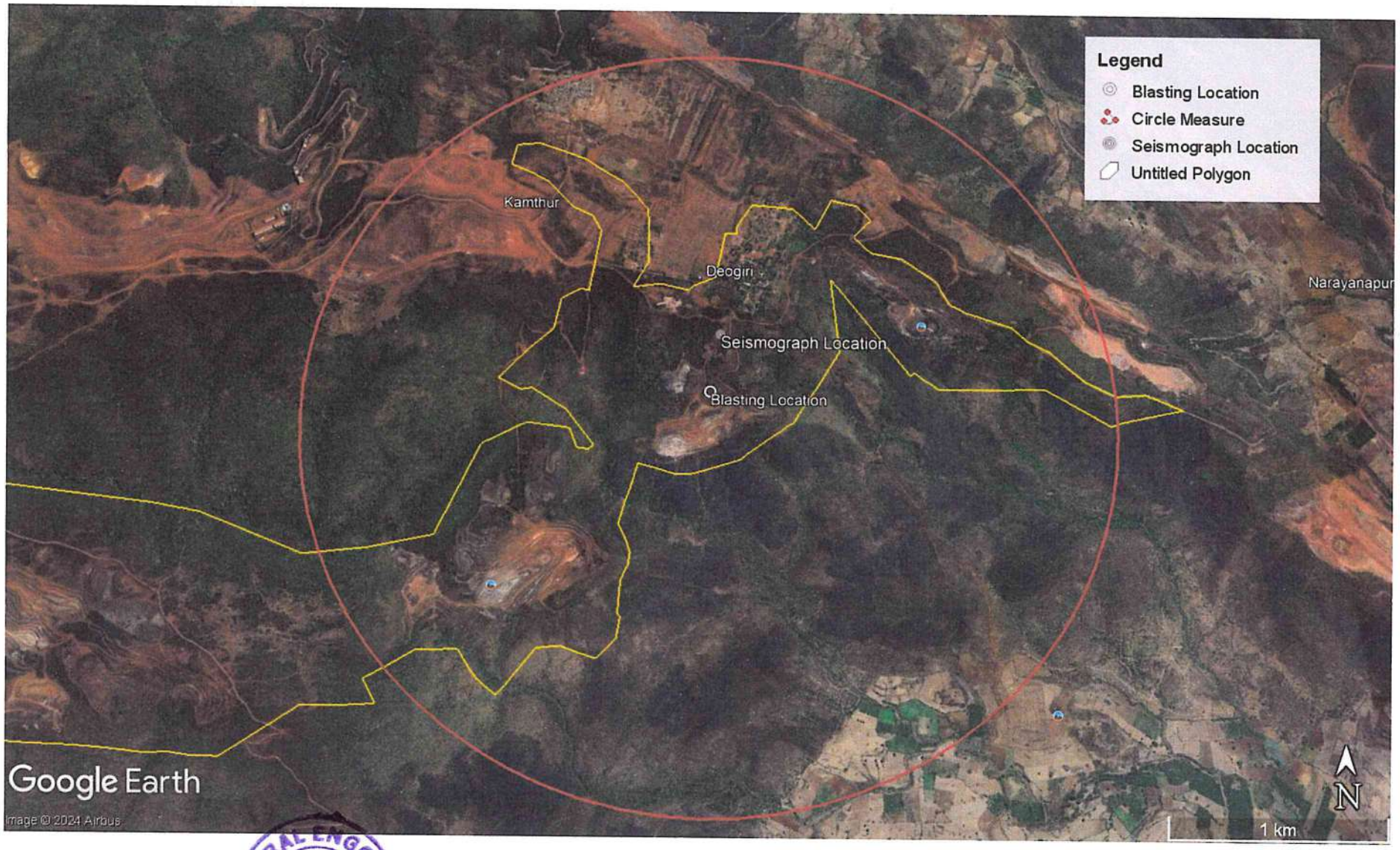
Amplitudes / Frequencies	Trigger >>> Peak	Scales / Triggers	Charge / Distance
○ Radial: 1.143 mm/s @ 9.3 Hz	286.1 ms	Air Scale: .12698 kPa/div.	Wgt. Per Delay: 29 kg
○ Transverse: 1.143 mm/s @ 17.6 Hz	2.0 ms	Seismic Scale: 4.06 mm/s/div.	Distance: 330 m
○ Vertical: 1.524 mm/s @ 15 Hz	35.2 ms	Air Trigger: N	Scaled Distance: 61.3
○ Air: 133.3 dBL @ 32Hz / .0922kPa	414.1 ms	Seismic Trigger: .889 mm/s	
▽ Vector Sum: 1.75 mm/s @ 14.6 Hz	43.0 ms		





MINERAL ENGG SERVICES BELLARY

Google Map Showing Location of Blasting Site at Deogiri Manganese & Iron Ore Mine (ML.No-2678) Section Yerrandari (YRD)



MINERAL ENGG SERVICES BELLARY.

Fig-1

A study of Ground Vibration and Air blast due to blasting at Subbarayanahalli Manganese and Iron Ore Mine (ML No. 2678) Section- Kanigamarada Kolla in Deogiri, Subbarayanahalli, Ramgad & Kammuthuru Villages, Sandur Taluk, Ballari District, Karnataka State

Introduction :

Blasting is conducted using explosives in opencast mines for breaking hard rock formations out of the total energy of explosives only 20 to 30% is utilized for fragmentation. Rest of the energy is wasted in the form of ground vibrations, fly rock, air overpressure and noise.

The blasting can cause ground vibrations and noise and have a negative impact on the persons and other living beings in addition to the likely damage caused to buildings and sensitive structures in the vicinity. Blasting results in both ground and airborne vibration. Air borne vibrations result in audible noise and vibration known as air blast.

Statutory Provisions:

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The circular envisages that all the mine operators design their blasting operations to see that the peak particle velocity (ppv) at any given distance from the site of blasting to any building or sensitive structure at various frequency limits is within the permissible limits as given in **Table No. 1.**

Table No.1 : Permissible Peak Particle Velocity (ppv) at the foundation level of structures in Mining areas in mm/s.

Type of structure	Dominant excitation Frequency, Hz		
	<8 Hz	8-25 Hz	>25 Hz
(A) Building/structures not belong to the owner			
(i) Domestic house/structures (kuchha, brick & cement)	5	10	15
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(iii) Objects of historical importance & sensitive structures	2	5	10
(B) Building belonging to owner with limited span of life			
(i) Domestic houses/structures (kuchha, brick & cement)	10	15	25
(ii) Industrial Building (RCC & Framed structures)	15	25	50

It is obligatory that the mine operator abide by the above permissible limits by suitably designing the blast.

The factors affecting particle velocity of ground vibration are type and amount of explosive used/delay, distance from the charge to the point of observation; geological, structural and physical properties of the rock that transmits the vibrations, height of structures and blast geometry. Use of safe charge/delay, proper spacing and burden, inclined holes, deck charge, air deck, sequential blasting, cleaning off loose pieces of rocks from the blast site and proper stemming shall reduce ground vibrations.

In the present case there is no sensitive and other structures close-by. Therefore it was decided to locate the seismograph at 480m distance.

A **Google map** showing the blasting site locations are enclosed vides **Fig. 1** respectively.

Blasting Studies

Blasting studies were conducted at Subbarayanahalli Manganese and Iron Ore Mine (ML No. 2678) Section- Kanigamarada Kolla on 19.09.2024 using a Nomis Seismograph for recording the frequencies and Peak Particle Velocity and noise levels. The data sheet with details of blast is given below vide **Table No. 3** .

Table No. 3 :Blast No.1 Vibration study report of Subbarayanahalli Manganese and Iron Ore Mine (ML No. 2678) Section- Kanigamarada Kolla Mine

Sl. No.	Description	
1	Blast No.	1
2	Location	N $15^0$00'0.54" E $76^0$34'0.81" Bench No. – 1^{st}
3	No. of holes	36
4	Depth of holes (m)	8.10
5	Burden(m) x spacing (m)	3 x 2
6	Diameter of hole (mm)	110 mm
7	Explosives used	Ammonium Nitrate & Solar Prime (83 mm cartridges) nonel detonators
8	Total Explosives used (kg)	750
9	Maximum charge/delay (kg)	20.83
10	Location of Nomis Seismograph	N $15^0$00'16.0" E $76^0$33'57.8"

PPV (mm/sec)	1.54
Frequency (Hz)	3.8
Air Pressure Level (dBL)	95.9

The waveform graphs for the blasts enclosed Annexure-1

Results :

The results show that at 480m distance itself both ground vibrations (ppv) are well within the permissible limits for the blast design parameters chosen.

Table No. 4 : Results of study for conducted at Blast Subbarayanahalli Manganese and Iron Ore Mine Section of Kanigamarada Kolla Mine (ML No. 2678)

Particulars	Blast - 1	Permissible limits for Domestic Houses/ Structure
PPV (mm/s)	1.54	10
Frequency (Hz)	3.8	8-25

Therefore, it may be concluded from the above study that the blast parameters used for the above blast are safe to continue in future also which shall not affect any buildings and sensitive structures which are located at more than 1.2 km distance.

For MINERAL ENGINEERING SERVICES

MINERAL ENGG SERVICES BELLARY.

(M.S. RAJU)
Consultant

Date : 05.10.2024
Place : Ballari

Annexure-1

Version 4.2.4
Executable Date: 18Oct2017

Nomis Seismographs, Inc.

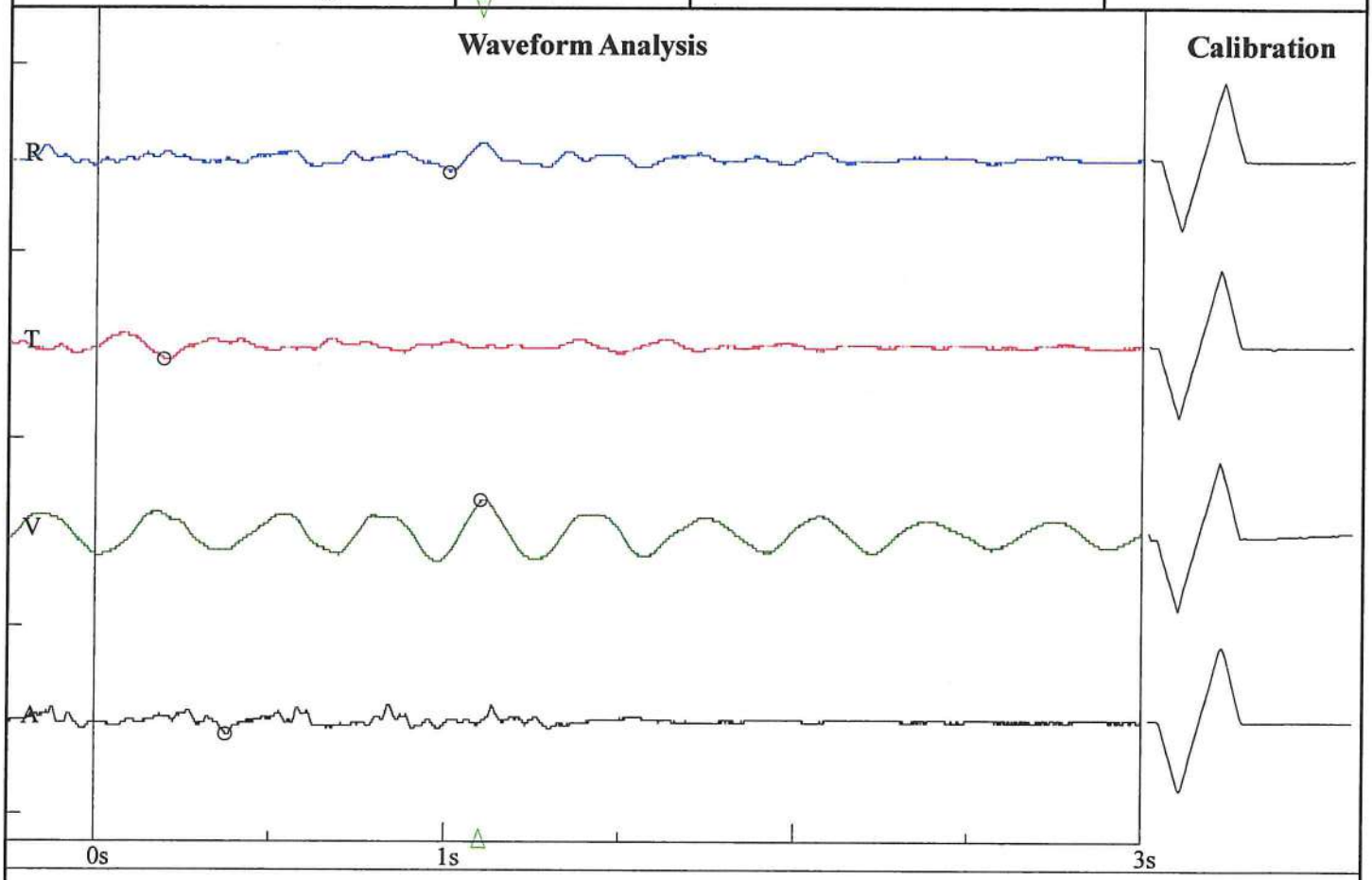
Mineral Engineering Services - Report

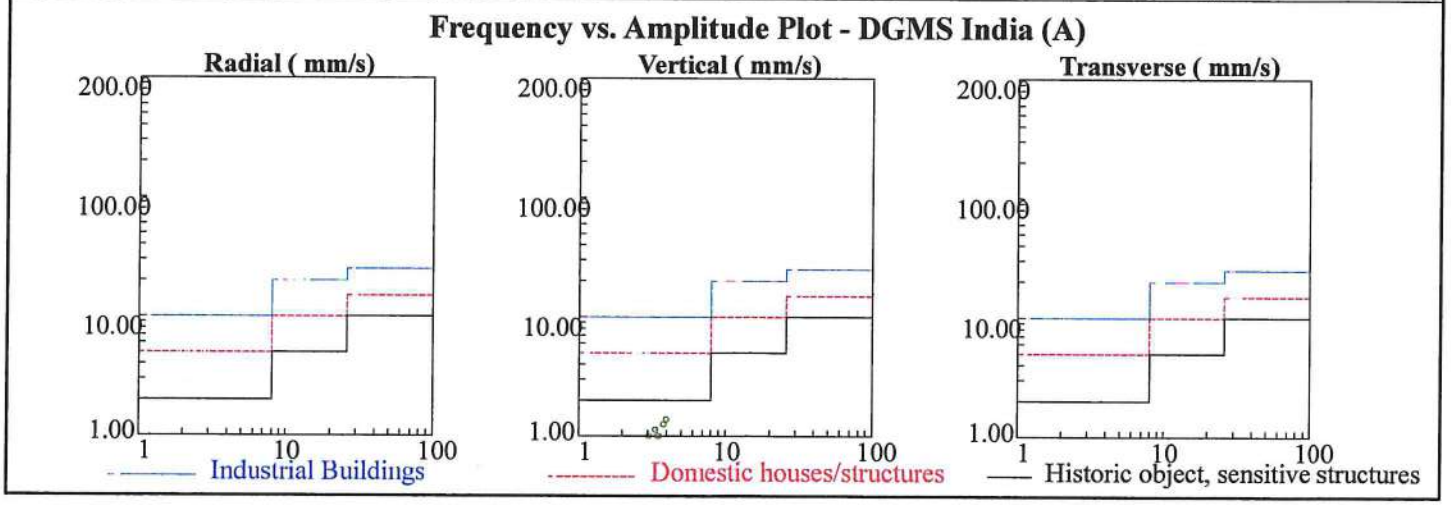
Telephone: 25/XXV Club Road Ballari

Company: The Sandur Manganese & Iron Ores Ltd.,
Location: Subbarayanahalli Section of Kanigamarada Kolla
Operator: S Hulliraju
Notes: 36 Nos of holes of 110mm dia, 8.10 m depth, 3 m Spacing and 2 m Burden

19/09/2024 at 13:21:36 Event # 53
Graph: 20617
Last Calibration: 10/07/2024
Record Duration: 3 sec
Sample Rate: 1024/sec

Amplitudes / Frequencies	Trigger >>> Peak	Scales / Triggers	Charge / Distance
Radial: 0.635 mm/s @ 4.9 Hz	1005.9 ms	Air Scale: .00799 kPa/div.	Wgt. Per Delay: 21 kg
Transverse: 0.635 mm/s @ 4.4 Hz	192.4 ms	Seismic Scale: 4.06 mm/s/div.	Distance: 480 m
Vertical: 1.397 mm/s @ 3.9 Hz	1100.6 ms	Air Trigger: N	Scaled Distance: 105.1
Air: 95.9 dBL @ 6.1Hz / .0012kPa	374.0 ms	Seismic Trigger: .889 mm/s	
Vector Sum: 1.54 mm/s @ 3.8 Hz	1100.6 ms		





Google Map Showing Location of Blasting Site at Subbarayanahalli Manganese and Iron Ore Mine (ML No. 2678) Section-Kanigamarada Kolla

MINERAL ENGG SERVICES BELLARY.

Fig-1

Annexure-32

De-Silting of Silt Settling tank

De-Silting of Silt Settling tank

De-Silting of Silt Settling tank

Manual De-silting of Silt Settling tank

Manual De-silting of Silt Settling tank

De-silting at Mines

Annexure-33

Stone Masonry Check dam at RMK section in Deogiri

Stone Masonry Check dam at RMK section in Deogiri

Stone Masonry Check dam at Subbrayanahalli Section

Series of Stone Masonry Check dam at KBHBG Section in Subbarayanahalli

Stone Masonry Check dam at Kammatharu Iron Ore Mine

Stone Masonry Check dam at Kammatharu Iron Ore Mine

Annexure-32

Head End of DCS System at Kammatharu Iron Ore Mine

Panoramic View of Downhill Pipe Conveyor

Inside the Head end of DCS

Tail end of DCS

Electrical panel room at DCS

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
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Karnataka, India
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Karnataka, India
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Fax: +91 80 4152 0182

SMIORE/MN.241019/973

21 October 2024

The Additional Director
Ministry of Environment, Forests & Climate Change
Integrated Regional Office
Kendriya Sadan, Koramangala
Bengaluru-34

Dear Sir

Sub: Submission of Action plan under Corporate Environment Responsibility as per the Standard Condition put forth in Environmental Clearance granted by MOEFCC vide EC Identification number EC23A001KA158909 dated 25 April 2023 in respect of The Sandur Manganese & Iron Ores Limited.

Ref: Environmental Clearance granted by Ministry of Environment, Forests and Climate Change (MOEFCC) vide EC23A001KA158909 dated 25 April 2023.

With reference to the above subject The Sandur Manganese & Iron Ores Limited was granted Environmental Clearance by MOEFCC vide EC23A001KA158909 dated 25 April 2023 for Increase of Iron Ore production from 1.60 to 4.50 MTPA retaining the Manganese Ore production at 0.55 MTPA along with proposed 7.0 MTPA Beneficiation Plant, 1.2 km Down Hill Conveyor System, & 0.15 MTPA Crushing & Screening Plant of Iron Ore and Manganese Ore Mine.

As part of the expansion project after securing all the relevant clearances from regulatory authorities the present Production of Iron ore is at 3.81 MTPA as per maximum permissible annual production prescribed by the Central Empowered Committee (CEC) and Manganese Production is at 0.55 MTPA both of which started during the FY 2024-25.

As per the Standard condition put forth in the EC at point no 33 we are herewith submitting the time-bound action plan enclosed as Annexure-1 for the commitments made during the Public Hearing and furnished in the EMP for your information and record. The compliances thereof will be submitted during the six-monthly compliance which will be submitted to your good office.

We request your good self to kindly acknowledge the receipt of the same and oblige.

Thanking you
for The Sandur Manganese & Iron ores Limited

Krishna Reddy
Vice President Mines

The Sandur Manganese & Iron Ores Ltd.

25/10/24

भारत सरकार / GOVERNMENT OF INDIA
Ministry of Environment & Forests
Regional Office (SZ)

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, Vijayanagara District
Tel: +91 8394 244450 / 244335

Action Plan under Corporate Environment Responsibility

Sl. No	Activity		Year 24-25	Year 25-26	Year 26-27	Total
Community Development Works						
1	To provide basic facilities like support to transport, education, infrastructure development and health care facilities	**Physical Nos**	3	3	3	-
		@Village	Kammathuru Devagairi SB Halli	Kammathuru Devagairi SB Halli	Kammathuru Devagairi SB Halli	-
		Budget In Lakh	10	15	15	**40**
2	To develop roads in Tonsagere village and to develop the village cemetery (road laying subjected to FC by Panchayat)	**Physical Nos**	-	1	-	-
		@Village	-	Tonasigere		
		Budget In Lakh		20	-	**20**
3	Construct & Maintenance of community toilets in the village	**Physical Nos**	3	3	3	-
		@Village	Kammathuru S B Halli & Deogiri	Kammathuru S B Halli & Deogiri	Kammathuru S B Halli & Deogiri	
		Budget In Lakh	8.00	8.00	8.00	**24.00**
4	Promoting and Facilitating Support to Education	**Physical Nos**	2	2	-	-
		@Village	Devagiri Kammatharu /Others	Devagiri Kammatharu /Others	Devagiri Kammatharu /Others	
		Budget In Lakh	3.00	3.00	3.00	**9.00**
5	Development and maintenance of Temples & surrounding area in Devagiri village.	**Physical Nos**	1	1	1	-
		@Village	Need based	Need based	Need based	
		Budget In Lakh	2.5	2.5	2.5	**7.5**
6	Providing skill development training to ITI & diploma passed local youth (for 10 members) per year.	**Physical Nos**	2	2	2	-
		@Village	Sandur Taluk	Sandur Taluk	Sandur Taluk	
		Budget In Lakh	2	2	2	**6**
WOMEN WELFARE						
1	Upskilling of women towards self-sustenance by tailoring training	**Physical Nos**	50	50	50	-
		@Village	SB Halli & Deogiri	SB Halli & Deogiri	SB Halli & Deogiri	-
		Budget In Lakh	6.00	6.00	6.00	**18**
Plantation drive						
1	Mass plantation drive at Schools surrounding Lease area	Budget in Lakh	1.00	1.00	1.00	**3.00**
2	Construction & Maintenance of Nakshatra Garden at Deogiri	Budget in Lakh	20.00	2.00	2.00	**24.00**

O/C

The Sandur Manganese & Iron Ores Limited

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

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Bellary Road, Sadashivanagar
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Karnataka, India
Tel: +91 80 4152 0176 - 79 / 4547 3000
Fax: +91 80 4152 0182

Ref No: SMIORE/MINES/ENV/2023-24/2678/

28 April 2023

The President,
Deogiri Panchayat,
Deogiri – 583112.

Dear Sir,

Sub: Submission of Environmental Clearance (EC) accorded by Ministry of Environment, Forest & Climate Change (MoEFCC) to the expansion project of Mining Lease No.2678 of The Sandur Manganese & Iron Ores Limited.

We are pleased to inform you that MoEFCC - Impact Assessment Division has granted EC to the below mentioned expansion proposal of The Sandur Manganese & Iron Ores Limited vide EC Identification No.EC23A001KA158909 dated 25 April 2023 under the provisions of EIA Notification 2006 for increase of iron ore production from 1.60 to 4.50 million tonnes per annum (MTPA), while retaining manganese ore production at 0.55 MTPA along with proposed 7.0 MTPA Ore Beneficiation Plant, 1.2 km Down Hill Conveyor System & 0.15 MTPA Crushing & Screening Plant of iron ore and manganese ore mine (Mining Lease No.2678) of The Sandur Manganese & Iron Ores Limited.

A copy of Environmental Clearance (EC) to be given to the panchayat for information.

Accordingly, we request you to acknowledge receipt of the same.

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

Deepak CA

Deepak Cukkae Anilkumar
Senior Manager

Encl: Environmental Clearance (EC) dated 25 April 2023 with Identification No.EC23A001KA158909.

02/05/2023

Annexure-38

Continuous Ambient Air Quality Monitoring Station installed at Mining Lease No 2678

The Sandur Manganese & Iron Ores Limited

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

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Karnataka, India
Tel: +91 80 4152 0176 - 79 / 4547 3000
Fax: +91 80 4152 0182

Ref No: SMIORE/MINES/ENV/2024-25/2678/494

08 July 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 environmental statement Form-V for the year 2023-24 in respect of Mining Lease No. 2678.

Ref: Consent for Operation No. AW-341719 dated 02 February 2024.

We are submitting herewith environmental statement Form-V for the year 2023-24 as per the Rule 14 of the Environment (Protection) Rules, 1986, in respect of Mining Lease No. 2678 of The Sandur Manganese & Iron Ores Limited.

Kindly acknowledge receipt of the same.

Thank you,

for The Sandur Manganese & Iron Ores Limited,

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

Encl: Environmental Statement Form-V

FORM – V

ENVIRONMENTAL STATEMENT

FOR THE FINANCIAL YEAR 2023-24

Rule 14 of The Environment (Protection) Rules, 1986

Mining Lease No. 2678

The Sandur Manganese & Iron Ores Limited

The Sandur Manganese & Iron Ores Ltd.

FORM – V

ENVIRONMENTAL STATEMENT

FOR THE FINANCIAL YEAR ENDING WITH 31ST MARCH

PART – A

1	Name and address of the occupier of the industry in operation or process	Mohammad Abdul Saleem, The Sandur Manganese & Iron Ores Limited. Mining Lease No. 2678, Deogiri Village, Sandur Taluk, Ballari District.
2	Industry Category	Red (Large)
3	Production Category	Manganese and Iron Ore Production
4	Year of Establishment	1954
5	Date of the last environmental statement submitted	Ref No: SMIORE/HO/ENV/MINES/2023-24/2678/55 dated 30 September 2023

PART – B

Water and Raw Materials Consumption:

1. Water consumption (m^3/day)

Name of the Product	Process water consumption per unit of products	
	During previous financial year 2022-23	During current financial year 2023-24
Process	Not applicable	Not applicable
Cooling	Not applicable	Not applicable
Domestic	107 m^3/day	82 m^3/day
Dust suppression & Green belt	422 m^3/day	401m^3/day

2. Raw Material Consumption

Name of raw materials	Name of Products	Consumption of raw materials per unit of output.	
		During previous financial year 2022-23	During current financial year 2023-24
		Nil	Nil

Note: - There is no consumption of raw materials, as the minerals excavated from the Earth's crust.

The Sandur Manganese & Iron Ores Ltd.

PART – C

POLLUTION DISCHARGED TO ENVIRONMENT/ UNIT OF OUTPUT.

(Parameter as specified in the consent issued)

Pollutants	Quantity of Pollutants discharged (mass/day)	Concentration of Pollutants discharged (mass/volume)	Percentage of variation from prescribed standards with reasons.
(a) Water	Domestic effluent generated from the canteen and employee colony is treated in the 100 KLD Sewage Treatment Plant (STP) located at Deogiri. Subsequently, the treated water from this facility is used for gardening and dust suppression, thereby ensuring sustainable water management within the premises.		
(b) Air	The dust generation primarily results from vehicular movement on haulage roads, and transfer points at crushing and screening plants, which is fugitive in nature and therefore cannot be quantified, Fugitive dust is controlled by sprinkling of water using water tankers, sprinklers, and mist cannons. Additionally, a wheel washing system has been installed at entry and exit points for trucks. Greenbelt, avenue, community area, and dump plantations are developed and maintained to mitigate the air pollution in compliance with regulatory standards.		

PART – D

HAZARDOUS WASTES:

As specified under Hazardous & other waste (Management and transboundary Movement) Rules, 2016

Hazardous Wastes	Total Quantity	
	During previous financial year 2022-23	During current financial year 2023-24
1. From Process	Nil	Nil
a. Used Spent Oil **(kl)**	1.543	1.398
b. Wastes Residues Containing Oil**(kg)**	83.25	49
2. From Pollution Control Facilities	Nil	Nil

The Sandur Manganese & Iron Ores Ltd.

PART – E

SOLID WASTES:

Solid Wastes	Total Quantity (tonnes)	
	During the previous financial year 2022-23	During the current financial year 2023-24
a. From Process	Nil	Nil
b. From Pollution Control Facilities	Nil	Nil
c. Quantity recycled or re-utilised within the unit.	Nil	Nil
d. Over burden	78,19,379	81,59,165

PART – F

Please specify the characteristics (in terms of concentration and quantum) hazardous as well as solid wastes and indicate disposal practice adopted for both these categories of wastes.

- Used or spent oil along with cotton waste residues containing oil, is generated during the maintenance of Heavy Earth Moving Machineries (HEMMs) and various other machinery. The used oil is collected in leak-proof barrels and stored in a dedicated waste oil storage facility having impervious flooring. Cotton waste residues containing oil is collected and stored in designated impervious pits in the hazardous waste storage area. Subsequently, the hazardous waste is disposed to recyclers authorized by the State Pollution Control Board.

- Solid waste generated in open cast mines comprises of overburden/rejects that are excavated during mining operations. Composition of the solid waste generated during Manganese and Iron ore production includes a mixture of Manganiferrous clay, Ferruginous clays like Phyllitic and Limonitic, Ferruginous shale, banded Ferruginous formations like Banded Haematite Quartzite (B.H.Q), etc.

- Efficient on-site management of solid waste is achieved through scientific reclamation in accordance with the Indian Bureau of Mining (IBM) approved mining plan and Supplementary Environment Management Plan (SEMP) approved by Central Empowered Committee (CEC) constituted by the Hon'ble Supreme Court of India, in accordance with the recommendation of Indian Council of Forestry Research & Education (ICFRE), Dehradun.

The Sandur Manganese & Iron Ores Ltd.

PART – G

Impact of the pollution control measures taken on conservation of natural resources and consequently on the cost of production.

- SMIORE has installed a Sewage Treatment Plant (STP) with a capacity of 100 KLD (Kilo Litres per Day), utilizing the Moving Bed Bio Reactor (MBBR) technology that has approval from the Karnataka State Pollution Control Board (KSPCB). The STP treats approximately 90 KLD of domestic effluent generated from the staff colony and the canteen. The treated water is used in dust suppression in mining areas and irrigating green belt plantation and gardens. Annually, an average of 27,375 kilolitres of water is treated and reused, effectively reducing the reliance on freshwater sources, and promoting sustainable water management practices.

- Over the years, a cumulative total of approximately 3.60 million saplings have been planted within the mining lease area. A total of 56,420 saplings were planted during the reporting period, as part of initiatives for greenbelt development, dump plantation, and avenue plantation. Notably, this year marked the achievement of planting 100% native tree species, with a majority of these species propagated from seeds collected within our mining area with the objective of to conserve the germplasm of both moist deciduous and dry deciduous species naturally occurring in the Sandur forests. Moreover, in addition to their capacity for carbon sequestration, these plantations serve as vital pollution sinks, playing a crucial role in mitigating air pollution.

- An amount of Rs.7,71,98,772/- (Rupees seven crore, seventy-one lakh, ninety eight thousand, seven hundred and seventy two) has been spent during the financial year 2023-24 towards environment management measures such as water spraying on the haulage roads, working benches, environmental engineering structures, bio-engineering structures. afforestation, and reclamation of dumps and worked out mining pits etc.

- SMIORE has successfully recharged groundwater at a rate of 11206 m^3/day, surpassing the average groundwater abstraction rate of 483 m^3/day during the reporting period. This achievement signifies that our operation have maintained a net water-positive status, with the utilization representing only 5% of the total groundwater recharged. This emphasizing our commitment to sustainable water management practices, ensuring a beneficial impact on the local hydrological environment.

The Sandur Manganese & Iron Ores Ltd.

PART – H

Additional measures/investment proposal for environmental protection including abatement of pollution.

- SMIORE is in the process of installing a 300 tonnes per hour capacity Down Hill Conveyor System, an environment friendly means of mineral transportation. The system effectively minimizes air pollution, decreases fossil-fuel consumption, and significantly reduces the Company's overall carbon footprint.

- In accordance with efforts to enhance production, two mist cannons with a minimum throw of 40 meters have been installed at the crushing and screening plant. Additionally, two water tankers and permanent water sprinkling facilities have been established along the haulage road to mitigate dust emissions. These initiatives are implemented with the objective of reducing air emissions in compliance with regulatory requirements and operational sustainability goals.

- SMIORE is currently in the process of commissioning a Continuous Ambient Air Quality Monitoring Station (CAAQMS) at Deogiri, the nearest habitation, in line with efforts to enhance production. This station will offer real-time data on pollution levels, enabling enhanced management of air quality conditions.

- A sewage treatment facility with a capacity of 200 KLD, equipped with cutting-edge MBBR technology, is currently under installation at the Deogiri staff colony.

PART – I

MISCELLANEOUS:

Any other particulars in respect of environmental protection and abatement of pollution.

- Mining Lease No. 2678 has consistently achieved 5-star rating, the highest accolade, for its commitment to inclusive growth and environment sustainability. This remarkable achievement marks the ninth consecutive recognition since the inception of Sustainable Development. Framework (SDF) and Star Rating system by Indian Bureau of Mines, Ministry of Mines, Government of India.

- Both on-grid and standalone solar installations have been implemented at the mining site to meet our electricity demands, where SMIORE has installed Flat Plate Collector (FPC) solar water heating systems, solar streetlights, home lighting and solar pumps. etc., at the registered office, mining lease area, and residential colonies. In the reporting period, SMIORE has successfully generated 3,64,150 kWh (kilowatt-hours) of renewable energy.

The Sandur Manganese & Iron Ores Ltd.

सत्यमेव जयते

CENTRAL EMPOWERED COMMITTEE

Constituted by the Hon'ble SUPREME COURT OF INDIA

F.No. 2-75/CEC/SC/2020-Pt.XI (Vol.II) **Dated: 19th October 2023**

To

The Chief Secretary
Government of Karnataka
Bangalore

Sub: Enhancement of permissible production limit in respect of Category- "A" & "B" and auctioned mining leases.

Sir

Please refer to Government of Karnataka, Commerce & Industries Department letter No. CI 03 MMM 2023 dated 7.10.2023 on the above subject. The CEC, after examining in detail the recommendations of the Technical Committee and report of the ICFRE and keeping in view the Hon'ble Supreme Court order dated 13.4.2012 and Judgment dated 18.4.2013, decision of CEC in the meeting held on 01.12.2015 & 7.12.2022 and the direction in Judgment dated 14.12.2017 of the Hon'ble Supreme Court, hereby approves the revised permissible annual production in respect of following mining lease as per the details given below and subject to conditions in para 2.

Sl. No.	Name of Lessee, ML No.	Current PAP (in MMT)	Recommended PAP (in MMT)	Remarks
1.	M/s. R. Praveen Chandra, ML No. 2294	1.40	**1.798**	Based on reserves subject to production of EC for enhanced quantitiy
2.	M/s. S.A.Thawab & Co., ML No. 2488	0.0675	**0.15**	Based on EC Capacity
3.	M/s. JSW Steel Ltd., (auctioned mine, ML No. 014, old No. 2346)	1.00	**3.66**	Based on reserves subject to obtaining EC on the enhanced MPAP
4.	M/s.Sandur Manganese & Iron Ore Ltd., Ml No. 2678	1.60	**3.81**	Based on reserves

2nd Floor, Chanakya Bhawan, Chanakya Puri, New Delhi-21 Tel : 011-21610612, 21610613
Fax : 24101925, Email : cecindia202@gmail.com, Website: www.cecindia.nic.in

5.	M/s. Sri Kumaraswamy Mineral Exports Pvt. Ltd., ML No. 2141	2.38	**2.80**	Based on road capacity

2. The above approval is subject to the following conditions:

a) the State Government will ensure that the sum total of annual production from all the lessees excluding the e-auctioned Category "C" mines, does not exceed 35 MMT in District Bellary;

b) in the event it is found that the sum total of annual production is exceeding the limits mentioned at (a) above the lease wise permissible annual production of all the operating leases will automatically stand reduced on pro rata basis against the approved PAP given in this letter in such a way that the actual annual production does not exceed 35 MMT in District Bellary and 15 MMT in District Chitradurga and Tumkur;

c) in respect of ML No. 2294 of M/s. R. Praveen Chandra only in principal approval for the enhancement is issued and enhancement now approved will come into effect only after production of the Environment Clearance issued by MoEF&CC for enhanced annual production. CEC will thereafter issue specific final approval after considering the actual annual production quantity approved in the EC;

d) in respect of ML No. 014 of M/s. JSW Steel Ltd. only in principal approval for the enhancement is issued and enhancement now approved will come into effect only after production of the Environment Clearance issued by MoEF&CC for enhanced annual production. CEC will thereafter issue specific final approval after considering the actual annual production quantity approved in the EC;

e) permission for use of 0.42 MMT per annum additional road capacity recommended by the Technical Committee in respect of M/s. SKME, ML No. 2141 is subject to review and revision and is permitted purely on provisional basis till other lessees come up with enhancement proposals based on higher reserve / dump capacity or installation of Conveyor Belt facility by M/s. SKME, whichever is earlier.

f) the State Government will ensure that the lessees are having all the requisite statutory approvals.

Yours faithfully

(Amarnatha Shetty)
Member Secretary

Copy to :

1. The Secretary (Mines), Government of Karnataka, Bangalore
2. The Additional Chief Secretary, Forest, Ecology and Environment Department, Government of Karnataka.
3. The Principal Chief Conservator of Forests, Aranya Bhawan, Bangalore.
4. Chairman, Monitoring Committee, Bangalore
5. Controller of Mines (SZ), Indian Bureau of Mines, Bangalore
6. Director, Mines & Geology, Government of Karnataka, Bangalore
7. Secretary General, Federation of Indian Mineral Industries, New Delhi
8. FIMI, Southern Region, Bangalore
9. Concerned Lessees.

सत्यमेव जयते

CENTRAL EMPOWERED COMMITTEE

Constituted by the Hon'ble SUPREME COURT OF INDIA

F.No. 2-75/CEC/SC/2023-Pt.XI (Vol.II) **Dated: 22nd February 2023**

To

The Chief Secretary
Government of Karnataka
Bangalore

Sub: Enhancement of permissible production limit in respect of Category- "A" and "B" mining leases.

Sir

Please refer to Government of Karnataka, Commerce & Industries Department letter No. CI 03 MMM 2023 dated 9.2.2023 on the above subject. The CEC, after examining in detail the recommendations of the Technical Committee and report of the ICFRE and keeping in view the Hon'ble Supreme Court order dated 13.4.2012 and Judgment dated 18.4.2013, decision of CEC in the meeting held on 01.12.2015 and 7.12.2022 and the direction in Judgment dated 14.12.2017 of the Hon'ble Supreme Court, hereby approves the revised permissible annual production in respect of following mining leases as per the details given below:

Sl. No.	Name of Lessee, ML No.	Current PAP (in MMT)	Revised PAP (in MMT)	Remarks
1	M/s. Sandur Manganese & Iron Ore Ltd., ML No. 2678	0.254	**0.55**	Based on EC for Manganese Ore
2	M/s. Sri Kumaraswamy Mineral Exports Pvt. Ltd.., ML No. 2141	1.94	**2.38**	Based on reserves / road capacity

2nd Floor, Chanakya Bhawan, Chanakya Puri, New Delhi-21 Tel : 011-21610612, 21610613
Email: cecindia202@gmail.com, Website: www.cecindia.nic.in

2. The above approval is subject to the following conditions:

a) the State Government will ensure that the sum total of annual production from all the lessees excluding the e-auctioned Category "C" mines, does not exceed 35 MMT in District Bellary;

b) in the event it is found that the sum total of annual production is exceeding the limits mentioned at (a) above the lease wise permissible annual production of all the operating leases will automatically stand reduced on pro rata basis against the approved PAP given in this letter in such a way that the actual annual production does not exceed 35MMT in District Bellary; and

c) the State Government will ensure that the lessees are having all the requisite statutory approvals.

d) permission for use of 0.47 MMT per annum road capacity recommended by the Technical Committee in respect of M/s. SKME, ML No. 2141 is subject to review and revision and is permitted purely on provisional basis till other lessees come up with enhancement proposals based on higher reserve / dump capacity or installation of Conveyor Belt facility by M/s. SKME, whichever is earlier.

Yours faithfully

(Amarnatha Shetty)
Member Secretary

Copy to :

1. The Secretary (Mines), Government of Karnataka, Bangalore
2. The Additional Chief Secretary, Forest, Ecology and Environment Department, Government of Karnataka.
3. The Principal Chief Conservator of Forests, Aranya Bhawan, Bangalore.
4. Chairman, Monitoring Committee, Bangalore
5. Controller of Mines (SZ), Indian Bureau of Mines, Bangalore
6. Director, Mines & Geology, Government of Karnataka, Bangalore
7. Secretary General, Federation of Indian Mineral Industries, New Delhi
8. FIMI, Southern Region, Bangalore
9. Concerned Lessees.

Proceedings of the Technical Committee meeting held on 08.07.2024 with regard to enhancement permissible annual production in respect of 'A' and auctioned 'C' Category Mining leases.

Members Present in the Meeting:

SL No	Name of the Officer	Designation
1	Sri. T Mahanthesha	Chairman & Additional Director (Joined through VC)
2	Dr. C.V Raman	Joint Director, DMG
3	Dr. Sudhir Kumar	Deputy Director General, ICFRE.
4	Sri. R. N Selvan	Expert Member, ICFRE
5	Sri. P. Rajeshdurai	Director, GSI Bengaluru
6	Dr. Sudhakara T L	Senior Mining Geologist, IBM
7	Sri. M.C Kumar	Deputy Director, R &D, DMG, Bengaluru
8	Sri. H.M. Khyum Ali	Director, FIMI South, Bengaluru.
9	Sri. Rakesh M M	Representative, FIMI
10	Sri. D.B Yuvaraj	Senior Geologist, DMG, Bengaluru.
11	Smt. Monisha G Y	Geologist, DMG, Bengaluru
12	Sri. Prakash S	Geologist, DMG, Ballari

The Chairman, Technical Committee welcomed all the members to the meeting. He briefed the purpose of convening the meeting.

Further, the Chairman re-iterated the CEC guidelines dated 01.12.2015, for consideration of production enhancement which are here under:

(1) Any change in the stripping ratio or in the bulk density used by the ICFRE for assessing the dump capacity will not be considered except where calculation mistakes are found to have taken place.

(2) Increase in the infrastructure capacity, except in respect of the roads within the mining lease, will be considered only after the SPV becomes operational and additional infrastructure capacities are found to have been created.

(3) Additional mineral resources found during the exploration and /or additional area identified for overburden dumps will be considered for increase in the permissible annual production

- **The total production based on dump capacity is 1.36 MTPA (6.815/5).**

ICFRE has prepared dump management plan and suggested environmental protective measures in addition to already suggested measures in the approved R & R Plan **(Annexure - 3)**.

The Technical Committee after due deliberation and discussions has arrived at dump capacity as **1.36 MTPA,** by considering the revised dump area and re-calculated stripping ratio.

Technical Committee with regard to present enhancement has arrived at MPAP in respect of ML No 013 is as shown in table below:

in MMT

Based on reserves/resources	Based on Dump capacity	Based on Road capacity	EC Capacity	Recommended annual production Quantity
0.743	1.36	1.35	1.8	**0.743**

*Committee after detailed discussions and deliberations recommends for consideration of **0.743** million tonnes as permissible annual production based on reserves which is minimum among the three criterions.*

2. M/s Sandur Manganese & Iron Ore Limited ML No.2678 (Old No. 2580) :-

Earlier the Technical Committee in the meeting held on 20.09.2023 has reviewed the enhancement proposal of this mine. In the said meeting maximum permissible production limit was recommended as 3.81 MTPA by considering only the Hematitic iron ore resources. The Hematitic Siliceous Ore resources were not considered for arriving MPAP as lessee has shown the hematitic siliceous ore as mineral reject in the mining plan and lessee has not yet erected the beneficiation plant as proposed in the mining plan. Recommendation of the committee is as under:

"Committee recommends for consideration of 3.81 million tonnes as permissible annual production based on reserves capacity, which is minimum among the above criterions, subject to approval of CEC. Further, after commencement of beneficiation plant and incorporating the usability and marketability of the hematitic siliceous ore in the mining plan, the MPAP may be considered as 4.36 MMT as explained above."

Accordingly, based on the above recommendations CEC vide letter dated: 19.10.2023 has approved the maximum permissible annual production as 3.81 MTPA.

Further, CEC vide letter dated: 19.10.2023 has sought the clarification as under:

Threshold limit fixed by IBM for siliceous iron ore is of 35% or above. The Fe content in the siliceous ore of SMIORE mine is stated to be 40.32% (average) and hence it is marketable. M/s JSW limited procures siliceous grade ore from lessees and does beneficiation in its beneficiation plant. Hence there appears to be no justification for treating the siliceous ore reserves in respect of SMIORE on a different footing. It is stated by FIMI that siliceous ore is intermixed with the hematite ore in the same mining pit. As such siliceous ore also gets mined along with the hematite ore. There is no logic in withholding sale of siliceous ore after it is mined out. The IBM has fixed the threshold value of 35%Fe in respect of siliceous ore only after considering the commercial value of the ore.

In the circumstance a clarification from Technical Committee as to why the siliceous ore in respect of SMIORE is required to be

beneficiated for sale by lessee (SMIORE) whereas other lessees are permitted sell directly without beneficiation.

In response, the Technical Committee in its meeting proceedings dated 03.11.2023 has submitted the clarification stating that in case of A and B category mining leases, the Technical Committee is considering the siliceous ore for arriving the MPAP only when lessees incorporate the blending plan, marketability of the ore and usability of the siliceous ore in the mining plan as the mining plan is the key document for consideration of production enhancement. Further, CEC in its minutes of the meeting dated 01.12.2015 has also clarified as below:

> *(c) additional mineral resources found during the exploration and/ or additional areas identified for over burden dumps will be considered for increase in the permissible annual production provided the same are incorporated in the approved mining plan/ scheme of mining/ or approved by the IBM; and".*

In case of SMIORE, production of siliceous iron ore was not included in the reserves in the approved mining plan. As per the Mineral Conservation and Development Rules 2017 (MCDR), mining operations shall be carried out as per approved mining plan.

In response, lessee i.e. SMIORE has modified the mining plan by incorporating the pattern of usability and marketability of hematitic siliceous iron ore during the plan period of 2024-25 to 2027-28 to have production of 3.81 MTPA of Hematitic ore and 0.55 MTPA of Hematitic Siliceous ore. Same was duly approved by IBM on 10.05.2024.

CEC vide letter dated: 11.07.2024 has forwarded the representation of SMIORE with regard to allocation of additional maximum permissible annual

production (MPAP) of 0.55 MTPA of Hematitic Siliceous Ore, to the State Government. Accordingly, same was reviewed in this meeting.

After verifying the 'Modifications to the Approved Mining Plan' (MAMP) dated: 10.05.2024, it is observed that lessee has incorporated the pattern of usability and marketability of siliceous iron ore. The details incorporated in the approved mining plan against the Technical Committee queries are provided at **Annexure - 4.**

The maximum permissible annual production limit for both Hematitic Iron Ore and Hematitic Siliceous Iron Ore has been separately provided in the IBM approved 'Modifications to the Approved Mining Plan' (MAMP).

All the members of the committee by considering the 'Modifications to the Approved Mining Plan' (MAMP) opined that separate maximum permissible production limit may be recommended for Hematitic Siliceous ore. Hence, Maximum Permissible Annual Production (MPAP) limit for Hematitic Siliceous ore may be considered as 0.55 MTPA in addition to the already approved MPAP for Hematitic Ore of 3.81 MTPA.

*Committee after detailed discussions and deliberations recommends for consideration of **0.55** million tonnes as permissible annual production separately for Hematitic Siliceous ore in addition to the already approved MPAP for Hematitic Ore of 3.81 MTPA (Total MPAP- 0.55+3.81=4.36 MTPA).*

3. M/s KIOCL Limited (Old No. 0020) :-

Ministry of Mines, Govt. of India vide letter No. 4/3/2016-M. VI dated 05.12.2016 has accorded approval to reserve an area of 470.40 ha for mining of Iron and Manganese ore at Devadari Hill Range, Sandur Taluk, Bellary District, Karnataka under Section 17A (2) of Mines & Mineral (Development and Regulation) Act (MMDR) 1957 and Amendment Act 2015 in favour of M/s.

Annexure-5

Continuous Ambient Air Quality Monitoring Station installed at Mining Lease No 2678

सीएसआईआर– केन्द्रीय खनन एवं ईंधन अनुसंधान संस्थान
CSIR-Central Institute of Mining and Fuel Research
(वैज्ञानिक तथा औद्योगिक अनुसंधान परिषद / Council of Scientific & Industrial Research)
(अंतर्गत वैज्ञानिक तथा औद्योगिक अनुसंधान विभाग, विज्ञान और प्रौद्योगिकी मंत्रालय,भारत सरकार)
(Under the Department of Scientific & Industrial Research, Ministry of Science & Technology, Govt. of India)
बरवा रोड, धनबाद – 826015, झारखण्ड, भारत / Barwa Road, Dhanbad - 826015, Jharkhand, India
(आई एस ओ 9001 प्रमाणित संस्थान / ISO 9001 Certified Institute)

Ref. No. - CSIR-CIMFR/Sandur/2023/ Date: 16th February, 2023

To
The Director (Mines)
The Sandur Manganese & Iron Ores Limited
Satyalaya, Door No. 266, Ward No. 1
Palace Road, Sandur
Ballari- 583 119
Karnataka

Sir,

Please find the opinion on the report entitled "**Possibility of Deploying Higher Capacity Dumpers 50-60 t with higher capacity shovel at The Sandur Manganese & Iron Ores Limited (SMIORE), Karnataka**" for your kind perusal and necessary action at your end.

Thanks with regards

Yours' faithfully,

16/02/2023

(S. K. Mandal)
HORG, Mine Mine Mechanisation & Technology Development

HQ : **Dhanbad** - ☎: +91-326-2296023, 2296006 (O) 🖷 : 91-326-2296025 EPABX : + 91-326-2296012/6013/6027/6028
E-mail : director@cimfr.nic.in/drpksingh@cimfr.nic.in, **Digwadih Campus :** ☎: + 91-326-2381111
Research Centres : **Bilaspur :** ☎ + 91-775-2271450, **Nagpur : Unit - I -** ☎ + 91-712-2510604, **Unit - II -** ☎ 2510390
Ranchi : ☎ + 91-651-2461392, **Roorkee :** ☎ + 91-1332-275998
Website : www.cimfr.nic.in

सीएसआईआर-केंद्रीय खनन एवं ईंधन अनुसंधान संस्थान, धनबाद
CSIR-CENTRAL INSTITUTE OF MINING AND FUEL RESEARCH, DHANBAD
वैज्ञानिक तथा औद्योगिक अनुसंधान परिषद
(Council of Scientific & Industrial Research)

ADDENDUM

Opinion report on the Possibility of Deploying of Higher Capacity of Dumpers of 50-60 tonner with higher capacity Shovel at The Sandur Manganese & Iron Ores Limited (SMIORE), Mining Lease No 2678, Sandur Taluk, Ballari District Karnataka.

प्रायोजक /Sponsor: The Sandur Manganese and Iron Ores Limited, Sandur Taluk, Bellary, Karnataka

फ़रवरी, २०२३ /February, 2023

quality due to dilution would also make it non-saleable.

c. Also, it is to be noted that both in Iron Ore and Manganese Pits there are phyllites and rocks are friable in nature and area experiences average of 600 mm rainfall, deployment of higher capacity dumper and shovel and will increase the load on floor of the strata /mine benches and this may cause weathering effect and results in slushy ground condition during monsoon period.

25. It is proposed to operate 13-14 pits for having Iron Ore RoM to beneficiation plant. All these pits are staggered along strike length of 16 kilometers. It is observed from the Production and Development proposal envisaged for enhancement that the handling of Iron ore RoM per day would range from as low as 320 tonnes per day up to average of 1139 tonnes per day across other 10-11 pits except that of Alamaradakolla which is about 10,000 tonnes/day. As the handling quantity from multiple pits are very low techno economically it may not be feasible to have conveyor line for transporting the RoM. As the lead distance from Alamaradakolla to the beneficiation plant is only about 2.87 kiliometers, hence it would be economical to shift RoM with 15 dumpers. Moreover, the installation of conveyor belts along the face would require extended bench width to accommodate the its frame structure as well as space for the turning radius of the Front End Loader which would not be feasible for this type of the deposit.

16/02/23

Dr. Sujit Kumar Mandal
Chief Scientist & HoRG
Central Institute of Mining & Fuel Research
Barwa Road, Dhanbad-826001

6/2/23

वैज्ञानिक/Scientist
सीएसआईआर–केंद्रीय खनन एवं ईंधन अनुसंधान संस्थान
CSIR-Central Institute of Mining and Fuel Research
बरवा रोड/Barwa Road, धनबाद/Dhanbad
झारखंड/Jharkhand-826001, भारत/India

26. It is to be noted that the operations are not confined to a very small area but rather will extend to 16 kilometers within the mining lease wherein lessee has invested huge money for building up road infrastructure. Hence this would not create any traffic congestion in the mine lease area.

27. As the production of ore is not concentrated from one pit, deployment of large capacity dumpers to serve scattered source will lead reduced productivity of system.

Considering all the above cited facts and findings from the field visits, data and documents reviewed, we are of the view that enhancement in dumper capacity from 16 tonner to 25 tonner itself is challenging and it is not advisable to recommend to deploy higher capacity dumper of 50-60 tonner and higher capacity excavator to this mining lease no 2678 of The Sandur Manganese and Iron Ores Limited and they may at best consider tipper capacity up to 25 tonner and excavator from 0.9 to 1.8 or 2.2 Cu. m capacity.

The bench design parameters currently being followed and proposed to be followed as per the approved Review and Updation of the mining plan is Scientifically designed taking into account the style of mineralisation, recovery of the mineral, optimum utilisation of the mineral resources and sustenance of the mine throughout its life.

16/02/2023

Dr. Sujit Kumar Mandal
Chief Scientist & HoRG
Central Institute of Mining & Fuel Research
Barwa Road, Dhanbad-826001

16/02/23

वैज्ञानिक/Scientist
सीएसआईआर–केंद्रीय खनन एवं ईंधन अनुसंधान संस्थान
CSIR-Central Institute of Mining and Fuel Research
बरवा रोड/Barwa Road, धनबाद/Dhanbad
झारखंड/Jharkhand-826001, भारत/India

Hence, we are of the joint opinion that further modification to the mining plan by incorporating the higher capacity machinery may not be necessary for this enhanced production of Iron ore from 1.6 MTPA to 4.5 MTPA and for Manganese Production of 0.55 MTPA.

16/02/2023

Dr. Sujit Kumar Mandal
Chief Scientist & HORG
Mine Mechanisation & Technology Development
CSIR-CIMFR

16/02/23

Mr. Prashant
Sr. Principal Scientist & Head of Section
Mine Back Filling Division
CSIR- CIMFR

Date: 16-02-2023

Dr. Sujit Kumar Mandal
Chief Scientist & HoRG
Central Institute of Mining & Fuel Research
Barwa Road, Dhanbad-826001

वैज्ञानिक/Scientist
सीएसआईआर–केंद्रीय खनन एवं ईंधन अनुसंधान संस्थान
CSIR-Central Institute of Mining and Fuel Research
बरवा रोड/Barwa Road, धनबाद/Dhanbad
झारखंड/Jharkhand-826001, भारत/India

National Accreditation Board for Testing and Calibration Laboratories

CERTIFICATE OF ACCREDITATION

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

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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)

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

Signed for and on behalf of NABL

N. Venkateswaran
Chief Executive Officer

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

Speed Post

F.No. LB/99/7/2021-INST LAB-HO-CPCB-HO/Pvt./ 1601

Dated: 28th January 2023
07th June 2023

Recognition Certificate

To,

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

Subject: Recognition of M/s Environmental Laboratory (Unit of Mineral Engineering Services), #948, 2nd 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, 2nd 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, 2nd Cross, St. Thomas Town Post, Kammanahalli Road, Bengaluru--560084, Karnataka** may undertake the following tests:

   i. **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.
   ii. **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.
   iii. **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,
   iv. **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).
   v. **Microbiological Test:** Total Coliform, Faecal Coliform, *E. coli, Faecal Streptococci* and Total Plate Count.
   vi. **Toxicological Tests:** Bioassay Method for Evaluation of Toxicity using Fish and Measurement of Toxicity Using Daphnia or Other Organism.
   vii. **Biological Test:** Macrophytic Identification, Planktonic Identification Count and Chlorophyll.

Contd.

'परिवेश भवन' पर्वी अर्जुन नगर, दिल्ली-110032
Parivesh Bhawan, East Arjun Nagar, Delhi-110032
दूरभाष/Tel : 43102030, 22305792, वेबसाईट/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_2), Sulphur Dioxide (SO_2), Total Suspended Particulate Matter, Respirable Suspended Particulate Matter PM_{10}, Ammonia, Carbon Monoxide, Chlorine, Lead, Ozone, Benzene Toluene Xylene (BTX), Polycyclic Aromatic Hydrocarbon (PAH) Benzo-a-Pyrine & others and $PM_{2.5}$.

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,

K. Ranganathan 7/6/23

(Dr. K. Ranganathan)
Scientist-E & Divisional Head
Instrumentation laboratory

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

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/2024-25/2678/934

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 quarterly report pertaining to monitoring of environmental parameters in respect of Mining Lease No. 2678.

Ref: 1. Environmental Clearance No - EC23A001KA158909 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 quarterly report from (July 2024 to 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

The Sandur Manganese & Iron Ores Ltd.

24/10/24

भारत सरकार GOVERNMNT OF INDIA
पर्यावरण एवं वन मंत्रालय
Ministry of Environment & Forests
क्षेत्रीय कार्यालय, (दक्षिण क्षेत्र)
Regional Office (Southern Zone)
बंगलूरु Bangalore

Encl: Monitoring Reports
Cc: 1. The Member Secretary, Karnataka State Pollution Control Board, Bengaluru.
2. Integrated Regional Office, MoEF&CC, Bengaluru.

ENVIRONMENTAL LABORATORY

(UNIT OF MINERAL ENGINEERING SERVICES)

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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 Staock 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

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)

Permissible Limits of Ambient Noise Levels as per CPCB Guidelines

	Leq. Limit dB(A) Day	Night
Industrial areas	75	70
Commercial area	65	55
Residential area	55	45

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TEST REPORT

Table No. 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 (^{0}C)	32	36	31	35
6	Velocity (m/s)	11.43	10.04	11.94	12.16
7	Quanitity of flue Gas Discharged into atmosphere (Nm^3/hr)	148	1018	1232	1238

Pollutional Parameters (Result)

Sl.No	Parameters	Results			
1	Particulate matter (mg/Nm3)	42	46	52	45

Particulate matter (mg/Nm^3)	
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 (^{0}C)	30	34	36	30
6	Velocity (m/s)	11.62	12.34	12.81	11.92
7	Quanitity of flue Gas Discharged into atmosphere (Nm^3/hr)	508	533	164	155

Pollutional Parameters (Result)

Sl.No	Parameters	Results			
1	Particulate matter (mg/Nm3)	43	53	49	46
	Permissible limits	Particulate matter (mg/Nm^3) 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 (^{0}C)	29	33
6	Velocity (m/s)	11.98	12.87
7	Quanitity of flue Gas Discharged into atmosphere (Nm^3/hr)	1244	1219

Pollutional Parameters (Result)

Sl.No	Parameters	Results	
1	Particulate matter (mg/Nm3)	52	20

	Particulate matter (mg/Nm^3)
Permissible limits	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 & Capcity : 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 (^{0}C)	38
3	Velocity (m/s)	12.61
5	Quanitity 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. 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 CONCEN--TRATION mg/m^3 RPM	*PERMIS--SIBLE 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	Mallesh	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 CONCEN--TRATION mg/m^3 RPM	*PERMIS--SIBLE 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 Slica 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/m^3 (Ref : DGMS Reg 124(2) of MMR,1961)

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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	Mallesh	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%

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Annexure-9

IMPLEMENTATION OF RECOMMENDATIONS OF SLOPE STABILITY OF DUMPS ON FIELD

IMPLEMENTATION OF RECOMMENDATIONS OF SLOPE STABILITY OF DUMPS ON FIELD

Implementation of Bio-Engineering measures for Dump Management

Implementation of Bio-Engineering measures for Dump Management

भारत सरकार
Govt. of India
श्रम एवं रोजगार मंत्रालय
Ministry of Labour & Employment
खान सुरक्षा महानिदेशालय
Directorate-General of Mines Safety

NO: 330763|SZ|Bellary Region 1|Perm|2023|260389 Ballari, Date: 08/01/2024

प्रेषक:

खान सुरक्षा निदेशक / Director of Mines Safety,

बल्लारी क्षेत्र-1, बल्लारी / Ballari Region-1, Ballari.

सेवा में:

Shri Md. Abdul Saleem, Nominated Owner,

Kammathuru Iron Ore Mine (ML No.-2678 Mine Code:330763, LIN: 1-3483-9125-8) of

M/s The Sandur Manganese & Iron Ores Ltd,

Deogiri Village, Sandur Taluk,

Ballari District, Karnataka State-583112

विषय: **Relaxation for final pit configuration under Regulation 106(2)(b) of the Metalliferous Mines Regulations, 1961 with deployment of Heavy Earth Moving Machinery (HEMM) in conjunction with deep hole drilling & blasting at Kammathuru Iron Ore Mine (ML No.-2678) of M/s The Sandur Manganese & Iron Ores Ltd., situated at Kammathuru & Deogiri Villages, Sandur Taluk, District Ballari, Karnataka State.**

महोदय,

Please refer to your application submitted vide No. SMIORE/DGMS/231103/ dated 09.11.2023 and online application ID-260389, dated 07.11.2023 on the above subject along with Surface Plan No.SMIORE04/KTIOM/2023/0015 dated 15.03.2023 showing existing workings of entire lease, Surface Plan No.SMIORE04/KTIOM-A/2023/0014A(ii) dated 15.03.2023 showing existing workings & Plan No.SMIORE04/KTIOM-A/2023/0014A(iii) dated 15.03.2023 showing existing and proposed workings of Block-A, and Cross section vide No. SMIORE04/KTIOM-A/2023/14B(iii) dated 15.03.2023 showing existing and proposed cross sections of Block-A, Surface Plan No. SMIORE04/KTIOM-B/2023/0015A(ii) dated 15.03.2023 showing existing workings & Plan No.SMIORE04/KTIOM-B/2023/15A(iii) dated 15.03.2023 showing existing and proposed workings of Block-B, and Cross section vide No. SMIORE04/KTIOM-A/2023/15B(iii) dated 15.03.2023 showing existing and proposed cross sections of Block-B, enclosed therewith.

The matter has since been examined on the basis of information furnished in your application under reference and shown on the enclosed plan submitted by you.

In exercise of the powers conferred on the Chief Inspector of Mines (also designated as Director-General of Mines Safety) under the provisions of Regulation 106(2)(b) of the Metalliferous Mines Regulations, 1961 and by virtue of the authorization granted to me by the Chief Inspector of Mines (also designated as Director-General of Mines Safety) under Section 6(1) of the Mines Act, 1952, I, hereby **grant relaxations from the said provisions and permit you to work at Kammathuru Iron Ore**

Mine (ML No.-2678) of M/s The Sandur Manganese & Iron Ores Ltd., situated at Sy.No. 1, 2, 3, 5, 6, 7(P), 14, 15, 17, 36(P), 37 and 38) in Kammathuru and Deogiri villages, Sandur taluk, Ballari district, Karnataka state, by deployment of Heavy Earth Moving Machineries (HEMMs) in conjunction with deep hole blasting to make final pit configuration before closing the mine as shown in surface plan vide No.SMIORE04/KTIOM-A/2023/0014A(iii) dated 15.03.2023 showing existing and proposed workings of Block-A, and Cross section vide No. SMIORE04/KTIOM-A/2023/14B(iii) dated 15.03.2023 showing existing and proposed cross sections of Block-A & surface plan vide No.SMIORE04/KTIOM-B/2023/15A(iii) dated 15.03.2023 showing existing and proposed workings of Block-B, and Cross section vide No. SMIORE04/KTIOM-A/2023/15B(iii) dated 15.03.2023 showing existing and proposed cross sections of Block-B) in between grid values N- 1660900 to 1661300; E- 674320 to 674730 of Block A & in between grid values N- 1659440 to 1660980; E- 674900 to 677060 of Block B, subject to the following conditions, as stipulated hereunder, being complied with:

1.0 GENERAL:

1.1 Except where otherwise provided for in this relaxation, all provisions of the Metalliferous Mines Regulations, 1961 relating to opencast working, use of explosive, use of machinery, appointment of officials and competent persons, etc. shall be strictly complied with.

2.0 OPENCAST WORKING:

2.1 Height and Width of benches at final pit configuration between grid values N- 1660900 to 1661300; E- 674320 to 674730 of Block A & between grid values N- 1659440 to 1660980; E- 677060 to 674900 of Block B shall be as under:

a. The height of the benches in overburden, mineral or other rock formation shall not be more than 7.5m.
b. The width of any bench shall not be less than 4.0m.
c. The slope angle of each bench shall not be more than 70^0.
d. Keeping in view of the above restrictions, overall slope of modified benches shall not exceed 43^0 (degree).
e. A ramp interconnecting benches shall be maintained at both the ends.
f. The final angles of slopes, as mentioned in clauses (a), (b) and (c) above, shall not be formed except at the cessation stage of the quarry.
g. The bench height, the bench width, ramp width, overall pit slope etc., shall be so designed that the Factor of Safety for the modified benches at any point is not less than 1.80 under wet condition.
h. Maximum pit depth with above conditions shall not be more than 145m in B Block and 214m in A Block..
i. The main haulage roads maintained at bottom most level of the pit shall be at a safe distance from the toe of bottom most bench. (Minimum one and half times the height of high wall).

2.2 The precautions laid down and recommendations made by National Institute of Technology Karnataka, Surathkal's study report titled "Scientific study on slope stability analysis of Kammathuru Iron Ore Mine (ML No.-2678) of M/s The Sandur Manganese and Iron Ores Limited", vide project code : TC/MN/JB-159 dated October, 2023 shall be implemented.

2.3 Continual recording and assessment of geo-technical conditions encountered shall be done in order to make a comparison with those predicted.

2.4 (i) A scientific agency/ institution shall be engaged for monitoring of benches, slopes etc. regarding withdrawal of men and machinery to safety in case of any movement of benches, slopes etc.

(ii) A Safe Operations Procedure (SOP) shall be framed and implemented for monitoring Pit slope.

2.5 Regular Pit slope monitoring shall be done at least twice a day using total station having requisite level of accuracy by fixing prisms at suitable intervals. Adequate number of survey stations shall be created and beacons/reflectors shall be installed as to cover the entire length, breadth and depth of the quarries as per the recommendations of the scientific institution/agency.

2.6 A record of horizontal and vertical displacements shall be maintained and plot the readings of all such stations installed with respect to time in a graph. In the event of any sharp or asymptotic increase in the slope/gradient of the plots so generated, all work in the section/pit shall immediately be stopped. Intimation thereof shall be sent to this Directorate in writing and work in the section/pit shall not resume till express written permission is accorded to the effect by this Directorate.

2.7 Regular inspections of slope, crests and faces, especially along access ramps and above working areas, shall be made by a person not below the rank of Assistant Manager and by the geologist/geo-technical engineer. During rainy season/rains, frequent inspections shall be made.

2.8 Record of inspections made by the Mine Manager, Assistant Manager and by the geologist/geo-technical engineer shall be kept maintained in a bound paged book, any evidence of tensile cracks along slope, crest or potentially unstable blocks on slope faces shall be recorded. Appropriate action of removal of machinery and withdrawal of persons shall be taken to safety in case of any movement of benches, slopes etc and intimation thereof shall be sent to this Directorate in writing. Work in the section/pit shall not resume till express permission is accorded to the effect by this Directorate.

2.9 Effective garland drains shall be provided and kept maintained all around opencast working to collect run-off rain water before it reaches the mine slopes. These drains should be kept clear of silt and debris and interconnected to drain out rain water away from the mine working.

2.10 Mapping of weak zone, faults and bedding planes shall be done regularly.

2.11 Pre-split controlled blasting technique shall be adopted to minimize the damage to the slope mass and at ultimate pit slope. Such blast hole should be properly drilled, charged, stemmed and fired, with respect to different benches to avoid back break and toe formation, Ground vibration induced due to deep hole blasting shall also be monitored regularly.

2.12 No waste rock/overburden/stock yard dumping shall be made all along the mine boundary where relaxation of permission under reference has been granted so as to cause additional dead load over pit profile/slope and making them unstable.

2.13 No manual workers shall be employed where Heavy Earth Moving Machineries are deployed in the mine.

3.0 All the other conditions shall remain unchanged as stipulated in the permission granted under regulation 106 (2)(b) of the Metalliferous Mines Regulations, 1961 from this Directorate.

4.0 In the event of any change in the circumstances connected with this relaxation which is likely to endanger the life of persons employed in the mine or the mine, the mining operations for which this relaxation has been granted shall be stopped forthwith and intimation thereof shall be sent to this Directorate. The said mining operations shall not be resumed without express and fresh permission in writing from this Directorate.

5.0 If at any time any one of the conditions, subject to which this permission has been granted, is violated or not complied with, this relaxation shall be deemed to have been revoked with immediate effect.

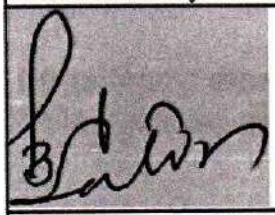
6.0 This relaxation may be amended or withdrawn at any time if considered necessary in the interest of safety.

7.0 This relaxation is being granted under Regulation 106(2)(b) of the Metalliferous Mines Regulations, 1961 only without prejudice to any other provisions of law which may be or may become applicable at any time.

8.0 This Directorate shall be informed as soon as the mining operations are commenced in accordance with the above relaxation. Intimation about completion of the mining operations should also be sent promptly and in any case not letter than one month thereof.

9.0 The relaxation shall remain valid for a period of 5 (Five) years from the date of issue of this letter.

10.0 A copy of this conditions governing shall always be kept in the office of the mines manager.

Your Faithfully

BIPUL BEHARI SATIAR (DIRECTOR - BELLARY REGION 1)
THIS IS A SYSTEM GENERATED DOCUMENT, DOES NOT REQUIRE ANY SIGNATURE.

भारत सरकार
Govt. of India
श्रम एवं रोजगार मंत्रालय
Ministry of Labour & Employment
खान सुरक्षा महानिदेशालय
Directorate-General of Mines Safety

NO: 361898|SZ|Bellary Region 1|Perm|2023|260434 Ballari, Date: 08/01/2024

प्रेषक:

खान सुरक्षा निदेशक / Director of Mines Safety,

बल्लारी क्षेत्र-1, बल्लारी / Ballari Region-1, Ballari.

सेवा में:

Shri Md. Abdul Saleem, Nominated Owner,

Subbarayanahalli Iron Ore & Manganese Mine (ML No.2678, Mine Code : 361898, LIN: 1-6314-0257-7) of

M/s The Sandur Manganese & Iron Ores Ltd.,

Deogiri Village, Sandur Taluk,

Ballari District, Karnataka State-583112

विषय: **Relaxation for final pit configuration under Regulation 106(2)(b) of the Metalliferous Mines Regulations, 1961 with deployment of Heavy Earth Moving Machinery (HEMM) in conjunction with deep hole drilling & blasting at Subbarayanahalli Iron Ore & Manganese Mine (ML No.2678) of M/s The Sandur Manganese and Iron Ores Limited,, situated at Subbarayanahalli village, Sandur taluk, Ballari district, Karnataka state-Reg.**

महोदय,

Please refer to your application submitted vide No. SMIORE/DGMS/231103/ dated 09.11.2023 and online application ID-260434, dated 09.11.2023 on the above subject along with Surface plan plan No.SMIORE02/SBH/KVHIO/2023/13 dated 06.10.2023, and Surface Plan No.SMIORE02/SBH/KVHIO/2023/22A(iii) dated 06.10.2023 showing existing and proposed workings of Kanivehalli Iron Ore and Cross section vide No. SMIORE02/SBH/KVHIO/2023/22B(iii) dated 06.10.2023 showing existing and proposed cross sections of Kanivehalli Iron Ore, enclosed therewith.

The matter has since been examined on the basis of information furnished in your application under reference and shown on the enclosed plan submitted by you.

In exercise of the powers conferred on the Chief Inspector of Mines (also designated as Director-General of Mines Safety) under the provisions of Regulation 106(2)(b) of the Metalliferous Mines Regulations, 1961 and by virtue of the authorization granted to me by the Chief Inspector of Mines (also designated as Director-General of Mines Safety) under Section 6(1) of the Mines Act, 1952, I, hereby **grant relaxations from the said provisions and permit you to work at Subbarayanahalli iron ore & manganese mine (ML No. 2678) of M/s The Sandur Manganese and Iron Ores Limited, situated at Subbarayanahalli village, Sandur taluk, Ballari district, Karnataka state, by deployment of Heavy Earth Moving Machineries (HEMMs) in conjunction with deep hole blasting to make final pit configuration before closing the mine as shown in the Surface plan plan**

No.SMIORE02/SBH/KVHIO/2023/13 dated 06.10.2023 showing existing workings and surface plan bearing No No.SMIORE02/SBH/KVHIO/2023/22A(iii) dated 06.10.2023 showing existing and proposed workings of Kanivehalli Iron Ore in between grid values N- 1660860 to 1661430; E- 665020 to 665250, subject to the following conditions, as stipulated hereunder, being complied with:

1.0 GENERAL:

1.1 Except where otherwise provided for in this relaxation, all provisions of the Metalliferous Mines Regulations, 1961 relating to opencast working, use of explosive, use of machinery, appointment of officials and competent persons, etc. shall be strictly complied with.

2.0 OPENCAST WORKING:

2.1 Height and Width of Benches at final pit configuration between grid values N- 1660860 to 1661430; E- 665020 to 665250 shall be as under:

a. The height of the benches in overburden, mineral or other rock formation shall not be more than 7.5m.
b. The width of any bench shall not be less than 3.5m.
c. The slope angle of each bench shall not be more than 70^0.
d. Keeping in view of the above restrictions, overall slope of modified benches shall not exceed 52^0 (degree).
e. A ramp interconnecting benches shall be maintained at both the ends.
f. The final angles of slopes, as mentioned in clauses (a), (b) and (c) above, shall not be formed except at the cessation stage of the quarry.
g. The bench height, the bench width, ramp width, overall pit slope etc., shall be so designed that the Factor of Safety for the modified benches at any point is not less than 2.011 under wet condition.
h. Maximum pit depth with above conditions shall not be more than 157.5m.
i. The main haulage roads maintained at bottom most level of the pit shall be at a safe distance from the toe of bottom most bench. (Minimum one and half times the height of high wall).

2.2 The precautions laid down and recommendations made by National Institute of Technology Karnataka, Surathkal's study report titled "Scientific study on slope stability analysis of Kanivehalli Iron Ore Mine (ML No.-2678) of M/s The Sandur Manganese and Iron Ores Limited", vide project code : TC/MN/JB-160 dated October, 2023 shall be implemented.

2.3 Continual recording and assessment of geo-technical conditions encountered shall be done in order to make a comparison with those predicted.

2.4 (i) A scientific agency/ institution shall be engaged for monitoring of benches, slopes etc. regarding withdrawal of men and machinery to safety in case of any movement of benches, slopes etc.

(ii) A Safe Operations Procedure (SOP) shall be framed and implemented for monitoring Pit slope.

2.5 Regular Pit slope monitoring shall be done at least twice a day using total station having requisite level of accuracy by fixing prisms at suitable intervals. Adequate number of survey stations shall be created and beacons/reflectors shall be installed as to cover the entire length, breadth and depth of the quarries as per the recommendations of the scientific institution/agency.

2.6 A record of horizontal and vertical displacements shall be maintained and plot the readings of all such stations installed with respect to time in a graph. In the event of any sharp or asymptotic increase in the slope/gradient of the plots so generated, all work in the section/pit shall immediately be stopped. Intimation thereof shall be sent to this Directorate in writing and work in the section/pit shall not resume till express written permission is accorded to the effect by this Directorate.

2.7 Regular inspections of slope, crests and faces, especially along access ramps and above working areas, shall be made by a person not below the rank of Assistant Manager and by the geologist/geo-technical engineer. During rainy season/rains, frequent inspections shall be made.

2.8 Record of inspections made by the Mine Manager, Assistant Manager and by the geologist/geo-technical engineer shall be kept maintained in a bound paged book, any evidence of tensile cracks along slope, crest or potentially unstable blocks on slope faces shall be recorded. Appropriate action of removal of machinery and withdrawal of persons shall be taken to safety in case of any movement of benches, slopes etc and intimation thereof shall be sent to this Directorate in writing. Work in the section/pit shall not resume till express permission is accorded to the effect by this Directorate.

2.9 Effective garland drains shall be provided and kept maintained all around opencast working to collect run-off rain water before it reaches the mine slopes. These drains should be kept clear of silt and debris and interconnected to drain out rain water away from the mine working.

2.10 Mapping of weak zone, faults and bedding planes shall be done regularly.

2.11 No waste rock/overburden/stock yard dumping shall be made all along the mine boundary where relaxation of permission under reference has been granted so as to cause additional dead load over pit profile/slope and making them unstable.

2.12 Pre-split controlled blasting technique shall be adopted to minimize the damage to the slope mass and at ultimate pit slope. Such blast hole should be properly drilled, charged, stemmed and fired, with respect to different benches to avoid back break and toe formation, Ground vibration induced due to deep hole blasting shall also be monitored regularly.

2.13 No manual workers shall be employed where Heavy Earth Moving Machineries are deployed in the mine.

3.0 All the other conditions shall remain unchanged as stipulated in the permission granted under regulation 106 (2)(b) of the Metalliferous Mines Regulations, 1961 from this Directorate.

4.0 In the event of any change in the circumstances connected with this relaxation which is likely to endanger the life of persons employed in the mine or the mine, the mining operations for which this relaxation has been granted shall be stopped forthwith and intimation thereof shall be sent to this Directorate. The said mining operations shall not be resumed without express and fresh permission in writing from this Directorate.

5.0 If at any time any one of the conditions, subject to which this permission has been granted, is violated or not complied with, this relaxation shall be deemed to have been revoked with immediate effect.

6.0 This relaxation may be amended or withdrawn at any time if considered necessary in the interest of safety.

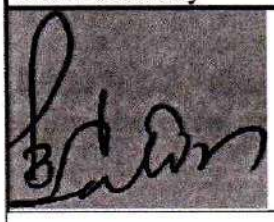
7.0 This relaxation is being granted under Regulation 106(2)(b) of the Metalliferous Mines Regulations, 1961 only without prejudice to any other provisions of law which may be or may become applicable at any time.

8.0 This Directorate shall be informed as soon as the mining operations are commenced in accordance with the above relaxation. Intimation about completion of the mining operations should also be sent promptly and in any case not letter than one month thereof.

9.0 The relaxation shall remain valid for a period of 5 (Five) years from the date of issue of this letter.

10.0 A copy of this conditions governing shall always be kept in the office of the mines manager.

Your Faithfully



BIPUL BEHARI SATIAR (DIRECTOR - BELLARY REGION 1)

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DEBIT	CREDIT	bal	
3,22,365	-	3,22,365	PO 4100001572 100% ADVANCE
-	-1,83,466	1,38,899	Towards Purchase of HYVA Tipper Safety items
			Towards Purchase of PROXIMITY WARNING DEVICE

ಕರ್ನಾಟಕ ಸರ್ಕಾರ

GOVERNMENT OF KARNATAKA

ಉಪ ಅರಣ್ಯ ಸಂರಕ್ಷಣಾಧಿಕಾರಿಗಳು,
ಬಳ್ಳಾರಿ ವಿಭಾಗ, ಬಳ್ಳಾರಿ ರವರ ಕಛೇರಿ

Office of the
Deputy Conservator of Forests
Ballari Division, Ballari

ರೇಡಿಯೋ ಪಾರ್ಕ್, ಐಟಿಐ ಕಾಲೇಜ್ ಎದುರುಗಡೆ, ಕಿರು ಮೃಗಾಲಯ ಆವರಣ, ಬಳ್ಳಾರಿ-583102

Radio Park, Opp. ITI College,
Mini Zoo Compound, Ballari
Telephone: 08392-240797
Email: dcfbellaryt@gmail.com

No.M1/MNG/SMIORE/ML No.2678/2018-19 Dated:03.02.2024

To

M/s. Sandur Manganese and Iron Ores Ltd (SMIORE)
Registered Office, Lakshmipur,
Sandur, Ballari District – 583 119

Sir,

Sub: Wildlife Conservation Plan for seeking enhancement in Environmental Clearance(EC) of Mining Lease No.2678 of M/s. SMIORE Ltd, Sandur

Ref 1) Letter No. PCCF/WL/D/CR-84/2020-21 Dt.22.03.2021 of the Principal Chief Conservator of Forests (Wildlife) & Chief Wildlife Warden, Bangalore

2) Your letter Dt.09.09.2023 & 28.12.2023 [addressed to the Principal Chief Conservator of Forests (Wildlife) & Chief Wildlife Warden, Bangalore].

3) Your letter Dt. 01.02.2024.

4) Order No. APAJI 70 FWL 2023 Bangalore Dt. 12.01.2024 of Government of Karnataka

* * * * *

With reference to the above subject, the Principal Chief Conservator of Forests (Wildlife) & Chief Wildlife Warden, Bangalore has approved 'Wildlife Conservation Plan' for an amount of Rs. 1,43,95,000/- (Rs. One crore forty three lakh ninety five thousand ruppes only) vide letter under Ref(2). In this regard, you have requested the undersigned to raise demand notice for remittance of above said amount vide letters under(2) & (3).

Further, as per the directions issued by the Government of Karnataka [vide order No. APAJI 70 FWL 2023 Bangalore Dt. 12.01.2024], amount related to Ballari Division in respect of Wildlife Conservation Plan / Wildlife Mitigation plan to be remitted to 'Kali Tiger Conservation Pratishtan' (i.e.M/s. Secretary Dandeli, Anshi Tiger Foundation and Deputy Conservator of Forests, Wildlife Division, Dandeli).

Therefore, it is requested to remit the amount of Rs. 1,43,95,000/- (Rs. One crore forty three lakh ninety five thousand ruppes only) to following account as per direction issued by the Government of Karnataka.

Name of Account	M/s. Secretary Dandeli, Anshi Tiger Foundation and Deputy Conservator of Forests, Wildlife Division, Dandeli
Account No	520101218147976
IFSC Code	UBIN0901253

Further, it is directed to submit the 'Payment confirmation' to this office after the payment made.

Yours Faithfully,

Deputy Conservator of Forests,
Ballari Division, Ballari

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/HO/ENV/MINES/2023-24/2678/ 118

08 February 2024

To,
The Deputy Conservator of Forests,
Ballari Division,
Ballari.

Dear Sir,

Sub: Payment confirmation regarding the implementation of Wildlife Conservation Plan for Mining Lease No.2678 of SMIORE Ltd.

Ref. 1. No: MI/MNG/SMIORE/ML No.2678/2018-19 dated 03rd February 2024.
2. EC. ID. No: EC23A001KA158909 dated 25th April 2023.

In compliance with the directive issued by the Government of Karnataka and the subsequent demand notice issued by your office, as referenced 1. above, an amount of INR 1,43,95,000/- (One crore, forty-three lakh, ninety-five thousand rupees only) was remitted on 05.02.2024 with reference UTR. No: UTIBR52024020500483244 in favor of M/s. Secretary Dandeli, Anshi Tiger Foundation, and Deputy Conservator of Forest, Wildlife Division, Dandeli, for the implementation of the wildlife conservation plan formulated by The Sandur Manganese and Iron Ores Limited.

Furthermore, we have been directed by the Ministry of Environment, Forests, and Climate Change (MoEF&CC) vide reference 2, to submit the six-monthly status report regarding the implementation of the Wildlife Conservation Plan to the Ministry's Integrated Regional Office, along with the Environmental Clearance (EC) compliance report. Therefore, we kindly request your cooperation in providing updates on the implementation status every six months.

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

Md. Abdul Saleem
Whole Time Director
& Company Secretary.

THE SANDUR MANGANESE & IRON ORES LTD. SANDUR

Deputy Conservator of Forests, Ballari Division, Ballari.
Sign: ...
Dt: 9/02/24

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

Annexure-12


WATER TANKER

Annexure-13

Commissioning of mist canyons at Kammatharu Iron Ore Mines

Mist canyons in Operation at Mines

Mist Canyons in operation at Kanivehalli Iron ore Mine

Truck mounted dry fog dust suppression system deployed at Deogiri Mine

Dust suppression on haul roads using mist cannon

Mist cannon deployed for operation at SBH Mine

Annexure-14

Water spray system at the Mobile Screening Plants

Conveyor hood cover for the fixed Crushing and Screening Plant

Water Spray for the fixed Crushing and Screening Plant

Adoption of wet drilling at Mines

Dust extraction system during secondary drilling

The Sandur Manganese & Iron Ores Limited

STATEMENT OF ENVIRONMENT EXPENDITURE FROM 01 APRIL TO 30 SEPTEMBER 2024 IN RESPECT OF MINING LEASE, NO 2678

Sl. No	Activity	Expenditure Incurred in ₹
1	Third Party Environment Monitoring	**6,44,450.00**
2	Procuring and Commissioning of CAAQMS	**1,76,00,000.00**
3	Procuring and Commissioning of Mist Cannons	**55,50,222 .00**
4	Procuring and Commissioning of Digital Water level recorders with telemetry	**2,50,000.00**
5	Flow meters for STP	**2,64,000.00**
6	Engaging Water Tanker for Dust suppression	**2,36,11,302.00**
7	Cost towards procurement of Geo coir mats	**10,71,525.00**
8	Diesel Generator for Truck mounted Mist Cannons	**9,50,000.00**
9	Dust Suppression system for Down Hill Conveyor	**45,00,000.00**
10	Professional Charges for Water audit	**3,88,680.00**
11	Afforestation, after care, Scrapping and Hoeing of Soil, de weeding, bush clearance	**69,70,788.00**
12	De-silting of Engineering Structures	**56,974.00**
13	Construction of Retaining wall	**4,35,600.00**
14	Procurement for Nursery	**2,69,400**
		3,87,68,269.00

for The Sandur Manganese & Iron Ores Limited

Krishna Reddy
Vice President Mines

ಕರ್ನಾಟಕ ಸರ್ಕಾರ

Karnataka Ground Water Authority

K.S.F.C Bhavan, Thimmaiah Road, Bengaluru- 560052, Karnataka.

E-mail: gwdkar@gmail.com, Ph No: 080-22268732

No: KGWAN1554866756 ***Dated : 16-02-2024***

NO OBJECTION CERTIFICATE - FORM 3 A RULE(6)

Permission For Digging/Drilling A Well/ Borewell/ Extraction Of Groundwater For Industrial/ Commercial/ Entertainment Or Other Use

M/s THE SANDUR MANGANESE AND IRON ORES LIMITED
The Sandur Manganese & Iron Ores Ltd 'Satyalaya', Door No 266,
Ward No-1, Palace Road, Sandur, Ballari – 583119, Karnataka.

Above Person/Company is permitted for extraction of groundwater at below mentioned location(s):

SL NO.	*LOCATION*
1	*Forest area- ML No 2678, Kenchammanakolla-1, Sonduru taluk*
2	*Forest Area- ML No 2678, Kenchammanakolla-2, Sonduru taluk*
3	*Forest Area- ML.No 2678, Kenchammanakolla-8, Sonduru taluk*
4	*Forest Area- ML.No 2678, Kenchammanakolla-9, Sonduru taluk*
5	*Mining Lease No 2678, Ranjithpura Road, Sonduru taluk*
6	*Forest Area, Jaladikolla, Sonduru taluk*
7	*Revenue Area, Mining Lease No 2678, Ramakolla, Sonduru taluk*
8	*Forest Area, Mining Lease No 2678, Alamaradakolla, Sonduru taluk*
9	*Forest Area Mining Lease No 2678, Chinnabudanagundu, Sonduru taluk*
10	*Forest Area Mining Lease No 2678, Kanivehalli BG, Sonduru taluk*
11	*Forest Area Mining Lease No 2679, Central Deposit, Sonduru taluk*
12	*Forest Area Mining Lease No 2679, Kadlekana-1, Sonduru taluk*
13	*Forest Area Mining Lease No 2679, GovernorPoint, Sonduru taluk*

From (13) Bore Wells For Mining Use, Subject To The Following Conditions :-

- The firm may abstract **5498 m3/day** (not exceeding **2006770 m3/year**) of groundwater through (13) bore wells only. No additional groundwater abstraction structures to be constructed for this purpose without prior approval of the KGWA.
- This NOC is valid for 2 years from the date of issue of this letter.
- As per the categorization of taluks, Sonduru taluk in Ballari district fall under Safe taluk category. Hence, the Groundwater Abstraction/Restoration Charges to be paid is Rs. 16494 per day.
- The Firm at its own cost shall install piezometer/s, at suitable locations and execute groundwater regime monitoring programme in and around the project area on regular basis in consultation with the Senior Geologist, District Groundwater Office, Groundwater Directorate, **Ballari** District.

NO. OF PIEZOMETERS	***MONITORING MECHANISM***		
	MANUAL	***DWLR***	***DWLR WITH TELEMETRY***
2	***0***	***1***	***1***

- The firm shall submit the water audit report to KGWA through certified auditors within One year of issue of NOC for more than 100KLD Ground water users.
- The well should not be used for drawing water for any other use other than applied for.
- The withdrawal of water should be better managed to avoid wastage of water
- The utilized water should be recycled and reused after necessary treatment
- The construction of rain water harvesting structures in the vicinity of the well/ bore well shall be as per the technical opinion of Senior Geologist, District Groundwater Office, Groundwater Directorate,**Ballari** District.
- The utilization of water will be subject to the regulation from time to time based on the extraction of water from the well/bore well
- The pollution of groundwater resources should be avoided
- Water meter has to be installed and data on groundwater draft is to be maintained and submitted every month to the Authority concerned. The groundwater quality to be monitored twice in a year during pre-monsoon and post monsoon periods.
- **M/s THE SANDUR MANGANESE AND IRON ORES LIMITED** shall, in consultation with the Senior Geologist, District Groundwater Office, Groundwater Directorate, **Ballari** District, implement groundwater recharge measures for augmenting the groundwater resources of the area.
- The photographs of the recharge structures after completion of the same are to be furnished immediately to the Senior Geologist, District Groundwater Office, Groundwater Directorate, **Ballari** District, for verification.
- The abstraction/restoration charges should be deposited to the Karnataka Groundwater Authority account in the form of DD / Cash.
- The groundwater monitoring data in respect of Point No. 4 & 12 to be submitted to Senior Geologist, District Groundwater Office, Groundwater Directorate, **Ballari** District on regular basis at least once in a year.
- The permission is liable to be cancelled in case of non-compliance of any of the conditions as mentioned in Point No. 1 to 15.
- The Karnataka Groundwater (Regulation for Protection of Sources of Drinking Water) Act, 1999 should be followed scrupulously.
- This NOC is subject to prevailing Central/State Government rules /laws or Court orders related to construction of bore well/ groundwater withdrawal /construction of recharge or conservation structures /discharge of effluents or any such matter as applicable.
- This NOC does not absolve the applicant / proponent of his obligation / requirement to obtain other

statutory and administrative clearances from other statutory and administrative authorities.

BANK ACCOUNT DETAILS ARE GIVEN BELOW		
Bank	:	**CANARA BANK**
Account Holder	:	**CHAIRMAN, KGWA**
Account No	:	**0788201052332**
IFSC	:	**CNRB0000788**
Account Type	:	**CURRENT ACCOUNT**

- It is also informed that during the renewal of the NOC, depending upon the hydrogeological condition the category of the area and the site conditions, the quantity will vary from permitted quantity. The company should make alternate arrangements for the reducing quantity for sustaining their industrial activity by means of availing water through local bodies or using the urban waste water after proper treatment.
- The fee that will be levied by the government for the groundwater usage is applicable from the date such orders are issued by the government.
- The firm is bound to obey the directions of NGT/ court orders that are existing and that may be laid down in future in matters related to Groundwater withdrawal.
- ADDITIONAL CONDITIONS : 1) M/s. The Sandur Manganese & Iron Ores Ltd (Mining Lease No-2678 and 2679 Deogiri, Taluk Sandur, Ballari District) is permitted to abstract 5498 (Industrial-4200 and mining and Domestic pupose-1298 m3/day (not exceeding 2006770 m3/year) of groundwater through Sixty Three (63) bore wells for Industrial and Mining purpose in Industry and Mining categories only. No additional groundwater abstraction structures to be constructed for this purpose without prior approval of the KGWA. 2)This NOC is valid for Three years from 15.02.2024 to 14.02.2026. 3)As per the categorization of taluks, Sandur taluk in Ballari district fall under Safe taluk category. Hence, the Groundwater Abstraction Charges to be paid is Rs.15845 per day at the rate of Rs-3.00 per KLD and Rs-2.5 per KLD. 4)The Firm at its own cost shall install two piezometers with , DWLR with Telemetry at suitable locations and execute groundwater regime monitoring programme in and around the project area on regular basis in consultation with the Senior Geologist, District Groundwater Office, Groundwater Directorate, Ballari District. 5)The firm shall submit the water audit report through certified auditors within one year of completion of the same to KGWA. 6)As per District committee recommendation in future, if scarcity for supply of drinking water to the public arise, M/s. The Sandur Manganese & Iron Ores Ltd should abide to supply water from its bore wells for the drinking water needs in and around the plant area. 7)Separate compliance, audit report and groundwater usage charges paid should be submitted. If any balance payment for groundwater usage charges pending during the renewal application time, it should be paid as per the usage. 8) The above seven additional conditions prevail with reference to annual groundwater extraction limit, NOC validity, Purpose, abstraction charges to be paid and monitoring piezometer.

This NOC has been issued as per the proceedings drawn from the meeting held under the Chairmanship of Deputy Commissioner, District Groundwater Committee, Ballari District on 29-12-2023 and the proceedings drawn from the Karnataka Groundwater Authority meeting held under the Chairmanship of Secretary & Chairman, Minor Irrigation and Groundwater Development Department and Karnataka Groundwater Authority on 25.01.2024..

To,

M/S THE SANDUR MANGANESE AND IRON ORES LIMITED
The Sandur Manganese & Iron Ores Ltd 'Satyalaya', Door No 266,
Ward No-1, Palace Road, Sandur, Ballari – 583119, Karnataka.

Copy For Information To,

1. The Deputy Commissioner, Ballari District
2. Regional Director, Central Groundwater Board, SWR.
3. The Director, Groundwater Directorate and Member Secretary, Karnataka Groundwater Authority, KSFC Bhavana, Bengaluru
4. The Deputy Director, Groundwater Directorate, KSFC Bhavana, Bengaluru

Place : Ballari

Date : 16-02-2024

(E-SIGN SIGNATURE)

Signature of Designated Officer

Karnataka Groundwater Authority

Details of apprentices engaged during the FY 2024-25 at The Sandur Manganese & Iron Ores Limited

S.No	Candididate Name	Contract Reg.No.	Trade	Date of Training Strat	Date of Training End
1	Jeerpraveena	CN032480629	Electrician	01.04.2024	31.03.2025
2	Bhaskara H	CN032480824	Fitter	01.04.2024	31.03.2025
3	Rakesha T	CN032480907	Fitter	01.04.2024	31.03.2025
4	S.Praveen Kumar	CN032480925	Electrician	01.04.2024	31.03.2025
5	Noorbhasha K	CN032480918	Electrician	01.04.2024	31.03.2025
6	Abhishek A	CN032481069	Fitter	01.04.2024	31.03.2025
7	B.Huliraja	CN032481106	Electrician	01.04.2024	31.03.2025
8	Mahadeva	CN032482200	Electrician	01.04.2024	31.03.2025
9	Prashantha A	CN032481065	Fitter	01.04.2024	31.03.2025
10	Santhoshkumar M	CN032481155	Fitter	01.04.2024	31.03.2025
11	Mansur J	CN032482232	Fitter	01.04.2024	31.03.2025
12	Asifbasha K	CN032481293	Fitter	01.04.2024	31.03.2025
13	Ramesh	CN032482661	Electronics Mechanic	01.04.2024	31.03.2025
14	Mohammed Sohail A B	CN032482839	Electronics Mechanic	01.04.2024	31.03.2025
15	Ganesh Kumar G E	CN042430538	Electrician	17.04.2024	16.04.2025

Annexure-18

Water treatment Plant at Deogiri of 30 KL Capacity

Water Storage tanks at Deogiri for supply of treated water

Water Storage Plant at Subbarayanahalli

Overhead tank at Subbarayanahalli for water supply

Water treatment plant at Subbarayanahalli

Annexure-19

Vermi compost unit at Nursery

Spread of farm yard manure for Plantation on Dumps

Spread of Topsoil in Backfilled Area for Plantation at KMK Mine Pit

Scrapping and Hoeing of Soil around the plantation

Scrapping and Hoeing of Soil around the plantation

Annexure-20

Arogya Community Health Centre at Sandur

Specialised Health Camps at Sandur

Medical Infrastructure at Arogya Community Health Centre

Dispensary at Deogiri

Dispensary at Subbarayanahalli

O/C

The Sandur Manganese & Iron Ores Limited

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

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

CORPORATE OFFICE
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Bellary Road, Sadashivanagar
Bengaluru – 560 080
Karnataka, India
Tel: +91 80 4152 0176 - 79 / 4547 3000
Fax: +91 80 4152 0182

Ref No: SMIORE/MINES/ENV/2023-24/2678/

28 April 2023

The President,
Deogiri Panchayat,
Deogiri – 583112.

Dear Sir,

Sub: Submission of Environmental Clearance (EC) accorded by Ministry of Environment, Forest & Climate Change (MoEFCC) to the expansion project of Mining Lease No.2678 of The Sandur Manganese & Iron Ores Limited.

We are pleased to inform you that MoEFCC - Impact Assessment Division has granted EC to the below mentioned expansion proposal of The Sandur Manganese & Iron Ores Limited vide EC Identification No.EC23A001KA158909 dated 25 April 2023 under the provisions of EIA Notification 2006 for increase of iron ore production from 1.60 to 4.50 million tonnes per annum (MTPA), while retaining manganese ore production at 0.55 MTPA along with proposed 7.0 MTPA Ore Beneficiation Plant, 1.2 km Down Hill Conveyor System & 0.15 MTPA Crushing & Screening Plant of iron ore and manganese ore mine (Mining Lease No.2678) of The Sandur Manganese & Iron Ores Limited.

A copy of Environmental Clearance (EC) to be given to the panchayat for information.

Accordingly, we request you to acknowledge receipt of the same.

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

Deepak CA

Deepak Cukkae Anilkumar
Senior Manager

Encl: Environmental Clearance (EC) dated 25 April 2023 with Identification No.EC23A001KA158909.

02/05/2023

The Sandur Manganese & Iron Ores Limited

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SMIORE / MN / 230428 / 05

28 April 2023

The Deputy Commissoiner
Ballari District
Ballari - 583101

Dear Sir,

Sub: Displaying a copy of Environmental Clearance (EC) accorded by Ministry of Environment, Forest & Climate Change (MoEFCC) to the expansion project of Mining Lease No.2678 of The Sandur Manganese & Iron Ores Limited (SMIORE)

We are pleased to inform you that MoEFCC - Impact Assessment Division has granted EC to the below mentioned expansion proposal of The Sandur Manganese & Iron Ores Limited (SMIORE) vide EC Identification No.EC23A001KA158909 dated 25 April 2023 under the provisions of EIA Notification 2006.

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As per the conditions stipulated in the EC, a copy of the EC should be displayed at Collectorate of Ballari District, Regional Office of State Pollution Control Board, Tehasildar Office of Sandur for 30 days for public viewing.

Accordingly, we request you to display the EC copy on your notice board.

Thank You
for The Sandur Manganese & Iron Ores Limited

Md. Abdul Saleem
Director (Mines)

SANDUR MANGANESE & IRON ORES LTD.

29 APR 2023

Encl: EC dated 25 April 2023 with Identification No.EC23A001KA158909

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SMIORE / MN / 230428 / 04

28 April 2023

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

Dear Sir,

Sub: Displaying a copy of Environmental Clearance (EC) accorded by Ministry of Environment, Forest & Climate Change (MoEFCC) to the expansion project of Mining Lease No.2678 of The Sandur Manganese & Iron Ores Limited (SMIORE)

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Thank You
for The Sandur Manganese & Iron Ores Limited

Md. Abdul Saleem
Director (Mines)

Encl: EC dated 25 April 2023 with Identification No.EC23A001KA158909

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SMIORE / MN / 230428 / 06

28 April 2023

The Tehsildar
Sandur Taluka
Sandur - 583119

Dear Sir,

Sub: Displaying a copy of Environmental Clearance (EC) accorded by Ministry of Environment, Forest & Climate Change (MoEFCC) to the expansion project of Mining Lease No.2678 of The Sandur Manganese & Iron Ores Limited (SMIORE)

We are pleased to inform you that MoEFCC - Impact Assessment Division has granted EC to the below mentioned expansion proposal of The Sandur Manganese & Iron Ores Limited (SMIORE) vide EC Identification No.EC23A001KA158909 dated 25 April 2023 under the provisions of EIA Notification 2006.

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Thank You
for The Sandur Manganese & Iron Ores Limited

Md. Abdul Saleem
Director (Mines)

SANDUR MANGANESE & IRON ORES LTD

Encl: EC dated 25 April 2023 with Identification No.EC23A001KA158909

Received
TAHASILDAR, SANDUR
29/4/23

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SMIORE / MN / 230428 / 03

28 April 2023

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

Dear Sir,

Sub: Publication of Notice in the News Papers regarding grant of Environmental Clearance
Ref: EC Identification No.EC23A001KA158909

We are pleased to inform you that expansion project of Mining Lease No.2678 of The Sandur Manganese & Iron Ores Limited (SMIORE) has been accorded Environmental Clearance (EC) by the Ministry of Environment, Forest & Climate Change (Impact Assessment Division) under the provisions of EIA Notification 2006.

In compliance with Standard Conditions I. (7) of the EC, we have arrange to publish the public notice in the following two local newspapers, one of which is a vernacular language i.e., Kannada:

1. English version - Indian Express (page no.11) dated 27 April 2023; and
2. Kannada version - Prajavani (page no.3) dated 27 April 2023.

Paper cuttings of the said advertisements are attached for your kind reference and records.

Kindly take note of the compliance and acknowledge receipt of the same.

Thank You
for The Sandur Manganese & Iron Ores Limited

Md. Abdul Saleem
Director (Mines)

Encl: As mentioned above.

THE NEW INDIAN EXPRESS | WORLD

11 HUBBALLI THURSDAY 27.04.2023

PUBLIC NOTICE

This is to inform the public and the concerned that Ministry of Environment, Forest & Climate Change (MoEFCC), Government of India accorded Environmental Clearance (EC) vide EC identification No.EC23A001KA158909 dated 25 April 2023 for "increase in iron ore production from 1.60 to 4.50 Million Tons Per Annum (MTPA), setting up 7.0 MTPA Ore Beneficiation Plant and installation of 1.2 km Down Hill Conveyor System" in Mining Lease No. 2678 of The Sandur Manganese & Iron Ores Limited, located at Deogiri village, Sandur Taluk, Ballari District, Karnataka.

Copy of EC letter is available with Karnataka State Pollution Control Board and MoEFCC website https://environmentclearance.nic.in/

Sd/- Mohammed Abdul Saleem
Director (Mines)
The Sandur Manganese & Iron Ores Limited

ಪ್ರಜಾವಾಣಿ ಗುರುವಾರ • ಏಪ್ರಿಲ್ 27, 2023 ಬಳ್ಳಾರಿ-ವಿಜಯನಗರ 3

ಸಾರ್ವಜನಿಕ ಪ್ರಕಟಣೆ

ಸಮಸ್ತ ಸಾರ್ವಜನಿಕರಿಗೆ ಈ ಮೂಲಕ ತಿಳಿಸುವುದೇನೆಂದರೆ, ಪರಿಸರ, ಅರಣ್ಯ ಮತ್ತು ಹವಾಮಾನ ಪರಿವರ್ತನಾ ಸಚಿವಾಲಯ, ಭಾರತ ಸರ್ಕಾರವು ದಿನಾಂಕ 25 ಏಪ್ರಿಲ್ 2023 ರಂದು ಪತ್ರ ಸಂಖ್ಯೆ EC23A001KA158909 ಮೂಲಕ "ದಿ ಸಂಡೂರು ಮ್ಯಾಂಗನೀಸ್ ಅಂಡ್ ಐರನ್ ಓರ್ಸ್ ಲಿಮಿಟೆಡ್", ದೇವಗಿರಿ ಗ್ರಾಮ, ಸಂಡೂರು ತಾಲೂಕು ಬಳ್ಳಾರಿ ಜಿಲ್ಲೆ ಇವರ ಗಣಿ ಗುತ್ತಿಗೆ ಸಂಖ್ಯೆ 2678 ರ ವಿಸ್ತರಣೆ ಯೋಜನೆ "ಕಬ್ಬಿಣದ ಅದಿರಿನ ಉತ್ಪಾದನೆಯ ವಿಸ್ತರಣೆ ವರ್ಷಕ್ಕೆ 1.60 ದಶಲಕ್ಷ ಟನ್ ಇಂದ 4.50 ದಶಲಕ್ಷ ಟನ್‌ಗೆ, 7.0 ದಶಲಕ್ಷ ಟನ್ ಸಾಮರ್ಥ್ಯದ ಪ್ರತ್ಯೇಕೀಕರಣ (Beneficiation Plant) ಘಟಕ ಹಾಗೂ 1.20 ಕಿ.ಮೀ ಉದ್ದದ ಡೌನ್ ಹಿಲ್ ಕನ್ವೇಯರ್ ಸ್ಥಾಪನೆ" ಯ ಪ್ರಸ್ತಾವನೆಗೆ ಪರಿಸರ ಪರವಾನಿಗೆ ನೀಡಿರುತ್ತದೆ.

ಪರವಾನಿಗೆ ಪತ್ರದ ಪ್ರತಿಯು ರಾಜ್ಯ ಮಾಲಿನ್ಯ ನಿಯಂತ್ರಣ ಮಂಡಳಿಯಲ್ಲಿ ಹಾಗೂ ಪರಿಸರ, ಅರಣ್ಯ ಮತ್ತು ಹವಾಮಾನ ಪರಿವರ್ತನೆ ಸಚಿವಾಲಯದ https://environmentclearance.nic.in/ ನ ಅಂತರ್ಜಾಲ ತಾಣದಲ್ಲಿ ಲಭ್ಯವಿರುತ್ತದೆ.

ಸಹಿ/- ಮೊಹಮ್ಮದ್ ಅಬ್ದುಲ್ ಸಲೀಂ
ಡೈರೆಕ್ಟರ್ (ಮೈನ್ಸ್)
ದಿ ಸಂಡೂರು ಮ್ಯಾಂಗನೀಸ್ ಆಂಡ್ ಐರನ್ ಓರ್ಸ್ ಲಿಮಿಟೆಡ್ (SMIORE).

The Sandur Manganese & Iron Ores Limited

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SMIORE / MN / 230428 / 05

28 April 2023

The Deputy Commissoiner
Ballari District
Ballari - 583101

Dear Sir,

Sub: Displaying a copy of Environmental Clearance (EC) accorded by Ministry of Environment, Forest & Climate Change (MoEFCC) to the expansion project of Mining Lease No.2678 of The Sandur Manganese & Iron Ores Limited (SMIORE)

We are pleased to inform you that MoEFCC - Impact Assessment Division has granted EC to the below mentioned expansion proposal of The Sandur Manganese & Iron Ores Limited (SMIORE) vide EC Identification No.EC23A001KA158909 dated 25 April 2023 under the provisions of EIA Notification 2006.

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As per the conditions stipulated in the EC, a copy of the EC should be displayed at Collectorate of Ballari District, Regional Office of State Pollution Control Board, Tehasildar Office of Sandur for 30 days for public viewing.

Accordingly, we request you to display the EC copy on your notice board.

Thank You
for The Sandur Manganese & Iron Ores Limited

Md. Abdul Saleem
Director (Mines)

SANDUR MANGANESE & IRON ORES LTD.

29 APR 2023

Encl: EC dated 25 April 2023 with Identification No.EC23A001KA158909

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SMIORE / MN / 230428 / 04

28 April 2023

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

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SMIORE / MN / 230428 / 06

28 April 2023

The Tehsildar
Sandur Taluka
Sandur - 583119

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Md. Abdul Saleem
Director (Mines)

SANDUR MANGANESE & IRON ORES LTD

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Received
TAHASILDAR, SANDUR
29/4/23

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SMIORE / MN / 230428 / 02

28 April 2023

The Regional Office
Ministry of Environment, Forests & Climate Change
Kendriya Sadan, 4th Floor, E & F Wings
17th Main Road, Koramangala
Bengaluru - 560 034.

Dear Sir,

Sub: Publication of Notice in the News Papers regarding grant of Environmental Clearance
Ref: EC Identification No.EC23A001KA158909

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Md. Abdul Saleem
Director (Mines)

Encl: As mentioned above.

THE NEW INDIAN EXPRESS

WORLD

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Copy of EC letter is available with Karnataka State Pollution Control Board and MoEFCC website https://environmentclearance.nic.in/

Sd/- Mohammed Abdul Saleem
Director (Mines)
The Sandur Manganese & Iron Ores Limited

ಪ್ರಜಾವಾಣಿ ಗುರುವಾರ • ಏಪ್ರಿಲ್ 27, 2023 ಬಳ್ಳಾರಿ-ವಿಜಯನಗರ 3

ಸಾರ್ವಜನಿಕ ಪ್ರಕಟಣೆ

ಸಮಸ್ತ ಸಾರ್ವಜನಿಕರಿಗೆ ಈ ಮೂಲಕ ತಿಳಿಸುವುದೇನೆಂದರೆ, ಪರಿಸರ, ಅರಣ್ಯ ಮತ್ತು ಹವಾಮಾನ ಪರಿವರ್ತನಾ ಸಚಿವಾಲಯ, ಭಾರತ ಸರ್ಕಾರವು ದಿನಾಂಕ 25 ಏಪ್ರಿಲ್ 2023 ರಂದು ಪತ್ರ ಸಂಖ್ಯೆ EC23A001KA158909 ಮೂಲಕ "ದಿ ಸಂಡೂರು ಮ್ಯಾಂಗನೀಸ್ ಆಂಡ್ ಐರನ್ ಓರ್ಸ್ ಲಿಮಿಟೆಡ್", ದೇವಗಿರಿ ಗ್ರಾಮ, ಸಂಡೂರು ತಾಲೂಕು ಬಳ್ಳಾರಿ ಜಿಲ್ಲೆ ಇವರ ಗಣಿ ಗುತ್ತಿಗೆ ಸಂಖ್ಯೆ 2678 ರ ವಿಸ್ತರಣೆ ಯೋಜನೆ "ಕಬ್ಬಿಣದ ಅದಿರಿನ ಉತ್ಪಾದನೆಯ ವಿಸ್ತರಣೆ ವರ್ಷಕ್ಕೆ 1.60 ದಶಲಕ್ಷ ಟನ್ ಇಂದ 4.50 ದಶಲಕ್ಷ ಟನ್‌ಗೆ, 7.0 ದಶಲಕ್ಷ ಟನ್ ಸಾಮರ್ಥ್ಯದ ಪ್ರತ್ಯೇಕೀಕರಣ (Benefication Plant) ಘಟಕ ಹಾಗೂ 1.20 ಕಿ.ಮೀ ಉದ್ದದ ಡೌನ್ ಹಿಲ್ ಕನ್ವೇಯರ್ ಸ್ಥಾಪನೆ" ಯ ಪ್ರಸ್ತಾವನೆಗೆ ಪರಿಸರ ಪರವಾನಿಗೆ ನೀಡಿರುತ್ತದೆ.

ಪರವಾನಿಗೆ ಪತ್ರದ ಪ್ರತಿಯು ರಾಜ್ಯ ಮಾಲಿನ್ಯ ನಿಯಂತ್ರಣ ಮಂಡಳಿಯಲ್ಲಿ ಹಾಗೂ ಪರಿಸರ, ಅರಣ್ಯ ಮತ್ತು ಹವಾಮಾನ ಪರಿವರ್ತನೆ ಸಚಿವಾಲಯದ https://environmentclearance.nic.in/ ನ ಅಂತರ್ಜಾಲ ತಾಣದಲ್ಲಿ ಲಭ್ಯವಿರುತ್ತದೆ.

ಸಹಿ/- ಮೊಹಮ್ಮದ್ ಅಬ್ದುಲ್ ಸಲೀಂ
ಡೈರೆಕ್ಟರ್ (ಮೈನ್ಸ್)
ದಿ ಸಂಡೂರು ಮ್ಯಾಂಗನೀಸ್ ಆಂಡ್ ಐರನ್ ಓರ್ಸ್ ಲಿಮಿಟೆಡ್ (SMIORE).

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.I, 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/HO/ENV/MINES/2023-24/ 73

೦೧ ಅಕ್ಟೋಬರ್ ೨೦೨೩

ಇವರಿಗೆ,

ಅಧ್ಯಕ್ಷರು,
ತೊಣಿಸಿಗೇರಿ ಗ್ರಾಮ
ಗೊಲ್ಲಲಿಂಗಮ್ಮನಹಳ್ಳಿ ಪಂಚಾಯಿತಿ
ಸಂಡೂರು ತಾಲ್ಲೂಕು, ಬಳ್ಳಾರಿ ಜಿಲ್ಲೆ
ಕರ್ನಾಟಕ.

ವಿಷಯ: ತೊಣಿಸಿಗೇರಿ ಗ್ರಾಮದಿಂದ ದೇವಗಿರಿ ಗ್ರಾಮಕ್ಕೆ ರಸ್ತೆ ನಿರ್ಮಾಣದ ಬಗ್ಗೆ.

ಮಾನ್ಯರೇ,

ದೇವಗಿರಿ ಗ್ರಾಮದಲ್ಲಿ ದಿನಾಂಕ ೦೬.೧೨.೨೦೨೨ ರಂದು ನಡೆದ ಸಾರ್ವಜನಿಕ ವಿಚಾರಣೆಯ ಸಂದರ್ಭದಲ್ಲಿ ತೊಣಿಸಿಗೇರಿ ಗ್ರಾಮದಿಂದ ದೇವಗಿರಿ ಗ್ರಾಮದವರೆಗೆ ರಸ್ತೆ ನಿರ್ಮಾಣದ ಬೇಡಿಕೆಯನ್ನು ತೊಣಿಸಿಗೇರಿ ಗ್ರಾಮದ ಸ್ಥಳೀಯ ಜನರು ಮನವಿ ಮಾಡಿದ್ದಾರೆ ಎಂಬುದನ್ನು ಗೌರವ ಮತ್ತು ವಿನಮ್ರತೆಯಿಂದ ನಿಮ್ಮ ಗಮನಕ್ಕೆ ತರಲು ಬಯಸುತ್ತೇವೆ. ಸ್ಥಳೀಯ ಜನರ ಮನವಿಯನ್ನು ಪರಿಗಣಿಸಿ, ದ ಸಂಡೂರ್ ಮ್ಯಾಂಗನೀಸ್ & ಐರನ್ ಒರ್ಸ್ ಲಿಮಿಟೆಡ್ ರಸ್ತೆಯನ್ನು ನಿರ್ಮಿಸಲು ಬದ್ಧರಾಗಿದ್ದೇವೆ.

ಆದರೆ ಸದರಿ ರಸ್ತೆಯು ಅರಣ್ಯ ಭೂಮಿಯಲ್ಲಿ ಇರುವುದರಿಂದ, ತಾವುಗಳು ತಮ್ಮ ಪಂಚಾಯಿತಿ ವತಿಯಿಂದ ಅರಣ್ಯ ಇಲಾಖೆಯ ಅನುಮತಿಯನ್ನು ಪಡೆದುಕೊಂಡರೆ. ನಾವುಗಳು ಸದರಿ ರಸ್ತೆಯನ್ನು ಮಾಡಿಕೊಡುತ್ತೇವೆ.

ಧನ್ಯವಾದಗಳು,

ಮೊಹಮ್ಮದ್ ಅಬ್ದುಲ್ ಸಲೀಂ
ಡೈರೆಕ್ಟರ್ (ಮೈನ್ಸ್)
ದ ಸಂಡೂರ್ ಮ್ಯಾಂಗನೀಸ್ & ಐರನ್ ಓರ್ಸ್ ಲಿಮಿಟೆಡ್
ದೇವಗಿರಿ - ೫೮೩೧೧೨, ಸಂಡೂರು ತಾಲ್ಲೂಕು, ಬಳ್ಳಾರಿ ಜಿಲ್ಲೆ

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

Annexure-24

Ensuring trucks exit with tarpaulins

CC road for Ore transportation

Haul road at Mines

Upgradation of road infrastructure

Asphalting of Ore transportation road outside the mine lease

Water tankers for suppression of dust on haul roads

Sprinklers fitted along major haul roads

Sprinklers along major haul roads

Sprinklers fitted along major haul roads

Sprinklers fitted along major haul roads

Water tankers used for dust suppression

Water tankers used for dust suppression

Commissioning of mist canyons at Kammatharu Iron Ore Mines

Mist canyons in Operation at Mines

Mist Canyons in operation at Kanivehalli Iron ore Mine

Truck mounted dry fog dust suppression system deployed at Deogiri Mine

Dust suppression on haul roads using mist cannon

Mist cannon deployed for operation at SBH Mine

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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/2024-25/653

07 August 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 groundwater level and groundwater quality monitoring reports in respect of Mining Lease No. 2678 & 2679 for the monsoon season.

Ref: 1. KGWA NOC No.: KGWAN1554866756 dated 16 February 2024.
2. Environmental Clearance F.No. IA-J-11015/45/2021-IA-II(M) dated 25 April 2023.

We herewith submitting the groundwater level and groundwater quality monitoring data carried out for the monsoon season from the borewells and piezometers established in the core zone and buffer zone (Annexure-I), in respect of Mining Lease No. 2678 and 2679 of The Sandur Manganese & Iron Ores Limited, Sandur Taluk, Ballari District as per the conditions stipulated in NOC obtained from Karnataka Ground Water Authority and Environmental Clearance obtained from Ministry of Environment, Forest & Climate Change.

Kindly acknowledge receipt of the same.

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

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

The Sandur Manganese & Iron Ores Ltd. DEOGIRI

09/08/24
LETTER RECEIVED
Senior Geologist
District Ground Water Office
Ballari - 583 103

Encl: Annexure I & Groundwater Quality Report.

Copy to: 1) Senior Geologist, District Ground Water office, Ballari.
2) Integrated Regional Office, MoEF & CC, Bengaluru.
3) Member Secretary, Central Pollution Control Board.

Groundwater Level data for Monsoon Season in Core Zone

Sl No.	Bore well ID	Co-Ordinates in UTM (WGS84)		Bore well Locations	Depth of Water Level (m) BGL	Depth of Bore well (m)
		Easting	Northing			
1	RNJP	673779	1660983	Kammathuru	11.20	78.96
2	KKNH	676990	1659103	Kenchammanakolla	9.10	48.78
3	JLK	675442	1659438	Jaladikolla	31.15	48.78
4	RMK	673755	1658789	Ramakolla	77.70	117.38
5	AMK	671690	1658042	Alamaradakolla	33.10	97.26
6	CBG	671154	1657187	Chinnabudanagundu	39.05	122.56
7	KMK	668640	1658078	Kanigemaradakolla	81.40	127.74
8	NK	667610	1658284	Neerkolla	44.25	74.39
9	KVH BG	664282	1662003	Kanivehalli BG	40.35	92.68
10	CD	660030	1666841	Central Deposit	62.36	122.56

Groundwater Level data for Monsoon Season in Buffer Zone

Sl No.	Open well ID	Co-Ordinates in UTM (WGS84)		Open well Locations	Depth of Water Level (m) BGL	Depth of Open well (m)
		Easting	Northing			
1	1B2	647018	1677767	Dhanapur	2.15	5.85
2	2B3	645293	1672805	Devalapur	7.10	11.54
3	2A2	666523	1668210	Sandur	1.85	13.7
4	2B1	672619	1673264	Taranagar	9.40	10.74
5	3B5	675330	1659288	Deogiri	2.05	
6	1C1	656172	1657563	Bandri	1.35	8.26
7	1A4	664421	1650802	Choranuru	0.10	7.2
8	1B1	679131	1660998	Appayanahalli	1.25	8.22
9	2B2	675375	1648539	Sheliyappanahalli	0.10	22.64
10	1A1	688523	1655346	Melina kanive	1.00	8.27
11	NW	677609	1671717	Lingadahalli	2.10	12.05

The Sandur Manganese & Iron Ores Ltd. DEOGIRI

National Accreditation Board for Testing and Calibration Laboratories

NABL

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)

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

Signed for and on behalf of NABL

N. Venkateswaran
Chief Executive Officer

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

Speed Post

F.No. LB/99/7/2021-INST LAB-HO-CPCB-HO/Pvt./ 1601

Dated: 28th January 2023
07th June 2023

Recognition Certificate

To,

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

Subject: Recognition of M/s Environmental Laboratory (Unit of Mineral Engineering Services), #948, 2nd 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, 2nd 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, 2nd Cross, St. Thomas Town Post, Kammanahalli Road, Bengaluru--560084, Karnataka** may undertake the following tests:

   i. **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.
   ii. **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.
   iii. **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,
   iv. **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).
   v. **Microbiological Test:** Total Coliform, Faecal Coliform, *E. coli, Faecal Streptococci* and Total Plate Count.
   vi. **Toxicological Tests:** Bioassay Method for Evaluation of Toxicity using Fish and Measurement of Toxicity Using Daphnia or Other Organism.
   vii. **Biological Test:** Macrophytic Identification, Planktonic Identification Count and Chlorophyll.

Contd.

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_2), Sulphur Dioxide (SO_2), Total Suspended Particulate Matter, Respirable Suspended Particulate Matter PM_{10}, Ammonia, Carbon Monoxide, Chlorine, Lead, Ozone, Benzene Toluene Xylene (BTX), Polycyclic Aromatic Hydrocarbon (PAH) Benzo-a-Pyrine & others and $PM_{2.5}$.

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,

K. Ranganathan 7/6/23

(Dr. K. Ranganathan)
Scientist-E & Divisional Head
Instrumentation laboratory

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

ENVIRONMENTAL LABORATORY

(UNIT OF MINERAL ENGINEERING SERVICES)

ISO 45001:2018

Recognised by BIS, FSSAI, ISO:45001:2018 Certified Laboratory
Recognised by MoEFCC(CPCB) under E(P) Act 1986 & recognition is valid upto 23.05.2025

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	: GW1 - Deogiri Mine Office Bore water, GW2 - Kammaturu Bore water, GW3 - Appayyanahalli (Narayanpura) Bore water
Date of sample collection	: 09.07.2024
Issue Date	: 17.07.2024

Ref : IS:10500-2012 Norms Amendment - 4 (Drinking Water Standards)

Sl. No.	Lab Code / Sample Code / Parameters	N/24/07/02-0067 GW1	N/24/07/02-0068 GW2	N/24/07/02-0069 GW3	Desirable Limts	Permissible Limts	Method of Testing
		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	6.54	6.75	7.12	6.5 to 8.5	6.5 - 8.5	IS:3025 (P-11) 2022
4	Turbidity,NTU, Max	<0.1	<0.1	<0.1	1	5	IS:3025 (P-10)1984 RA 2017
5	Electrical Conductvity (µmhos/cm)	120.0	290.0	1050.0	--	--	IS 3025 (P-14)
6	Total Dissolved Solids,mg/l, Max	80.0	180.0	658.0	500	2000	IS:3025 (P-16)1984 RA2017
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	12.00	24.00	121.82	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	16.72	42.00	133.32	250	1000	IS:3025 (P-32) 1988 RA 2019
12	Fluoride (as F),mg/l, Max	<0.1	<0.1	<0.1	1	1.5	IS:3025 (P-60) 2008 RA 2019
13	Iron (as Fe),mg/l, Max	<0.005	<0.005	<0.005	1.0	1.0	IS:3025 (Part-2) 2019
14	Magnesium (as Mg)mg/l, Max	4.86	14.58	39.66	30	100	IS:3025 (P-46)1994 RA 2019
15	Manganese (as Mn),mg/l, Max	<0.001	<0.001	<0.001	0.1	0.3	IS:3025 (P-2) 2019
16	Nitrates (as NO_3),mg/l, Max	2.30	1.53	18.00	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	12.50	5.80	78.90	200	400	IS:3025 (P-24) Sec 1 2022
19	Alkalinity (as $CaCO_3$) mg/l, Max	10.00	75.0	325.0	200	600	IS:3025 (P-23):1986 RA 2019
20	Total Hardness (as $CaCO_3$),mg/l,Max	50.0	120.0	467.0	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	5	12	64	-	-	IS:3025 (Part-45) 1993 RA2019
23	Potassium, (as K), mg/l, Max	<1	4	15	-	-	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"

BINUMANI
T.M. - Microbiology

ARSHIYA KOUSAR
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ENVIRONMENTAL LABORATORY

(UNIT OF MINERAL ENGINEERING SERVICES)

ISO 45001:2018

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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	: GW4 - SB Halli Bore water (near hospital), GW5 - Yeshwanthnagar Bore water (near railway track)
Date of sample collection	: 09.07.2024
Issue Date	: 17.07.2024

Ref : IS:10500-2012 Norms Amendment - 4 (Drinking Water Standards)

Sl. No.	Lab Code / Sample Code / Parameters	N/24/07/02-0070 GW4 Results	N/24/07/02-0071 GW5 Results	Desirable Limts	Permissible Limts	Method of Testing
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	7.21	6.86	6.5 to 8.5	6.5 - 8.5	IS:3025 (P-11) 2022
4	Turbidity,NTU, Max	<0.1	<0.1	1	5	IS:3025 (P-10)1984 RA 2017
5	Electrical Conductvity (µmhos/cm)	1590.0	1180.0	--	--	IS 3025 (P-14)
6	Total Dissolved Solids,mg/l, Max	1050.0	860.0	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	121.84	97.29	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	254.98	47.14	250	1000	IS:3025 (P-32) 1988 RA 2019
12	Fluoride (as F),mg/l, Max	<0.1	<0.1	1	1.5	IS:3025 (P-60) 2008 RA 2019
13	Iron (as Fe),mg/l, Max	<0.005	<0.005	1.0	1.0	IS:3025 (Part-2) 2019
14	Magnesium (as Mg)mg/l, Max	23.33	52.06	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	44.00	1.80	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	58.50	74.00	200	400	IS:3025 (P-24) Sec 1 2022
19	Alkalinity (as $CaCO_3$) mg/l, Max	405.0	570.0	200	600	IS:3025 (P-23):1986 RA 2019
20	Total Hardness (as $CaCO_3$),mg/l,Max	400.0	460.0	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	164	135	--	--	IS:3025 (Part-45) 1993 RA2019
23	Potassium, (as K), mg/l, Max	25	21	--	--	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"

BINUMANI
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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	: GW1 - Project Site Core Zone Borewell water, GW2 - Ramghad Bore water, GW3 - Dharmapura Bore water
Issue Date	: 21.06.2024

Ref : IS:10500-2012 Norms Amendment - 4 (Drinking Water Standards)

	Date of sample collection	12.06.2024	12.06.2024	12.06.2024			
	Lab Code	N/24/06/3-0154	N/24/06/3-0155	N/24/06/3-0156	Desirable Limts	Permissible Limts	Method of Testing
Sl. No.	Sample Code / Parameters	GW1	GW2	GW3			
		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	6.69	6.71	6.85	6.5 to 8.5	6.5 - 8.5	IS:3025 (P-11) 2022
4	Turbidity,NTU, Max	0.5	<0.1	2.10	1	5	IS:3025 (P-10)1984 RA 2017
5	Electrical Conductvity (µmhos/cm)	295.0	320.0	1170.0	--	--	IS 3025 (P-14)
6	Total Dissolved Solids,mg/l, Max	180.0	195.0	732.0	500	2000	IS:3025 (P-16)1984 RA2017
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	24.04	31.07	97.29	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	42.00	19.26	99.86	250	1000	IS:3025 (P-32) 1988 RA 2019
12	Fluoride (as F),mg/l, Max	0.20	0.40	0.50	1	1.5	APHA 23rd Edition 4500F
13	Iron (as Fe),mg/l, Max	<0.005	<0.005	<0.005	1.0	1.0	IS:3025 (Part-2) 2019
14	Magnesium (as Mg)mg/l, Max	14.58	11.40	52.06	30	100	IS:3025 (P-46)1994 RA 2019
15	Manganese (as Mn),mg/l, Max	<0.001	<0.001	<0.001	0.1	0.3	IS:3025 (P-2) 2019
16	Nitrates (as NO_3),mg/l, Max	1.53	3.46	4.62	45	45	IS:3025 (P-34) 2024
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	6.50	18.20	84.90	200	400	IS:3025 (P-24) Sec 1 2022
19	Alkalinity (as $CaCO_3$) mg/l, Max	75.0	155.0	480.0	200	600	IS:3025 (P-23):1986 RA 2019
20	Total Hardness (as $CaCO_3$),mg/l,Max	120.0	124.0	457.0	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	12	18	32	--	--	IS:3025 (Part-45) 1993 RA2019
23	Potassium, (as K), mg/l, Max	2	<1	6	--	--	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	<0.002	<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-2) 2019
30	Escherichia coli/100ml	Not Detected	Not Detected	Not Detected	Shall not be detectable in		IS:15185:2016 RA 2021
31	Total Coliform /100ml)	Not Detected	Not Detected	Not Detected	any 100ml Sample		IS:15185:2016 RA 2021

"END OF REPORT"

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ARSHIYA KOUSAR
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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
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	: 24.06.2024

Ref : IS:10500-2012 Norms Amendment - 4 (Drinking Water Standards)

	Date of sample collection	12.06.2024	10.06.2024	10.06.2024			
	Lab Code	N/24/06/3-0157	N/24/06/3-0106	N/24/06/3-0105	Desirable Limts	Permissible Limts	Method of Testing
Sl. No.	Sample Code / Parameters	GW4	GW5	GW6			
		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	7.15	7.43	7.50	6.5 to 8.5	6.5 - 8.5	IS:3025 (P-11) 2022
4	Turbidity,NTU, Max	0.8	<0.1	<0.1	1	5	IS:3025 (P-10)1984 RA 2017
5	Electrical Conductvity (µmhos/cm)	1090.0	1178.0	1388.0	--	--	IS 3025 (P-14)
6	Total Dissolved Solids,mg/l, Max	682.0	980.0	1100.0	500	2000	IS:3025 (P-16)1984 RA2017
7	Aluminium (as Al), Max	<0.005	0.018	0.043	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	116.92	129.05	138.94	75	200	IS:3025 (P-40)1991 RA 2019
10	Copper (as Cu),mg/l, Max	<0.005	0.014	0.036	0.05	1.5	IS:3025 (P-2)2019
11	Chloride as Cl (mg/l),mg/l, Max	128.25	266.13	402.61	250	1000	IS:3025 (P-32) 1988 RA 2019
12	Fluoride (as F),mg/l, Max	0.20	0.30	0.60	1	1.5	APHA 23rd Edition 4500F
13	Iron (as Fe),mg/l, Max	<0.005	0.081	0.094	1.0	1.0	IS:3025 (Part-2) 2019
14	Magnesium (as Mg)mg/l, Max	56.02	46.66	39.66	30	100	IS:3025 (P-46)1994 RA 2019
15	Manganese (as Mn),mg/l, Max	<0.001	0.013	0.084	0.1	0.3	IS:3025 (P-2) 2019
16	Nitrates (as NO_3),mg/l, Max	14.90	3.90	6.20	45	45	IS:3025 (P-34) 2024
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	102.00	48.00	71.80	200	400	IS:3025 (P-24) Sec 1 2022
19	Alkalinity (as $CaCO_3$) mg/l, Max	375.0	362.0	397.8	200	600	IS:3025 (P-23):1986 RA 2019
20	Total Hardness (as $CaCO_3$),mg/l,Max	522.0	514.0	510.0	200	600	IS:3025 (P-21):2009 RA 2019
21	Zinc (as Zn),mg/l, Max	<0.005	0.071	0.15	5	15	IS:3025 (P-2) 2019
22	Sodium, (as Na), mg/l, Max	48	150	210	--	--	IS:3025 (Part-45) 1993 RA2019
23	Potassium, (as K), mg/l, Max	6	14	18	--	--	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	<0.002	<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-2) 2019
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

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Annexure-26


Samsung Quad Camera


Samsung Quad Camera


Samsung Quad Camera

Digital Water level recorder installed at Ramghad

Digital water level recorder installed at Kammatharu Iron Ore Mine

Annexure-27

Cleaned Silt Settling tank and Rainwater harvesting pit at CBG Section, Deogiri

Silt Settling tank at SK Section, Deogiri

View of Silt Settling tank and Rainwater Harvesting pit at SK Section, Deogiri

Cleaned Silt Settling tank and Rainwater harvesting tank at CBG Section, Deogiri

Cleaned Silt settling tank and RWHP at KVHIO, SB Halli

Cleaned Silt settling tank and RWHP at D49 in KVHIO, SB Halli

Rain water accumulation in Silt settling tank and RWHP at CBG Section, Deogiri

Water accumulation in Silt Settling tank and RWHP

Water accumulation at Silt settling Tank at Kammatharu Iron Ore Mine

Stone Masonry Check dam at ML No 2678

Loose boulder check dam outside the mine lease area

Silt Settling tank at Ramghad Section

Silt Settling tank at Subbarayanahalli

Loose boulder check dam at Deogiri

Loose boulder check dam at Deogiri section

Loose boulder check dam at Subbarayanahalli section

Loose boulder check dam at Subbarayanahalli section

Stone Masonry check dam at Deogiri Section

Stone Masonry check dam at Deogiri Section

Stone Masonry check dam at Subbarayanahalli Section

Stone Masonry check dam at Subbarayanahalli Section

Stone Masonry check dam at Subbarayanahalli Section

Stone Masonry check dam at Subbarayanahalli Section

Annexure-28

View of the retaining wall built at Kammatharu Iron Ore Mine

View of the retaining wall built at Kammatharu Iron Ore Mine

Accumulated rain water at water harvesting pit at Kammatharu Iron Ore Mine

Toe wall at Kanivehalli Iron Ore Section of Subbarayanahalli

Toe wall built at CBG Section in Deogiri

Garland drains in the mine

Toe wall built at CBG Section in Deogiri

Garland drain along toe of waste dump

Stone pitched garland drain along toe of waste dump

Garland drain at Mines

Rain water flowing through Garland drain at Mines

HYDROGEOLOGICAL STUDIES OF THE SANDUR MANGANESE AND IRON ORES LIMITED, MINING LEASE NO 2678 & 2679, SANDUR TALUK, BELLARY DISTRICT, KARNATAKA

Total Extent: 1999.30 Hectares

(1751.92 Hectares of Forest Land & 247.38 Hectares of Revenue Land)

PREPARED BY

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June-2023

HYDROGEOLOGICAL STUDIES OF THE SANDUR MANGANESE AND IRON ORES LIMITED, MINING LEASE NO 2678 & 2679,

SANDUR TALUK, BELLARY DISTRICT, KARNATAKA

Total Extent: 1999.30 Hectares

(1751.92 Hectares of Forest Land & 247.38 Hectares of Revenue Land)

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1. *Recommendations stipulated in the report should be strictly followed.*
2. *Recommendations should be implemented under the supervision of a competent Person.*
3. *This Report is meant for the internal use of your organization only. It should not be circulated/communicated to outside parties except concerned Government departments.*

PREPARED BY

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June-2023

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PAN No. AERPK 1910J

June 15, 2023

DECLARATION

TO WHOMSOEVER IT MAY CONCERN

I, M. C. Reddy, Former Regional Director, Central Ground Water Board, NABET Accredited Consultant 'A' Category for HG & GEO and Accredited Consultant of Central Ground Water Authority for Hydrogeological Conditions in Mining Projects, declare that I have carried out Hydrogeological Surveys and Prepared a report on "**HYDROGEOLOGICAL STUDIES OF THE SANDUR MANGANESE AND IRON ORES LIMITED, MINING LEASE NO 2678 & 2679, SANDUR TALUK, BALLARI DISTRICT, KARNATAKA**", and submitted to SMIORE on June ,2023 and the data presented in this report are factual and true to best of my knowledge.

(M. C. Reddy)

M.C Reddy
Certificate No: CGWA/RGI/028
(Accreditation Board of CGWA)

6.3. Water Budget

The ground water requirements for SMIORE present set up and the proposed Beneficiation plant will be 6000 m^3 / day, out of which 1225 m^3 / day is met from the existing 13 bore wells and the balance 4273 m^3 / day will be met from the proposed 50 bore wells and surface water (rainwater harvesting structures).

Projected Water Requirements and utilization plan

I. Water Requirement:

For mining use, dust suppression, green belt, : 6000 m3 / day
Beneficiation and Domestic needs etc in ML No. 2678 .
For mining use, dust suppression, green belt, : 80 m^3 / day
and Domestic needs etc in ML.No 2679.

Grand Total For mining use, dust suppression, green belt, : **6080 m^3 / day**
Beneficiation and Domestic needs etc.

II. Source Water

32) **Ground Water**

Existing 13 bore wells	@ 94 m^3 / day / bore well	: 1225 m^3 / day
Treated water (STP/ETP)	@ 140 m^3 / day	: 140 m^3 / day
c) other source -		: Nil
		Total : 1365 m^3 / day

Total Leased Area : 19993000 Sq M

B) Roof Top Rainwater Harvesting

Roof area : 285924 sq m

Avg. rainfall of the study area (1980-2022) : 680 mm

Percentage of RTRW recovery : 85

RTRWH : 165264 m^3 / annum

: **453m^3 / day**

C) Paved area and Roads

Paved area, roads and ramp area : 343400 sq m

Avg. rainfall of the study area (1980-2022) : 680 mm

Percentage of RTRW recovery : 30

RTRWH : 70054 m^3 / annum

: **191 m^3 / day**

D) Rainfall Run-off Management

Open and Landscape area : 19672736 sq m

Avg. rainfall of the study area (1980-2022) : 680 mm

Percentage of RTRW recovery : 30

Rainwater harvesting : 4013238 m^3 / annum

: **10995 m^3 / day**

E) Recharge to Ground water through RWHP : 2599 m^3/day

(53 Numbers)

E) Total available water at Present

(A+B) : 1677 m^3 / day

III) Use of available Water

i) Industrial Use- Dust Suppression : 820 m^3 / day

ii) Industrial Use- Beneficiation : 4200 m^3 / day

iii) Industrial Use-Workshop : 130 m3/day

iv). Domestic needs : 670 m^3 / day

v). Landscape (Green Belt) : 260 m^3 / day

IV) Available treated water

i. STP & ETP : 140 m^3 / day

V) Recharge to Ground Water body

i) Return flow from applied irrigation in green area

(50 % of water applied goes as recharge to GW body) : 130 m^3 / day

ii) Return flow to ground water body (50% of water : 410 m^3 / day

Applied for dust suppression goes as recharge to GW body)

iii) Recharge to G. Water from Surface Runoff /

(Recharge from Paved area+ open area- RWHP) : 8627 m^3 / day

iv) Recharge to Ground Water through RWHP- 53 no's : 2599 m^3/day

Total Recharge to G. Water (i+ii+iii+iv) : 11226 m^3 / day

VI) Meeting the requirements of Water for the Project

i) Existing abstraction from 13 borewells : 1225 m^3/day

ii) Roof Top Harvesting : 452 m^3/day

iii) Recycled Water from STP/ETP : 140 m^3/day

iv) Proposed Water abstraction from 50 bore wells @ safe yield of 8.54m^3/hr : 4273m^3/day

The total with drawl of ground water will be 5498 m^3/day (existing and Proposed) works out to be 48.98 percent of water contribution for Recharge to the ground water body by the project. Hence there will not be any impact on ground water body in the surrounding areas. The proponent plans to implement conservation of rainwater for recharge to the ground water body through conventional structures like Recharge pits, Check Dams, Roof top Rainwater Harvesting. Further monitoring of ground water levels and quality will be a continuous process 4 times in a year in the buffer area and through Piezometers in core area to study the impact on ground water levels and quality and take remedial measures, if needed.

Thus the total number of bore wells for the project works out to be one bore well / 31.73 hectares area. Considering the SAFE category of the study area, the requirement ground water is absolutely very small quantity. It is not out of context to mention, that various mining projects in Sandur Taluk with 5 to 10 hectare area are getting NoC for 5 to 10 bore wells. While SMIORE request is one bore well for 31.73 hectares is well justified.

It has been recorded in the Minutes of Meeting dated 26-02-2020 of District Ground Water Committee, Ballari District that additional quantity may be considered after submitting the additional requirement from the pollution control board. As MOEF &CC in its environmental clearance has permitted for use of ground water during enhanced production and the same shall be considered.

Accreditation Board of CGWA

Certificate of Accreditation

Mr. M. C. Reddy

Has been accredited as a Ground Water Professionals to prepare reports in the Functional Areas of

- *Impact Assessment of Existing / Proposed GW Extraction*
- *GW Modelling*
- *Hydrogeological conditions in mining projects.*

Valid from : 15.02.2021

Valid thru : 14.02.2026

Certificate No. : CGWA/RGI/028

Dated : 07.07.2021

क्षेत्रीय निदेशक
Regional Director
आरजीएनजीडब्ल्यूटीआरआई
RGNGWT&RI

सदस्य
Member
आरजीएनजीडब्ल्यूटीआरआई
RGNGWT&RI

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

SMIORE/MN/241019/1008

28 October 2024

The Additional Director
Ministry of Environment, Forests & Climate Change
Integrated Regional Office
Kendriya Sadan, Koramangala
Bengaluru-34

Dear Sir

Sub: Submission of copy of the Water Audit report from accredited CGWB Auditor in respect of Mining Lease No 2678 of The Sandur Manganese & Iron Ores Limited.

Ref: Environmental Clearance granted by Ministry of Environment, Forests and Climate Change (MOEFCC) vide EC23A001KA158909 dated 25 April 2023.

With reference to the above subject at its Mining Lease No 2678 The Sandur Manganese & Iron Ores Limited was granted Environmental Clearance by MOEFCC vide EC23A001KA158909 dated 25 April 2023 for Increase of Iron Ore production from 1.60 to 4.50 MTPA retaining the Manganese Ore production at 0.55 MTPA along with proposed 7.0 MTPA Beneficiation Plant, 1.2 km Down Hill Conveyor System, & 0.15 MTPA Crushing & Screening Plant of Iron Ore and Manganese Ore Mine.

As per the Standard condition put forth in the EC at point no 17 of Water Quality Monitoring and Preservation we are herewith submitting the copy of Water Audit report from the Central Ground Water Board accredited auditor for your office records.

We request your good self to kindly acknowledge the receipt of the same and oblige.

Thank you
for The Sandur Manganese & Iron ores Limited

Krishna Reddy
Vice President Mines

The Sandur Manganese & Iron Ores Ltd.

30/10/2024

भारत सरकार GOVERNMNT OF INDIA
पर्यावरण, वन एवं जलवायु परिवर्तन मंत्रालय
Ministry of Environment & Forests
क्षेत्रीय कार्यालय (दक्षिणी क्षेत्र)
Regional Office (Southern Zone)
बंगलूरु Bangalore

BLASTING VIBRATION STUDIES

PROJECT: Subbarayanahalli Manganese and Iron Ore Mine (ML NO. 2678)

Section: Kanigamarada Kolla
Subbarayanahalli Village,
Sandur Taluk, Bellary District, Karnataka State

Lessee

The Sandur Manganese & Iron Ores Ltd.,

Sandur Taluk,
Bellary District,
Karnataka State.

CONSULTANT

MINERAL ENGINEERING SERVICES
Accredited By NABET (QCI)
Mining & Environmental Engineers
25/XXV, Club Road, Ballari- 583 103.
Tel/Fax: 08392-267421
E-mail:mes_msraju@yahoo.co.uk

BLASTING VIBRATION STUDIES

PROJECT: Subbarayanahalli Manganese and Iron Ore Mine (ML NO. 2678)

Section: Neerkolla
Subbarayanahalli Village,
Sandur Taluk, Bellary District, Karnataka State

Lessee

The Sandur Manganese & Iron Ores Ltd.,

Sandur Taluk,
Bellary District,
Karnataka State.

August-2024

CONSULTANT

MINERAL ENGINEERING SERVICES
Accredited By NABET (QCI)
Mining & Environmental Engineers
25/XXV, Club Road, Ballari- 583 103.
Tel/Fax: 08392-267421
E-mail:mes_msraju@yahoo.co.uk

A study of Ground Vibration and Air blast due to blasting at Subbarayanahalli Manganese and Iron Ore Mine (ML No. 2678) Section-Neerkolla in Deogiri, Subbarayanahalli, Ramgad & Kammuthuru Villages, Sandur Taluk, Ballari District, Karnataka State

Introduction :

Blasting is conducted using explosives in opencast mines for breaking hard rock formations. The Out of the total energy of explosives only 20 to 30% is utilized for fragmentation. The rest of the energy is wasted in the form of ground vibrations, fly rock, air overpressure and noise.

The blasting can cause ground vibrations and noise and have a negative impact on the persons and other living beings in addition to the likely damage caused to buildings and sensitive structures in the vicinity. Blasting results in both ground and airborne vibration. Air borne vibrations result in audible noise and vibration known as air blast.

Statutory Provisions:

The Directorate General of Mines Safety issued a circular vide (DGMS) (Tech)/(S&T) Circular No. 7 of 1997 dated 29.08.1997 for compliance by all the mine owners using explosives for blasting.

The circular envisages that all the mine operators design their blasting operations to see that the peak particle velocity (ppv) at any given distance from the site of blasting to any building or sensitive structure at various frequency limits is within the permissible limits as given in **Table No. 1.**

Table No.1 : Permissible Peak Particle Velocity (ppv) at the foundation level of structures in Mining areas in mm/s.

Type of structure	Dominant excitation Frequency, Hz		
	<8 Hz	8-25 Hz	>25 Hz
(A) Building/structures not belong to the owner			
(i) Domestic house/structures (kuchha, brick & cement)	5	10	15
(ii) Industrial Building (RCC & Framed structures)	10	20	25
(iii) Objects of historical importance & sensitive structures	2	5	10
(B) Building belonging to owner with limited span of life			
(i) Domestic houses/structures (kuchha, brick & cement)	10	15	25
(ii) Industrial Building (RCC & Framed structures)	15	25	50

It is obligatory that the mine operator abide by the above permissible limits by suitably designing the blast.

The factors affecting particle velocity of ground vibration are type and amount of explosive used/delay, distance from the charge to the point of observation; geological, structural and physical properties of the rock that transmits the vibrations, height of structures and blast geometry. Use of safe charge/delay, proper spacing and burden, inclined holes, deck charge, air deck, sequential blasting, cleaning off loose pieces of rocks from the blast site and proper stemming shall reduce ground vibrations.

In the present case there is no sensitive and other structures close-by. Therefore it was decided to locate the seismograph at 245 m distance. **Table No.2** shows the inhabitations and other structures around the mine which are more than 700m away.

Table No. 2: Location of villages from place of blasting

Subbarayanahalli Manganese and Iron Ore Mine (ML No. 2678) Section-Neerkolla			
Location	Direction	Distance (m)	RL (m)
Subbarayanahalli Village	NNE	710	1015
Kumar Swamy Temple	NE	1500	907
Deogiri Village	E	7510	996
Ankammanahalli Village	W	4750	663
Nandihalli Village	NNE	4300	635
Narasingpur Village	NE	7360	630

A **Google map** showing the blasting site locations are enclosed vides **Fig.1** respectively.

Blasting Studies

Blasting studies were conducted at Subbarayanahalli Manganese and Iron Ore Mine (ML No. 2678) Section-Neerkolla on 01.08.2024 using a Nomis Seismograph for recording the frequencies and Peak Particle Velocity and noise levels. The data sheet with details of blast is given below vide **Table No. 3**.

Table No. 3 : Blast No.1 Vibration study report of Subbarayanahalli Manganese and Iron Ore Mine (ML No. 2678) Section-Neerkolla

Sl. No.	Description	
1	Blast No.	1
2	Location	N $15^0$00'08.0" E $76^0$33'27.6"
3	No. of holes	14
4	Depth of holes (m)	8.0
5	Burden(m) x spacing (m)	3 x 3.5
6	Diameter of hole (mm)	100 mm
7	Explosives used	Ammonium Nitrate & Solar Prime (83 mm cartridges) nonel detonators
8	Total Explosives used (kg)	311.6
9	Maximum charge/delay (kg)	22.25
10	Location of Nomis Seismograph	N $15^0$00'8.8" E $76^0$33'35.8"

PPV (mm/sec)	3.24
Frequency (Hz)	4.4
Air Pressure Level (dBL)	109.5

The waveform graphs for the blasts enclosed Annexure-1

Results :

The results show that at 245 m distance itself both ground vibrations (ppv) are well within the permissible limits for the blast design parameters chosen.

Table No. 4 : Results of study for conducted at Blast Subbarayanahalli Manganese and Iron Ore Mine Section of Neerkolla Mine (ML No. 2678)

Particulars	Blast - 1	Permissible limits for Domestic Houses/ Structure
PPV (mm/s)	3.24	5
Frequency (Hz)	4.4	<8

Therefore, it may be concluded from the above study that the blast parameters used for the above blast are safe to continue in future also which shall not affect any buildings and sensitive structures which are located at more than 700m distance.

For MINERAL ENGINEERING SERVICES

MINERAL ENGG SERVICES BELLARY.

(M.S. RAJU)
Consultant

Date : 26.08.2024
Place : Ballari

Version 4.2.4
Executable Date: 18Oct2017

Nomis Seismographs, Inc.

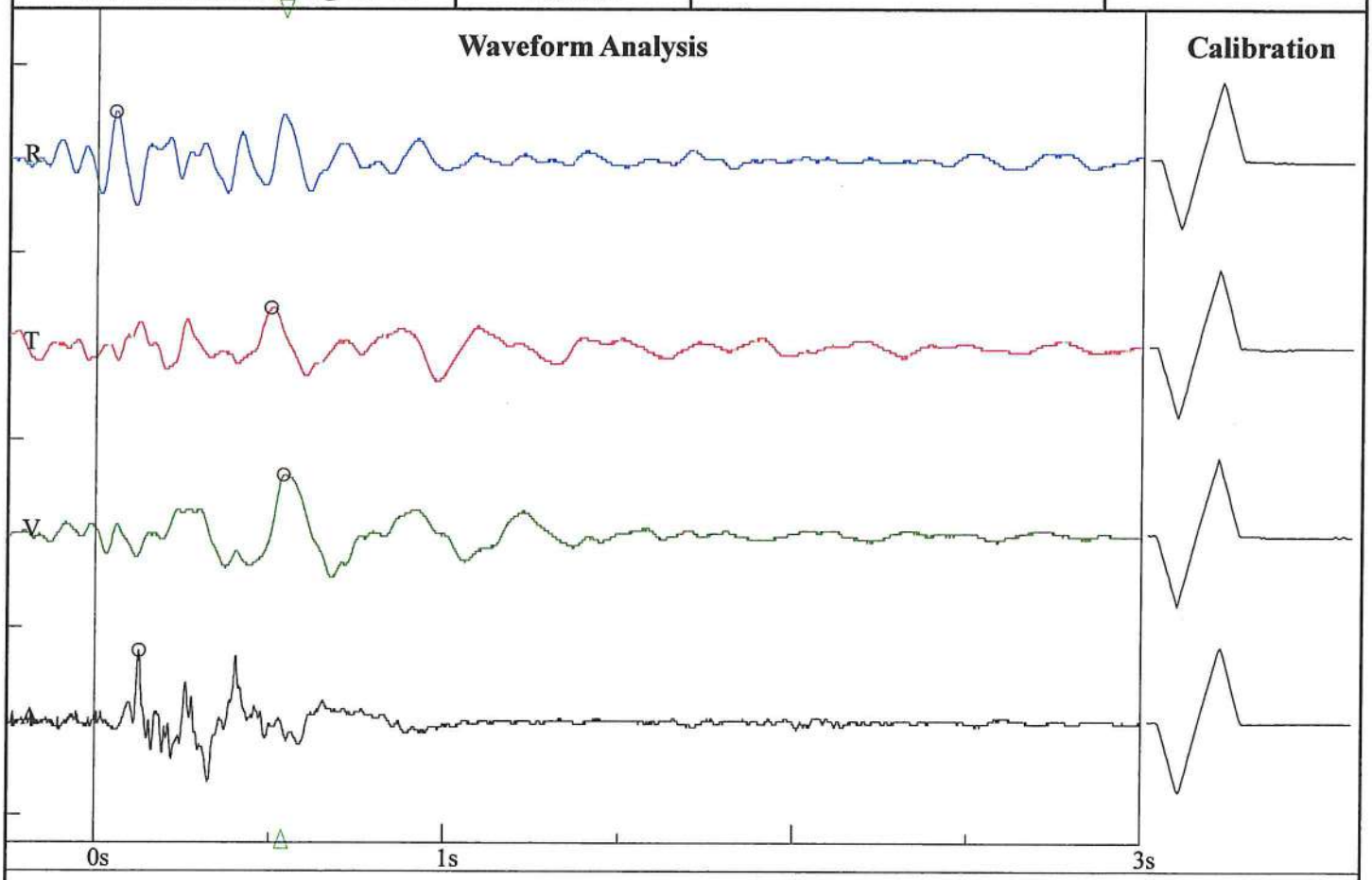
Mineral Engineering Services - Report

Telephone: 25/XXV Club Road Ballari

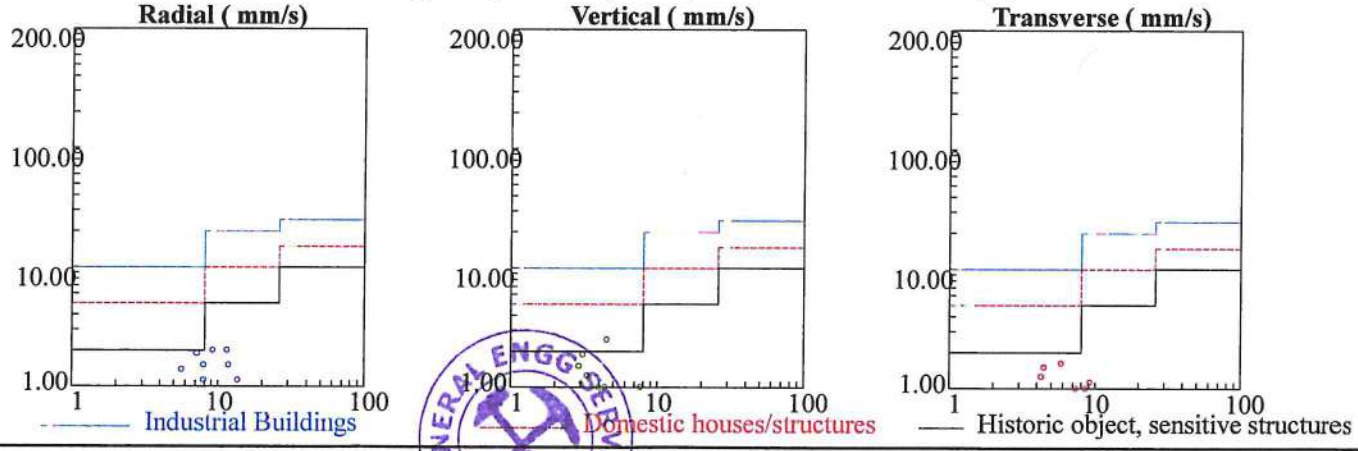
Company: The Sandur Manganese & Iron Or es Ltd.,
Location: Subbarayanahalli Section of Neerkolla Section
Operator: Yerriswamy G
Notes: 14 Nos of holes of 100mm dia, 8 m depth, 3.5m Spacing and 3m Burden

01/08/2024 at 13:26:06 Event # 19
Graph: 20617
Last Calibration: 10/07/2024
Record Duration: 3 sec
Sample Rate: 1024/sec

Amplitudes / Frequencies	Trigger >>> Peak	Scales / Triggers	Charge / Distance
○ Radial: 2.032 mm/s @ 11.3 Hz	49.8 ms	Air Scale: .00799 kPa/div.	Wgt. Per Delay: 3 kg
○ Transverse: 1.651 mm/s @ 5.8 Hz	498.0 ms	Seismic Scale: 4.06 mm/s/div.	Distance: 245 m
○ Vertical: 2.540 mm/s @ 4.4 Hz	536.1 ms	Air Trigger: N	Scaled Distance: 137.5
○ Air: 109.5 dBL @ 18.2Hz / .006kPa	126.0 ms	Seismic Trigger: .889 mm/s	
▽ Vector Sum: 3.24 mm/s @ 4.4 Hz	536.1 ms		

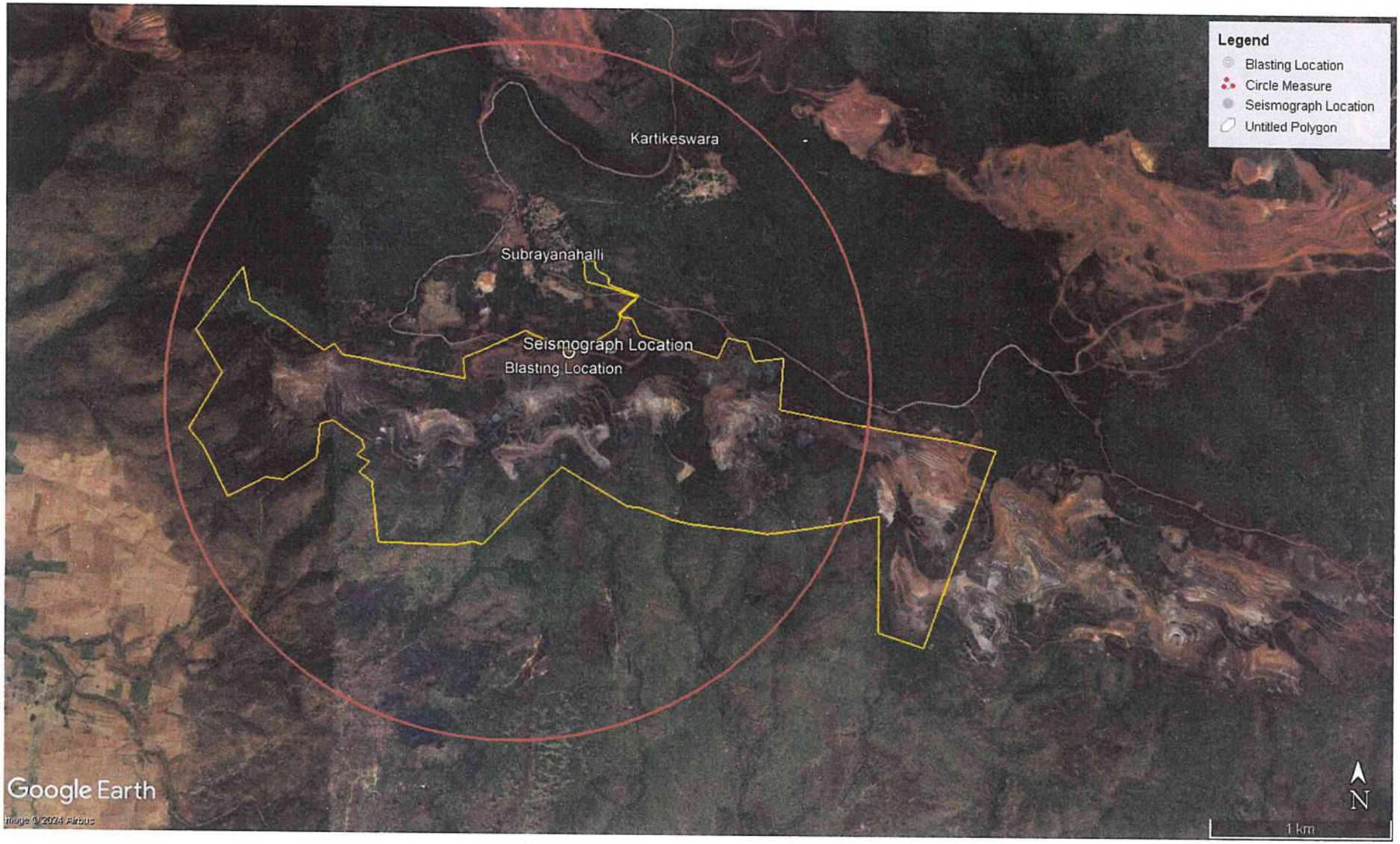


Frequency vs. Amplitude Plot - DGMS India (A)



MINERAL ENGG. SERVICES BELLARY.

Google Map Showing Location of Blasting Site at Subbarayanahalli Manganese and Iron Ore Mine (ML No. 2678) Section-Neerkolla



MINERAL ENGG SERVICES BELLARY

Fig-1

BLASTING VIBRATION STUDIES

PROJECT: DEOGIRI MANGANESE & IRON ORE MINE (ML NO. 2678)

Section : Yerrandari (YRD)

Deogiri Village,
Sandur Tehsil, Bellary District, Karnataka State

Lessee
The Sandur Manganese & Iron Ore Ltd.,

CONSULTANT

MINERAL ENGINEERING SERVICES
Accredited By NABET (QCI)
Mining & Environmental Engineers
25/XXV, Club Road, BALLARI - 583 103.

Tel/Fax:08392-267421
E-mail:mes_msraju@yahoo.co.uk

A study of Ground Vibration and Airblast due to blasting at

Deogiri Manganese and Iron Ore (ML.No 2678)

SECTION : YERRANDARI (YRD)

The Sandur Manganese & Iron Ores Ltd., Deogiri, Subbarayanahalli, Ramgad & Kammuthuru Villages, Sandur Tehsil, Bellary District, Karnataka State

Introduction :

Blasting is conducted using explosives in opencast mines for breaking hard rock formations out of the total energy of explosives only 20 to 30% is utilized for fragmentation. The rest of the energy is wasted in the form of ground vibrations, fly rock, air overpressure and noise.

The blasting can cause ground vibrations and noise and have a negative impact on the persons and other living beings in addition to the likely damage caused to buildings and sensitive structures in the vicinity. Blasting results in both ground and airborne vibration. Air borne vibrations result in audible noise and vibration known as air blast.

Statutory Provisions :

The Directorate General of Mines Safety issued a circular vide (DGMS) (Tech)/(S&T) Circular No. 7 of 1997 dated 29.08.1997 for compliance by all the mine owners using explosives for blasting.

The circular envisages that all the mine operators design their blasting operations to see that the peak particle velocity (ppv) at any given distance from the site of blasting to any building or sensitive structure at various frequency limits is within the permissible limits as given in **Table No. 1.**

Table No. 1 : Permissible Peak Particle Velocity (ppv) at the foundation level of structures in Mining areas in mm/s.

Type of structure	Dominant excitation Frequency, Hz		
	<8 Hz	8-25 Hz	>25 Hz
(A) Building/structures not belong to the owner			
(i) Domestic house/structures (kuchha, brick & cement)	5	10	15
(ii) Industrial Building (RCC & Framed structures)	10	20	25
(iii) Objects of historical importance & sensitive structures	2	5	10
(B) Building belonging to owner with limited span of life			
(i) Domestic houses/structures (kuchha, brick & cement)	10	15	25
(ii) Industrial Building (RCC & Framed structures)	15	25	50

It is obligatory that the mine operator abide by the above permissible limits by suitably designing the blast.

The factors affecting particle velocity of ground vibration are type and amount of explosive used/delay, distance from the charge to the point of observation; geological, structural and physical properties of the rock that transmits the vibrations, height of structures and blast geometry. Use of safe charge/delay, proper spacing and burden, inclined holes, deck charge, air deck, sequential blasting, cleaning off loose pieces of rocks from the blast site and proper stemming shall reduce ground vibrations.

In the present case there is no sensitive and other structures close-by. Therefore it was decided to locate the seismograph at 330m distance. The inhabitations and other structures around the mine, which are more than 500m away.

A **Google map** showing the blasting site locations are enclosed vide **Fig. 1** respectively.

Blasting Studies

Blasting studies were conducted at Deogiri Manganses & Iron Ore (ML.No 2678) Section- YRD on 31.08.2024 using a Nomis Seismograph for recording the frequencies and Peak Particle Velocity and noise levels. The data sheet with details of blast is given below vide **Table No. 2**.

Table No. 2 : Blast No.1 Vibration study report of Deogiri Manganese & Iron Ore Mine (ML.No 2678) Section - YRD

Sl. No.	Description	
1	Blast No.	1
2	Location	N 15^{0}00'02.9" E 76^{0}37'25.4"
3	No. of holes	30
4	Depth of holes (m)	8.5
5	Burden(m) x spacing (m)	3 x 2.5
6	Diameter of hole (mm)	110
7	Explosives used	Ammonium Nitrate & Solar Prime (83 mm cartridges) nonel detonators
8	Total Explosives used (kg)	866.9
9	Maximum charge/delay (kg)	28.99
10	Location of Nomis Seismograph	N 15^{0}00'13.7" E 76^{0}37'27.2"

Distance(m)	330 m
PPV (mm/sec)	1.75
Frequency (Hz)	14.6
Air Pressure Level (dBL)	133.3

The waveform graph for the blast is enclosed

Results :

The results show that at 330m distance itself ground vibrations (ppv) are well within the permissible limits for the blast design parameters chosen.

Table No. 3: Results of Vibration study for Blast at Deogiri Manganese & Iron Ore Mine (ML.No 2678) Section-YRD

Particulars	Blast - 1	Permissible limits for Domestic Houses/ Structure
PPV (mm/s)	1.75	10
Frequency (Hz)	14.6	8-25

Therefore, it may be concluded from the above study that the blast parameters used for the above blast are safe to continue in future also which shall not affect any buildings and sensitive structures which are located at more than 500m distance.

For MINERAL ENGINEERING SERVICES

(M.S. RAJU)
Consultant

Date : 31.08.2024
Place : Ballari

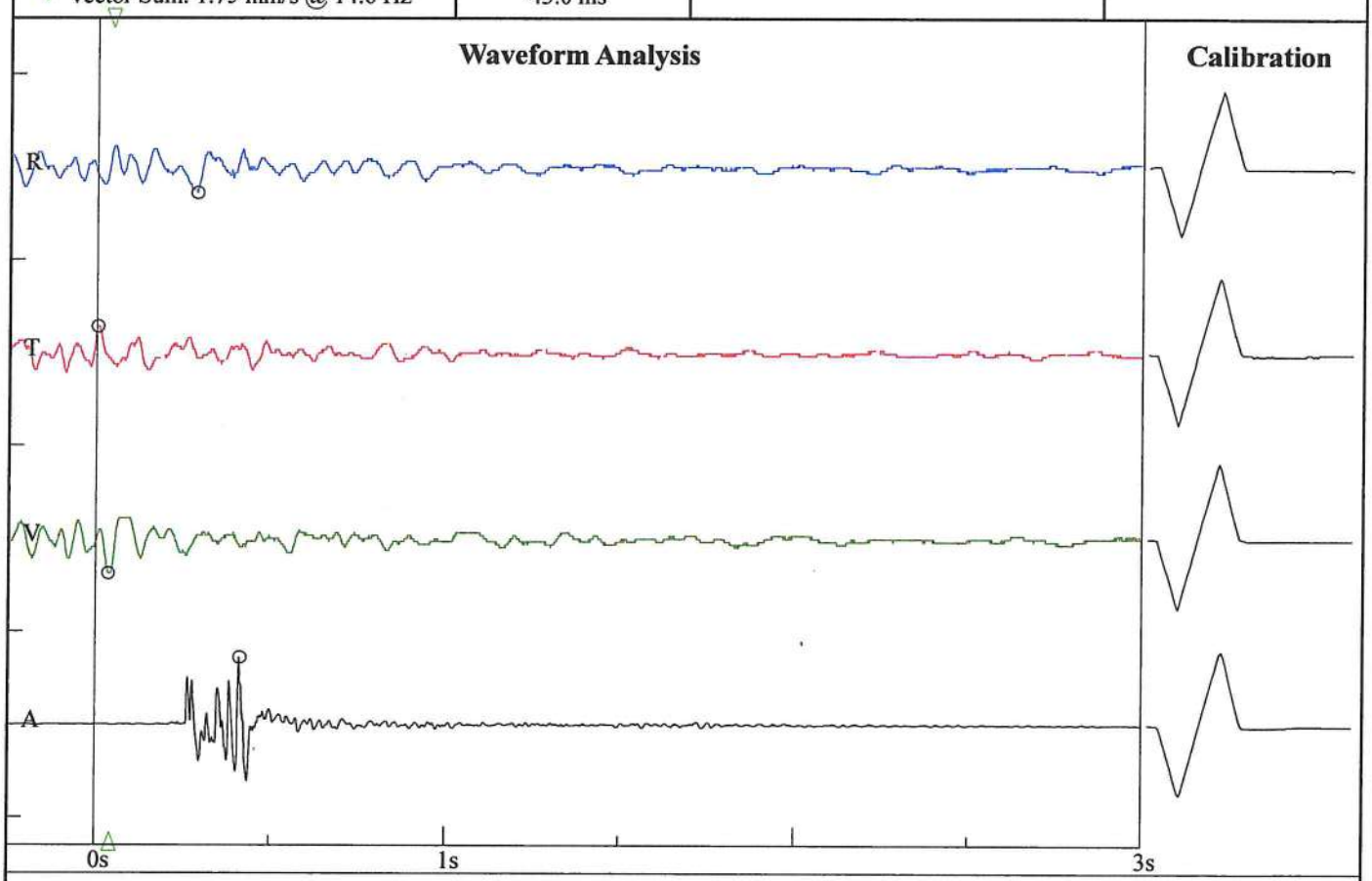
Mineral Engineering Services - Report

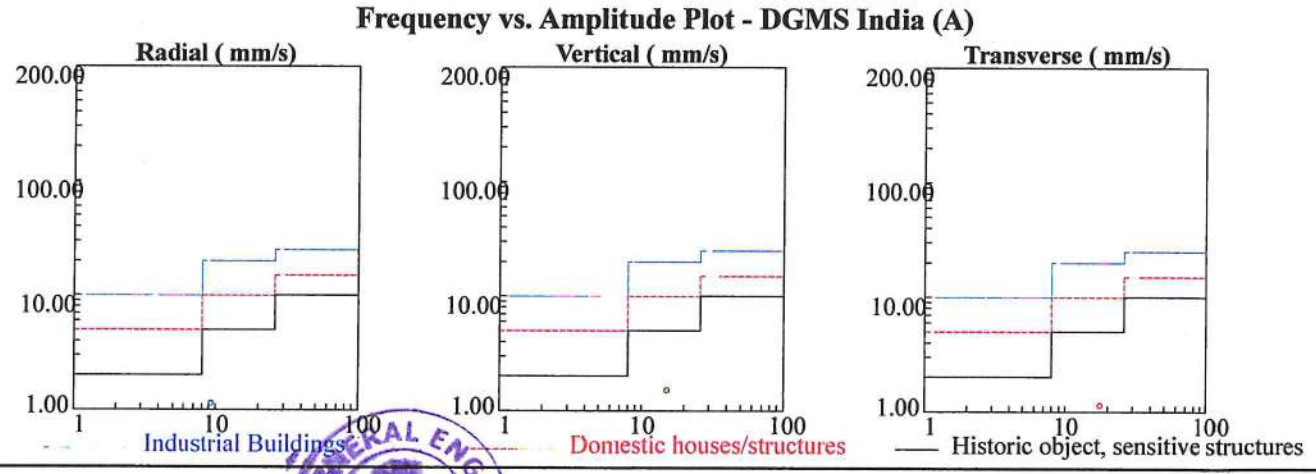
Telephone: 25/XXV Club Road Ballari

Company: The Sandur Manganese & Iron Ores Ltd.,
Location: Yerrandari (YRD) Section
Operator: S Kumar Swamy
Notes: 30 Nos of holes of 110 mm dia, 8.5m depth, 3 m Spacing and 2.5m Burden

31/08/2024 at 13:32:48 Event # 50
Graph: 20617
Last Calibration: 10/07/2024
Record Duration: 3 sec
Sample Rate: 1024/sec

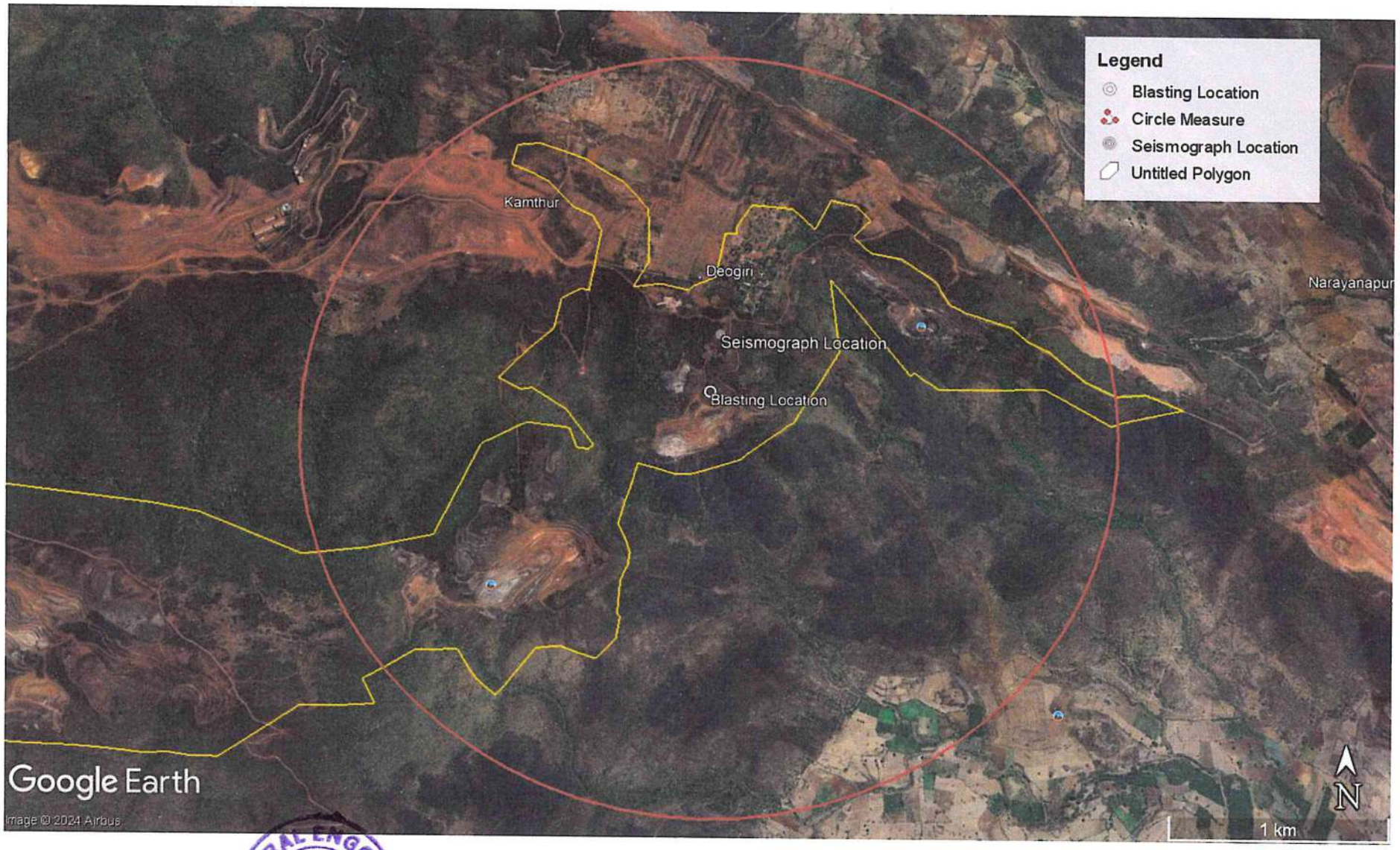
Amplitudes / Frequencies	Trigger >>> Peak	Scales / Triggers	Charge / Distance
○ Radial: 1.143 mm/s @ 9.3 Hz	286.1 ms	Air Scale: .12698 kPa/div.	Wgt. Per Delay: 29 kg
○ Transverse: 1.143 mm/s @ 17.6 Hz	2.0 ms	Seismic Scale: 4.06 mm/s/div.	Distance: 330 m
○ Vertical: 1.524 mm/s @ 15 Hz	35.2 ms	Air Trigger: N	Scaled Distance: 61.3
○ Air: 133.3 dBL @ 32Hz / .0922kPa	414.1 ms	Seismic Trigger: .889 mm/s	
▽ Vector Sum: 1.75 mm/s @ 14.6 Hz	43.0 ms		





MINERAL ENGG SERVICES BELLARY

Google Map Showing Location of Blasting Site at Deogiri Manganese & Iron Ore Mine (ML.No-2678) Section Yerrandari (YRD)



MINERAL ENGG SERVICES BELLARY.

Fig-1

A study of Ground Vibration and Air blast due to blasting at Subbarayanahalli Manganese and Iron Ore Mine (ML No. 2678) Section- Kanigamarada Kolla in Deogiri, Subbarayanahalli, Ramgad & Kammuthuru Villages, Sandur Taluk, Ballari District, Karnataka State

Introduction :

Blasting is conducted using explosives in opencast mines for breaking hard rock formations out of the total energy of explosives only 20 to 30% is utilized for fragmentation. Rest of the energy is wasted in the form of ground vibrations, fly rock, air overpressure and noise.

The blasting can cause ground vibrations and noise and have a negative impact on the persons and other living beings in addition to the likely damage caused to buildings and sensitive structures in the vicinity. Blasting results in both ground and airborne vibration. Air borne vibrations result in audible noise and vibration known as air blast.

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Type of structure	Dominant excitation Frequency, Hz		
	<8 Hz	8-25 Hz	>25 Hz
(A) Building/structures not belong to the owner			
(i) Domestic house/structures (kuchha, brick & cement)	5	10	15
(ii) Industrial Building (RCC & Framed structures)	10	20	25
(iii) Objects of historical importance & sensitive structures	2	5	10
(B) Building belonging to owner with limited span of life			
(i) Domestic houses/structures (kuchha, brick & cement)	10	15	25
(ii) Industrial Building (RCC & Framed structures)	15	25	50

It is obligatory that the mine operator abide by the above permissible limits by suitably designing the blast.

The factors affecting particle velocity of ground vibration are type and amount of explosive used/delay, distance from the charge to the point of observation; geological, structural and physical properties of the rock that transmits the vibrations, height of structures and blast geometry. Use of safe charge/delay, proper spacing and burden, inclined holes, deck charge, air deck, sequential blasting, cleaning off loose pieces of rocks from the blast site and proper stemming shall reduce ground vibrations.

In the present case there is no sensitive and other structures close-by. Therefore it was decided to locate the seismograph at 480m distance.

A **Google map** showing the blasting site locations are enclosed vides **Fig. 1** respectively.

Blasting Studies

Blasting studies were conducted at Subbarayanahalli Manganese and Iron Ore Mine (ML No. 2678) Section- Kanigamarada Kolla on 19.09.2024 using a Nomis Seismograph for recording the frequencies and Peak Particle Velocity and noise levels. The data sheet with details of blast is given below vide **Table No. 3** .

Table No. 3 :Blast No.1 Vibration study report of Subbarayanahalli Manganese and Iron Ore Mine (ML No. 2678) Section- Kanigamarada Kolla Mine

Sl. No.	Description	
1	Blast No.	1
2	Location	N $15^0$00'0.54" E $76^0$34'0.81" Bench No. – 1^{st}
3	No. of holes	36
4	Depth of holes (m)	8.10
5	Burden(m) x spacing (m)	3 x 2
6	Diameter of hole (mm)	110 mm
7	Explosives used	Ammonium Nitrate & Solar Prime (83 mm cartridges) nonel detonators
8	Total Explosives used (kg)	750
9	Maximum charge/delay (kg)	20.83
10	Location of Nomis Seismograph	N $15^0$00'16.0" E $76^0$33'57.8"

PPV (mm/sec)	1.54
Frequency (Hz)	3.8
Air Pressure Level (dBL)	95.9

The waveform graphs for the blasts enclosed Annexure-1

Results :

The results show that at 480m distance itself both ground vibrations (ppv) are well within the permissible limits for the blast design parameters chosen.

Table No. 4 : Results of study for conducted at Blast Subbarayanahalli Manganese and Iron Ore Mine Section of Kanigamarada Kolla Mine (ML No. 2678)

Particulars	Blast - 1	Permissible limits for Domestic Houses/ Structure
PPV (mm/s)	1.54	10
Frequency (Hz)	3.8	8-25

Therefore, it may be concluded from the above study that the blast parameters used for the above blast are safe to continue in future also which shall not affect any buildings and sensitive structures which are located at more than 1.2 km distance.

For MINERAL ENGINEERING SERVICES

MINERAL ENGG SERVICES BELLARY.

(M.S. RAJU)
Consultant

Date : 05.10.2024
Place : Ballari

Annexure-1

Version 4.2.4
Executable Date: 18Oct2017

Nomis Seismographs, Inc.

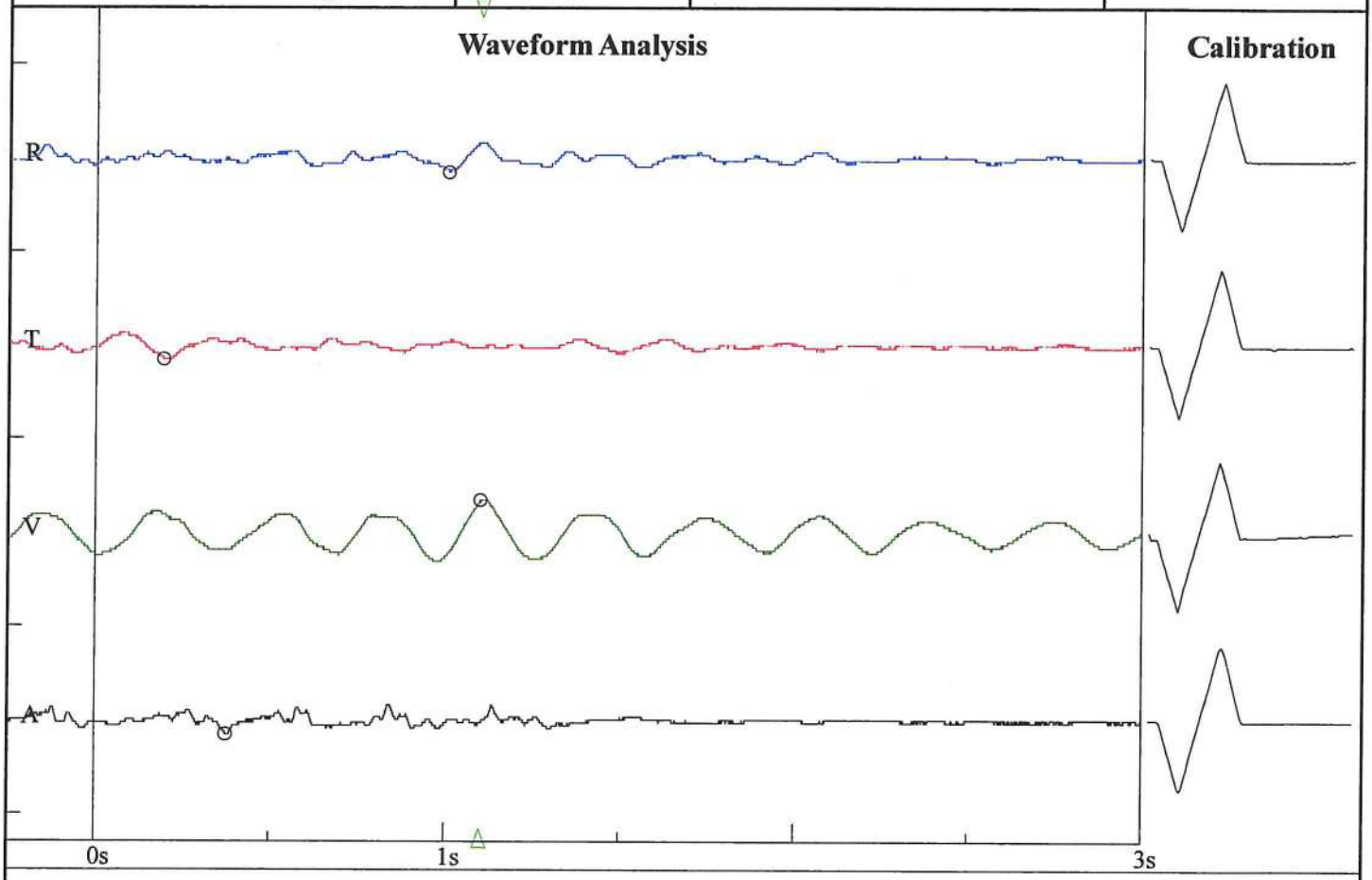
Mineral Engineering Services - Report

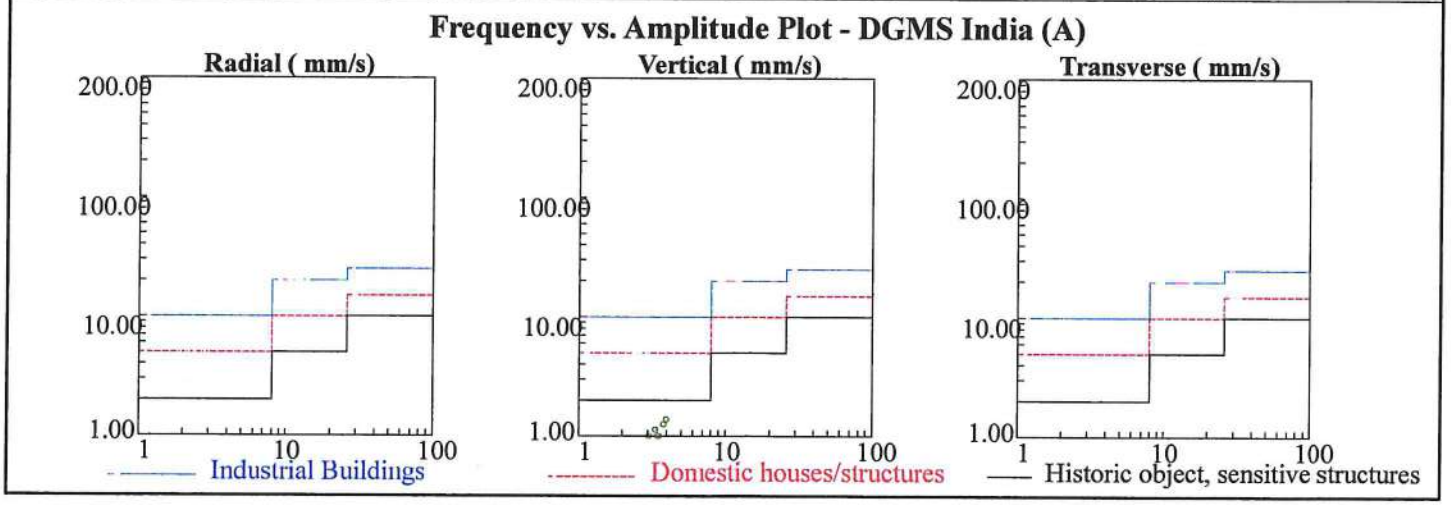
Telephone: 25/XXV Club Road Ballari

Company: The Sandur Manganese & Iron Ores Ltd.,
Location: Subbarayanahalli Section of Kanigamarada Kolla
Operator: S Hulliraju
Notes: 36 Nos of holes of 110mm dia, 8.10 m depth, 3 m Spacing and 2 m Burden

19/09/2024 at 13:21:36 Event # 53
Graph: 20617
Last Calibration: 10/07/2024
Record Duration: 3 sec
Sample Rate: 1024/sec

Amplitudes / Frequencies	Trigger >>> Peak	Scales / Triggers	Charge / Distance
Radial: 0.635 mm/s @ 4.9 Hz	1005.9 ms	Air Scale: .00799 kPa/div.	Wgt. Per Delay: 21 kg
Transverse: 0.635 mm/s @ 4.4 Hz	192.4 ms	Seismic Scale: 4.06 mm/s/div.	Distance: 480 m
Vertical: 1.397 mm/s @ 3.9 Hz	1100.6 ms	Air Trigger: N	Scaled Distance: 105.1
Air: 95.9 dBL @ 6.1Hz / .0012kPa	374.0 ms	Seismic Trigger: .889 mm/s	
Vector Sum: 1.54 mm/s @ 3.8 Hz	1100.6 ms		





Google Map Showing Location of Blasting Site at Subbarayanahalli Manganese and Iron Ore Mine (ML No. 2678) Section-Kanigamarada Kolla

MINERAL ENGG SERVICES BELLARY.

Fig-1

Annexure-31

Reclaimed and Rehabilitated old mined out pit in Subbarayanahalli Section

View of stabilised waste dump at CBG Section in Deogiri

View of stabilised waste dump at CBG Section in Deogiri

View of stabilised dump with toe wall at the bottom of dump

View of Stabilised waste dump at Deogiri Section

View of stabilised waste dump at Subbrayanahalli Section

View of stabilised waste dump at Subbrayanahalli Section

In-active bottom terrace of dump completely stabilised

Fully stabilised waste dump at Subbarayanahalli

Backfilling in exhausted portion of Mine pit

Fully reclaimed and rehabilitated waste dump at Kammatharu Iron Ore Mine

Fully reclaimed and rehabilitated waste dump at Kammatharu Iron Ore Mine

View of Stabilised waste dump with engineering measures at Kammatharu Iron Ore Mine

View of Stabilised waste dump with engineering measures at Kammatharu Iron Ore Mine

Concurrent backfilling at Subbarayanahalli

Annexure-32

De-Silting of Silt Settling tank

De-Silting of Silt Settling tank

De-Silting of Silt Settling tank

Manual De-silting of Silt Settling tank

Manual De-silting of Silt Settling tank

De-silting at Mines

Annexure-33

Stone Masonry Check dam at RMK section in Deogiri

Stone Masonry Check dam at RMK section in Deogiri

Stone Masonry Check dam at Subbrayanahalli Section

Series of Stone Masonry Check dam at KBHBG Section in Subbarayanahalli

Stone Masonry Check dam at Kammatharu Iron Ore Mine

Stone Masonry Check dam at Kammatharu Iron Ore Mine

Annexure-32

Head End of DCS System at Kammatharu Iron Ore Mine

Panoramic View of Downhill Pipe Conveyor

Inside the Head end of DCS

Tail end of DCS

Electrical panel room at DCS

The Sandur Manganese & Iron Ores Limited

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

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Ward No.1, Palace Road
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Karnataka, India
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SMIORE/MN.241019/973

21 October 2024

The Additional Director
Ministry of Environment, Forests & Climate Change
Integrated Regional Office
Kendriya Sadan, Koramangala
Bengaluru-34

Dear Sir

Sub: Submission of Action plan under Corporate Environment Responsibility as per the Standard Condition put forth in Environmental Clearance granted by MOEFCC vide EC Identification number EC23A001KA158909 dated 25 April 2023 in respect of The Sandur Manganese & Iron Ores Limited.

Ref: Environmental Clearance granted by Ministry of Environment, Forests and Climate Change (MOEFCC) vide EC23A001KA158909 dated 25 April 2023.

With reference to the above subject The Sandur Manganese & Iron Ores Limited was granted Environmental Clearance by MOEFCC vide EC23A001KA158909 dated 25 April 2023 for Increase of Iron Ore production from 1.60 to 4.50 MTPA retaining the Manganese Ore production at 0.55 MTPA along with proposed 7.0 MTPA Beneficiation Plant, 1.2 km Down Hill Conveyor System, & 0.15 MTPA Crushing & Screening Plant of Iron Ore and Manganese Ore Mine.

As part of the expansion project after securing all the relevant clearances from regulatory authorities the present Production of Iron ore is at 3.81 MTPA as per maximum permissible annual production prescribed by the Central Empowered Committee (CEC) and Manganese Production is at 0.55 MTPA both of which started during the FY 2024-25.

As per the Standard condition put forth in the EC at point no 33 we are herewith submitting the time-bound action plan enclosed as Annexure-1 for the commitments made during the Public Hearing and furnished in the EMP for your information and record. The compliances thereof will be submitted during the six-monthly compliance which will be submitted to your good office.

We request your good self to kindly acknowledge the receipt of the same and oblige.

Thanking you
for The Sandur Manganese & Iron ores Limited

Krishna Reddy
Vice President Mines

The Sandur Manganese & Iron Ores Ltd.

25/10/24

भारत सरकार / GOVERNMENT OF INDIA
Ministry of Environment & Forests
Regional Office (SZ)

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, Vijayanagara District
Tel: +91 8394 244450 / 244335

Action Plan under Corporate Environment Responsibility

Sl. No	Activity		Year 24-25	Year 25-26	Year 26-27	Total
Community Development Works						
1	To provide basic facilities like support to transport, education, infrastructure development and health care facilities	**Physical Nos**	3	3	3	-
		@Village	Kammathuru Devagairi SB Halli	Kammathuru Devagairi SB Halli	Kammathuru Devagairi SB Halli	-
		Budget In Lakh	10	15	15	**40**
2	To develop roads in Tonsagere village and to develop the village cemetery (road laying subjected to FC by Panchayat)	**Physical Nos**	-	1	-	-
		@Village	-	Tonasigere		
		Budget In Lakh		20	-	**20**
3	Construct & Maintenance of community toilets in the village	**Physical Nos**	3	3	3	-
		@Village	Kammathuru S B Halli & Deogiri	Kammathuru S B Halli & Deogiri	Kammathuru S B Halli & Deogiri	
		Budget In Lakh	8.00	8.00	8.00	**24.00**
4	Promoting and Facilitating Support to Education	**Physical Nos**	2	2	-	-
		@Village	Devagiri Kammatharu /Others	Devagiri Kammatharu /Others	Devagiri Kammatharu /Others	
		Budget In Lakh	3.00	3.00	3.00	**9.00**
5	Development and maintenance of Temples & surrounding area in Devagiri village.	**Physical Nos**	1	1	1	-
		@Village	Need based	Need based	Need based	
		Budget In Lakh	2.5	2.5	2.5	**7.5**
6	Providing skill development training to ITI & diploma passed local youth (for 10 members) per year.	**Physical Nos**	2	2	2	-
		@Village	Sandur Taluk	Sandur Taluk	Sandur Taluk	
		Budget In Lakh	2	2	2	**6**
WOMEN WELFARE						
1	Upskilling of women towards self-sustenance by tailoring training	**Physical Nos**	50	50	50	-
		@Village	SB Halli & Deogiri	SB Halli & Deogiri	SB Halli & Deogiri	-
		Budget In Lakh	6.00	6.00	6.00	**18**
Plantation drive						
1	Mass plantation drive at Schools surrounding Lease area	Budget in Lakh	1.00	1.00	1.00	**3.00**
2	Construction & Maintenance of Nakshatra Garden at Deogiri	Budget in Lakh	20.00	2.00	2.00	**24.00**

O/C

The Sandur Manganese & Iron Ores Limited

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Fax: +91 80 4152 0182

Ref No: SMIORE/MINES/ENV/2023-24/2678/

28 April 2023

The President,
Deogiri Panchayat,
Deogiri – 583112.

Dear Sir,

Sub: Submission of Environmental Clearance (EC) accorded by Ministry of Environment, Forest & Climate Change (MoEFCC) to the expansion project of Mining Lease No.2678 of The Sandur Manganese & Iron Ores Limited.

We are pleased to inform you that MoEFCC - Impact Assessment Division has granted EC to the below mentioned expansion proposal of The Sandur Manganese & Iron Ores Limited vide EC Identification No.EC23A001KA158909 dated 25 April 2023 under the provisions of EIA Notification 2006 for increase of iron ore production from 1.60 to 4.50 million tonnes per annum (MTPA), while retaining manganese ore production at 0.55 MTPA along with proposed 7.0 MTPA Ore Beneficiation Plant, 1.2 km Down Hill Conveyor System & 0.15 MTPA Crushing & Screening Plant of iron ore and manganese ore mine (Mining Lease No.2678) of The Sandur Manganese & Iron Ores Limited.

A copy of Environmental Clearance (EC) to be given to the panchayat for information.

Accordingly, we request you to acknowledge receipt of the same.

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

Deepak CA

Deepak Cukkae Anilkumar
Senior Manager

Encl: Environmental Clearance (EC) dated 25 April 2023 with Identification No.EC23A001KA158909.

02/05/2023

Annexure-38

Continuous Ambient Air Quality Monitoring Station installed at Mining Lease No 2678

The Sandur Manganese & Iron Ores Limited

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Fax: +91 80 4152 0182

Ref No: SMIORE/MINES/ENV/2024-25/2678/494

08 July 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 environmental statement Form-V for the year 2023-24 in respect of Mining Lease No. 2678.

Ref: Consent for Operation No. AW-341719 dated 02 February 2024.

We are submitting herewith environmental statement Form-V for the year 2023-24 as per the Rule 14 of the Environment (Protection) Rules, 1986, in respect of Mining Lease No. 2678 of The Sandur Manganese & Iron Ores Limited.

Kindly acknowledge receipt of the same.

Thank you,

for The Sandur Manganese & Iron Ores Limited,

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

Encl: Environmental Statement Form-V

FORM – V

ENVIRONMENTAL STATEMENT

FOR THE FINANCIAL YEAR 2023-24

Rule 14 of The Environment (Protection) Rules, 1986

Mining Lease No. 2678

The Sandur Manganese & Iron Ores Limited

The Sandur Manganese & Iron Ores Ltd.

FORM – V

ENVIRONMENTAL STATEMENT

FOR THE FINANCIAL YEAR ENDING WITH 31ST MARCH

PART – A

1	Name and address of the occupier of the industry in operation or process	Mohammad Abdul Saleem, The Sandur Manganese & Iron Ores Limited. Mining Lease No. 2678, Deogiri Village, Sandur Taluk, Ballari District.
2	Industry Category	Red (Large)
3	Production Category	Manganese and Iron Ore Production
4	Year of Establishment	1954
5	Date of the last environmental statement submitted	Ref No: SMIORE/HO/ENV/MINES/2023-24/2678/55 dated 30 September 2023

PART – B

Water and Raw Materials Consumption:

1. Water consumption (m^3/day)

Name of the Product	Process water consumption per unit of products	
	During previous financial year 2022-23	During current financial year 2023-24
Process	Not applicable	Not applicable
Cooling	Not applicable	Not applicable
Domestic	107 m^3/day	82 m^3/day
Dust suppression & Green belt	422 m^3/day	401m^3/day

2. Raw Material Consumption

Name of raw materials	Name of Products	Consumption of raw materials per unit of output.	
		During previous financial year 2022-23	During current financial year 2023-24
		Nil	Nil

Note: - There is no consumption of raw materials, as the minerals excavated from the Earth's crust.

The Sandur Manganese & Iron Ores Ltd.

PART – C

POLLUTION DISCHARGED TO ENVIRONMENT/ UNIT OF OUTPUT.

(Parameter as specified in the consent issued)

Pollutants	Quantity of Pollutants discharged (mass/day)	Concentration of Pollutants discharged (mass/volume)	Percentage of variation from prescribed standards with reasons.
(a) Water	Domestic effluent generated from the canteen and employee colony is treated in the 100 KLD Sewage Treatment Plant (STP) located at Deogiri. Subsequently, the treated water from this facility is used for gardening and dust suppression, thereby ensuring sustainable water management within the premises.		
(b) Air	The dust generation primarily results from vehicular movement on haulage roads, and transfer points at crushing and screening plants, which is fugitive in nature and therefore cannot be quantified, Fugitive dust is controlled by sprinkling of water using water tankers, sprinklers, and mist cannons. Additionally, a wheel washing system has been installed at entry and exit points for trucks. Greenbelt, avenue, community area, and dump plantations are developed and maintained to mitigate the air pollution in compliance with regulatory standards.		

PART – D

HAZARDOUS WASTES:

As specified under Hazardous & other waste (Management and transboundary Movement) Rules, 2016

Hazardous Wastes	Total Quantity	
	During previous financial year 2022-23	During current financial year 2023-24
1. From Process	Nil	Nil
a. Used Spent Oil **(kl)**	1.543	1.398
b. Wastes Residues Containing Oil**(kg)**	83.25	49
2. From Pollution Control Facilities	Nil	Nil

The Sandur Manganese & Iron Ores Ltd.

PART – E

SOLID WASTES:

Solid Wastes	Total Quantity (tonnes)	
	During the previous financial year 2022-23	During the current financial year 2023-24
a. From Process	Nil	Nil
b. From Pollution Control Facilities	Nil	Nil
c. Quantity recycled or re-utilised within the unit.	Nil	Nil
d. Over burden	78,19,379	81,59,165

PART – F

Please specify the characteristics (in terms of concentration and quantum) hazardous as well as solid wastes and indicate disposal practice adopted for both these categories of wastes.

- Used or spent oil along with cotton waste residues containing oil, is generated during the maintenance of Heavy Earth Moving Machineries (HEMMs) and various other machinery. The used oil is collected in leak-proof barrels and stored in a dedicated waste oil storage facility having impervious flooring. Cotton waste residues containing oil is collected and stored in designated impervious pits in the hazardous waste storage area. Subsequently, the hazardous waste is disposed to recyclers authorized by the State Pollution Control Board.

- Solid waste generated in open cast mines comprises of overburden/rejects that are excavated during mining operations. Composition of the solid waste generated during Manganese and Iron ore production includes a mixture of Manganiferrous clay, Ferruginous clays like Phyllitic and Limonitic, Ferruginous shale, banded Ferruginous formations like Banded Haematite Quartzite (B.H.Q), etc.

- Efficient on-site management of solid waste is achieved through scientific reclamation in accordance with the Indian Bureau of Mining (IBM) approved mining plan and Supplementary Environment Management Plan (SEMP) approved by Central Empowered Committee (CEC) constituted by the Hon'ble Supreme Court of India, in accordance with the recommendation of Indian Council of Forestry Research & Education (ICFRE), Dehradun.

The Sandur Manganese & Iron Ores Ltd.

PART – G

Impact of the pollution control measures taken on conservation of natural resources and consequently on the cost of production.

- SMIORE has installed a Sewage Treatment Plant (STP) with a capacity of 100 KLD (Kilo Litres per Day), utilizing the Moving Bed Bio Reactor (MBBR) technology that has approval from the Karnataka State Pollution Control Board (KSPCB). The STP treats approximately 90 KLD of domestic effluent generated from the staff colony and the canteen. The treated water is used in dust suppression in mining areas and irrigating green belt plantation and gardens. Annually, an average of 27,375 kilolitres of water is treated and reused, effectively reducing the reliance on freshwater sources, and promoting sustainable water management practices.

- Over the years, a cumulative total of approximately 3.60 million saplings have been planted within the mining lease area. A total of 56,420 saplings were planted during the reporting period, as part of initiatives for greenbelt development, dump plantation, and avenue plantation. Notably, this year marked the achievement of planting 100% native tree species, with a majority of these species propagated from seeds collected within our mining area with the objective of to conserve the germplasm of both moist deciduous and dry deciduous species naturally occurring in the Sandur forests. Moreover, in addition to their capacity for carbon sequestration, these plantations serve as vital pollution sinks, playing a crucial role in mitigating air pollution.

- An amount of Rs.7,71,98,772/- (Rupees seven crore, seventy-one lakh, ninety eight thousand, seven hundred and seventy two) has been spent during the financial year 2023-24 towards environment management measures such as water spraying on the haulage roads, working benches, environmental engineering structures, bio-engineering structures. afforestation, and reclamation of dumps and worked out mining pits etc.

- SMIORE has successfully recharged groundwater at a rate of 11206 m^3/day, surpassing the average groundwater abstraction rate of 483 m^3/day during the reporting period. This achievement signifies that our operation have maintained a net water-positive status, with the utilization representing only 5% of the total groundwater recharged. This emphasizing our commitment to sustainable water management practices, ensuring a beneficial impact on the local hydrological environment.

The Sandur Manganese & Iron Ores Ltd.

PART – H

Additional measures/investment proposal for environmental protection including abatement of pollution.

- SMIORE is in the process of installing a 300 tonnes per hour capacity Down Hill Conveyor System, an environment friendly means of mineral transportation. The system effectively minimizes air pollution, decreases fossil-fuel consumption, and significantly reduces the Company's overall carbon footprint.

- In accordance with efforts to enhance production, two mist cannons with a minimum throw of 40 meters have been installed at the crushing and screening plant. Additionally, two water tankers and permanent water sprinkling facilities have been established along the haulage road to mitigate dust emissions. These initiatives are implemented with the objective of reducing air emissions in compliance with regulatory requirements and operational sustainability goals.

- SMIORE is currently in the process of commissioning a Continuous Ambient Air Quality Monitoring Station (CAAQMS) at Deogiri, the nearest habitation, in line with efforts to enhance production. This station will offer real-time data on pollution levels, enabling enhanced management of air quality conditions.

- A sewage treatment facility with a capacity of 200 KLD, equipped with cutting-edge MBBR technology, is currently under installation at the Deogiri staff colony.

PART – I

MISCELLANEOUS:

Any other particulars in respect of environmental protection and abatement of pollution.

- Mining Lease No. 2678 has consistently achieved 5-star rating, the highest accolade, for its commitment to inclusive growth and environment sustainability. This remarkable achievement marks the ninth consecutive recognition since the inception of Sustainable Development. Framework (SDF) and Star Rating system by Indian Bureau of Mines, Ministry of Mines, Government of India.

- Both on-grid and standalone solar installations have been implemented at the mining site to meet our electricity demands, where SMIORE has installed Flat Plate Collector (FPC) solar water heating systems, solar streetlights, home lighting and solar pumps. etc., at the registered office, mining lease area, and residential colonies. In the reporting period, SMIORE has successfully generated 3,64,150 kWh (kilowatt-hours) of renewable energy.

The Sandur Manganese & Iron Ores Ltd.