



Government of India
Ministry of Environment, Forest and Climate Change
(Impact Assessment Division)

To,

The CS & CGM (Mines)
THE SANDUR MANGANESE AND IRON ORES LIMITED
Deogiri (Village & Post), Sandur Taluk, Ballari District,,Bellary,Nagaland-
583112

Subject: Grant of Environmental Clearance (EC) to the proposed Project Activity under the provision of EIA Notification 2006-regarding

Sir/Madam,

This is in reference to your application for Environmental Clearance (EC) in respect of project submitted to the Ministry vide proposal number IA/KA/MIN/412694/2022 dated 30 Dec 2022. The particulars of the environmental clearance granted to the project are as below.

- | | |
|--|---|
| 1. EC Identification No. | EC23A001KA158909 |
| 2. File No. | IA-J-11015/45/2021-IA-II(M) |
| 3. Project Type | Expansion |
| 4. Category | A |
| 5. Project/Activity including Schedule No. | 1(a) Mining of minerals |
| 6. Name of Project | Increase of Iron Ore production from 1.60 to 4.50 MTPA retaining the Manganese Ore production at 0.55 MTPA with total excavation of 26.42 MTPA (Iron Ore ROM -7.85 MTPA, Manganese Ore ROM-1.34 MTPA, Top Soil-0.19 MTPA & Waste – 17.04 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 (ML No: 2678) by The Sandur Manganese & Iron Ores Limited. |
| 7. Name of Company/Organization | THE SANDUR MANGANESE AND IRON ORES LIMITED |
| 8. Location of Project | Karnataka |
| 9. TOR Date | N/A |

The project details along with terms and conditions are appended herewith from page no 2 onwards.

Date: 25/04/2023

(e-signed)
Pankaj Verma
Scientist E
IA - (Non-Coal Mining sector)

Note: A valid environmental clearance shall be one that has EC identification number & E-Sign generated from PARIVESH. Please quote identification number in all future correspondence.

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F. No. IA-J-11015/45/2021-IA-II(M)
Government of India
Ministry of Environment, Forest and Climate Change
Impact Assessment Division

3rd Floor, Vayu Wing,
Indira Paryavaran Bhavan,
Jor Bagh Road, Aliganj,
New Delhi-110 003

Dated: 25th April, 2023

To,

M/s The Sandur Manganese & Iron Ores Limited,
'Satyalaya', No.266 Ward No.1,
Palace Road, Sandur – 583 119,
Ballari District, Karnataka.

Subject: Expansion in Environmental Clearance of M/s The Sandur Manganese & Iron Ores Limited for increase in Iron Ore production from 1.60 to 4.50 MTPA retaining the Manganese Ore production at 0.55 MTPA with total excavation of 26.42 MTPA (Iron Ore ROM - 7.85 MTPA, Manganese Ore ROM - 1.34 MTPA, Top Soil - 0.19 MTPA & Waste - 17.04 MTPA) along with proposed 7.0 MTPA Ore Beneficiation Plant, 1.2 km Down Hill Conveyor System, & 0.15 MTPA Crushing & Screening Plant in the mine lease area of 1860.10 Ha (ML No: 2678), located at Villages Deogiri, Subbarayanahalli, Ramghad & Kammathuru, Tehsil: Sandur, District: Ballari, Karnataka - Environmental Clearance (Expansion) regarding

Sir,

This has reference to the online proposal no. IA/KA/MIN/412694/2022 of M/s The Sandur Manganese & Iron Ores Limited for mining of Iron Ore and Manganese Ore for Expansion of Iron Ore production from 1.60 to 4.50 MTPA retaining the Manganese Ore production at 0.55 MTPA with total excavation of 26.42 MTPA (Iron Ore ROM - 7.85 MTPA, Manganese Ore ROM - 1.34 MTPA, Top Soil - 0.19 MTPA & Waste - 17.04 MTPA) along with proposed 7.0 MTPA Ore Beneficiation Plant, 1.2 km Down Hill Conveyor System, & 0.15 MTPA Crushing & Screening Plant in the mine lease area of 1860.10 Ha (ML No: 2678), located at Villages Deogiri, Subbarayanahalli, Ramghad & Kammathuru, Tehsil: Sandur, District: Ballari, Karnataka.

2. The details of the project as ascertained from the document submitted by the Project Proponent and as revealed from the discussions held during the meeting are given as under:

- i. The mine lease area is located between Latitude: 14°58'38.11"N-15°5'43.77"N and Longitude: 76°28'8.41"E - 76°39'13.93"E. The mine lease area falls under the Survey of India Toposheet No: D43E8 (57A/8), D43E12 (57 A/12), D43K9 (57 B/9) and falls in Seismic Zone-II.

EC- M/s The Sandur Manganese & Iron Ores Limited, Karnataka

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- ii. The proposed project activity is listed at schedule no. 1(a) Mining of Minerals and 2(b) Mineral Beneficiation and falls under Category "A" as the mine lease area is greater than 250 ha and appraised at the Central level.
- iii. Details of previous Environmental Clearance (EC):
- a) The Project Proponent submitted that initially Environmental Clearance (EC) was granted by the Forest, Ecology and Environment Department, Govt. of Karnataka vide letter no FEE 146 ECO 93 dated: 15.12.1993.
- b) Then, the Project Proponent obtained Environmental Clearance (EC) vide EC Lr.No: 110015/96/2006-IA-II(M) dated 24.01.2007 for enhancement of production of manganese ore from 0.275 million TPA to 0.55 million TPA and iron ore from 0.30 million TPA to 1.60 million TPA and increase in mine lease area from 877.28 ha to 1863.02 ha (Mining Lease No.1179) under EIA Notification, 2006.
- c) The Project Proponent obtained clarification from the Ministry vide Lr No: J-11015/45/2021-IA-II(M) dated 16.09.2021 stating that as the EC dated 24.01.2007 was granted under Para 12 of the EIA Notification 2006 and the lease is valid up to 31.12.2033, hence, as per the Ministry's OM dated 19.12.2019 and provisions of the EIA Notification 2006 and subsequent amendments the validity of the Environment Clearance granted vide letter No. J-11015/96/2006-IA-II (M) dated 24.01.2007 for Sandur Manganese ore mine from 0.275 to 0.55 MTPA and Iron ore from 0.302 to 1.60 MTPA and increase in ML area from 877.282 ha to 1863.02 ha ML-1179) by M/s Sandur Manganese and Iron Ore Mine at village Deogiri, S.B.Halli and Ramgad, Tehsil Sandur in District Bellary in Karnataka is valid up to 31.12.2033, subject to the reduced area of mining lease to 1860.10 ha. As the Forest Clearance (FC) obtained on 14.03.2007 is valid for 20 years i.e. till 13.03.2027, hence PP may approach to Ministry for working in forest land beyond 13.03.2027.
- iv. Details of Terms of Reference (ToR):
- a) The Project Proponent obtained Terms of Reference vide ToR Lr.No: IA-J-11015/45/2021-IA-II(M) dated 17.11.2021 for expansion of Iron Ore production from 1.60 to 3.85 MTPA with total excavation of 20.3199 MTPA (ROM (Mn Ore & Iron Ore) + Waste + Top Soil) along with proposed 2.0 MTPA Ore Beneficiation Plant, Down Hill Conveyor System & 1.85 MTPA Crushing & Screening Plant by M/s Sandur Manganese And Iron Ores Ltd. (MLA: 1860.10 Ha).
- b) Then, the Project Proponent obtained Amendment in Terms of Reference (ToR) vide letter dated 14.01.2022 for increase in Iron Ore production from 1.60 to 4.50 MTPA retaining the Manganese Ore production at 0.55 MTPA with total excavation of 26.42 MTPA (Iron Ore ROM - 7.85 MTPA, Manganese Ore ROM - 1.34 MTPA, Top Soil - 0.19 MTPA & Waste - 17.04 MTPA) along with proposed 7.0 MTPA Ore Beneficiation Plant, 1.2 km Down Hill Conveyor System, & 0.15 MTPA Crushing & Screening Plant in the mine lease area of 1860.10 Ha.
- v. Details of Mine Lease:
- a) The Project Proponent submitted that initially mining lease was granted on 01.01.1954 for a period of 20 years with validity upto 01.01.1974. The first renewal of mine lease was for a period of 20 years which was valid upto 31.12.1993. Second renewal of mine lease was for a period of another 20 years with valid upto 31.12.2013. As per MMDR Amendment Act 2015, the mine lease is valid for a period

of 20 years (01.01.2014 to 31.12.2033) and the mine lease deed was executed on 20.03.2015.

vi. Land Use/Land Cover of the Mine Lease Area:

Private land	-
Government land	Revenue area - 247.38 Ha Forest area - 1612.72 Ha (Forest Clearance obtained)
Total Mining lease area (MLA)	1860.10 Ha
Private land for crusher, workshop & other infrastructure outside the MLA	-

vii. Mining Plan Details: -

Review and Updation of Mining Plan including Progressive Mine Closure Plan approved by Indian Bureau of Mines	Letter No.	Letter No 279/281/91/BNG/-Vol-II/ 1130
	Date	19.09.2022
	Mine Lease Area	1860.10 Ha (as per Lease Deed) & 1864.70 Ha (as per CEC Sketch)
	Mineral	Iron & Manganese Ore
	Validity	2023-24 to 2027-28
Mining Parameters	Quantitative Description	
Method of Mining	Open cast Mining i. Iron Ore: Fully mechanized ii. Manganese Ore: Mechanized with manual sorting of Manganese Ore	
Mineable Reserves	i. Iron Ore reserves (including Hematitic Siliceous Ore)–91.30 MT ii. Mn Ore reserves – 15.11 MT	
Life of mine	12 years. 10.75 years as per Lease period upto 31-12-2033	
Bench Height	7.5 m	
Bench Width	Width more than bench height	
Individual bench slope	70°	
Overall pit slope	25-33°	
Drilling/Blasting	Deep-hole drilling & blasting and use of HEMM with Excavator & dumper combination	
Transportation details	By Road through Dumper of 25 tonnes capacity and Downhill conveyor for transport of finished product	
Crusher	0.15 MTPA Dry Crushing & Screening plant	
Beneficiation Plant	7.0 MTPA	
RoM output size	0-100mm	
Solid waste Generation (MT) for the lease period	Mineral Reject: i. Hematitic Siliceous Ore: 8.69 million tonnes ii. Manganese Ore: 7.76 million tonnes Waste: i. Iron ore mining: 46.29 million tonnes ii. Tailings from Iron Ore beneficiation: 22.67 million tonnes iii. Manganese ore mining: 180.64 million tonnes	
Ground water intersection	i. Ultimate Depth of working: 789 MRL ii. Water table: 560 MRL Mining activity will not intersect the ground water table.	

viii. Water requirement:

Total water requirement	i. Present - 1060 m ³ /day ii. Additional: 4940 m ³ /day (3675 m ³ /day from Bore wells + 1100 m ³ /day from rainwater harvesting pits/structures)	Fresh water 6000 m ³ /day (additional 4900 m ³ /day out of which 1225 m ³ /day there is existing NoC and for balance 3675 m ³ /day NoC to be taken + 1100m ³ /day from Rain Water harvesting structures) Treated water 2790 m ³ /day
Source	Bore wells and rainwater harvesting pits	
Permission	The Project Proponent has submitted that the Karnataka Groundwater Authority vide Letter No. KGWA/GW/NOC/08/2020-21/222 dated 24.08.2020 granted permission for extraction of 1225 m ³ /day of groundwater through 13 bore wells. This NOC is valid for three years from the date of issue of this letter. Further, the Project Proponent submitted that for the proposed enhanced quantity of 3675 m ³ /day, NoC will be obtained.	

ix. Nearest village / town/ highway/railway station / water bodies/monument

Particulars	Particular's Name	Distance & Direction
Nearest village	Deogiri Township	Adjacent to the Mining Lease Area – N(NE)
	Subbarayanahalli	0.3 km, W
	Kammathuru	Adjacent to the Mining Lease Area – N (NE)
	Ramghad	3.4 km, N
Town	Ballari	73 km, ENE
Highway	State Highway (SH-131) Nagalapur – Gudekota	4.4 km, NE
	State Highway (SH-40) - Toranagallu – Kudligi	1.3 km, NW
Interstate Boundary	Andhra Pradesh – Karnataka	10.6 km, E
Railway station	Swamihalli RS	1.1 km, S
	Ranjitpura RS	3.3 km, NW
Water bodies	Dodda Halla	0.5 km, SE
	Nari Halla	1.3 km
Pilgrim Places	Sri Kumaraswamy Temple	0.25 km, N

x. Presence of Environmentally Sensitive areas in the study area:

Forest Land/ Protected Area/ Environmental Sensitivity Zone	Yes/No	Details of Certificate/letter/Remarks
Forest Land	Yes	Forest Clearance was obtained from MoEF&CC vide letter no: F.No - 8-17/94-FC on 14.03.2007 under Section-2 of the Forest (Conservation) Act, 1980 for diversion of 1615.64 ha of forest land (629.90 ha already broken up + 985.74 ha to be

		<p>broken) for renewal of Mining Lease No. 1179. The Ministry vide Lr No: J-11015/45/ 2021-IA-II(M) dated 16.09.2021 issued clarification to the Project Proponent stating that as the Forest Clearance (FC) obtained on 14.03.2007 is valid for 20 years i.e. till 13.03.2027, hence PP may approach to Ministry for working in forest land beyond 13.03.2027. PP also submitted that the payment towards NPV for an amount of Rs 98.49 crores and Compensatory Afforestation (CA) amount of Rs 5.34 Crores were paid in January 2007.</p> <p>The Project Proponent also submitted that the following Reserve Forests such as Ubbalagandi Extn RF - 4.5 km, NE, Bandravi SF - 2.9 km, E Somalapura RF - Around the Mine Site, Tumbaraguddi RF - Around the Mine Site, Tonasigeri RF - Around the Mine Site, SM Block RF - Around the Mine Site, Kuramasvamibetta RF - Around the Mine Site, Donimalai RF - Around the Mine Site Ramangarh RF - Around the Mine Site and Ramghad RF - Part of MLA are found within 10 km radius of the study area.</p>
National Park	No	-
Wildlife Sanctuary	No	Daroji Sloth Bear Sanctuary - 16.38 km - NNE (ESZ Daroji Sloth Bear Sanctuary - 15.30 km - NNE)
Eco-Sensitive Zone (ESZ) /Eco-Sensitive Area (ESA)	Yes	Gudekote Bear Sanctuary - 9.64 km - SSE (ESZ Gudekote Bear Sanctuary - 4.83 km - SSE). PP submitted the authenticated Map of Forest Department showing the distance of Daroji Sloth Bear Sanctuary and Gudekote Sloth Bear Sanctuary.
Schedule-I species	Yes	<p>The Project Proponent has submitted that the authenticated list of Flora and Fauna obtained from the Office of the Deputy Conservator of Forest Ballari Division, Ballari vide M I/M N G /SM IO R E/M L.No. 2678/2020- dated 08.01.2021 in the core & buffer zone of the project i.e. 10 kms radius of ML No.2678 of M/s. Sandur Manganese & Iron Ore Limited.</p> <p>Indian Pangolin, Sloth Bear, Leopard, Four-horned Antelope, Indian Flapshell Turtle, Indian Rock Python, Monitor lizard and Indian Peafowl are the Schedule-I species found in the study area.</p>
Wildlife Conservation Plan	Yes	PCCF (Wildlife)/CWLW, Bangalore vide letter PCCF/WL/D/CR-84/2020-21 dated 22.03.2021 has approved the conservation plan for a budget of Rs.1,43,95,000 (One crore Forty three lakh Ninety five thousand rupees only).

xi. Green belt/plantation details:

Proposed area for green belt/ plantation	Existing: 295.34 Ha Proposed: 833.87 Ha (including tailings backfilling in 58.5 Ha, Mined out area: 286 ha & Afforestation on dumps: 547.87ha)
Budget for green plant & plantation till the end of life of mine.	Capital Cost: Rs. 735 Lakhs Recurring Cost: Rs. 170.00Lakhs (Recurring Cost in lakh For Lease period)
Budget for nursery	-
7.5m barrier & non-mineralized zone	54.67 Ha

xii. Baseline details:

Baseline Data (Air / Water / Noise / Soil / Ground water table/ others)			
Period of baseline data collection	March 2022, April 2022 and May 2022		
Season (Summer / Pre-monsoon / Post-monsoon / Winter)	Summer Season		
Predominant Wind direction (From)	WSW		
Ambient Air Quality (10 locations)	PP reported that the concentrations of PM10 ranged from 50.2-59.0 µg/m ³ , PM2.5: 21.2-28.0 µg/m ³ , SO2: 12.2-13.7 µg/m ³ and NOx: 14.5-16.2 µg/m ³ .		
Noise level (12 locations)	Day Time: 45.9 - 74.2 dB (A) Night Time: 42.9 - 65.6 dB (A)		
Water Quality	Parameters	Surface water (5 locations)	Ground water (5 locations)
	pH at 25°C	7.01-8.25	7.1-7.9
	Total Dissolved Solids, mg/l	162-548	206-1670
	Chloride as Cl-, mg/l	28-143	35-431
	Total Hardness, mg/l	-	80-580
	DO, mg/l	5.3-5.8	-
	BOD, mg/l	2.0-3.0	-
	Fluoride as F, mg/l	0.19-0.36	0.31-0.77
Soil quality (10 locations)	Parameters		Observed Values
	pH		7.18 - 7.62
	Electrical Conductivity (µS/cm)		274 - 562
	Organic Carbon (%)		0.34 - 0.68
	Available Nitrogen as N (Kg/Ha)		163 - 316
	Available Phosphorus (Kg/Ha)		27 - 58
	Sodium (mg/kg)		72 - 114
	Potassium (Kg/Ha)		117 - 186
Traffic Study	The Project Proponent reported that the same transportation plan is utilized after enhancement of production of Iron ore from 1.6 MTPA to 4.50 MTPA and installation of a Downhill Pipe Conveyor system is in progress. There will not be much difference in the impact on local transport infrastructure because,		

	done using downhill conveyor belt to the railway siding and further by railway. Thus nearly 23% of the transportation is done by DCS and Railway combination and the balance 77% will be transported through road. The V/C ratio and LOS found to be 0.38.
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xiii. Public Hearing (PH) Details:

Advertisement for PH with date	"Kannadaprabha" (Kannada) on 05-11-2022 and "The Hindu" (English) on 06-11-2022 in the local Newspaper namely "E Namma Kannada Nadu" on 06-11-2022
Date of PH	06.12.2022
Venue	Venue of the Public hearing was fixed by KSPCB at Project Site, Deogiri Village, Sandur Taluk, Ballari District.
Chaired by	Manjunath P S, KAS, Additional Deputy Commissioner and Additional District Magistrate – As Chairperson & Dr. Doddashanaiah- Sr. Environment Officer (I/C) and EO, KSPCB- As Member Convener
Main issues raised during PH	<ul style="list-style-type: none"> i. Preference to be given for locals for Employment ii. To construct community toilets in the Tonasigere village iii. Providing CC Road and drainages to Yerranainahalli Village iv. To provide basic facilities like transport, education, road construction and health care facilities v. To develop roads in Tonasigere village and to develop the village cemetery
Budget proposed for addressing issues raised during PH	The Project Proponent has allocated Rs. 93.0 Lakhs towards the Public Hearing demands and need based activities which will be within Rs 59.8 crores budgeted for CSR for the balance life of mine.

xiv. CTE/CTO, CCR and Certified Past Production:

Consent for Establishment (CFE)	Consent for Establishment (CFE) was issued by Karnataka State Pollution Control Board (KSPCB) vide Lr No.CFE-EIA/TSM&IOL/EIA396/2005-2006/197 dated 15 th March 2006 and was amended in the year 2017 vide consent order No.CTE-301877 dated 13.01.2017
Consent for Operation (CFO)	Consent for Operation (CFO) was issued by Karnataka State Pollution Control Board (KSPCB) from time to time and latest CFO was obtained vide consent No.AW-305709 dated 05.04.2018 valid up to 31/03/2023.
Certified Compliance Report	Certified Compliance Report issued by the Integrated Regional Office, Bengaluru vide File No. EP/12.1/391/KAR/1042 dated 08.12.2022. Site inspection of the project was carried out on 18.11.2022.
Past Production	Certified past production details obtained from the Office of the Deputy Director, Department of Mines & Geology, vide No: DM G/DDH/M LS/2021-22/1878 dated 27.07.2021 for the period 2011-12 to 2020-21, the production of ROM & processed Fines & Lumps pertaining to M/s The Sandur Manganese & Iron Ores Ltd

	<p>ML No: 2580 / 2678 and from the Office of Regional Controller of Mines, IBM, Ministry of Mines, Govt of India vide letter No. KNT/BLR/ Fe201/BNG/RF/1166 dated 29.11.2018 for the period 1954 to 2018-19 (up to Oct, 2018) and from the Department of Mines and Geology, Govt of Karnataka letter No. DMG/SG/BLR/MLS/PD/2022-23 dated 28.12.2022 for the period 2021-22 to 2022-23 (April to November, 2022).</p> <p>The Project Proponent has submitted that the mining operations were stopped vide Govt of Karnataka Order DMG:DDH:ML:SLA(Civil)7366-67/2011-12/4815 dated 30.07.2011 as per Hon'ble Supreme Court orders. The mining operations resumed based on the Govt. of Karnataka letter no DMG/R&R/2012-13/19 dated 28.01.2013 as the mine was categorized as Category – A.</p>
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xv. Rehabilitation & Resettlement:

R & R details	The mining area does not cover any habitation. The mining activities do not involve any displacement of human settlement. No Additional land will be acquired for expansion. Hence, Rehabilitation & Resettlement (R&R) Plan is not applicable.
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xvi. Court case details:

Court Case	The Project Proponent has submitted that there is no litigation pending against the project.
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xvii. Affidavit/Undertaking details:

Affidavit as per Ministry's OM dated 30.05.2018	PP submitted the Affidavit in a non-judicial e-stamp of Rs 100 bearing no. IN-KA37745252313709V dated 02.01.2023 stating that the company shall comply with all the statutory requirement & judgment of Hon'ble Supreme Court dated 2 nd August 2017 in writ Petition (civil) No. 114 of 2014 in the matter of common cause versus Union of India & Ors.
Project Proponent submitted an Undertaking vide Letter dated 29.12.2022	The conditions laid down in Terms of Reference (ToR) issued by the Ministry of Environment, Forest and Climate Change vide ToR letter dated 17.11.2021 & 14.01.2022 have been addressed in the Final Environment Impact Assessment (EIA) report. The information and data submitted is factually correct and The Sandur Manganese & Iron Ore Mines owns the contents of the report.
Consultant submitted an Undertaking dated 30.12.2022	M/s B.S. Envi-Tech Pvt. Ltd has complied with all said conditions laid down in Terms of Reference (ToR) issued by the Ministry of Environment, Forest and Climate Change vide ToR letter dated 17.11.2021 & 14.01.2022 have been addressed in the Final Environment Impact Assessment (EIA) report. The Head of the Accredited Consultant Organization has confirmed that "I shall be fully accountable for any misleading information in this statement".

on 30.12.2022	Authorized person certified that this EIA Report has been evaluated by using online software viz. Plagiarism Checker X. The report produced has been analyzed by the system and based on it, I certify that the EIA Report produced in accordance with good scientific practice.
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xviii. Details of the EMP (Rs. in Lakhs):

Sl.No	Description	Capital Cost in lakh	Recurring Cost in lakh For Lease period
1	Air Pollution Control Measures Wet drilling (12 nos) – Advanced mechanism Water sprinklers & Dry Fog Dust Suppression system Bag filters for screens Bag Filters for crushers	200	3906.9
2	Environmental Monitoring – CAAQ stations	250	390.5
3	Occupational Health Measures – Yearly Health Check ups	0	2557.2
4	Greenbelt – Dumps and safety zone	735	170.00
5	Rainwater Harvesting – De siltation measures	0	284.14
6	Water Pollution Control Measure – Maintenance of Retaining wall and Drains for dumps (STP, Thickener, and Filter press considered under project cost)	1520	220.000
7	Waste management – Dumps retaining walls and dump drains	300	
8	Tailing Disposal Management by having engineering Structures & Monitoring	1000	50
9	Wild Life Conservation	143	-
	Total Cost	4148	7579

xix. Details of project cost and employment:

Particulars	(Rs. In Crore)
Total cost of EMP (Capital Cost of EMP + capital cost of Public hearing)	EMP: 41.48 + capital cost of Public hearing 0.93 = 42.41
Project Cost	750
Employment	Existing – 3000 (Direct & In-Direct) Proposed – 835

3. Observation and Recommendation of the Committee: -

The EAC noted that the instant proposal is for mining of Iron Ore and Manganese Ore for Expansion 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 Ore Beneficiation Plant, 1.2 km Down Hill Conveyor System, & 0.15 MTPA Crushing & Screening Plant in the mine lease area of 1860.10 Ha. The Project Proponent presented the KML file to indicate the site features in the study area. The mine lease area of 1860.10 Ha falls in Swamymalai and Ramanamalai forest blocks at Deogiri, Kammathuru (East), Subbarayanahalli and Ramghad Villages stretching over a length of 10km. Out of the total mine lease area of 1860.10 Ha, Forest land is 1612.72 Ha and Revenue land is 247.38 Ha. The EAC asked about the

validity of the Forest Clearance. The Project Proponent informed the EAC that the Forest Clearance (FC) obtained on 14.03.2007 and is valid for a period of 20 years i.e. till 13.03.2027. Necessary permission will be obtained to work in the forest land beyond 14.03.2027. Further, the Project Proponent informed that there is no increase in the mine lease area by Central Empowered Committee (CEC) and also there is no restriction of production by CEC.

The EAC asked the Project Proponent to give clarification on point no. 6 of FC dated 14.03.2007 which is given as under: *"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 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"*. The Project Proponent informed the EAC that the tree cutting is done in phase wise and the work is being carried out continuously. PP also informed that the broken up area already existing prior to the Forest Conservation Act (1980) and additional broken up area is being done in phase wise after obtaining Forest Clearance. The EAC opined that the Ministry's Integrated Regional Office shall ensure the compliance of the above condition.

The Project Proponent informed the EAC that there are different evacuation routes are proposed to carry out the material to SDMG Siding, Swamimalai Railway Siding and also a Downhill Conveyor System (DCS) is proposed to transport Iron Ore of 1.0 MTPA from Kammathuru Iron Ore Mine to PMBR (BMM) siding and then to SH-40. The beneficiation plant is proposed in the revenue land over an area of 25.0 ha. Tailings will be disposed to Jaladikolla (25.00 Ha), Ramakolla Pit (33.5 Ha) (Adjacent to the beneficiation plant) as back fill and will be dumped into CMB area with proper embankment covering an area of 16.00 Ha. The feed grade to the beneficiation plant will be 50-52% Fe and the output is 59-60% Fe and the low grade ores are effectively utilized. The exploration program is under process and the depth of the ore body is 60m. At present depth of the working is 40-45m. The EAC asked the Project Proponent to explore the possibility of utilizing the mineral rejects.

The Project Proponent informed the EAC that based on the assessment of Sustainable Development Framework (SDF) prescribed by the Indian Bureau of Mines (IBM), SMIORE (the instant mine) has been rated Five-Star by the Ministry of Mines, Government of India continuously for every year from 2014-2015 to till date. The Project Proponent also informed the EAC that the Gudekote Bear Sanctuary is located at a distance of 9.64 km, SSE and ESZ of Gudekote Bear Sanctuary is located at a distance of 4.83 km, SSE from the mine lease area. PP submitted the authenticated Map of Forest Department showing the distance of Daroji Sloth Bear Sanctuary and Gudekote Sloth Bear Sanctuary. The Project Proponent also informed the EAC that as on date an area of 13.0 ha has been backfilled and also there is a proposal to backfill in future also. Further, the Project Proponent informed the EAC that for the proposed enhanced quantity of 3675 m³/day, NoC will be obtained from the concerned authority. The Project Proponent informed the EAC that Wildlife Conservation Plan has been approved by the PCCF (Wildlife)/CWLW, Bangalore vide letter dated 22.03.2021 for a budget of Rs.1,43,95,000. The EAC asked the Proponent whether the approved plan has been deposited in the Forest Dept. The Project

Proponent informed the EAC that the approved amount is yet to be deposited to the Forest Dept. Further, the Project Proponent informed the EAC that the voluntary activities have been taken up towards Wildlife Conservation Activities during the past three years. The Project Proponent informed the EAC that the budget of Rs. 93.0 Lakhs has been allocated towards the public hearing demands. Certified Compliance Report was issued by the Integrated Regional Office, Bengaluru vide letter dated 08.12.2022. Site inspection of the project was carried out by IRO on 18.11.2022. The EAC asked the Project Proponent whether any court case pending against the project. The Project Proponent informed the EAC that there is no court case pending against the project.

After detailed deliberations made by the Project Proponent and the Consultant, the EAC (Non-Coal Mining) in its meeting held during 17-18 January 2023, the EAC **recommended** the proposal under the provisions of EIA Notification, 2006 for grant of Environmental Clearance (EC) to M/s The Sandur Manganese & Iron Ores Limited for mining of Iron Ore and Manganese Ore for Expansion of Iron Ore production from 1.60 to 4.50 MTPA retaining the Manganese Ore production at 0.55 MTPA with total excavation of 26.42 MTPA (Iron Ore ROM - 7.85 MTPA, Manganese Ore ROM - 1.34 MTPA, Top Soil - 0.19 MTPA & Waste - 17.04 MTPA) along with proposed 7.0 MTPA Ore Beneficiation Plant, 1.2 km Down Hill Conveyor System, & 0.15 MTPA Crushing & Screening Plant in the mine lease area of 1860.10 Ha (ML No: 2678), located at Villages Deogiri, Subbarayanahalli, Ramghad & Kammathuru, Tehsil: Sandur, District: Ballari, Karnataka subject to the specific conditions in addition to the standard EC conditions applicable for non-coal mining projects.

4. The Project Proponent vide letter dated 03.03.2023 requested the Ministry to withdraw the specific condition stipulated at para 3 (vi) *"The Project Proponent needs to increase the capacity of the dumper to 50 to 60 Tonnes. The Project Proponent should increase the transportation through conveyor belt. The project proponent should decrease all mining equipment such as loading equipment, drill machines, wheel loaders, etc., by increasing the capacity. Accordingly, the Project Proponent needs to submit the modified Mining plan to the Ministry's IRO before start of mining operations for this expansion EC"*. In light of the said specific condition (vi), the Project Proponent has submitted the "Opinion report on the possibility of deploying of higher capacity of Dumpers of 50-60 tonner with higher capacity Shovel at M/s The Sandur Manganese & Iron Ores Limited" carried out by CSIR-Central Institute of Mining & Fuel Research, Dhanbad during February, 2023 and comments from the Indian Bureau of Mines letter dated 20.02.2023. Based on the above reports and comments, the proposal was considered in the 12th EAC (Non-Coal Mining) meeting held during 21-22 March, 2023 for due deliberations. After detailed deliberations, the EAC agreed and recommended to restrict the dumper capacity to 25 Tonnes as per the opinion report of the CIMFR and as per approved Review of Mining Plan dated 19.09.2022. The EAC also opined that the however, the Project Proponent needs to explore the possibility of increasing the transportation through conveyor belt to reduce the impact due to transportation by road.

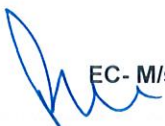
5. The matter was examined in the EAC in accordance with the Environmental Impact Assessment Notification, 2006 and its further amendments thereto and the undersigned is directed to say that the Ministry of Environment Forest & Climate Change after accepting the

recommendation of EAC during its 9th EAC (Non-Coal Mining) meeting held during 17th - 18th January, 2023 and 12th EAC (Non-Coal Mining) meeting held during 21-22 March, 2023 hereby accords Environmental Clearance (EC) to M/s The Sandur Manganese & Iron Ores Limited for mining of Iron Ore and Manganese Ore for Expansion of Iron Ore production from 1.60 to 4.50 MTPA retaining the Manganese Ore production at 0.55 MTPA with total excavation of 26.42 MTPA (Iron Ore ROM - 7.85 MTPA, Manganese Ore ROM - 1.34 MTPA, Top Soil - 0.19 MTPA & Waste - 17.04 MTPA) along with proposed 7.0 MTPA Ore Beneficiation Plant, 1.2 km Down Hill Conveyor System, & 0.15 MTPA Crushing & Screening Plant in the mine lease area of 1860.10 Ha (ML No: 2678), located at Villages Deogiri, Subbarayanahalli, Ramghad & Kammathuru, Tehsil: Sandur, District: Ballari, Karnataka subject to compliance of the terms & conditions and the environmental safeguards mentioned below:-

A. SPECIFIC CONDITIONS

- i. This Environmental Clearance will be valid upto 31.12.2033 only.
- ii. The Project Proponent shall obtain the necessary permission to work in the forest land beyond 14.03.2027.
- 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.
- 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.
- 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.
- 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 the transportation through conveyor belt to reduce the impact due to transportation by road.
- 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.
- 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.

- ix. The Project Proponent needs to implement the recommendations of the Slope Stability Studies has been carried out for the Mine Pits carried out by National Institute of Technology Karnataka, Surathkal. The implementation status of the same shall be submitted to the Ministry's Integrated Regional Office (IRO) along with the six monthly compliance report.
- 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.
- 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 minimise stress conditions for wild animals and to avoid Man-Animal conflict.
- xii. The Project Proponent needs to install the permanent water sprinklers along the haul road and the approach road. Further, 10 nos. of fog canon/mist sprayer of atleast 40 m throw shall be installed at various locations in the mine area.
- xiii. The air pollution control equipment's 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.
- 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 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 atleast 20% of electric vehicles instead of diesel operation within three years.
- xvi. The Project Proponent shall take adequate measures to prevent the pilferage of mineral.
- 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.



- xviii. NoC from the 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.
- 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.
- xx. The Project Proponent should 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.
- 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 outcomes. The Project proponent shall ensure that the activities proposed under the public hearing is different from the CSR activities.
- xxii. The Project Proponent shall also organize 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.
- xxiii. The Project Proponent needs to provide the RO drinking water supply to the local people.
- 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.
- xxv. The Project Proponent should periodically monitor and maintain the health records of the mine workers digitally prior to mining 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 the monitor the health impacts due to mining activity.

- xxvi. The mining lease holders shall, after ceasing mining operations, undertake regrassing 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 said condition shall be submitted to the Ministry's Integrated Regional Office.

B. STANDARD CONDITIONS

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.
- 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 Common Cause versus Union of India &Ors before commencing the mining operations.
- 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.
- 4) The Project Proponent shall follow the mitigation measures provided in MoEFCC'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 Projects wherein Habitations and villages are the part of mine lease areas or Habitations and villages are surrounded by the mine lease area".
- 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.
- 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.
- 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 web site of the Ministry of Environment, Forest and Climate Change (www.parivesh.nic.in). A copy of the advertisement may be forwarded to the concerned MoEFCC Regional Office for compliance and record.



8) The Project Proponent shall inform the MoEF&CC for 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.

II. Air quality monitoring and preservation

9) The Project Proponent shall install a minimum of 3 (three) online Ambient Air Quality Monitoring 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 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.

10) Effective safeguard measures for prevention of dust generation and subsequent suppression (like regular water sprinkling, metalled road construction etc.) shall be carried out in areas prone to air pollution wherein high levels of PM10 and PM2.5 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 MoEFCC/ Central Pollution Control Board.

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 MoEFCC is in place before such mining operations. The permission for intersection of ground water table shall essentially be based on detailed hydro-geological study of the area.

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.

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-à-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 MoEFCC. 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.

14) Quality of polluted water generated from mining operations which include Chemical Oxygen Demand (COD) in mines run-off; acid mine drainage 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. J-20012/1/2006-IA.II (M) dated 27.05.2009 issued by Ministry of Environment, Forest and Climate Change may also be referred in this regard.

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 MoEFCC annually.

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 by concerned State Pollution Control Board (SPCB). The workshop effluent shall be treated after its initial passage through Oil and grease trap.

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.

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.

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.

20) The Project Proponent shall take measures for control of noise levels below 85 dBA 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/ personals/ laborers are working without personal protective equipment.

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 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.

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.

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/ leveling of dump mass. In critical

areas, use of geo textiles/ geo-membranes / clay liners / Bentonite etc. shall be undertaken for stabilization of the dump.

25) Catch drains, settling 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.

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.

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 the 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 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 emissions 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].

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 equipments 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 necessary measures to avoid generation of fugitive dust emissions.

VIII. Green Belt



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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.

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.

31) The Project Proponent shall make necessary alternative arrangements for livestock feed by developing grazing land with a view to compensate 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 mid-day shelter from the scorching sun, should be scrupulously guarded/ protected against felling and plantation of such trees should be promoted.

IX. Public hearing and human health issues

32) Project Proponent shall make provision for the housing for workers/labors or shall construct labor 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, crèche 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.

X. Corporate Environment Responsibility (CER)

33) 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 September, 2020. The action plan shall be implemented within three years of commencement of the project.

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.

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.

36) The Project Proponent shall submit six monthly compliance reports on the status of the implementation of the stipulated environmental safeguards to the MOEFCC & its concerned Regional Office, Central Pollution Control Board and 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 directly report to Head of the Organization. Adequate number of qualified Environmental Scientists and Mining Engineers shall be appointed and submit a report to RO, MoEF&CC.

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 furnishing the requisite data / information / monitoring reports.

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 regrassing 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.

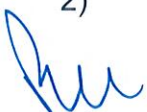
40) The Ministry or any other competent authority may alter/modify the above conditions or stipulate any further condition in the interest of environment protection.

41) Concealing factual 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.

C. STANDARD EC CONDITIONS FOR MINERAL BENEFICIATION PLANTS:

I. Statutory compliance:

- 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.
- 2) The project proponent shall obtain clearance from the National Board for Wildlife, if applicable.



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- 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 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).
- 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.
- 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.
- 6) The project proponent shall obtain authorization under the Hazardous and other Waste Management Rules, 2016 as amended from time to time.

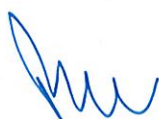
II. Air quality monitoring and preservation

- 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 these system from time to time according to equipment supplier specification through labs recognised under Environment (Protection) Act, 1986 or NABL accredited laboratories. Monitor fugitive emissions in the plant premises.
- 8) The project proponent shall monitor fugitive emissions in the plant premises at least once in every quarter through labs recognised under Environment (Protection) Act, 1986. 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 S02 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.
- 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 S02 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.

- 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.
- 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.
- 12) The project proponent use leak proof trucks/dumpers carrying ore and other raw materials and cover them with tarpaulin.
- 13) Wind shelter fence and chemical spraying shall be provided on the raw material stock piles.
- 14) Design the ventilation system for adequate air changes as per ACGIH document for all tunnels, motor houses, Oil Cellars.

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 recognised under Environment (Protection) Act, 1986 or NABL accredited laboratories.
- 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 recognised under Environment (Protection) Act, 1986 and NABL accredited laboratories.
- 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.
- 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.
- 19) Adhere to 'Zero Liquid Discharge'
- 20) Sewage Treatment Plant shall be provided for treatment of domestic wastewater to meet the prescribed standards.



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- 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.
- 22) The project proponent shall practice rainwater harvesting to maximum possible extent.
- 23) The project proponent shall make efforts to minimise water consumption in the steel plant complex by segregation of used water, practicing cascade use and by recycling treated water.

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.
- 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.

V. Energy Conservation measures

- 26) Provide solar power generation on roof tops of buildings, for solar light system for all common areas, street lights, parking around project area and maintain the same regularly;
- 27) Provide LED lights in their offices and residential areas.

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.
- 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)

VII. Green Belt and EMP

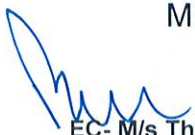
- 30) Green belt shall be developed in an area equal to 33% of the plant area with a native tree species in accordance with CPCB guidelines. The greenbelt shall inter alia cover the entire periphery of the plant
- 31) The project proponent shall prepare GHG emissions inventory for the plant and shall submit the 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.
- 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.
- 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.
- 35) Occupational health surveillance of the workers shall be done on a regular basis and records maintained as per the Factories Act.

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 September, 2020. The action plan shall be implemented within three years of commencement of the project.
- 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 I 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.
- 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.
- 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.



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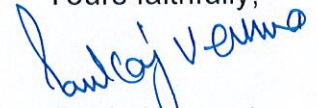
- 40) Self-environmental audit shall be conducted annually. Every three years third party environmental audit shall be carried out.
- 41) All the recommendations made in the Charter on Corporate Responsibility for Environment Protection (CREP) for the Mineral Beneficiation plants shall be implemented.

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.
- 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.
- 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.
- 45) The project proponent shall monitor the criteria pollutants level namely; PM10, SO₂, NO_x (ambient levels as well as stack emissions) or critical sectoral parameters, indicated for the projects and display the same at a convenient location for disclosure to the public and put on the website of the company.
- 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.
- 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.
- 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.
- 49) The project authorities must strictly adhere to the stipulations made by the State Pollution Control Board and the State Government.

- 50) The project proponent shall abide by all the commitments and recommendations made in the EIA/EMP report, commitment made during Public Hearing and also that during their presentation to the Expert Appraisal Committee.
- 51) No further expansion or modifications in the plant shall be carried out without prior approval of the Ministry of Environment, Forests and Climate Change (MoEF&CC).
6. The above conditions will be enforced inter-alia, under the provisions of the Water (Prevention & Control of Pollution) Act, 1974, the Air (Prevention & Control of Pollution) Act, 1981, the Environment (Protection) Act, 1986 and the Public Liability Insurance Act, 1991 along with their amendments and rules made there under and also any other orders passed by the Hon'ble Supreme Court of India/High Court and any other Court of Law relating to the subject matter.
7. Any appeal against this environmental clearance shall lie with the National Green Tribunal, if preferred, within a period of 30 days as prescribed under Section 16 of the National Green Tribunal Act, 2010.
8. This issues with the approval of Competent Authority.

Yours faithfully,



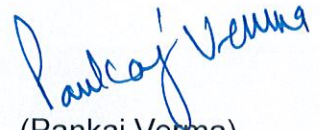
(Pankaj Verma)

Scientist 'E'

Copy to:

- i. **The Secretary**, Ministry of Mines, Government of India, Shastri Bhawan, New Delhi-110 001.
- ii. **The Secretary**, Department of Mines & Geology, Government of Karnataka, Secretariat, Bengaluru.
- iii. **The Secretary**, Department of Environment, Government of Karnataka, Secretariat, Bengaluru.
- iv. **The Secretary**, Department of Forests, Government of Karnataka, Secretariat, Bengaluru.
- v. **The Chief Wildlife Warden**, Forest Department, Bengaluru.
- vi. **The Deputy Director General of Forests (C)**, Ministry of Environment, Forest and Climate Change, Integrated Regional Office, Kendriya Sadan, 4th Floor, E&F Wings, 17th Main Road, Koramangala II Block, Bangalore - 560034.
- vii. **The Chairman**, Central Pollution Control Board, Parivesh Bhawan, CBD-cum-Office Complex, East Arjun Nagar, Delhi-110032.
- viii. **The Member Secretary**, Central Ground Water Authority, 18/11, Jam Nagar House, Man Singh Road, New Delhi-110011.
- ix. **The Chairman**, Karnataka State Pollution Control Board, "Parisara Bhavan", No: 49, Church Street , Bengaluru - 560001.

- x. **The Controller General**, Indian Bureau of Mines, Indira Bhavan, Civil Lines, Nagpur-440 001.
- xi. **The District Collector**, Ballari District, Government of Karnataka.
- xii. **Guard File.**
- xiii. **PARIVESH Portal.**


(Pankaj Verma)
Scientist 'E'