

GOA STATE ENVIRONMENT IMPACT ASSESSMENT AUTHORITY

Constituted by the Ministry of Environment, Forest and Climate Change,

Government of India

C/o Department of Environment and Climate Change

4th Floor, Dempo Towers, Patto Panaji Goa - 403001.

e-mail: goaseac@gmail.com

No: 115/3/2023-24/GSEIAA/Project-Prop//3

Date: 09/10/2024

To,
Salgaocar Shipping Company Private Limited,
Salgaocar Bhavan, Altinho,
Panaji, North Goa,
403001.

Sub:- Issuance of Prior Environmental Clearance (EC) to produce 1.0 MTPA of Iron Ore in Block-II - Sirigao-Mayem Mineral Block (Lease area - 171.2472 Ha) located in plot bearing Survey No. 1, 2, 3, 4, 5, 6, 7, 46, 47, 48, 84, 90, 91, 92, 93, 94, 95, 96, 97, 98 & Road Sirigao village, Bicholim taluka and Survey No 12, 47, 60, 61, 62, 79, 80, 84, Road, 48, 56, 57, 58 & 59 Maem village, Bicholim taluka.

Sir,

With reference to the above cited subject matter vis-a-vis your application dated 12/07/2024 along with the common application form including (Form-1), pre-feasibility report, EMP, EIA, mining plans and other documents seeking prior Environmental Clearance (EC) to produce 1.0 MTPA of Iron Ore in Block-II - Sirigao-Mayem Mineral Block (Lease area - 171.2472 Ha) located in plot bearing Survey No. 1, 2, 3, 4, 5, 6, 7, 46, 47, 48, 84, 90, 91, 92, 93, 94, 95, 96, 97, 98 & Road Sirigao village, Bicholim taluka and Survey No 12, 47, 60, 61, 62, 79, 80, 84, Road, 48, 56, 57, 58 & 59 Maem village, Bicholim taluka.

This is to inform you that the said proposal has been categorized as 'Category-B' and screened as 'category 1(a) - B1 project Mining of minerals as per the 'Schedule' annexed to the Environment Impact Assessment (EIA) Notification, 2006 (as amended till date).

The matter was taken up in the 212th SEAC meeting held on 26th July 2024 in which the Committee decided to conduct site inspection on 01/08/2024.

Further, after detailed presentation and discussion during its 214th meeting held on 9th August 2024 the said proposal was recommended to the Goa State Environment Impact Assessment Authority (*Goa-SEIAA – hereinafter referred as "Authority"*) for grant of prior Environmental Clearance (EC) with certain 'General and Specific Conditions' to be complied by the Project Proponent prior to initiating any on-site quarry-related operations. Thereafter, the Authority during its 130th Goa-SEIAA meeting held on 4th September 2024, considered Committee's recommendation and decided to grant prior Environmental Clearance with the mandatory compliance to the following General & Specific conditions.

Sr. No.	Item	Details
1.	Name of the Project	Block-II- Sirigao Mayem Mineral Block
2.	Name of the applicant	Salgaocar Shipping Company Private Limited
3.	Type of quarry	Opencast Iron Ore Mine
4.	Sr. No. in the Schedule	1(a)
5.	New/Expansion/Modernization/renewal	New
6.	Existing Capacity/Lease Area etc.	Proposed Capacity of 1.0 MTPA/Lease area-171.2472 Ha
7.	Category of Project i.e. 'A' or 'B'	A
8.	Plot/Survey/Khasra No.	Sirigao Village Survey No 1,2,3,4,5,6,7,46,47,48,84,90,91,92,93,94,95,96,97,98 & Road And Mayem Village Survey No 12,47,48,56,57,58,59 60,61,62,79,80,84, and Road
9.	Village	Sirigao & Mayem
10.	District	North Goa
11.	State	Goa

12.	Nearest railway station /airport, public facility from site (public dwelling, school, educational institution, hospital, Dam)	<ul style="list-style-type: none"> • Nearest Railway Station:Thivim Railway Station is at 6.00 Km • Nearest Airport: Manohar International Airport (MOPA)- 23.1 km • Public Dwelling: Part of Sirigao Village is coming within the Mineral Block. • School, Educational Institute: Government High school Sirigao is within the Mineral Block. • Hospital: Government Hospital (Community Health Centre) Bicholim is at a distance of 8 Km. • Dam: Amthane Dam (7.0 Km) 		
13.	Area to be excavated	106.65 Ha		
14.	Balance area available	Sr. No.	Description	Area in Ha
		1	Barren Waste land with small bushes and shrubs	2.3
		2	Land under public infrastructure/utilities	8.38
		3	Township	11.40
		4	Dumps & Material Stacking	21.78
		5	Others	20.7372
		Total		64.5972
15.	Ore to overburden ratio	1: 0.49 (As per current approved Mining Plan Period of 5 Year)		
16.	Location of Stack overburden	As per approved Mining Plan		
17.	Existing flora and fauna at site with details of species and nos. of trees	<p>The list of Flora and Fauna at site with details of species is enclosed in <u>Annexure-I.</u></p> <p>Presently, major portion of the mineral block is occupied by mine pits and excavation.</p>		

		No. of trees: About 150 Acacia/Casurina and Cashew trees planted by the erstwhile lessee as environmental protective measures/stabilization of dumps are existing. However, there is secondary growth of Acacia and Casurina trees in mine pits/excavation area.																					
18.	No. of trees cut	Nil																					
19.	Proposed plantation plan	<p>As per approved Mining Plan, the year wise proposed plantation is tabulated below:</p> <table border="1"> <thead> <tr> <th>Year</th><th>Area proposed in Ha</th><th>Number of tree sapling</th></tr> </thead> <tbody> <tr> <td>Year-I</td><td>00</td><td>00</td></tr> <tr> <td>Year-II</td><td>1.41</td><td>2100</td></tr> <tr> <td>Year-III</td><td>2.00</td><td>3000</td></tr> <tr> <td>Year-IV</td><td>1.00</td><td>1500</td></tr> <tr> <td>Year-V</td><td>1.00</td><td>1500</td></tr> <tr> <td>Total</td><td>5.41</td><td>8100</td></tr> </tbody> </table>	Year	Area proposed in Ha	Number of tree sapling	Year-I	00	00	Year-II	1.41	2100	Year-III	2.00	3000	Year-IV	1.00	1500	Year-V	1.00	1500	Total	5.41	8100
Year	Area proposed in Ha	Number of tree sapling																					
Year-I	00	00																					
Year-II	1.41	2100																					
Year-III	2.00	3000																					
Year-IV	1.00	1500																					
Year-V	1.00	1500																					
Total	5.41	8100																					
20.	Tree plantation proposed species and number	Native species such as Cashew, Mango, Jambhul, Avla, & Forestry species in consultation with forest department are proposed for plantation. Total number of saplings proposed is 8100 as approved in mining Plan.																					
21.	Approach road	Mineral Block is well connected by tar road to the MDR-02 Bicholim-Poira -Singerim.																					
22.	Proposed/Existing Road Paved/unpaved with length of road	<p>The distance of dedicated road is 4.83 Km from Mine to Singerim Jetty (Calvim Jetty)</p> <table border="1"> <thead> <tr> <th>Sr.No</th><th>Road from Mine to Singerim/Calvim Jetty</th><th>Distance in Km</th></tr> </thead> <tbody> <tr> <td>1</td><td>Mine road unpaved</td><td>1.037</td></tr> </tbody> </table>	Sr.No	Road from Mine to Singerim/Calvim Jetty	Distance in Km	1	Mine road unpaved	1.037															
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1	Mine road unpaved	1.037																					



		2	Mine road paved	0.103
		3	Dedicated Transport road paved	0.238
		4	Dedicated Transport road unpaved	2.832
		5	Public road Sinkerim road(MDR-2)paved	0.620
			Total	4.83 Km
23.	Distance from nearest Locality	Part of the Sirigao Village within the Mineral Block Area.		
24.	Distance from nearest metallic road	Within Mineral Block		
25.	Distance from nearest water body	Asnora River 0.56 Km		
26.	Whether site has existing water body	No.		
27.	Distance from wild life sanctuary	Dr. Salim Ali Bird Sanctuary - 8.83 km		
28.	Distance from Ecological Sensitive Area/zone boundary	ESZ of Dr. Salim Ali Bird sanctuary - 8.73 Km.		
29.	List of Endemic species & IUCN status	No Endemic species exist within study area		
30.	Details on IBA (Important Bird area)	Dr. Salim Ali Bird Sanctuary 8.83 Km. However, the following are the IBA in Goa: 1. Bhagwan Mahavir Wildlife Sanctuary. 2. Carambolim Lake and Dhado wetland 3. Cotigao Wildlife Sanctuary 4. Mhadei Wildlife Sanctuary 5. Navelim Wetland 6. Netravali Wildlife Sanctuary 7. Bondla Wildlife Sanctuary.		
31.	Proposed Dust mitigation measures	Copy of proposed dust mitigation measures is enclosed as <u>Annexure-2</u>		
32.	Proposed Noise mitigation measures	Copy of proposed noise mitigation measures is enclosed as <u>Annexure-3</u>		

33.	Number of trucks plying per day	About 80 Trucks
34.	Details/Drawing of proposed quarry plan	A copy of proposed quarry/mine plan as per the approved Mining plan is enclosed as <u>Annexure-4</u>

1. The project proponent is required to mandatorily comply with the following 'General conditions'

- a) The Environmental Clearance to the aforementioned project is under provisions of EIA Notification, 2006. It does not tantamount to approvals/consent/permissions etc. required to be obtained under any other Act/Rule/regulation. The Project Proponent is under obligation to obtain approvals /clearances under any other Acts/ Regulations or Statutes, as applicable, to the project. PP is under obligation to implement commitments made in the Environment Management Plan, which forms part of this EC.
- b) The Project Proponent shall prominently advertise it at least in two local newspapers of the District or State, of which one shall be in the vernacular language within seven days indicating that the project has been accorded Environment Clearance and the details of MoEF&CC website where it is displayed.
- c) 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 must display the same for 30 days from the date of receipt.
- d) The Project Proponent shall have a well laid down environmental policy duly approved by the Board of Directors (in case of Company) or competent authority, duly prescribing 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.
- e) Action plan for implementing EMP and environmental conditions along with responsibility matrix of the Project Proponent (during construction phase) and authorized entity mandated with compliance of conditions (during operational phase) shall be prepared. The year wise funds earmarked for environmental

protection measures shall be kept in separate account and not to be diverted for any other purpose. Six monthly progress of implementation of action plan shall be reported to the Authority/Ministry/Regional Office along with the Six-Monthly Compliance Report.

- f) Concealing factual data or submission of false/fabricated data may result in revocation of this Environmental Clearance and attract action under the provisions of Environment (Protection) Act, 1986.
- g) The Authority/Regional Office of this MoEF&CC shall monitor compliance of the stipulated conditions. The project Authorities should extend full cooperation to the Officer (s) by furnishing the requisite data /information/monitoring reports.
- h) Any appeal against this EC 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.
- i) This issue with an approval of the Competent Authority.

Specific Conditions

1. The instant Environmental Clearance (EC) is subject to the outcome of the WP 592 of 2022 (MSPL v. State of Goa & Ors.) regarding challenging the constitutionality of the tender documents of Phase I auction of Goa mines and PIL WP 2029/2023 (F) (Suresh Govind Gaonkar & Ors v. Directorate of Mines and Geology & Ors) regarding challenging the state's decision to go ahead with the auction of the mining block.
2. The 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 are different from the CSR activities.
3. The Project Proponent shall create awareness among the local people working within the project area as well as its surrounding area on the ban of Single Use Plastic (SUP) in order to ensure the compliance of Notification published by MoEF&CC on 12/08/2021. A report, along with photographs, on the measures taken shall also be included in the six monthly compliance reports.

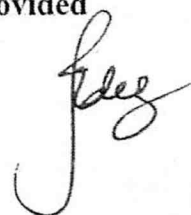
4. The Project Proponent should adopt the proper mitigation measures as proposed under EMP. The adoption of mitigation measures and monitoring of the same as proposed in the EMP shall be done under the supervision of the qualified environmental personnel. The implementation status of the same shall be submitted to this Authority/Ministry's Regional Office.
5. The Project Proponent shall manage the accredited NABL certified agencies for carrying out monitoring of air and water quality parameters on routine basis.
6. The Project Proponent to explore the possibility of using atleast 20% Green Energy Vehicles within 10 years of operation in consultation with stake holders.
7. NOC from the Concerned Local Authority, 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.
8. 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. The preference shall be given to the local people for the purpose of employment as committed by PP.
9. 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 on occupational health shall be carried out 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.



10. 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 this Authority/ Ministry's Regional Office.
11. The Hon'ble Supreme Court has imposed a capping on mining of iron ore to 20 MTPA for the entire State of Goa. Accordingly, the Project Proponent shall first obtain the necessary permission from the Competent Authority with regard to the amount of mineral they can mine per year, before starting its mining operation.
12. The Project Proponent to submit the copy of permission obtained for carrying out common boundary working from Directorate General of Mines Safety (Govt. of India).
13. The Project Proponent to use local available Tippers/ Trucks for system of transportation.
14. The mined out pits will be converted into water reservoirs, pond with other ecotourism facilities like water sports, boating, fishing etc., Pisciculture in mine pits will be developed and also the local community will be involved for cage fishing to make it a commercially viable venture.
15. The ecology restoration or mine reclamation activities should be as per the plan submitted to and approved by Indian Bureau of Mines (Govt. of India) and in future, research institutes to be involved to devise the ecology restoration or mine reclamation plan including local research institute.
16. Regular monitoring and analysis of discharge water and at upstream and downstream of Mapusa/Asnora river and other water bodies needs to be carried out quarterly through NABL/MoEF&CC accredited laboratory.
17. Extensive native fruit bearing plantation shall be carried out in all safety zones with density of 1500 trees/ha.
18. The Project Proponent needs to complete the entire peripheral plantation under green belt, safety barrier plantation and gap plantation within five years from

the start of mining operations. The Project Proponent should plant quality sapling of appropriate height of native and fruit bearing species. In case of tall transplants (seedlings) the seedlings should have proper root stock with root biomass commensurate with seedling height to ensure good growth after plantation. Plantation shall be undertaken in consultation with the State Forest Department/ Bio Diversity Board/Village Biodiversity Committee. The Project Proponent shall make the actual count on the saplings planted and continuously monitored its survival rate. In case of failure to achieve 80% survival rate, action plan for achieving the target survival rate shall be submitted to this Authority/ Ministry's Regional Office.

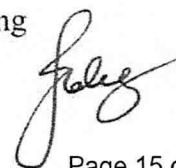
19. The waste dump slopes shall be covered with laterite material and then with biodegradable geotextile mats to prevent the soil erosion of the dump slopes so as to facilitate the growth of native species.
20. The Project Proponent needs to regularly spray with water to arrest the generation of dust on the haul roads within the mining lease area. The main haul road adjacent to mining lease boundary should be provided with water tankers for the dust suppression.
21. The Project Proponent to explore the possibility of replacing the existing trucks of 10.5tons with higher capacity trucks of 25 tones in consultation with the stake holders and the interest of the local community.
22. Fugitive dust monitoring during transportation shall be monitored regularly at all the sensitive receptors and report shall be submitted quarterly to this Authority/ Regional Office. Regular sprinkling shall be done on roads to suppress the dust at the source.
23. The Project Proponent shall adhere to the pollution control measures suggested by the State/Central Pollution Control Board in the environmental guidelines for crushing/screening activity.
24. The wheel washing facility for the ore transport vehicles shall be provided at the exit point of the mine.



25. The Project Proponent needs to strengthen the settling pond with proper stone pitching in line with the design of settling pond considering the annual rainfall, flow rate, catchment area and its discharge.
26. The catch drains and siltation ponds needs to be regularly maintained to arrest silt and sediments flow from dumps.
27. The Project Proponent shall be responsible to develop Green Belt, plantation for ecology restoration by planting native species and also involving local community.
28. Wild Life Conservation Plan prepared in consultation with Forest Department and submitted to DCF North Goa Division to be implemented.
29. The Project Proponent needs to explore the possibility of using advanced/ latest mining technologies available so as to minimize the ecological impacts.
30. 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.
31. 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.
32. 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.
33. 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".



34. The State Pollution Control Board shall be responsible for display of this EC letter at its Regional office, District Industries Centre and Collector's office/ Mamlatdar's Office for 30 days.
35. The Project Proponent 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 Authority/MoEFCC Regional Office for compliance and record.
36. The Project Proponent shall inform this Authority/ 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.
37. The PP to continuously monitor Ambient Air Quality along the transport route and at the mine site and the results of such monitoring to be displayed electronically in front of the main entry and exit gate. The location of the same shall be in consultation with GSPCB.
38. 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/ State Pollution Control Board.
39. 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/SEIAA 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.

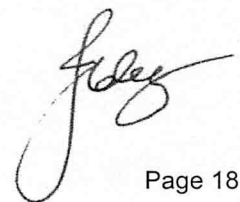
40. The Project Proponent shall regularly monitor and maintain records w.r.t. ground water level and water quality in and around the mine lease by establishing a network of existing wells as well as new piezo-meter installations during the mining operation in consultation with Central Ground Water Authority/State 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.
41. 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 SPCB/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 SEIAA/ 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 this Authority/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.
42. The 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 this Authority/ Regional Office MoEFCC annually.



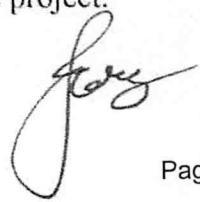
43. Industrial waste water (workshop and waste water from the mine) should be properly collected and treated so as to conform to the notified standards prescribed from time to time. The standards shall be prescribed through Consent to Operate (CTO) issued by concerned State Pollution Control Board (SPCB). The workshop effluent shall be treated after its initial passage through Oil and grease trap.
44. The water balance/water auditing shall be carried out and measure for reducing the consumption of water shall be taken up and reported to this Authority/ Regional Office of the MoEF&CC and the State Pollution Control Board/Committee.
45. 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.
46. 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.
47. 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, Over Burden (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.). As assured by the PP there should be no spillage of ore on the roads, Vehicle

shall not be driven outside the road (shoulders) in order to control the dust pollution and the ore to be transported will be covered by proper tarpaulin sheets (250 GSM or more) to avoid the spillage.

48. 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 this Authority/MoEFCC and its concerned Regional Office.
49. **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.**
50. 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.
51. 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.



52. 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.
53. As presented by the PP the iron ore extracted from the mine will be transported to the Sinkerim Jetty. This transportation route is fully dedicated to Block – II Sirigao Mayem Mineral Block. The distance of the dedicated road is 4.21kms (approx.) and 7.5m width (approx.) whereas 0.62 kms (approx.) is a public road with 4m width (approx.). 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 Proponent should obtain valid Pollution Under Control (PUC) certificate for all the vehicles from authorized pollution testing centers.
54. The Plantation programme to be carried out as per the approved mining plan.
55. The Project Proponent shall make provision for the housing for workers/labourers 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, 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.
56. The Project Proponent shall submit the time- bound action plan to this Authority within 6 months from the date of issuance of Environmental Clearance for undertaking the activities committed during public consultation by the Project Proponent 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.

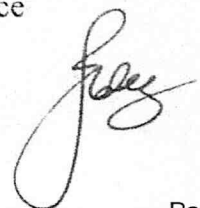


57. The Project Proponent shall prepare digital map (land use & land cover) of the entire lease area once in five years purpose of monitoring land use pattern and submit a report to this Authority/ Concerned Regional Office of the MoEF&CC.
58. The Project Proponent should inform to this Authority/Regional 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.
59. The Project Proponent shall submit six monthly compliance reports on the status of the implementation of the stipulated environmental safeguards to this Authority & its Concerned Regional Office, and the State Pollution Control Board.
60. 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 this Authority.
61. This Authority shall randomly monitor compliance of the stipulated conditions. The project authorities should extend full cooperation to this Authority/ Officer(s) by furnishing the requisite data / information / monitoring reports.
62. 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.
63. This Authority may alter/modify the above conditions or stipulate any further condition in the interest of environment protection.
64. 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.

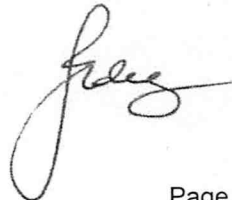
65. The above conditions will be enforced inter-alia, under the provisions of the Water (Prevention & Control of Pollution) Act, 1974, the Air (Prevention & Control of Pollution) Act, 1981, the Environment (Protection) Act, 1986 and the Public Liability Insurance Act, 1991 along with their amendments 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.
66. 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.
67. The project proponent must ensure that the socio-cultural including the religious sentiments of the surrounding villagers does not hamper due to unwanted restrictions.
68. The Project Proponent must ensure that the silt and mine water does not flow into the agricultural lands which have been revived and are being cultivated by the locals. Adequate measure must be in place to prevent any such incidences. Efforts must be made to support agriculture practices wherever possible on a proactive basis.
69. Wildlife conservation is of utmost importance. The location of mines and surrounding areas support variety of wildlife species. Project proponent must prepare wildlife management plan, validate it through the wildlife experts/department of forest and adhere to all the recommendations made and implement in letter and spirit. If the exercise is given to the forest department, the proponent must monitor the preparation and implementation. The same must be reported the compliance reports.
70. To promote academic, scientific and industry collaboration to improve the mining operations, and to take corrective measures, the project proponent may identify local academic/research institutions as potential collaborators to undertake research activities of mines, ecological and social relevance



71. To protect and enhance biodiversity of the mine and surrounding areas, the project proponent may collaborate with local Biodiversity Management Committees (BMC) in developing biodiversity parks, nurseries etc.
72. Efforts need to be made to identify wildlife movement corridors based on the historical data within the mine site and take corrective measures, if any.
73. Support the locals in alternative livelihoods development by promoting eco-tourism related capacity building etc.
74. Dust suppression plan must be in place, covering both within and outside along the roads passing through the villages. Drivers must be trained both on traffic and environmental safeguards. Speed governors must be fitted to the trucks. Speed must not exceed 40 kms per hour as most of the roads leading to the jetties are passing through the villages.
75. Online sensor based Air Monitoring Stations be installed along the transportation routes in consultation with GSPCB and integrated with server of GSPCB and software of DMG.
76. A mandatory 50 meter buffer shall be maintained as per MMDR and Mines Act 1957.
77. The Project Proponent shall abide by all the Circulars, Office Memorandum, Orders issued by the Directorate of Mines and Geology on transportation of Ore and Minerals.
78. PP should plant grasses/ vegetation to check the surface runoff.
79. As assured by the PP there should be no spillage of ore on the roads, Vehicle shall not be driven outside the road (shoulders) in order to control the dust pollution and the ore to be transported will be covered by proper tarpaulin sheets (250 GSM or more) to avoid the spillage.
80. Width of the road utilized for transportation should be such that two vehicle (trucks/tippers) should be able to move or cross each other's comfortably.



81. Maintenance of the road from the mining lease to the jetty will be the responsibility of PP. The PP shall bear the cost of constructing, widening and strengthening of the public road which is utilized for the transportation of ore.
82. The vehicle transporting the ore should not be parked on the road (utilized by public) and allow the flow of traffic on the remaining part of the road during break hours (1 pm. to 2 pm.) Unless and until unavoidable situation arises.
83. Wherever possible the PP should carry out the plantation of native trees along the transport route in consultation with Biodiversity Board/Committee or Forest Department.
84. Certain amount of funds to be allocated for the safety of the villagers due to the mining activity under CSR.
85. Leak proof or spillage proof Trucks/ Tipper shall be used for the transportation of the ore.
86. PP should ensure that there is no spillage of ore, while transferring the ore from the trucks to the barges/railway wagon/ships etc.
87. **In addition to the above, as directed by the Hon'ble High Court of Bombay for the transportation of the ore from the source to the jetty the SOP stipulated by GSPCB strictly to followed: by the PP.**
 - I. **The transporter will first approach the Directorate of Mines and Geology for approval of the route of transportation.**
 - II. **In their application they shall indicate the approximate width of the road and facts about number of houses along the route and availability of alternate route.**
 - III. **The Directorate of Mines and Geology will examine the applications and decide upon the route to be allowed for transportation.**
 - IV. **Upon such approval, the transporter will apply to the GSPCB for setting up monitoring stations on the route.**



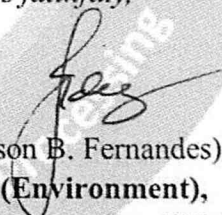
- V. After the GSPCB sets up the stations, the transporter upon receiving transit permit shall ensure that all conditions of transportation are adhered and complied.
- VI. All trucks shall be registered with the Department and fitted with GPS.
- VII. GEL shall continuously monitor vehicle speed and any violation (above 40 km/hr) shall entail penalty i.e. trucks shall be blocked for 3 days and further as per the Order dated 26/04/2016.
- VIII. GEL shall ensure on the Bhumija portal VTS System that the total number of trips shall be restricted per operator on the route to min 20 and maximum 40 per hour.
- IX. Intimation about permitted transport shall be made to SP North, SP South and SP Traffic, informing them that transporter has to strictly follow the Goa (Prevention of Illegal Mining, Storage).
- X. The timing of the Ore Transportation along the designated route should be from 8am to 1pm with a break from 1pm to 2pm and then transportation can continue from 2pm to 5:45pm from the source location.
88. Mask/helmet/Goggles and other safety equipments should be provided to the workers.
89. PP to explore the possibilities of having exclusive road for transportation of ore within 2.5 years from commencement of operation which has been agreed by PP.

Additional Conditions

- a) A distance of 150m has to be maintained from UPL to new Lairaee temple.
- b) A safe distance of more than 50m shall be maintained from UPL to Sidhivinak Ganesh Mandir.
- c) PP to undertake slope stability study and action thereof.

- d) Barricading of 8-10m height to be done along the stretch facing the temple/habitation.
- e) Retaining wall to be constructed to check the surface runoff and to prevent the runoff of drain water into fields.
- f) Road width should be 7.5m along all the transportation route and wherever not possible Flag man to be kept to control the traffic.
- g) PP to train all truck drivers utilized for transporting the ore and the list of trained drivers to be submitted this Authority.
- h) Flag man on both sides of railway underpass at Poirra (minimum 3 people).
- i) PP to install wheel washing facility at the Goshala point (leading to the public road)& at the unloading point at the jetty, which should be utilized by all vehicles transporting the ore.
- j) Geo tagging of trees/samplings planted to be done and to be monitored periodically.
- k) Activities to be undertaken under CSR/CER should be submitted to this Authority.
- l) Validity of the Environmental Clearance (EC) accorded shall be for a period of thirty years or life of the mine whichever is earlier from the date its issue.

Yours faithfully,


(Shri. Johnson B. Fernandes)
Director, (Environment),
Member Secretary, Goa-SEIAA

Copy for favour of information to:

1. The Collector, South Goa District, Margao-Goa.
2. P.A. to Secretary (Environment), Secretariat, Porvorim,Goa.
3. P.S. to Additional Secretary, Ministry of Environment &

Forests(MoEF), Paryavaran Bhavan, C.G.O. Complex, Lodhi Road,
New Delhi - 110510

4. **The Chairman**, Goa-State Environment Impact Assessment Authority.
5. **The Chairman**, Goa-State Expert Appraisal Committee.
6. **Member Secretary, Goa State Biodiversity Board**, Saligao Bardez
Goa - 403511.
7. **Member Secretary**, Goa State Pollution Control Board (GSPCB),
Opp Saligao Seminary, Saligao, Bardez, Goa.
8. **Integrated Regional office Kendriya Sadan**, 4th Floor, E & F Wings,
17th main road, II Block, Koramangala, Bangalore-560034.

