



Government of India
Ministry of Environment, Forest and Climate Change
(Issued by the State Environment Impact Assessment
Authority(SEIAA), KERALA)

To,

The -1
BIJU KARUNAKARAN
Karthika, Kuttikkadu Post, Kadakkal -691536

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 SEIAA vide proposal number SIA/KL/MIN/449132/2023 dated 17 Oct 2023. The particulars of the environmental clearance granted to the project are as below.

- | | |
|--|---|
| 1. EC Identification No. | EC25B001KL132052 |
| 2. File No. | 2415/EC1/2023/SEIAA |
| 3. Project Type | New |
| 4. Category | B |
| 5. Project/Activity including Schedule No. | 1(a) Mining of minerals |
| 6. Name of Project | Granite Building Stone Quarry of Biju M K |
| 7. Name of Company/Organization | BIJU KARUNAKARAN |
| 8. Location of Project | KERALA |
| 9. TOR Date | N/A |

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

Date: 25/01/2025

(e-signed)
Dr Karthikeyan S IAS
Member Secretary
SEIAA - (KERALA)

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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**PROCEEDINGS OF THE
STATE LEVEL ENVIRONMENT IMPACT ASSESSMENT
AUTHORITY – KERALA, THIRUVANANTHAPURAM**

*(Present : Dr.H.Nagesh Prabhu IFS (Retd), Chairman,
Shri.K.Krishna Panicker, Member, Dr. Rathan U.Kelkar IAS, Member Secretary)*

**Sub:- Environmental Clearance for the Granite Building Stone Quarry Project of
Sri. Biju M. K., Karthika, Kuttikkad Post, Kadakkal, Kollam - Granted –
Orders issued.**

STATE LEVEL ENVIRONMENT IMPACT ASSESSMENT AUTHORITY, KERALA

Proposal No. SIA/KL/MIN/449132/2023

File No. 2415/EC1/2023/SEIAA

- Ref: 1. Application for EC received from Sri. Biju M. K. via PARIVESH on
17.10.2023
2. Minutes of the 169th SEAC meeting held on 07th, 08th & 09th August 2024
3. Minutes of the 149th SEIAA meeting held on 28th, 29th & 30th October 2024
4. Proceedings No. D2-QNOC/EE1/KLM/2024 dated 11.12.2024 from the Executive
Engineer, Irrigation Division (Major), Kollam

ENVIRONMENTAL CLEARANCE NO. 238/Q/2024

Sri. Biju M. K., Karthika, Kuttikkad Post, Kadakkal, Kollam submitted an application vide paper read as 1st above for Environmental Clearance for the Granite Building Stone Quarry Project for an area of 4.5000 Ha at Block No.46, Re-Sy Nos. 158/4-3, 158/10, 158/5, 158/6, 158/12-2, 158/7-2, 158/8, 160/18, 160/23-3, 160/23-2, 160/22, 160/20-3-2-2, 164/12, 164/13, 164/1, 164/12-2, 164/2, 164/4-1, 164/5 (Patta land), 158/11, 161/pt, 161/pt, 160/17, 160/23 (Govt. land) in Ittiva village, Kottarakkara Taluk, Kollam.

1) **Project Details**

| Sl. No. | Particulars | Details |
|---------|---|---|
| 1 | Name of the Project | Granite Building Stone Quarry Project of Sri. Biju M. K |
| 2 | Proposed Activity | Mining of Granite Building Stone |
| 3 | Name of the Sector & Schedule No. (in the EIA Notification, 2006) | Non Coal mining, Activity 1(a), Category B2 |
| 4 | Name & Address of the Project Proponent | Sri. Biju M. K. Karthika Kuttikkad Post Kadakkal, Kollam- 691536 |
| 5 | Project Location | |
| | a) Block No. | 46 |
| | b) Re-Survey Nos. | 158/4-3, 158/10, 158/5, 158/6, 158/12-2, 158/7-2, 158/8, 160/18, 160/23-3, 160/23-2, 160/22, 160/20-3-2-2, 164/12, 164/13, 164/1, 164/12-2, 164/2, 164/4-1, 164/5 (Patta land), 158/11, 161/pt, 161/pt, 160/17, 160/23 (Govt. land) |
| | c) Revenue Village | Ittiva |
| | d) Taluk | Kottarakkara |
| | e) District | Kollam |
| 6 | Extent (in Hectare) | 4.5000 Ha |
| 7 | Project Cost (in Crore) | ₹ 4.58 Crore |
| 8 | Mineable Reserve | The Mining & Geology Department shall reassess the mineable reserve as per Specific Condition No. (4). |
| 9 | Field Inspection Date | 09.12.2023 |

2) EMP Details

| Sl. No. | Particulars | Details | Capital Cost (Rs) | Recurring Cost/year (Rs) |
|--------------------|--|---|-------------------|--------------------------|
| 1 | Air Pollution Control | Water sprinkler | 5,00,000 | 50,000 |
| 2 | Water Pollution Control | Garland Drains and Silt traps | 7,00,000 | 70,000 |
| 3 | Green Belt Development Including cost of afforestation | Saplings, Plant Guard including cost of Landscaping | 4,00,000 | 50,000 |
| 4 | Domestic Effluent management | Dumping Yard retaining wall | 5,00,000 | 80,000 |
| 5 | Occupational Health and Safety | Helmet, Mask, Hand Gloves, Mining Safety Shoes | 2,00,000 | - |
| 6 | Reclamation/Rehabilitation of Mined out Area | Saplings, Plant Guard including cost of Landscaping | 3,00,000 | 50,000 |
| Total | | | 26,00,000 | 3,00,000 (per year) |
| | | | | 42,00,000 (for 14 years) |
| Grand Total | | | 68,00,000 | |

3) CER Details

| Sl. No. | Details | Total (Rs.) |
|--|---|-------------|
| I. BUDS SCHOOL, CHUNDA IN FIRST & SECOND YEAR | | |
| 1 | Approach Road maintenance | 1,00,000 |
| 2 | Child Friendly painting with full building painting | 1,00,000 |
| 3 | Interlocking on the school premises | 1,00,000 |
| 4 | Water Purifier | 25,000 |
| 5 | Shelf Big size (4 Nos) | 25,000 |
| 6 | Desk (5 nos) | 25,000 |
| 7 | Teachers Table (3 nos) | 25,000 |
| 8 | Study materials (Chart & Sketch) | 10,000 |
| 9 | Color Printer | 15,000 |
| 10 | Kitchen Utensils | 1,00,000 |

| | | |
|---|---|------------------|
| | MEDICAL EQUIPMENTS | |
| 1 | BP Apparatus | |
| 2 | Stethoscope | 3,00,000 |
| 3 | Weighing Machine | |
| 4 | Glucometer | |
| 5 | Stadiometer | |
| 6 | Ultra Sound (Physio Therapy) | |
| | TOTAL | 8,25,000 |
| 1 | Maintenance cost from 3 rd year to 15 th year @ Rs. 25,000/- year (Building Paintings, Equipments Maintenance and other Maintenance etc.) | 6,50,000 |
| | GRAND TOTAL UP TO THE LIFE OF MINE | 14,75,000 |
| | II. PHC, CHUNDA IN FIRST & SECOND YEAR | |
| 1 | Shifting the existing O.P Counter to the outside hall premise. | |
| 2 | To cover the frontage area of the PHC using brick wall & G I mesh | 8,00,000 |
| 3 | Painting, other maintenance works of the existing building | |
| | SUB HEALTH CENTER VAYYANAM IN FIRST & SECOND YEAR | |
| 1 | Construct a lean to structure on the front portion of the existing building | |
| 2 | Flooring, covering of 3 sides with brick wall and G I mesh | 4,00,000 |
| 3 | Electrical maintenance in the existing building | |
| 4 | Painting of the existing building | |
| | TOTAL | 12,00,000 |
| 1 | Maintenance cost from 3 rd year to 15 th year @ Rs. 1,00,000/- year | 13,00,000 |
| | GRAND TOTAL UP TO THE LIFE OF MINE | 25,00,000 |
| | III. ANGANAWADI, ITTIVA IN FIRST & SECOND YEAR | |
| 1 | Truss work and metal sheet roofing covering sides with brick wall and G I mesh. | 1,50,000 |
| 2 | Painting of the whole building | 25,000 |
| | TOTAL | 1,75,000 |
| 1 | Maintenance cost from 3 rd year to 15 th year @ Rs. 25,000/- year | 3,25,000 |
| | GRAND TOTAL UP TO THE LIFE OF MINE | 5,00,000 |
| | IV. DRINKING WATER PROJECT IN ITTIVA, KALAYANIMUKKU IN FIRST YEAR | |

| | | |
|---|---|------------------|
| 1 | 5000 litre Capacity Water tank Installation and other fittings including labor | 1,00,000 |
| 2 | Recurring cost from 1 st year to 15 th year for transportation of water by Tanker lorry @ Rs. 50,000/- year | 7,50,000 |
| GRAND TOTAL UP TO THE LIFE OF MINE | | 8,50,000 |
| LP SHOOL VAYYANAM IN SECOND YEAR | | |
| 1 | Roofing 2000 sq. ft. in front of the existing stage | 3,00,000 |
| 2 | Entire area of the above roofing floor area | 2,00,000 |
| TOTAL | | 5,00,000 |
| GRAND TOTAL | | 58,25,000 |

2. After due appraisal, in the 169th meeting, the SEAC recommended EC for a period of 15 (Fifteen) years subject to certain Specific Conditions in addition to the General Conditions.

3. In the 149th meeting, the Authority noted that the SEAC had appraised the proposal based on Form-1, Pre-Feasibility Report, Mining Plan, additional details/documents obtained from the Project Proponent during appraisal including the Field Inspection Report and recommended EC for 15 years subject to certain Specific Conditions in addition to the General Conditions, after the submission of NOC from the Irrigation Department in compliance to Section 40(2) of the Kerala Irrigation and Water Conservation Act, 2003 as ordered by the Hon'ble High Court of Kerala in WP(C) No.30737/2022 dated 19.04.2024.

The Authority noted that for the sustainable management of quarry operations, the approved mining plan is revised every five years till the project life of mine as per KMMC Rules, incorporating scheme of activities to be carried out for the next 5 years. Authority is of the opinion that it is essential to match these procedures and time lines followed in the department of Mining and Geology with the time lines of ECs issued for the sustainable management of quarry operations and protection of environment in the project region.

In these circumstances, the Authority decided to accept the recommendations of 169th SEAC meeting and to issue **Environmental Clearance initially for a period of 5 years from the date of execution of mine lease / permit and then to extend the EC period to cover the project life of 15 (Fifteen) years**, subject to the review by SEAC at the end of every five years, to verify whether the Project Proponent has violated any of the EC

conditions and thereby caused any damage to the Environment in the project region. The issuance of EC is subject to the production of NOC from the Irrigation Department. The project proponent has submitted the NOC from the Executive Engineer, Irrigation Division (Major), Kollam vide Proceedings No. D2-QNOC/EE1/KLM/2024 dated 11.12.2024.

The EC is subject to General Conditions and the following Additional Specific Conditions.

- 1. The Project Proponent shall carry out quarrying as per the approved Mining Plan (revised) and as per the Specific Conditions mentioned hereafter. The Project Proponent should strictly follow the Kerala Minor Mineral Concession Rules 2015 and amendments thereby.*
- 2. The EC shall be valid from the date of execution of permit/lease from the Department of Mining and Geology. The copy of the permit / lease order should be provided to the SEIAA before commencing the mining activity.*
- 3. The EC issued will be subject to a review by SEAC after every 5 years through field verification to ensure that mining is carried out sustainably as per the EC conditions.*
- 4. The depth of mining should be limited to 120m above MSL, to prevent the intersection with groundwater table. The mining should be limited to the mineable resources assessed as per the revised mining plan approved on 25.10.2024.*
- 5. A minimum distance of 50m buffer should be kept between the built structures and the boundary of the proposed mine.*
- 6. The conditions stipulated in the NOC cited 4th, shall be scrupulously followed by the Project Proponent.*
- 7. Development of green belt should be initiated prior to the commencement of mining using indigenous species. The suggested species are Phyllanthus emblica (Nelli), Syzygium cumini (Njaval), Writia tinctoria (Dhanthapala), Ficus bengalensis (Peral), Ficus racemosa (Atti), Bambusa bamboos (Mullumula), Dendrocalamus strictus (Kallan mula), Strychnos nuxvomica (Kanjiram), Terminalia cattappa (Thanni), Schleicheria oleosa (Poovam), Artocarpus hirsutus (Ayiniplavu) etc.*
- 8. Compensatory afforestation should be done prior to the commencement of mining, by planting local species of trees on available land owned by the proponent, at the lower portion of the land.*

9. *Drainage system incorporating garland canal, silt traps, siltation pond and outflow channel connecting to a natural drain should be provided prior to the commencement of mining.*
10. *Overflow water from the siltation pond should be discharged to the nearby natural drain after adequate filtration*
11. *Garland drain, silt-traps, siltation ponds and outflow channel should be desilted periodically and geo-tagged photographs of the process should be included in the half-yearly compliance report (HYCR).*
12. *Drainage water should be monitored at different seasons by an NABL accredited lab and clear water should only be discharged into the natural stream. Geotagged photographs of the drainage and sampling site should be submitted along with HYCR.*
13. *A temporary wall of 5m height should be erected at appropriate locations on the boundary to avoid disturbance and nuisance to the nearby residents.*
14. *Overburden should be stored at the designed place and gabion wall should be provided for the topsoil and overburden storage sites. It should be ensured that that the overburden storage area should not be near any drainage lines.*
15. ***Geo textiles shall be extensively used along with planting suitable grass species to stabilise the over burden in the initial years followed by planting suitable tree species in the subsequent years to stabilise the overburden in the long run in the project area. The photographs of this exercise shall be enclosed along with half yearly completion reports.***
16. *The impact of vibration due to blasting on the houses and other built structures within 200m distance from the project boundary should be monitored in terms of Peak Particle Velocity and amplitude for maximum charge per delay and included in the Half Yearly Compliance Report.*
17. *Geotagged photographs of the progress of compensatory afforestation should be submitted along with HYCR*
18. *Implementation of CER Plan should be done during the first two years of the EC period itself and its operation and maintenance should be done till the completion of mine closure plan.*

19. *The haulage road should be provided with sprinkling facility to prevent dust pollution.*
20. *Transportation of mined material should not be done during the peak hours in the forenoon (8.00am to 10.00am) and afternoon (3.30pm to 5.00 pm).*
21. *Adequate sanitation, waste management and restroom facilities should be provided to the workers.*
22. *Adequate energy conservation measures should be implemented including solar power installations. At least 40% of the energy requirement shall be met from the solar power*
23. *The Environment Management Cell (EMC) should include one subject expert in environment management. The proceedings of the monthly meeting of the EMC should be submitted along with the HYCR.*
24. *Adequate number of avenue trees of indigenous species should be planted along both sides of the haulage road.*
25. *Adequate measures should be adopted to harvest the rainwater as per the guidelines issued by the Central Groundwater Authority.*
26. *Blasting mats should be used during rock blasting to contain the blast, prevent fly rocks and suppress dust.*
27. *In the wake of occurrence of large-scale landslides in the state, as per the information provided by the Department of Mining & Geology, it is directed to use only NONEL (Non Electrical) technology for blasting to reduce the vibration of the ground, which is one of the causative factors that triggers landslides, formation of cracks in the surrounding buildings and disturbance to human and wildlife.*
28. *As per OM no F.No.22-65/2017-IA.III dated 30th September 2020, under Corporate Environmental Responsibility (CER) the Project Proponent should implement the Environment Management Plan (EMP)/CER as directed by SEAC during appraisal, covering the issues to address the environmental problems in the project region, from the beginning of the project, indicating both physical and financial targets year wise. The EMP/CER shall be implemented in consultation with Local Self Govt. Institutions. A copy of the approved EMP/CER shall be made available to the*

concerned Panchayat for information and implementation support. The indicated cost for implementation of CER activities shall be 2% of the project cost.

29. As per the directions contained in the OM F.No.22-34/2018-IA.III dated 16th January 2020 issued by MoEF&CC, in obedience to the directions of the Hon'ble Supreme Court the Project Proponent shall, undertake re-grassing the mining area and any other area which may have been disturbed due to his mining activities and restore the land to a condition which is fit for growth of fodder, flora, fauna etc. The compliance of this direction shall be included in the Half Yearly Compliance Report which will be monitored by SEAC at regular intervals.

30. The Project Proponent is directed to install a CCTV camera and take all other essential measures to ensure that mining site is not used by antisocial elements for nefarious antisocial activities which are detrimental for peaceful coexistence in the project region. In case if such complaints are received, the EC given is likely to be cancelled after a police verification

31. The violation of EC condition may lead to cancellation of EC and action under The Environment (Protection) Act 1986.

4. Environmental Clearance as per the EIA Notification, 2006 is hereby accorded for the Granite Building Stone Quarry Project of Sri. Biju M. K., Karthika, Kuttikkad Post, Kadakkal, Kollam an area of 4.5000 Ha at Block No. 46, Re-Sy Nos. 158/4-3, 158/10, 158/5, 158/6, 158/12-2, 158/7-2, 158/8, 160/18, 160/23-3, 160/23-2, 160/22, 160/20-3-2-2, 164/12, 164/13, 164/1, 164/12-2, 164/2, 164/4-1, 164/5 (Patta land), 158/11, 161/pt, 161/pt, 160/17, 160/23 (Govt. land) in Ittiva Village, Kottarakkara Taluk Kollam, initially for a period of 5 years from the date of execution of mine lease / permit as per S.O.1807 (E) dated 12.04.2022 of MoEF & CC and then to extend the EC period to cover the project life of 15 (Fifteen) years subject to the review by SEAC at the end of every five years, for the quantity reassessed by the Mining & Geology Department as per specific condition No.(4). The EC is subject to the Specific Conditions stipulated by SEIAA in Para 3 above, and all the environmental impact mitigation and management measures undertaken by the Project Proponent in the Form I, EMP, PFR and revised Mining Plan submitted to SEIAA. The assurances and clarifications given by the Project Proponent will deemed to be a part of this Proceedings as if incorporated

herein. Also the General Conditions for projects stipulated for mining (items 1 to 57), mentioned below will be applicable and have to be strictly adhered to.

5. The Environmental Clearance issued will also be subject to full and effective implementation of all the undertakings given in the Application Form, mitigation measures as assured in the Environment Management Plan and the mining features including Progressive Mine Closure Plan as submitted with the application. The above undertakings and the conditions and the undertakings of the Mining Plan in (Mining), (Blasting), (Mines Drainage), (Stacking of Mineral rejects and Disposal of waste), (Environment Management Plan) & (Progressive Mine Closure Plan) as submitted will deemed to be part of this Proceedings as conditions as undertaken by the project proponent, as if incorporated herein.

6. Validity of the Environmental Clearance will be initially for **Five (5) years** and then to extend the EC period to cover the project life of **15 (Fifteen) years**, subject to the review by SEAC in every five years, or earlier review of EC in case of violation or non – compliance of any of the conditions or genuine complaints from residents within the security area of the quarry.

7. Compliance with the conditions herein will be monitored by the State Level Environment Impact Assessment Authority or its authorised offices and also by the Regional Office of the Ministry of Environment, Forest & Climate Change, Govt. of India, Bangalore. Necessary assistance for entry and inspection should be provided by the Project Proponent and those who are engaged or entrusted by him to the staff for inspection or monitoring. Instances of violation if any shall be reported to the **District Collector, Kollam** by the State Level Environment Impact Assessment Authority – Kerala.

8. The Half Yearly Compliance Report (HYCRs) with name of the project, EC No. and date, the period of submission with its contents, compliance report and environmental monitoring data & covering letter have to be uploaded in the Parivesh Portal as per O.M. F.No.IA3-22/1/2022-IA-III(E)-17264 dated 14.06.2022 and on the website of the Project Proponent. Hardcopy of HYCRs shall not be acceptable.

9. The given address for correspondence with the authorised signatory of the project is Sri. Biju M. K., Karthika, Kuttikkad Post, Kadakkal, Kollam - 691536.

GENERAL CONDITIONS

1. *The proponent should provide notarized affidavit (indicating the number and date of Environmental Clearance proceedings) that all the conditions stipulated in the EC shall be scrupulously followed.*
2. *All the statutory clearances should be obtained, as applicable, by the project proponent from the respective competent authorities including that for blasting and storage of explosives. Copies of all statutory clearances shall be submitted along with First Half Yearly Compliance Report.*
3. *The project proponent should advertise in news papers that the project has been accorded Environmental Clearance and copies of clearance letters are available in the Office of State Environment Impact Assessment Authority (SEIAA) and on the website of the Authority at www.seiaakerala.in. The advertisement should be in at least two local newspapers widely circulated in the region, one of which shall be in the vernacular language. The advertisement should be made within 10 days from the date of receipt of the Environmental Clearance letter and a copy of the same signed in all pages should be forwarded to the office of this Authority as confirmation.*
4. *The proponent shall send a copy of the EC to concerned Grama Panchayat/ District Panchayat/ Municipality/Corporation/Urban Local Body and also to the Local NGO, if any, from whom suggestions/representations, if any, were received while processing the proposal. The Environmental Clearance shall also be uploaded on the website of the company.*
5. *The lease area shall be fenced with barbed wire to a minimum height of 4ft around, before starting mining. All the boundary indicators (boards, markings, etc) shall be conspicuous and maintained at all times.*
6. *The details of Environmental Clearance should be prominently displayed in a metallic board of 3 ft x 3 ft with green background and yellow letters of Times New Roman font size of not less than 40. Sign board with extent of lease area and boundaries shall be depicted at the entrance of the quarry, visible to the public.*
7. *Explosives should be stored in magazines in isolated place specified and approved by the Explosives Department. Mats to reduce fly rock blasts to a maximum of 10 PPV should be provided.*
8. *Warning alarms indicating the time of blasting (to be done at specific timings) has to be*

arranged stipulated by Explosive Department.

- 9. Access roads to the quarry shall be black topped to contain dust emissions that may arise during transportation of materials. The transportation of minerals should be done in covered trucks to contain dust emissions.*
- 10. A separate Environmental Management Cell (EMC) with suitable qualified personnel should be set-up under the chairmanship of a Senior Executive, who will report directly to the Head of the Organization. The Cell should have representative of Biodiversity Management Committee of the Panchayath and a representative of NGO, if any active in the area. The EMC should meet at least once in six months and review the activities and minutes should be a part of the compliance report.*
- 11. Quarrying has to be carried out as per approved mining plan with the suggestions from SEAC incorporated and following KMMC rules 2015 and the Amendments thereby.*
- 12. The quarrying operation (blasting) shall be restricted between 7 AM and 5PM*
- 13. Rain Water Harvesting facility should be installed as per the prevailing provisions of KMBR/KPBR, unless otherwise specified. Maximum possible solar energy generation and utilization shall be ensured as an essential part of the project.*
- 14. Maximum depth of mining shall be as per the mining plan and as per specific direction of SEAC after field inspection. The maximum depth of mining should not be deeper than the local ground water table. No mining operations should be carried out at places having a slope greater than 45°.*
- 15. The height of any bench shall not exceed five meters and breadth shall not be less than the height.*
- 16. The Project proponent shall ensure that no perennial or intermittent natural water course and/or water resources are obstructed due to any mining operations. Necessary safeguard measures to protect the first order streams, if any, originating from the mine lease shall be taken.*
- 17. A minimum buffer distance specified as per existing rules and statutory orders shall be maintained from the boundary of the quarry to the nearest dwelling unit or other structures, and from forest boundaries or any other ecologically sensitive and archeologically important areas or the specific distance specified by SEIAA in EC as per the recommendations of SEAC depending on specific local conditions.*
- 18. The proponent should plant seedlings at least 5 times of the loss of trees that has occurred while clearing the land for the project and follow planting measures as*

suggested by SEAC. Suitable avenue trees should be planted along the sides of the approach road and internal roads and open parking areas, if any. Preference should be given to endemic native and fruit bearing species. Planting in buffer areas should be taken up beforehand. Proper upkeep and maintenance of planted seedlings shall be ensured by the project proponent.

- 19. The proponent should ensure that the vegetation in the buffer is retained, maintained and strengthened with additions of native broad leaved plants.*
- 20. Eco-restoration including the closure of mine as per the progressive closure plan and final closure plan shall be done at the cost of the project proponent. This eco-restoration should follow scientific standards available for restoration, full recovery of the original vegetation and improving the resilience of different ecosystems. Overburden materials should be managed within the site and used for reclamation of mined pit as per mine closure plan / specific conditions.*
- 21. At least 10 percent out of the total excavated pit area should be retained as water storage areas and the remaining area should be reclaimed with stacked dumping and overburden and planted with suitable indigenous plant species, if no other specific condition on reclamation of pit is stipulated in the E.C. Monitoring and management of rehabilitated areas should continue until the vegetation becomes self-sustaining.*
- 22. Control measures on noise and vibration prescribed by KSPCB should be implemented. Quarrying activities should be limited to day time as per KSPCB guidelines/specific conditions.*
- 23. Periodical monitoring of the vibration at specified location (preferably at a distance of 50 m and 100 m) to be conducted and records kept for inspection. This could also form a part of the compliance reports.*
- 24. Speed of trucks entering or leaving the mine site is to be limited to moderate speed of 25 kmph to prevent undue noise from empty trucks.*
- 25. Acoustic enclosures should be provided to reduce sound amplifications in addition to the provisions of green belt and hollow brick envelop for crushers so that the noise level is kept within prescribed standard limit indicated by CPCB/KSPCB.*
- 26. Blasting should be done in a controlled manner using NONEL technique as specified by the regulations of Petroleum and explosive safety organization (GOI) or any other concerned authorized agency. A licensed person should supervise/ control the blasting operations.*

27. *Measures should be taken for maintaining noise levels below 85 dBA in the work environment.*
28. *Project proponent should obtain necessary prior permission of the competent authorities for drawing requisite quantity of surface water and ground water for the project.*
29. *Regular monitoring of flow rates and water quality upstream and downstream of the springs and perennial nallahs flowing in and around the mine lease area shall be carried out and reported in the six monthly compliance reports to SEIAA.*
30. *Catch drains and siltation ponds of appropriate size shall be constructed around the mine working, mineral and OB dumps, to prevent run off of water and flow of sediments directly into the river and other water bodies. The water so collected should be utilized for watering the mine area, roads, and for green belt development etc. The drains shall be regularly desilted and maintained properly, particularly after monsoon.*
31. *Regular monitoring of ground water level and quality shall be carried out around the mine area during mining operation. If any stage, if it is observed that ground water table is getting depleted due to the mining activity; necessary corrective measures shall be carried out.*
32. *Garland drains and silt traps are to be provided in the slopes around the core area to channelize storm water. De-silting of Garland canal and silt traps have to be attended on a daily basis. A labour has to be specifically assigned for the purpose. The proponent shall ensure the quality of the discharging storm water as per the General Effluent Discharge Standards of CPCB.*
33. *In the case of any change(s) in the scope of the project, extent, quantity, process of mining technology involved or in any way affecting the environmental parameters/impacts as assessed, based on which the E.C was issued, the project would require a fresh appraisal by this Authority, for which the proponent shall apply and get the approval of this Authority. In the case of transfer of ECs, the matter shall be intimated and get the approval from the Authority as per the existing norms.*
34. *The stipulations by Statutory Authorities under different Acts and Notifications should be complied with, including the provisions of Water (Prevention and Control of Pollution) Act, 1974, the Air (Prevention and control of Pollution) Act 1981, the Environment (Protection) Act, 1986, the Public Liability (Insurance) Act, 1991 and EIA Notification, 2006.*

35. *The top soil, if any, shall be temporarily stored at earmarked place (s) and used for land reclamation and plantation. The over burden (OB) generated during the mining operations shall be stacked at earmarked dump site(s) only. The maximum height of the dumps shall not exceed 8m and width 20m and overall slope of the dumps shall be maintained at 45⁰. The OB dumps should be scientifically vegetated with suitable native species to prevent erosion and surface run off. At critical points, use of geo textile shall be undertaken for stabilization of the dump. Protective wall or gabions should be made around the dump to prevent erosion / flow of sediments during rains. The entire excavated area shall be backfilled.*
36. *All the mining equipment used in Mining like backhoe loaders and excavators cause pollution and hence shall be serviced regularly & maintained for their efficient functioning and for reducing pollution. Disposal of spent oil from diesel engines should be as specified under relevant Rules/ Regulations.*
37. *All vehicles used for transportation and within the mines shall have 'PUC' certificate from authorized pollution checking centre. Washing of all vehicles shall be inside the lease area. .*
38. *Effective safeguard measures such as regular water sprinkling shall be carried out in critical areas prone to air pollution such as haul road, loading and unloading points and transfer points and having high levels of PM₁₀ and PM_{2.5}. Monitoring of Ambient Air Quality to be carried out based on the Notification 2009, as amended from time to time by the Central Pollution Control Board.*
39. *Fugitive dust emissions from all the sources should be controlled regularly. Water spraying arrangement at project site, parking area, on haul roads, loading and unloading and at transport points should be provided and properly maintained.*
40. *Corporate Environmental Responsibilities (CER) as prescribed by SEIAA/SEAC should be carried out leading to Environmental stability of the Project region. The activities carried out under CER should be a part of the half yearly compliance report. The certificates from the beneficiaries, if the CER part is completed should also be submitted to the State Environment Impact Assessment Authority (SEIAA) along with year wise expenditure.*
41. *The project proponent is responsible for implementing all the provisions of labour laws applicable from time to time to quarrying /Mining operations. The workers on the site should be provided with on-site accommodation or facilities at a suitable boarding*

- place, protective equipment such as ear muffs, helmet, etc.*
- 42. The proponent has to provide insurance protection to the workers in the case of existing mining or provide the affidavit in case of fresh lease before execution of mining lease.*
 - 43. Occupational health surveillance program of the workers should be undertaken periodically to observe any contractions due to exposure to dust and take corrective measures, if needed. The report of health surveillance programme should be included in the half yearly compliance reports.*
 - 44. The pits in the abandoned quarries and in the mined area shall be used for activities like water harvesting, aqua culture etc. in an eco friendly manner.*
 - 45. If Government land is partly or fully used for mining, the area shall be returned at the end of lease period after mine closure with separate demarcation with suitable survey marks.*
 - 46. Any accident occurring in the mined out area after the lease period due to negligence in carrying out safety measures and non-closure , will lead to suspension of all EC obtained for mining by the Proponent.*
 - 47. In case of transfer of EC the matter shall be intimated and approval from the Authority shall be obtained as per the existing norms.*
 - 48. The proponent shall submit Half Yearly Compliance Reports (1st of June & 1st of December) on the status of compliance of the stipulated EC conditions including results of monitored data (both in hard copies as well as by e-mail) and upload the status of compliance of the stipulated EC conditions, including results of monitored data on their website and shall update the same periodically. It shall be simultaneously sent to the respective Regional Office of Ministry of Environment, Forests and Climate Change, Govt. of India and also to the Office of State Environment Impact Assessment Authority (SEIAA). The proponent has to submit Environmental statement in form V of Environment (Protection) Rules 1986 to SPCB on 31st March every year.*
 - 49. The project authorities should extend full cooperation to the officer (s) from the Regional Office of MOEF & CC located at Bangalore/SEAC/SPCB/CPCB/Dept. of Mining and Geology, while monitoring compliance of the stipulated conditions, by furnishing the requisite data/information/monitoring reports.*
 - 50. The above conditions shall prevail notwithstanding anything to the contrary, in consistent, or simplified, contained in any other permit, license on consent given by any other authority for the same project.*

51. *The Authority reserves the right to add additional safeguard measures subsequently, if found necessary, and to take action including revoking of the Environment Clearance under the provisions of the Environment (Protection) Act, 1986, to ensure effective implementation of the suggested safeguard measures in a time bound and satisfactory manner.*
52. *The EC given will be withdrawn at any time if the area is declared high hazardous by the SDMA.*
53. *The Environmental Clearance will be subject to the final order of the courts on any pending litigation related to the land or project, in any court of law.*
54. *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.*
55. *Concealing the factual data or submission of false/fabricated data and failure to comply with any of the conditions mentioned above may result in withdrawal of this clearance and attract action under the provisions of Environment (Protection) Act, 1986.*
56. *The SEIAA may revoke or suspend the order, for non implementation of any of the specific or any of the above conditions. The SEIAA reserves the right to alter/modify the above conditions or stipulate any further condition in the interest of environmental protection.*
57. *As per regulation no. 106(2) of metalliferous mines regulation under Mine act, the height of any bench shall not exceed six meters and breadth shall not be less than the height.*

To

Sri. Biju M. K.
Karthika
Kuttikkad P. O
Kadakkal
Kollam- 691536

Copy to:

1. MoEF Regional Office, Southern Zone, Kendriya Sadan, 4th Floor, E&F Wing, II Block, Koramangala, Bangalore-560034.(through e-mail: rosz.bng-mefcc@gov.in)
2. The Secretary to Government, Environment Department, Government of Kerala
3. The Director, Directorate of Environment & Climate Change, 4th Floor KSRTC Bus Terminal, Thampanoor, Thiruvananthapuram, Kerala 695001.
4. The District Collector, Kollam
5. The Director, Mining & Geology, Thiruvananthapuram-4.
6. The Member Secretary, KSPCB, Trivandrum
7. The Environmental Engineer, KSPCB, Kollam
8. The District Geologist, Kollam
9. The Tahasildar, Kottarakkara Taluk, Kollam
10. The Secretary, Ittiva Grama Panchayat, Kollam
11. The Chairman, SEIAA.
- 12 .Website.
13. S/f/O/c