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Proceedings of the State Environment Impact Assessment Authority Kerala

*Present: Prof. (Dr.) K.P. Joy, Chairman; Dr. J. Subhashini, Member and
Sri. James Varghese, I.A.S., Member Secretary.*

Sub: SEIAA- Environmental clearance for the quarry project in Sy.No. 65/1, 3, 5, 6, 7, 10, 12, 13, 74/4, 5 and 6 at Nellanad Village and Panchayath, Nedumangadu Taluk, Thiruvananthapuram District, Kerala by Sri. Abdul Salam Pookunju, M/s Aaraamam Rock (P) LTD. - EC granted – Orders issued.

STATE ENVIRONMENTAL IMPACT ASSESSMENT AUTHORITY, KERALA

No. 624/SEIAA/KL/4807/2014

Dated, Thiruvananthapuram. 12.06.2017

- Ref:
1. Application dated 09.10.2014 from Sri. Abdul Salam Pookunju (Managing Director), M/s Aaraamam Rock (P) Ltd., 5/714, Nellanadu P.O., Keezhayikonam, Venjaramoodu, Thiruvananthapuram District, Kerala-695606
 2. Minutes of the 45th meeting of SEAC held on 11th & 12th September 2015
 3. Minutes of the 46th meeting of SEAC held on 29th & 30th September 2015
 4. Minutes of the 59th meeting of SEAC held on 11th & 12th July 2016
 5. Minutes of the 58th meeting of SEIAA held on 08th September 2016
 6. Minutes of the 61st meeting of SEIAA held on 30th November 2016
 7. Minutes of the 65th meeting of SEIAA held on 22nd March 2017
 8. Affidavit dated.18.04.17 from Sri.Abdul Salam Pookunju, M/s Aaraamam Rock (P) Ltd.

ENVIRONMENTAL CLEARANCE NO.40/2017

Sri. Abdul Salam Pookunju (Managing Director), M/s Aaraamam Rock (P) Ltd., 5/714, Nellanadu P.O., Keezhayikonam, Venjaramoodu, Thiruvananthapuram District, Kerala-695606 vide his application received on 09.10.2014, has sought Environmental Clearance under EIA Notification, 2006 for the quarry project in Sy.No. 65/1, 3, 5, 6, 7, 10, 12, 13, 74/4, 5 and 6 at Nellanad Village and Panchayath, Nedumangadu Taluk, Thiruvananthapuram District, Kerala for an area of 4.8686 hectares. The project comes under Category B, Activity 1(a), (i) as per the Schedule of EIA Notification 2006 (since it is below 50 hectares) and as per O.M. No. L-11011/47/2011-IA.II(M) dated 18th May 2012 of Ministry of Environment and Forests. The project comes under Category B, Activity 1(a), (i) as per the Schedule of EIA Notification 2006 (since it is below 50 hectares) and as per O.M.

No. L-11011/47/2011-IA.II (M) dated 18th May 2012 of Ministry of Environment and Forests.

Basic Details	
Name of the Project	Quarry project of M/s Aaraamam Rock (P) Ltd.
Survey Numbers	Survey Nos. 65/1, 3, 5, 6, 7, 10, 12, 13, 74/4, 5, 6
Village	Nellanad
Tehsil	Nedumangadu
District	Thiruvananthapuram
Extent of land in hectars	4.8686 hectares
Period of lease	2006-2018 (1.1250 ha)
Is the property forest land/Govt. land/ own land	Private own land
Latitude (N)	08 ⁰ 42'37.08" to 08 ⁰ 42'27.28"N
Longitude (E)	76 ⁰ 53'55.38" to 76 ⁰ 53'45.31" E
Extent of area (in hectares)	4.8686 hectares
Minimum and maximum height of excavation (MSL)	95 m MSL to 175 m MSL
Life of mine proposed	About 17 years
Distance of mining area from nearest human settlement	About 103 m., W side from the site.
Ultimate depth of mining (in MSL)	95 m MSL.
Distance from the adjacent quarry	There is no quarry in operation within 500m.
Cluster condition (if any)	There is no quarry in operation within 500m
Proposed production capacity	2,00,000 MTA
Expected life of mine	About 17 years
Expected cost of the project	Rs. 3 Crores
Interlinked project (if any)	The quarry is interlinked with a crusher unit within the complex
Whether CRZ is applicable	NA
Status of litigation/complaint/cases	No
Permanent or temporary change on land use, land cover or topography	The land use classification as per revenue records is rocky area with private land. The mining activity will have localized impact and create physical change in the existing environment due to the change in the existing land use. At the end of life of mine, the excavated pit will be backfilled and reclaimed and rehabilitated by plantation leaving no void.
Topography of land and elevation	The physiography of the surrounding of the lease area is a part of elevated terrain with quarry land with some native trees, shrub, herb, climbers & grass etc. The topography of the lease area is hilly terrain. The highest elevation of the lease area is 175 m. MSL and lowest is 95 m. MSL. As the proposed area is hill rock,

	the drainage of the lease area is towards west side.
Vegetation	Part of the proposed land is already under mining and there is no vegetation in that area. The remaining land in the proposed land is mostly covered with native trees, shrubs, herbs, grass, climbers etc
Nearest water body	Vamanapuram River, 1 km., NW Sea – within 15 km., SW Anchuthengu Kayal, 13 km., W Thodu - 3.30 km., S
Change in water bodies due to mining activities	No. The water body Vamanapuram River is located at 1 KM South from the site.
Proneness to natural hazards	None
Environmental parameters considered	
WATER	
Water (expected use and sources in KLD) (In detail)	The total water requirement is about 17 KLD in which 2 KLD is for domestic which would be sourced from open well, 12 KLD for dust suppression system in mine as well as ancillary unit (M Sand & Crusher Unit) and 3 KLD for plantation purposes and will be sourced from storm water pond.
Sources of generation and facilities for liquid waste treatment (In detail)	There will be no industrial waste generation due to proposed project.
Facilities for liquid waste treatment (In detail)	There will be no industrial waste generation due to proposed project.
Water quality meeting requirements (In detail)	Water quality meeting requirements after the treatment of water (filtration, disinfection & sedimentation).
Water Regime (In detail)	Open Well, Storm water pond.
LAND	
Access road to the site – Width & Condition	8 m, tarred road, S towards S
Proximity to forest lands	Nil
Storage of explosives /hazardous substances (In detail)	Considering low consumption, a 550 kg magazine is for storing the explosive. The magazines are exists within the complex
Hazardous waste management	<u>Industrial Waste Management</u> There will be no industrial waste generation due to proposed project. <u>Solid Waste Management</u> About 31,646 cu. m. of top soil is estimated from the pit of the proposed mine. Other than top soil, about 21,909 cu. m. of overburden will be generated throughout the mine life.
Facility for solid waste management	A total quantity of 31,646 cu.m of topsoil and

(In detail)	21,909 cu.m of over burden will be removed during the mining operations. The topsoil excavated from the quarry will be dumped separately at pre-determined place and subsequently will be utilized in spreading over reclaimed areas for plantation. OB will be utilized for laying internal haul road and will form base in reclamation / plantation	
Top soil, overburden etc. (In detail)	Top soil : 31,646 cu. m. Overburden : 21,909 cu. m.	
EnvtMgmt plan/ Eco restoration plan (brief details)	MANAGEMENT PLAN:	
	Air pollution	<p>Mining activities will generate certain quantities of dust during drilling, blasting, loading and transportation operations. The following measures will be taken to mitigate the fugitive dust from different operations.</p> <ul style="list-style-type: none">➤ Laying of haul road as per the standards, black topping of permanent haul road and service road to avoid or eliminate air – borne dust.➤ To avoid the dust generation from the drilling operations, wet drilling method will be adopted.➤ Drill machines will be equipped with dust collectors.➤ Use of appropriate explosives for blasting and avoiding overcharging of blast holes.➤ Controlled blasting techniques will be adopted.➤ Watering of haul road and other road at regular intervals.➤ Provision of dust filters/ mask to workers working at highly dust prone and affected areas.➤ Provision of green belt all along the periphery of the lease area.➤ Periodical monitoring of ambient air quality in and around the lease area. <p>The extracted mineral will be transported from the quarry to the end user by adopting following measures so as to minimize dust emissions.</p> <ul style="list-style-type: none">➤ In case of long transportation the trucks after loading will be covered with tarpaulin sheets.➤ Speed of the vehicles will be maintained within the prescribed limits. <p>Trucks will not be over loaded and will be maintained to the body level</p>
	Water pollution	Provision of storm water collection pond with an appropriate capacity. The water requirement for sprinkling on sources of dust emission, on roads, landscaping etc. Can be met from the stored rainwater in the pond.
	Noise	The major noise generating source from the proposed activity is working machinery, drilling, blasting and plying of vehicles. The following control measures are

		<p>to be undertaken to bring down the noise levels:-</p> <ul style="list-style-type: none">➤ Proper maintenance of machinery, equipments and improvement on design of machines.➤ Use of personal protective devices i.e., earmuffs and earplugs by workers, who are working in high noise generating areas.➤ Creation of wide green belt of dense foliage between mine areas and residential colonies.➤ related health problems➤ Proper training to personnel to create awareness about adverse noise level effects. <p>Planned noise monitoring at suitable locations in the plant and outside location for proper effective remedial actions.</p>
	Solid Waste Management	<p>Topsoil Management</p> <p>A total quantity of 31,646 cu. m. of topsoil is proposed to be removed during the mining operations. The topsoil excavated from the quarry will be dumped separately at a determined place and subsequently will be utilized for spreading over reclaimed areas for plantation. Precaution will be taken to limit the height of the topsoil dump to 5 meters in order to preserve its fertility and shelf life. It will be suitably protected from soil erosion and infertility by planting fodder grass and leguminous plants during temporary storage.</p> <p>Overburden Management</p> <p>About 21,909 cu. m of overburden will be generated throughout the mine life. This waste will be utilized within the pit for laying of haul roads. At the end use, OB can be reutilized as soil base for plantation.</p>
	Eco restoration	<p>The year wise programme of eco-restoration for the life of mine, about 5,000 trees will be planted in an area of 4.8086 ha</p>
NOISE		
Sources of noise pollution control measures(In detail)	Noise generated from various mining operation like drilling / blasting/ vehicular.	
Noise level monitoring (In detail)	Yes, noise level monitoring carried out from an approved laboratory at site and report of the same is already submitted.	
AIR		
Likely emissions affecting environment (In detail)	Emissions from the vehicles only.	
By deposition of pollutants emitted to air into the land or into water (In detail)	There is no emission except vehicles.	
Air quality monitoring (In detail)	Yes, ambient air quality monitoring carried out from an approved laboratory at site and report of the same is already submitted	

ENERGY				
Energy requirement (In detail)		The total power requirement will be 75 kW for compressors which will be operated by Diesel Engine.		
BIODIVERSITY				
Presence of any endangered species or red listed category (In detail)		No.		
Loss of native species and genetic diversity (In detail)		The some area of proposed quarry has native trees, climbers, grass, shrubs, herbs etc		
Eco restoration programmes (In detail)		The year wise programme of eco-restoration for the life of mine, about 5,000 trees will be planted in an area of 4.8086 ha		
SOCIAL ASPECTS				
Proximity to nearest densely populated or build-up area (In detail)		Nearest Town Venjaramoodu, 3.5 km., S direction		
		Proposed common CSR Budget		
		Sl.No.	Particulars	Amount Rs. In lakhs
		1	Education	Recurring : Rs. 4.06 Lakhs Non Recurring : Rs. 3.64 Lakhs
		2	Health	Recurring : Rs. 2.70 Lakhs Non Recurring : Rs. 5.0Lakhs
		3	Community Development	Recurring : Rs. 10.10 Lakhs Non Recurring : Rs. 2.0 Lakhs
GENERAL				
Details of Authorised Signatory & Address for correspondence)		Mr. Abdul Salam Pookunju (Managing Director) M/s Aaraamam Rock (P) Ltd. 5/714, Nellanadu P.O., Keezhayikonam, Venjaramoodu, Thiruvananthapuram District, Kerala-695606.		
Details of NABET approved EIA consultant Organisation		M/s Environmental Engineers & Consultants Pvt. Ltd. (Sr. No. 58 as per MoEF&CC list of Accredited Consultant Organization) Head Office :-A1-198, JanakPuri, New Delhi. Branch Office:- C-306, Kanchanjunga Apartments, Palarivattom P.O., Kochi, Kerala		

2. The proposal was first considered by SEAC in its 45th meeting held on 11/12-09-2015. The Committee observed that the mining plan is not in accordance with the existing rules. During the presentation the proponent informed that this is a working quarry with valid lease for 1.25 ha out of total 4.86 ha. The lowest elevation of the project site is 95m MSL and highest elevation is 175m MSL. The slope is towards East-West direction and the life of mine is 17 years. A crusher unit is associated with the project. The Committee found that there are

court cases regarding the project. NGT in its order dated 31.3.15, ordered not to renew licence without EC. The Committee observed that water storage facility provided is not adequate and should be enhanced and it is desirable to leave the North portion of the proposed area without mining. Hence the Committee deferred the item for field visit and following clarifications-

1. The EIA report prepared by CESS regarding the project area.
2. The revised mining plan and letter of intent.
3. Specific CSR proposals based on long term benefits to the local inhabitants/schools.

Field visit to the site was conducted on 25.09.2015 by the sub-committee of SEAC, Kerala. The extract of the report is as follows:

"The project is an active quarry located at about 3.5 km north of Venjaramoodu. This quarry lease area of 4.8686 ha falling in own land occupy summit and the west and south sloping flanks of a prominent hillock exposing hard rock. The elevation ranges from 175 m to 95 m. The rock type is a mixture of khondalite and charnockite suite of rocks. The gneissic banding in folded attitude shows axial plane with moderate dips to east. Rock shows prominent widely spaced joints but faults are not observed in the site. Quarry is in operation with benches being formed. Pockets of weathered rock with about 1 m thick over burden (OB) and top soil is seen in the upper part and western part. The removed OB is stocked at convenient places based on the place of excavation. The entire drainage from the elevated land including the quarry flows into the lower quarry pit from where it is channelised into the lower southern part where crusher units are in place. Vamanapuram river flows at a distance of 1 km from the site with its river bed at about 20 m amsl. The upper part of the area is relatively barren while the western debris mantled slopes supports patches of rubber plantation. Patches of accacia are also noted. Floral biodiversity is not observed as the quarry area is mostly cleared of vegetation and the other area is used for rubber cultivation. Haulage road to the upper level is formed but not well maintained. Dwelling units are not in the immediate vicinity of 100 m. The unit does have an associated crusher unit. Accommodation to workers and canteen facilities are provided.

Based on an overall evaluation of the site, the quarry operations may be recommended with following conditions:

1. Fencing should be provided all around the lease area.
2. On the northern side with steep slope, quarrying area should be limited in such a way that excavated working faces are not visible from Karette/Vamanapuram centre. The RL at cliff shall kept unaltered by restricting mining operations.
3. Over burden should be stored in the designated places (not here and there) and provided with protective support walls.
4. Storm water drainage from the upper part must be channelized properly and let out through well-defined channels. It should not affect other installations

like crusher unit, rest room etc.

5. *The RWH structure and water clarification mechanism must be provided and maintained throughout. Periodic desiltation is mandatory*
6. *Considering the topography, garland drains need not be insisted upon. However catch water drain should be provided especially on the western side.*
7. *Ultimate depth of mine which will depend on the possible benches of 5m width and 5m height in the lease area but should not be below the river bed.*
8. *The approach road is narrow and movement of heavy vehicle should be regulated*
9. *Other items from general conditions like a) Appropriate sign boards should be displayed, b) The blasting time must be displayed and strictly adhered to, c) The PPV values must be less than 10 mm/sec, d) Steps to be taken to limit fly rock to within the lease area. Rock fragments should not fall anywhere outside the lease area, e) Dust suppression mechanism must be in place f) A belt of trees (Vegetation belt) should be maintained all around the quarry but must be maintained till the entire life of quarry, g) A separate small plot to be maintained in the premise to preserve rare and endemic species, if any, listed in the biodiversity assessment and the promised activity under CSR may be added”.*

3. On receipt of the field inspection report the proposal was again considered by SEAC in its 46th meeting held on 29/30-09-2015 and deferred the item for submission of revised mining plan and letter of intent as per KMMCR-2015 and documents/details mentioned in the 45th SEAC meeting. It was decided to consider the field inspection report after receipt of the above documents.

4. The proposal was considered in the 59th meeting of SEAC held on 11th & 12th July 2016, on receipt of the mining plan and documents/details sought for by the 45th SEAC. The Committee appraised the proposal based on the clarifications sought for by the SEAC and decided to recommend for issuance of Environmental Clearance for mining subject to the general conditions along with the specific condition that:

“Approach road should be maintained with statutory minimum width and proponent shall take steps to maintain it properly”.

The proponent agreed to set apart Rs.11 lakhs (non-recurring) and 17 lakhs per annum (recurring) for next 5 years for CSR activities for the welfare of the local community. The proponent also agreed to spend this amount in consultation with the local Panchayath.

5. The proposal was considered by SEIAA in its 58th meeting held on 08-09-2016. Authority noted that, the SEAC has observed ‘part of the proposed land is already under mining, and there are court cases regarding the project. NGT in its order dated 31.03.15 ordered not to renew licence without EC. The proponent informed that the Division Bench of Hon’ble High Court of Kerala has quashed the NGT order since he had a valid lease for quarrying. The judgement is not seen provided with the application.’ Authority decided to obtain copies of the judgment referred to the above and the existing lease/permit to ascertain the duration of mining that has taken place and extent.

As per the minutes the proponent has submitted the copies of the judgement referred to above and the copy of the mining lease having validity up to 17th May 2018.

6. The Authority in its 61st meeting held on 30.11.2016 decided to grant Environmental Clearance upto 17th May 2018 on condition that mining shall be continued only after fulfilling the following conditions of the inspection report.

1. *Fencing should be provided all around the lease area.*
2. *On the northern side with steep slope, quarrying area should be limited in such a way that excavated working faces are not visible from Karett/Vamanapuramcentre. The RL at cliff shall kept unaltered by restricting mining operations .*
3. *Over burden should be stored in the designated places (not here and there) and provided with protective support walls.*
4. *Storm water drainage from the upper part must be channelized properly and let out through well-defined channels. It should not affect other installations like crusher unit, rest room etc.*
5. *The RWH structure and water clarification mechanism must be provided and maintained throughout. Periodic desiltation is mandatory*
6. *Considering the topography, garland drains need not be insisted upon. However catch water drain should be provided especially on the western side.*
7. *Ultimate depth of mine which will depend on the possible benches of 5m width and 5m height in the lease area but should not be below the river bed.*
8. *The approach road is narrow and movement of heavy vehicle should be regulated.*
9. *An affidavit to fulfil the above conditions should be submitted before the issue of EC.*

In the meantime the proponent submitted a request dated 04-03-2017 stating that a valid Environmental Clearance is required to renew the mining lease for five years and that the validity of Environment Clearance may be extended for 5 years.

7. The proposal was considered by the Authority in its 65th meeting held on 22.03.2017. The Authority decided to issue EC with a validity of 5 years on condition that the above condition shall be strictly implemented and an affidavit to the effect should be submitted before the issuance of EC.

8. The proponent has submitted an affidavit on 18.04.2017, stating that all specific conditions shall be strictly implemented. Environmental clearance as per the EIA notification 2006 is hereby accorded for the proposed quarry project of Sri. Abdul Salam Pookunju (Managing Director), M/s Aaraamam Rock (P) Ltd., 5/714, Nellanadu P.O., Keezhayikonam, Venjaramoodu, Thiruvananthapuram District, Kerala-695606 in Sy.No. 65/1, 3, 5, 6, 7, 10, 12, 13, 74/4, 5 and 6 at Nellanad Village and Panchayath, Nedumangadu Taluk, Thiruvananthapuram District, Kerala for an area of 4.8686 hectares, subject to the specific conditions as in para 4 & 6 above, all the environmental impact mitigation and management measures undertaken by the project proponent in the Form I, EMP, PFR and Mining plan submitted to SEIAA. The assurances and clarifications given by the proponent will be

deemed to be a part of these proceedings as if incorporated herein. Also the general conditions for projects stipulated for mining (items 1 to 61), appended hereto will be applicable and have to be strictly adhered to.

9. The 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 and relied on for grant of this clearance. The above undertakings and the conditions and the undertakings in Chapter 4 (Mining), Chapter 5 (Blasting), Chapter 6 (Mine Drainage), Chapter 7 (Stacking of Mineral rejects and Disposal of waste) Chapter 11 (EMP) Chapter 12 (Progressive Mine Closure Plan) of the Mining Plan as submitted will be deemed to be part of this proceedings as conditions as undertaken by the proponent, as if incorporated herein.

10. Validity of the Environmental Clearance will be five years from the date of this clearance, subject to inspection by SEIAA on annual basis and compliance of the conditions, subject to earlier review of E.C in case of violation or non-compliance of conditions or genuine complaints from residents within the security area of the quarry.

11. Compliance of the conditions herein will be monitored by the State Environment Impact Assessment Authority or its authorised offices and also by the regional office of the Ministry of Environment & Forests, Govt. of India, Bangalore.

- i. 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.
- ii. Instances of violation if any shall be reported to the District Collector, Thiruvananthapuram to take legal action under the Environment (Protection) Act 1986.
- iii. The given address for correspondence with the authorised signatory of the project is Sri. Abdul Salam Pookunju (Managing Director), M/s Aaraamam Rock (P) Ltd., 5/714, Nellanadu P.O., Keezhayikonam, Venjaramoodu, Thiruvananthapuram District, Kerala-695606.

Sd/-

JAMES VARGHESE.I.A.S,
Member Secretary (SEIAA)

To,

Sri. Abdul Salam Pookunju (Managing Director),
M/s Aaraamam Rock (P) Ltd., 5/714,
Nellanadu P.O., Keezhayikonam,
Venjaramoodu, Thiruvananthapuram District,
Kerala-695606

Copy to,

1. MoEF Regional Office, Southern Zone, Kendriya Sadan, 4th Floor, E&F Wing, II Block, Koramangala, Bangalore-560034.
2. The Additional Chief Secretary to Government, Environment Department, Government of Kerala.
3. Director, Mining & Geology, Thiruvananthapuram -4.
4. District Collector, Thiruvananthapuram
5. District Geologist, Thiruvananthapuram
6. Secretary, Nellanad Grama Panchayat, Nellanad, Venjaramoodu P.O – 695 607
7. Chairman, SEIAA.
8. Website.
9. S/f
10. O/c

Forwarded/By Order



Administrator, SEIAA

STATE ENVIRONMENT IMPACT ASSESSMENT AUTHORITY KERALA

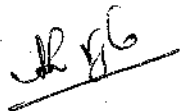
GENERAL CONDITIONS (for mining projects)

1. Rain Water Harvesting facility should be installed as per the prevailing provisions of KMBR / KPBR, unless otherwise specified.
2. Environment Monitoring Cell as agreed under the affidavit filed by the proponent should be formed and made functional.
3. Suitable avenue trees should be planted along either side of the tarred road and open parking areas, if any, including of approach road and internal roads.
4. Maximum possible solar energy generation and utilization shall be ensured as an essential part of the project.
5. Sprinklers shall be installed and used in the project site to contain dust emissions.
6. Eco-restoration including the mine closure plan shall be done at the own cost of the project proponent.
7. 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 indigenous plant species that are eco-friendly, if no other specific condition on reclamation of pit is stipulated in the E.C.
8. Corporate Social Responsibility (CSR) agreed upon by the proponent should be implemented
9. The lease area shall be fenced off with barbed wires to a minimum height of 4ft around, before starting of mining. All the boundary indicators (boards, stores, markings, etc) shall be protected at all times and shall be conspicuous.
10. Warning alarms indicating the time of blasting (to be done at specific timings) has to be arranged as per stipulations of Explosive Department.
11. Control measures on noise and vibration prescribed by KSPCB should be implemented.
12. Quarrying activities should be limited to day time as per KSPCB guidelines/specific conditions.
13. Blasting should be done in a controlled manner as specified by the regulations of Explosives Department or any other concerned agency.
14. A licensed person should supervise/ control the blasting operations.
15. Access roads to the quarry shall be tarred to contain dust emissions that may arise during transportation of materials.
16. Overburden materials should be managed within the site and used for reclamation of mine pit as per mine closure plan / specific conditions.
17. Height of benches should not exceed 5 m, and width should not be less than 5 m, if there is no mention is the mining plan/specific condition.
18. Mats to reduce fly rock blast to a maximum of 10 PPV should be provided.
19. Maximum depth of mining from general ground level at site shall not exceed 10m
20. No mining operations should be carried out at places having a slope greater than 45°.
21. Acoustic enclosures should have been 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 standards given by CPCB/KSPCB.
22. The workers on the site should be provided with the required protective equipment such as ear muffs, helmet, etc.
23. Garland drains with clarifiers to be provided in the lower slopes around the core area to channelize storm water.
24. The transportation of minerals should be done in covered trucks to contain dust emissions.
25. The proponent should plant trees at least 5 times of the loss that has been occurred while clearing the land for the project.
26. Disposal of spent oil from diesel engines should be as specified under relevant Rules/ Regulations.
27. Explosives should be stored in magazines in isolated place specified and approved by the Explosives Department.
28. A minimum buffer distance of 100m from the boundary of the quarry to the nearest dwelling unit or other structures, not being any facility for mining shall be provided.
29. 100 m buffer distance should be maintained from forest boundaries.

30. Consent from Kerala State Pollution Control Board under Water and Air Act(s) should be obtained before initiating mining activity.
31. All other statutory clearances should be obtained, as applicable, by project proponents from the respective competent authorities including that for blasting and storage of explosives.
32. 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 only the E.C is issued, the project would require a fresh appraisal by this Authority, for which the proponents shall apply and get the approval of this Authority.
33. 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.
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 project proponent should advertise in at least two local newspapers widely circulated in the region, one of which (both the advertisement and the newspaper) shall be in the vernacular language informing that the project has been accorded Environmental Clearance and copies of clearance letters are available with the State Environment Impact Assessment Authority (SEIAA) office and may also be seen on the website of the Authority at www.seiaakerala.org. The advertisement should be made within 10 days from the date of receipt of the Clearance letter and a copy of the same signed in all pages should be forwarded to the office of this Authority as confirmation.
36. A copy of the clearance letter shall be sent by the proponent 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 put on the website of the company by the proponent.
37. The proponent shall submit half yearly reports 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 simultaneously be sent to the respective Regional Office of MoEF, Govt. of India and also to the State Environment Impact Assessment Authority (SEIAA) office.
38. 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 of 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
39. 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.
40. No change in mining technology and scope of working should be made without prior approval of the SEIAA. No further expansion or modifications in the mine shall be carried out without prior approval of the SEIAA, as applicable.
41. The Project proponent shall ensure that no natural water course and/or water resources shall be 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.
42. 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. Water sprinkling should be increased at places loading and unloading points & transfer point to reduce fugitive emissions.
43. The top soil, if any, shall temporarily be stored at earmarked site(s) only for the topsoil shall be 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 to 45°. The OB dumps should be scientifically vegetated with suitable native species to prevent erosion and surface run off. In critical areas, use of geo textiles shall be undertaken for stabilization of the dump. The entire excavated area shall be backfilled. Monitoring and management of rehabilitated areas should continue until the vegetation becomes self-sustaining.

44. 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, green belt development etc. The drains shall be regularly desilted particularly after monsoon and maintained properly.
45. Effective safeguard measures such as regular water sprinkling shall be carried out in critical areas prone to air pollution and having high levels of PM_{10} and $PM_{2.5}$ such as haul Road, loading and unloading points and transfer points – it shall be ensured that the Ambient Air Quality parameters conform to the norms prescribed by the Central Pollution Control Board in this regard.
46. Fugitive dust emissions from all the sources should be controlled regularly. Water spraying arrangement on haul roads, loading and unloading and at transfer points should be provided and properly maintained.
47. Measures should be taken for control of noise levels below 85 dBA in the work environment.
48. A separate environmental management cell with suitable qualified personnel should be set-up under the control of a Senior Executive, who will report directly to the Head of the Organization.
49. The funds earmarked for environmental protection measures and CSR activate should be kept in separate account and should not be diverted for other purpose. Year wise expenditure should be reported to the State Environment Impact Assessment Authority (SEIAA) office.
50. The Regional Office of MOEF & CC located at Bangalore shall monitor compliance of the stipulated conditions. The project authorities should extend full cooperation to the officer (S) of the Regional Office by furnishing the requisite data/information/monitoring reports.
51. 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.
52. 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.
53. The SEIAA may revoke or suspend the order, for non implementation of any of the specific or this implementation of any of the above conditions is not satisfactory. The SEIAA reserves the right to alter/modify the above conditions or stipulate any further condition in the interest of environment protection.
54. 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.
55. This order is valid for a period of 5 years or the expiry date of mine lease period issued by the Government of Kerala, whichever is earlier.
56. The Environmental Clearance will be subject to the final order of the courts in any pending litigation related to the land or project, in any court of law.
57. The mining operation shall be restricted to above ground water table and it should not intersect ground water table.
58. All vehicles used for transportation and within the mines shall have 'PUC' certificate from authorized pollution taking centre. Washing of all vehicles shall be inside the lease area'
59. Project proponent should obtain necessary prior permission of the competent authorities for drawal of requisite quantity of surface water and ground water for the project.
60. 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 reports to SEIAA.
61. Occupational health surveillance program of the workers should be under taken periodically to observe any contractions due to exposure to dust and take corrective measures, if needed.




For Member Secretary, SEIAA Kerala

