



***Proceedings of the State Environment Impact Assessment Authority
Kerala***

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

Sub: SEIAA- Environmental clearance for the quarry project in Sy.No.320/2, 320/3 at Aikaranadu north Village, Kunnathunadu Taluk, Ernakulam District, Kerala by Sri.Joseph John -Granted- Orders issued.

STATE ENVIRONMENTAL IMPACT ASSESSMENT AUTHORITY

No. 519/SEIAA/EC3/3823/2014

dated, Thiruvananthapuram 01-06-2016

- Read:-**
1. Application dated 10.07.2014 submitted by Sri.Joseph , Managing Partner, M/s Slabs Aggregates , Kadayirippu P.O, Kolenchery (via), Ernakulam District District-682 311
 2. Minutes of the 46th meeting of SEAC held on 29/30 -09-2015.
 3. Minutes of the 53rd meeting of SEAC held on 25/26-02-2016.
 4. Minutes of the 52nd meeting of SEIAA held on 29-04-2016.

Environmental Clearance No.519/2016.

Sri. Joseph John – Managing Partner, Embassy Resident, Kuruppampady, Rayamangalam Village, Kunathunadu Taluk, Ernakulam District. vide his application received on 10-07-2014, has sought Environmental Clearance under EIA Notification, 2006 for the quarry project in Sy. No. 320/2, 320/3 at Aikaranadu north Village, Kunnathunadu Taluk, Ernakulam District, Kerala for an area of 8.6330 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. It is further categorized as Category B2 as per the O.M. No. J-13012/12/2013-IA-II (I) dt. 24.12.2013 of Ministry of Environment and Forests, since the area of the project is below 25 hectares

Basic information

Name of project		M/s. Slabs & Aggregates		
Category/Subcategory & Schedule		Schedule No. – 1(a) Category – B, Sub-category – B2		
Location Sy no/ district, Taluk/ village etc.		Survey no's: 320/3 (P) & 320/2 (P) Aikaranadu North village, Kunnathuadu Taluk, Ernakulam District, Kerala.		
GPS co-ordinates		N 09°59'26.9" to N 09°59'42.1" E 76°27'15.9" to E 76°27'30.4"		
for Mining projects	Extent of area (in hectares)	8.6630 Ha		
	Minimum and maximum height of excavation (MSL)	+35m AMSL to +84m AMSL		
	Life of mine proposed	About 65 years		
	Ultimate depth of mining (in MSL)	Present depth - up to +27.5 m RL (Minimum depth 7.5 m & Maximum depth 56.5 m) Conceptual stage - up to +00 RL (Minimum depth 35 m & Maximum depth 84 m)		
	Distance from the adjacent quarry	Nil within 500m		
	Capacity of production	200 TPD (Tonnes per day)		
	Details of project cost	Rs. 80.0 lakhs		
	Financial statement including funding source and details of insurance	This is an existing project and necessary funding is already made.		
CRZ recommendations		The proposed project does not require approval or clearances under CRZ Notification (1991), The Forest Conservation Act (1980) and Wild Life Protection Act (1972). Since there is no declared Biosphere, Wild Life Sanctuaries, or Tiger sanctuary or migrating corridor or Coastal zone etc.		
Forest clearances				
Does it attract violation proceedings		Action initiated for obtaining EC		
Envt Mgmt plan/ Eco restoration plan (brief details)		<table><tr><td>AIR POLLUTION</td><td>PROPOSED MANAGEMENT PLAN: a) <u>Drilling by jack hammer</u> ❖ Usage of Drill bits of good condition ❖ Use of water jet for dousing the cuttings during cutting b) <u>Blasting operation</u> ❖ Well-designed blast by effective</td></tr></table>	AIR POLLUTION	PROPOSED MANAGEMENT PLAN: a) <u>Drilling by jack hammer</u> ❖ Usage of Drill bits of good condition ❖ Use of water jet for dousing the cuttings during cutting b) <u>Blasting operation</u> ❖ Well-designed blast by effective
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		<p>stemming. Every blast is properly designed to see that the optimum breakage occurs without generating fines.</p> <ul style="list-style-type: none"> ❖ Avoiding blasting during high wind periods where the fine dust is carried out away easily affecting the ambient air quality. ❖ Use of controlled blasting techniques to keep the noise as well as vibration level within the prescribed limits. <p>c) <u>Excavation and Hauling</u></p> <ul style="list-style-type: none"> ❖ Proper maintenance of HEMM which avoids excessive noise and vibration ❖ Acoustic enclosures for operator cabin. ❖ Imparting sufficient training to operators on safety and environmental parameters ❖ Proper maintenance of hauling equipment's <p>d) <u>Transportation</u></p> <ul style="list-style-type: none"> ❖ Proper maintenance of haul road and other roads ❖ Mobile tanker of 1500 L capacity is used for fugitive dust suppression in haul roads. Water sprinkling through mobile tankers system at permanent haul road. ❖ Development of green belt/ barriers where ever possible.
	WATER POLLUTION	<ul style="list-style-type: none"> ➤ Sewage generated is properly discharged into septic tanks with soak pits. ➤ It is proposed to construct a garland drain on the South west side of the mine area which in turn will be connected to a settlement cum harvesting pond proposed on the southwest side. The rain water falling in the quarry will be harvested up to +40m AMSL. Supernatant water from the mine sump will pass through the drain and settlement cum harvesting pond and after further settling, clear water can

		be let out of this pond after passing through settling traps.
	NOISE	<ul style="list-style-type: none"> ➤ Noise levels can be abated through good preventive maintenance of machineries, green belt creation, provision of ear muffs to workers, etc., ➤ Sound proof operator's cabin for equipment's like dumpers, shovel, tippers, etc., ➤ Ground vibration are controlled through optimum design for burden & spacing, inclined drilling practice, using ordinary electric milli second delay detonators, in combination with detonating fuse etc.,
	Eco restoration	<p>In the mine closure stage, there will be some water body up to the general RL of +40m AMSL above which the benches will be reclaimed with bench plantation. Out of 5.1431 Ha of mined out area, 4.3819 Ha will be left as water body and the remaining 0.7612 Ha of land will be reclaimed back with bench plantation. The water body will help to recharge ground water potential in the area and can also meet needs of nearly by plantations, etc.,</p> <p>In order to keep the Environment clean & green and to have a harmonious working atmosphere, about 3 Ha of lease area on the southern side of the lease are developed with Green belt/ Plantation. Besides, plantation has been developed in lessee own area of more than 5 Ha in adjacent to lease boundaries in southern and western side of the M.L. area as an enhancement measures. The major planted species are Rubber, Teak, Coconut, Mango, Papaya, Neam, Badam and Nelli. In fact, natural plantation occurs all around the mine lease area.</p>

ABOUT THE PROJECT										
WATER										
Water requirement & sources	<p>The water requirement for the quarry is as follows:</p> <table><tr><td>For domestic sanitary needs</td><td>-</td><td>1.0 KLD</td></tr><tr><td>For dust suppression & Crusher Water Sprays and Green belt development etc.</td><td>}</td><td>9.0 KLD</td></tr><tr><td>Total -</td><td></td><td>10.0 KLD</td></tr></table> <p>The entire water requirement will be met from the bore well and mine sump of the existing quarry.</p>	For domestic sanitary needs	-	1.0 KLD	For dust suppression & Crusher Water Sprays and Green belt development etc.	}	9.0 KLD	Total -		10.0 KLD
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For dust suppression & Crusher Water Sprays and Green belt development etc.	}	9.0 KLD								
Total -		10.0 KLD								
RWH units proposed	<p>It is proposed to construct a garland drain on the Southwest side of the mine area which in turn will be connected to a settlement cum harvesting pond proposed on the southwest side. The rain water falling in the quarry will be harvested up to +40m AMSL. Supernatant water from the mine sump will pass through the drain and settlement cum harvesting pond and after further settling, clear water can be let out of this pond after passing through settling traps.</p>									
Facilities for liquid waste treatment	<p>The only effluent arising from project is domestic waste to the tune of about 0.5 KLD. This is disposed into septic tanks with soak pits.</p>									
Impoundment, damming, culverting, realignment or other changes to the hydrology of watercourses or aquifers?	<p>Not Applicable</p>									
Water quality meeting requirements	<p>❖ Rainwater from the higher benches is made to drain into the sump and the mine pit bottom. Supernatant settled water will pass through the drain and settlement cum harvesting pond and after further settling, clear water can be let out of this pond after passing through settling traps.</p>									
Does it have provisions for use of recycled water	<p>Other than using of mine sump water no other recycling envisaged.</p>									
LAND										
Access road to the site –Width & Condition	<p>The project site is approachable from NH-49 connecting Kolanchery town via Kadayiruppu at a distance of 3.5 km (by road). The mining site is well connected to via Kadayiruppu – Kolanchery road on the South east. The width of the access road is 6.0 m (S).</p>									

Storage of explosives /hazardous substances	Magazine is proposed within the ML area. Licence to store and use explosives are obtained from Chief controller of explosives.
Facility for solid waste management	Nil. In future the mining activities will be restricted only in the selected already mined out area.
Topographic features/ slope	The surface elevation is in the range of +35m AMSL to +84 m AMSL sloping from north to south.
Proneness of the area for landslides	Granite occur here as a hard massive rock which can withstand steep slopes. Hence not prone to landslides.
Significant land disturbance resulting in erosion, subsidence & instability	This being an opencast mine there will not be any subsidence. The bench slopes will be maintained as per DGMS rules and requirement and hence there cannot be any instable slopes. There will be land disturbance due to mining activity.
Top soil, overburden etc.	In future the mining activities will be restricted only in the already mined out area. From the present RL of + 27.5 m MSL in the middle of the quarry, the ultimate pit will reach up to 00 RL. The reserves available are sufficient to meet out the future requirement. As such, the virgin area on the western part with natural vegetation will not be disturbed. As such, there will not be any waste generation and dumping in the future.
AIR	
Likely emissions affecting environment	<p>There will be some dust emission due to mining and allied activities which will be controlled by following measures.</p> <ul style="list-style-type: none"> • Frequent water sprinkling • Regular maintenance of vehicles • Greenbelt development etc.,
ENERGY	
Energy requirement	No electricity is needed for quarry operations as only diesel operated mining machinery are used for quarrying. However, the power requirements of the administrative buildings, compressor, crusher, etc., are met from state grid. The peak power demand is expected to be 170KVA. Besides, standby generators available to meet the emergency power requirement of the mines.
Energy sources	KSEB
Extent of usage of alternative energy resources	Not applicable

BIODIVERSITY	
Presence of any endangered species or red listed category	If present should conserve properly.
Loss of native species and genetic diversity	Proponent should replant native species and conserve genetic diversity.
Likely displacement of fauna	Working quarry
Any introduction of alien / invasive species	Nil
SOCIAL ASPECTS	
Proximity to nearest habitation	More than 150 m
CSR components suggested For future CSR activities, need based assessment for the local community to the tune of Rs.15.0lakhs is made and budgetary provision of Rs. 5.0 lakhs per year is provided.	
GENERAL	
Biomedical waste management	Not Applicable
E-waste management	Not Applicable
Sufficiency of parking spaces/ traffic management	The entire quarried stone is used to own crusher unit located inside the lease area.
Litigation/ court cases, if any, against the project (Provide details)	No litigation is pending against the project, as stated by proponent
Details of Authorised Signatory	Sri. Joseph John – Managing Partner Embassy Resident, Kuruppampady, Rayamangalam Village, Kunathunadu Taluk, Ernakulam District, Kerala – 682311. PH: 0484 – 2760284 Mobile: 09388127777 E.mail- josephemb@gmail.com / joseph@synthite.com.
Details of NABET approved EIA consultant organisation	Creative Engineers & Consultants, 9/4b, Barathwajar Street, East Tambaram, Chennai – 600 059. Ph – 044 – 22395170 Mobile : 9444133619 Email – cecgiri@yahoo.com

2. The proposal was appraised in the 46th SEAC meeting held on 29th and 30th September, 2015. It was decided to defer the proposal for site inspection. Subsequently, site inspection was conducted by the subcommittee comprising of Dr. E.A. Jayson, Dr. K.G. Padmakumar and Sri. P. Sreekumaran Nair on 02.12.2015. The details of the inspection report are given below:

"The project is an active quarry located at Kadayirippu, Kolanchery, Kunnathunadu Taluk & Ernakulam District, Kerala. The method of operation is reported as through controlled blasting. This is an old quarry in operation for the last 40 years. The working faces are being modified by the formation of benches. This quarry area falling in own land is moderately sloping to West, exposing hard rock. Being an elevated land, streams are not seen in the site. However fairly good seepage of water is seen at the base of the quarry and the storm water is collected in a pond on northern side. The excess storm water is pumped to another canal and let out. The water leaving the quarry has to be clean and without any dust and this has to be strictly followed by the proponent. Houses are not seen in the immediate vicinity of 100 m. The workers are provided with limited accommodation and canteen facilities. Crusher is situated in the same compound and the quarry site is 3km away from Kolanchery town.

Based on an overall evaluation of the site, following points may be considered:

- 1. Protection wall is needed all along the quarry wherever deep cuttings are present.*
- 2. Benches are not seen in the mining operations and this has to be strictly adhered.*
- 3. Over burden is to be stored in the designated place and no compromise should be made on this point.*
- 4. The whole area needs planting of trees to convert the area into a more acceptable landscape. For this indigenous species of trees need to be planted all around the quarry in the vacant spaces. This will also help in reducing the dust and sound pollution.*
- 5. The drainage from the quarry is currently directed to the North corner and let out. The deposited silt must also be cleaned periodically.*
- 6. Considering the topography, garland drains need not be insisted upon.*
- 7. The approach road to the quarry from the main road is not maintained at all. This road must be maintained in good condition by the proponent. Buffer distance from the road near the quarry may not be required as it ends at the quarry.*
- 8. The blasting time must be displayed and strictly adhered to. The PPV values must be less than 10 mm/sec. Steps to be taken to limit fly rock to the quarry area.*
- 9. Dust suppression mechanism must be in place.*
- 10. In the absence of perennial streams in the vicinity, ultimate depth of mine will depend on the possible benches in the lease area.*

Other items from general conditions and CSR may be added".

3. The proposal was placed before 53rd SEAC held on 25-26 of February 2016, for appraisal. The Committee after examining the mining plan, prefeasibility report, field inspection report and all other documents submitted decided to recommend for issuance of EC subject to general conditions in addition to the following specific conditions for mining projects.

1. Protection wall is needed all along the quarry wherever deep cuttings are present.

2. Benches are not seen in the mining operations and this has to be strictly adhered.
3. Over burden is to be stored in the designated place and no compromise should be made on this point.
4. The drainage from the quarry is currently directed to the North corner and let out. The deposited silt must also be cleaned periodically.
5. Considering the topography, garland drains need not be insisted upon.
6. The approach road to the quarry from the main road is not maintained at all. This road must be maintained in good condition by the proponent. Buffer distance from the road near the quarry may not be required as it ends at the quarry.
7. The blasting time must be displayed and strictly adhered to.
8. Dust suppression mechanism must be in place.

The proponent should submit realistic CSR to SEIAA.

4. The SEIAA considered the proposal in its 52nd meeting held on 29-04-2016 and decided to grant E.C subject to specific condition recommended by 53rd SEAC in para 4 and general conditions for mining projects.
5. Environmental clearance as per the EIA notification 2006 is hereby accorded for the proposed Quarry project in survey No. 320/2, 320/3 at Aikaranadu north Village, Kunnathunadu Taluk, Ernakulam District., subject to the specific conditions stipulated in para 3, all the environmental impact mitigation and management measures undertaken by the project proponent in the Form I and other documents submitted to SEIAA , the mitigation measures proposed in the table in para 1 above. 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, appended hereto will be applicable and have to be strictly adhered to.
6. 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 undertakings in chapter 4 of Mining plan (Mining), Chapter 11 (EMP) of the Mining Plan and Chapter 5 of Mining plan (Blasting) and the entire Progressive Mine Closure Plan as submitted will be deemed to be part of these proceedings as conditions as undertaken by the proponent, as if incorporated herein.

7. Validity shall be five years 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. Environmental Clearance is therefore granted to the quarry project of Sri. Joseph John, Managing Partner, M/s Slabs Aggregates , Kadayirippu P.O, Kolenchery (via), Ernakulam District District-682 311 Kerala subject to specific condition in para 3 above and addition the general conditions annexed hereto.

8. Compliance of the conditions herein will be monitored by the Authority or its agencies 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, Ernakulam 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. Joseph John, Managing Partner, M/s Slabs Aggregates , Kadayirippu P.O, Kolenchery (via), Ernakulam District District-682 311.

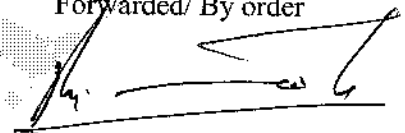
Sd/
P. Mara Pandiyan., I.A.S
Member Secretary (SEIAA)
&
Additional Chief Secretary to Government
Environment & Forest Department
Government of Kerala.

To,
Sri. Joseph John, Managing Partner,
M/s Slabs Aggregates , Kadayirippu P.O, Kolenchery (via),
Ernakulam District District-682 311

Copy to:

1. MoEF Regional Office, Southern Zone, Kendriya Sadan, 4th Floor, E& F Wing, II block, Koramangala, Bangalore-560034.
2. Principal Secretary to Government, Environment Department.
3. The District Collector, Ernakulam
4. The Director, Mining and Geology Department, Kesavadasapuram, Thiruvananthapuram-4
5. The Secretary, Ikkaranadu Grama Panchayath, Ernakulam
6. Chairman, SEIAA
7. ✓ E.C File
8. Stock File
9. O/C.

Forwarded/ By order



Administrator
SEIAA

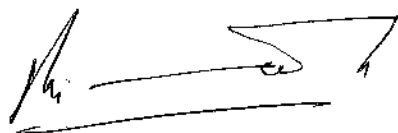
STATE ENVIRONMENT IMPACT ASSESSMENT AUTHORITY KERALA

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 proponent 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 PM₁₀ 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 up stream and down stream 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



Proponent submitted (for - Surakumar. K)

1. Affidavit
2. Authorization letter
3. ID proof

Received EC (no. 81) dated 01-06-2016
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K. SURAKUMAR

