सत्यमेव जयते

Validity expires on 28.12.2022

Proceedings of the State Environment Impact Assessment Authority Kerala

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

Sub: **SEIAA- Environmental Clearance for the proposed quarry project in Survey Nos. 85/9-1, 85/13-1, 85/16-1, 88/1-1, 88/1-2, 88/3-1, 88/4, 88/5, 88/7 at Nellanadu Village & Panchayat, Nedumangad Taluk, Thiruvananthapuram District, Kerala by Sri. Suresh Kumar S. - Granted – Orders issued.**

STATE ENVIRONMENTAL IMPACT ASSESSMENT AUTHORITY, KERALA

No. 872/SEIAA/EC1/3103/2015 ***Dated, Thiruvananthapuram 29.12.2017***

Ref: 1. Application received on 05-08-2015 from Sri. Suresh Kumar S., Neeranjanam, Pazhavady, Nedumangad P.O., Trivandrum, Kerala-695541
2. Minutes of the 64th meeting of SEAC held on 16th & 17th November, 2016
3. Minutes of the 66th meeting of SEAC held on 19th December, 2016.
4. Minutes of the 69th meeting of SEAC held on 9th & 10th March 2017
5. Minutes of the 68th meeting of SEIAA held on 12th May 2017
6. Minutes of the 76th meeting of SEIAA held on 16th November 2017
7. Affidavit received on 19.12.2017 from Sri. Suresh Kumar S

ENVIRONMENTAL CLEARANCE NO.106/2017

Sri. Suresh Kumar S., Neeranjanam, Pazhavady, Nedumangad P.O., Trivandrum, Kerala-695541, vide his application received on 05-08-2015, has sought Environmental Clearance under EIA Notification, 2006 for the quarry project in Survey Nos. 85/9-1, 85/13-1, 85/16-1, 88/1-1, 88/1-2, 88/3-1, 88/4, 88/5, 88/7 at Nellanadu Village & Panchayat, Nedumangad Taluk, Thiruvanthapuram District, Kerala for an area of 1.5559 Ha. 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 Notification No.S.O.141 (E) dt.15.01.2016 of Ministry of Environment and Forests, since the area of the project is below 25 hectares.

Details of the project as furnished by the applicant are as follows;

. BASIC INFORMATION OF QUARRY PROJECT

PART A

	1.Project details	
	File No.	**872 / SEIAA / EC1 / 3103 / 2015**
	Name / Title of the project	The Stone Quarry (Minor Mineral) of Mr. SURESH KUMAR S. is situated at Survey Nos. 85/9-1, 85/13-1, 85/16-1, 88/1-1, 88/1-2, 88/3-1, 88/4, 88/5, 88/7, Block No. 25, Village & Panchayat Nellanadu, Nedumangad Taluk, Thiruvanthapuram District, Kerala in an area of 1.5559 hectares.
	Name and address of project proponent.	**Mr. SURESH KUMAR S.** Neeranjanam, Pazhavady, Nedumangad P.O., Trivandrum, Kerala-695541. Mobile No. 09447011080. Ph. 0472-2801080 E-mail:- suresh.ananthapuri@gmail.com
	Owner of the land	Mr. Suresh Kumar S.
	Survey No. District/Taluk/ and Village etc.	Survey Nos. 85/9-1, 85/13-1, 85/16-1, 88/1-1, 88/1-2, 88/3-1, 88/4, 88/5, 88/7, Block No. 25, Village & Panchayat Nellanadu, Nedumangad Taluk, Thiruvanthapuram District, Kerala
	Details of period of lease or permit with number including the and expiry of lease/permit **(Copy to be attached)**	The quarry is working with a mining lease for an area of 0.7280 ha vide Order No. 469/2008-09/9452/M3/2008 with validity up to November, 2018. The copy of mining lease is attached.
	Present Status of the project a. Date & Year of starting the work of the quarry project. b. whether the quarry is working at present or not ? c. If stopped working since when?	The quarry is in operation since November, 2008. The quarry is working with a mining lease for an area of 0.7280 ha vide Order No. 469/2008-09/9452/M3/2008 with validity up to November, 2018. Not Applicable.
	Date of submission of Application	05 / 08 / 2015
	Brief description of the project.	The land for the quarry project is private owned land and the land is possessed in the name of Mr. SURESH KUMAR S. The targeted production of mine will be 50,000 MTA. The estimated project cost is Rs. 2.59 Crores. The expected life of mine estimated will be of about 7 years. The working will be carried out by opencast semi-mechanized method as per the approved Mining Plan.
	Details of	**Mr. SURESH KUMAR S.**

	Authorized Signatory and address for correspondence	Neeranjanam, Pazhavady, Nedumangad P.O., Trivandrum, Kerala-695541. Mobile No. 09447011080. Ph. 0472-2801080 E-mail:- suresh.ananthapuri@gmail.com
	2. Land Details	
	1. Extent of area in hectares	1.5559 hectare
	2. Is the property forest land/Govt. land /own land/patta land	Private Own Land
	3. Quantity of top soil/over burden produced and managed	A total estimated quantity of 1,170 cu. m. of topsoil is proposed to 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. Precautions will be taken to limit the height of the topsoil dump to 5 to 6 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. About 3,877 cu. m of overburden will be generated throughout the mine life. This waste will be utilized within the pit for lying of haul roads. At the end use, OB can be reutilized as soil base for plantation.
	4. Latitude and Longitude	**Latitude (N)** $08^0 42'09.68"$ to $08^0 42'02.03"$ **Longitude (E)** $76^0 53'47.98"$ to $76^0 53'52.35"$
	5. Topography of land and elevation	Part of the proposed land is exposed rock and the remaining land is covered with native trees, shrubs, herbs, grass, climbers, bushes etc. The highest elevation of the lease area is 85 m MSL and lowest is 75 m MSL. As the proposed area is low height hillocks, the drainage of the lease area is towards West. No habitants are located in the lease area.
	6. Slope analysis	The slope of lease area is towards West.
	7. Will there be any significant land disturbance resulting in soil erosion, subsidence & natural drainage.	Zone-III, Moderate damage risk zone as par BMTPC, Vulnerability atlas Seismic zone of India IS: 1893-2002.
	8. Access road to the site width and condition	7 m wide road
	9. Will there be any adverse impact on the aesthetics of the proposal site	No, the land used will be fully reclaimed and rehabilitated by backfilling the pits and plantation. Plantation and afforestation will add to the improvement in environment and aesthetic beauty of the area.
	3. Mining details	

	a) Minimum and Maximum height of excavation.	The exploitation of mineral will be done from 85 m to 70m MSL in conceptual phase
	b) Life of mine proposed.	About 7 years
	c) Underground mining if any proposed	No, the working will be carried out by opencast semi-mechanized method as per the approved Mining Plan.
	d) Method of Mining	The working will be carried out by opencast semi-mechanized method as per the approved Mining Plan.
	e) Distance from the adjacent quarry	There is no quarry in operation within 500m radius of the proposed quarry project.
	f) Cluster condition if any	Individual Application
	g) Has "No cluster certificate" submitted?	Yes, cluster certificate is already submitted with EC Application
	h) Distance from nearby habitation	Nearest habitation is about 52m towards NW side. (existing quarry with mine lease with consent obtained from the nearby residents)
	i) Distance from nearby forest, if applicable	None within the study area.
	j) Distance from protected area, Wildlife Sanctuary, National Park etc.	None within the study area
	k) Distance from nearby streams / rivers / National Highway and Roads	**Water Bodies:** 1. Vamanapuram River, 1.9 km., N 2. Kadinamkulam lake, 12.5 km., SW 3. Lakshadweep sea, 14 km., SW
	l) Is ESA applicable? If so distance from ESA limit	Not falling in ESA
	m) Has approved mining plan, prepared by RQP submitted?	Yes, the approved mining plan prepared by RQP is already submitted with EC Application
	n) Capacity of production in	50,000 MTA

	TPA	
	o) Details of mining process	The mining will be done by open cast semi-mechanized method of mining. The bench height and width will be maintained 5 m. Excavated material is transported to the crusher unit existing within the complex for further processing. The ultimate depth of the mine workings is estimated to reach upto 70 m MSL.
	4. Details of Project cost	
	a) Land cost	Rs. 2.59 Crores (All inclusive)
	b) Plant and Machinery	Rs. 2.59 Crores (All inclusive)
	c) Total Cost	Rs. 2.59 Crores (All inclusive)
	V. Financial Statement including funding source and details of insurance etc.	**Rs. 2.59 Crores** **Insurance = Insurance to the quarry workers would provide through insurance company.** **Funding = Own source & bank loan**
	Management Plan	Air Pollution: 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. • 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. **The extracted mineral will be transported from the quarry to the end user by adopting following measures so as to minimize dust emissions.** • 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. • Trucks will not be over loaded and will be maintained to the body level
		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 mining activity is working machinery, drilling, blasting and plying of vehicles. The following control measures are to be undertaken to bring down the noise levels:- • 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. • Proper training to personnel to create awareness about adverse noise level effects. • Planned noise monitoring at suitable locations in the plant and outside location for proper effective remedial actions.
		Solid Waste Management	**Topsoil Management** The topsoil excavated from the quarry will be dumped / stacked separately at pre-determined place and subsequently will be utilized in spreading over reclaimed areas for plantation as part of eco-restoration. Precautions will be taken to limit the height of the topsoil dump / stacked to 5 to 6 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. **Overburden Management** This waste will be utilized within the pit for lying of haul roads. At the end use, OB can be reutilized as soil base for plantation.
		Eco-restoration	The year wise programme of eco-restoration for the life of mine, about 1,600 trees will be planted in area 1.5559 ha.
	VI. Whether Environment	Detailed Environment Management Plan is already submitted with E.C. Application at Page No. 68-82.	

Management Plan or Eco restoration Plan satisfactory?	
VII. Does it suggest mitigation measures for each activity	Detailed Environment Management Plan is already submitted with E.C. Application at Page No. 68-82.
VIII. If Pre-Feasibility Report (PFR) satisfactory	Detailed Pre-Feasibility Report (PFR) is already submitted with E.C. Application at Page No. 27-103.
IX. Does it need public hearing	No, Not required
X. Details of litigation and Court verdict if any	No litigation pending
XI. Details of public complaint, if any	No public complaint received
XII. Details of statutory sanction required	The following Govt. Orders / Policies are to be followed:- ➢ Kerala Minor Mineral Concession Rules, 2015. ➢ Mines Act, 1952 ➢ Explosive Rules, 2008 ➢ Kerala Panchayat Raj Act, 1994 ➢ Environment Protection Act, 1986 ➢ EIA Notification, 2006 / 2009 ➢ The Kerala Promotion of Tree Growth in Non-Forest Areas (Amendment) Act, 2007.
XIII. If CRZ recommendation applicable?	Not Applicable

PART B

Environment Impact Assessment and Mitigation Measures

Impact on water

a) Details of water requirement per day in KLD	The total water requirement is about 15 KLD in which 1 KLD is for domestic which would be sourced from open well, 12 KLD for dust suppression system in mine as well as ancillary unit (Crusher/M sand Unit) and 2 KLD for plantation purposes and will be sourced from storm water pond.
b) Water source/sources.	The total water requirement is about 15 KLD in which 1 KLD is for domestic which would be sourced from open well, 12 KLD for dust suppression system in mine as well as ancillary unit (Crusher/M sand Unit) and 2 KLD for plantation purposes and will be sourced from storm water pond.

	c) Expected water use per day in KLD.	15 KLD
	d) Details of water requirements met from water harvesting.	About 12 KLD for dust suppression system in mine with ancillary unit (Crusher/M sand Unit) and 2 KLD for plantation purposes and will be sourced from storm water pond.
	e) What are the impact of the proposal on the ground water?	No significant impact envisaged on ground water due to the mining project.
	f) How much of the water requirement can be met from the recycling of treated waste water? (Facilities for liquid waste treatment)	No STP proposed for treatment of waste water.
	g) What is the incremental pollution load from waste water generated from the proposed activities?	The sewage to a tune of 0.80 KLD generated from the mine office will be diverted to the septic tank followed by soak pit.
	h) How is the storm water from within the site managed?	The run-off from the lease area will be suitably collected through channels and will be stored in storm water pond for further utilization in Mine/ Crusher units. However, all measures will be taken not to disturb the natural drainage system of the surrounding area.
Impact on Biodiversity and Eco restoration Programmes		
	a) Will the project involve extensive clearing or modification of vegetation (Provide details)	Due to the mining activities, there will be loss of some native species and vegetation. However, some of these species will be planted at the end use for eco-restoration.
	b) What are the measures proposed to minimize the likely impact on vegetation (details of proposal for tree	The year wise programme of eco-restoration for the life of mine, about 1,600 trees will be planted in area 1.5559 ha.

	plantation/ landscaping)	
	c) Is there any displacement of fauna – both terrestrial and aquatic. – If so what are the mitigation measures ?	Not applicable
	d) Presence of any endangered species or red listed category (in detail)	No endangered species found at site.
	Impact on Air Environment	
	a) What are the mitigation measures on generation of dust, smoke and air quality	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. • 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.
	b) Details of internal traffic management of the site.	**The extracted mineral will be transported from the quarry to the end user by adopting following measures so as to minimize dust emissions.** • 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. • Trucks will not be over loaded and will be maintained to the body level
	c) Details of noise from traffic, machines and vibrator and	The major noise generating source from the proposed activity is working machinery, drilling, blasting and plying of vehicles. The following control measures are to be undertaken to bring down the noise levels:- • Proper maintenance of machinery, equipments and improvement on design of machines.

	mitigation measures	• 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. • Proper training to personnel to create awareness about adverse noise level effects. • Planned noise monitoring at suitable locations in the plant and outside location for proper effective remedial actions.
	d) Impact of DG sets and other equipments on noise and vibration and ambient air quality around the project site and mitigation measures	No DG Set proposed
	e) Air quality monitoring in detail	The ambient air quality monitoring of the project site was carried out and the copy of report is already submitted with E.C. Application.
	Energy Conservation	
	a) Details of power requirement and source of supply.	The total power requirement will be 75 kW, which will be drawn from diesel engine. Fuel Quantity – 16 to 20 lt/ hr.
	b) Details of renewable energy (non conventional) used.	The total power requirement will be 75 kW, which will be drawn from diesel engine. Fuel Quantity – 16 to 20 lt/ hr.
	Risk Management	
	a) Are there sufficient measures proposed for risk hazards in case of emergency such as accident at the site?	Detailed Environment Management Plan is already submitted with E.C. Application at Page No. 68-82.
	b) Are proposals for fencing around the quarry	Barbed wire fencing will be done all around the quarry site. The stone quarry mine will result in increase in frequency of blasting

satisfactory? c) Storage of explosives /hazardous substance in detail d) Facility for solid waste management	for mining the mineral. However, controlled blasting with optimum charge of holes will be carried out to loosen the rock. Explosion hazards are envisaged due to mishandling of explosives. Explosives will be handled with utmost care in compliance of conditions imposed by Chief Controller of Explosive & Metalliferous Mines Regulation, 1961. Top soil and over burden generated from the site will be stored separately on earmarked place and will be used for eco-restoration and internal road development.

Socio Economic Impacts

1) Will the project cause adverse effects on local communities disturbance to sacred sites or other cultural values. What are the safe guards proposed?	The proposed project will directly / indirectly develop the area by providing employment opportunities. With the proposed development in and around the area there will be supporting facilities/ infrastructure eventually leading to the development of the area.
2) Will the proposal result in any changes to the demographic structure of local population. If so, provide details.	The project site is private owned land. There is expected to be change in the land use as mining area in the core zone. The highest elevation of the lease area is 85 m. MSL and lowest is 75 m MSL. As the proposed area is hilly, the drainage is towards West side. However, any other significant impact will be confined within the lease area.
3) Are the CSR proposals satisfactory. Give details	

Sl. No	Areas of Intervention	No. of Intervention	Recurring Expenses (in Rs.)	Non Recurring Expenses (in Rs.)
01	Development of educational institutions	03	1,10,000	6,88,000
02	Promotion of sports and athletics	02	2,50,000	75,000
03	Sustainable environment	01	Nil	2,45,000
04	Care for vulnerable	03	6,50,000	Nil
05	Reduction in carbon footprint	01	Nil	90,000
	Total	**10**	**10,10,000**	**10,98,000**

	4) What are the projects benefits in terms of employment potential?	Due to the mining activity and due to the attached ancillary unit, there will be workers attracted to the project area. It is proposed to employ 25 persons in the project.
	PART C	
	Details of NABET approved EIA Consultant engaged-Their name, address and accreditation details	M/s Environmental Engineers & Consultants Pvt. Ltd. (NABET Accredited Consultant Organization) *Head Office :-* A1-198, Janak Puri, New Delhi. *Branch Office:-* C-306, Kanchanjunga Apartments, Palarivattom P.O., Kochi, Kerala.
	Summary and Conclusion	
	a) Overall justification for implementation of the project.	It is predicted that socio-economic impact due to this project will positively increase the chance of more employment opportunities for local inhabitants. There are no Resettlement and Rehabilitation issues involved in this project. The project infrastructures will be of use to people of the area. The revenue of the State Govt. will be definitely increasing due to the proposed activity. The entire project area is devoid of any endangered flora and fauna. **It is proposed to reclaim the land and develop green cover for eco-restoration with native species to a maximum possible extent. Additionally, an area is earmarked outside the proposed mining area for compensatory mass plantation. Also, a storm water pond is proposed outside the mining area for storage of rain water and for its subsequent use so as to conserve fresh water consumption.** Thus the proposed project is not likely to affect the environment or adjacent ecosystem adversely.
	b) Explanation of how adverse impact have been mitigated.	Detailed Pre-Feasibility Report (PFR) is already submitted with E.C. Application at Page No. 27-103.

2. The proposal was placed in the 64th meeting of SEAC, Kerala, held on 16th & 17th November, 2016. The Committee appraised the proposal based on the Mining Plan, Pre-feasibility Report and all other documents submitted along with Fom.1. This is a working quarry with a valid lease up to 2018. The land is a privately owned property. A crusher unit is associated with the quarry. The land use of the area predominates rubber plantation.

The committee found that there are 2 more houses within 100m distance and the proponent is of the opinion that the inhabitants had issued consent for the quarry. The committee decided to defer the item for field inspection to verify the following details:

1) Proximity of residential buildings

2) Proximity of worship place

3) Proximity of water supply tanks

The proponent agreed to spend Rs 5 lakhs per annum recurring and Rs 6 lakhs non-recurring amounts towards CSR activities in consultation with the local panchayath. Accordingly, the Subcommittee of SEAC conducted the field visit and field visit report is given below.

The project is located at about 1 km west of Kizhayikonam on MC road but the approach is from Alamthara side. The area in general is rocky with few quarries/abandoned quarries in the vicinity including that of Aramam rocks. However cluster situation does not exist. This smaller sized quarry area falling in own land occupy the crest and upper slopes of a mount exposing hard rock. Boundary pillars of the plot are erected temporarily and numbered as given in the surface plan. The rock type is a mixture of Khondalite and Charnockite. In the old worked out area steep faces are seen. Formation of benches is just initiated in the area applied for EC. Storm water is channelized into a pit on the northern part that functions as RWH structure, clarified and overflow let out through a defined channel. Fencing is to be provided along the outer boundary. The quarry has a crusher unit. Floral and faunal biodiversity is not observed as the area is mostly rocky and disturbed. Three buildings used within 100 m used as dwelling unit have been acquired by the proponent. A temple is located 350 m west of the lease area. The pond with pump house is 300 m south of the lease but not influenced due to its location on the opposite slope. Based on an overall evaluation of the site, issuance of EC can be recommended subject to the production of following:

- *Ownership details of the three houses falling within 100 m of the quarry*
- *Total area presently under the ownership of the proponent to be demarcated in an enlarged cadastral map also showing the extent of lease area.*
- *All the boundary pillars are to be fixed permanently on the ground and their respective coordinates to be marked on them*
- *Fencing to be completed around the lease area.*
- *Commitment of CSR to be verified. The maintenance of the narrow road used largely for the transport of material from the quarry can be included as part of CSR.*

3. The proposal was considered in the 66th meeting of SEAC held on 19th December, 2016. The Committee appraised the proposal based on Form I, Pre-feasibility Report, Mining Plan, field inspection report of the Sub Committee and all other documents submitted with the proposal. The Committee deferred the item for submission of the following clarifications sought in the field visit report.

1. *Ownership details of the three houses falling within 100 m of the quarry*
2. *Total area presently under the ownership of the proponent to be demarcated in an enlarged cadastral map also showing the extent of lease area.*

3. *All the boundary pillars are to be fixed permanently on the ground and their respective coordinates to be marked on them*
4. *Fencing to be completed around the lease area.*
5. *Commitment of CSR to be verified. The maintenance of the narrow road used largely for the transport of material from the quarry can be included as part of CSR.*

The proponent agreed to set apart Rs.11 lakhs (non-recurring) and Rs. 10 lakhs per annum (recurring) for CSR activities for the welfare of the local community. The proponent also agreed to spend this amount in consultation with the local Panchayath. Subsequently the proponent submitted the above mentioned documents sought by the 66th SEAC.

4. The proposal was considered in the 69th meeting of SEAC held on 9th and 10th March 2017. The Committee verified the additional documents submitted by the proponent and found satisfactory. The Committee appraised the proposal based on the Mining Plan, Pre-feasibility Report, field visit report and all other documents submitted along with Form1. The Committee decided to **Recommend for Issuance of EC** subject to the following specific conditions in addition to the general conditions.

1. *If any plant species endemic to Western Ghats are noticed in the area they shall be properly protected in situ or by transplanting to an appropriate location inside the lease area.*

The proponent agreed to set apart Rs.11 lakh (non-recurring) and Rs.10 lakh per annum (recurring)for CSR activities. The proponent also agreed to spend this amount in consultation with the local Panchayat for the welfare of the local community.

5. Authority considered the proposal in the 68th meeting held on 12th May 2017. The Authority accepted the recommendation of 69th meeting of SEAC and decided to issue Environmental Clearance subject to obtaining legal opinion as decided in the 66th SEIAA meeting whether quarrying on lease areas without Environmental Clearance would also come under the scope of violation. The Authority also decided that the mining operations should be limited to the area at least 100 m from the dwelling unit mentioned in the inspection report . An affidavit should be submitted to this extent before Environmental Clearance is issued. All the specific condition in addition to the general conditions should be strictly implemented.

6. In the light of the legal opinion, the 76th meeting of SEIAA held on 16th November 2017 decided to issue EC for the proposal. The proponent has submitted the affidavit vide reference 7th cited satisfying all the conditions.

7. Environmental Clearance as per the EIA Notification 2006 is hereby accorded for the proposed quarry project of Sri. Suresh Kumar S., Neeranjanam, Pazhavady, Nedumangad P.O., Trivandrum, Kerala-695541 in Survey Nos. 85/9-1, 85/13-1, 85/16-1, 88/1-1, 88/1-2, 88/3-1, 88/4, 88/5, 88/7 at Nellanadu Village & Panchayat, Nedumangad Taluk, Thiruvananthapuram District, Kerala for an area of 1.5559 Ha, subject to the specific conditions as in para 4 &5 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.

8. 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 (Mines Drainage), Chapter 7 (Stacking of Mineral rejects and Disposal of waste), Chapter 11 (EMP) Chapter 12 (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.

9. 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.

10. 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

iii. The given address for correspondence with the authorised signatory of the project is Sri. Suresh Kumar S., Neeranjanam, Pazhavady, Nedumangad P.O., Trivandrum, Kerala-695541.

Sd/-
P.H.KURIAN I.A.S,
Member Secretary (SEIAA)

To,

Sri. Suresh Kumar S.,
Neeranjanam, Pazhavady,
Nedumangad P.O., Trivandrum,
Kerala-695541

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. District Collector, Thiruvananthapuram
4. Director, Mining & Geology, Thiruvananthapuram -4.
5. The Member Secretary, Kerala State Pollution Control Board
6. District Geologist, Thiruvananthapuram
7. Tahsildhar, Nedumangad Taluk, Thiruvananthapuram
8. Chairman, SEIAA.
9. Website.
10. S/f
11. 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 proponentshall 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 45^0. 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 thisimplementation 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