सत्यमेव जयते

Validity expires on 14.02.2022

Proceedings of the State Environment Impact Assessment Authority Kerala

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

Sub: SEIAA- Environmental clearance for the proposed Building Stone quarry project in Sy. No 217/2-2, 217/2-3, 217/2-1, 218/3 at Parakkadavu Village, Aluva Taluk, Ernakulam District, Kerala by Sri K.M.Joy - EC granted – Orders issued.

STATE ENVIRONMENTAL IMPACT ASSESSMENT AUTHORITY, KERALA

No. 843/SEIAA/EC3/2805/2015 ***Dated, Thiruvananthapuram 15.02.2017***

Ref: 1. Application dated 21-07-2015 from Sri K.M.Joy, Managing Partner, M/s J.B.Granites., Kachappily House, Puliyanam P.O., Angamaly, Kerala-683572
2. Minutes of the 49th meeting of SEAC, Kerala held on 7th & 8th December, 2015
3. Minutes of the 60th meeting of SEAC, Kerala held on 28th & 29th July, 2016
4. Minutes of the 61st Meeting of SEAC held on 11th August 2016.
5. Minutes of the 60th Meeting of SEIAA held on held on 27th October 2016.

ENVIRONMENTAL CLEARANCE NO.16/2017

Sri K.M.Joy, Managing Partner, M/s J.B.Granites., Kachappily House, Puliyanam P.O., Angamaly, Kerala-683572., vide his application received on 21-07-2015 has sought Environmental Clearance under EIA Notification, 2006 for the quarry in Sy. No 217/2-2, 217/2-3, 217/2-1, 218/3 at Parakkadavu Village, Aluva Taluk, Ernakulam District,, Kerala for an area of 2.4169 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. The proposed project site falls Latitude 10°.13'15.9300" N to 10°13'20.0883" N Longitude (E)76°21'17.3890" E to 76°21'25.0022".

Basic information

	I. Project details	
1.	File No.	**843/SEIAA/EC3/2805/2015**
2.	Name /Title of the project	Building stone quarry project of M/s J.B. Granites
3.	Name and address of project proponent.	Mr. K.M. Joy, Managing Partner M/s J.B. Granites

		Kachappily House, P.O. Puliyanam, Angamaly, Kerala – 683572 Mobile No: +91 9846120454, +91 8589090454
4.	Owner of the land	Mr. K.M. Joy and Mr. M.P. Baby
5.	Survey No. District/Taluk/ and Village etc.	Survey Nos. 217/2-2, 217/2-3, 217/2-1 and 218/3 District Ernakulam Taluk Aluva Village Parakkadavu
6.	Nature of the proposal – lease or permit with evidence.	For Quarrying Lease
7.	Date of submission of Application	21-07-2015
8.	Brief description of the project.	This is an existing stone quarry previously worked under temporary permits. The lease applied area exhibits hilly terrain. Proposed Production 1,03,324 Tonnes per annum and the life of the quarry is Seven (7) years. The quarry operation is proposed up to 5 m MSL. The top soil & over burden thickness varies from avg. 0.20 m to 0.30 m. 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. The over burden will be utilized for laying internal haul road and will form base in reclamation/plantation. The quarry operation is proposed to carry out with conventional open cast semi mechanized mining with 5.0 meter vertical bench with a bench width of 5.0 meter. Quarrying operation is carried out by splitting of rock mass from the parent rock mass by jackhammer drilling and blasting. Hydraulic excavators are used for loading the stone from pithead and tippers are used for transportation of stone. Hydraulic excavators are attached with rock breakers for breaking of large boulders to avoid secondary blasting.
9.	Details of Authorized Signatory and address for correspondence	Mr. K.M. Joy, Managing Partner M/s J.B. Granites Kachappily House, P.O. Puliyanam, Angamaly, Kerala – 683572 Mobile No: +91 9846120454, +91 8589090454
II. Land Details		
10.	a) Extent of area in hectares	2.4169Hectares
11.	b) Is the property forest land/Govt. land/own land/patta land	Own Land
12.	c) Quantity of top soil/over burden produced and managed	The top soil & over burden thickness varies from avg. 0.20 m to 0.30 m. 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. The over burden will be utilized for laying internal haul road and will form base in reclamation/plantation. Domestic waste water will be discharged in Septic Tank followed by soak pit. No process effluent will be generated during quarry operation.
13.	d) Latitude and Longitude	Latitude : 10°13'15.9300"N to 10°13'20.0883"N Longitude: 76°21'17.3890"E to 76°21'25.0022"E
14.	e) Topography of land and elevation	Elevation of lease area: 72 m to 24 m MSL Height of excavation: 72 m to 5 m MSL
15.	f) Slope analysis	Part of the proposed land is already under mining and the remaining proposed land is covered with native trees, shrubs, herbs, grass, climbers, bushes etc. The topography of the lease area is hilly. The highest elevation of the lease area is 72m RL and lowest is 24m RL. As the proposed area is hill slope, topographically the area is undulating with slope towards East.
16.	g) Will there be any significant land disturbance resulting in soil erosion, subsidence & natural drainage.	There shall not be any land disturbance resulting in soil erosion, subsidence & natural drainage. Quarrying operations shall be carried as per the scheme provided in Mining Plan by formation of Benches. 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. The over burden will be utilized for laying internal haul road and will form base in reclamation/plantation. Precautions will be taken to limit the height of the topsoil dump from 4 to 5 meters in order to preserve its fertility and shelf life. It will be suitably protected from soil erosion and infertility by constructing a retaining wall at the foot wall side and by planting fodder grass and leguminous plants during temporary storage.
17.	h) Access road to the site width and condition	Access road is available upto the mine site. An access road of 6 meters width in a sufficient good condition is maintained. The road will be further strengthened to facilitate the stone transport traffic.
18.	i) Will there be any adverse impact on the acsthetics of the proposal site	The land use of the mine lease area will changed to mine pits. Systematic opencast mining with benches will be carried out. Since the granite is hard rock formation, subsidence and instability are not envisaged.
III. Mining details		
19.	a) Minimum and Maximum height of excavation.	Benches of 5 Meters Height and 5 Meters width shall be maintained.
20.	b) Life of mine proposed.	7 (Seven) Years
21.	c) Underground mining if any proposed	No Underground Mining is proposed.

22.	d) Method of Mining	Semi Mechanized Open Pit Mining
23.	e) Distance from the adjacent quarry	Common Boundary
24.	f) Cluster condition if any	Not Applicable
25.	g) Has "No cluster certificate" submitted?	Yes
26.	h) Distance from nearby habitation	Nearest House at 100 m W
27.	i) Distance from nearby forest, if applicable	Not Applicable
28.	j) Distance from protected area, Wildlife Sanctuary, National Park etc.	Beyond 10 KM Radius
29.	k) Distance from nearby streams/rivers/National Highway and Roads	Nearest National Highways (NH-47) Salem – Kochi – Kanyakumari which is about 2.2 KM South East of the proposed area. Manjaly Thodu (3.5 KM South) Chalakkudy River (2.65 KM West)
30.	l) Is ESA applicable? If so distance from ESA limit	Not Applicable
31.	m) Has approved mining plan, prepared by RQP submitted?	Yes
32.	n) Capacity of production in TPA	Proposed Production: 1,03,324Tonnes per annum and the life of the quarry is Seven (7) years.
33.	o) Details of mining process	Open cast Semi-Mechanized Mining with 5.0 meter vertical bench with a bench width is not less than the bench height will be adopted. Splitting of rock mass of considerable volume from the parent rock mass by jackhammer drilling and blasting, hydraulic excavators are used for loading the Granite building stone into the tippers and then the stone is transported from pithead to the nearby crushers. Hydraulic excavators are attached with rock breakers for breaking large boulders to avoid secondary blasting. The primary boulders thus splitted are removed from the pits by excavators and further made to smaller sizes by rock breakers attached in excavators. It is a conventional opencast semi mechanized method of mining.
IV. Details of Project cost		
34.	a) Land cost	Rs 62 Lakhs
35.	b) Plant and	Rs 53 Lakhs

	Machinery		
36.	c) Total Cost	Rs 1 Crore 15 Lakhs	
37.	**V.** Financial Statement including funding sourceand details of insurance etc.	This is an existing building stone quarry. Existing mine machinery and site infrastructure will be utilized.	
38.	Management Plan	Air Pollution	Following air pollution control measures will be adopted in the mine to control dust and gaseous emissions – •Practice of wet drilling / provision of dust arrestors in drills to control dust generation during drilling. •Proper blast design and avoiding overcharging of blast holes. •Controlled blasting techniques will be adopted. •Laying of haul road as per the standards •Periodic water sprinkling on haul road. •Provrsion of dust mask to workers working at highly dust prone and affected areas. •Provision of green belt all along the periphery of the applied area. •Prohibiting overloading and over-speeding of mineral transportation vehicles. •Transport of mineral in trucks covered with tarpaulin. •Periodic maintenance of mine machinery and transportation vehicles. •Periodical monitoring of ambient air quality in and around the mine area.
		Water Pollution	Following control measures will be adopted for controlling water pollution:- •Construction of garland drains to divert surface run-off from virgin area away from mining area. •Construction of check dams / gully plugs at strategic places to arrest silt wash off from broken up area. •Collection of surface run-off from broken up area in mine pits for settling and only properly settled excess water from mine pit will be discharged to nearby users. The storm water/ mine water will be used for dust suppression, greenbelt

			development, etc. •Periodic analysis of mine pit water and ground water quality in nearby villages. •Domestic sewage from site office & urinals/latrines provided in ML is discharged in septic tank followed by soak pits.
		Noise	The major noise generating source from the mining activity is working machinery, drilling, blasting, loading, unloading and plying of vehicles. The following control measures will be undertaken to bring down the noise levels within the permissible limit:- □Development of thick green belt around mining area □Periodic maintenance of machinery, equipments. □Provision of earplugs to workers exposed to high noise areas. □Conducting periodical medical checkup of all workers for any noise related health problems. □Proper training to personnel to create awareness about adverse noise level effects. □Periodic noise monitoring at suitable locations in the mining area and nearby habitations to assess efficacy of adopted control measures.
		Solid Waste Management	The top soil & over burden thickness varies from avg. 0.30 m to 0.40 m. 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. The over burden will be utilized for laying internal haul road and will form base in reclamation/plantation. There is no other solid waste anticipated during the quarrying operation.
		Eco-restoration	Out of the mined out area, lower benches of the mined out pit will be converted into water reservoir and thick plantation will be developed on top benches of the mined out area. Plantation will also be carried out on backfilled area and safety zone area. The water reservoir developed in the mined out area will improve the water

			availability on the hill top and will also help in recharging the ground water table in the area. The plantation developed on the top benches and on surrounding area will improve ecological status of the area. The water reservoir and plantation will together improve the aesthetic view of the mining area.
39.	**VI.** Whether Environment Management Plan or Eco restoration Plan satisfactory?	Yes	
40.	**VII.** Does it suggest mitigation measures for each activity	Yes	
41.	**VIII.** If Pre-Feasibility Report (PFR) satisfactory	Yes	
42.	**IX.** Does it need public hearing	Not Applicable	
43.	**X.** Details of litigation and Court verdict if any	High court of Kerala at Ernakulum WP(C). No. 10694/2015 The court vide its judgement dated 1.04.2015, has given directions to the District Collector to act in accordance with the directions given in Division Bench Judgement of the High court, Ernakulum dated23.03.2015 in W.P.C. No.31148/2014 with regard to Mining operations of Private respondents (Mine operators).	
44.	**XI.** Details of public complaint, if any	Not Applicable	
45.	**XII.** Details of statutory sanction required	Mining Lease From Department Mining and Geology. Consent to Operate from Kerala Pollution Control Board. LSG No Objections.	
46.	**XIII.**If CRZ recommendation applicable?	Yes	

PART B

Environment Impact Assessment and Mitigation Measures

Impact on water

47.	a) Details of water requirement per day in KLD	Detail of water requirements in KLD as given below:	
		Dust Suppression	12 KLD
		Drinking Purpose	1 KLD
		Green Belt	2 KLD
		Total	**15.0 KLD**
48.	b) Water source/sources.	The required water will be met from rainwater accumulated in mine pit (when available) and from bore well and open well from nearby area through tankers.	
49.	c) Expected water	15.0 KLD	

	use per day in KLD.	
50.	d) Details of water requirements met from water harvesting.	Rainwater harvesting will be done in part of the excavated pit void and will be used for water conservation thereby reducing exploitation of groundwater.
51.	e) What are the impact of the proposal on the ground water?	Ground water seepage may occur during monsoon season, when the ground water table rise in the area. The seepage water and rainwater accumulated in the mine pit will be used for dust suppression and plantations. Excess water, if any, will be drained out from the pit by the 5H.P motor pump to the surface settling tank and will be discharged through filter media to boundary barrier for afforestation. There is no toxic substances in the mineral proposed for mining and associated soil/OB. Also, no hazardous substances will be used for mining. Hence, the discharge water may only contain some suspended & dissolved solids. No significant impact is envisaged on the ground water and surface water resources of the area.
52.	f) How much of the water requirement can be met from the recycling of treated waste water? (Facilities for liquid waste treatment)	• No process effluent will be generated. • Construction of garland drains to divert surface run-off from virgin area away from mining area. • Construction of check dams / gully plugs at strategic places to arrest silt wash off from broken up area. • Collection of surface run-off from broken up area in mine pits for settling and only properly settled excess water from mine pit will be discharged to nearby users. The storm water/ mine water will be used for dust suppression, greenbelt development, etc. • Domestic sewage from site office & urinals/latrines provided in ML is discharged in septic tank followed by soak pits.
53.	g) What is the incremental pollution load from waste water generated from the proposed activities?	Following control measures will be adopted for controlling water pollution:- • Construction of garland drains to divert surface run-off from virgin area away from mining area. • Construction of check dams / gully plugs at strategic places to arrest silt wash off from broken up area. • Construction of retention walls around toe of lower boundary of the mining area to arrest boulder roll down and silt wash off. • Collection of surface run-off from broken up area in mine pits for settling and use in dust suppression and plantation in the mine lease area. Only properly settled excess water from mine pit will be supplied to nearby users. • Periodic analysis of mine pit water and ground water quality in nearby villages. • Domestic sewage from site office & urinals/latrines provided in ML is discharged in septic tank followed by soak pits.

54.	h) How is the storm water from within the site managed?	Construction of garland drains all around the quarry pit and construction of check dam at strategic location in lower elevations to prevent soil erosion due to surface runoff during rainfall and also to collect the storm water for various use within the mine lease area.
Impact on Biodiversity and Eco restoration Programmes		
55.	a) Will the project involve extensive clearing or modification of vegetation (Provide details)	About 1100 sapling will be planted in 0.4685 Ha safety barrier zone and undisturbed area. Apart from this, plantation will also be carried out on top benches of the mined out area. Most of the mined out area will be reclaimed with plantation and remaining void will be used as water body for the local population. It is proposed that the water reservoir developed in mine pit can also be used for fisheries development in consultation with fisheries department which will serves as additional income generation source for the local population after the completion of mining.
56.	b) What ate the measures proposed to minimize the likely impact on vegetation (details of proposal for tree plantation/ landscaping)	During the first six month, it is recommended to developed grasses and herbs by hydro seeding method. This method is suited for difficult terrain. This is a single step process and involves spraying slurry of seed, fertilizer, fertile top soil, cow dung and water. A layer 0.5 to 2 mm thick is sprayed. Very effective in stony and nutrient poor shallow voids filled with over burden waste materials. The plantation programme as per the time schedule suggested below:- ☐First Six months -- Herbs & grass ☐Next Six months -- Shrubs ☐Next Six months onwards -- Trees
57.	c) Is there any displacement of fauna – both terrestrial and aquatic. – If so what are the mitigation measures ? d) Presence of any endangered species or red listed category (in detail)	None. This is an existing mine. No wild fauna is observed in the mine lease area.
Impact on Air Environment		
58.	a) What are the mitigation measures on generation of dust, smoke and air quality	• Adequate air pollution control measures, as suggested in EMP will be adopted to control / minimize dust generation. • Periodic air quality monitoring will be conducted in mining area and nearby village to ensure ambient air quality within permissible limits. • Stone transportation will be carried out through covered trucks.
59.	b) Details of internal traffic management of	Stone transportation will be carried out in trucks covered with tarpaulin. Speed limit will be restricted to 40 km per hour. Sentries with flags & whistle will posted in village junction and populated

<table>
<tr><td></td><td>the site.</td><td>area to control and regulate traffic.</td></tr>
<tr><td>60.</td><td>c) Details of noise from traffic, machines and vibrator and mitigation measures</td><td>• The major noise generating source from the proposed activity is due to mine machinery and vehicular movement.
• Vehicle speed will be maintained at 20 KMPH within the mining area.
• Provision of ear muffs to workers exposed to high noise activities like drilling, rock breaker operator, etc.
• Proper training to personnel to create awareness about adverse noise level effects.
• Planned noise monitoring at suitable locations in the proposed area and outside locations for proper effective remedial actions.
• The greenbelt, which is being provided, will act as noise attenuator.</td></tr>
<tr><td>61.</td><td>d) Impact of DG sets and other equipments on noise and vibration and ambient air quality around the project site and mitigation measures</td><td>• The major noise generating source from the proposed activity is due to mine machinery and vehicular movement.
• Vehicle speed will be maintained at 20 KMPH within the mining area.
• Provision of ear muffs to workers exposed to high noise activities like drilling, rock breaker operator, etc.
• Proper training to personnel to create awareness about adverse noise level effects.
• Planned noise monitoring at suitable locations in the proposed area and outside locations for proper effective remedial actions.
• The greenbelt, which is being provided, will act as noise attenuator.</td></tr>
<tr><td>62.</td><td>e) Air quality monitoring in detail</td><td>
<table>
<tr><th>Instrument</th><th>Make</th><th>Model No.</th><th>Instrument Identification No.</th><th colspan="2">Range and Sensitivity</th></tr>
<tr><td>Respirable Dust Sampler (RDS)</td><td>M/s Envirotech Instruments Pvt. Ltd</td><td>APM-450 BL</td><td>SAL/RDS/01</td><td>0.40 – 1.5 m^3/min ±0.02 m^3/min (PM_{10})</td><td>0 – 3 LPM ± 0.2 LPM (gases)</td></tr>
<tr><td>Fine Particulate Sampler</td><td>M/s Envirotech Instruments Pvt. Ltd</td><td>APM 550</td><td>DTC-205</td><td colspan="2">±0.03 DGM m^3 ($PM_{2.5}$)</td></tr>
</table>
</td></tr>
<tr><td colspan="3">Energy Conservation</td></tr>
<tr><td>63.</td><td>a) Details of power requirement and</td><td>50 litre diesel per hour. Electricity for office use and lighting for security during night.</td></tr>
</table>

	source of supply.	Diesel from nearby filling stations. Electricity from State Electricity Department.
64.	b) Details of renewable energy (non – conventional) used.	Not Applicable
	Risk Management	
65.	a) Are there sufficient measures proposed for risk hazards in case of emergency such as accident at the site?	The risks of accidents are envisaged in quarry operations, failure of quarry pit slopes, excavators, tipper movement, etc. However, all safety measures shall be taken to prevent any accidents. The quarrying activities will be monitored under the supervision of experienced and qualified competent mines foreman. First Aid kit facilities will be kept available in the mines office room and with site supervisors. All type of safety/ protective equipment's such as Safety Helmets, Goggles, Ear muffs, dust masks, hand gloves, Reflector jackets, safety shoes and other necessary safety devices will be provided to all laborers working in quarry site.
66.	b) Are proposals for fencing around the quarry satisfactory? c) Storage of explosives/hazardous substance in detail d) Facility for solid waste management	YES The hazardous materials and explosives will be totally evacuated from the mine site and the site will cleared of any such materials and substances. 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. The over burden will be utilized for laying internal haul road and will form base in reclamation/plantation. Domestic waste water will be discharged in Septic Tank followed by soak pit. No process effluent will be generated during quarry operation.
	Socio Economic Impacts	
67.	a) Will the project cause adverse effects on local communities disturbance to sacred sites or other cultural values. What are the safe guards proposed?	The following measures will be taken up to improve the socio-economic conditions of the area:- Preference will be given to local people for employment in the mine based upon their eligibility. Secondary employment opportunity for local people in mineral transport, service sectors, garages, shops/canteen, etc Medical facilities to the workers employed at site. Development of drinking water facilities, public utilities, financial assistance to needy students, etc. As a part of Corporate Social Responsibility, amount Rs. 5.0 lakh will be spent/ annum in consultation with the local Panchayaths / Village authority.
68.	b) Will the proposal result in any changes to the demographic structure of local population. If so, provide details.	The demographic aspect of the village area comprises of the various features of the population including their size, composition and distribution across the location. The population composition is described in term of basic demographic features like, house hold status, age, social composition, education and occupation etc.
69.	c) Are the CSR	

	proposals satisfactory. Give details	Common CSR Activities already carried out Sl. No / Particulars / Amount in Rs.in lakhs 1 — Conducting Annual Health Check Up Camp at **Kodussery Government Hospital,** Parakkadav, Angamalli, Ernakulam District, Kerala – 683 579 — **2,00,000** 2. — Scholarship Programme for 10 Students/Year at **Puliyanam Higher Secondary School,** Puliyanam P.O., Ernakulam, Kerala 683572(Rs.10,000/- each) — **1,00,000** 3. — Construction of Toilets for **5 Houses per year** for BPL peoples in **Parakkadavu Grama Panchayat** — **50,000** 4. — Treatment Aid for 10 Patients from BPL in **Parakkadavu GramaPanchayat** (Rs.10,000/-) — **1,00,000** 5. — Annual donation to **Parakkadavu Grama Panchayat**, 7/84 Parakkadavu GramaPanchayat, Parakkadavu Kurumassery P.O., Ernakulam – 683 579 — **50,000** **Total** — **5,00,000**
70.	d) What are the projects benefits in terms of employment potential?	Project will create direct & indirect employment opportunities within the surrounding region. Unit will use good faith efforts to employ local people from the nearby villages depending upon the availability of skilled & un-skilled man-power surrounding the project site. In operation phase, the proposed project would require significant workforce of non-technical and technical persons. About 25 people will get direct employment and 10 – 15 people will get secondary employment opportunities with allied and related industries, such as transportation, maintenance, shops, garages, eateries, etc.
	PART C	
	Summary and Conclusion	
71.	a) Overall justification for implementation of the project.	□ The Building Stone quarry will have overall positive impact in the surrounding areas as there will be increased opportunity of direct and indirect employment for the local people. □ The State Govt will benefit from the revenue in the form of Royalty and Cess from the mine. □ At conceptual stage, most of the mine lease area will be covered with thick plantation and a surface water reservoir will be developed in part of the mined out void in lower benches of the mine lease area. □ The water body developed in the mine lease area can be used for pisci-culture by nearby villagers.

		□ The project implementation will help in development of infrastructures facilities of the area. □ There are no Resettlement and Rehabilitation issues involved in this project. From the above mentioned points, it can be seen that the proposed project will benefit the area without causing any significant disturbance to the environment.
72.	b) Explanation of how adverse impact have been mitigated.	The applied mining area is surrounded by other non-operating mines; hence compensation of land crops and other adverse impacts due to mining will not arise.

2. The proposal was placed in the 49th meeting of SEAC, Kerala held on 7th and 8th December, 2015. Further to the intimation of SEAC, the proponent attended the meeting. The total area proposed for EC is 2.4169 ha which is patta land. The proponent has the quarry which was working for the last 8 years with permit and presently it is not working from February 2015 onwards. The proponent also informed that no forest land is near to the quarry area. As per the certificate issued by the Geologist there are more than 8 quarries within 500 m radius of the proposed area. Distance of the mining area from the nearest human settlement is 100 m West. Ultimate depth of mining proposed is 72 m MSL. The committee decided to **defer** the item for field visit to verify the cluster situation if any, since there are more than 8 quarries within 500 m radius.

The site visit was conducted by Subcommittee of SEAC on 15.07.2016, comprising Dr. K.G. Padmakumar and Sri. John Mathai. The proponent Sri. K M Joy and his associates were present at the site at the time of site visit. The details of which are given below:

The project is located at about 2 km west of Karukutty. This quarry lease area falling in own land occupy parts of a hillock exposing hard rock. The approach road is narrow and not surfaced. Several old pits and working quarries were noted in the area. Boundary pillars of this plot are erected and numbered displaying GPS values. Part of the area was being worked with permits but not at the time of inspection. Pits of old workings with cliff like faces and presently filled with rainwater are seen where fish culture is being practised. In the area proposed for quarry is elevated with patches of OB and top soil of variable thickness. Rubber plantation is the dominant landuse. Dwelling units are seen on the western side but beyond 100 m.

The quarry may be recommended for EC after considering the following points:-

1. *Considering the presence of steep cuttings, and fragmented way of quarrying, it is to be emphasised that the future working will be from the elevated part following the top to bottom approach.*
2. *The steep cliff like faces to be marked as danger zones with proper fencing and sign boards. They can be exploited only with the advancement of benches.*

3. *The present practise of utilisation of the deep pit for RWH and fish culture can continue.*
4. *100 m distance to be left from the dwelling units especially on the western side.*
5. *Top soil and OB need proper storage area on the lower part on the southern side*
6. *The approach roads need widening and surfacing even though it is proposed to regulate the movement of trucks through the two approach roads with an one way movement.*
7. *The certificate from District Geologist on the details of quarries in 500 m vicinity with their names and respective areas.*
8. *Details of CSR and land document may be verified from the application.*

3. The proposal along with the field visit report was placed in the 60th meeting of SEAC, Kerala, held on 28th and 29th July, 2016, but the item was deferred for considering in next meeting.

4. The proposal was again considered in the 61st Meeting of SEAC held on 11th August 2016. The Committee after examining the mining plan, prefeasibility report, Field Inspection Report and the other documents and details provided by the proponent decided to recommended for issuance of EC subject to the general conditions and following specific conditions that:

1. The approach road should be widened to minimum of 6m width.
2. Considering the presence of steep cuttings and fragmented way of quarrying, it is to be emphasised that the future working will be from the elevated part following the top to bottom approach.
3. The steep cliff like faces to be marked as danger zones with proper fencing and sign boards. They can be exploited only with the advancement of benches.
4. The present practise of utilisation of the deep pit for RWH and fish culture can continue.

5. The Authority in its 60th Meeting held on 27th October 2016 resolved to accept the recommendation of SEAC to issue Environmental Clearance with specific condition in para 4 in addition to general conditions.

Authority noted that, as per the certificate issued by the district Geologist there are 8 other quarries working with short term permit/lease within 500m radius of the proposed area. Hence 'no cluster certificate' should be presented. The proponent should continue quarrying only after presenting a certificate from a competent authority that the pre mining specific conditions No 1 and 3 have been fulfilled.

6. The Proponent submitted the certificate from a competent authority on 27.01.2017 stating that the premining conditions No.1 & 3 have been fulfilled before starting with mining. Environmental clearance as per the EIA notification 2006 is hereby accorded for the proposed Building Stone Quarry project of Sri. K.M.Joy, Managing Partner, M/s

J.B.Granites., Kachappily House, Puliyanam P.O., Angamaly, Kerala - 683572 in Survey No. 217/2-2, 217/2-3, 217/2-1, 218/3 at Parakkadavu Village, Aluva Taluk, Ernakulam District, Kerala for an area of 2.4169 hectares, subject to the specific conditions as recommended by SEAC in para 4 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, appended hereto will be applicable and have to be strictly adhered to.

7. 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 conditions subject to all the mining features, Environmental Management Plans as undertaken in the Mining Plan and EMP submitted to SEIAA will be deemed to be part of this proceedings as conditions as undertaken by the proponent, as if incorporated herein.

8. 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.

9. 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, 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 K.M.Joy, Managing Partner, M/s J.B.Granites., Kachappily House, Puliyanam P.O., Angamaly, Kerala-683572.

Sd/-
V.S.SENTHIL.I.A.S,
Member Secretary (SEIAA)

To,

Sri K.M.Joy, Managing Partner,
M/s J.B.Granites., Kachappily House,
Puliyanam P.O., Angamaly,
Kerala-683572

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, Ernakulam
5. Secretary, Parakkadavu Panchayat, 7/84 Parakkadavu Grama Panchayat, Parakkadavu Kurumassery P.O, Ernakulam – 683 579
6. Chairman, SEIAA.
7. Website.
8. S/f
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 100 m 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^{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 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 not withstanding 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.

Rajeevan

For Member Secretary, SEIAA Kerala