



सत्यमेव जयते

Validity expires on 21.12.2022

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 quarry project in Sy. No. 1080/1B, 1080/1A, 1080/2, 1081/2B, 1081/2A, 1083/3, 1082/1, Onakkoor Village, Pampakuda Panchayat, Muvattupuzha Taluk, Ernakulam District, Kerala by Sri. V.C.Mathew, Managing Director, M/s Edayan Aggregates Pvt. Ltd. -
Granted – Orders issued.

STATE ENVIRONMENTAL IMPACT ASSESSMENT AUTHORITY, KERALA

No. 927/SEIAA/EC3/ 3893/2015

Dated, Thiruvananthapuram 22.12.2017

- Ref: 1. Application received on 23.09.2015 from Sri V.C.Mathew, Managing Director, M/s Edayan Aggregates Pvt. Ltd. Periyappuram P.O., Pampakuda, Ernakulam District, Kerala – 686667
2. Minutes of the 57th Meeting of SEAC held on 16th & 17th June 2016
3. Minutes of the 56th meeting of SEIAA held on 23rd July, 2016
4. Minutes of the 67th meeting of SEAC held on 27th January 2017
5. Minutes of the 73rd meeting of SEAC held on 30th and 31st May 2017
6. Minutes of the 71st meeting of SEIAA held on 20th July 2017.
7. Minutes of the 76th meeting of SEIAA held on 16th November 2017
8. Affidavit received on 17.08.2017 & 08.09.2017 from Sri.V.C.Mathew, Managing Director, M/s Edayan Aggregates Pvt. Ltd

ENVIRONMENTAL CLEARANCE NO.103/2017

Sri.V.C.Mathew, Managing Director, M/s Edayan Aggregates Pvt. Ltd. Periyappuram P.O., Pampakuda, Ernakulam District, Kerala - 686667, vide his application received on 23/09/2015, has sought Environmental Clearance under EIA Notification, 2006 for the quarry project in Sy. No. 1080/1B, 1080/1A, 1080/2, 1081/2B, 1081/2A, 1083/3, 1082/1, at Onakkoor Village, Pampakuda Panchayat, Muvattupuzha Taluk, Ernakulam District, Kerala for an area of 4.90 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 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
(To be filled in by the Project Proponent)
PART A

Project details	
File No.	927 / SEIAA / EC3 / 3893 / 2015
Name /Title of the project	Environment Clearance for Building Stone Quarry (Minor Mineral) project of M/s Edayan Aggregates Pvt. Ltd.
Name and address of project proponent.	Mr. V.C. Mathew, Managing Director M/s Edayan Aggregates Pvt. Ltd. Periyappuram P.O., Pampakuda, Ernakulam District, Kerala-686667.
Owner of the land	The land for the proposed quarry is private owned land and the land is possessed in the name of M/s Edayan Aggregates Pvt. Ltd.
Survey No. District/Taluk/ and Village etc.	Survey Nos. 1080/1B, 1080/1A, 1080/2, 1081/2B, 1081/2A, 1083/3, 1082/1, Onakkoor Village, Pampakuda Panchayat, Muvattupuzha Taluk, Ernakulam District, Kerala
Details of period of lease or permit with number including the beginning and expiry date of lease /permit period	The quarry is working with mining lease (P.O. No. 325/2005-06/5384/M3/05 dt. 07/09/2005) issued by Department of Mining and Geology, Govt. of Kerala for an area of 1.42 ha. which is part of area under consideration and the mining lease is valid up to October, 2017.
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?	06 / 10 / 2005. The quarry is working with mining lease (P.O. No. 325/2005-06/5384/M3/05) issued by Department of Mining and Geology, Govt. of Kerala for an area of 1.42 ha. which is part of area under consideration and the mining lease is valid up to October, 2017. Not Applicable
Date of submission of Application	23 / 09 / 2015
Brief description of the project.	The land for the proposed quarry is private owned land and the land is possessed in the name of M/s Edayan Aggregates Pvt. Ltd. The targeted production of mine will be 90,000 MTA. The

		estimated project cost is Rs. 3.25 Crores. The expected life of mine estimated will be about 23 years. The mining operation will be carried out by opencast semi-mechanized method as per approved Mining Plan.	
	Details of Authorized Signatory and address for correspondence	Mr. V.C. Mathew, Managing Director M/s Edayan Aggregates Pvt. Ltd. Periyappuram P.O., Pampakuda, Ernakulam District, Kerala-686667	
Land Details			
	Extent of area in hectares	4.90 hectares	
	Is the property forest land/ Govt. land / own land/patta land	The land for the proposed quarry is private owned land.	
	Quantity of top soil/over burden produced and managed	A total quantity of 11,270 cu. m. of topsoil is proposed to be removed during the mining operations. 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. About 8,330 cu. m of overburden (OB) 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.	
	Latitude and Longitude	Latitude (N)	09° 52'07.11" to 09° 52'19.91"
		Longitude (E)	76° 31'57.22" to 76° 32'08.03"
	Topography of land and elevation	Part of the proposed land is covered with native trees, shrubs, herbs, grass, climbers, bushes etc. The highest elevation of the lease area is 80 m MSL and lowest is 30 m MSL.	
	Slope analysis	Slope of the lease area is towards South-West side.	
	Will there be any significant land disturbance resulting in soil erosion, subsidence & natural drainage.	Due care will be taken to provide channel all around the foot hill to collect run off and also to avoid soil erosion. There is no danger of flood or inundation as the proposed working is above the normal ground level. The area is not susceptible to flood.	
	Access road to the site width and condition	7m wide road.	
	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 with plantation and pond. Plantation and afforestation will add to the improvement in environment and aesthetic beauty of the area.	
Mining details			
	Minimum and Maximum height	The exploitation of mineral is being done from 80 m MSL to 20m MSL in conceptual phase.	

	of excavation.	
	a) Life of mine proposed.	About 23 years.
	b) Underground mining if any proposed	No underground mining proposed.
	Method of Mining	The working will be carried out by opencast semi-mechanized method as per the approved Mining Plan
	Distance from the adjacent quarry	There is one quarry of Sri Philip George for an area of 1.4761 hectare working within 500m radius.
	Cluster condition if any	No cluster condition
	Has "No cluster certificate" submitted?	Cluster Certificate issued by Department of Mining and Geology, Govt. of Kerala is already submitted.
	Distance from nearby habitation	Nearest house is at 106 m towards East side of the lease area.
	Distance from nearby forest, if applicable	None within the study area
	Distance from protected area, Wildlife Sanctuary, National Park etc.	None within the study area
	Distance from nearby streams /rivers/ National Highway and Roads	<u>Water Bodies :-</u> 1. Muvattupuzha River, 5 km, W 2. Uzhavoor Thodu, 1.50 km, NE
	Is ESA applicable? If so distance from ESA limit	Not in ESA
	Has approved mining plan, prepared by RQP submitted?	Yes, the approved mining plan prepared by RQP is already submitted along with E.C. Application.
	Capacity of production in TPA	90,000 MTA
	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 exploitation of mineral is being done from 80 m to 20m MSL in conceptual phase.
I. Details of Project cost		
	Land cost	Rs. 3.25 Crores (All inclusive)

	Plant and Machinery	Rs. 3.25 Crores (All inclusive)
	Total Cost	Rs. 3.25 Crores (All inclusive)
	Financial Statement including funding source and details of insurance etc.	Rs. 3.25 Crores (All inclusive) Insurance = Insurance to the quarry workers would provide through insurance company. Funding = Own source & bank loan
Management Plan	Air Pollution	<p>Mining activities will generate certain quantities of dust during drilling, blasting, loading and transportation operations. The following measures will be taken to mitigate the fugitive dust from different operations.</p> <ul style="list-style-type: none"> • Laying of haul road as per the standards, black topping of permanent haul road and service road to avoid or eliminate air – borne dust. • To avoid the dust generation from the drilling operations, wet drilling method will be adopted. • Drill machines will be equipped with dust collectors. • Use of appropriate explosives for blasting and avoiding overcharging of blast holes. • Controlled blasting techniques will be adopted. • Watering of haul road and other road at regular intervals. • Provision of dust filters/ mask to workers working at highly dust prone and affected areas. • Provision of green belt all along the periphery of the lease area. • Periodical monitoring of ambient air quality in and around the lease area. <p>The extracted mineral will be transported from the quarry to the end user by adopting following measures so as to minimize dust emissions.</p> <ul style="list-style-type: none"> • In case of long transportation the trucks after loading will be covered with tarpaulin sheets. • Speed of the vehicles will be maintained within the prescribed limits. • 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	<p>The major noise generating source from the proposed 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:-</p> <ul style="list-style-type: none"> • Proper maintenance of machinery, equipments and improvement on design of machines. • Use of personal protective devices i.e., earmuffs and earplugs by workers, who are working in high noise generating areas. • Creation of wide green belt of dense foliage between mine areas and residential colonies. • 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	<p>Topsoil Management</p> <p>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.</p> <p>Overburden Management</p> <p>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.</p>
		Eco-restoration	The year wise programme of eco-restoration for the life of mine, about 4,700 trees will be planted in an area of 4.71 ha.
	Whether Environment Management Plan or Eco restoration Plan satisfactory?	Yes, detailed Environment Management Plan is already submitted with E.C. Application.	

Does it suggest mitigation measures for each activity	Detailed Environment Management Plan is already submitted with E.C. Application.
If Pre-Feasibility Report (PFR) satisfactory	Detailed Pre-Feasibility Report (PFR) is already submitted with E.C. Application.
Does it need public hearing	Not Applicable
Details of litigation and Court verdict if any	No litigation pending.
Details of public complaint, if any	None
Details of statutory sanction required	The following Govt. Orders / Policies are to be followed:- <ul style="list-style-type: none"> ➤ Consents from Kerala State Pollution Control Board. ➤ Permission from Mining & Geology Department. ➤ Permission from Explosive Department ➤ Permission from Panchayat Office.
If CRZ recommendation applicable?	Not Applicable

PART B

Environment Impact Assessment and Mitigation Measures

Impact on water

Details of water requirement per day in KLD	The total water requirement is about 15 KLD in which 1 KLD is for domestic requirement would be sourced from open well, 12 KLD for dust suppression system in mine as well as ancillary unit and 2 KLD for plantation will be sourced from storm water pond.
Water source /sources.	1 KLD is for domestic requirement would be sourced from open well, 12 KLD for dust suppression system in mine as well as ancillary unit and 2 KLD for plantation will be sourced from storm water pond.
Expected water use per day in KLD.	1 KLD is for domestic requirement, 12 KLD for dust suppression system in mine as well as ancillary unit and 2 KLD for plantation.
Details of water requirements met from water harvesting.	12 KLD for dust suppression system in mine as well as ancillary unit and 2 KLD for plantation will be sourced from storm water pond.
What are the impact of the proposal on the ground water?	No significant impact envisaged on ground water due to the mining project.
How much of the water requirement can be met from the recycling of	Nil

	treated waste water? (Facilities for liquid waste treatment)	
	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.
	How is the storm water from within the site managed?	<ul style="list-style-type: none"> ➤ Storm water drains with silt traps will be suitably constructed all along the periphery of the pit area to collect the run-off from the lease area and divert into the storm water pond/tanks proposed within the complex. ➤ All measures will be taken not to disturb the existing drainage pattern adjacent to the other property. ➤ De-siltation traps and storm water collection pond proposed for silt removal. ➤ The storm water collected from the lease area will be utilized for dust suppression on haul roads, plantation within the premises etc.
Impact on Biodiversity and Eco restoration Programmes		
	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.
	What are the measures proposed to minimize the likely impact on vegetation (details of proposal for tree plantation/ landscaping)	<p>The year wise programme of eco-restoration for the life of mine will be made and 4,700 trees will be planted in an area of 4.71 ha.</p> <p>Ecological restoration for the mined area by plantation of the species as per the time schedule suggested below: -</p> <p>First Six months -- Herbs & grass</p> <p>Next Six months -- Shrubs</p> <p>Next Six months onwards -- Trees</p> <p>Selection of species is based on High Dust Capturing, Soil Holding Capacity, ground water recharge capacity etc. More focus is given for medicinal plants.</p>
	Is there any displacement of fauna – both terrestrial and aquatic. – If so what are the mitigation measures ? Presence of any	<p>Not applicable</p> <p>No endangered species found at site</p>

	endangered species or red listed category (in detail)	
Impact on Air Environment		
1.	What are the mitigation measures on generation of dust, smoke and air quality	Details already provided at EMP section at Sr. No. 39 above.
2.	Details of internal traffic management of the site.	Designated space will be provided for parking of truck / tipper within the site. For the purposes of mining activities, existing roads are sufficient. However, haul road will be suitably developed within the proposed area. Speed of the vehicles will be maintained within the prescribed limits (Speed Governor fitted).
3.	Details of noise from traffic, machines and vibrator and mitigation measures	Details are already provided at EMP section at Sr. No. 39 above.
4.	Impact of DG sets and other equipments on noise and vibration and ambient air quality around the project site and mitigation measures	Details provided at EMP section at Sr. No. 39 above and air, noise and water sampling reports were already submitted with EC Application.
5.	Air quality monitoring in detail	Details provided at EMP section at Sr. No. 39 above and air, noise and water sampling reports were already submitted with EC Application.
Energy Conservation		
6.	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.
7.	Details of renewable energy (non conventional) used.	We will promote renewable energy resources.
Risk Management		
8.	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.
9.	Are proposals for	Barbed wire fencing will be done all around the quarry site.

	fencing around the quarry satisfactory?	The stone quarry mine will result in increase in frequency of blasting 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.
	Storage of explosives / hazardous substance in detail	
	Facility for solid waste management	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

10.	Will the project cause adverse effects on local communities disturbance to sacred sites or other cultural values. What are the safe guards proposed?	No
11.	Will the proposal result in any changes to the demographic structure of local population. If so, provide details.	The mining project will directly / indirectly develop the area by providing employment opportunities. With the proposed development in and around the area there will be many supporting facilities/ infrastructure eventually leading to the development of the area.
12.	Are the CSR proposals satisfactory. Give details	Yes, a detailed study on social status of the project site surroundings & need base study on proposed CSR activities were carried out and copy of report was submitted with Application. The project proponent will set apart Rs. 14 Lakhs (non-recurring) and Rs. 11 Lakhs (recurring) for CSR activities for the welfare of the local community in consultation with the local body.
13.	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 20 persons in the project.

PART C

14.	Details of NABET approved EIA Consultant engaged-Their name, address & accreditation	M/s Environmental Engineers & Consultants Pvt. Ltd. (NABET Accredited Consultant Organization) <i>Head Office :-</i> A1-198, Janak Puri, New Delhi. <i>Branch Office:-</i> C-306, Kanchanjunga Apartments, Palarivattom P.O., Kochi, Kerala.
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details		
Summary and Conclusion		
15.	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.
16.	Explanation of how adverse impact have been mitigated.	Detailed Pre-Feasibility Report (PFR) with Environment Management Plan (EMP) is already submitted with E.C. Application.

2. The proposal was considered in the 57th Meeting of SEAC held on 16th & 17th June 2016. Further to the intimation of SEAC, the proponent along with the RQP was present in the meeting and RQP made a power point presentation of the salient features of the project. The proponent has already submitted the mining plan as per KMMCR-2015. The Committee appraised the proposal based on the mining plan, pre-feasibility report and all other documents submitted along with the Form I application and decided to Recommend for issuance of EC for mining subject to the general conditions.

The proponent agreed to set apart Rs 14 lakhs (non-recurring) and 11 lakhs per annum (recurring) for next 5 years for CSR activities for the welfare of the local community. The proponent also agreed to spend this amount in consultation with the local panchayath.

3. The proposal was considered by the Authority in the 56th meeting held on 23rd July, 2016. Authority noted that the SEAC has not conducted site inspection. Extent of the mining area 4.90 ha. Authority decided to refer the case to SEAC for site inspection and report with special mention whether cluster condition would apply, as there is another quarry in operation within 500m radius.

4. The proposal was placed in the 67th meeting of SEAC held on 27th January 2017. The Committee examined the suggestions made by SEIAA and decided to defer the item for site inspection.

Accordingly, site visit was conducted on 08.04.2017 by Subcommittee consisting of Er.P. Sreekumaran Nair, Dr.K.G.Padmakumar & Dr.E.A.Jayson. The representatives of the proponent were present at the site at the time of site visit. The report is as follows;

M/s Edayan Aggregates Pvt. Ltd. is a quarry owned by Sri.V.C. Mathew, Managing Director Periyappuram P.O., Pampakuda, Ernakulam District, Kerala - 686667, vide application the firm has sought Environmental Clearance for the quarry project in Sy. No. 1080/1B, 1080/1A, 1080/2, 1081/2B, 1081/2A, 1083/3, 1082/1, at Onakkoor Village, Pampakuda Panchayat, Muvattupuzha Taluk, Ernakulam District, Kerala for an area of 4.90 hectares.

The proposed project site falls within Latitude 09°52'07.11" to 09°52'19.91" to Longitude 76°31'57.22" to 76°32'08.03". The lease area consists of 4.90 hectares, which is private own land. The proposed project is for quarrying of 90,000 MTA of building stone.

Distance of the mining area from the nearest human settlement is recorded as more than 106 m. The nearest water body of the proposed project area is Muvattupuzha River at a distance of 5 km and Uzhavoorthodu is at a distance of 1.5 km. The project area does not fall into ESZ – I of WGEEP Report and ESA of HLWG. There is a quarry of Sri. Philip George for an area of 1.4761 ha. in operation within 500 m radius. The approach road is around 7 m. tarred roads, Extent of the mining area is 4.90 ha.

5. The proposal was considered in the 73rd meeting of SEAC held on 30th and 31st May 2017. The Committee verified the additional documents submitted by the proponent and found satisfactory. Based on the Mining plan, Form.1, all other documents submitted with the proposal and the field visit report, the committee decided to **Recommend for issuance of EC** subject to general conditions in addition to the following specific condition.

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

6. Authority considered the proposal in the 71st meeting held on 20th July 2017. Authority accepted the recommendation of SEAC and decided to issue EC subject to obtaining legal opinion as decided in the 66th SEIAA meeting whether quarrying on lease areas without Environmental Clearance also come under the scope of violation.

EC to be issued subject to the general condition in addition to the following specific condition.

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.*
2. *Set out should be set apart with the adjacent quarry of Sri.Philip George as stipulated in rules.*

The proponent should set apart Rs.14 lakhs (non-recurring) and 11 lakhs (recurring) per annum for CSR activities for the welfare of the local community. A split up of the C.S.R activities should be given. EC will be issued only after the submission of a notarised affidavit committing the CSR amount and agreeing all the general and specific conditions.

7. In the light of the legal opinion 76th meeting of SEIAA held on 16th November 2017 decided to issue EC to the proposal. The proponent has submitted the affidavit vide reference 8th cited agreeing all the above conditions.

8. Environmental Clearance as per the EIA Notification 2006 is hereby accorded for the proposed quarry project of Sri.V.C.Mathew, Managing Director, M/s Edayan Aggregates Pvt. Ltd. Periyappuram P.O., Pampakuda, Ernakulam District, Kerala - 686667, in Sy. No. 1080/1B, 1080/1A, 1080/2, 1081/2B, 1081/2A, 1083/3, 1082/1 of Onakkoor Village, Pampakuda Panchayat, Muvattupuzha Taluk, Ernakulam District, Kerala for an area of 4.90 Ha, subject to the specific conditions as in para 6 above, all the environmental impact mitigation and management measures undertaken by the project proponent in the Form I, EMP, PER and Mining plan submitted to SEIAA. The assurances and clarifications given by the proponent will be deemed to be a part of these proceedings as if incorporated herein. Also the general conditions for projects stipulated for mining (items 1 to 61), appended hereto will be applicable and have to be strictly adhered to.

9. The Clearance issued will also be subject to full and effective implementation of all the undertakings given in the application form, mitigation measures as assured in the Environment Management Plan and the mining features including progressive mine closure plan as submitted with the application and relied on for grant of this clearance. The above undertakings and the conditions and the undertakings in Chapter 4 (Mining), Chapter 5 (Blasting), Chapter 6 (Mines Drainage), Chapter 7 (Stacking of Mineral rejects and Disposal of waste), Chapter 11 (EMP) Chapter 12 (Progressive Mine Closure Plan) of the Mining Plan as submitted will be deemed to be part of this proceedings as conditions as undertaken by the proponent, as if incorporated herein.

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

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

- i. Necessary assistance for entry and inspection should be provided by the project proponent and those who are engaged or entrusted by him to the staff for inspection or monitoring.
- ii. Instances of violation if any shall be reported to the District Collector, Ernakulam.
- iii. The given address for correspondence with the authorised signatory of the project is Sri.V.C.Mathew, Managing Director, M/s Edayan Aggregates Pvt. Ltd. Periyappuram P.O., Pampakuda, Ernakulam District, Kerala – 686667.

Sd/-

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

To,

Sri.V.C.Mathew, Managing Director,
M/s Edayan Aggregates Pvt. Ltd.
Periyappuram P.O., Pampakuda,
Ernakulam, Kerala – 686667

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, Ernakulam
4. Director, Mining & Geology, Thiruvananthapuram -4.
5. The Member Secretary, Kerala State Pollution Control Board
6. District Geologist, Ernakulam
7. Tahsildhar, Muvattupuzha Taluk, Ernakulam
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 proponents shall apply and get the approval of this Authority.
33. The Authority reserves the right to add additional safeguard measures subsequently, if found necessary, and to take action including revoking of the environment clearance under the provisions of the Environment (Protection) Act, 1986, to ensure effective implementation of the suggested safeguard measures in a time bound and satisfactory manner.
34. The stipulations by Statutory Authorities under different Acts and Notifications should be complied with, including the provisions of Water (Prevention and Control of Pollution) Act, 1974, the Air (Prevention and control of Pollution) act 1981, the Environment (Protection) Act, 1986, the Public Liability (Insurance) Act, 1991 and EIA Notification, 2006.
35. The project proponent should advertise in at least two local newspapers widely circulated in the region, one of which (both the advertisement and the newspaper) shall be in the vernacular language informing that the project has been accorded Environmental Clearance and copies of clearance letters are available with the State Environment Impact Assessment Authority (SEIAA) office and may also be seen on the website of the Authority at www.seiaakerala.org. The advertisement should be made within 10 days from the date of receipt of the Clearance letter and a copy of the same signed in all pages should be forwarded to the office of this Authority as confirmation.
36. A copy of the clearance letter shall be sent by the proponent to concerned Grama Panchayat/ District Panchayat/ Municipality/Corporation/Urban Local Body and also to the Local NGO, if any, from whom suggestions / representations, if any, were received while processing the proposal. The Environmental Clearance shall also be put on the website of the company by the proponent.
37. The proponent shall submit half yearly reports on the status of compliance of the stipulated EC conditions including results of monitored data (both in hard copies as well as by e-mail) and upload the status of compliance of the stipulated EC conditions, including results of monitored data on their website and shall update the same periodically. It shall simultaneously be sent to the respective Regional Office of MoEF, Govt. of India and also to the State Environment Impact Assessment Authority (SEIAA) office.
38. The details of Environmental Clearance should be prominently displayed in a metallic board of 3 ft x 3 ft with green background and yellow letters of Times New Roman font of size of not less than 40. Sign board with extent of lease area and boundaries shall be depicted at the entrance of the quarry, visible to the public
39. The proponent should provide notarized affidavit (indicating the number and date of Environmental Clearance proceedings) that all the conditions stipulated in the EC shall be scrupulously followed.
40. No change in mining technology and scope of working should be made without prior approval of the SEIAA, No further expansion or modifications in the mine shall be carried out without prior approval of the SEIAA, as applicable.
41. The Project proponent shall ensure that no natural water course and/or water resources shall be obstructed due to any mining operations. Necessary safeguard measures to protect the first order streams, if any, originating from the mine lease shall be taken.
42. Monitoring of Ambient Air Quality to be carried out based on the Notification 2009, as amended from time to time by the Central Pollution Control Board. Water sprinkling should be increased at places loading and unloading points & transfer point to reduce fugitive emissions.
43. The top soil, if any, shall temporarily be stored at earmarked site(s) only for the topsoil shall be used for land reclamation and plantation. The over burden (OB) generated during the mining operations shall be stacked at earmarked dump site(s) only. The maximum height of the dumps shall not exceed 8m and width 20m and overall slope of the dumps shall be maintained to 45°. The OB dumps should be scientifically vegetated with suitable native species to prevent erosion and surface run off. In critical areas, use of geo textiles shall be undertaken for stabilization of the dump. The entire excavated area shall be backfilled. Monitoring and management of rehabilitated areas should continue until the vegetation becomes self-sustaining.

44. Catch drains and siltation ponds of appropriate size shall be constructed around the mine working, mineral and OB dumps to prevent run off of water and flow of sediments directly into the river and other water bodies. The water so collected should be utilized for watering the mine area, roads, green belt development etc. The drains shall be regularly desilted particularly after monsoon and maintained properly.
45. Effective safeguard measures such as regular water sprinkling shall be carried out in critical areas prone to air pollution and having high levels of PM₁₀ and PM_{2.5} such as haul Road, loading and unloading points and transfer points – it shall be ensured that the Ambient Air Quality parameters conform to the norms prescribed by the Central Pollution Control Board in this regard.
46. Fugitive dust emissions from all the sources should be controlled regularly. Water spraying arrangement on haul roads, loading and unloading and at transfer points should be provided and properly maintained.
47. Measures should be taken for control of noise levels below 85 dBA in the work environment.
48. A separate environmental management cell with suitable qualified personnel should be set-up under the control of a Senior Executive, who will report directly to the Head of the Organization.
49. The funds earmarked for environmental protection measures and CSR activate should be kept in separate account and should not be diverted for other purpose. Year wise expenditure should be reported to the State Environment Impact Assessment Authority (SEIAA) office.
50. The Regional Office of MOEF & CC located at Bangalore shall monitor compliance of the stipulated conditions. The project authorities should extend full cooperation to the officer (S) of the Regional Office by furnishing the requisite data/information/monitoring reports.
51. Any appeal against this Environmental Clearance shall lie with the National Green Tribunal, if preferred, within a period of 30 days as prescribed under Section 16 of the National Green Tribunal Act, 2010.
52. Concealing the factual data or submission of false/fabricated data and failure to comply with any of the conditions mentioned above may result in withdrawal of this clearance and attract action under the provisions of Environment (Protection) Act, 1986.
53. The SEIAA may revoke or suspend the order, for non implementation of any of the specific or 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

