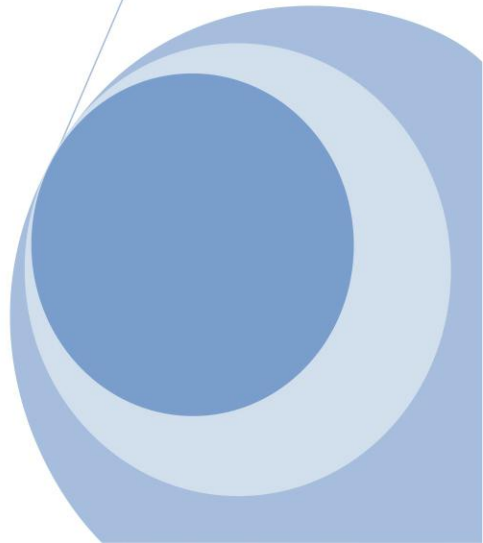


COMPLIANCE REPORT

April 2021 – September 2021

Quarry project of C G George
Kannur District
Kerala



Dt.27-11-2021

The Additional Principal Chief Conservator of Forests (C)

Ministry of Environment, Forests & Climate Change,
4th Floor, E& F Wing, Kendriya Sadan,
Koramangala, Bangalore - 560034

Ref :- File No. 623/SEIAA/EC4/4806/2014

**Sub :- Environment Clearance – Quarry project at Kolavallur Village,
Kunnothuparamba Panchayat, Thalassery Taluk, Kannur District –
Kerala – Compliance Report – First half - Reg.**

Respected Sir,

The Quarry (Building stone) project was accorded Environmental Clearance for **4.0 Ha.** by order No. **623/SEIAA/EC4/4806/2014** dated 01-06-2016 by State Environmental Impact Assessment Authority, Kerala. The compliance report of **First half** (April 2021 – September 2021) to the specific and general conditions of the Environment Clearance order is enclosed.

Thanking you,

Yours respectfully,



For M/S Quarry Project of C G George

Copy to:-

**The Member Secretary
State Environment Impact Assessment Authority (SEIAA),
Thiruvananthapuram, Kerala.**

**COMPLIANCE REPORT
TO
THE CONDITIONS
OF**

ENVIRONMENTAL CLEARANCE ORDER

NO: 623/SEIAA/EC4/4806/2014

DATED: 01-06-2016

BY

**STATE ENVIRONMENT IMPACT ASSESSMENT AUTHORITY (SEIAA)
FOR
BUILDING STONE QUARRY
(MINOR MINERAL MINING) PROJECT**

AT

**SURVEY NOS. 86/2, 87, 88/2, 88/1, 89/2B, 147/2 AND OTHERS
KOLAVALLUR VILLAGE, KUNNOTHUPARAMBA PANCHAYAT ,
THALASSERY TALUK,
KANNUR DISTRICT
KERALA**

BY

**M/s QUARRY PROJECT OF C G GEORGE
KANNUR DISTRICT
KERALA**

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INTRODUCTION

The quarry project of C G George is situated at Survey Nos. 86/2, 87, 88/2, 88/1, 89/2B, 147/2 and others Kolavallur Village, Kunnothuparamba Panchayat –, Thalassery Taluk - Kannur District –, Kerala.

The quarry project was accorded with the Environmental Clearance (EC) by State Environmental Impact Assessment Authority on 01-06-2016. As part of general condition No.37 of Environmental Clearance order, half yearly compliance report needs to be submitted by the project proponent. The compliance report of First half to the specific conditions and general conditions of the Environmental Clearance order for the period **April 2021 – September 2021** is being submitted.

COMPLIANCE REPORT

(SPECIFIC CONDITIONS)

PART A

PART - A – SPECIFIC CONDITIONS

01	The drainage water should be collected after providing proper silt trap in pits	complied
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Compliance:

The storm water is channelized to a pond situated in the lower side of the project site. All sediments have been settling down at the bottom of the pond. The photograph of the pond is attached as **Plate No.1**.

02	To the extent possible local Bio Diversity Management Committee shall be Involved in the environmental management/ restoration activities	complied
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Compliance:

The project proponent approached the local self government to invite the local Bio Diversity Management Committee, The project proponent could engage them in the restoration activities.

03	Reclamation and eco-restoration should be done by planting native species	Complied
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Compliance:

Reclamation and eco – restoration will be done by planting native species. The project proponent has started planting of various saplings with native species.

COMPLIANCE REPORT

(GENERAL CONDITIONS)

PART B

PART – B – GENERAL CONDITIONS

01	Rain Water Harvesting capacity should be installed as per the prevailing provisions of KMBR / KPBR, unless otherwise specified.	Complied
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Compliance:

To conserve the natural resource (Rain Water), the project proponent collects storm water in a pond. There is an old quarry in the lower portion of the project area to collect rain water from the quarrying area. The stored rain water is using for irrigation purposes, watering of plants, wetting of roads. The photograph of RWH structure is provided in **Plate No.1**.

02	Environment Monitoring Cell (EMC) as agreed under the affidavit filed by the proponent should be formed and made functional.	Complied
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Compliance:

As part of stipulated condition in Environmental clearance order, the Environmental Monitoring Cell (EMC) was formed. The EMC meeting arranges regularly to evaluate and monitor quarrying work in connection with the specific and general conditions stipulated in the Environmental Clearance (EC) order. The last minutes of EMC is attached as **Annexure No.1**.

03	Suitable avenue trees should be planted along either side of the tarred road and open parking areas, if any, inclusive of approach road and internal roads.	complied
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Compliance:

As green belt in the project area, natural trees and shrubs are present either side of the road and parking area. This helps to reduce air and noise pollution during the time of transportation of vehicle.

04	Maximum possible solar energy generation and utilization shall be ensured as an essential part of the project.	Complied
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Compliance:

To reduce the consumption of electricity from the conventional sources, the project proponent has installed solar street lights in the project site. The photograph of the same is attached as **Plate No.2**.

05	Sprinklers shall be installed and used in the project site to contain dust emissions.	Complied
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Compliance:

To prevent dust emissions from the road while transportation of materials, the project is spraying water on roads by a vehicle. Water is splashing on site before blasting operation. The photograph of the vehicle is attached as **Plate No. 3**.

06	Eco-restoration including the mine closure plan shall be done at the own cost of the project proponent.	Noted
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Compliance:

Eco-restoration including the mine closure plan will be done at the own cost of the project proponent.

07	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 EC.	Noted
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Compliance:

The project proponent will retain at least 10 percent of total excavated pit as rain water storage area after closure of the mine. The remaining area will be reclaimed

with stacked dumping of overburden and top soil. As part of its eco – restoration plan, the project proponent will plant indigenous plant species that are eco – friendly on the reclaimed area.

08	Corporate Social Responsibility (CSR) agreed upon by the proponent should be implemented.	Complied
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Compliance:

The project proponent has been executing CSR activities regularly in nearby community. The Year wise details of amount spent under CSR is attached as **Annexure No.2.**

09	The lease area shall be fenced off with barbed wires to a maximum 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.	Complied
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Compliance:

The project has erected barbed metal wire fencing around the mining area with height of 4 ft. This will prevent falling of animals/human being/dumping of garbage etc. The photograph of Boundary pillar and fencing is attached as **Plate No. 4.**

10	Warning alarms indicating the time of blasting (to be done at specific timings) has to be arranged as per stipulations of Explosive Department.	Complied
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Compliance:

As per the stipulation of Explosive department, the project installed warning alarms in the quarry site. At present it is working properly. Photograph is provided at **Plate No.5.**

11	Control measures on noise and vibration prescribed by KSPCB should be implemented.	Complied
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Compliance:

The major noise generating source from the mining activity is working machinery, drilling, blasting and plying of vehicles. The following control measures are undertaken to bringing down the noise levels:-

- Proper maintenance of machinery and equipments
- The machineries like breaker and excavator has well sound proof cabin so that the machine operators can work without stress due to the sound.
- Personal protective devices i.e., ear plugs are provided to workers working in high noise areas.
- The mining activity held in day time only.
- Noise level at quarry site checked periodically.

Blast vibrations and control measures

- ❖ Controlled blasting technique is adopted in this project in order to reduce blast vibrations.
- ❖ Ordinary delayed detonators are using for the blasting
- ❖ The maximum charge per delay is not more than 10kg to limit the PPV values to 10mm/sec.
- ❖ Optimum delay sequence and stem to column ratio is maintaining to minimize the ground vibration intensity.
- ❖

12	Quarrying activities should be limited to day time as per KSPCB guidelines/specific conditions.	complied
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Compliance:

To reduce the inconvenience of nearby houses and community Quarrying activities are limited to day time only as per KSPCB guidelines. The working time of the quarry displayed on board. The photograph of the same is attached as **Plate No.6**.

13	Blasting should be done in a controlled manner as specified by the regulations of explosives department or any other concerned agency.	Complied
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Compliance:

The blasting is done in controlled manner by using NoNEL technology. All blasting activities are carrying out with the specified regulations of explosive department.

14	A licensed person should supervise/control the blasting operations.	Complied
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Compliance:

The project has appointed mines manager, who supervise/control the blasting operations for the exploitation of minor minerals from the project site. The copy certificate is attached as **Annexure No.5**.

15	Access roads to the quarry shall be tarred to contain dust emissions that may arise during transportation of materials.	Complied
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Compliance:

To reduce emission of dust through the vehicle movement, the access road of from the entrance of project site is tarred. The project is spraying water on the road to arrest the dust during summer season. The photograph of the road is attached as **Plate No.7**.

16	Overburden materials should be managed within the site and used for reclamation of mine pits as per mine closure plan/ specific conditions.	complied
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Compliance:

The overburden is using to construct haulage roads when it is needed. So the overburden materials are stored within the project site. The volume of top soil and overburden is high in this site. The photograph of OB is attached as **Plate No.8**.

17	Height of the benches should not exceed 5m, and width should not be less than 5m, if there is no mention is the mining plan/specific conditions.	Complied
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Compliance:

As part of safety and eco friendly mining, the quarrying activity in the project is progressing by creating benches of 5m width and 5m height. The photograph of the benches is attached as **Plate No.9**.

18	Mats to reduce fly rock blast to a maximum of 10 PPV should be provided.	Noted
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Compliance:

At present NoNEL is using for the blasting. The project proponent is using Mats to reduce fly rock during the time of blasting. The photograph of the mat is attached as **Plate No. 10**.

19	Maximum depth of mining from general ground level at site shall not exceed 10m.	Noted
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Compliance:

The depth of mining won't exceed beyond 10 meter from general ground level at site. The exploration will be done as per the plan submitted before State Environment Impact Assessment Authority (SEIAA), Kerala.

20	No mining operations should be carried out at places having a slope greater than 45°.	Noted
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Compliance:

No mining operation is carried out with a slope greater than 45°.

21	Acoustic enclosures should be 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.	Complied
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Compliance:

To reduce the impact of sound to the labours in the mine, the project has provided ear plugs. All machines are new. Vegetation around the mining area will help to reduce noise and air pollution. This helps the noise level kept within prescribed standards. Crusher machineries are enclosed with solid bricks. The copy of crusher is attached as **Plate No.11**.

22	The workers on the site should be provided with the required protective equipments such as ear muffs, helmet, etc.	Complied
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Compliance:

To ensure the safety of labours in working site, the project has provided adequate Personnel Protective Equipments (PPE) such as helmets, ear plugs, safety belts, gloves, etc. The photograph of the same is attached as **Plate No.12**.

23	Garland drains with clarifiers to be provided in the lower slopes around the core area to channelize storm water.	Complied
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Compliance:

The project proponent ensured that all storm water from the mining area is flowing in to the pond created at mining ar. The project proponent has constructed drains in the lower slopes of the project area and clarifiers for storm water management. The photograph of the drain and clarifier is attached as **Plate No.13**.

24	The transportation of minerals should be done in covered trucks to contain dust emissions.	complied
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Compliance:

The project assure that the trucks are covered to avoid dust emission from the vehicle while transportation of materials. The photograph of the same is attached as **Annexure No. 15**.

25	The proponent should plant trees at least 5 times of the loss that has occurred while clearing the land for the project.	complied
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Compliance:

The project proponent has started to plant various saplings in the project area as a compensation of loss of trees while the project is clearing the land for mining. The year wise details of saplings planted in the project site is attached as **Annexure No.6**.

26	Disposal of spent oil from diesel engines should be as specified under relevant Rules/Regulations.	complied
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Compliance:

The spent oil is sold only to the approved recyclers.

27	Explosives should be stored in magazines in isolated place specified and approved by the explosives department.	complied
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Compliance:

As part of guidelines of competent authority and safety concern, the explosives are stored in magazine. The magazine situated in an isolated place specified and approved by the explosives department. The photograph of the magazine is attached as **Plate No.15**.

28	A minimum buffer distance of 100m meter from the boundary of the quarry to the nearest dwelling unit or other structures, not being any facility for mining shall be provided.	complied
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Compliance:

The norms of Kerala State Pollution Control Board regarding the distance criteria of residences, roads, rivers and worship places is adhered by the project. The distance of the nearest house is above 219 meter from the quarry.

29	100 m buffer distance should be maintained from forest boundaries.	Complied
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Compliance:

The project has left more than 100 meters as buffer distance from the project site.

30	Consent from Kerala Pollution Control Board under Water and Air Act(s) should have been obtained before initiating activity.	Complied
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Compliance:

The project has obtained consent from KSPCB under Water and Air Act(s). The copy of certificate of “*Consent to Operate*” (Renewal) from Kerala State Pollution Control Board is provided. The copy of the same is attached as **Annexure No. 7**.

31	All other statutory clearances should have been obtained, as applicable, by project proponents from the respective competent authorities including that for blasting and storage of explosives.	Complied
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Compliance:

The certificates obtained from other concerned statutory authorities are mentioned below:-

Table No.3 List of necessary Approvals

Name of the Statutory approval	Name of the Statutory authority
Environmental Clearance order Valid up to 31.05.2022	State Environmental Impact Assessment Authority, Kerala
“Consent to Operate” (Renewal) Valid up to 03.06.2026	Kerala State Pollution Control Board
Explosive License Valid up to 31.03.2024	Ministry of Commerce & Industry – Petroleum & Explosives Safety Organization (PESO)
License for quarry operations Valid up to 31.03.2024	Gram Panchayath
Lease Valid up to 27.12.2028	Department of Mining and Geology

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 EC 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.	Noted
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Compliance:

There is no plan for the expansion of project. In case of any change(s) in the scope of the project, the proponent will apply for fresh appraisal to get the Environmental Clearance.

33	The Authority reserves the right to add additional safe guard measures subsequently, if found necessary, and to take action including revoking of the environment clearance under the provisions of the Environmental (Protection) Act 1986, to ensure effective implementation of the suggested safeguard measures in a time bound and satisfactory manner.	Noted
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Compliance:

The project is willing to add additional safe guard measures subsequently if the authority found necessary.

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.	Noted
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Compliance:

The stipulated orders and directions under different act and notification including EIA notification will be scrupulously followed. A brief list of various Acts and notifications which are followed by the proponent is given below

- Kerala Minor Mineral Concession Rules, 2015.
- Mines Act, 1952
- Explosive Rules, 2008
- Kerala Panchayat Raj Act, 1994
- Water Pollution (Prevention & Control) Act, 1974
- Air Pollution (Prevention & Control) Act, 1981
- Environment Protection Act, 1986
- EIA Notification, 2006 / 2009
- The Kerala Promotion of Tree Growth in Non-Forest Areas (Amendment) Act, 2007.

35	The project proponent should advertise in at least two local news papers widely circulated in the region, one which (both 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 Department of Environment and Climate Change, Govt. of Kerala 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 the copy of the same signed in all pages should be forwarded to the office of this authority as confirmation.	Complied
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Compliance:

An advertisement in two local daily newspapers (English and Malayalam) regarding Environmental Clearance accorded to the quarry project was given within the stipulated period and the copy of the same was submitted at SEIAA Kerala. The copy of the advertisement given in two local newspapers is provided at **Annexure No.12**. The details are given below in the table.

Details of advertisement in news paper

Sl. No	News paper	Language	Date of edition
01	Deepika	Malayalam	26-June-2016
02	The Hindu	English	26-June-2016

36	A copy of the clearance letter shall be sent by the proponent to concerned Grama/District Panchayath / 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.	Complied
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Compliance:

A copy of the Environment Clearance letter was submitted to the Panchayat Office. The project proponent did not receive any suggestions / representation from anywhere while the processing the proposal. The EC is uploaded in website <https://www.geosand.in/environmental-clearance/>

37	The proponent shall submit six monthly 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.	Complied
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Compliance:

The compliance report is being submitted along with the results of monitored data to the State Environmental Impact assessment Authority, Kerala and the Regional Office of MoEF&CC, Bangalore as E-mail. Compliance reports are uploaded in the website.

38	The details of Environmental Clearance should be prominently displayed in a metallic board of 3 ft x 3ft 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	complied
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	depicted at the entrance of the quarry, visible to the public.	
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Compliance:

The details of the Environmental Clearance are displayed in the project site. The project proponent has placed the metallic board as specified in the conditions of Environmental Clearance order. The photograph of the same is attached as **Plate No.16**.

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.	Complied
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Compliance:

An assurance in the form of affidavit was already submitted to SEIAA Kerala. The copy of the same is attached as **Annexure No. 13**.

40	No change in mining technology and scope of working should be made without prior approval of the SEIAA, No further expansion or modification in the mine shall be carried out without prior approval of the SEIAA, as applicable.	Noted
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Compliance:

At present, the project proponent is not intending to expand the area of mine, technology and scope of working. The project will appear SEIAA for Environment Clearance if the project wants to expand its scope. The mining is progressing as per submitted plan.

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.	Noted
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Compliance:

There is no such storm water drain in mining area. No stream is originating from the lease area. There is no such natural water course or thodu is flowing along the project site.

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.	Complied
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Compliance:

The monitoring of Ambient Air Quality is carried out based on the notification 2009. The project proponent has monitored the ambient air quality as per National Ambient Air quality Standard (NAAQS). The project is intending to increase the splashing of water and installed sprinklers at loading, unloading and transfer points. This activity can reduce the fugitive emission.

43	The top soil, if any, shall be temporarily 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.	complied
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Compliance:

In the project site in order to prevent the soil erosion, the top soil and overburden are stacked in a designated place within the project site. Overburden will be used for landfill and to construct haulage roads in the mining area. The photograph of the same is attached as **Plate No.17**.

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 de silted particularly after monsoon and maintained properly.	complied
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Compliance:

The project proponent has constructed effective drains to catch all the storm water during the time of monsoon season. These channels are channelized to the rain water collection pond. All sediments and silts is being settled at the bottom of the pond and only cleared water let out. The water from the pond can be used for splashing of water on roads to arrest the dust.

45	Effective safeguard measures such as regular water sprinkling shall be carries out in critical areas prone to air pollution and having high levels of PM₁₀ and PM_{2.5}, such as haul road, loading an un loading points and transfer points – it shall be ensured that the Ambient Air Quality Parameters confirm to the norm prescribed by the Central Pollution Control Board in this regard.	complied
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Compliance:

To prevent dust emissions, the project proponent installed sprinklers in critical areas to reduce the dust emission such as loading and unloading points, haul roads and transfer points. The water spraying has been carried out regularly to arrest the dust emission. The vehicle for water spraying is being properly marinated.

46	Fugitive dust emission from all the sources should be controlled regularly. Water spraying arrangements on haul roads, loading and unloading and at transfer point should be provided and properly maintained.	complied
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Compliance:

To reduce the dust emission in critical areas such as loading and unloading points, haul roads and transfer points the project proponent splashes water.

47	Measures should be taken for control of noise levels below 85 dBA in the work environment.	Complied
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Compliance:

The main sound generating activities in the mining industries are the playing of jack hammer, breaker, vehicles and blasting operations. The level noise from all these activities will not go beyond 85dBA. The project proponent will take appropriate action to reduce the sound by employing possible measures. These are mentioned under the condition number 11.

48	A separate Environmental Management Cell with suitable qualified personal should be set up under the control of a senior executive, who will report directly to the Head of the Organization.	Complied
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Compliance:

To monitor all conditions stipulated in the Environment Clearance and environment Management Plan, the project proponent has constituted an Environment Monitoring Cell.

49	The funds earmarked for environmental protection and CSR activities 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.	complied
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Compliance:

The project proponent has been maintaining an account for earmarking for environmental protection and CSR in a separate account. This will help to execute more activities under Corporate Social Responsibility (CSR) for community development. The details of year wise expenditure against CSR is provided at Annexure No.2.

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.	Noted
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Compliance:

The project Proponent will extend all possible cooperation to the officers from regional office of MoEF & CC and can produce all data/information/reports when they are asking for the same.

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.	Noted
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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.	Noted
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53	The SEIAA may revoke or suspend the order, for non implementation of any of the specific or this implementation of any of any of the above conditions is not satisfactory. The	Noted
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	SEIAA reserves the right to alter/modify the above conditions or stipulate any further condition in the interest of environment protection.	
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Compliance:

The project proponent has been implementing conditions stipulated in this Environment Clearance order. The project can execute all possible measures in the project site for the conservation of environment.

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.	Noted
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Compliance:

The project proponent follows the conditions stipulated in the Environment clearance Order.

55	This order is valid for a period of 5 years or the expiry date of mine lease period issued by the Govt. of Kerala, whichever is earlier.	Noted
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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.	Noted
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57	The mining operation shall be restricted to above ground water table and is should not intersect ground water table.	Noted
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Compliance:

The project proponent is following approved mining plan for the extraction of building stones. The project will restrict its mining operations above the ground water table.

58	All vehicle used for transportation and within the mine shall have “PUC” certificate from authorized pollution taking center. Washing of all vehicles shall be inside the lease area.	complied
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Compliance:

As part of reduce air pollution, the project proponent is monitoring the pollution level of all vehicles playing in the project site. This monitoring is being carried out only in authorized pollution checking center.

59	Project proponent should obtain necessary prior permission of the competent authorities for drawl of requisite quantity of surface water and ground water for the project.	Noted
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Compliance:

At present, the need of prior approval is not necessary to draw ground water and surface water for the project.

60	Regular monitoring of flow rates and water quality upstream and down streams of the springs and perennial nallahs flowing in and around the mine lease area shall be carried out and reported in the six monthly report to SEIAA.	NOTed
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Compliance:

There is no stream or springs flowing in and around to the mine lease area. The project proponent has installed de siltation trap and other mechanism to prevent sediments and wastes from the mining area entering in to the public drainage system.

61	Occupational health surveillance programme of the workers should be under taken periodically to observe any contractions due to exposure to dust and take corrective measures, if needed.	complied
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Compliance:

The project proponent has conducted occupational health surveillance programme for the labours working in mining area.



GEMS

**GLOBAL Environment & Mining Services**

(Consulting Engineers, Mine designers, Geologist & Surveyors)

3rd Main Road, Basaveswara Badavane,

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Ph : +91 8394 229433 & 295018

e-mail : gems_hpt@yahoo.com,

Website : www.globalmining.in

ULR-TC53232000000375F

15.	Fluoride as F	mg/L	0.91	APHA 23 rd Edition 2017 4500 F-D (Pg No. 4-90 to 4-91)	1.0	1.5
16.	Iron as Fe	mg/L	0.32	APHA 23 rd Edition - 3500 Fe-B (Pg No. 3-80 to 3-82)	0.3	NR
17.	Sodium as Na	mg/L	7.26	APHA 23 rd Edition 2017 Na 3500 B (Pg No. 3-99 to 3-100)	-	-
18.	Potassium as K	mg/L	0.74	APHA 23 rd Edition 3500 K B (Pg No. 3-89 to 3-90)	-	-
19.	BOD 3 days at 27° C	mg/L	NIL	IS 3025 (P.44) - 1993, RA-2014,	-	-
20.	COD as O2	mg/L	NIL	APHA 23 rd Edition 5220 C (Pg No. 5-18 to 5-19)	-	-
21.	Oil & Grease	mg/L	NIL	APHA 23 rd Edition 5520 B (Pg No. 5-41 to 5-42)	0.5	NR
22.	Cadmium as Cd*	mg/L	<0.001	APHA 23 RD Edition-3111-B (Pg No.3-20 to 3-21)	0.003	NR
23.	Copper as Cu	mg/L	<0.001	APHA-23 RD Edition 3111-B (Pg No.3-20 to 3-21)	0.02	1.5
24.	Nickel as Ni	mg/L	<0.001	APHA-23 RD Edition-3111-B (Pg No. 3-20 to 3-21)	0.02	NR
25.	Zinc as Zn	mg/L	<0.1	APHA-23 RD Edition-3111-B (Pg No. 3-20 to 3-21)	5	15
26.	Salinity*	PPT	NIL	APHA-23 RD Edition-3111-B (Pg No. 3-20 to 3-21)	-	-
27.	Total Phosphorous	mg/L	<0.01	APHA-23 RD Edition 4500-D (Pg No. 4-154)	-	-
28.	Total Coliforms*	MPN/ 100ml	Ab	APHA 22 nd Edition 9222 B (Pg No.9-78)	-	-
29.	Faecal Coliforms	MPN/ 100ml	Ab	APHA 22 nd Edition 9222 D (Pg No.9-85)	-	-
30.	Plyto Plankton*	Unit/L	Ab	APHA 23 rd Edition 10200 F (Pg No.10-17)	-	-

Note: BDL Below Detectable Limit

Ag: Agreeable

NR: No Relaxation

RA: reaffirmed

Ab: Absent

****End of report****

Im. Tr.

Analyzed By
Chemist

D.K.R.

Authorized Signatory
Technical Manager



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GLOBAL Environment & Mining Services

(Consulting Engineers, Mine designers, Geologist & Surveyors)
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 e-mail : gems_hpt@yahoo.com,
 Website : www.globalmining.in

GEMS-LD/TF/11/01
 Date: 30.12.2020

Analysis Report of Ambient Air Quality Monitoring

- Granite Building Stone Quarry of
Mr. C. G. George,
 Extent: 4.0 Ha. (9.8840 Acres)
 Sy.Nos:86/2,87,88/2,88/3,88/1,89/2B,147/2,139
 Kolavallur Village, Thalassery Taluk,
 Kannur District, Kerala State.
- 1 Name of the Customer/Address : **Ambient Air Quality Monitoring**
 - 2 Sample Description : GLOBAL Environment & Mining Services
 - 3 Sample Collected By : 24 Hour of Sampling
 - 4 Duration of the Monitoring : **(A1) Core zone**
 - 5 Location of Monitoring : ULR-TC532320000000372F
 - 6 Report No

Result

Sl No.	Date	Parameters in $\mu\text{g}/\text{m}^3$				
		PM ₁₀	PM _{2.5}	SO ₂	NO ₂	Lead in PM
1	26.12.2020	62.5	26.4	17.8	16.2	BDL
NAAQ Standards 2009		100	60	80	80	1.0

PM₁₀ - IS 5182 (Part 23): 2006 (RA 2017)
 PM_{2.5} - USEPA 2001
 SO₂ - IS 5182 (Part 2): 2001 (RA 2017) BDL (<3.0)
 NO₂ - IS 5182 (Part 6): 2006 (RA 2017) BDL (<5.0)
 Lead - IS 5182 (Part 22): 2004 (RA 2014)
 BDL - Below Detectable Limit.

J.M. Thippeswamy

Analyzed By
 J.M. Thippeswamy
 Chemist

D.K.R.

Authorized Signatory
 K. Ramakrishna Reddy
 Technical Manager

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GEMS

**GLOBAL Environment & Mining Services**

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Phone : +91 8394 229433 & 295018

e-mail : gems_hpt@yahoo.com,

Website : www.globalmining.in

GEMS-LD/TF/11/01

Date: 30.12.2020

Analysis Report of Ambient Air Quality Monitoring

- Granite Building Stone Quarry of
Mr. C. G. George,
Extent: 4.0 Ha. (9.8840 Acres)
1 Name of the Customer/Address : Sy.Nos:86/2,87,88/2,88/3,88/1,89/2B,147/2,139
Kolavallur Village, Thalassery Taluk,
Kannur District, Kerala State.
2 Sample Description : **Ambient Air Quality Monitoring**
3 Sample Collected By : GLOBAL Environment & Mining Services
4 Duration of the Monitoring : 24 Hour of Sampling
5 Location of Monitoring : **(A2) Buffer Zone**
6 Report No : ULR-TC532320000000373F

Result

Sl No.	Date	Parameters in $\mu\text{g}/\text{m}^3$				
		PM ₁₀	PM _{2.5}	SO ₂	NO ₂	Lead in PM
1	28.12.2020	50.2	19.7	14.3	13.2	BDL
NAAQ Standards 2009		100	60	80	80	1.0

PM₁₀ - IS 5182 (Part 23): 2006 (RA 2017)PM_{2.5} - USEPA 2001SO₂ - IS 5182 (Part 2): 2001 (RA 2017) BDL (<3.0)NO₂ - IS 5182 (Part 6): 2006 (RA 2017) BDL (<5.0)

Lead - IS 5182 (Part 22): 2004 (RA 2014)

BDL - Below Detectable Limit.

Analyzed By
J.M. Thippeswamy
Chemist

Authorized Signatory
K. Ramakrishna Reddy
Technical Manager



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Website : www.globalmining.in

GEMS-LD/TF/11/01

Date: 30.12.2020

TEST REPORT OF AMBIENT NOISE LEVEL MONITORING

- 1 Name of the Customer/Address : Granite Building Stone Quarry of
Mr. C. G. George,
Extent: 4.0 Ha. (9.8840 Acres)
Sy.Nos:86/2,87,88/2,88/3,88/1,89/2B,147/2,139
Kolavallur Village, Thalassery Taluk,
Kannur District, Kerala State.
- 2 Sample Description : Ambient Noise Level monitoring
- 3 Sample Collected By : GLOBAL Environment & Mining Services
- 4 Particulars of Sample Collected : Noise Level Meter (Equinox-107)
- 5 Duration of the Monitoring : 24 Hours Sampling
- 6 Date of Analysis Completion : 30.12.2020
- 7 Report No : ULR-TC532320000000374F

Result

Date	26.12.2020	28.12.2020
Name of the Location	Core Zone	Buffer zone
Time (hrs)	N1	N2
6.00	43.7	44.5
7.00	45.6	46.9
8.00	45.8	50.1
9.00	52.2	52.5
10.00	54.6	49.4
11.00	57.9	50.2
12.00	60.2	51.4
13.00	60.8	53.0
14.00	58.4	51.1
15.00	56.6	52.1
16.00	52.8	54.0
17.00	53.7	50.4
18.00	54.5	49.2
19.00	44.5	51.8
20.00	42.4	49.5
21.00	40.2	45.2
22.00	42.0	44.2
23.00	39.4	42.4
00.00	36.4	41.1
01.00	34.2	40.0
02.00	39.1	39.4
03.00	38.2	40.5
04.00	39.5	36.8
05.00	38.4	38.6

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ULR-TC532320000000374F		
L max	60.8	54.0
L min	34.2	36.8
Ld	55.4	50.9
Ln	39.0	41.6
Ldn	54.0	51.2

Area Code	Category of Area	Limit in dB(A) Leq	
		Day Time	Nighttime
A	Industrial Area	75	70
B	Commercial Area	65	55
C	Residential Area	55	45
D	Silence Area	50	40

Note	Day time shall mean from 6:00 am and 10:00 pm
	Night time shall mean from in between 10:00 pm and 5:00 am
	Silence zone is an area comprising not less than 100 meters around hospitals, educational institutions, courts, religious places or any other area which is declared as such by the competent authority
	Mixed categories of areas may be declared as one of the four above mentioned categories by the competent authority
	*dB(A) Leq denotes the time weighted average of the level of sound in decibels on scale A which relatable to human being
	A "decibel" is a unit in which noise is measured
	"A", in dB(A) Leq, denotes the frequency weighting in the measurement of noise and corresponds to frequency response characteristics of the human ear.
Leq: It is energy mean of the noise level over a specified period.	

P.K.R.
Authorized Signatory
Technical Manager



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G
EMS-LD/TF/11/01
Date: 30.12.2020

ANALYSIS REPORT OF WATER QUALITY DATA

- Granite Building Stone Quarry of
Mr. C. G. George,
Extent: 4.0 Ha. (9.8840 Acres)
Sy.Nos:86/2,87,88/2,88/3,88/1,89/2B,147/2,139
Kolavallur Village, Thalassery Taluk,
Kannur District, Kerala State.
- 1 Name of the Customer/Address :
2 Sample Collected By : GLOBAL Environment & Mining Services
3 Sampling Method : Grab Sample
4 Date of sample collection : 26.12.2020
5 Date of sample Received : 27.12.2020
6 Date of sample Analyzed : 30.12.2020
7 Report Number : ULR-TC53232000000375F

Result

Sl. No.	Parameters	Unit	Result	Test Protocol	Requirement/Limit IS : 10500 : 2012	
					Acceptable	Permissible
1.	pH	-	8.1	APHA 22 nd Edition 2012 4500 B (Pg No. 4-92 to 4-96)	6.5	8.5
2.	Colour*	Hazen	<5	IS: 3025 (PART 14)- 1984, RA- 2012 Platinum cobalt Method	5	15
3.	Taste*	-	Ag	IS 3025 Part 8 1984	Ag	Ag
4.	Odour*	-	Ag	IS: 3025 (Part 5) – 1983, Ra-2012, True Odour	Ag	Ag
5.	Turbidity	NTU	0.80	APHA 22 nd Edition 2012 2130 B (Pg No. 2-14)	1	5
6.	Conductivity	µS/cm	201	APHA 22 nd Edition 2012 2510 B (Pg No. 2-54)	-	-
7.	Total Dissolved Solids	mg/L	234	APHA 22 nd Edition 2012 2540 B (Pg No. 2-65)	500	2000
8.	Total Alkalinity as CaCO ₃	mg/L	90	APHA 22 nd Edition 2320 B (Pg No. 2-35)	200	600
9.	Total Hardness as CaCO ₃	mg/L	125	APHA 22 nd Edition 2012 2340 C (Pg No. 2-46)	200	600
10.	Calcium as Ca	mg/L	35	APHA 22 nd Edition 2012 3500 Ca B (Pg No. 3-84)	75	200
11.	Magnesium as Mg	mg/L	8.1	APHA 22 nd Edition 2012 3500 B-Mg By Calculation	30	100
12.	Chloride as Cl	mg/L	16.4	APHA 22 nd Edition 2012 4500 Cl (Pg No. 4-72)	250	1000
13.	Sulphate as SO ₄	mg/L	40	APHA 22 nd Edition 2012 4500 SO ₄ 2 – E (Pg No. 4-190)	200	400
14.	Nitrates as NO ₃	mg/L	9.12	APHA 23 rd Edition - 4500 NO ₃ – E (Pg No. 4-131 to 4-132)	45	NR
14.	Nitrate Nitrogen as NO ₃	mg/L	18	APHA 22 nd Edition 2012 4500 NO ₃ E (Pg No. 4-125 to 4-127)	45	No relaxation

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