

Environment Clearance Compliance Report (October 2020 - March 2021)

for

**‘Granite Building Stone Quarry of Mr. C.G.GEORGE.’
E.C.No:155/KNR/2017/DEIAA, Dated:5.01.2018**

Extent: 0.7682 Ha. (1.8982 Acres)

At

| | | |
|----------|---|---------------------------|
| Sy No. | : | 73/4,79,80/1C,81/1 & 81/2 |
| Village | : | Patiam |
| Taluk | : | Thalassery |
| District | : | Kannur |
| State | : | Kerala |

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Granite Building Stone Quarry of Mr. C.G.GEORGE

Compliance Status of the General Conditions for Mining Projects Laid down by the State Environment Impact Assessment Authority, Kerala vide their Environment Clearance No.81/2017 dated 05/01/2018.

SPECIFIC CONDITIONS

| Sl.No | Condition | Status of Compliance |
|--------------|--|--|
| 1 | A Mines Manager shall be appointed to control, direct, manage and supervise Quarrying Operations as required under the Mines Act 1952. | A Mines manager is appointed to supervise Quarrying Operations. |
| 2 | Health and welfare measures for the persons employed shall be implemented. | Health and welfare measures for the employees are implemented and ensured. |
| 3 | Controlled blasting should be practiced, and blasting should be done only during day time. The mitigating measures for control of ground vibrations to arrest the fly rocks and boulders should be implemented. | <p>All precautionary measures are adopted while blasting operations are carried out.</p> <p>I. No secondary blasting like Pop Shooting or Plaster Shooting are undertaken for breaking down large boulders, to avoid Air Blast and Fly Rocks. Only rock breakers will be used for breaking down bigger boulders.</p> <p>II. Additional precaution of controlled blasting with sand bags and wire mesh/blasting pads are used so that there are no fly rocks from the blast</p> |
| 4 | Plantation shall be done which includes a green belt of adequate width around the Mining Lease area excluding the rocky area, along roads, overburden dumps and non-mineralized area by planting suitable native species in consultation with the local DFO/ Agriculture Department. | A green belt of a width of 7.5 mts has been made along the periphery of the Lease area by planting saplings in consultation with the local DFO/ Agriculture Department. |
| 5. | The drains should be regularly desilted and maintained properly. Check dams and gully checks shall be constructed wherever required to arrest siltation. De siltation shall also be done every year before the onset of monsoon. | The drains will be constructed and maintained. |
| 6 | Fencing must be maintained properly all around the lease area. | The entire lease area is fenced and is well maintained. |

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| 7 | The CSR should cover the felt needs of the locality with special emphasize for implementing ground water recharging techniques in and at the vicinity of the proposed site. | The CSR covers the needs of the locality with special emphasize for implementing ground water recharging techniques. |
| 8 | Appropriate sign boards should be displayed | Signboards have been displayed. (Photos are attached as Annexure-1) |
| 9 | The blasting time must be displayed and strictly adhered to. | Blasting time is displayed and is strictly followed. |
| 10 | Dust suppression mechanism must be in place. | Water tankers with sprinklers are in use for dust suppression. |
| 11 | A separate small plot to be maintained in the premise to preserve rare and endemic species, if any, listed in the bio diversity assessment, etc. | No rare and endemic species is present in the lease area. |
| 12 | The PPV values must be less than 10 mm/sec. | PPV values are kept below 10 mm/sec. |
| 13 | The green belt shall be provided along the periphery. | Green belt of 7.5 mts width has been provided along the periphery of the lease area. |
| 14 | Where the height of the bench formed during earlier workings exceeds the maximum reach of the excavator engaged for work, such bench height shall be reduced from top to bottom. | Agreed. Bench heights are reduced from top to bottom. |
| 15 | Loose or hanging rock or mineral boulder on the side wall shall be dressed down before engaging persons for work at the bottom of the bench. | Benches are properly dressed by excavators and safety is ensured while employees are at the site. |
| 16 | Permanent boundary pillars should be fixed by the proponent before commencing quarrying. | Permanent boundary pillars are erected and maintained. (Photos are attached as Annexure-2) |
| 17 | No quarry blasting to be undertaken and sustained till warning time limit expires and/or when continuous 48 hours rainfall exceeds 8cms and blasting shall not be resumed until 24hours of rain free situation arises in the quarry locality based on the evaluation by the revenue officials. | Agreed. |
| 18 | All waste dumps and top soil dumps shall be properly stabilized using coir mats or bio regeneration. Proper drainage system shall be provided so that water is properly diverted away | Coir mats are used to cover waste dumps. Proper drainage systems are provided to divert the water away from the dump slopes. |

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| | from the dumps slopes with no disturbance to the stability of the slopes. | |
| 19 | All dump slopes shall be sufficiently stabilized by using appropriate species mix of grass, creepers, shrubs and trees. This shall be done in consultation with the Forest department and local research institutes and experts I stabilization of mine dumps. | All dump slopes are stabilized by using mix of grass, creepers, shrubs and trees. |
| 20 | Garland drains of at least 2 mts width shall be provided all along 7.5 mts buffer zone to divert the water from entering the Quarry slopes. These drains shall be cleaned every year before the monsoon season | Garland drains of 2 mt width will be constructed. |
| 21 | The water from the garland drainage shall be directed to the silt settling ponds. The clarified overflow from the silt settling ponds shall be directed to a Rain Water Harvesting (RWH) pond before releasing the clarified water to the natural water course. | Only clear natural water is let out into the natural water course. |
| 22 | A retaining wall of stone rubble with wire (2 mt) shall be constructed at the bottom of the slope of the Quarry lease to arrest any likely mesh of sufficient width and strength (not less than roll of boulders during heavy rainfall. | Retaining wall will be constructed. |

GENERAL CONDITIONS OF HEALTH

| Sl.No. | Conditions | Status of compliance |
|---------------|--|---|
| 1 | First Aid kit provided in the work site. It shall be periodically maintained properly. Some labourers shall be trained on First Aid. | First Aid kits are provided for the labors in the work site and key personnel are trained to render first aid in case of emergencies. |
| 2 | Wholesome drinking water should be provided. | Drinking water is provided. |
| 3 | Premises should be maintained as wet to suppress the dust. | Site premises are well maintained as wet to suppress the dust. |
| 4 | Sanitary type of latrines and urinals should be provided. | Latrines and urinals are provided. |
| 5. | Resting place to be provided for workers | Resting place is provided to workers. |
| 6 | 'No Smoking' board should be exhibited according to COTPA act. | 'No Smoking' board is exhibited at the site. |
| 7 | Work should not be done in night. | Work is done only during daytime. |

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| 8 | Details of nearest hospital, shortest route to hospital and contact no. etc. should be available | Emergency contact numbers of Key persons, Hospitals, police station, etc. is prominently displayed. |
| 9 | Approach roads should be maintained properly | Approach roads are well maintained. |

GENERAL CONDITIONS

| Sl.No | Condition | Compliance Status |
|-------|---|--|
| 1 | Rainwater harvesting facility should be installed as per prevailing provisions of KMBR/KPBR, unless otherwise specified. | Rainwater harvesting pond will be constructed. |
| 2 | Environment Monitoring Cell as agreed under the affidavit filed by the proponent should be formed and made functional. | Environmental Monitoring Cell has been 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 approach roads and internal roads. | Avenue trees are planted along the either side of the tarred road. |
| 4 | Maximum Possible Solar Energy generation and utilization shall be ensured as an essential part of the Project. | Solar Energy generation and utilization shall be adopted. |
| 5 | Sprinklers shall be installed and used in the Project Site to contain dust emissions. | Water tankers with sprinklers are used to control dust emission. |
| 6 | Eco-restoration, including the Mine Closure Plan shall be done at the own cost of the Project Proponent. | Agreed. |
| 7 | At least 10 per cent of total excavated Pit area should be retained as water storage area 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 the Pit is stipulated in the EC. | Agreed. |
| 8 | Corporate Social Responsibility (CSR) agreed upon by the Proponent should be implemented. | CSR activities are implemented as agreed. (Attached in Annexure-5) |
| 9 | The Lease area will be fenced off with barbed wires to a minimum height of 4 ft around, before starting of Mining. All the boundary indicators (boards, stores, markings, etc.) shall be protected at all times and shall be conspicuous. | Lease area is fenced off with barbed wires. Boundary pillars and sign boards have been erected and protected. (Annexure 1 & 2) |

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| 10 | Warning alarms indicating the time of Blasting (to be done at specific timings) has to be arranged as per stipulations of the Explosives department. | Necessary precautions are taken while blasting and is done at specific timings |
| 11 | Control measures on noise and vibrations prescribed by KSPCB should be implemented | Noise and vibrations are kept within KSPCB prescribed norms. I. Use of sharp drilling, delivery of compressed air at optimal pressure. II. Proper maintenance of compressor, drilling machine, jackhammers and tipper trucks. III. Regular monitoring of noise levels are being done within the core zone and the buffer zone of the mining lease area. |
| 12 | Quarrying activities should be limited to daytime as per KSPCB guidelines/specific conditions. | Quarrying activities limited to daytime. |
| 13 | Blasting should be done in a controlled manner as specified by the regulations of the Explosives department or any other agency. | Blasting is done in a controlled manner and is done technically as prescribed by the mining statutes. Only a small diameter drill holes of 33 diameter with 25mm cartridges slurry/ emulsion explosive are used for blasting, no large diameter holes are proposed for blasting. With optimum blast design, effective blasting techniques with delay detonators and low charges per delay, care has been taken to limit the blast vibrations and the PPV value below 10mm per second. |
| 14 | A licensed person should supervise/control the Blasting Operations | Blasting supervision and control is done by a Mining Official having DGMS Certificate. |
| 15 | Access road to the quarry shall be tarred to contain dust emissions that may arise during transportation of materials. | Access road to the Quarry is tarred to control dust emissions. |
| 16 | Overburden materials should be managed within the site and used for reclamation of Mine Pit as per Mine closure Plan/specific conditions | Overburden material is used for road making and as a filler along the Green Belt for plantation purpose. |
| 17 | Height of Benches should not exceed 5 M and width should not be less than 5 M, if there is no mention in the Mining | Agreed. |

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| | Plan/specific conditions | |
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| 18 | Mats to reduce fly rock blast to a maximum of 10 PPV should be provided | Controlled blasting technique is adopted. PPV is kept to a minimum. |
| 19 | Maximum depth of Mining from general ground level at site shall not exceed 10 m | Agreed. |
| 20 | No Mining operations should be carried out at places having a slope greater than 45° | Agreed. |
| 21 | Acoustic enclosures should have been provided to reduce sound amplifications in addition to the provisions of green belt and hollow bricks envelop for crushers so that the noise level is kept within prescribed standards given by CPCB/KSPCB. | Crusher unit is not installed within Mining Lease. |
| 22 | The workers on the site should be provided with the required protective equipment such as ear muffs helmet, etc. | Requisite Personal Protective equipments (PPE's) is provided to all employees at the site. |
| 23 | Garland drains with clarifiers to be provided in the lower slopes around the core area to channelize storm water. | Garland drains will be constructed and maintained. |
| 24 | The transportation of minerals should be done in covered trucks to contain dust emissions. | All trucks transporting material are covered by firmly tied tarpaulin |
| 25 | The proponent should plant trees at least 5 times the loss that has been occurred while clearing the land for the project. | Local species saplings have been procured from the Forest dept, Kannur and will be planted. |
| 26 | Disposal of spent oil from diesel engines should be as specified under relevant Rules/Regulations. | Spent oil is reused as a lubricant for drilling. |
| 27 | Explosives should be stored in magazines in isolated place specified and approved by the Explosive Department. | Explosives is stored in a Licensed Explosives Magazine, which is approved by PESO. (Copy of the Explosive license is attached as Annexure-3) |
| 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.(Read as 50m) | No dwellings are situated within 50m from the boundary of the quarry. |
| 29 | 100 M buffer distance should be maintained from forest boundaries. | Mining area is not located near any forest areas. |
| 30 | Consent from Kerala State Pollution Control Board under Water and Air Act(s) should be obtained before | Consent from KSPCB under Air and Water Act(s) is obtained. (copy of the consent is attached as Annexure-4) |

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| | initiating mining activity. | |
| 31 | All other statutory clearances should be obtained, as applicable, by project proponents from the respective competitive authorities including that for blasting and storage of explosives. | All statutory clearances obtained. The DGMS permission is under process. |
| 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 environment 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. | In case any change is required, a fresh appraisal will be submitted for obtaining Approval from the Authority. |
| 33 | The Authority reserves the right to add additional safeguard measures subsequently, if found necessary, and to take action including revoking of the Environmental Clearance under provisions of the Environment (Protection) Act,1986, to ensure effective implementation of the suggested safeguard measures in a time bound and satisfactory manner. | Agreed. |

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| 34 | The stipulations by the Statutory Authorities under different Acts and Notifications should be complied with including the provisions of the 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 | Agreed. |
| 35 | The project proponent should advertise in at least 2 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 Environment Clearance and the copies of the Clearance letters are available with the State Environment Impact Assessment Authority (SEIAA) office and may also be seen on the | Advertisements informing EC accordance to the Project is done in 2 newspapers and submitted in earlier reports. |

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| | website of the Authority at www.seiaa.kerala.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 the 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 the concerned Gram 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. | A copy of the Clearance is submitted to the Pattiam Gram Panchayat . (Attached in Annexure- 6) |
| 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 the MOEF, Govt. of India and also to the State Environment Impact Assessment Authority (SEIAA) office | Half yearly reports are submitted as stipulated. |
| 38 | The details of Environment Clearance should be prominently displayed in a metallic board of 3 ft x 3 ft with green background and yellow letters of Times Roman font of size 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 | Details of Environmental Clearances are prominently displayed at the entrance to the Mine. (Photo of the sign boards are attached as Annexure-1) |
| 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. | Already provided notarized affidavit. |
| 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 | Prior approval from the SEIAA will be sought in case of change of mining technology. |

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| | 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. | No natural water course is obstructed. Necessary safeguard measures will be taken to protect first order streams if originating from the mining lease in the future. |
| 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. | Monitoring of Ambient Air Quality are carried out. Water sprinkling are done at places loading and unloading points & transfer point to reduce fugitive emissions. (Monitoring Photos and Monitoring Reports are attached as Annexure 7 & 8) |
| 43 | The top soil, if any, shall be 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 8 m and the width 20 m 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 should continue until the vegetation becomes self-sustaining | Available top soil will be used at the Green belt for plantation. OB generated is used for plantation purposes along the Green/Safety zone. |
| 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 monsoons and maintained properly | Catch drains will be made along the periphery of the mining lease. |
| 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 PM2.5 such as haul road, loading and unloading points | Regular water sprinkling is done on haul roads, loading and unloading points with water tankers. |

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| | 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 sources should be controlled regularly. Water spraying arrangements on haul roads, loading and unloading and transfer points should be provided and properly maintained. | Fugitive dust emissions are controlled with water spraying arrangements on haul roads, loading and unloading and transfer points. |
| 47 | Measures should be taken for control of noise levels below 85 dB(A) in the work environment. | Adequate measures for noise control is adopted. |
| 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. | An Environment Management Cell is set up under the control of the Mines Manager. |
| 49 | The funds earmarked for environment protection measures and CSR activate should be kept in a 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. | The funds earmarked for environment protection measures and CSR activities are kept in a separate account and is not diverted for any other purpose. (Attached in Annexure -5) |
| 50 | The Regional Office of MOEF and CC located in Bangalore shall monitor compliance of the stipulated conditions. The Project authorities should extend full cooperation to the Officer(s) if the Regional Office by furnishing the requisite data/information/monitoring reports. | We will extend full cooperation to any officer(s) from the Regional Office during his/their visit. All available data will be provided. |
| 51 | Any appeal against the Environment 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 | Agreed. |
| 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 provisions of the Environment (Protection) Act, 1986. | Factual and true data will be submitted. |
| 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 | Agreed. |

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| | above conditions or stipulate any further condition in the interest of the environment protection | |
| 54 | The above conditions shall prevail notwithstanding anything to the contrary, inconsistent or simplified, contained in any other permit, license or consent given by any other authority for the same project. | Agreed. |
| 55 | The order is valid for a period of 5 years of the expiry date of Mine lease period issued by the Government of Kerala, whichever is earlier | Agreed. |
| 56 | The Environment Clearance will be subject to the final order of the courts in any pending litigation related to the land or the project, in any court of law. | Agreed. |
| 57 | The Mining operations shall be restricted to above ground water table and it should not intersect ground water table. | Mining operations will be restricted above the ground water table and due care will be taken so as not to intersect ground water. |
| 58 | All vehicles used for transportation and within the mines shall have 'PUC' certificate from authorized pollution checking center. Washing of all vehicles shall be inside the Lease area | Will ensure that all transportation vehicles have PUC issued by an authorized Pollution checking center. |
| 59 | Project proponent should obtain necessary prior permission of the competent authorities for drawl of necessary quantity of surface and ground water for the project. | Agreed. |
| 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 | No perennial nallah flows through the lease or exist around the Mine Lease. |
| 61 | Occupational health surveillance program of the workers should be undertaken periodically to observe any contractions due to exposure to dust and take corrective measures, if needed. | Occupational health surveillance will be undertaken. |

For 'Granite Building Stone of Mr. C.G. George'



(Mr. C.G. George)

Owner

1.06.2021

Annexure 1

Sign Boards



Annexure 1



Boundary Pillars and Fencing





GOVERNMENT OF INDIA
MINISTRY OF COMMERCE & INDUSTRY
PETROLEUM AND EXPLOSIVES SAFETY ORGANISATION (PESO)
(Formerly Department of Explosives)
Kendriya Bhavan, Block C-2, 3rd Floor
CSEZ PO Kakkanad Dist. Ernakulam Ernakulam 682037
Tele: 2427286 Fax: 2427276
Email: dycceernakulam@explosives.gov.in

No.: E/SC/KL/22/746(E32353)

Dated: 13/01/2015

To,
Shri C.G. George,
Chithud House, Kuthuparamba post, Town/Village - Kuthuparambu
District-KANNUR, State-Kerala, Pincode - 670643

Subject: Possession for Use of Explosives from magazine situated at Survey No(s): 88/1, Kolavallur, Thalassery Tk., Dist. KANNUR, Kerala - Licence No.: E/SC/KL/22/746(E32353) granted in Form LE-3 of Explosives Rules, 2008 - Amendment of Quantity of Explosives/Monthly Purchase Limit.

Sir(s),

Please refer to your letter No. nil dated 11/12/2014 on the subject cited above.

The Licence No.: E/SC/KL/22/746(E32353) is forwarded herewith duly amended in respect of followings ;
THIS IS FOR ADDITIONAL QUARRY AT SY.No.73/81/1-2, PATTIAM VILLAGE, THALASSERY TALUK, KANNUR. VALID PERMISSIONS, AS APPLICABLE, FROM THE STATE GOVERNMENT AGENCIES SHALL BE IN POSSESSION..

The licence capacity at any one time shall not exceed the kinds and quantities mentioned below ;

| No | Explosive(s) | Class | Div | Sub Div | Capacity | Unit |
|----|---------------------|-------|-----|---------|----------|------|
| 1 | Nitrate Mixture | 2 | 0 | 0 | 150 | Kg. |
| 2 | Safety Fuse | 6 | 1 | 0 | 2000 | Mtrs |
| 3 | Electric Detonators | 6 | 3 | 0 | 2500 | Nos. |
| 4 | Ordinary Detonator | 6 | 3 | 0 | 5000 | Nos. |

Quantity of explosives to be purchased in a calendar month [applicable for licence under article 3(b) and (c)] : 20 times as above.

This Licence shall remain valid till 31st day of March 2019.

An amount of Rs. 2640/- balance is in your credit, which may be utilized for future transaction by quoting this reference.

For further renewal of licence, please follow the procedure under Rule 112 of Explosives Rules, 2008.
Receipt of this letter may please be acknowledged.

Enclosures :

Yours faithfully,

(T O Sasi)

Deputy Chief Controller of Explosives
उ.पु.वि.नि., एम्.कुलम
D. C. C. E., Ernakulam

Copy Forwarded to:

1. District Magistrate, KANNUR, Kerala with reference to his Noc No: D4.5631/2005 Dated: 18/10/2005.
2. Superintendent of Police, KANNUR, Kerala

Deputy Chief Controller of Explosives
Ernakulam

[For more information regarding status, fees and other details, please visit our web site <http://peso.gov.in>]

13-01-2015



भारत सरकार | Government of India
वाणिज्य और उद्योग मंत्रालय | Ministry of Commerce & Industry
पेट्रोलियम तथा विस्फोटक सुरक्षा संगठन (पेसो) | Petroleum & Explosives Safety Organisation (PESO)
पूर्व नाम- विस्फोटक विभाग | Formerly- Department of Explosives
केन्द्रीय भवन, ब्लॉक सी-2, तीसरी मंजिल | Kendriya Bhavan, Block C-2, 3rd Floor
CSEZ पी.ओ.कक्कनाड कोच्ची | CSEZ PO Kakkanad Dist. Ernakulam Ernakulam 682037
फोन (Phone):- 2427286 | फैक्स (Fax):- 2427276
ई-मेल Email: dycceernakulam@explosives.gov.in

संख्या (No.): E/SC/KL/22/746(E32353)

दिनांक (Date): 07/02/2019

नेवा में | To,

Shri C.G.George,
Chattath House, Kuthuparamba post, Town/Village - Kuthuparamba
District-KANNUR, State-Kerala, Pincode - 670643

8 FEB 2019

विषय : Survey No(s).88/1, ग्राम Kolavallur, Thalassery Tk., जिला KANNUR, राज्य Kerala में विस्फोटक के मैगजीन में उपयोग के लिए कब्जा हेतु विस्फोटक नियम, 2008 के अंतर्गत LE-3 में जारी अनुज्ञप्ति सं E/SC/KL/22/746(E32353) के नवीनीकरण संदर्भ में।

Subject: Possession for Use of of Explosives from magazine situated at Survey No(s).:88/1, Kolavallur, Thalassery Tk., Dist. KANNUR, Kerala - Licence No.: E/SC/KL/22/746(E32353) granted in Form LE-3 of Explosives Rules, 2008 - Renewal regarding

महोदय | Sir,

भाषका उपर्युक्त विषय पर पत्र संख्या Nil दिनांक 30/01/2019 का संदर्भ ग्रहण करें। विस्फोटक नियम, 2008 के अंतर्गत प्रारूप LE-3 में जारी अनुज्ञप्ति दिनांक 31/3/2024 तक नवीनीकृत कर इस पत्र के साथ भेजी जा रही है।

Reference to your letter No.: Nil dated: 30/01/2019, the subject licence duly renewed upto 31/3/2024 and issued in Form LE-3 of Explosives Rules, 2008 is forwarded herewith.

अनुज्ञप्ति के आगामी नवीकरण हेतु कृपया निम्नलिखित दस्तावेज दिनांक 31/03/2024 से पहले इस कार्यालय को भेजे जाएं।

For further renewal of licence, please submit the following documents so as to reach this office on or before 31/3/2024.

- प्रारूप आरई-1 में विधियत पूर्ण एवं हस्ताक्षरित आवेदन।
Application in Form RE-1 duly filled in and signed.
- एक से पाँच वर्ष के अनुज्ञप्ति शुल्क का बैंक ड्राफ्ट। बैंक ड्राफ्ट किसी भी राष्ट्रीयकृत बैंक के नाम आहरित, संयुक्त मुख्य विस्फोटक नियंत्रक, चेन्नई के पक्ष में चेन्नई में देय हों।
Licence fees for one to five years in the form of demand draft drawn on any Nationalized Bank in favour of Jt. Chief Controller of Explosives, Chennai payable at Chennai.
- अनुमोदित प्लान के साथ मूल अनुज्ञप्ति।
Original licence with approved plan.
- कृपया इस संबंध में विस्फोटक नियम, 2008 के नियम 112 का भी संदर्भ ग्रहण करें।
In this connection, please also refer to Rule 112 of Explosives Rules, 2008.
- विस्फोटकों के क्रय हेतु आरई-11 में मांगपत्र (इंडेंट) आपूर्तिकर्ता को दिया जाए और उसी की एक प्रति इस कार्यालय को भेजी जाएं (आतिशबाजी गोदाम के लिए लागू नहीं)।
Indent for purchase of explosives shall be placed in RE-11 with the supplier and copy of the same shall be sent to this office. (Not applicable for fireworks store house)
- कृपया विस्फोटकों की त्रैमासिक विवरणी हर तिमाही के अंत में आरई-7 में प्रस्तुत की जाएं। विवरणी इस कार्यालय के कार्यालय में आगामी तिमाही के 10 तारीख से पहले पहुंच जानी चाहिए (आतिशबाजी गोदाम के लिए लागू नहीं)। Please submit quarterly returns of explosives in RE-7 at the end of every quarter so as to reach this office by 10th of the succeeding quarter. (Not applicable for fireworks store house)
- सभी ब्लास्टिंग आपरेशन एक सक्षम द्वारा की जाएगी जो उपरोक्त नियमों के तहत एक वैध शॉट फायर प्रमाणपत्र धारक हो। हालांकि, खान अधिनियम 1952 के अधीन आने वाले खानों में ब्लास्टिंग आपरेशन करने वाले ब्लास्टर की योग्यता उसी अधिनियम से निर्धारित हो।
All blasting operations shall be carried out by a competent person holding a valid shot firer's permit granted under above rules. However, blasting operations in mines coming under the purview of the Mines Act 1952, the blaster shall have qualifications prescribed in the regulations framed under the said Act.

आपके खाते में रुपए 1840/- की राशि शेष है जो इस संदर्भ को उद्धृत करते हुए भविष्य के संव्यवहार में समायोजित की जा सकती है।

An amount of Rs. 1840/- balance is in your credit, which may be utilized for future transaction by quoting this reference.

भवदीय | Your's faithfully

(आर.वेणुगोपाल | Dr. R.Venugopal)

उप मुख्य विस्फोटक नियंत्रक | Deputy Chief Controller of Explosives

कोच्ची | Ernakulam विस्फोटक नियंत्रक

Deputy Chief Controller of Explosives

प्रतिलिपि प्रेषित | Copy Forwarded to:

1. जिला मजिस्ट्रेट (District Magistrate), KANNUR (Kerala)- सूचना के लिए (for information.)

उप मुख्य विस्फोटक नियंत्रक | Deputy Chief Controller of Explosives

कोच्ची | Ernakulam

(अधिक जानकारी जैसे आवेदन की स्थिति, शुल्क आदि के लिए हमारी वेबसाइट <http://peso.gov.in> देखें।)
(For more information regarding status, fees and other details please visit our website <http://peso.gov.in>)

अनुज्ञप्ति प्ररूप एल.ई.-3 | LICENCE FORM LE-3

(विस्फोटक नियम, 2008 की अनुसूची 4 के भाग 1 के अनुच्छेद 3(क) से (घ) देखिए।)

(See article 3(a) to (d) of Part 1 of Schedule IV of Explosives Rules, 2008)

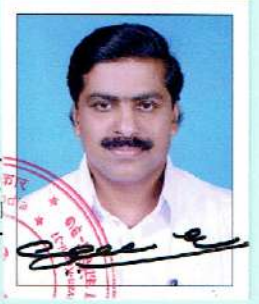
(ग) उपयोग के लिए एक समय पर वर्ग 1,2,3,4,5 या वर्ग 7 के विस्फोटक या किसी मैगजीन में वर्ग 6 के विस्फोटक रखने के लिए

अनुज्ञप्ति

Licence to possess : (c) for use, explosives of class 1, 2,3,4,5,6 or 7 in a magazine

अनुज्ञप्ति सं. (Licence No.) : E/SC/KL/22/746(E32353)

वार्षिक फीस रूपए (Annual Fee Rs): 2400/-



1. Licence is hereby granted to

Shri C.G.George (अधिभोगी / Occupier : C G George), Chittath House, Kuthuparamba post, Town/Village - Kuthuparambu, District-KANNUR, State-Kerala, Pincode - 670643

को अनुज्ञप्ति अनुदत्त की जाती है।

2. अनुज्ञप्तिधारी की प्रास्थिति | Status of licensee : **Individual**

3. अनुज्ञप्ति निम्नलिखित प्रयोजनों के लिए विधिमान्य है।

Licence is valid only for the following purpose.

possess for use of Nitrate Mixture, Safety Fuse, Electric Detonators, Ordinary Detonator, के उपयोग के लिए

4. अनुज्ञप्ति विस्फोटकों के निम्नलिखित किस्मों, प्रकार और मात्रा के लिए विधिमान्य है।

Licence is valid for the following kinds and quantity of explosives: -- (क) (a)

| क्र Sr. No. | नाम और विवरण Name and Description | वर्ग और प्रभाग Class & Division | उप-प्रभाग Sub-division | मात्रा किसी एक समय में Quantity at any one time |
|----------------|--------------------------------------|------------------------------------|---------------------------|--|
| 1. | Nitrate Mixture | 2,0 | 0 | 150 Kg. |
| 2. | Safety Fuse | 6,1 | 0 | 2000 Mtrs |
| 3. | Electric Detonators | 6,3 | 0 | 2500 Nos. |
| 4. | Ordinary Detonator | 6,3 | 0 | 5000 Nos. |

(ख) किसी एक कलेंडर मास में खरीदे जाने वाले विस्फोटक की मात्रा [अनुच्छेद 3(ख) और (ग) के अधीन अनुज्ञप्ति के लिए]

26 times
as above.

(b) Quantity of explosives to be purchased in a calendar month [applicable for licence under article 3(b) and (c)] :

5. निम्नलिखित रेखाचित्र (रेखाचित्रों) से अनुज्ञप्ति परिसर की पुष्टि होती है। रेखाचित्र क्र. (Drawing No.) E/SC/KL/22/746(E32353)
The licensed premises shall conform to the following drawing(s) : दिनांक (Dated) 16/12/2005

6. अनुज्ञप्ति परिसर निम्नलिखित पते पर स्थित हैं। The licensed premises are situated at following address:

Survey No(s). 88/1, ग्राम (Town/Village) : Kolavallur, Thalassery Tk.

जिला (District)
दूरभाष (Phone)

KANNUR

राज्य (State)
ई. मेल (E-Mail)

Kerala

पुलिस थाना (Police Station) : Kolavallur
पिनकोड (Pincode)
फैक्स (Fax)

7. अनुज्ञप्ति परिसर में निम्नलिखित सुविधाएं अंतर्विष्ट हैं।

: One Mini Explosives Magazine & Detonator Room

The licensed premises consist of following facilities.

8. अनुज्ञप्ति समय - समय पर यथासंशोधित विस्फोटक अधिनियम, 1884 और उनके अधीन विरचित विस्फोटक नियम, 2004 के उपबंधों, शर्तों और अतिरिक्त शर्तों और निम्नलिखित उपाबंधों के अधीन रहते हुए अनुदत्त की जाती है।

The licence is granted subject to the provision of Explosives Act 1884 as amended from time to time and the Explosives Rules, 2008 framed there under and the conditions, additional conditions and the following Annexures.

1. उपर्युक्त क्रम सं. 5 में यथा कथित रेखाचित्र (स्थान, सन्निर्माण संबंधी और अन्य विवरण दर्शित करते हुए)।

Drawings (showing site, constructional and other details) as stated in serial No. 5 above.

2. अनुज्ञप्ति प्राधिकारी द्वारा हस्ताक्षरित इस अनुज्ञप्ति की शर्तें और अतिरिक्त शर्तें।

Conditions and Additional Conditions of this licence signed by the licensing authority.

3. दूरी प्ररूप DE-2 | Distance Form DE-2.

9. यह अनुज्ञप्ति तारीख 31 मार्च 2007 तक विधिमान्य रहेगी। This licence shall remain valid till 31st day of March 2007.

यह अनुज्ञप्ति, अधिनियम या उसके अधीन विरचित नियमों या अनुसूची V के भाग 4 के प्रति निर्दिष्ट सेट-VII के अधीन तथा

उपवर्णित इस अनुज्ञप्ति की शर्तों का अधिक्रमण करने या यदि अनुज्ञप्ति परिसर योजना या उससे संलग्न उपबंध में दर्शित विवरण के अनुरूप नहीं पाए जाने पर निलंबित या प्रतिसंहत की जा सकती है, जहां वह लागू हो।

This licence is liable to be suspended or revoked for any violation of the Act or Rules framed there under or the conditions of this licence as set forth under Set VIII, wherever applicable, referred to in Part 4 of Schedule V or if the licensed premises are not

found conforming to the description shown in the plans and Annexure attached hereto.

Sd/-

तारीख | The Date - 16/12/2005

संयुक्त मुख्य विस्फोटक नियंत्रक | Joint Chief Controller of Explosives
South Circle, Chennai

Amendments :

- Amendment of Quantity of Explosives/Monthly Purchase Limit dated : 23/08/2012
- Amendment of Quantity of Explosives/Monthly Purchase Limit dated : 22/07/2014
- Amendment of Quantity of Explosives/Monthly Purchase Limit dated : 13/01/2015
- Amendment in Drawings/Facilities/Premises dated : 23/08/2016
- Amendment of Quantity of Explosives/Monthly Purchase Limit dated : 22/12/2017

नवीनीकरण के पृष्ठांकन के लिए स्थान
Space for Endorsement of Renewal

| नवीकरण की तारीख Date of Renewal | समाप्ति की तारीख Date of Expiry | अनुज्ञापन प्राधिकारी के हस्ताक्षर और स्टाम्प Signature of licensing authority and stamp |
|------------------------------------|------------------------------------|--|
| 07/02/2019 | 31/03/2024 | Dy. Chief Controller of Explosives, Ernakulam उप मुख्य विस्फोटक नियंत्रक Deputy Chief Controller of Explosives एरणाकुलम Ernakulam |

कानूनी चेतावनी : विस्फोटकों को गलत ढंग से चलाने या उनका दुरुपयोग विधि के अधीन गंभीर दांडिक अपराध होगा।
Statutory Warning : Mishandling and misuse of explosives shall constitute serious criminal offence under the law.



KERALA STATE POLLUTION CONTROL BOARD

FILE NO. :PCB/KNR/ICO/OC/11/2018

Date of issue :2018-01-10

CONSENT VARIATION ORDER

Consent No : R15KANCTOA455875

Ref : 1. Consent No:R15KANCTOA455875 dated 21/05/2015

The ' Integrated Consent to Operate' issued as per reference above to M/s Quarry Owned By CG George,Pattiam,Kuttiyeri poyil, Kannur is hereby modified & issued to M/s Quarry Owned By CG George,Pattiam,Kuttiyeri poyil, Kannur The consent(s)/ variation order(s) cited under reference are integral part of this consent variation order and this order is subject to the conditions stipulated therein and the following modifications/ additions.

I. GENERAL

| S.No. | Items | Description |
|-------|-------------------------|--|
| 1 | 1.1 VALIDITY | 31/10/2022 |
| 2 | 1.5 SURVEY NUMBER | 81/1,81/2 |
| 3 | 1.13 CAPITAL INVESTMENT | 19.00 LAKHS |
| 4 | 1.12 ANNUAL FEE | 3670/- |
| 5 | 1.18 PRODUCTS | Granite quarrying of 0.7682 Ha in RS NO.81/1,81/2 of Pattiam Village of Thalassery Thaluk. |
| 6 | 1.12 FEE REMITTED | 18350/- |

II. CONDITIONS

2.2 Application for renewal of consent shall be submitted before 30/07/2022.

2.5 Deleted.

3.2 Deleted.

3.3 Deleted.

4.1 Permanent fence made of wire mesh shall be provided and maintained along the boundary of the approved quarry area.

4.2 Deleted.

4.3 Deleted.

4.4 Deleted.

4.5 There shall be a minimum distance of 50 m from the boundary of the quarry to the nearest residence, places of worship, railway line, bridge, water body, public building and public road having vehicular traffic.

4.8 Location of quarry shall be as per the drawing attached. No change or alteration to the above shall be made.

4.11 Deleted.

All other conditions of the Integrated Consent to Operate issued as per reference above remain unchanged.

DATE :10/01/2018

SIGNATURE & SEAL OF ISSUING AUTHORITY
ENVIRONMENTAL ENGINEER



To

CG George Chitteth House, Kuthuparamba, Kannur

1. This digitally signed document is legally valid as per the Information Technology Act 2000

2. For verifying this document please go to krocmms.nic.in and search using date of issue/name of the unit/Application Number in "Consent Granted Applications" link in the home page of the Board's Online Consent Management and Monitoring System.

Annexure – 5

CSR

| G George ,Pattiam Village(Sy number 81/1 81/2 (1/10/2020-31/03/2021) | | |
|--|--|---------------|
| 10/2/2021 | Yuvadhara arts and sports club | 1000 |
| 9/2/2021 | Sri gulikan Devasthanam Thira Mahothsavam valiyavelicham | 7500 |
| 6/7/2021 | Football Tournament Mooryad | 3000 |
| 1/3/2021 | Baskaran Mattannur | 7245 |
| 6/3/2021 | Ramaskethra Nirmmanam Cheruparamb | 2000 |
| 16/03/2021 | tharanika samskarikavedhi mananthery | 2500 |
| House Construction Aid | Dharappan , 27TH Mile, Poolakutty | 75000 |
| House Construction Aid | P. Chandran, Palmi House, 27TH Mile, Poolakutty | 50000 |
| Total | | 148245 |



ആശ ഇന്ത്യ ഫോർവേഡ് ബ്ലോക്ക്
കണ്ണൂർ ജില്ലാ കമ്മിറ്റി
കാരുണ്യ സഭസ്സ്

നമ്പർ: **403** C.G. George

Date: 12/03/21

Chendayad Crossroads Petrol Bunk

Two Thousand only രൂപ കിട്ടി ബോധിച്ചു.

₹ 2000/-

സെക്രട്ടറി

യുവധാര ആർട്സ് & സ്പോർട്സ് ക്ലബ്ബ്

റജി. നമ്പർ : 917/99

കുറ്റിക്കാട്, പി. ഒ. മൂര്യാട്

കുത്തുപറമ്പ്, കണ്ണൂർജില്ല - 670643

നമ്പർ: 1

ക്രിക്കറ്റ് ടൂർണ്ണമെന്റ്

2021 ഫിബ്രവരി 14 ന്

കുറ്റിക്കാട് ഗ്രൗണ്ടിൽ

തീയതി: 10/01/2021

ശ്രീ/ ശ്രീമതി C.G. George

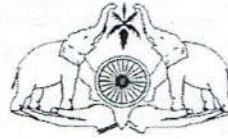
ശ്രദ്ധകളിൽ നിന്നും

രൂപ

സംഭാവനയായി നന്ദിപൂർവ്വം കിട്ടിബോധിച്ചു.

₹ 3000/-

സെക്രട്ടറി



പാട്ടം ഗ്രാമ പഞ്ചായത്ത്

നം 02/2019-20

1994 ലെ കേരളാ പഞ്ചായത്ത് രാജ് ആക്ട് (1994 ലെ 13) 232, 233, 234, 254 എന്നീ വകുപ്പുകൾ പ്രകാരവും അതേ തുടർന്നുള്ള ചട്ടങ്ങളും അനുസരിച്ചു കൊടുത്തത്

ഫാക്ടറികള്, വ്യവസായങ്ങള്, സംരംഭങ്ങള്, മറ്റു സേവനങ്ങൾ എന്നിവയ്ക്കായി നൽകുന്ന ലൈസൻസ്

| | |
|---|---|
| ലൈസൻസുടമസ്ഥന്റെ പേരും മേൽവിലാസവും | സി.ജി ജോർജ്ജ് ചിറ്റേത്ത് ഹൗസ്, കൂത്തുപറമ്പ് |
| എന്താവശ്യത്തിന് ലൈസൻസ് അനുവദിച്ചു എന്ന് | കരിങ്കൽ ക്വാറി |
| കെട്ടിടത്തിന്റെ നമ്പരും സ്ഥാനവും | 9 സർവ്വേ നം 81/1, 81/2 |
| ലൈസൻസിന്റെ കാലാവധി | 2019-2024 |
| ലൈസൻസ് ഫീസ് | Rs. 50000 |
| റിമാർക്സ് | മറ്റു വകുപ്പുകളാൽ നന്നും ലഭ്യമാക്കായ സാക്ഷ്യപത്രങ്ങളുടെ കാലാവധി തീരുന്ന മുറയ്ക്ക് ആയത് പൂർത്തിയാക്കി നൽകിയാൽ മാത്രമേ ലൈസൻസിന് 31-03-2024 വരെ സാധുതയാണാകുകയുള്ളൂ |

സ്ഥലം: പത്തായക്കുന്ന്

തീയതി: 03-04-2019



കെ. സതീഷ്
സെക്രട്ടറി
പാട്ടം ഗ്രാമ പഞ്ചായത്ത്
പി. ഒ. പത്തായക്കുന്ന്
ഫോൺ: 9496049134

Annexure – 7

Monitoring Photos





GLOBAL Environment & Mining Services

(Consulting Engineers, Mine designers, Geologist & Surveyors)
 3rd Main Road, Basaveswara Badavane,
HOSPET - 583201, Dist., Bellary (Karnataka)
 Ph : +91 8394 229433 & 295018
 e-mail : gems_hpt@yahoo.com,
 Website : www.globalmining.in

GEMS-LD/TF/11/01
 Date: 21.12.2020

Analysis Report of Ambient Air Quality Monitoring

| | | |
|---|------------------------------|--|
| 1 | Name of the Customer/Address | Granite Building Stone Quarry of Mr. C. G. George, Extent: 0.7682 Ha. (1.8982 Acres) Sy. Nos: 156, Patiom 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 | : (A1) Core zone |
| 6 | Report No | : ULR-TC532320000000359F |

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 | 18.12.2020 | 58.9 | 22.7 | 13.6 | 14.2 | BDL |
| NAAQ Standards 2009 | | 100 | 60 | 80 | 80 | 1.0 |

PM10 - IS 5182 (Part 23): 2006 (RA 2017)
PM2.5 - 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.

Analyzed By
J.M. Thippeswamy
 Chemist

Authorized Signatory
K. Ramakrishna Reddy
 Technical Manager



- Approved by NABL & Recognized by Ministry of Environment, Forest and Climate Change for Laboratory
- Recognized by Government of Karnataka, Maharashtra, Goa for DGPS survey

Note:

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GEMS-LD/TF/11/01
 Date: 21.12.2020

Analysis Report of Ambient Air Quality Monitoring

| | | |
|---|------------------------------|--|
| 1 | Name of the Customer/Address | : Granite Building Stone Quarry of Mr. C. G. George, Extent: 0.7682 Ha. (1.8982 Acres) Sy. Nos: 156, Patiom 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-TC532320000000360F |

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 | 19.12.2020 | 44.52 | 19.2 | 12.2 | 11.7 | BDL |
| NAAQ Standards 2009 | | 100 | 60 | 80 | 80 | 1.0 |

PM10 - IS 5182 (Part 23): 2006 (RA 2017)
PM2.5 - 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.

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 Analyzed By
J.M. Thippeswamy
 Chemist

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K. Ramakrishna Reddy
 Technical Manager

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e-mail : gems_hpt@yahoo.com,

Website : www.globalmining.in

GEMS-LD/TF/11/01**Date: 21.12.2020****TEST REPORT OF AMBIENT NOISE LEVEL MONITORING**

| | | |
|---|---------------------------------|---|
| 1 | Name of the Customer/Address | : Granite Building Stone Quarry of Mr. C. G. George , Extent: 0.7682 Ha. (1.8982 Acres) Sy. Nos: 156, Patiom 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 | : 21.12.2020 |
| 7 | Report No | : ULR-TC53232000000361F |

Result

| Date | 18.12.2020 | 19.12.2020 |
|----------------------|------------|-------------|
| Name of the Location | Core Zone | Buffer zone |
| Time (hrs) | N1 | N2 |
| 6.00 | 39.5 | 42.4 |
| 7.00 | 38.7 | 46.5 |
| 8.00 | 44.6 | 48.7 |
| 9.00 | 50.8 | 49.6 |
| 10.00 | 53.4 | 50.5 |
| 11.00 | 54.7 | 52.4 |
| 12.00 | 51.8 | 54.8 |
| 13.00 | 54.8 | 53.3 |
| 14.00 | 56.7 | 54.7 |
| 15.00 | 54.6 | 55.7 |
| 16.00 | 53.6 | 49.7 |
| 17.00 | 52.7 | 49.7 |
| 18.00 | 54.7 | 47.2 |
| 19.00 | 51.4 | 48.1 |
| 20.00 | 48.7 | 47.5 |
| 21.00 | 40.2 | 45.6 |
| 22.00 | 38.4 | 46.7 |
| 23.00 | 40.3 | 38.7 |
| 00.00 | 42.4 | 38.0 |
| 01.00 | 38.2 | 40.0 |
| 02.00 | 39.0 | 37.4 |
| 03.00 | 37.1 | 39.3 |
| 04.00 | 36.7 | 40.2 |
| 05.00 | 36.8 | 36.4 |

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e-mail : gems_hpt@yahoo.com.

Website : www.globalmining.in

| ULR-TC532320000000361F | | |
|------------------------|------|------|
| L max | 56.7 | 55.7 |
| L min | 36.7 | 36.4 |
| Ld | 52.7 | 51.3 |
| Ln | 39.1 | 41.7 |
| Ldn | 51.7 | 51.5 |

| 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. | |



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e-mail : gems_hpt@yahoo.com

Website : www.globalmining.in

GEMS-LD/TF/11/01**Date: 22.12.2020****ANALYSIS REPORT OF WATER QUALITY DATA**

| | | | |
|---|------------------------------|--|--|
| | | Granite Building Stone Quarry of Mr. C. G. George, | |
| 1 | Name of the Customer/Address | : | Extent: 0.7682 Ha. (1.8982 Acres) Sy. Nos: 156, Patiom Village, Thalassery Talu Kannur District, Kerala State. |
| 2 | Sample Collected By | : | GLOBAL Environment & Mining Services |
| 3 | Sampling Method | : | Grab Sample |
| 4 | Date of sample collection | : | 19.12.2020 |
| 5 | Date of sample Received | : | 21.12.2020 |
| 6 | Date of sample Analyzed | : | 22.12.2020 |
| 7 | Report Number | : | ULR-TC532320000000362F |

Result

| Sl. No. | Parameters | Unit | Result | Test Protocol | Requirement/Limit IS : 10500 : 2012 | |
|---------|---------------------------------------|-------|--------|--|--|---------------|
| | | | | | Acceptable | Permissible |
| 1. | pH | - | 7.3 | 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 | 0.64 | APHA 22 nd Edition 2012 2130 B (Pg No. 2-14) | 1 | 5 |
| 6. | Conductivity | µS/cm | 207 | APHA 22 nd Edition 2012 2510 B (Pg No. 2-54) | - | - |
| 7. | Total Dissolved Solids | mg/L | 179 | APHA 22 nd Edition 2012 2540 B (Pg No. 2-65) | 500 | 2000 |
| 8. | Total Alkalinity as CaCO ₃ | mg/L | 56 | APHA 22 nd Edition 2320 B (Pg No. 2-35) | 200 | 600 |
| 9. | Total Hardness as CaCO ₃ | mg/L | 118 | APHA 22 nd Edition 2012 2340 C (Pg No. 2-46) | 200 | 600 |
| 10. | Calcium as Ca | mg/L | 42 | APHA 22 nd Edition 2012 3500 Ca B (Pg No. 3-84) | 75 | 200 |
| 11. | Magnesium as Mg | mg/L | 59 | APHA 22 nd Edition 2012 3500 B-Mg By Calculation | 30 | 100 |
| 12. | Chloride as Cl | mg/L | 20.4 | APHA 22 nd Edition 2012 4500 Cl (Pg No. 4-72) | 250 | 1000 |
| 13. | Sulphate as SO ₄ | mg/L | 78 | APHA 22 nd Edition 2012 4500 SO ₄ – E (Pg No. 4-190) | 200 | 400 |
| 14. | Nitrates as NO ₃ | mg/L | 5.3 | 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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Website : www.globalmining.in

ULR-TC532320000000362F

| | | | | | | |
|-----|---------------------|---------------|--------|--|-------|-----|
| 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 | 0.50 | APHA 23 rd Edition – 3500 Fe-B (Pg No. 3-80 to 3-82) | 0.3 | NR |
| 17. | Sodium as Na | mg/L | 8.14 | APHA 23 rd Edition 2017 Na 3500 B (Pg No. 3-99 to 3-100) | - | - |
| 18. | Potassium as K | mg/L | 0.80 | 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. | Phyto 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****

J. A. B.
Analyzed By
Chemist

D. K. R.
Authorized Signatory
Technical Manager

GLOBAL ENVIRONMENT & MINING SERVICES
HOSPET

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 Website : www.globalmining.in

GEMS-LD/TF/11/01
 Date: 21.12.2020

Analysis Report of Ambient Air Quality Monitoring

| | | | |
|---|------------------------------|---|--|
| 1 | Name of the Customer/Address | : | Granite Building Stone Quarry of Mr. C. G. George, Extent: 0.7682 Ha. (1.8982 Acres) Sy. Nos: 156, Patiom 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-TC532320000000360F |

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 | 19.12.2020 | 44.52 | 19.2 | 12.2 | 11.7 | BDL |
| NAAQ Standards 2009 | | 100 | 60 | 80 | 80 | 1.0 |

PM10 - IS 5182 (Part 23): 2006 (RA 2017)
PM2.5 - 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.

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GEMS-LD/TF/11/01

Date: 21.12.2020

TEST REPORT OF AMBIENT NOISE LEVEL MONITORING

| | | |
|---|---------------------------------|--|
| 1 | Name of the Customer/Address | Granite Building Stone Quarry of Mr. C. G. George, Extent: 0.7682 Ha. (1.8982 Acres) Sy. Nos: 156, Patiom 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 | : 21.12.2020 |
| 7 | Report No | : ULR-TC53232000000361F |

Result

| Date | 18.12.2020 | 19.12.2020 |
|----------------------|------------|-------------|
| Name of the Location | Core Zone | Buffer zone |
| Time (hrs) | N1 | N2 |
| 6.00 | 39.5 | 42.4 |
| 7.00 | 38.7 | 46.5 |
| 8.00 | 44.6 | 48.7 |
| 9.00 | 50.8 | 49.6 |
| 10.00 | 53.4 | 50.5 |
| 11.00 | 54.7 | 52.4 |
| 12.00 | 51.8 | 54.8 |
| 13.00 | 54.8 | 53.3 |
| 14.00 | 56.7 | 54.7 |
| 15.00 | 54.6 | 55.7 |
| 16.00 | 53.6 | 49.7 |
| 17.00 | 52.7 | 49.7 |
| 18.00 | 54.7 | 47.2 |
| 19.00 | 51.4 | 48.1 |
| 20.00 | 48.7 | 47.5 |
| 21.00 | 40.2 | 45.6 |
| 22.00 | 38.4 | 46.7 |
| 23.00 | 40.3 | 38.7 |
| 00.00 | 42.4 | 38.0 |
| 01.00 | 38.2 | 40.0 |
| 02.00 | 39.0 | 37.4 |
| 03.00 | 37.1 | 39.3 |
| 04.00 | 36.7 | 40.2 |
| 05.00 | 36.8 | 36.4 |

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Website : www.globalmining.in

| ULR-TC532320000000361F | | |
|------------------------|------|------|
| L max | 56.7 | 55.7 |
| L min | 36.7 | 36.4 |
| Ld | 52.7 | 51.3 |
| Ln | 39.1 | 41.7 |
| Ldn | 51.7 | 51.5 |

| 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. | |



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GLOBAL Environment & Mining Services

(Consulting Engineers, Mine designers, Geologist & Surveyors)

3rd Main Road, Basaveswara Badavane,**HOSPET – 583201**, Dist., Bellary (Karnataka)

Ph : +91 8394 22943 & 295018

e-mail : gems_hpt@yahoo.com

Website : www.globalmining.in

GEMS-LD/TF/11/01**Date: 22.12.2020****ANALYSIS REPORT OF WATER QUALITY DATA**

| | | | |
|---|------------------------------|--|--|
| | | Granite Building Stone Quarry of Mr. C. G. George, | |
| 1 | Name of the Customer/Address | : | Extent: 0.7682 Ha. (1.8982 Acres) Sy. Nos: 156, Patiom Village, Thalassery Talu Kannur District, Kerala State. |
| 2 | Sample Collected By | : | GLOBAL Environment & Mining Services |
| 3 | Sampling Method | : | Grab Sample |
| 4 | Date of sample collection | : | 19.12.2020 |
| 5 | Date of sample Received | : | 21.12.2020 |
| 6 | Date of sample Analyzed | : | 22.12.2020 |
| 7 | Report Number | : | ULR-TC532320000000362F |

Result

| Sl. No. | Parameters | Unit | Result | Test Protocol | Requirement/Limit IS : 10500 : 2012 | |
|---------|---------------------------------------|-------|--------|--|--|---------------|
| | | | | | Acceptable | Permissible |
| 1. | pH | - | 7.3 | 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 | 0.64 | APHA 22 nd Edition 2012 2130 B (Pg No. 2-14) | 1 | 5 |
| 6. | Conductivity | µS/cm | 207 | APHA 22 nd Edition 2012 2510 B (Pg No. 2-54) | - | - |
| 7. | Total Dissolved Solids | mg/L | 179 | APHA 22 nd Edition 2012 2540 B (Pg No. 2-65) | 500 | 2000 |
| 8. | Total Alkalinity as CaCO ₃ | mg/L | 56 | APHA 22 nd Edition 2320 B (Pg No. 2-35) | 200 | 600 |
| 9. | Total Hardness as CaCO ₃ | mg/L | 118 | APHA 22 nd Edition 2012 2340 C (Pg No. 2-46) | 200 | 600 |
| 10. | Calcium as Ca | mg/L | 42 | APHA 22 nd Edition 2012 3500 Ca B (Pg No. 3-84) | 75 | 200 |
| 11. | Magnesium as Mg | mg/L | 59 | APHA 22 nd Edition 2012 3500 B-Mg By Calculation | 30 | 100 |
| 12. | Chloride as Cl | mg/L | 20.4 | APHA 22 nd Edition 2012 4500 Cl (Pg No. 4-72) | 250 | 1000 |
| 13. | Sulphate as SO ₄ | mg/L | 78 | APHA 22 nd Edition 2012 4500 SO ₄ – E (Pg No. 4-190) | 200 | 400 |
| 14. | Nitrates as NO ₃ | mg/L | 5.3 | 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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Note:

- The result listed refers only to the tested samples & applicable parameters. Endorsement of products is neither inferred nor implied.
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ULR-TC532320000000362F

| | | | | | | |
|-----|-----------------------|---------------|--------|--|-------|-----|
| 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 | 0.50 | APHA 23 rd Edition – 3500 Fe-B (Pg No. 3-80 to 3-82) | 0.3 | NR |
| 17. | Sodium as Na | mg/L | 8.14 | APHA 23 rd Edition 2017 Na 3500 B (Pg No. 3-99 to 3-100) | - | - |
| 18. | Potassium as K | mg/L | 0.80 | 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 O ₂ | 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. | Phyto 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****

J. A. B.
Analyzed By
Chemist

P. K. R.
Authorized Signatory
Technical Manager

GLOBAL ENVIRONMENT & MINING SERVICES
HOSPET

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e-mail : gems_hpt@yahoo.com,

Website : www.globalmining.in

GEMS-LD/TF/11/01

Date: 21.12.2020

TEST REPORT OF AMBIENT NOISE LEVEL MONITORING

| | | |
|---|---------------------------------|--|
| 1 | Name of the Customer/Address | Granite Building Stone Quarry of Mr. C. G. George, Extent: 0.7682 Ha. (1.8982 Acres) Sy. Nos: 156, Patiom 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 | : 21.12.2020 |
| 7 | Report No | : ULR-TC532320000000361F |

Result

| Date | 18.12.2020 | 19.12.2020 |
|----------------------|------------|-------------|
| Name of the Location | Core Zone | Buffer zone |
| Time (hrs) | N1 | N2 |
| 6.00 | 39.5 | 42.4 |
| 7.00 | 38.7 | 46.5 |
| 8.00 | 44.6 | 48.7 |
| 9.00 | 50.8 | 49.6 |
| 10.00 | 53.4 | 50.5 |
| 11.00 | 54.7 | 52.4 |
| 12.00 | 51.8 | 54.8 |
| 13.00 | 54.8 | 53.3 |
| 14.00 | 56.7 | 54.7 |
| 15.00 | 54.6 | 55.7 |
| 16.00 | 53.6 | 49.7 |
| 17.00 | 52.7 | 49.7 |
| 18.00 | 54.7 | 47.2 |
| 19.00 | 51.4 | 48.1 |
| 20.00 | 48.7 | 47.5 |
| 21.00 | 40.2 | 45.6 |
| 22.00 | 38.4 | 46.7 |
| 23.00 | 40.3 | 38.7 |
| 00.00 | 42.4 | 38.0 |
| 01.00 | 38.2 | 40.0 |
| 02.00 | 39.0 | 37.4 |
| 03.00 | 37.1 | 39.3 |
| 04.00 | 36.7 | 40.2 |
| 05.00 | 36.8 | 36.4 |

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Website : www.globalmining.in

| ULR-TC532320000000361F | | |
|------------------------|------|------|
| L max | 56.7 | 55.7 |
| L min | 36.7 | 36.4 |
| Ld | 52.7 | 51.3 |
| Ln | 39.1 | 41.7 |
| Ldn | 51.7 | 51.5 |

| 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. | |



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GEMS-LD/TF/11/01**Date: 22.12.2020****ANALYSIS REPORT OF WATER QUALITY DATA**

| | | | |
|---|------------------------------|--|--|
| | | Granite Building Stone Quarry of Mr. C. G. George, | |
| 1 | Name of the Customer/Address | : | Extent: 0.7682 Ha. (1.8982 Acres) Sy. Nos: 156, Patiom Village, Thalassery Talu Kannur District, Kerala State. |
| 2 | Sample Collected By | : | GLOBAL Environment & Mining Services |
| 3 | Sampling Method | : | Grab Sample |
| 4 | Date of sample collection | : | 19.12.2020 |
| 5 | Date of sample Received | : | 21.12.2020 |
| 6 | Date of sample Analyzed | : | 22.12.2020 |
| 7 | Report Number | : | ULR-TC532320000000362F |

Result

| Sl. No. | Parameters | Unit | Result | Test Protocol | Requirement/Limit IS : 10500 : 2012 | |
|---------|---------------------------------------|-------|--------|--|--|---------------|
| | | | | | Acceptable | Permissible |
| 1. | pH | - | 7.3 | 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 | 0.64 | APHA 22 nd Edition 2012 2130 B (Pg No. 2-14) | 1 | 5 |
| 6. | Conductivity | µS/cm | 207 | APHA 22 nd Edition 2012 2510 B (Pg No. 2-54) | - | - |
| 7. | Total Dissolved Solids | mg/L | 179 | APHA 22 nd Edition 2012 2540 B (Pg No. 2-65) | 500 | 2000 |
| 8. | Total Alkalinity as CaCO ₃ | mg/L | 56 | APHA 22 nd Edition 2320 B (Pg No. 2-35) | 200 | 600 |
| 9. | Total Hardness as CaCO ₃ | mg/L | 118 | APHA 22 nd Edition 2012 2340 C (Pg No. 2-46) | 200 | 600 |
| 10. | Calcium as Ca | mg/L | 42 | APHA 22 nd Edition 2012 3500 Ca B (Pg No. 3-84) | 75 | 200 |
| 11. | Magnesium as Mg | mg/L | 59 | APHA 22 nd Edition 2012 3500 B-Mg By Calculation | 30 | 100 |
| 12. | Chloride as Cl | mg/L | 20.4 | APHA 22 nd Edition 2012 4500 Cl (Pg No. 4-72) | 250 | 1000 |
| 13. | Sulphate as SO ₄ | mg/L | 78 | APHA 22 nd Edition 2012 4500 SO ₄ – E (Pg No. 4-190) | 200 | 400 |
| 14. | Nitrates as NO ₃ | mg/L | 5.3 | 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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| | | | | | | |
|-----|---------------------|---------------|--------|--|-------|-----|
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| 16. | Iron as Fe | mg/L | 0.50 | APHA 23 rd Edition – 3500 Fe-B (Pg No. 3-80 to 3-82) | 0.3 | NR |
| 17. | Sodium as Na | mg/L | 8.14 | APHA 23 rd Edition 2017 Na 3500 B (Pg No. 3-99 to 3-100) | - | - |
| 18. | Potassium as K | mg/L | 0.80 | 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. | Phyto 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****

J. A. B.
Analyzed By
Chemist

D. K. R.
Authorized Signatory
Technical Manager

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| L max | 56.7 | 55.7 |
| L min | 36.7 | 36.4 |
| Ld | 52.7 | 51.3 |
| Ln | 39.1 | 41.7 |
| Ldn | 51.7 | 51.5 |

| 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 |
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| | 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 |
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| 13. | Sulphate as SO ₄ | mg/L | 78 | APHA 22 nd Edition 2012 4500 SO ₄ – E (Pg No. 4-190) | 200 | 400 |
| 14. | Nitrates as NO ₃ | mg/L | 5.3 | 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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Note:

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GEMS

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| | | | | | | |
|-----|---------------------|---------------|--------|--|-------|-----|
| 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 | 0.50 | APHA 23 rd Edition – 3500 Fe-B (Pg No. 3-80 to 3-82) | 0.3 | NR |
| 17. | Sodium as Na | mg/L | 8.14 | APHA 23 rd Edition 2017 Na 3500 B (Pg No. 3-99 to 3-100) | - | - |
| 18. | Potassium as K | mg/L | 0.80 | 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. | Phyto 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****

J. A. B.
Analyzed By
Chemist

D. K. R.
Authorized Signatory
Technical Manager

GLOBAL ENVIRONMENT & MINING SERVICES
HOSPET

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