COMPLIANCE REPORT

October 2022 to March 2023

M/s St. GEORGE GRANITES

EC NO: 57/SEIAA/KL/7585/2012

Dt. 15.03.2013

ERNAKULAM DISTRICT, KERALA

St.George Granites

PALACKAMATTOM, KINGINIMATTOM.P.O., KOLENCHERY-682311
TELEPHONE: 0484-276 0208, MOBILE NO.: 9645083239, 964 5083 236
E-mail:st.georgegranites@gmail.com

Date 25-07-2023

The Additional Principal Chief Conservator of Forests (C)
Ministry of Environment, Forests & Climate Change,
4th Floor,E& F Wing,KendriyaSadan,
Koramangala, Bangalore - 560034

Ref :- FileNo. 57/SEIAA/KL/7585/2012

Sub: - Environment Clearance - Quarry project at Marady Village,
Marady Panchayath, Muvattupuzha Taluk, Ernakulam District,
Kerala.- Compliance Report - Second half - Reg.

Respected Sir,

The Quarry (Building stone) project was accorded Environmental Clearance for 3.8164 Ha. by order No. 57/SEIAA/KL/7585/2012 dated 15.03.2013 by State Environmental Impact Assessment Authority, Kerala. The compliance report of Second Half (October 2022 – March 2023) to the specific and general conditions of the Environment Clearance order is enclosed.

Thanking you,

Yours respectfully,

For

M/s St. George Granites

lmval/ose.

Encl: - As Above

Copy to :The Member Secretary

State Environment Impact Assessment Authority (SEIAA) Thiruvananthapuram.

COMPLIANCE REPORT

TO

THE CONDITIONS

OF

ENVIRONMENTAL CLEARANCE ORDER

NO: 57/SEIAA/KL/7585/2012

DATED ON: 15.03.2013

BY

STATE ENVIRONMENT IMPACT ASSESSMENT AUTHORITY (SEIAA)

FOR

BUILDING STONE QUARRY (MINOR MINERAL MINING) PROJECT

AT

SURVEY NO. 1094/1-A, 1094/1-A1, 1094/1-A6, 1097/7-A, 1097/6-B2, 1101/3, 1097/7-B, 1097/6-A2, 1094/1-A27, 1097/6-B3, 1097/7-C2

MARADY VILLAGE, MARADY PANCHAYATH, MUVATTUPUZHA TALUK,
ERNAKULAM DISTRICT, KERALA

BY

M/S St. GEORGE GRANITES
ERNAKULAM DISTRICT, KERALA

INDEX

Sl. No.	Particulars	Page No.
1.	Introduction	6
2.	Compliance Report – Specific conditions – Part A	7
3.	Compliance Report – General conditions – Part B	10
4.	Annexure	24

LIST OF ANNEXURES

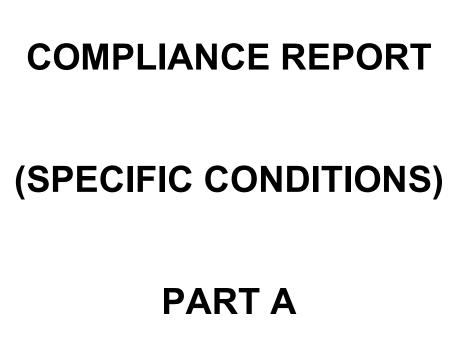
Annexure	Particulars	Page No.
No.		
01	Copy of the CSR receipts and details	25
02	Copy of the certificate of Licensed Persons	26
03	Copy of the "Consent to Operate" from Kerala State Pollution Control Board	27
04	Copy of Environmental Clearance	29
05	Copy of Explosive License issued by the Ministry of Commerce & Industry – Petroleum & Explosives Safety Organization (PESO)	33
06	Copy of License for quarry operations from Panchayath	35
07	Copy of lease order from Directorate of Mining and Geology	36
08	Laboratory result of ambient air	38
09	Laboratory result of ambient sound level	39
10	Laboratory result of water	40

INTRODUCTION

The quarry project of **M/s St. George Granites** is situated at survey no. 1094/1-A, 1094/1-A1, 1094/1-A6, 1097/7-A, 1097/6-B2, 1101/3, 1097/7-B, 1097/6-A2, 1094/1-A27, 1097/6-B3, 1097/7-C2 Marady Village, Marady Panchayath, Muvattupuzha Taluk, Ernakulam District, Kerala.

The quarry project was accorded with the Environmental Clearance (EC) by State Environmental Impact Assessment Authority on 15.03.2013. As part of general condition No.25 of Environmental Clearance order, half yearly compliance report needs to be submitted by the project proponent.

The compliance report of Second half to the specific conditions and general conditions of the Environmental Clearance order for the period of **October 2022 - March 2023** is being submitted



PART - A - SPECIFIC CONDITIONS

O1 The storm water should be channelized to a pit that has to be retained in the central area of the proposed mine.

Compliance:

As part of storm water management, the project proponent has constructed drain at entire mining area to channelize the storm water in to the existing pond in the site. The project proponent has constructed various pits to settle down sediments at the bottom of the pits. The storm water drainage and its exit from the site are fully functional at all the time. The pit in the central area of the mine is being developed. The photograph of the pit is being developed in the mine lease area is given below



O2 Indigenous varieties of horticultural crops having edible fruits should also be cultivated as part of eco-restoration.

Compliance:

The project proponent has planted various varieties of horticultural crops and fruit bearing trees in the project site as part of compensatory a forestation and concurrent eco restoration. The project proponent can plant various varieties as cultivation during the post closure of mine on the restored area. The extraction of minerals is being progressing in the project site.

COMPLIANCE REPORT (GENERAL CONDITIONS) PART B

PART - B - GENERAL CONDITIONS

Rain water harvesting to collect and utilize the entire water falling in land area should be provided.

Compliance:

As part of conservation of rain water, the proponent has constructed a rain water harvesting pond in the project site to collect rain water falling in the entire mining area. The collected rain water is being used for irrigation purposes, watering of plants, wetting of roads, supply to public and for dust suppression system (mainly sprinklers system). The RWH facility can also act as a desiltation pond or clarifier.

O2 Environment monitoring cell as agreed under the affidavit filed by the proponent should be formed and made functional.

Compliance:

Environmental Monitoring Cell (EMC) was formed with Mr. Kuriakose I. Mathai (proprietor of St. George Granites) as head and made functional. Meeting of monitoring cell is regularly convenes and discussed the status of the compliance of the specific and general conditions contained in the Environmental Clearance (EC) order.

O3 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.

Compliance:

The project proponent has planted many species along either side of the road constructed in the project site. Avenue trees can perform as dust regulation mechanism therefore the project proponent is intending to plant more saplings along the road side and parking area, where the vegetation is less. There are

natural vegetation including trees, shrubs and climbers growing in the sides of the tarred road and open parking areas.

O4 The project shall incorporate devices for solar energy generation and utilization wherever possible.

Compliance:

As part of reduce the consumption of energy from conventional sources, energy conservation and to use renewable energy, the project proponent has installed 3 solar street lights in the project site. The consumption from renewable energy reduces the energy from conventional sources.

O5 Sprinklers shall be installed and used in the project site to contain dust emissions

Compliance:

The emission of dust is a major adverse effect of a mining industry. To prevent dust emission, sprinklers are installed in the project site. This help to suppress dust during the time summer season. The project proponent has deployed a vehicle with water tanker to splash water on the mining area, haulage road and public road.

The eco-restoration plan submitted with the proposal should be fully implemented.

Compliance:

The eco restoration plan prepared is being executed in a good manner. The project proponent has started to plant various saplings in and around the project site. The mining in the EC obtained area is under progress.

O7 Corporate social responsibility agreed upon by the proponent should be implemented

Compliance:

The project proponent has executed various activities under Corporate Social Responsibility of the firm. The main activities were under various sectors worth Rs. 2,85,650 The bill and vouchers against CSR activities done in this period is attached as **Annexure No.1.**

SECTOR	ACTIVITY	BENEFITIORY	AMOUNT
CULTURAL	Donation	St Marries Yacobaya Suriyani Church	10000.00
	Donation	Kayanad St George Suriyani Church	20000.00
	Donation	St Marries Yacobaya Suriyani Church,Puzukkamattam	1500.00
	Donation	St Peters & St Pauls Orthodox Syrian Church ,Kolenchery	1000.00
	Donation	St Peters & St Pauls Orthodox Syrian Church ,Kolenchery	1000.00
	Donation	Vattaseery Mar Divaniyos Kathaliket Centre	500.00
	Donation	St George Orthodox Church	150.00
EDUCATION	Donation	Child Help Foundation	6000.00
	Donation	Govt .Lp School Kayanad	25000.00
INFRASTRUCTURE DEVELOPMENT	Donation	CEOA(Construction Equipment Owners Association)	5000.00
	Donation	Ernamkulam District Construction And General Workers Union	5000.00
	Donation	Pithrakovil Sreekrishna Swami Temple	4500.00
	Donation	Marady Thrikka Mahadevi Temple	10000.00
	Donation	Trikovil Mahadevi Temple	5000.00
	Donation	CSI Church Kannikkal	20000.00
	Donation	Palakkamattam Sree Bagavathy Temple	5000.00
	Donation	Kerala Karshaka Sangam	5000.00
	Donation	PDP Bhavana Nirmana Project	2000.00
	Donation	Life Mission Charitable Trust	500.00
SOCIAL	Donation	Forward Bloc	5000.00
	Donation	Alfa Care Home	1500.00
	Donation	Kerala Culture Centre	500.00
	Donation	Alumini Association Poothirikka School	10000.00

		TOTAL	285650.00
SPORTS Donation		Tick Seven	1000.00
	Donation	Marady Gramapanchayt	100000.00
		Foundation	
	Donation	Prabhakiran National	500.00
		Devi Muvattupuza Union	
	Donation	Sree Narayana Sahodara Darma	5000.00
	Donation	Sree Balasubramanyam Temple	5000.00
	Donation	Cherukida Quarry Association	25000.00
		,Kolenchery	
	Donation	Vyapari Vyavasaya Samithy	5000.00

Barbed metal wire fencing around the mining area shall be provided with a height of not less than 5 ft so that the falling of animals/human/belongings/dumping of garbage's etc. does not happen.

Compliance

As part of demarcation of lease area and to ensure safety, barbed metal wire fencing was installed around the mining area at 5ft height. This prevents the falling of animals/ human/dumping of garbage's etc, in to the mining area. The fencing is maintains at all time.

Warning alarms indicating the time of blasting (to be done at specific timings) has to be arranged as per stipulations of explosive department.

Compliance:

Installation of warning alarm is mandatory as per the explosive department to provide warning regarding blasting to the nearby community and labors. A warning alarm has installed in the project area to attain this object. It is working properly prior to the blasting. A danger board is also installed which

gives information about the blasting time to the general public. The photograph of the sign board mentioning blasting time is attached given below



Access roads to the quarry shall be tarred to contain dust emissions that may arise during transportation of materials

Compliance:

One of the main sources of dust emission is roads. To reduce emission of dust, the access road from the entrance of project site to quarry is tarred and tiled. The project is spraying water on the road to arrest the dust during summer season. The project proponent is maintaining access road to the quarry in good

condition for dust emission. The photograph of the tiled approach road is given below



Overburden material should be managed within the site and the old quarries, if any, should be reclaimed and restored

Compliance:

The project converted a slope area in to terraces by systematically dumping the overburden. To prevent soil erosion this has covered with a *geotex* coir mat and planted grass. As part of eco - restoration, the project is intending to plant various saplings and medicinal plant on the prepared terrace area. All overburden generated from the mining area is managed within the site.

Height of benches should not exceed 5m and width should not be less than 5m.

Compliance:

The volume of extracted minerals was low therefore the benches are being developed as benches. All mining activities are progressing under the supervision of qualified personals. To enhance safety and to make environment friendly quarrying, the excavation activity in the projects progresses by creating benches of 5m width x 5m height. The copy of certificate of First class manager is attached at **Annexure No2.**The photograph of the mining area is attached below



Mats to reduce fly rock blast to a maximum of 15 PPV should be provided.

Compliance:

The project proponent is using blasting mats to reduce fly rocks during the time of blasting. The project proponent is using NoNEL technology for blasting therefore the problem with fly rock in the community is nil. The project can also assure the maximum PPV is under 10 with the controlled blasting operations under the supervision of qualified persons.

Mining depth should not exceed beyond 40m, unless otherwise specifies or not below the level of nearest stream bed whichever is less.

Compliance:

The exploration of building stone has been maintained as 40 m MSL in the mining area as agreed in the proposal. To ensure this, the project appointed second class manager and mining mate as qualified personals to supervise the mining activities. The all activities of these qualified persons is being under the supervision and monitoring of Environment Monitoring Cell.

Acoustic enclosures should have been provided to reduce sound amplifications in addition to the provisions of greenbelt and hollow brick envelope for crushers so that the noise level is kept within prescribed standards given by CPCB/KSPCB

Compliance:

To reduce the impact of sound to the labours in the unit, the project has provided ear plugs. Vegetation around the mining area helps to reduce noise and air pollution. This helps the noise level kept within prescribed standards as per CPCB/KSPCB standards. The project proponent is trying to enhance the vegetative cover by planting more tree saplings. The project is regularly monitors the ambient noise level at the project site by an approved laboratory.

Assurance in the form of affidavit should be given to SEIAA that eco-restoration including the mine closure plan shall be done at the own cost of the project proponent.

Compliance:

Assurance in the form of affidavit was already submitted to SEIAA Kerala after getting the Environmental Clearance. co restoration in the mining plan and mine closure plan will be done the own cost of the project proponent.

Garland drains to be provided in the lower slopes around the core area to channelize storm water.

Compliance:

To channelize the storm water falling in the mine lease area, the proponent has constructed garland drain around the project site in the lower slopes. This drain leads to the de siltation traps, which is situated at the lowest portion of the project site.

Debris/ silt traps to be provided to prevent entry of dust and quarry wastes entering the main streams.

Compliance:

As part of effective storm water management, the project proponent has constructed storm water drains in the lower slopes of the project area. This helps to channelize the storm water to the rain water collection pond and the most of the debris is settling down in the bottom of the pond. The project proponent has constructed de siltation traps in the lower slopes of the project area for storm water management to prevent the quarry waste from the site to the mainstreams.

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

Compliance:

All statutory approvals required for the quarrying activity is obtained. The copy of the approvals obtained is provided at **Annexure No. 3, 4, 5, 6 & 7.**

Name of the Statutory approval

"Consent to Operate"

Kerala State Pollution Control Board

Environmental Clearance order

State Environmental Impact

Assessment Authority, Kerala

Table 1- The details of statutory approvals

	Ministry of Commerce & Industry –
Explosive License	Petroleum & Explosives Safety
	Organization (PESO)
License for quarry operations	Gram Panchayat
Lease order	Directorate of Mining and Geology

In case of any change(s) in the scope of the project, the project would require a fresh appraisal by this authority.

Compliance:

The project proponent is working in the mine lease area which is within the EC obtained area. There is no change in the scope of the project. The project proponent will seek for a fresh Environmental clearance In the case of any change(s) in the scope of the project.

The authority reserved the right to add additional safeguard measures subsequently, if found necessary, and to take action including revoking of the environment clearance under the provisions of the Environment (protection) Act, 1986, to ensure effective implementation of the suggested safeguard measures in a time bound and satisfactory manner.

Compliance:

If the authority instructs to add additional safeguard measures subsequently for enhancing safety and eco friendly mining, the project proponent will be complied with.

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.

Compliance:

The stipulated orders and directions under different act and notification including EIA notification are being 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 project proponent should advertise in at least two local newspapers widely circulated in the region. One of which shall be in the vernacular language informing that the project has been accorded environmental clearance and copies of clearance letters area 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 a copy of the same should be forwarded to the office of this authority as confirmation.

Compliance:

An advertisement in two news paper regarding the accordance of environmental clearance to the quarrying activity was given within stipulated period and the copy of the same was submitted to SEIAA. A copy of the clearance letter shall be sent by the proponent to 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 clearance letter shall also be put on the website of the company by the proponent.

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 proponent shall submit six monthly reports on the status of compliance of the stipulated EC conditions including results of monitored data (both in hand 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 the Directorate of Environment and Climate Change, Govt. of Kerala.

Compliance:

The compliance report is being regularly submitted to the Regional Office of MoEF&CC, Govt. of India and State environment Impact Assessment Authority, (SEIAA) Kerala, as e mail. The result of monitored data is provided in compliance report. The monitored results are attached as **Annexure No. 8 9 &10.**

The conditions of the environmental clearance should be prominently displayed in a metallic boardof 3 ft x 3 ft with green background and yellow letters of Times New Roman fond size of not less than 40.

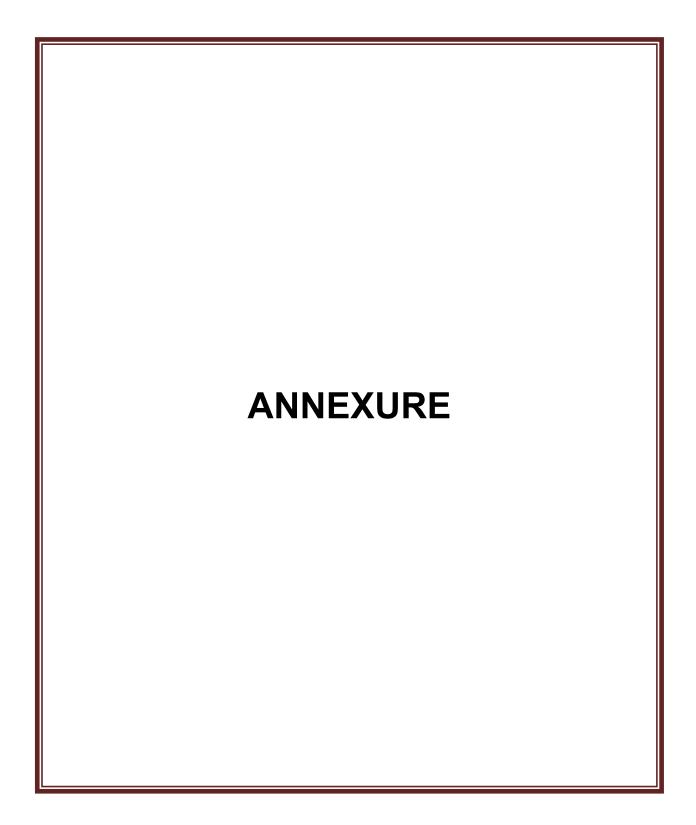
Compliance:

The conditions of the environmental clearance prominently displayed in a metallic board of 3 ft x 3 ft with green background and yellow letters of Times New Roman font was installed.

The proponent shall provide affidavit that all the conditions stipulated in the EC shall be scrupulously followed.

Compliance

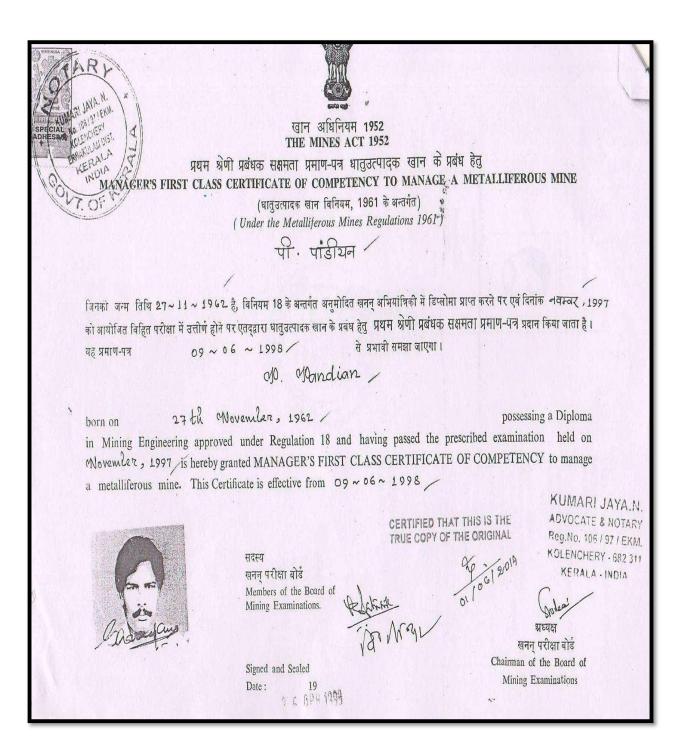
An affidavit stating that all the conditions stipulated in the Environmental clearance will be scrupulously followed was submitted to State Environmental Impact Assessment Authority.



Annexure No.1.



CSR Details



Certificate of First class manager



KERALA STATE POLLUTION CONTROL BOARD

FILE NO. :7540763 Date of issue :16/04/2018

INTEGRATED CONSENT TO OPERATE - RENEWAL

Consent No: R15ERNA1292319

Ref: PCB/EKM/DO2/ICO-QR-R3/112/2015 Dated 30/6/2015 with a validity up to 30/6/2018

The 'Integrated Consent to Operate' issued as per reference above to M/s QUARRY OWNED BY KURIAKOSE I MATHAI, MARADY, MUVATTUPUZHA is hereby renewed up to 30/06/2023 and issued to M/s QUARRY OWNED BY KURIAKOSE I MATHAI, MARADY, MUVATTUPUZHA The consent(s)/ variation order(s) cited under reference are integral part of this renewal order and this order is subject to the conditions stipulated therein and the following modifications/ additions.

I. GENERAL

S.No.	Items	Description
1	VALIDITY	30.06.2023
2	CAPITAL INVESTMENT	Rs. 95.55 Lakh
3	SURVEY NUMBER	1094/1-A 1094/1-A1 1094/1-A6 1097/7-A 1097/6-B2 1101/3 1097/7B 1097/6-A2 1094/1- A27 1097/6-B3 1097/7-C2
4	PRODUCTS	BUILDING STONE - 229000 MT/Annum
5	SIZE OF THE MINING	3.8164 Hectares
6	FEE REMITTED	Rs. 118750/-

II. Stack Details

Stack No.	Source of	Emission	Stack Heig	ght above	Control
Stack IVO.	Emission	Rate(Nm3/Hr)	Ground Level(In Meters)	Roof Level(In Meters)	Equipment

III. CONDITIONS

Page

- 3.1. This consent is granted subject to the power of the Board to review and make variation in all or any of the conditions as per section 21 of the Air (Prevention and control of Pollution)Act 1981 and section 25 of the Water(Prevention and control of Pollution)Act 1974
- 3.2. This consent is granted based on the Environmental Clearance No.57/SEIAA/KL/7585/2012 Building Stone Quarry(41) dated 15.03.2013. The quarrying shall be done after obtaining all statutory/necessary clearances from concerned authorities and is valid only when all other clearances from other concerned authorities are valid.
- 3.3. This consent unless withdrawn earlier and subject to condition no 3.1&3.2 shall be valid up to 30.06.2023. For continuing to operate beyond the validity date application for the renewal has to be submitted through online (website: krocmms.nic.in) at least 3 months prior to the expiry of this consent.
- 3.4. No change, deviation or alteration that may affect the environment, extent and location of quarry shall be made.
- 3.5. Any change in particulars furnished in the application/the identity of the occupier/ authorised agent is to be intimated to the Board forthwith.
- 3.6. There shall be a minimum distance of 50m from boundary of quarry operating area to residential building, place of worship, public buildings, public road having vehicular traffic, river or lake, railway line, bridges etc.
- 3.7. Quarrying shall be done only within the area marked in the location plan.
- 3.8. Quarrying area shall be earmarked before commencement of quarrying activities.
- 3.9. Blasting and quarrying shall be done without causing any nuisance or damage to occupants of adjoining or neighbouring land or building or posing damage to health, life or property.
- 3.10. After completion of excavation at any site, the abandoned quarry shall be utilized for rain water harvesting with protective barriers/ any other suitable approved purpose or may be reclaimed as per specification.
- 3.11. Proper fencing/barriers shall be provided and maintained all around the abandoned deep quarry pits to avoid accidents.
- 3.12. Mining below normal water table by continuous pumping shall be avoided in summer period (March, April & May) to prevent drinking water shortage in that area.
- 3.13. Noise creating activities such as drilling, blasting, breaking loading etc shall not be done during night time (6pm 6am).
- 3.14. Blasting shall be done at specified time with prior signals to avoid accidents.
- 3.15. The PM10 in ambient air at the boundary shall not exceed 100 g/m3, max.
- 3.16. The Sound level (Leq) at 1m outside the boundary of the site and near residential locations should not exceed the ambient noise standard applicable to the adjoining areas.
- 3.17. "The consent issued from the Board will be valid only for a period during the period when all other statutory or necessary clearances from other concerned authorities are valid. The consent issued from the Board is only with respect to the powers vested under the Water Act, 1974, Air Act 1981 and Rules there under. The operation of the unit shall be commenced only after obtaining clearances from all concerned authorities".
- 3.18. No other machineries shall be operated without prior Consent of the Board.
- 3.19. Quarrying operations shall be started only after obtaining Mining permit/lease from Mining & Geology Department and D & O License under the Kerala Panchayat Raj Act from the concerned Local Self Government.
- 3.20. The applicant shall submit copies of all relevant permits/lease/certificate/licenses periodically to this office to ensure the validity of this consent.

Page2

Concent to Operate from Kerala Pollution Control Board

Annexure No.4



Proceedings of the State Environment Impact Assessment Authority Kerala Present: Dr. A.E. Muthunayagam, Chairman; Prof. (Dr.) K.P. Joy, Member; Sri. James Varghese IAS, Member Secretary

Sub: SEIAA Kerala - Proposed quarry project in Survey Nos. 1094/1-A, 1094/1-A1, 1094/1-A6, 1097/7-A, 1097/6-B2, 1101/3, 1097/7-B, 1097/6-A2, 1094/1-A27, 1097/6-B3, 1097/7-C2 at Marady Village, Marady Panchayath, Muvattupuzha Taluk, Ernakulam District, Kerala by M/s St. George Granites - Environmental Clearance under EIA Notification 2006 accorded - Orders issued

Environmental Clearance

No. 57/SEIAA/KL/7585/2012

dated, Thiruvananthapuram 15-03-2013

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ORDER

The Proprietor of M/s St. George Granites, vide their application received on 14-11-2012, has sought environmental clearance under the EIA Notification, 2006 for the quarry project at Marady Village, Marady Panchayath, Muvattupuzha Taluk, Ernakulam District, Kerala. The proposal has been appraised by the State Level Expert Appraisal Committee Kerala constituted by the competent anthority. as per prescribed procedure in the lights of provisions under the EIA Notification 2006 and subsequent amendments, in its 10th meeting held on 26th and 27th November 2012 and also in the 12th meeting held on 2nd February, 2013 AND on the basis of the supporting documents enclosed with the application viz., the Form - 1, questionnaire for mining projects, pre-feasibility report, Environment Management Plan and the additional clarifications furnished in response to the observations, the SEAC. Kerala recommended environmental clearance to the project.

It is interalia, noted that the project comes under the Category B, Activity 1(a) of Schedule of EIA Notification 2006. The proposed project site falls within 9°57' N and 76°32'E. The proposed project is for quarrying of 2,29,000 TPA of building granite stone from an area of 3.8164 hectare (38,147.66 m²) of land. The expected life of mine will be 11 years. The proposed project activity involves about 70% of the pit area for exploring granite building stone. At the end of life of mine, the reclaimed area will be suitably planted and the remaining void at lower levels of excavated pit will be utilized as water storage/ground water recharge and will be utilized for domestic/agricultural purposes. The proposed project does not involve any underground mining activities. The mining will be done by open cast semi mechanised method of mining. The bench height and width proposed is 5 m. The exploitation of mineral is being done from 155-40 m RL in conceptual phase. A total quantity of 19,050 m³ of top soil from two pits will be removed during the mining operations. The top soil will be utilized for green belt development/plantation and will also be utilized for filling the low lying areas or adjacent quarry site. The sewage of 0.8 KLD generated from the mine office will be diverted to the septic tank followed by soak pit. The daily water requirement of 5 KLD will be met from storm water / bore well. There will be fugitive emissions generated during material handling, transportation, loading, unloading, etc. that are proposed to be managed by regular water sprinkling on haul road, green belt development, avoiding overloading of vehicles and limiting the speed of the vehicles. The mineral produced from the proposed mine will be sent to the crusher plant located at around 15 km towards west at Palakkamattom for crushing it to the required size before dispatching it to end use.

The SEIAA considered the proposal in its 13th meeting held on 13th December 2012 and 15th

meeting held on 22nd February 2013. The SEIAA, after due consideration of the relevant documents and additional clarifications submitted by the project proponent, and in view of the recommendations of SEAC, approved for issuance of Environmental Clearance for the project mentioned above at its 15th meeting held on 22nd February 2013. Accordingly, the State Level Environment Impact Assessment Authority (SEIAA) Kerala constituted by Govt. of India vide Notification No. S.O. 2484(E) dt.3-11-

Page 1 of 4

2011 of Ministry of Environment and Forests, Govt. of India, published as Gazette extraordinary No. 2074 on 3-11-2011, hereby accord necessary Environmental Clearance for the above project as per powers vested with it under the provisions of Environment Impact Assessment Notification – 2006 and subsequent amendments and also under the provisions made in the O.M. No. L-11011/47/2011-IA.II(M) dated 18th May 2012 of the Ministry of Environment and Forests, Government of India, and further subject to strict compliance of the following specific conditions, and the general conditions contained in the Annexure, which shall also form a part of this document.

- 1. The storm water should be channelized to a pit that has to be retained in the central area of the proposed mine.
- Indigenous varieties of horticultural crops having edible fruits should also be cultivated as part of eco-restoration.

Compliance of the above conditions will be monitored by the Directorate of the Department of Environment and Climate Change, Government of Kerala or its agencies and also by the Regional Office of the Ministry of Environment and Forests, Government of India located at Bangalore. Necessary support for entry and inspection should be provided by the project proponent to the staff of the Directorate and Ministry for monitoring purposes.

The given address of correspondence of the Authorized Signatory of the project is:- Mr. Kuriakose I. Mathai, Proprietor, M/s St. George Granites, Palackamattom, Kinginimattom P.O., Kolenchery, Kerala – 682311; Telephone No. 0484-2760208.

Agency with NABET accreditation for EIA is:- M/s Enkay Enviro Services, 24.B, Basement, Dadu Marg, Gopal Bari, Jaipur-302001; Tel. No. 0141-2363996/4023996. Fax No. 0141-5118996; E-mail info@enkayenviro.com

y₁₀ James Varghese IAS Member Secretary, SEIAA and Principal Secretary to Government Environment Department

To

Mr. Kuriakose I. Mathai Proprietor M/s St. George Granites Palackamattom, Kinginimattom P.O. Kolenchery, Kerala – 682311.

Copy to:

- 1. The Principal Secretary, Environment Dept., Government of Kerala, Secretariat
- 2. The Director, Dept. of Environment and Climate Change, Govt. o.f Kerala, Tvm 24.
- IA-Division, Monitoring Cell, MoEF, Paryavaran Bhavan, CGO Complex, Lodhi Road, New Delhi - 110003
- MoEF Regional Office, Southern Zone, Kendriya Sadan, 4th Floor, E&F Wing, II Block Koramangala, Bangalore-560034
- 5. Chairman and Members of SEIAA Kerala
- 6. Chairman, SEAC Kerala
- 7. Website uploading
- 8. Stock file

Page 2 of 4

Annexure

STATE ENVIRONMENT IMPACT ASSESSMENT AUTHORITY KERALA GENERAL CONDITIONS (for mining projects)

- (i) Rain water harvesting to collect and utilize the entire water falling in land area should be provided.
- (ii) Environment Monitoring Cell as agreed under the affidavit filed by the proponent should be formed and made functional.
- (iii) 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.
- (iv) The project shall incorporate devices for solar energy generation and utilization wherever possible.
- (v) Sprinklers shall be installed and used in the project site to contain dust emissions.
- (vi) The eco-restoration plan submitted with the proposal should be fully implemented.
- (vii) Corporate Social Responsibility agreed upon by the proponent should be implemented.
- (viii) Barbed metal wire fencing around the mining area shall be provided with a height of not less than 5 ft so that falling of animals/human/belongings/dumping of garbages etc. does not happen.
- (ix) Warning alarms indicating the time of blasting (to be done at specific timings) has to be arranged as per stipulations of Explosive Department.
- (x) Access roads to the quarry shall be tarred to contain dust emissions that may arise during transportation of materials.
- (xi) Overburden materials should be managed within the site and the old quarries, if any, should be reclaimed and restored.
- (xii) Height of benches should not exceed 5 m and width should not be less than 5 m.
- (xiii) Mats to reduce fly rock blast to a maximum of 15 PPV should be provided.
- (xiv) Mining depth should not exceed beyond 40 m, unless otherwise specified or not below the level of nearest stream bed, whichever is less.
- (xv) Acoustic enclosures should have been provided to reduce sound amplifications in addition to the provisions of green belt and hollow brick envelop for crushers so that the noise level is kept within prescribed standards given by CPCB.
- (xvi) Assurance in the form of affidavit should be given to SEIAA that eco-restoration including the mine closure plan shall be done at the own cost of the project proponent.
- (xvii) Garland drains to be provided in the lower slopes around the core area to channelize storm water.
- xviii) Debris/ silt traps to be provided to prevent entry of dust and quarry wastes entering the main streams.

Page 3 of 4

- (xix) 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.
- (xx) In the case of any change(s) in the scope of the project, the project would require a fresh appraisal by this Authority.
- (xxi) The Authority reserves the right to add additional safeguard measures subsequently, if found necessary, and to take action including revoking of the environment clearance under the provisions of the Environment (Protection) Act, 1986, to ensure effective implementation of the suggested safeguard measures in a time bound and satisfactory manner.
- (xxii) 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.
- (xxiii) The project proponent should advertise in at least two local newspapers widely circulated in the region, one of which 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 a copy of the same should be forwarded to the office of this Authority as confirmation.
- (xxiv) A copy of the clearance letter shall be sent by the proponent to concerned Grama Panchayat/ District Panchayat/ Municipality/Corporation/Urban Local Body and also to the Local NGO, if any, from whom suggestions / representations, if any, were received while processing the proposal. The clearance letter shall also be put on the website of the company by the proponent.
- (xxv) 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 Directorate of Environment and Climate Change, Govt. of Kerala.
- (xxvi) The conditions of Environmental Clearance should be prominently displayed in a metallic board of 3 ft x 3 ft with green background and yellow letters of Times New Roman font of size of not less than 40.
- (xxvii) The proponent should provide affidavit that all the conditions stipulated in the EC shall be scrupulously followed.

Sd/-Member Secretary, SEIAA Kerala

Page 4 of 4

EC order

अन्ज्ञप्ति प्ररुप 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 अन्जप्ति

Licence to possess: (c) for use, explosives of class 1, 2,3,4,5,6 or 7 in a magazine अनुजन्ति सं. (Licence No.) : E/SC/KL/22/898(E41970) वाषिक फीस रुपए (Annual Fee Rs): 2400/-

1. Licence is hereby granted to

Shri Kuriakose.I.Mathai (স্থিমানা / Occupier: Kuriakose I.Mathai), Ithunickal House, Kinginimattom P.O.-682311, Kolenchery Taluk, District: Ernakulam (Kerala), Town/Village - , District-, Vincode - 682311

Licensee/Occupier Photo with Sign.

को अन्ज्ञप्ति अन्दत्त की जाती है।

2. अन्जप्तिधारी की प्रास्थिति | Status of licensee : Individual

^{3.} अन्ज्ञप्ति निम्नलिखित प्रयोजनों के लिए विधिमान्य है। Licence is valid only for the following purpose.

possess for use of Nitrate Mixture, Safety Fuse, Detonators, - के उपयोग के लिए

4. अनुज्ञिष्त विस्फोटकों के निम्निलिखित किस्मों, प्रकार और मात्रा के लिए विधिमान्य है। Licence is valid for the following kinds and quantity of explosives

क्र Sr. No.	नाम और विवरण Name and Description	वर्ग भीर प्रभाव	उप-प्रभाग	मात्रा किसी एक समय में
1.	Nitrate Mixture	2 0	Sub-division	Quantity at any one time
2.	Safety Fuse	2,0	0	125 Kg.
3.	Detonators	0,1	0	3500 Mtrs
		0,3	0	4000 Nee

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

(b) Quantity of explosives to be purchased in a calendar month[applicable for licence under article 3 as above.

5. निम्नितिखित रेखाचित्र (रेखाचित्रों) से अनुजप्त परिसर की पुष्टि रेखाचित्र क्र. (Drawing No.) E/SC/KL/22/898 The licensed premises shall conform to the following drawing (E41970) (s): . (E41970)

6. अनुज्ञप्ति परिसर निम्नलिखित पते पर स्थित हैं। The licensed premises are situated at following address: Survey No(s). 1094/1A . , ग्राम (Town/Village) : Marady Village, Muपृत्तस्य Purple (निर्माहिक Bistrict) : Ramangalam राज्य (State) Kerala पिनकोड (Pincode) द्रभाष (Phone) ई. मेल (E-Mail)

^{7.} अनुज्ञप्ति परिसर में निम्नलिखित सुविधाएं अंतर्विष्ट हैं। The licensed premises consist of following facilities.

फैक्स (Fax) A set of G(Sr.No.765) & G (Sr.No.766)type Portable Magazines (Mfd by m/s Nobel Engg&Fab.Unit,Cochin) & one no of D type magazine mfd by thekkans engg and fabrication works

अनुजप्ति समय - समय पर यथासंशोधित विस्फोटक अधिनियम, 1884 और उनके अधीन विरचित विस्फोटक नियम, 2004 के उपबंधो, शर्तों और अतिरिक्त शर्तों और निम्नलिखित उपाबध्दों के अधीन रहते हुए अनुदत्त की

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.

- उपर्युक्त क्रम सं 5 में यथा कथित रेखाचित्र (स्थान, सिन्निर्माण संबंधी और अन्य विवरण दर्शित करते हए)। Drawings (showing site, constructional and other details) as stated in serial No. 5 above.
- 2. अनुज्ञप्ति प्राधिकारी व्दाररा हस्ता.क्षरित इस अनुज्ञप्ति की शर्ते और अतिरिक्ति शर्ते। 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 2009 तक विधिमान्य रहेगी। This licence shall remain valid till 31st day of March 2009.

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 अनुज्ञप्त परिसर योजना या उससे संलग्न उपबंध में दर्शित विवरण के अनुरूप नहीं पाए जाने पर निलंबित या प्रतिसंहत की जा सकती है, जहां वह

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.

तारीख | The Date - 19/11/2007

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

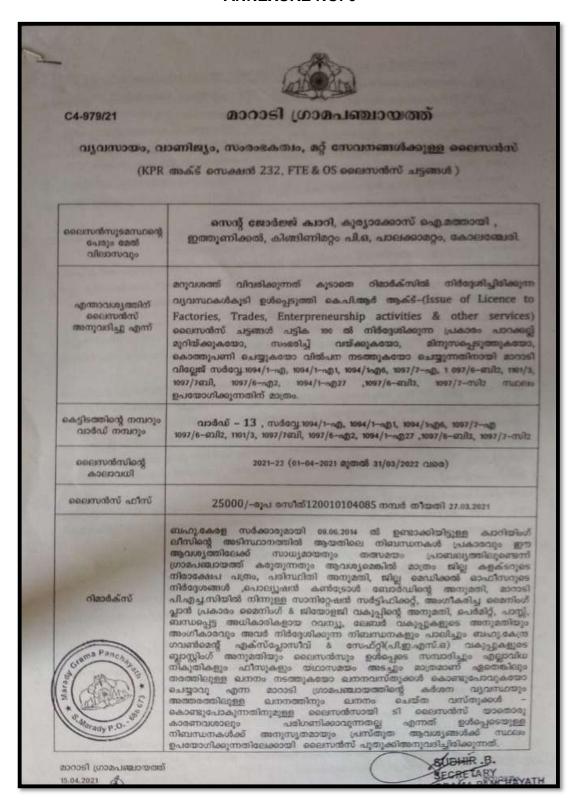
- Amendments:
- Amendment of Quantity of Explosives/Monthly Purchase Limit dated: 02/03/2011
 Amendment of Quantity of Explosives/Monthly Purchase Limit dated: 30/12/2011
 Amendment in Drawings/Facilities/Premises dated: 30/08/2017
- Amendment of Quantity of Explosives/Monthly Purchase Limit dated: 18/12/2017 नवीनीकरण के पृष्ठांकन के लिए स्थान Space for Endorsement of Renewal

अनुजापन प्राधिकारी के हस्ताक्षर और स्टाम्प समाप्ति की तारीख Signature of licensing authority and stamp

Dy. Chief Controller of Explosives, Ernakulam नवीकरण की तारीख Date of Expiry Date of Renewal 31/03/2024 21/03/2019 कृते उप मुख्य विस्फोटक नियन्त्रक For Deputy Chief Controller of Explosives एरनाकुलम Ernakulam

कानूनी चेतावनी : विस्फोटकों को गलत ढंग से चलाने या उनका दुरूपयोग विधि के अधीन गंभीर दांडिक अपराध होगा।

Statutory Warning: Mishandling and misuse of explosives shall constitute serious criminal offence under the



License from Gram Panchayat

Minneys, as dogs flower Liberals Mano Meantle factor Bulburg (1998) Continued to Shri. Kuriakose I Mathai, Ithoonickal House, Kinginimattom. P. O. Ernakulam District - 682 311 and Proprietor, M/s. St. George Granites, Kinginimattom. P.O. – sanctioned – orders – issued

- Ref. 1. Application dtd. 03/07/2015 from Shri. Kuriakose I Mathai, Ithoonickal House, Kinginimattom. P. O, Ernakulam District 682 311 and Proprietor, M/s. St. George Granites, Kinginimattom. P.O
 - Letter No. DOE/3228/E2/15 dtd. 17/07/2015, 26/11/2015, 10/02/2016, 31/07/2017 from the Geologist, District Office, Ernakulam
 - Pro.order. No. 57/SEIAA/KL/7585/2012 dtd. 15/03/2013 of the State Environment Impact Assessment Auhority, Thiruvananthapuram, Kerala
 - 4. Kerala Minor Mineral Concession Rules, 2015.

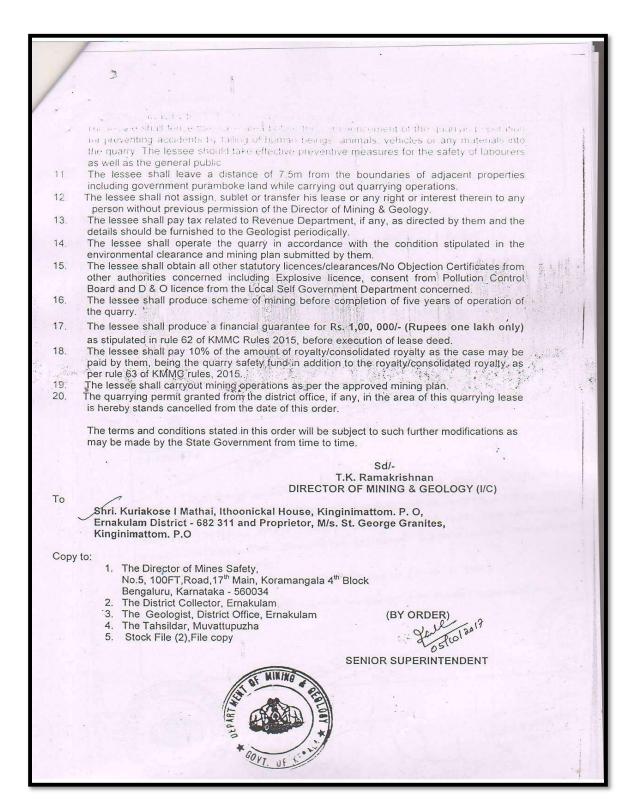
No. 417/2017-18/7939/M3/2015/DMG

Dated, Thiruvananthapuram 05/10/2017

ORDER

A quarrying lease is granted to Shri. Kuriakose I Mathai, Ithoonickal House, Kinginimattom. P. O, Ernakulam District - 682 311 and Proprietor, M/s. St. George Granites, Kinginimattom. P.O to quarry Granite (Building Stone) over an area of 1.2656 Hectares of land comprised in Sy. Nos. 1097/7A, 1097/7B, 1097/7C2, 1097/6A2, 1097/6B2, 1097/6B3, 1094/1A-1 of Marady Village, Muvattupuzha Taluk, Ernakulam District for 12 (Twelve) years from the date of execution of the quarrying lease deed under the Kerala Minor Mineral Concession Rules, 2015 and as per the survey map issued by the Tahsildar, Muvattupuzha and the approved Mining Plan and environmental clearance submitted by the applicant subject to the under mentioned conditions.

- Royalty is payable to Government as per Rule 32 of the Kerala Minor Mineral Concession Rules, 2015 in respect of minor mineral quarried and moved out of the quarry subject to revision from time to time on the basis of amendments to the schedule I of the said Rules.
- Dead rent is realizable under 40(1)(d) of the said rules subject to revision from time to time on the basis of amendments to the schedule II of the said rules.
- Surface rent realizable under 40(1)(e) of the said rules will be equal to the land revenue assessed by the Revenue Department subject to revision from time to time on the basis of the land revenue.
- The lessee shall execute a quarrying lease deed within a period of six months from the date of this order in form 'H' as per Rule 43 of the Kerala Minor Mineral Concession Rules, 2015.
- 5. The lessee shall also deposit an amount of Rs 10,000/- (Rupees Ten Thousand only) per hectare as security deposit for the observance of the terms and conditions of the lease before the deed is executed as per rule 42 of the said rules. The lessee shall commence quarrying operation only after the deed is executed and registered.
- quarrying operation only after the deed is executed and registered.
 The quarrying area shall be demarcated and boundary stones fixed at the lessee's expenses before execution of the quarrying lease deed.
- The lessee shall not win and dispose of any type of dimension and decorative stones from the area over which the quarrying lease has been sanctioned on the strength of this order.
- 8. The production of Granite (Building Stone) from the area covered under this grant shall be subject to the quantity specified in the Mining Plan submitted by the lessee and the same is restricted to 30,000 Metric Tonnes per year.
- 9. (i) The lessee shall erect a notice board in Malayalam at a prominent place with a minimum-size of 1 metre X 1.5 metres in a metallic board near to the entrance of the quarry to the effect that it shall contain the name and address of the permit holder, mineral concession number and date, the mineral to extracted, permit number and date and its date of expiry, quantity of extraction permitted (if applicable). Area of extraction permitted, explosives used (if any), etc.



Lease order from Directrotre of Mining and Geology



TEST REPORT

15/R059	Date: 18-11-2022	Page 1 of 1		
cus	TOMER DETAILS			
M/s St.George Gra	anite			
Propriator Kuriakose I Mathai				
Ethoonickal (H),				
Kinginimattom, Kolenchery,				
Ernakulam District				
Test Request dt :10-11-2022				
	M/s St.George Gra Propriator Kuriakose Ethoonickal (H), Kinginimattom, Koler Ernakulam District	CUSTOMER DETAILS M/s St.George Granite Propriator Kuriakose I Mathai Ethoonickal (H), Kinginimattom, Kolenchery, Ernakulam District		

	SAMPLE D	ETAILS		
Product Category	Atmospheric Pollution	Sample Code	20221115/S059	
Sample Name	Ambient Air	Sample Received on	15-11-2022	
Sample Conditions at Receipt	Fit for Analysis	Test Commenced on	15-11-2022	
Sampled by	Lab Authorized Sampler	Test Completed on 17-11-2022		
	DETAILS OF	SAMPLING		
Sampling Location	Near East Side Boundary	Date of Sampling	14-11-2022	
Sampling Procedure	SEAAL/ENL/GEN/SOP/02	Humidity	68%	
	SAMPLING SIT	TE DETAILS		
Survey No	1094/1A, 1094/1A1, 1094/1A 1097/6A2, 1097/6B2, 1097/6 1097/7B, 1097/7C2, 1101/3	6B3, 1097/7A,		
Village	Maradi	Taluk Muvattupuzha		
District	Ernakulam State Kerala			

TEST RESULTS- CHEMICAL PARAMETERS							
Sl. No.	PARAMETERS	TEST METHOD	UNIT	RESULT	NAAQ Standards		
1	Particulate Matter, PM ₁₀	IS 5182 (Part 23):2006	μg/m³	57.2	Max 100		
2	Particulate Matter, PM _{2.5}	EPA 40 CFR (Part 50)Appendix – L	μg/m³	22.5	Max 60		
3	Sulphur Dioxide as SO ₂	IS 5182 (Part 2): 2001 RA 2017	μg/m³	2.90	Max 80		
4	Oxides of Nitrogen as NO ₂	IS 5182 (Part 6): 2006 RA 2017	μg/m³	< 2.00	Max 80		

Remarks:

***End of Report**

Shency Joy
Dy.TM-Chemical
Checked by:

Laiju P.N. Authorized Signatory

The results are related only to the samples submitted for analysis and this test report shall not be reproduced except in full, without the written approval of the laboratory.

Standard^S Environmental & Analytical Laboratories
Approval & Recognition: "A" Grade Laboratory approved by Kerala State Pollution Control Board.
K.J. Tower, Pathalam, Udyogamandal P.O., Ernakulam-683 501, Tel. 0484-2546660, 93 87 27 24 02, 90 74 34 14 43
Web: www.sealabs.in, E-mail: seaalab@gmail.com

Result of ambient air



TEST REPORT

Test Report No: 20221115/R060 Date: 18-11-2022						age 1 of 1	
		CUSTOME	R DETAILS			ī	
M/s St.George Granite							
	Propriat	tor Kuriakose I Ma	thai				
Customer Name & Address	Ethooni	Ethoonickal (H),					
Address	Kinginir	mattom, Kolenchei	y,				
	Ernaku	lam District					
Customer Reference	Test Re	equest dt : 10-11-2	022				
		DETAILS OF	MONITORING				
Product Category	Atmosp	heric Pollution	Sample Code		202211	15/\$060	
Sample Name	Ambien	t Noise	Monitoring Com	menced	14-11-2	022	
Monitoring Location	Near Ea	st Side Boundary	Monitored by		Lab Au	thorized Sampler	
Test Method	IS 9989	:1981					
			SITE DETAILS				
Survey No	1097/6		4/1A6, 1094/1A27, 97/6B3, 1097/7A, 1/3	1		10	
Village	Maradi		Taluk		Muvattu	puzha	
District	Ernaku	lam	State	Kerala			
		MONITORING	RESULTS - Leq	-Ve			
TIME RESULT	S dB(A)	TIME	RESULTS dB(A)	TIM	IE	RESULTS dB(A)	
06:00 38.	(5)	14:00	51.7	22:0	0.0	37.4	
07:00 41.		15:00	52.1	23:00		37.8	
08:00 45.		16:00	53.3	24:00		37.4	
09:00 49.	555	17:00	53.7	01:0		38.2	
10:00 51.		18:00	48.2	02:0	2000	37.8	
11:00 54.	53/0	19:00	44.6	03:0	A(18)	38.5	
12:00 52. 13:00 51.	10.00	20:00	40.6 04: 40.1 05:		2.5.	37.4	
13.00 31.			EMICALPARAME		-	J9.Z	
S1.	7/4/2010 CONT.		DIMICALI ARAME	100000000000000000000000000000000000000			
No.	PAR	AMETERS		UNIT		RESULT	
1 Ambient Sound Leve	Ambient Sound Level (Leq) Day Time (06:00 to 22:00) dB(A) 50.2					50.2	
2 Ambient Sound Leve	Ambient Sound Level (Leq) Night Time (22:00 to 06:00) dB(A) 37.7						

Shency Joy
Dy.TM-Chemical
Checked by:

Laiju P.N.
Laboratory Head
Authorized Signatory

The results are related only to the samples submitted for analysis and this test report shall not be reproduced except in full, without the written approval of the laboratory.

Standard⁵ Environmental & Analytical Laboratories
Approval & Recognition: "A" Grade Laboratory approved by Kerala State Pollution Control Board.
K.J. Tower, Pathalam, Udyogamandal P.O., Ernakulam-683 501, Tel. 0484-2546660, 93 87 27 24 02, 90 74 34 14 43
Web: www.sealabs.in, E-mail: seaalab@gmail.com

Result of ambient Noise level



TEST REPORT

Test Report No:20221115/R061	Date: 18-11-2022	Page 1 of 2

CUSTOMER DETAILS			
Customer Name & Address	M/s St.George Granite		
	Propriator Kuriakose I Mathai		
	Ethoonickal (H),		
	Kinginimattom, Kolenchery,		
	Ernakulam District		
Customer Reference	Test Request dt : 10-11-2022		

	SAMPLE 1	DETAILS		
Product Category	Water	Sample Code	20221115/S061	
Sample Name	Bore Well Water	Sample Received on	15-11-2022	
Sample Conditions at Receipt Fit for Analysis		Temperature @ Receipt	4°C	
Sample Quantity& Packing	1L & 250ml Plastic Bottles	Test Commenced on	15-11-2022	
Sampled by	Lab Authorized Sampler	Lab Authorized Sampler Test Completed on		
	DETAILS OF	SAMPLING		
Sample Source Date of Sampling 06-05-2				
Sampling Procedure SEAAL/ENL/GEN/SOP/01& SEAAL/MBL/SOP/06		Sample Temperature	28 °C	
	SAMPLING SI	TE DETAILS		
1094/1A, 1094/1A1, 1094/1A6, 1094/1A27, Survey No 1097/6A2, 1097/6B2, 1097/6B3, 1097/7A, 1097/7B, 1097/7C2, 1101/3				
Village	Maradi	Taluk	Muvattupuzha	
District	Ernakulam	State	Kerala	

TEST RESULTS - CHEMICAL PARAMETERS					
Sl. No.	PARAMETERS	TEST METHOD	UNIT	RESULT	ACCEPTABLE LIMIT (IS 10500 - 2012)
1	Colour	IS 3025 Part 4:1983 RA 2017	Hazen	1.00	5.00 (Max)

Shency Joy Dy.TM-Chemical Checked by

Salini T.S.

Microbiologist Authorized Signatory Laiju P.N.

Laboratory Head Authorized Signatory

The results are related only to the samples submitted for analysis and this test report shall not be reproduced except in full, without the written approval of the laboratory.

Standard⁵ Environmental & Analytical Laboratories
Approval & Recognition: "A" Grade Laboratory approved by Kerala State Pollution Control Board.
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TEST REPORT

Test Report No: 20221115/R061	Date: 18-11-2022	Page 2 of 2
1 cst Report 110. 2022 1115/11001	Date: 10-11-2022	1 450 4 01 4

	TEST RESULTS - CHEMICAL PARAMETERS						
Sl. No.	PARAMETERS	TEST METHOD	UNIT	RESULT	ACCEPTABLE LIMIT (IS 10500 - 2012)		
2	Odour	IS 3025 Part 5:2018	(Agreeable	Agreeable		
3	Turbidity	IS 3025 Part 10:1984 RA 2017	NTU	0.3	1.00 (Max)		
4	pН	IS 3025 Part 11:1983 RA 2017	1222	6.76	6.50 – 8.50		
5	Total Dissolved Solids	IS 3025 Part 16:1984 RA 2017	mg/L	198	500 (Max)		
6	Total Hardness (as CaCO ₃)	IS 3025 Part 21:2009 RA 2019	mg/L	110	200 (Max)		
7	Calcium (as Ca)	IS 3025 Part 40:1991 RA 2019	mg/L	30.4	75.0 (Max)		
8	Magnesium (as Mg)	IS 3025 Part 46:1994 RA 2019	mg/L	8.28	30.0 (Max)		
9	Chloride (as Cl)	IS 3025 Part 32:1988 RA 2019	mg/L	24.9	250 (Max)		
10	Total Alkalinity (as CaCO ₃)	IS 3025 Part 23:1986 RA 2019	mg/L	30.1	200 (Max)		
11	Iron (as Fe)	IS 3025 Part 53:2003 RA 2019	mg/L	0.12	1.00 (Max)		
12	Sulphate (SO ₄)	IS 3025 Part 24:1986 RA 2019	mg/L	32.5	200 (Max)		

	TEST RESULTS - CHEMICAL PARAMETERS					
SI. PARAMETERS TEST ME		TEST METHOD	UNIT	RESULT	ACCEPTABLE LIMIT (IS 10500 - 2012)	
14	Total Coliform Bacteria	IS 15185 : 2016		Absent/100 ml	Absent/100 ml	
15	E coli	IS 15185 : 2016		Absent/100 ml	Absent/100 ml	

Remarks:

End of Report

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