

HALF YEARLY COMPLIANCE REPORT FOR GRANITE STONE QUARRY

File No. 765/SEIAA/EC4/505/2015 dt 16/01/2017

M/s Kachanathu Minerals & Metals Pvt Ltd

Situated At

Survey No: 135/2-3, 135/7, 135/7-1, 135/6, 135/2-2, 135/2, 135/2-1, 167/7, 167/7-1, 167/5, 167/2-2, 167/2-13

Ezhumattoor Village, Mallappally Taluk,

Pathanamthitta 689586

for an area of 4.9808 hectares

June 2021

Prepared By

PRiME Technology Services

Planet Resources Management Experts

4D Kalpaka Fort Palace, Changampuzha Park,

Edappally, Cochin-24

Mail: primetechnologyservices@yahoo.com

Ph: 8089085335

LIST OF TABLE

- 1. Table 01 - Project and Environmental Clearance Details**
- 2. Table 02 - Status of compliance to the conditions in the Environmental clearance by the SEIAA for the project Quarry project of M/s Kachanathu Minerals & Metals Pvt ltd**
- 3. Table 03 - Environmental Monitoring Cell**

LIST OF ANNEXURES

Sl	Annexure	Specification
1	ANNEXURE 01	Quarrying Permit
2	ANNEXURE 02	KSPCB Consent
3	ANNEXURE 03	Panchayath License
4	ANNEXURE 04	Environmental Monitoring Results
5	ANNEXURE 05	Photographs of Sites

I. INTRODUCTION

Table 1. Project and Environmental Clearance Details

Name of the Project	Building stone Quarry Project of M/s Kachanathu Minerals & Metals Pvt ltd
Survey No. and Location	Sy no . 135/2-3, 135/7, 135/7-1, 135/6, 135/2-2, 135/2, 135/2-1, 167/7, 167/7-1, 167/5, 167/2-2, 167/2-13 Block – 13 Ezhumattoor Village Mallapally Taluk, Pathanamthitta
Extent area	4.9808 hectares
GPS co-ordinates	Latitude (N) : 09° 25' 41.43" Longitude (E) : 76° 42' 35.89"
Minimum and Maximum height of excavation (MSL)	Min.: 200 m above MSL Max : 150 m above MSL
Capacity of Production	26828 MTA
Details of Authorized Signatory	K V MATHEW Managing Partner M/s Kachanathu Minerals & Metals Pvt ltd Kachanathu Ebenezer Trade Center V/114, Angadi PO, Ranny Pathanamthitta - 689674
Category / Sub Category Schedule	Category B2
Environmental Clearance Details	File No. 765/SEIAA/EC4/505/2015 dt 16/01/2017
Owner of the land	Private Own Land
District/Taluk and Village	Ezhumattoor Village Mallapally Taluk, Pathanamthitta
Nature of the Proposal-lease or permit with evidence	New Quarry Project
Brief Description of the project	Quarry project with an area of 4.9808 ha & Production 26828 MTA
Quantity of top soil/over burden produced and managed	The quantity of top soil and overburden are reused yearly for reclamation of mining area.
Topography of land and elevation	The topography of the area is hilly. The highest elevation of the lease area is 200m MSL and lowest is 150m MSL
Slope Analysis	Considering the stability of rocks, the ultimate pit slope proposed is 45°

Will there be any significant land disturbance resulting in soil erosion, subsidence & natural drainage	No
Access road to the site width and condition	7.5m wide access road
Will there be any adverse impact on the aesthetics of the proposal site	No
Life of mine proposed	About 10 years
Underground mining if any proposed	There will be no underground mining activities
Method of mining	Open cast semi-mechanized method of mining
Distance from the adjacent quarry	There is no another quarry operating within 500m from the quarry
Cluster condition if any	NA
Has “No cluster certificate” submitted?	Yes
Distance from nearby habitation	1 km
Distance from nearby forest if applicable	No forest land within the 10km radius from the quarry
Distance from protected area, Wildlife Sanctuary, National Park etc.	No protected area, Wildlife Sanctuary, National Park with in 10KM radius from the mine site
Is ESA applicable? If so distance from ESA limit	Not falling in ESA
Has approved mining plan, prepared by RQP submitted?	Yes, Submitted along with the application
Land cost / Plant and Machinery cost/Total cost	Total cost – 486.70 lakh
Financial statement including funding source and details of insurance etc.	Source of funding : Own fund
MANAGEMENT PLAN	
Air pollution	No significant air pollution as the mining operation is in wet stage. However during the summer water spraying is used to suppress the dust on roadways. The improvement of haulage road is made to suppress dust during transportation. Water sprinklers are provided to check the dusty road in the mining area.

	Dust released due to mining activity is suppressed periodically by sprinkling of water, by engaging water tankers.
Water pollution	Garland drains are provided at the mine site to regulate monsoon water and direct the same to the settling ponds/mine pit to contain the mine wash off and to avoid the same joining the adjoining surface water bodies/water courses.
Noise	Plantation is carried out all along the lease periphery, which act as acoustic barrier for noise transmission
Solid waste management	Solid waste is stacked at designated places during the quarry operations and will be utilized for reclamation work during mine closure plan.
Eco restoration	At the end of life of mine, the excavated pit will be 0.7106 Ha, in which 0.53 Ha will be reclaimed with stacked dumping and overburden and rehabilitated by plantation.
Details of statutory sanction required	statutory sanctions obtained, i. quarrying lease dt 01/06/2018 to 31/05/2027 for 10 years ii. NOC from pollution Control Board- :PCB/PTA/ICO/QR/164/2013 dt 10/03/2022 iii. Environment Clearance form No. 765/SEIAA/EC4/505/2015 dt 16/01/2017 iv. D&O License from the LSGD Panchayath – C7/1852/2021
Id CRZ recommendation applicable?	Not applicable
ENVIRONMENTAL MITIGATION MEASURES	
I. WATER	
Details of water requirement per day in KLD	1 KLD Domestic consumption 3 KLD Dust suppression 2 KLD Watering the Plantation/Green belt development
Water source/sources.	Open Well
Expected water use per day in KLD.	6 KLD
Details of water requirements met from water harvesting.	Around 1 KLD is required for dust suppression is met from water harvesting pond.
What are the impact of the proposal on the ground water?	The ground water level measured from the nearest well is about 10-15 m below the ground level. The ultimate depth of working of the quarry is 150m MSL. Since the working is much above the general ground water table, it does not affect the ground water.
How much of the water requirement can be met from the	Not Applicable

recycling of treated waste water? (Facilities for liquid waste treatment)	
What is the incremental pollution load from waste water generated from the proposed activities?	Not applicable
How is the storm water from within the site managed?	• Storm water drains with silt traps suitably constructed all along the periphery of the pit area (Garland drains) to collect the runoff from the lease area and divert into the storm water pond/tanks proposed within the complex • Appropriate channelization of storm water with channels of sufficient width • All measures will be taken not to disturb the existing drainage pattern adjacent to the other property
II. BIODIVERSITY AND ECO RESTORATION PROGRAMES	
Will the project involve extensive clearing or modification of vegetation (Provide details)	There will not be any loss of native species or genetic diversity as the quarry already exists and continuation of the same will not affect or loss of native species in general.
What are the measures proposed to minimize the likely impact on vegetation (details of proposal for tree plantation/ landscaping)	Developed green belt to about 80% which includes areas like along mine lease boundary (7.5m width), all along the periphery of the mine lease area and the reclaimed area. Grass and bushes are planted in areas prone to erosion especially at the foot of the mine lease area. Other areas will be fertilized and planted with local species. The characteristics of this vegetation will resemble that of the natural environment.
Is there any displacement of fauna – both terrestrial and aquatic. – If so what are the mitigation measures? Presence of any endangered species or red listed category (in detail)	This region does not have any endemic or endangered species.
III. AIR ENVIRONMENT	
What are the mitigation measures on generation of dust, smoke and air quality	• Laying of haul road as per the standards, black topping of permanent haul road and service road to avoid air borne dust • Water sprinkling on haul roads • Wet drilling and drill machine will be equipped with dust collector • Use of appropriate explosives for blasting and avoiding overcharging of blast holes

Details of internal traffic management of the site.	• In case of long transportation the trucks after loading will be covered with tarpaulin sheets • Speed of the vehicles will be maintained within the prescribed limits • Trucks will not be over loaded and will be maintained to the body level.
Details of noise from traffic, machines and vibrator and mitigation measures	• Proper maintenance of machinery, equipment's and improvement on design of machines • Use of personal protective devices i.e., earmuffs and earplugs by workers, who are working in high noise generating areas. • Creation of wide green belt of defense foliage between mine areas and residential colonies.
Impact of DG sets and other equipments on noise and vibration and ambient air quality around the project site and mitigation measures	• DG sets and Other equipment having CPCB specifications shall be used for the operation • Controlled blasting techniques is adopted
Air quality monitoring in detail	Air quality is monitored at the boundary of the project site and results are found within the limits as per CPCB guideline
IV. ENERGY CONSERVATION	
Details of power requirement and source of supply.	No electric power required for quarry operation
Details of renewable energy (non – conventional) used.	Not applicable
V. RISK MANAGEMENT	
Are there sufficient measures proposed for risk hazards in case of emergency such as accident at the site?	• Proper barricading and monitoring of the water stored area would be taken up to prevent accidents • Well equipped medical facilities are available round the clock for attending emergency arising out of accidents • All working personnel are medically examined at least once in every year and at the end of his term of employment
Are proposals for fencing around the quarry satisfactory?	Yes, Fencing has been done along the project site boundary.
Storage of explosives/hazardous substance in detail	Proper and safe storage of explosives in approved and licensed magazine
Facility for solid waste management	Top soil management The topsoil excavated from the quarry is dumped separately at pre-determined place and subsequently will be utilized in spreading over reclaimed areas for plantation. Precautions is

	taken to limit the height of the topsoil dump to 5 to 6 meters in order to preserve its fertility and shelf life. It is suitably protected from soil erosion and infertility by planting fodder grass and leguminous plants during temporary storage. Overburden Management Overburden will be utilized within the pit for lying of haul roads. At the end use, OB can be reutilized as soil base for plantation.		
VI. SOCIO ECONOMIC ASPECTS			
Will the project cause adverse effects on local communities’ disturbance to sacred sites or other cultural values? What are the safe guards proposed?	Not Applicable		
Will the proposal result in any changes to the demographic structure of local population. If so, provide details.	Nil,		
Details of CSR commitment	Sl. No	Particulars	Recurring Expense
	1	Promotion of Education	3,00,000
	2	Environmental Sustainability	3,00,000
	3	Health Care	4,00,000
		Total	10,00,000
What are the projects benefits in terms of employment potential?	The quarrying activity benefit local villages in both directly and indirectly. Direct beneficiary will be those who get employed in quarry as skilled and unskilled workers		

II. COMPLIANCE OF EC CONDITIONS

Table 2. Status of compliance to the conditions in the Environmental clearance by the SEIAA for the project Quarry project of **M/s Kachanathu Minerals & Metals Pvt Ltd**

Sl No	Conditions	Compliance
Specific Condition		
1	Fencing should be provided all around the lease area	The lease area is marked by concrete pillars using geo coordinates and the lease area is fenced
2	RWH structure should be provided at the site. An old pit located on the lowest level can be used for this purpose. Clarified water from the upper slope	RWH facility is installed in the site to tap the rain water from the main administrative building of the Mining office.
3	Over burden must be stored in a designated place at a lower elevation after the restoration of existing pits	
General Conditions		
1.	Rain water harvesting facility should be installed as per the prevailing provisions of KMBR/KPBR, unless otherwise specified.	RWH facility is installed in the site to tap the rain water from the main administrative building of the Mining office. All the storm drains are diverted to the mine area. The water thus collected is used for sprinkling the avenue plantation and dust suppression in the quarry site.
2.	Environment Monitoring Cell as agreed under the affidavit filed by the Proponent should be formed and made functional.	Environment Monitoring Cell has formed and the cell is taking care of the environmental aspect of the project.
3.	Suitable avenue trees should be planted along either side of the tarred road and open parking areas, if any including approach road and internal roads.	Bamboo, Teak, jackfruit, etc trees were planted and maintained along the approach roads and surrounding the quarry area
4.	Maximum possible solar energy generation and utilization shall be ensured as an essential part of the project.	Will be followed
5.	Sprinklers shall be installed and used in the project site to contain dust emissions.	Water sprinkling has been undertaken to control dust pollution along the road and in the site

6.	Eco-restoration including the mine closure plan shall be done at the own cost of the project proponent.	The project proponent will take care of the eco restoration as agreed in the Mine closure plan.
7.	At least 10 % out of the total excavated pit area should be retained as water storage areas and the remaining area should be reclaimed with stacked dumping and overburden and planted with indigenous plant species that are eco-friendly, if no other specific condition on reclamation of pit is stipulated in the EC	After the main a portion of the quarry area can be utilized for storage of water. Overburden and top soil were kept in the project site in order to follow the eco restoration procedure. Locally available trees are planted along the site to control noise and dust pollution. The same will be followed for eco restoration too.
8.	Corporate Social Responsibility (CSR) agreed upon by the proponent should be implemented.	The project proponent has spent a surplus amount than committed for CSR. Moreover, during the flood, the proponent has done lot of work for the benefit of the people.
9.	The lease area shall be fenced off with barbed wires to a minimum height of 4ft around, before starting mining. All the boundary indicators (boards, stores, marking etc) shall be protected at all times and shall be conspicuous.	The area is properly fenced and the details are attached. Further the proper sign boards are installed in and around the site for awareness and public information. Safety measures have also been taken care of. The assembly point in case of any accident occur also demarcated and displayed in the site
10.	Warning alarms indicating the time of blasting (to be done at specified timings) has to be arranged as per stipulations of Explosive Department.	Standard warning system has been installed in the site. Blasting time and warning to the workers has been installed in the site
11.	Control measures on noise and vibration prescribed by KSPCB should be implemented.	The standard method followed to control noise and vibration.
12.	Quarrying activities should be limited to day time as per KSPCB guidelines/specific conditions.	Quarry timing is restricted to 8 AM – 2 PM.
13.	Blasting should be done in a controlled manner as specified by the regulations of Explosives Department or any other concerned agency.	A licensed blaster is overlooking and controlling the blasting
14.	A licensed person should supervise/control the blasting operations.	The mining activities are supervised by a licensed blaster

15.	Access roads to the quarry shall be tarred to contain dust emissions that may arise during transportation of materials.	Dust emission control methods are followed as per the guidelines. Frequent sprinkling of water has been undertaken to reduce the dust emission
16.	Overburden materials should be managed within the site and used for reclamation of mine pit as per mine closure plan/specific conditions.	Overburden materials are stored in the project site
17.	Height of benches should not exceed 5m and width should not be less than 5m, if there is no mention in the mining plan/specific condition.	The bench system is followed for the mining as per the approved mine plan
18.	Mats to reduce fly rock blast to a maximum of 10 PPV should be provided.	Followed.
19.	Maintenance of Maximum depth of mining from general ground level at site shall not exceed 10 m.	Maximum depth of mining will be restricted to 10 m.
20.	No mining operations should be carried out at places having a slope greater than 45°.	No such area under the lease.
21.	Acoustic enclosures should have been provided to reduce sound amplifications in addition to the provision of green belt and hollow brick envelop for crushers so that the noise level is kept within prescribed standards given by CPCB/KSPCB.	There is only quarrying activity in the project site. Proper green belt has been provided to reduce the noise pollution
22.	The workers on the site should be provided with the required protective equipment such as ear muffs, helmet etc.	Safety measures have been taken for the well-being of quarry workers during working time
23.	Garland drains with clarifiers to be provided in the lower slopes around the core area to channelize storm water.	All the drains have been channelized into the mine area where it stores the water for watering the plants and sprinkling the water for dust suppression.
24.	The transportation of minerals should be done in covered trucks to contain dust emissions.	All trucks are covered during the transportation of minerals
25.	The proponent should plant trees at least 5 times of the loss that has been occurred while clearing the land for the project.	The buffer zone trees are kept to reduce the noise pollution and dust pollution during the quarry operation. <i>Artocarpus heterophyllus</i> , <i>Anacardium occidentale</i> , <i>Mangifera indica</i> , <i>Psidium guajava</i> etc were planted as a compensation for the tree removed for the project. A green belt is developing along the site.

26.	Disposal of spent oil from diesel engines should be as specified under relevant Rules/Regulations.	Standard procedures are followed for the storage of the spent oil and disposal.
27.	Explosives should be stored in magazines in isolated places specified and approved by the Explosive Department.	Explosives are kept in separate place and containers.
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.	The minimum distance of 100 m has followed for the quarry operation.
29.	100m distance shall be insisted upon for grant of Environment Clearance for mining of minor minerals up to 2 hectares from natural forests with natural species of trees, including wildlife sanctuaries. However, for leases less than 2 hectares, the 100m distance may be reduced to a maximum of 50 m in respect of adjacent lands clarified as forest, if such areas are barren or rocky outcrops devoid of any natural vegetation (cf Minutes of video conference with chairpersons of the DEIAA held on 28.4.2017).	The proper distance has kept in the mining area. No ecologically sensitive area is near to the quarry site.
30.	Consent from Kerala State Pollution Control Board under Water and Air Act(s) should be obtained before mining activity	Consent to operate obtained from KSPCB
31.	All other statutory clearances should be obtained, as applicable, by project proponents from the respective competent authorities including that for blasting and storage of explosives.	All the relevant clearances have obtained from competent authorities.
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.	Not Applicable.
33.	The Authority reserves the right to add additional safeguard measures subsequently, if found necessary, and to take action including revoking of the EC 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.	The proponent accepts the authorities order and will be bound to the suggestions.

34.	The stipulations by Statutory Authorities under different Act 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	All the measures were followed for the quarrying activity.
35.	The project proponent should advertise in at least two local newspapers widely circulated in the region, one of which (both the advertisement and the newspapers) shall be in the vernacular language informing that the project has been accorded Environmental Clearance and copies of clearance letters are available with the DEIAA. The advertisement should be made within 10 days from the date of receipt of the Clearance letter and a copy of the same signed in all pages should be forwarded to the office of this Authority as confirmation.	Complied after getting the EC.
36.	A copy of the clearance letter shall be sent by the proponent to concerned Grama Panchayath/District Panchayath / Municipality / Corporation / Urban Local Body and also to the Local NGO, if any, from whom suggestions/representations, if any, were received while processing the proposal. The Environmental Clearance shall also be put on the website of the company by the proponent	A copy of the Clearance letter had sent to the mentioned authorities / offices.
37.	The details of Environmental Clearance should be prominently displayed in a metallic board of 3ft × 3ft with green background and yellow letters of Times New Roman font of size of not less than 40. Sign board with extent of lease area and boundaries shall be depicted at the entrance of the quarry, visible to the public.	A display board is installed in the entrance of project site facing public
38.	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 course of water channels altered due to the project. Proper measures have taken not to disturb any water bodies or water sources.

39.	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 and transfer point to reduce fugitive emissions.	The Monitoring of air and water will be conducted half yearly and will submit along with the next Compliance report. Water sprinkling were doing periodically to minimize the air pollution. The vehicle is properly covered after loading for transporting the material
40.	The top soil, if any, shall temporarily be stored at earmarked site(s) only for the topsoil shall be used for land reclamation and plantation. The over burden (OB) generated during the mining operations shall be stacked at earmarked dump site(s) only. The maximum height of the dumps shall not exceed 8 m and width 20m and overall slope of the dumps shall be maintained to 45°. The OB dumps should be scientifically vegetated with suitable native species to prevent erosion and surface run off. In critical areas, use of geo textiles shall be undertaken for stabilization of the dump. The entire excavated area shall be backfilled. Monitoring and management of rehabilitated areas should continue until the vegetation becomes self-sustaining	Top soil preserved in the project site for land reclamation and plantation.
41.	Catch drains and siltation ponds of appropriate size shall be constructed around the mine working, mineral and OB dumps to prevent run off of water and flow of sediments directly into the river and other water bodies. The water so collected should be utilized for watering the mine area, roads, green belt development etc. The drains shall be regularly desilted particularly after monsoon and maintained properly.	All the drains have channelized to the mined area in order to avoid any kind of pollution to the nearby water resources. Moreover, settling tank is made for the proper sedimentation. Further the surrounding area is vegetated to reduce the runoff from the mining site.
42.	Effective Safeguard measures such as regular water sprinkling shall be carried out in critical areas prone to air pollution and having high levels of PM ₁₀ and PM ₂₅ such as haul Road, loading and unloading points and transfer points-it shall be ensured that the Ambient Air Quality parameters confirm to the norms prescribed by the Central Pollution	Water Sprinkling is conducting along the project site and throughout the road from the site to the boundary of the mining area. Proper warning sign boards are installed in the project site. Assembly points marked in any case of emergency occurs during the activity

	Control Board in this regard	and supplied safety equipment's to the workers.
43.	Fugitive dust emissions from all the sources should be controlled regularly. Water spraying arrangement on haul road, loading and unloading and at transfer points should be provided and properly maintained.	Water sprinkling has been undertaken periodically to minimize the dust emission. Every mineral carrying vehicle is covered properly to reduce the emission during transportation.
44.	Measures should be taken for control of noise levels below 85 dBA in the work environment.	The green belt across the project is kept as such in order to control the noise level during quarrying activity.
45.	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.	The site supervisor is in charge of the Environmental Management Cell.
46.	The funds earmarked for environmental protection measures and CSR activities should be kept in separate account and should not be diverted for other purpose. Year wise expenditure should be reported to the DEIAA office for scrutiny.	The details of CSR activities provided
47.	The mining operation shall be restricted to above ground water table and it should not interest ground water table.	The water table will not be altered with the quarrying operation. Enough measures are taken care of for the protection of water.
48.	All Vehicles used for transportation and within the mines shall have 'PUC' certificate from authorized pollution taking centre. Washing of all vehicles shall be inside the lease area.	All vehicles are having PUC certificate.
49.	Project proponent should obtain necessary prior permission of the competent authorities for drawal of requisite quantity of surface and ground water for the project.	The daily use of water is drawn from the well in the site.
50.	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 6 monthly reports to DEAC/DEIAA.	The flow of water bodies is not altered with the quarrying operation.

51.	Occupational health surveillance program of the workers should be under periodically to observe any contractions due to exposure to dust and take corrective measures, if needed.	Proper measures are taking care for the health of workers
52.	No Mining operations should be carried out at Govt.Purampoke land.	No govt. land is involved in the mining operation.

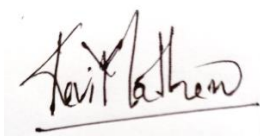
III. ENVIRONMENTAL MONITORING CELL

Table 3. Environmental Monitoring Cell

Sl No	Name	Designation	
1	K V Mathew	Head of the cell (Proprietor)	Frame policies monitoring the activities
2	-	Environmental Manager-Unit manager	Co-ordinate environmental Activities and monitoring of compliances
3	-	Supervisor	Implement the Activities and procedures
4	M/s Prime Technology Services	Environmental Consultant	Provide technical guidance for sound environmental friendly business
5	M/S Standard ^S (MoEF recognized Lab)	Environmental Monitoring Agency	Monitor Ambient Air, Noise, water and soil periodically

For Quarry project of **M/s Kachanathu Minerals & Metals Pvt Ltd**

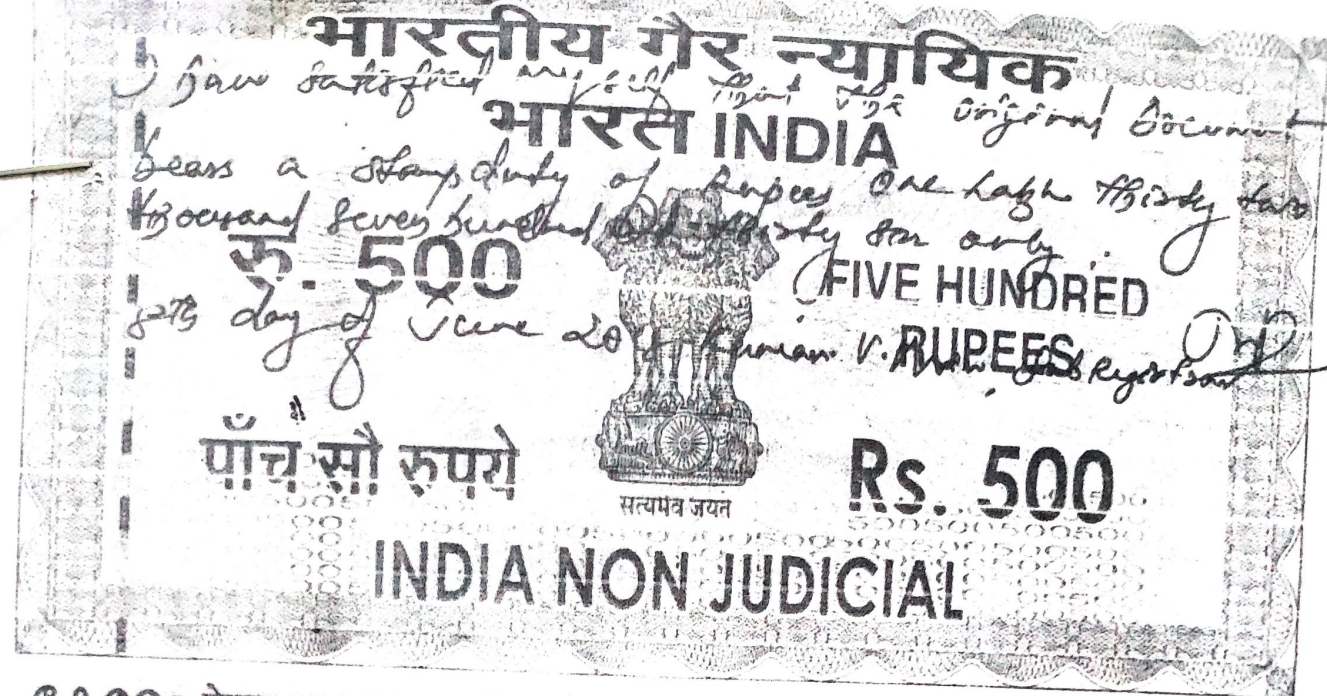
Mr. K V Mathew



ANNEXURES

Annexure 1

Quarrying Lease



കേരളം കേരल KERALA

C 498457

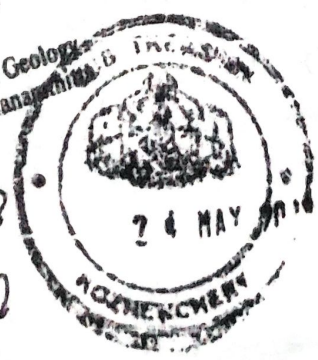
FORM H
(See rule 43)
QUARRYING LEASE

This deed of lease made on this the 1st day of June 2018 between the Governor of Kerala (hereinafter referred to as the "State Government" which expression shall, where the context so admits be deemed to include his successors and assigns) of the one part and Shri/Smt.M/s. Kachanathu Minerals & Metals Pvt. Limited, Kachanathu Ebenezer Trade Centre, Angadi Post, Ranni, Pathanamthitta District - 689 674 having branch office at Ezhumattoor P.O., Mallappally, Pathanamthitta District - 689 586 (Represented by its Managing Director Shri K.V.Abraham, aged 62 years, S/o.Late Cherian Varkey, residing at Kachanathu House, Nellickamon P.O., Angadi Village, Ranni Taluk of Pathanamthitta District (hereinafter called the "lessee/lessees" which expression shall where the context so admits, include his/their heirs, executors, administrators, representatives and permitted assigns) of the other part.

Lessor

M.M. VAHAB
Geologist
Dept of Mining and Geology
District Office, Pathanamthitta

M 3344.29
K.V. Abraham
Managing Director
K.V. Minerals & Metals Pvt. Ltd.
Angadi P.O. Ranni



Lessee K.V. Abraham

K.V. Abraham R.V.
Managing Director
Page 1 of 2

24 MAY 2018
K.V. Minerals & Metals Pvt. Ltd.
Angadi P.O. Ranni

No. 719/2018/E Duplicate No. 2

Presented in the office of the Sub Registrar of
Venchikulam with its photographs and
fingerprints of the buyers, vendors, and the
presentant, affixed under Sec. 37A and a fee of
Rs. 33684/- paid at 2 hours 20 minutes
on the 23 day of June year 2018

K. V. ABRAHAM

Abraham K.V.

residing at Karanattu House

8th day of June 2018

Execution Admitted by

KUMARI. V. MINI
SUB REGISTRAR

For and on behalf of Karanattu Minerals &
Metals (Pvt) Limited represented by its managing Director

K. V. ABRAHAM

Abraham K.V.

Son of Cheriyan Varghese residing at
Karanattu House, Venchikulam.

I have satisfied myself that the execution of this
instrument by M. M. Varghese, Geologist, Dept. of
Mining & Geology, District office, Pattanam Bika
for and ~~on behalf~~ on behalf of the Governor of
Kerala who is exempted from personal appearance
under section 37A of the Indian Registration Act.

2018

Doc No.

719

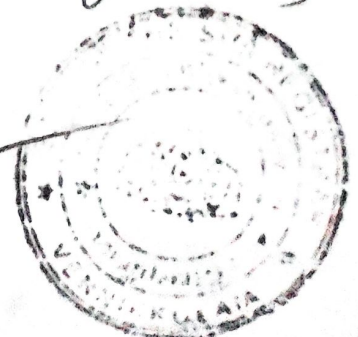
of

Book No.

8

Shops

Shops



Witnesseth that in consideration of the rents and royalties and lessee's/Lessee's covenants, hereinafter reserved and contained the State Government hereby give on lease to the lessee/lessees the land measuring **4.4298 hectares** described in the schedule hereunder and delineated on the plan hereto annexed and therein coloured red (hereinafter called the "said lands") to hold the same for a period of **9(Nine) years** commencing from **01.06.2018** and ending on **31.05.2027** for the purposes of extracting minor mineral/minerals and subject to the terms and conditions contained in the Kerala Minor Mineral Concession Rules, 2015 (hereinafter referred to as "the Rules") and to the terms and conditions hereinafter appearing.

1. The lessee/lessees shall have the right in and upon the said lands to extract **Granite Building Stone** (hereinafter called the said mineral/minerals) and to do all acts necessary for the extraction of the said mineral/minerals including the erection on the said lands, buildings and plant required for the purposes and also to take lead and carry away over the said lands and to dispose of the said minerals extracted as aforesaid.
2. The lessee/lessees shall during the subsistence of this lease have the liberty to work the said mineral/minerals and remove the same from the leasehold on permits issued by the State Government/competent authority or any other officer authorised by him in this regard. The permits shall be issued only on the basis of pre-paid royalty at the rates specified in schedule I to these Rules. The royalty rates shall be subject to revision from time to time as the State Government may order.
3. The lessee/lessees shall pay to the State Government a yearly surface rent equal to the land revenue if any, assessable under the rules for the time being in force, or if the land be the property of Government or in reserve forest then equal to the land revenue plus cess, if any, per hectare of the land the surface whereof shall be occupied or used by the lessee/lessees for any of the purposes of this deed and so in proportion for any area less than one hectare. The said surface rent shall be paid by yearly payments; the first of such payments to be made on or before the last day of the first year of occupation provided always that no such rent shall be paid or demanded in respect of any roads or ways now in existence.
4. The lessee/lessees shall at all times during the currency of this lease keep correct and intelligible books of account showing accurately the quantity of the said minerals extracted and the weight and value of the said mineral sold or exported together with the names of the purchasers or consignees. The lessee shall also maintain a register of employees showing therein separately men, women employed daily and shall at reasonable times allow the competent authority appointed under the rules(hereinafter referred to as "competent authority") or the officer authorised by him to examine the said books of account and the register of employees and to take copies and extracts therefrom. The lessee/lessees shall submit reports in Forms F and G on the specified dates.

Lessor

M.M. VAHAB
Geologist
Dept. of Mining and Geology
District Office, Pathanamthitta

Lessee K.V. Mohan
K.V. Mohan
Page 2 of 7
Managing Director
KACHANATHU
Minerals & Metals Pvt. Ltd.

Identified by: the respondent by
Anilkumar V.B. - Son of
Balakrishnan. Residing at Valiyathur
Bisalees Kanganthar P.O.

K.V. Mathu Inds s/o Chand Vaidy.
Kallumthi to Buri Angali Rm.

873 day of June 2012 and

415-428
1020

Registered as no. 719
Page 415 Volume 1020 on
Sheets 8 to 428
Sheet 2

KUMARI V. MINT
SUB REGISTRAR

873

day of June 2012 and

KUMARI V. MINT
SUB REGISTRAR



5. All sums found due under or by virtue of this deed from the lessee/lessees may be recovered from him jointly and severally from them and his / their properties movable and immovable under the provisions of the Revenue Recovery Act for the time being in force as though such sums are arrears of land revenue or in any other manner as the State Government may deem fit.
6. The lessee/lessees shall at the lessee's/lessees' own expense erect and at all times maintain and keep in repair boundary marks and pillars along the boundaries of the said lands according to the demarcation shown in the plan hereto annexed.
7. The lessee shall not carry on or allow to be carried on any quarrying operations at or to any points within a distance of 100 metres from any railway line except with the previous written permission of the railway administration concerned and any bridge on National Highway or 50 metres from any reservoir, tanks, canals, rivers, bridges, public roads, other public works, residential buildings, the boundary walls of places of worship, burial grounds, burning ghats or one kilometer from the boundaries of National Park or Wildlife Sanctuaries except with the previous permission of the authorities concerned or the Government or competent authority.
8. The sides of open workings shall be sloped, stepped or secured by the lessee in such a manner as to prevent slope failure, when an open working is worked in steps, steps shall be of sufficient breadth in relation to their height to secure safety. In open workings trees liable to fall and all loose ground and material shall be removed by the lessee sufficiently far from the edge or otherwise made source in order to prevent danger to persons employed in the quarry.
9. If a working place is found to be unsafe all persons shall be withdrawn by the lessee/lessees immediately from the dangerous area and all access to such working place except for the purpose of removing the danger of saving life shall be prevented by securely fencing the full width of all entrances to the place.
10. The lessee/lessees shall at all reasonable times allow any officer authorised by the Central Government or by the State Government in that behalf to inspect the said lands and the buildings and plants erected thereon and the lessee/lessees shall assist such persons in conducting the inspection and afford them all information they may reasonably require, and shall conform to and observe all orders which the Central and State Governments as the result of such inspection or otherwise, may from time to time pass.

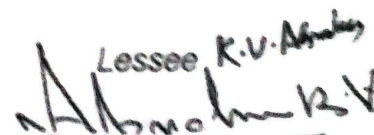
Lessor



M.M. VAHAB

• Geologist

Dept. of Mining and Geology
District Office, Palaniamthitta

Lessee R.V. Abubakar


Page 3 of 7

Managing Director

IKAC (Minerals & Metals)

Minerals & Metals Division

11. The lessee shall be responsible for implementing the provisions of the various labour laws applicable, from time to time, to the quarry.
12. The lessee/lessees shall not assign or underlet the said lands or any part thereof or the rights or privileges, therein hereby granted or any of them without the previous permission in writing of the State Government / competent authority:
13. Where the lease or any right, title or interest therein has been assigned, sublet or transferred as provided in rule 45 read with condition 12, then the person in whose favour such assignment, sublease or transfer has been made shall be responsible for implementing the provisions of the various labour laws applicable, from time to time, to the quarry.
14. The lease may be surrendered by the lessee/lessees at any time after 3 months notice in writing to the State Government/competent authority: Provided that the lessee/lessees has/have paid all sums due on account of the lease. Provided that if the lessee/lessees elects/elect to determine this lease before the expiry of the term of the lease, shall pay in addition to other dues a sum equal to the dead rent payable for the remaining part of the term of the lease deed.
15. If the lessee/lessees shall be desirous of taking a further lease of the said lands he/they shall give three months' previous notice in writing of such desire to the State Government/Competent authority and if the lessee/lessees has/have duly observed all the conditions of this lease, the State Government/competent authority may agree to renew the lease for such further term and on such terms and conditions as the State Government/Competent authority may determine which shall be in accordance with the provisions of these rules.
16. If the lessee/lessees shall at any time during the said term use the said lands or any part thereof in any manner other than as authorised by this lease or fail to carry on quarrying operations continuously without sufficient cause of which the State Government/Competent authority shall be the judge or shall commit a breach of any of the conditions of this lease it shall be lawful for the State Government/Competent authority to cancel this lease and take possession of the said lands or the alternative to receive from the lessee/lessees such penalty not exceeding Rs. 25000/- (Rupees Twenty five thousand only) for the breach as the State Government/Competent authority may fix.

Lesser

M.M. Vahab

M.M. VAHAB

Geologist

Dept. of Mining and Geology
District Office, Puthanambhatta

K. V. Abraham
Lessee
K. V. Abraham
Page 4 of 7
Managing Director
KACHANATHU
Minerals & Metals Pvt. Ltd.

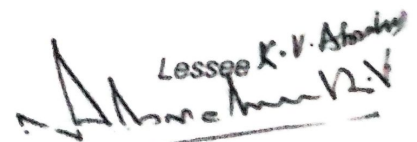
17. If at the expiration of three calendar months after the expiry of the lease or its sooner determination, there shall remain in or the said lands, any engines, machinery, plant buildings, structures and other works erections and conveniences the said minerals or other property which the lessee is/lessees are entitled to remove from the said lands, the same shall, if not removed by the lessee/lessees within one calendar month after notice in writing requiring their removal be given to the lessee/lessees by the State Government/Competent authority be deemed to become the property of the State Government in such manner as they may deem fit without liability to pay any compensation or to account to the lessee/lessees in respect thereof.
18. This lease subject to all rules and regulations which may from time to time be issued by the State Government regulating the working of the quarries and other matters affecting safety, health and convenience of the lessee's/lessees' employees or of the public, whether under the Indian Mines Act or otherwise.
19. The lessee/lessees shall without delay send to the District Collector and the competent authority or the officer authorised by him in this regard report of any accident causing loss of life or serious bodily injuries or seriously affecting or endangering life or property which may at any time occur at or in the said lands in the course of operations under this lease.
20. The lessee/lessees shall furnish such reports and returns relating to output, labourers employed and other matters as the State Government may prescribe.
21. The lessee/lessees shall make and pay such reasonable compensation as may be assessed by lawful authority in accordance with the law in force on the subject for all damage, injury or disturbance which may be done by him/them in exercise of the powers granted by this lease and shall indemnify and shall keep indemnified fully and completely the State Government against all claims which may be made by any person or persons in respect of any such damage, injury or disturbance and all costs and expenses in connection therewith.

Lessor



M.M. VAIHAB
Geologist

Dept. of Mining and Geology
District Office, Pathanamthitta



Page 5 of 7

Managing Director
KACHANATHU
Minerals & Metals Pvt. Ltd.

22. Any condition prescribed in the Kerala Minor Mineral Concession Rules, 2015 but left out in this lease which may be found applicable to the lessee/lessees shall be treated as binding on the lessee/lessees.
23. In this case anticipated royalty for the mineral at rate of Rs.24/- (Rupees Twenty four only) per tone for a period of one year is **Rs.16,09,680/-** (Rupees Sixteen lakh nine thousand six hundred and eighty only)
24. Dead rent realized at the rate of 1st year - NIL, 2nd year Rs.300/- (Rupees three hundred only) and 3rd year onwards Rs.1200/- (Rupees one thousand two hundred only) per hectare subject to revision from time to time. Surface rent at the rate of Rs.200/- (Rupees two hundred only) per hectare for one year is **Rs.200/-** (Rupees Two hundred only) and security deposit is **Rs.44,298/-** (Forty four thousand two hundred and ninety eight only)

Schedule of description of land

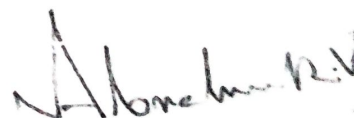
District	: Pathanamthitta
Taluk	: Mallappally
Village or Amsom	: Ezhumattoor
Survey Nos. of the Area	: 135/2, 135/2-2, 135/2-1, 135/2-3, 135/6, 135/7, 135/7-1, 167/1, 167/1-1, 167/5
Area in hectares	: 4.4298 Hectares

Bounded by Sy.Nos.

On the North by	: Sy. No.140/1, 143, 165, 166
On the East by	: Sy.No. 166, 167/2, 167/6, 167/9
On the South by	: Sy.No. 167/4, 12, 14, 135/3, 135/3-1, 135/5, 135/7-1pt
On the West by	: Sy.No. 135/1, 135/3, 134



M.M. PARTHAB
Geologist
Dept. of Mining and Geology
District Office, Pathanamthitta



Lessee
Managing Director
KACHANATHU
Minerals & Metals Pvt. Ltd.
Page 6 of 7

In witness whereof the parties hereto have set their hands hereunto on the day and year first above written.

Signed by M.M. VAHAB
Lessor,

for and on behalf of the Government of Kerala.
In the presence of M.M. VAHAB
Geologist
Dept. of Mining and Geology
District Office, Pathanamthitta

(1) S. Pushpakumari Anna
Senior Grade Tapist, Mining & Geology
Dist. office, Pathanamthitta

(2) Priyanka, clerk
Dept. of Mining & Geology
District office, Pathanamthitta

Signed by Abraham K.V.
for and on behalf of the lessee/lessees

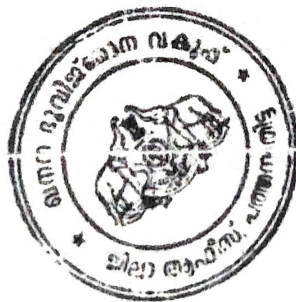
(851286546898 Aadhar No. is
.....)

In the presence of:

(1) Aquillanathan V B Valiyathakudiyil (H) Edappurichiperyta. PO
Kangashtan. 686541 Seget

(2) K.V. Mathi Kachanathu Nalukkenan. PO Mathi

M.M. VAHAB
Geologist
Dept. of Mining and Geology
District Office, Pathanamthitta



Abraham K.V.
Lessee
K.V. Abraham
Managing Director
KACHANATHU
Minerals & Metals Pvt Ltd
Page 7 of 7

Annexure 2
KSPCB consent



KERALA STATE POLLUTION CONTROL BOARD

FILE NO. : PCB/PTA/ICO/QR/164/2013

Date of issue : 16/05/2018

INTEGRATED CONSENT TO OPERATE - RENEWAL

Consent No : QCO/PTA/227/2018 VALID UPTO-15.01.2022

Ref: 1.CONSENT NO:PCB/RO/PTA/ICOR/3/2017,DATE OF ISSUE:23/03/2017,VALID UP TO:06/06/2018
2.APPLICATION NO:7739514,SUBMITTED ON:09/05/2018

The 'Integrated Consent to Operate' issued as per reference above to M/s KACHANATHU MINARALS&METALS (Pvt.) Ltd.(QUARRY),EZHUMATTOR,P.O, MALLAPPALLY, PATHANAMTHITTA. is hereby renewed up to 15/01/2022 and issued to M/s KACHANATHU MINARALS&METALS (Pvt.) Ltd.(QUARRY),EZHUMATTOR,P.O, MALLAPPALLY, PATHANAMTHITTA. 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	1.1. Validity	15.01.2022
2	1.1.a. Month and year of renewal	15.10.2021
3	1.10. Category	RED
4	1.12. Annual fee/Fee remitted	Rs. 44904/ Year Rs.252500/-
5	1.13.Capital investment	498.08 LAKHS
6	1.15.Survey no.	135/2,135/2-2,135/2-1,135/2-3,135/6,135/7,135/7-1,167/1,167/1-1,167/5 (MINING AREA- 4.4298 HECTARES)
7	1.16. Machinery Details	EXCAVATOR WITH BREAKER - (2nos)- 110 HP EACH, EXCAVATOR WITH BUCKET-(2 Nos)-110 HP,COMPRESSOR with Three JACK HAMMER-65 HP-1 no.

II. Stack Details

sound level (Leq) at 1m outside the boundary of the site and near residential locations should not be the ambient noise standard applicable to the adjoining areas.

3.16. "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". The consent unless withdrawn earlier and subject to condition no. 5.1 & 5.2 shall be valid up to 15/01/2022. For renewal of consent, application may be submitted online 3 months in advance of expiry of validity date, along with the re validated Environmental Clearance Certificate.

3.17. No other machinery other than that in 1.16 shall be operated without prior Consent of the Board.

3.18. 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.

3.19. The applicant shall submit copies of all relevant permits/lease/certificate/licenses periodically to this office to ensure the validity of this consent.

3.20. Condition no.II of this consent is deleted.

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

DATE :16/05/2018

ALEXANDER GEORGE

Digitally signed by ALEXANDER
GEORGE

Date: 2018.05.16 12:31:14 +05'30'

SIGNATURE & SEAL OF ISSUING AUTHORITY

ENVIRONMENTAL ENGINEER, District Office,
Pathanamthitta

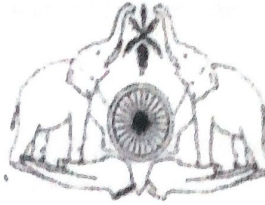


To

Sri K.V.ABRAHAM
KACHANATHU HOUSE
NELLIKKAMON.P.O

Annexure 3

Panchayath License



ലൈസൻസ് നമ്പർ : സി7 - 1852/2021

തീയതി: 06.03.2021

എഴുമറ്റൂർ ഗ്രാമപഞ്ചായത്തിൽ നിന്നും

1994 ലെ കേരള പഞ്ചായത്ത് രാജ് ആക്ട് (1994 ലെ 13) 232, 233, 234, 254 എന്നീ വകുപ്പുകളും അതെ തുടർനുള്ള ചട്ടങ്ങളും അനുസരിച്ച്

ഫാക്ടറികൾ, വ്യാപാരങ്ങൾ, സംരംഭങ്ങൾ, മറ്റു സേവനങ്ങൾ എന്നിവയ്ക്കായി നൽകുന്ന

ലൈസൻസ്

ലൈസൻസിയുടെ പേരും മേൽവിലാസവും	കെ വർക്കി എബ്രഹാം, കാച്ചാണത്ത് മിനറൽസ് & മെറ്റൽസ് പ്രൈവറ്റ് ലിമിറ്റഡ്, എഴുമറ്റൂർ പി.ഒ	
സ്ഥാപനത്തിന്റെ പേരും സ്ഥാലനാമവും	കാച്ചാണത്ത് മിനറൽസ് & മെറ്റൽസ് പ്രൈവറ്റ് ലിമിറ്റഡ്	
ലൈസൻസ് നൽകിയിട്ടുള്ള പ്രവർത്തനങ്ങൾ	കാറി പ്രവർത്തനം	
സർവ്വേ നം.	135/2, 135/2-2, 135/2-1, 135/2-3, 135/6, 135/7, 135/7-1, 167/1, 167/1-1, 167/5.	
ലൈസൻസ് കാലയളവ്	01.04.2021 മുതൽ 15.01.2022 വരെ.	
ഈടാക്കിയ ലൈസൻസ് ഫീസ്	₹ 10000/- (D&O) (2021-22) 505 HP Motor- ₹ 5050/- (2021-22)	രസീത് നമ്പർ : 120020103007, തീയതി : 03.03.2021
	തൊഴിൽക്കരം	₹ 2500/- (2021-22)
ലൈസൻസ് അനുവദിക്കുന്നതിനായി ഹാജരാക്കിയ നിരാക്ഷേപപത്രങ്ങളുടെ വിശദാംശങ്ങൾ (നമ്പർ, തീയതി, കാലയളവ്, നൽകിയ അധികാരസ്ഥാനം)	1. State Environment Impact Assessment Authority Kerala's Environment Clearance No. 09/2017 Dated 16.01.2017 valid up to 15.01.2022. 2. Quarrying Lease No779/2018/1 of Vennikulam SRO 08/06/2018 ending on 31.05.2027. 3. Petroleum & Explosives Safety Organisation (PESO) Licnese No. E/SC/KL/22/803(E37080) Dated 04.02.2021. valid up to 31/03/2026. 4. കേരള സംസ്ഥാന മലിനീകരണ നിയന്ത്രണ ബോർഡിന്റെ 16/05/2018 തീയതിയിലെ 15/01/2022 തീയതി വരെ കാലാവധിയുള്ള QCO/PTA/227/2018 നം. ഇൻസ്പെക്ടർ കൺസെന്റ് ടു ഓപ്പറേറ്റ്.	

(ഓഫീസ് മുദ്ര)

സെക്രട്ടറി
എഴുമറ്റൂർ ഗ്രാമ പഞ്ചായത്ത്



ലൈസൻസ് നമ്പർ :

തീയതി: 01/04/2019

എഴുമറ്റൂർ ഗ്രാമപഞ്ചായത്തിൽനിന്നും

1994ലെ കേരള പഞ്ചായത്ത് രാജ് ആക്ട് (1994ലെ 13, 232, 233, 234, 251 എന്നിവകൾ പ്രകാരം)

അതേ ആക്റ്റിന്റെ ചട്ടങ്ങളും അനുസരിച്ച്

പാർട്ടികൾ, വ്യവസായങ്ങൾ, സംരംഭങ്ങൾ, മറ്റു സേവനങ്ങൾ എൻഡോർസ്മെന്റുകൾ

ലൈസൻസ്

ലൈസൻസിയുടെ പേരും മേൽവിലാസവും	കെ.വർക്കി ഏബ്രഹാം, കാച്ചണത്ത് വീട്, ഇഴട്ടിച്ചവട് പി.ഒ, റാന്നി	
സ്ഥാപനത്തിന്റെ പേരും സ്ഥലനാമവും	കാച്ചണത്ത് മിനറൽസ് & മെറ്റൽസ് പ്രൈവറ്റ് ലിമിറ്റഡ്, എഴുമറ്റൂർ	
ലൈസൻസ് നൽകിയിട്ടുള്ള പ്രവർത്തനങ്ങൾ	500 എച്ച്.പി. ഉപയോഗിച്ച് ക്രഷർ യൂണിറ്റ് നടത്തുന്നതിന്	
ചട്ടിടത്തിന്റെ നമ്പരും വാർഡ് നമ്പരും	1/39 സർവ്വേ നം. 135/4-1	
ലൈസൻസ് കാലയളവ്	01-04-2019 മുതൽ 15.01.2022 വരെ	
ഈടാക്കിയ ലൈസൻസ് ഫീസ്	300000/- രൂപ	രജിസ്റ്റർ നമ്പർ 115020104241 തീയതി 28/03/2019
	തൊഴിൽക്കരം	7500/- (2019-2020 to 2021-2022)
ലൈസൻസ് അനുവദിക്കുന്നതിനായി ഹാജരാക്കിയ നിരാക്ഷേപപത്രങ്ങളുടെ വിശദാംശങ്ങൾ (നമ്പർ, തീയതി, കാലയളവ്, നൽകിയ അധികാരസ്ഥാനം)	1.27.03.2019 ലെ 6(1) നമ്പർ തീരുമാനപ്രകാരം ലൈസൻസ് 2023-2024 കാലയളവിലേക്ക് നൽകാൻ തീരുമാനിച്ചിട്ടുള്ളതാണ്. എന്നാൽ ലഭ്യമായ രേഖകളുടെ കാലാവധി പ്രകാരം 15.01.2022 വരെ ലൈസൻസ് അനുവദിക്കുന്ന കാലാവധി കഴിഞ്ഞ നിരാക്ഷേപ പത്രവും പുതുക്കുന്നമുമ്പ് ലൈസൻസ് കാലാവധി നീട്ടി അനുവദിക്കുന്നതാണ്. 2.PCB-Report Consent to Operate Valid Up to 30.06.2023	

(ഓഫീസ് മുദ്ര)



ബന്ധിത
എഴുമറ്റൂർ ഗ്രാമപഞ്ചായത്ത്
01.04.2019

Annexure 4

**Environmental Monitoring
Results**

TEST REPORT

Test Report No: 20210308/R081	Date: 12-03-2021	Page 1 of 2
-------------------------------	------------------	-------------

CUSTOMER DETAILS	
Customer Name & Address	M/s Kachanathu Minerals & Metals Pvt Ltd Ezhumattoor , Mallapally Pathanamthitta District
Customer Reference	Test Request dt: 08-03-2021

SAMPLE DETAILS			
Product Category	Pollution& Environment	Sample Code	20210308S081
Sample Name	Soil	Sample Received on	09-03-2021
Sample Conditions at Receipt	Fit for Analysis	Test Commenced on	09-03-2021
Sample Quantity& Packing	500g in Plastic Bag	Test Completed on	12-03-2021
Sampled by	Lab Authorized Sampler	Information Provided by Customer	---

DETAILS OF SAMPLING			
Sample Source	Project Site	Date of Sampling	08-03-2021
Sampling Procedure	SEAAL/ENL/GEN/SOP/08	Sample Temperature	31 °C

SAMPLING SITE DETAILS			
Re-Survey No.	135/2-3, 135/7, 135/7-1, 135/6, 135/2-2, 135/2, 135/2-1, 167/7, 167/7-1, 167/5, 167/2-2, 167/2-13 , Block - 13		
Village	Ezhumattoor	Taluk	Mallapally
District	Pathanamthitta	State	Kerala

TEST RESULTS- CHEMICAL PARAMETERS					
Sl. No.	PARAMETERS		TEST METHOD	UNIT	RESULT
1	pH		IS 10158: 1982	---	6.01
2	Conductivity		IS 14767: 2000	µS/cm	78.0
3	Water Holding Capacity		SEAL/EN/SLS/SOP/01	%	56.0
4	Particle Size Distribution	Clay	SEAL/EN/SLS/SOP/14	%	4.08
		Sand	SEAL/EN/SLS/SOP/14	%	20.5
		Silt	SEAL/EN/SLS/SOP/14	%	38.7


Rija Joseph
Technical Manager
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.

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

TEST REPORT

Test Report No: 20210308/R081	Date: 12-03-2021	Page 2 of 2
-------------------------------	------------------	-------------

TEST RESULTS- CHEMICAL PARAMETERS				
Sl. No.	PARAMETERS	TEST METHOD	UNIT	RESULT
5	Organic Matter	IS 2720 Part 22:1992	%	5.86
6	Sodium as Na	USEPA 7000B:2009	mg/Kg	172
7	Chlorides	SEAL/EN/SLS/SOP/08	mg/Kg	410
8	Sulphur as SO ₄	IS 2720 Part 27: 1977	%	0.08
9	Total Kjeldahl Nitrogen (as N)	IS 14684 :1999	%	0.56
10	Available Potassium	SEAL/EN/SLS/SOP/03	mg/Kg	42.5
11	Total Phosphorous (as P)	IS 10158: 1982	%	0.12

Remarks:

End of Report

Standards



Rija Joseph
Technical Manager

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.

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

TEST REPORT

Test Report No: 20210308/R078	Date: 12-03-2021	Page 1 of 2
-------------------------------	------------------	-------------

CUSTOMER DETAILS	
Customer Name & Address	M/s Kachanathu Minerals & Metals Pvt Ltd Ezhumattoor , Mallapally Pathanamthitta District
Customer Reference	Test Request dt :08-03-2021

SAMPLE DETAILS			
Product Category	Atmospheric Pollution	Sample Code	20210308S078
Sample Name	Ambient Air	Sample Received on	09-03-2021
Sample Conditions at Receipt	Fit for Analysis	Test Commenced on	09-03-2021
Sampled by	Lab Authorized Sampler	Test Completed on	11-03-2021

DETAILS OF SAMPLING			
Sampling Location	Project Site	Date of Sampling	08-03-2021
Sampling Procedure	SEAAL/ENL/GEN/SOP/02	Humidity	69%

SAMPLING SITE DETAILS			
Survey No.	135/2-3, 135/7, 135/7-1, 135/6, 135/2-2, 135/2, 135/2-1, 167/7, 167/7-1, 167/5, 167/2-2, 167/2-13 , Block - 13		
Village	Ezhumattoor	Taluk	Mallapally
District	Pathanamthitta	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/m ³	69.2	Max 100
2	Particulate Matter, PM _{2.5}	IS 5182 (Part 24):2016	µg/m ³	37.5	Max 60
3	Sulphur Dioxide as SO ₂	IS 5182 (Part 2): 2001	µg/m ³	3.42	Max 80
4	Oxides of Nitrogen as NO ₂	IS 5182 (Part 6): 2006	µg/m ³	5.20	Max 80

Remarks:

End of Report


Rija Joseph
Technical Manager
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.

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: sealab@gmail.com

TEST REPORT

Test Report No: 20210308/R079	Date: 12-03-2021	Page 1 of 1
-------------------------------	------------------	-------------

CUSTOMER DETAILS	
Customer Name & Address	M/s Kachanathu Minerals & Metals Pvt Ltd Ezhumattoor , Mallapally Pathanamthitta District
Customer Reference	Test Request dt : 08-03-2021

DETAILS OF MONITORING			
Product Category	Atmospheric Pollution	Sample Code	20210308S079
Sample Name	Ambient Noise	Monitoring Commenced on	08-03-2021/ 06:00
Monitoring Location	Project Site	Monitoring Completed on	09-03-2021/ 06:00
Test Method	IS 9989:1981 RA:2008	Monitored by	Lab Authorized Sampler

MONITORING SITE DETAILS			
Survey No.	135/2-3, 135/7, 135/7-1, 135/6, 135/2-2, 135/2, 135/2-1, 167/7, 167/7-1, 167/5, 167/2-2, 167/2-13 , Block - 13		
Village	Ezhumattoor	Taluk	Mallapally
District	Pathanamthitta	State	Kerala

MONITORING RESULTS - Leq					
TIME	RESULTS dB(A)	TIME	RESULTS dB(A)	TIME	RESULTS dB(A)
06:00	37.3	14:00	50.1	22:00	36.2
07:00	40.0	15:00	50.4	23:00	34.0
08:00	44.3	16:00	51.6	24:00	36.4
09:00	47.7	17:00	52.0	01:00	37.1
10:00	50.1	18:00	46.6	02:00	36.8
11:00	53.1	19:00	43.1	03:00	37.5
12:00	50.4	20:00	39.3	04:00	36.4
13:00	49.7	21:00	38.8	05:00	38.2

TEST RESULTS- CHEMICALPARAMETERS			
Sl. No.	PARAMETERS	UNIT	RESULT
1	Ambient Sound Level (Leq) Day Time (06:00 to 22:00)	dB(A)	48.5
2	Ambient Sound Level (Leq) Night Time (22:00 to 06:00)	dB(A)	36.7

Remarks: ***End of Report***


Rija Joseph
 Technical Manager
 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.

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

TEST REPORT

Test Report No: 20210308/R080	Date: 12-03-2021	Page 1 of 2
-------------------------------	------------------	-------------

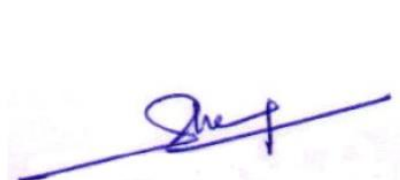
CUSTOMER DETAILS	
Customer Name & Address	M/s Kachanathu Minerals & Metals Pvt Ltd Ezhumattoor , Mallapally Pathanamthitta District
Customer Reference	Test Request dt : 08-03-2021

SAMPLE DETAILS			
Product Category	Water	Sample Code	20210308S080
Sample Name	Pond Water - Project Site	Sample Received on	09-03-2021
Sample Conditions at Receipt	Fit for Analysis	Temperature @ Receipt	6°C
Sample Quantity& Packing	2L & 500ml Plastic Bottles	Test Commenced on	09-03-2021
Sampled by	Lab Authorized Sampler	Test Completed on	12-03-2021

DETAILS OF SAMPLING			
Sample Source	Pond Water - Project Site	Date of Sampling	08-03-2022
Sampling Procedure	SEAAL/ENL/GEN/SOP/01& SEAAL/MBL/SOP/06	Sample Temperature	30 °C

SAMPLING SITE DETAILS			
Survey No.	135/2-3, 135/7, 135/7-1, 135/6, 135/2-2, 135/2, 135/2-1, 167/7, 167/7-1, 167/5, 167/2-2, 167/2-13 , Block - 13		
Village	Ezhumattoor	Taluk	Mallapally
District	Pathanamthitta	State	Kerala

TEST RESULTS- CHEMICAL PARAMETERS					
Sl.No.	PARAMETERS	TEST METHOD	UNIT	RESULT	Requirement as per Acceptable Limit of IS 10500 : 2012
1	Colour	IS 3025 (Part 4):1983	Hazen	1	Max 5
2	Odour	IS 3025 (Part 5):2018	---	Agreeable	Agreeable
3	Turbidity	IS 3025 (Part 10):1984	NTU	0.4	Max 1
4	pH	IS 3025 (Part 11):1983	---	6.81	6.50 – 8.50



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.

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: sealab@gmail.com

TEST REPORT

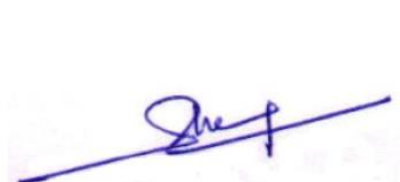
Test Report No: 20210308/R080	Date: 12-03-2021	Page 2 of 2
-------------------------------	------------------	-------------

TEST RESULTS- CHEMICAL PARAMETERS					
Sl.No.	PARAMETERS	TEST METHOD	UNIT	RESULT	Requirement as per Acceptable Limit of IS 10500 : 2012
5	Conductivity	IS 3025 (Part 14):1984	μS/cm	68.0	---
6	Total Dissolved Solids	IS 3025 (Part 16):1984	mg/L	43.0	Max 500
7	Total Hardness as CaCO ₃	IS 3025 (Part 21):2009	mg/L	18.0	Max 200
8	Calcium as Ca	IS 3025 (Part 40):1991	mg/L	4.80	Max 75
9	Magnesium as Mg	IS 3025 (Part 46):1994	mg/L	1.46	Max 30
10	Chloride as Cl	IS 3025 (Part 32):1988	mg/L	10.9	Max 250
11	Total Alkalinity as CaCO ₃	IS 3025 (Part 23):1986	mg/L	7.96	Max 200
12	Iron as Fe	IS 3025 (Part 53):2003	mg/L	0.14	Max 1
13	Sulphate as SO ₄	IS 3025 (Part 24):1986	mg/L	1.88	Max 200

TEST RESULTS - BIOLOGICAL PARAMETERS					
Sl.No.	PARAMETERS	TEST METHOD	UNIT	RESULT	Requirement as per Acceptable Limit of IS 10500 : 2012
1	Total Coliform Bacteria	IS 15185 : 2016	----	Absent/100 ml	Absent/100 ml
2	E coli	IS 15185 : 2016	----	Absent/100 ml	Absent/100 ml

Remarks:

End of Report



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.

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

Annexure 5

Site Photographs

