

**COMPLIANCE REPORT  
TO  
THE CONDITIONS  
OF  
ENVIRONMENTAL CLEARANCE ORDER  
NO: 960/EC4/4470/2015/SEIAA  
DT. 17 – 03 – 2018  
BY  
STATE ENVIRONMENT IMPACT ASSESSMENT AUTHORITY (SEIAA)**

**FOR THE QUARRY PROJECT**

**AT**

**SURVEY Nos. 3/5, 11/2, 11/4, 12/6, 12/3, 12/2, 12/5, 11/3, 3/6 pt., 3/8  
pt., 10/3-1, 10/4, 10/2-1, 16/3, 17/8 & 18/1 pt., 11/7  
THOTTAPUZHASSERY PANCHAYAT, THIRUVALLA TALUK,  
PATHANAMTHITTA DISTRICT, KERALA**

**BY**

**PANACHAYIL INDUSTRIES, WEST OTHERA PO, THIRUVALLA,  
PATHANAMTHITTA, KERALA**

**(April, 2020 - September, 2020)**

## **INTRODUCTION**

M/s Panachayil Industries is a stone quarry located at Survey Nos. 3/5, 11/2, 11/4, 12/6, 12/3, 12/2, 12/5, 11/3, 3/6 pt., 3/8 pt., 10/3-1, 10/4, 10/2-1, 16/3, 17/8 & 18/1 pt., 11/7 Thottapuzhassery Panchayat, Thiruvalla Taluk, Pathanamthitta District, Kerala. The quarry project was accorded with the Environmental Clearance by state Environmental Impact Assessment Authority on 17-03-2018. Six month compliance reports to the conditions of the Environmental Clearance are to be submitted as part of compliance. The compliance report to the specific conditions and general conditions of the Environmental Clearance for the period of April, 2020 - September, 2020 (Fifth Report) is being submitted.

## **PART A – SPECIFIC CONDITIONS**

### **➤ Condition 1**

At the base of the worked out pit with cliff like structure, at least 15 m buffer distance is to be provided as a no development zone as a measure of safety.

#### **✓ Compliance**

**The project team have provided 30 m buffer distance at the base of the worked out pit with cliff like structure as a measure of safety.**

### **➤ Condition 2**

If any plant species endemic to Western Ghats are noticed in the area, they shall be properly protected in situ or by transplanting to an appropriate location inside the lease area.

#### **✓ Compliance**

**We properly protecting the plant species that are endemic to Western Ghats in situ or by transplanting to an appropriate location. We also maintaining a plant Nursery exclusively for the endemic species that are reported from the project site.**

## **PART B – GENERAL CONDITIONS**

### **➤ Condition 1**

Rainwater harvesting facility should be installed as per the prevailing provisions of KMBR/KPBR unless otherwise specified.

#### **✓ Compliance**

**We have provided rainwater harvesting systems for the present quarry project. It includes 3 excavated pit (Pit 1, Pit 2 and Pit 3) each having the capacity of 640000, 480000 and 720000 liters respectively and one harvesting tanks constructed with stone masonry wall having the capacity of 160000 liter. Details of the rainwater harvesting system are as follows.**

| <b>Sl. No.</b> | <b>Type</b>     | <b>Length (m)</b> | <b>Width (m)</b> | <b>Height (m)</b> | <b>Capacity (L)</b> |
|----------------|-----------------|-------------------|------------------|-------------------|---------------------|
| 1              | Excavated Pit 1 | 20                | 8                | 4                 | 640000              |
| 2              | Excavated Pit 2 | 16                | 6                | 5                 | 480000              |
| 3              | Excavated Pit 3 | 24                | 10               | 3                 | 720000              |
| 4              | Concrete Tank   | 8                 | 5                | 4                 | 160000              |

**Photograph of the rainwater harvesting system as enclosed as Annexure 1.**

### **➤ Condition 2**

Environment Monitoring Cell as agreed under the affidavit filed by the proponent should be formed and made functional.

#### **✓ Compliance**

**An Environmental Monitoring Cell has formed with Mr. Aby Mathew (Managing Partner of the Company) as head of the monitoring cell and made functional. Meeting of the monitoring cell has been arranging periodically and discuss the status of the compliance of the specific and**

**general conditions stated in the Environmental clearance order. The details of the monitoring cell members are given below.**

| <b>Sl. No.</b> | <b>Post</b>   | <b>Name</b>  |
|----------------|---|--|
| 1              | Head of the monitoring cell (Managing Partner of the Company)       | Mr. Aby Mathew                                     |
| 2              | Head in charge (Environment)  | Mr. Girish Menon                                   |
| 2              | Senior Environmental Officer  | Dr. Rinoy Varghese                                 |
| 3              | Environmental Officer   | Mr. Navin Xavier                                   |
| 4              | Name of the environmental officers in charge at Site                | Mr. P. Rajeev & Mr. Girish G.R                     |
| 5              | Name of the officer of Environment, Health and safety at Site       | Mr. Suneesh C.S                                    |
| 6              | Name of the Asst. officer of Environment, Health and safety at Site | Mr. Roy K.P  |
| 7              | Name of the environmental consultant                                | M/s Environmental Engineers & Consultants Pvt. Ltd |
| 8              | Address of Environmental laboratory                                 | M/s Poluchem Laboratory Pvt. Ltd.                  |

➤ **Condition 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.

✓ **Compliance**

**Along the sides of the tarred road and open parking areas are almost covered by natural vegetation. We planted in the remaining area with less vegetation using suitable tree saplings,. The photographs showing the same are attached as Annexure No.2.**

➤ **Condition 4**

Maximum possible solar energy generation and utilization shall done at the own cost of the project proponent.

✓ **Compliance**

**For the present quarry project, we provided solar energy devices at the project site. Solar light systems has erected in mines, crusher and magazine area. A Biogas plant is also maintaining and it associates with canteen and is using for kitchen purposes. Photographs showing solar energy devices are given in Annexure 3.**

➤ **Condition 5**

Sprinklers shall be installed and used in the project site to contain dust emission.

✓ **Compliance**

**For the suppression of the dust generated during Crushing & Screening operation, Company has installed fixed water sprinkling systems in the Crushing units. The road system of the project site, approached road and other connected roads, loading and unloading areas has been watering daily by sprinkler system installed in tipper lorry since the starting of the project. Photographs showing sprinkler system installed in the crusher unit and tipper lorry is given in Annexure 4.**

➤ **Condition 6**

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

✓ **Compliance**

**Eco-restoration comprising the mine closure plan will execute at our own cost. Subsequent to the closure of the mine, 10% of the mined out area will be retained as water storage area. In the remaining area, it is proposes to develop a green belt after reclaimed with stacked dumping and overburden. As part of the same, we have stored the top soil and overburden in a prefixed area.**

➤ **Condition 7**

At least 10 percent out of the total excavated pit area should be retained as water storage area and the remaining area should be reclaimed with stacked dumping and overburden and planted with indigenous plant species that are eco-friendly, if no other specific condition on reclamation of pit is stipulated in the E.C.

✓ **Compliance**

**Ten percent of the excavated pit area will be retained as water storage area after the closure of the mine. It is plan to grow a green belt in the remaining area with indigenous plant species after reclaimed with stacked dumping and overburden. Grass and Shrub species with strong root system will plant in the areas prone to erosion especially at the foot of the hill.**

➤ **Condition 8**

Corporate Social Responsibility (CSR) agreed upon by the proponent should be implemented.

✓ **Compliance**

**For the activities regarding the Corporate Social Responsibility, the amount agreed by the company has been spending for various social activities. The major CSR activities includes; Education support, Drinking water supply, Health support, Promotion of Sports and Cultural Activities, Material supply to poor for home construction etc.**

➤ **Condition 9**

The lease area shall be fenced off with barbed wires to a minimum height of 4ft around, before starting of mining. All the boundary indicators (boards, stores, markings, etc.) shall be protected at all times and shall be conspicuous.

✓ **Compliance**

**Barbed metal wire fencing has installed around the mining area with a height of 4 ft to prevent falling of animals/human/belongings/dumping of garbage's etc. All the boundary indicators (boards, stores, markings, etc.) has protected. The photograph showing the same is attached as Annexure No.5**

➤ **Condition 10**

Warning alarms indicating the time of blasting (to be done at specific timings) has to be arranged as per stipulation of Explosive Department.

✓ **Compliance**

**Warning alarm has installed in the project area and maintaining properly. The blasting time has fixed and is between 1.0pm and 2.0pm. A danger board indicating blasting time has installed in the project site.**

➤ **Condition 11**

Control measures on noise and vibration prescribed by KSPCB should be implemented.

✓ **Compliance**

**Noise pollution**

**Mitigation measures Implemented**

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

- **Proper maintenance of machinery, equipments and improvement of design of machines.**
- **Personal protective devices i.e., earmuffs, ear plugs etc. are provided to workers working in high noise areas.**
- **Maintain a wide green belt of dense foliage between mine areas and residential colonies.**
- **The mining area is working only during day times.**

- **Noise quality is checked periodically. The sound levels are monitored through an NABL accredited laboratory during the quarry in operation and the monitored results are well within the permissible limits.**

#### **Blast vibrations and control measures**

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

#### ➤ **Condition 12**

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

#### ✓ **Compliance**

**We are carrying out quarrying operations during day time only.**

#### ➤ **Condition 13**

Blasting should be in a controlled manner as specified by the regulations of Explosive department or any other concerned agency.

#### ✓ **Compliance**

#### **Blasting**

- ❖ **The controlled blasting is proposed by adopting all the safety measures as per “MMR 1961” and with the permission of DGMS. We use NONEL detonators for blasting activities.**
- ❖ **Blasting is carried out for the fragmentation of the granite within the project area. Multiple blast holes of 1.0 to 1.5 m depth will be drilled with the help of 32mm drill rod, Jack Hammer and air compressor of 100 cm capacity.**

- ❖ **It is estimated about 250g of explosives per hole is required. About 30-50 holes per blast are proposed. Therefore the requirement of explosive will be about 10kg/ blast.**

#### **Blasting safeguard**

- ❖ **Blasting in the open cast is done only during day time at designated hours.**
- ❖ **Only competent blasters are appointed to handle explosives.**
- ❖ **Explosives are stored in approved and licensed magazine as per explosive Act/ Rules.**
- ❖ **Explosives are brought from magazine to blasting site in licensed explosive van under the care of blaster.**
- ❖ **Sufficient warning signals are given before blasting the holes.**
- ❖ **Guards are posted on all roads and paths at least 250 m distance to stop entrance to the danger zone during the blasting hour.**
- ❖ **Controlled blasting is practiced to control vibrations and flying fragments.**
- ❖ **Optimum charge is used, while blasting near office complex/ infrastructure site.**
- ❖ **Maximum charge per delay is always being less than 10kg to limit the PPV levels within the DGMS standards of 15 mm/sec.**

#### **➤ Condition 14**

A licensed person should supervise/ control the blasting operations.

#### **✓ Compliance**

**Competent person is supervising the blasting operations. Copy of the competence certificate is attached as Annexure 6.**

#### **➤ Condition 15**

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

✓ **Compliance**

**Entry road to the quarry has tarred and maintaining well to contain dust emissions that may arise during transportation of materials. The photographs showing the same is enclosed as Annexure 7.**

➤ **Condition 16**

Overburden materials should be managed within the site and used for reclamation of mine pit as per mine closure plan/ specific condition.

✓ **Compliance**

**We have been storing top soil and overburden in a prefixed location within our property for the reclamation of mine pit as per mine closure plan/EC conditions. Photographs showing the top soil dump is attached as Annexure 8.**

➤ **Condition 17**

Height of the benches should not exceed 5m, and width should not be less than 5m, if there is no mention in the mining plan/ specific condition.

✓ **Compliance**

**Quarrying operation is carrying out in the form of benches. The proposed height and width of the benches are maintaining. Photograph showing the bench type mining is enclosed as Annexure 9.**

➤ **Condition 18**

Mats to reduce fly rock blast to a maximum of 10 PPV should be provided.

✓ **Compliance**

**Mats to prevent fly rock during blasting has provided. Several other safety measures are also practicing to prevent fly rocks cross the lease area. Blasting during unfavorable weather conditions has avoided. Maintain optimum delay sequence and stem to column ratio to minimize the fly rock distance.**

➤ **Condition 19**

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

✓ **Compliance**

**In the current quarrying project, the exploitation of mineral is from 150-40m MSL in conceptual phase. Mining depth will not exceed beyond 10m from general ground level.**

➤ **Condition 20**

No mining operation should be carried out at places having a slope greater than 45°.

✓ **Compliance**

**Quarrying operations is carrying out only at regions having a slope greater than 45°.**

➤ **Condition 21**

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

✓ **Compliance**

**Dense vegetation covers the entire project area and this can reduce sound amplifications produced during quarrying activities. Crusher unit has covered by thick Green belt and metal sheet covering is also fixed. Through all this, the noise level will be limited within the prescribed standards given by CPCB/KSPCB. Photograph showing the crusher unit covered by green belt and metal sheet covering is attached as Annexure 10.**

➤ **Condition 22**

The workers on the site should be provided with the required protective equipment such as ear muffs, helmets, etc.

✓ **Compliance**

**We are providing personal protective devices such as earmuffs, ear plugs, helmet etc. to the workers have at the site. Blasting shelters are also arranged in the mining site.**

➤ **Condition 23**

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

✓ **Compliance**

**For the current quarry project, an abandoned excavated pit is using as storm water pond. The storm water from the entire project area is channelizing in to it and stored the storm water in it. During this storage all the debris/slit in the storm water will be sedimented in to the bottom of the pit. Sediment from the storm water pond has removed periodically. Photograph showing storm water pond is attached as Annexure 11.**

➤ **Condition 24**

The transportation of minerals should be done in covered trucks to contain dust emissions.

✓ **Compliance**

**All trucks are covered with tarpaulin sheets after loading to control dust emissions during transportation. Moreover trucks are not overloading and the loads are maintained to the body level. Photograph showing the loaded trucks covered with tarpaulin sheets is attached as Annexure 12.**

➤ **Condition 25**

The proponent should plant at least 5 times of the loss that has been occurred while clearing the land for the project.

✓ **Compliance**

**Project team planting trees 5 times of the loss that has been occurred while clearing the land for the project. Most of the land in the present**

**EC area are already under mining. Thus the loss of plants are very negligible.**

➤ **Condition 26**

Disposal of spent oil from diesel engines should be as specified under relevant rules/regulations.

✓ **Compliance**

**Disposal of spent oil from diesel engines is carrying out under relevant rules/regulations.**

➤ **Condition 27**

Explosive should be stored in magazines in isolated place specified and approved by the Explosive Department.

✓ **Compliance**

**Explosives are storing in magazines built in an isolated place specified and approved by the Explosives Department. Photograph showing the Explosive magazines constructed in isolated place is attached as Annexure 13.**

➤ **Condition 28**

A minimum 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.

✓ **Compliance**

**Distance of 100m from the boundary of the quarry to the nearest dwelling unit or other structures has provided.**

➤ **Condition 29**

100 m buffer distance should be maintained from forest boundaries.

✓ **Compliance**

**There is no forest area near to the project area**

➤ **Condition 30**

Consent from Kerala State Pollution Control Board under Water and Air Act(s) should be obtained before initiating mining activity.

✓ **Compliance**

**Consent from Kerala State Pollution Control Board under Water and Air Act(s) has obtained. Consent Order from Kerala State Pollution Control Board is attached as Annexure 14.**

➤ **Condition 31**

All other statutory clearances should be obtained as applicable by project proponents from the respective competent authorities including that blasting and storage of explosives.

✓ **Compliance**

**All statutory approvals required for the quarrying activity is obtained for the project. The details regarding the same along with the copy of the statutory approvals are enclosed as Annexure 15 and 16. Details of statutory approvals are given below.**

| Sl. No. | Annexure | Statutory approvals   |
|---------|----------|---|
| 1       | 15       | License from Panchayat  |
| 2       | 16       | License to possess: (c) for use, explosives of class 1, 2, 3, 4, 5, 6 or 7. |

➤ **Condition 32**

In the case of any change(s) in the scope of the project, extent quantity, process of mining technology involved or in any way affecting the environmental parameters/impacts are assessed, based on which only the E.C. 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.

✓ **Compliance**

**Would be complied**

➤ **Condition 33**

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

✓ **Compliance**

**We agreed**

➤ **Condition 34**

The stipulation by the statutory authorities under different acts and notifications should be complied with including the Water (Prevention and Control of Pollution) Act 1974, The Air (Prevention and Control of Pollution) Act, 1981, The Environment (Protection) Act, 1986, the Public Liability (Insurance) Act, 1991 and EIA Notification 2006.

✓ **Compliance**

**The stipulation by the statutory authorities under different acts and notifications are also complying.**

➤ **Condition 35**

The project Proponent should advertise in at least two local newspapers widely circulated in the region one of which (both the advertisement and the newspaper) shall be in the vernacular language informing that the project has been accorded Environmental Clearance and copies of clearance letters are available with the State Environmental Impact Assessment Authority (SEIAA) office and may also be seen on the website of the Authority at [www.seiaa.kerala.org](http://www.seiaa.kerala.org). The advertisement should be made within 10 days from the date of receipt of the clearance letter and the copy of the same signed in all pages should be forwarded to the office of the Authority as confirmation.

✓ **Compliance**

**Accordance of environmental clearance to the quarrying activity has advertised in two local newspapers and the copy of the same was submitted to SEIAA Kerala. The copies of the advertisements are provided at Annexure 11 & 12. Details of the newspaper advertisements are given below.**

| Sl. No. | Annexure | Name of the Newspaper and edition | Dated      |
|---------|----------|-----------------------------------|------------|
| 1       | 17       | New Indian Express                | 29/03/2018 |
| 2       | 18       | Mathrubhumi                       | 29/03/2018 |

➤ **Condition 36**

A copy of the clearance letter shall be send by the proponent to concerned Grama panchayat/ District panchayat/ Municipality/ Corporation/ Urban local body and also to the Local NGO if any, from whom suggestions/ representations if any, were received while processing the proposal. The Environmental Clearance shall also be put on the website of the company by the proponent.

✓ **Compliance**

**A copy of the environmental clearance order was submitted to the Panchayat office. The acknowledgement received is provided at Annexure 19. There is no suggestion/representation received so far from anybody. The environmental clearance order is uploaded in the website of the company and can be seen in the website [www.msand.in](http://www.msand.in)**

➤ **Condition 37**

The proponent shall submit half yearly reports on the status of compliance of the stipulated E.C. 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 E.C. conditions, including result of monitored data on website and shall update the same periodically. It shall simultaneously be send to the respective Regional office, of MOEF, Govt. of India and also to the State Environmental Impact Assessment Authority (SEIAA) office.

✓ **Compliance**

**Fifth compliance report for the period of April 2020 to September 2020 is being submitted to SEIAA, Department of Environment and Climate change, Govt. of Kerala and Regional Office of MoEF, Govt. of India.**

➤ **Condition 38**

The details of environmental clearance should be prominently displayed in a metallic board of 3ft x 3ft with green background and yellow letters of Times New Roman font of size of not less than 40. Sign board with extent of lease area and boundaries shall be depicted at the entrance of the quarry visible to the public.

✓ **Compliance**

**Details 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 fond has installed. Photograph showing the same is attached as Annexure 20**

➤ **Condition 39**

The proponent should provide notarized affidavit (indicating the number and date of environmental clearance proceedings) that all the conditions stipulated in the E.C. shall be scrupulously followed.

✓ **Compliance**

**An affidavit stating that all the conditions stipulated in the Environmental clearance will be scrupulously followed has submitted to Department of Environment and climate change and the copy of the same is attached at Annexure 21.**

➤ **Condition 40**

No change in mining technology and scope of work should be made without prior approval of the SEIAA, No further expansion or modifications in the mines shall be carried out without prior approval of the SEIAA, as applicable.

✓ **Compliance**

**We will not make any change in mining technology and scope of work without prior approval of the SEIAA and further expansion or modifications in the mines will not be carried out without prior approval of the SEIAA.**

➤ **Condition 41**

The project proponent shall ensure that no natural water course and/or water recourses shall be obstructed due to any mining operations. Necessary safe guard measures to protect the first order streams if any, originated from the mine lease shall be taken.

✓ **Compliance**

**We ensure that no natural water course and/or water recourses has not obstructed due to any mining operations. There is no first order streams originated from the mine lease.**

➤ **Condition 42**

Monitoring of Ambient Air Quality to be carried out based on the notification 2009, as amended from the time to time by the Central Pollution Control Board. Water sprinkling should be increased at places loading and unloading points and transfer points to reduce fugitive emission.

✓ **Compliance**

**We are monitoring the Ambient Air Quality based on the notification 2009, as amended from the time to time by the Central Pollution Control Board. Water sprinklers has installed at places such as loading and unloading points and transfer points to reduce fugitive emission.**

➤ **Condition 43**

The top soil, if any, shall be temporarily be stored at earmarked site(s) only for the top soil shall be used for land reclamation and plantation. The overburden generated during the mining operation shall be stacked at earmarked dump site(s) only. The maximum height of the dump shall not exceed 8m and width 20m and overall slope of the dump shall be maintained to 45°. The O.B. dump 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 the stabilization of the dump. The entire excavated area shall be backfilled. Monitoring and management of rehabilitated area should continue until the vegetation become self-sustaining.

✓ **Compliance**

**The project team has earmarked the area for dumping the overburden generated during the mining operation. The maximum height of the dump are maintaining below 8m and width 20m and overall slope of the dump are maintaining to 45°. The O.B. dump are scientifically vegetating with suitable native species to prevent erosion and surface run off. In critical areas, we will use geo textiles undertaken for the stabilization of the dump. The entire excavated area will be backfilled. We are also monitoring and managing the rehabilitated area until the vegetation become self-sustaining.**

➤ **Condition 44**

Catch drains and siltation ponds of appropriate site shall be constructed around the mine working mineral and O.B. dumps to prevent runoff 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.

✓ **Compliance**

**Catch drains and siltation ponds of appropriate site has constructed around the mine working, mineral and O.B. dumps to prevent runoff water and flow of sediments directly into the river and other water bodies. The water so collected are using for watering the mine area, roads, green belt development etc. The drains are regularly desilting particularly after monsoon and maintained properly.**

➤ **Condition 45**

Effective safe guard measures such as regular water sprinkling shall be carried out in critical areas porn to air pollution and having high levels of PM<sub>10</sub> and PM<sub>25</sub> such as haul road loading and uploading points and transfer points. It shall be ensure that the Ambient Air Quality Parameters conform to the norms prescribed by the Central Pollution Control Board in this regard.

✓ **Compliance**

**Operative safe guard measures such as regular water sprinkling are carrying out in critical areas porn to air pollution and having high levels of PM<sub>10</sub> and PM<sub>25</sub> such as haul road loading and uploading points and transfer points. It is ensuring that the Ambient Air Quality Parameters conform to the norms prescribed by the Central Pollution Control Board in this regard.**

➤ **Condition 46**

Fugitive dust emission from all the sources should be controlled regularly. Water spraying arrangements on haul roads, loading and unloading at transfer points. Should be provided and properly maintained.

✓ **Compliance**

**Fugitive dust emission from all the sources are controlling regularly. Water spraying arrangements on haul roads, loading and unloading at transfer points has arranged and properly maintained.**

➤ **Condition 47**

Measures should be taken for the control of Noise level below 85 DBA in the work environment.

✓ **Compliance**

**Diverse measures are taking for the control of noise level below 85 DBA in the work environment. We are also checking the Ambient Sound level periodically.**

➤ **Condition 48**

A separate Environment Management Cell with suitable qualified personal should be setup under the control of a senior executive who will directly report to the head of the organization.

✓ **Compliance**

**A separate Environment Management Cell with suitable qualified personal has formed under the control of a senior executive who are directly reporting to the head of the organization. All the environment management plans are monitored by this cell.**

➤ **Condition 49**

The funds earmarked for the 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 State Environmental Impact Assessment Authority (SEIAA) office.

✓ **Compliance**

**The funds earmarked for the Environmental protection measures and CSR activities are not diverting for other purposes. We will reports year wise expenditure of CSR and Environmental protection measures to the State Environmental Impact Assessment Authority (SEIAA) office.**

➤ **Condition 50**

The regional office of MOEF and CC located at Bangalore shall monitor compliance of the stipulated conditions. The project Authorities should

extent full co-operation to the officer (s) of the regional office by furnishing the requisite data/information/monitoring reports.

✓ **Compliance**

**We will extent full co-operation to the MOEF officer (s) of the regional office by furnishing the requisite data/information/monitoring reports.**

➤ **Condition 51**

Any appeal against the Environmental Clearance shall lie with the National Green Tribunal, if preferred within a period of 30 days as prescribed under section 16 of the National Green Tribunal Act, 2010.

✓ **Compliance**

**There is no appeal against this Environmental Clearance with the National Green Tribunal.**

➤ **Condition 52**

Concealing the factual data or submission of false/fabricated data and failure to comply with any of the conditions mentioned above may result in the withdrawal of this clearance and attract action under the provision of Environmental Protection Act, 1986.

✓ **Compliance**

**We agreed**

➤ **Condition 53**

The SEIAA may revoke, or suspend the order for non-implementation of any of the specific or this implementation of any of the conditions is not satisfactory. The SEIAA reserves the right to alter/modify the above conditions or stipulate any further conditions or stipulate any further conditions in the interest of Environmental Protection.

✓ **Compliance**

**We agreed**

➤ **Condition 54**

The above conditions shall prevail notwithstanding anything to the contrary in consistent or simplified, contained in any other permit, license on consent given by any other authority for any other project.

✓ **Compliance**

**We agreed**

➤ **Condition 55**

The order is valid for a period of 5 years or the expiry date of mining lease period issued by the Government of Kerala, whichever is earlier.

✓ **Compliance**

**We agreed**

➤ **Condition 56**

The Environmental Clearance will be subject to the final order of the courts in any pending litigation related to the land or project, in any court of law.

✓ **Compliance**

**There is no pending litigation related to the land or project, in any court of law regarding this project.**

➤ **Condition 57**

The mining operation shall restrict to above ground water table and it should not intersect ground water table.

✓ **Compliance**

**We are carrying out mining activity above the ground water table only and it will not intersect ground water table.**

➤ **Condition 58**

All vehicles used for transportation and within the mine shall have 'PUC' certificate from authorized pollution taking center. Washing of all vehicles shall be in the lease area.

✓ **Compliance**

**All vehicles using for the transportation within the mine have obtained 'PUC' certificate from authorized pollution taking center and all the vehicles are washing within in the lease area only.**

➤ **Condition 59**

Project proponent should obtain necessary prior permission of the competent authorities for withdrawal of requisite quantity of surface water and ground water for the project.

✓ **Compliance**

**Presently we are using harvested rainwater for the entire water need of the project. We will obtain necessary prior permission of the competent authorities for withdrawal of requisite quantity of surface water and ground water if needed.**

➤ **Condition 60**

Regular monitoring of flow rates and water quality upstream and down streams of the spring and perennial nallahs flowing in and around the mining lease area shall be carried out and reported in the six monthly reports to the SEIAA.

✓ **Compliance**

**There is no spring and perennial nallahs flowing in and around the mining lease area.**

➤ **Condition 61**

Occupational Health surveillance programme of the workers should be under taken periodically to observe any contractions due to exposure to dust and take corrective measures if needed.

✓ **Compliance**

**We are carrying out the Occupational Health surveillance programme of our workers periodically to observe any contractions due to exposure to dust and take corrective measures if needed in connection with Mines Vocational Training.**

## ANNEXURE 1



**Photograph showing the excavated pit and concrete tank using as rainwater harvesting system**

**ANNEXURE 2**

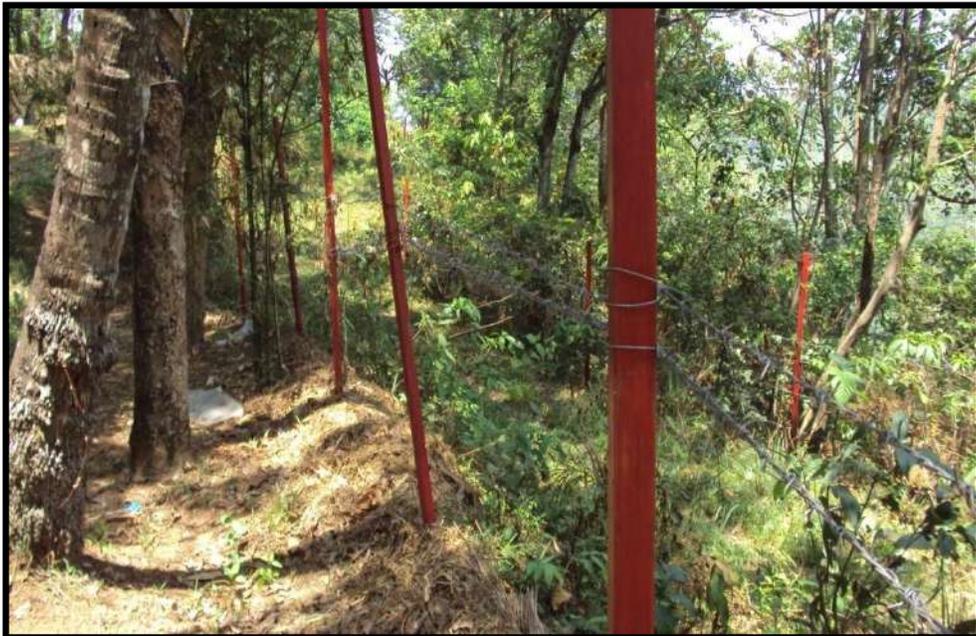
**Photograph showing the tree planted along the road sides**

**ANNEXURE 3**

**Photographs showing solar light installed in connection with the present Project**

**ANNEXURE 4**

**Photographs showing sprinkler system installed in the crusher unit and tipper lorry**

**ANNEXURE 5**

**Photograph showing the barbed metal wire fencing erected around the mining area**



**ANNEXURE 7**

**Photograph showing access road constructed with concrete bricks**

## ANNEXURE 8



**Photographs showing the top soil storage area**

## ANNEXURE 9



**Photographs showing the bench type mining**

**ANNEXURE 10**

**Photograph showing crusher unit encircled with green belt and metal sheet enclosure**

**ANNEXURE 11**

**Photograph showing the storm water pond**

## ANNEXURE 12



**Photographs showing the trucks covered with tarpaulin sheets after loading**

**ANNEXURE 13**

**Photograph showing the Explosive magazines constructed in isolated place**

## ANNEXURE 14



## KERALA STATE POLLUTION CONTROL BOARD

FILE NO. :PCB/PTA/ICO/QR/201/2015

Date of issue :09/04/2018

## INTEGRATED CONSENT TO OPERATE - RENEWAL

Consent No : QCO/PTA/195/R1/2018

Ref : 1.CONSENT NO:QCO/PTA/195/2015,DATE OF ISSUE:17/07/2015,VALID UP TO:30/06/2018

2.APPLICATION NO:6960452,SUBMITTED ON:26/02/2018

The ' Integrated Consent to Operate' issued as per reference above to M/s PANACHAYIL INDUSTRIES,KOLABHAGOM P O,THADIYOOR,PATHANAMTHITTA is hereby renewed up to 03/01/2021 and issued to M/s PANACHAYIL INDUSTRIES,KOLABHAGOM P O,THADIYOOR,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                   | 03/01/2021  |
| 2     | 1.1. a. Month & Year of Renewal | 03/10/2021  |
| 3     | 1.5. Survey number              | 16/2,16/4-1,16/4 (Area in hectares - 0.7504)  |
| 4     | 1.12. Annual fee/Fee remitted   | Rs.22000/- Rs.123087/- (Rs. 110000 + Rs.13087)  |
| 5     | 1.13. Capital Investment        | 75.04 Lakhs   |
| 6     | 1.16. Machinery Details         | Compressor-62HP each 2 Nos,Jack hammer - 5 Nos,Tractor Compressor-2 nos ,Breaker-125 Hp -1No,Excavator-135hp-3nos,,DG set-180 KVA |
| 7     | Sy.no and Village               | 16/2,16/4-1,16/4 of Thottapuzhassery Village.   |

## II. Stack Details

| Stack No. | Source of Emission | Emission Rate(Nm <sup>3</sup> /Hr) | Stack Height above      |                       | Control Equipment |
|-----------|--------------------|------------------------------------|-------------------------|-----------------------|-------------------|
|           |                    |                                    | Ground Level(In Meters) | Roof Level(In Meters) |                   |
|           |                    |                                    |                         |                       |                   |

Page1

ANNEXURE 15



ലൈസൻസ് നമ്പർ : സി9 -542/2020-21 തീയതി: 17.03.2020

**തോട്ടപ്പുഴശ്ശേരി ഗ്രാമപഞ്ചായത്തിൽ നിന്നും**

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

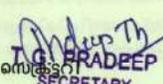
**ഫാക്ടറികൾ, വ്യാപാരങ്ങൾ, സംരംഭങ്ങൾ, മറ്റു സേവനങ്ങൾ എന്നിവയ്ക്കായി നൽകുന്ന**

**ലൈസൻസ്**

|   |  |                             |
|---|--|-----------------------------|
| ലൈസൻസിയുടെ പേരും മേൽവിലാസവും  | ശ്രീ.എബി മാത്യു.മാനേജിംഗ് പാർട്ണർ, പനച്ചിൽ ഇൻഡസ്ട്രീസ്, കോളഭാഗം.പി.ഒ   |                             |
| സ്ഥാപനത്തിന്റെ പേരും സ്ഥാലതാമസവും   | പനച്ചിൽ ഇൻഡസ്ട്രീസ്, കോളഭാഗം.പി.ഒ  |                             |
| ലൈസൻസ് നൽകിയിട്ടുള്ള പ്രവർത്തനങ്ങൾ  | പാറ ഖനനം നടത്തുന്നതിന് SURVEY NO.- 3/5pt,11/2, 11/4, 12/2,12/3,12/5,12/6,16/2,16/4,16/4-1,16/3,17/8,18/1   |                             |
| ലൈസൻസ് കാലയളവ്  | 01.04.2020 മുതൽ 03.01.2021 വരെ   |                             |
| ഈടാക്കിയ ലൈസൻസ് ഫീസ്  | Rs 10000/- license, Rs 6540/-machinary.  | 119020101361 dtd 03.03.2020 |
|   | തൊഴിൽക്കരം 2500/രൂപ  | 119080100126 dtd 03.03.2020 |
| ലൈസൻസ് അനുവദിക്കുന്നതിനായി ഹാജരാക്കിയ നിരാക്ഷേപപത്രങ്ങളുടെ വിവരങ്ങൾ (നമ്പർ, തീയതി, കാലയളവ്, നൽകിയ അധികാരസ്ഥാനം) | <p>1.മലിനീകരണ നിയന്ത്രണ ബോർഡിൽ നിന്നുള്ള അനുമതി.</p> <p>a) QCO/PTA/14/R/4/2018 Dated 10.04.2018, VALID UP TO 20.01.2021.</p> <p>b) QCO/PTA/195/R1/2018 Dated 09.04.2018, VALID UP TO 03.01.2021</p> <p>c) QCO/PTA/192/R1/2018 Dated 10.04.2018, VALID UP TO 25.08.2022.</p> <p>2.EXPLOSIVE LICENSE -</p> <p>ESC/KL22/150(E11315) Dated 02.03.2020, UP TO 31.03.2023.</p> <p>ESC/KL38/5(E35531) Dated 02.03.2020, UP TO 31.03.2025</p> <p>3.പാറ പൊട്ടിക്കുന്ന ആളിന്റെ വൈദ്യഗ്യാമെന്റിനുള്ള സർട്ടിഫിക്കറ്റ്.</p> <p>4.QUARRY LEASE</p> <p>a) 256/1/09 Dated 20.01.2009 VALID UP TO 20.01.2021</p> <p>b) 388/1/09 Dated 27.02.2009 VALID UP TO 01.03.2021.</p> <p>c) 1783/1/0 Dated 18.11.2010 VALID UP TO 19.09.2021</p> <p>5.PROCEEDINGS OF DIRECTOR OF MINING &amp; GEOLOGY</p> <p>a) 561/2008-09/10672/M3/2008 dated 18.12.2008 Survey.no 11/2, 11/4, 12/2, 12/3, 12/5, 12/6, 3/5pt</p> <p>b) 713/2008-09/10257/M3/2009 dated 17.02.2009 survey no. 16/2, 16/4, 16/4-1.</p> <p>c) 142/2010-11/4223/M3/2010 dated 01.06.2010 Survey.no 16/3, 17/8, 18/1</p> <p>6.STATE ENVIRONMENTAL IMPACT ASSESSMENT AUTHORITY CLEARANCE.</p> <p>a) ENVIRONMENTAL CLEARANCE NO 122/16 UP TO 03.01.2021.</p> <p>b) ) ENVIRONMENTAL CLEARANCE NO 34/18 UP TO 16.03.2023.</p> |                             |



(ഓഫീസ് മുദ്ര)



T.G. BRADEEP  
SECRETARY  
Thottappuzhassery Gramapanchayat  
Maramon P.O., Pathanamthitta (Dist)  
Kerala State, India-Pin - 689 549  
Ph: 0468 2214387, 9496042633



## ANNEXURE 16

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

संख्या (No.): E/SC/KL/22/150(E11315) दिनांक (Date): 02/03/2020

सेवा में | To,  
 M/s.PANACHAYIL INDUSTRIES,  
 WEST OTHERA Post, TIRUVALLA, Town/Village - WEST OTHERA  
 District-PATHANAMTHITTA, State-Kerala, Pincode - 689551

विषय : Survey No(s).163/1A3, ग्राम Thottapuzhacherry, Thiruvalla taluk, जिला PATHANAMTHITTA, राज्य Kerala में विस्फोटक के मैगजीन में उपयोग के लिए कब्जा हेतु विस्फोटक नियम, 2008 के अंतर्गत LE-3 में जारी अनुज्ञप्ति सं E/SC/KL/22/150(E11315) के नवीनीकरण संदर्भ में।

Subject: Possession for Use of Explosives from magazine situated at Survey No(s).:163/1A3, Thottapuzhacherry, Thiruvalla taluk, Dist. PATHANAMTHITTA, Kerala -Licence No.: E/SC/KL/22/150(E11315) granted in Form LE-3 of Explosives Rules, 2008 - Renewal regarding

महोदय | Sir,

आपका उपर्युक्त विषय पर पत्र संख्या 24986 दिनांक 20/02/2020 का संदर्भ ग्रहण करें। विस्फोटक नियम, 2008 के अंतर्गत प्ररूप LE-3 में जारी अनुज्ञप्ति दिनांक 31/3/2023 तक नवीनीकृत कर इस पत्र के साथ भेजी जा रही है।  
 Reference to your letter No.: 24986 dated: 20/02/2020, the subject licence duly renewed upto 31/3/2023 and issued in Form LE-3 of Explosives Rules, 2008 is forwarded herewith.

अनुज्ञप्ति के आगामी नवीकरण हेतु कृपया निम्नलिखित दस्तावेज दिनांक 31/03/2023 से पहले इस कार्यालय को भेजे जाएं।  
 For further renewal of licence, please submit the following documents so as to reach this office on or before 31/3/2023.

- प्ररूप आरई-1 में विधिवत पूर्ण एवं हस्ताक्षरित आवेदन।  
 Application in Form RE-1 duly filled in and signed.
- एक से पाँच वर्ष के अनुज्ञप्ति शुल्को का, विस्फोटक नियम, 2008 के तहत ऑनलाइन आवेदन पोर्टल पर उपलब्ध ई-भुगतान सुविधा के माध्यम से लाइसेंस शुल्क ऑनलाइन जमा किया जाना है।  
 Licence fees renewable for one to five years, to be submitted online through e-payment facility available on online application portal under the Explosives Rules, 2008.
- अनुमोदित प्लान के साथ मूल अनुज्ञप्ति।  
 Original licence with approved plan.
- कृपया इस संबंध में विस्फोटक नियम, 2008 के नियम 112 का भी संदर्भ ग्रहण करें।  
 In this connection, please also refer to Rule 112 of Explosives Rules, 2008.
- विस्फोटकों के क्रय हेतु आरई-11 में मांगपत्र (इंडेंट) आपूर्तिकर्ता को दिया जाए और उसी की एक प्रति इस कार्यालय को भेजी जाए (आतिशबाजी गोदाम के लिए लागू नहीं)।  
 Indent for purchase of explosives shall be placed in RE-11 with the supplier and copy of the same shall be sent to this office.(Not applicable for fireworks store house)
- कृपया विस्फोटकों की त्रैमासिक विवरणी हर तिमाही के अंत में आरई-7 में प्रस्तुत की जाएं। विवरणी इस कार्यालय के कार्यालय में आगामी तिमाही के 10 तारीख से पहले पहुंच जानी चाहिए (आतिशबाजी गोदाम के लिए लागू नहीं)। Please submit quarterly returns of explosives in RE-7 at the end of every quarter so as to reach this office by 10th of the succeeding quarter.(Not applicable for fireworks store house)
- सभी ब्लास्टिंग आपरेशन एक सक्षम द्वारा की जाएगी जो उपरोक्त नियमों के तहत एक वैध शॉट फायर प्रमाणपत्र धारक हो। हालांकि, खान अधिनियम 1952 के अधीन आने वाले खानों में ब्लास्टिंग आपरेशन करने वाले ब्लास्टर की योग्यता उसी अधिनियम से निर्धारित हो।  
 All blasting operations shall be carried out by a competent person holding a valid shot firer's permit granted under above rules. However, blasting operations in mines coming under the purview of the Mines Act 1952, the blaster shall have qualifications prescribed in the regulations framed under the said Act.

भवदीय | Your's faithfully  
  
 (आर.वेणुगोपाल | Dr.-R.Venugopal)  
 उप मुख्य विस्फोटक नियंत्रक | Deputy Chief Controller of Explosives  
 कोच्ची | Ernakulam  
 Deputy Chief Controller of Explosives  
 कोच्ची | Ernakulam

प्रतिलिपि प्रेषित | Copy Forwarded to:  
 1. जिला मजिस्ट्रेट (District Magistrate), PATHANAMTHITTA (Kerala)- सूचना के लिए (for information.)  
 उप मुख्य विस्फोटक नियंत्रक | Deputy Chief Controller of Explosives  
 कोच्ची | Ernakulam

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

(विस्फोटक नियम, 2008 की अनुसूची 4 के भाग 1 के अनुच्छेद 3(क) से (घ) देखिए।)  
(See article 3(a) to (d) of Part 1 of Schedule IV of Explosives Rules, 2008)

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

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

अनुज्ञप्ति सं. (Licence No.) : E/SC/KL/22/150(E11315)

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

Licence is hereby granted to

M/s.PANACHAYIL INDUSTRIES (अधिभोगी / Occupier : BINU. K MATHEW), WEST OTHERA Post, TIRUVALLA, Town/Village - WEST OTHERA, District-PATHANAMTHITTA, State-Kerala, Pincode - 689551

को अनुज्ञप्ति अनुदत्त की जाती है।

अनुज्ञप्तिधारी की प्रास्थिति | Status of licensee : Partnership Firm

अनुज्ञप्ति निम्नलिखित प्रयोजनों के लिए विधिमान्य है।

possess for use of Nitrate Mixture, Safety Fuse, Electric and/or Ordinary Detonators, - के उपयोग के लिए

Licence is valid only for the following purpose.

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

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

| क्र<br>Sr. No. | नाम और विवरण<br>Name and Description | वर्ग और प्रभाग<br>Class & Division | उप-प्रभाग<br>Sub-division | मात्रा किसी एक समय में<br>Quantity at any one time |
|----------------|--------------------------------------|------------------------------------|---------------------------|--|
| 1.             | Nitrate Mixture                      | 2,0                                | 0                         | 250 Kg.  |
| 2.             | Safety Fuse                          | 6,1                                | 0                         | 5000 Mtrs  |
| 3.             | Electric and/or Ordinary Detonators  | 6,3                                | 0                         | 5000 Nos.  |

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

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

20 times  
as above.

निम्नलिखित रेखाचित्र (रेखाचित्रों) से अनुज्ञप्त परिसर की पुष्टि होती है।

रेखाचित्र क्र. (Drawing No.) E/SC/KL/22/150(E11315)  
दिनांक (Dated) 17/12/1992

The licensed premises shall conform to the following drawing(s): .

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

Survey No(s). 163/1A3, ग्राम (Town/Village) : Thottapuzhacherry, Thiruvalla taluk,

जिला (District) PATHANAMTHITTA राज्य (State) Kerala पिनकोड (Pincode)

दूरभाष (Phone) ई.मेल (E-Mail) फैक्स (Fax)

अनुज्ञप्ति परिसर में निम्नलिखित सुविधाएं अंतर्विष्ट हैं।

: PORTABLE MAGAZINES B & S TYPE

The licensed premises consist of following facilities.

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

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

- उपर्युक्त क्रम सं. 5 में यथा कथित रेखाचित्र (स्थान, सन्निर्माण संबंधी और अन्य विवरण दर्शित करते हुए)।  
Drawings (showing site, constructional and other details) as stated in serial No. 5 above.
- अनुज्ञप्ति प्राधिकारी द्वारा हस्ताक्षरित इस अनुज्ञप्ति की शर्तों और अतिरिक्त शर्तों।  
Conditions and Additional Conditions of this licence signed by the licensing authority.
- दूरी प्ररूप DE-2 | Distance Form DE-2.

9. यह अनुज्ञप्ति तारीख 31 मार्च 1994 तक विधिमान्य रहेगी। This licence shall remain valid till 31st day of March 1994.

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 लागू हो।

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

Sd/-

तारीख | The Date - 17/12/1992

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

**Amendments :**

- Amendment of Quantity of Explosives/Monthly Purchase Limit dated : 23/05/2011
- Amendment of Quantity of Explosives/Monthly Purchase Limit dated : 01/08/2011
- Amendment of Quantity of Explosives/Monthly Purchase Limit dated : 04/10/2012
- Amendment of Quantity of Explosives/Monthly Purchase Limit dated : 03/09/2018

**Transfers :**

- Change in Licensee Name/Address/Status dated : 22/09/2017

नवीनीकरण के पृष्ठांकन के लिए स्थान  
Space for Endorsement of Renewal

| नवीकरण की तारीख<br>Date of Renewal | समाप्ति की तारीख<br>Date of Expiry | अनुज्ञापन प्राधिकारी के हस्ताक्षर और स्टाम्प<br>Signature of licensing authority and stamp   |
|------------------------------------|------------------------------------|--|
| 02/03/2020                         | 31/03/2023                         | Dy. Chief Controller of Explosives, Ernakulam<br>उप-मुख्य विस्फोटक नियंत्रक<br>Deputy Chief Controller of Explosives<br>एरनाकुलम Ernakulam |

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



# ANNEXURE 18

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KYRM

2018 നവംബർ 28 • മുഴുനീള വാർത്തകൾ

## വാർത്തകൾ 05

### സർക്കാർ വൈദ്യവർഗ്ഗത്തിന് ഇനി വെള്ളപ്പൊക്കം കുറയ്ക്കാനുണ്ട്

**മുഖ്യമന്ത്രിയുടെ സമീപനം**

മുഖ്യമന്ത്രിയുടെ സമീപനം നേരിട്ട സർക്കാർ വൈദ്യവർഗ്ഗത്തിന് ഇനി വെള്ളപ്പൊക്കം കുറയ്ക്കാനുണ്ട്. മുഖ്യമന്ത്രിയുടെ സമീപനം നേരിട്ട സർക്കാർ വൈദ്യവർഗ്ഗത്തിന് ഇനി വെള്ളപ്പൊക്കം കുറയ്ക്കാനുണ്ട്. മുഖ്യമന്ത്രിയുടെ സമീപനം നേരിട്ട സർക്കാർ വൈദ്യവർഗ്ഗത്തിന് ഇനി വെള്ളപ്പൊക്കം കുറയ്ക്കാനുണ്ട്.

### അന്യരായവർക്കിടയിലേക്ക് വെള്ളപ്പൊക്കം കുറയ്ക്കാനുണ്ട്

അന്യരായവർക്കിടയിലേക്ക് വെള്ളപ്പൊക്കം കുറയ്ക്കാനുണ്ട്. മുഖ്യമന്ത്രിയുടെ സമീപനം നേരിട്ട സർക്കാർ വൈദ്യവർഗ്ഗത്തിന് ഇനി വെള്ളപ്പൊക്കം കുറയ്ക്കാനുണ്ട്.

**NATIONAL AVUSH MISSION**

**CAREER NOTIFICATION**

37,63,300

| Post                                 | Qualification & Experience   | Age Limit | Gender |
|--------------------------------------|--|-----------|--------|
| 1. Assistant Commissioner (Revenue)  | B.A. / B.Com. / B.L.S. / B.A. / B.Com. / B.L.S. / B.A. / B.Com. / B.L.S. | 21 to 35  | Male   |
| 2. Assistant Commissioner (Revenue)  | B.A. / B.Com. / B.L.S. / B.A. / B.Com. / B.L.S. / B.A. / B.Com. / B.L.S. | 21 to 35  | Male   |
| 3. Assistant Commissioner (Revenue)  | B.A. / B.Com. / B.L.S. / B.A. / B.Com. / B.L.S. / B.A. / B.Com. / B.L.S. | 21 to 35  | Male   |
| 4. Assistant Commissioner (Revenue)  | B.A. / B.Com. / B.L.S. / B.A. / B.Com. / B.L.S. / B.A. / B.Com. / B.L.S. | 21 to 35  | Male   |
| 5. Assistant Commissioner (Revenue)  | B.A. / B.Com. / B.L.S. / B.A. / B.Com. / B.L.S. / B.A. / B.Com. / B.L.S. | 21 to 35  | Male   |
| 6. Assistant Commissioner (Revenue)  | B.A. / B.Com. / B.L.S. / B.A. / B.Com. / B.L.S. / B.A. / B.Com. / B.L.S. | 21 to 35  | Male   |
| 7. Assistant Commissioner (Revenue)  | B.A. / B.Com. / B.L.S. / B.A. / B.Com. / B.L.S. / B.A. / B.Com. / B.L.S. | 21 to 35  | Male   |
| 8. Assistant Commissioner (Revenue)  | B.A. / B.Com. / B.L.S. / B.A. / B.Com. / B.L.S. / B.A. / B.Com. / B.L.S. | 21 to 35  | Male   |
| 9. Assistant Commissioner (Revenue)  | B.A. / B.Com. / B.L.S. / B.A. / B.Com. / B.L.S. / B.A. / B.Com. / B.L.S. | 21 to 35  | Male   |
| 10. Assistant Commissioner (Revenue) | B.A. / B.Com. / B.L.S. / B.A. / B.Com. / B.L.S. / B.A. / B.Com. / B.L.S. | 21 to 35  | Male   |

The last date of submission of applications is 31.03.2018

State Welfare Director (M&A)

### പട്ടികജാതിക്കാർക്ക് വിടിനു നൽകിയ ഭൂമിയിൽ ഹോംസ്റ്റേ

#### മുഖ്യമന്ത്രിയുടെ സമീപനം



മുഖ്യമന്ത്രിയുടെ സമീപനം നേരിട്ട സർക്കാർ വൈദ്യവർഗ്ഗത്തിന് ഇനി വെള്ളപ്പൊക്കം കുറയ്ക്കാനുണ്ട്.

മുഖ്യമന്ത്രിയുടെ സമീപനം നേരിട്ട സർക്കാർ വൈദ്യവർഗ്ഗത്തിന് ഇനി വെള്ളപ്പൊക്കം കുറയ്ക്കാനുണ്ട്.

#### അയ്യപ്പൻ ഇന്ന് പള്ളി വേട്ട; നാളെ ആറാട്ട്

അയ്യപ്പൻ ഇന്ന് പള്ളി വേട്ട; നാളെ ആറാട്ട്. മുഖ്യമന്ത്രിയുടെ സമീപനം നേരിട്ട സർക്കാർ വൈദ്യവർഗ്ഗത്തിന് ഇനി വെള്ളപ്പൊക്കം കുറയ്ക്കാനുണ്ട്.



അയ്യപ്പൻ ഇന്ന് പള്ളി വേട്ട; നാളെ ആറാട്ട്.

### നിർത്തിയിട്ടിരുന്ന കാറിന് തിപിടിച്ച് ഉമ മരിച്ചു



നിർത്തിയിട്ടിരുന്ന കാറിന് തിപിടിച്ച് ഉമ മരിച്ചു.

നിർത്തിയിട്ടിരുന്ന കാറിന് തിപിടിച്ച് ഉമ മരിച്ചു. മുഖ്യമന്ത്രിയുടെ സമീപനം നേരിട്ട സർക്കാർ വൈദ്യവർഗ്ഗത്തിന് ഇനി വെള്ളപ്പൊക്കം കുറയ്ക്കാനുണ്ട്.

### ചക്രസേരയിലെ കിടപ്പുമുറയിൽ കയ്ക്ക് നടക്കാൻ മോഹം



ചക്രസേരയിലെ കിടപ്പുമുറയിൽ കയ്ക്ക് നടക്കാൻ മോഹം.

ചക്രസേരയിലെ കിടപ്പുമുറയിൽ കയ്ക്ക് നടക്കാൻ മോഹം. മുഖ്യമന്ത്രിയുടെ സമീപനം നേരിട്ട സർക്കാർ വൈദ്യവർഗ്ഗത്തിന് ഇനി വെള്ളപ്പൊക്കം കുറയ്ക്കാനുണ്ട്.

ചക്രസേരയിലെ കിടപ്പുമുറയിൽ കയ്ക്ക് നടക്കാൻ മോഹം. മുഖ്യമന്ത്രിയുടെ സമീപനം നേരിട്ട സർക്കാർ വൈദ്യവർഗ്ഗത്തിന് ഇനി വെള്ളപ്പൊക്കം കുറയ്ക്കാനുണ്ട്.

### അറിയിപ്പ്

അറിയിപ്പ്. മുഖ്യമന്ത്രിയുടെ സമീപനം നേരിട്ട സർക്കാർ വൈദ്യവർഗ്ഗത്തിന് ഇനി വെള്ളപ്പൊക്കം കുറയ്ക്കാനുണ്ട്.

**Kerala Social Security Mission**

Secretary of the Mission

2018-19

**ശിശു സാരകരണ സ്ഥാപനങ്ങളുടെ ഭരണസൂചിക**

**അവസാന തീയതി: 31/03/2018**

ശിശു സാരകരണ സ്ഥാപനങ്ങളുടെ ഭരണസൂചിക. മുഖ്യമന്ത്രിയുടെ സമീപനം നേരിട്ട സർക്കാർ വൈദ്യവർഗ്ഗത്തിന് ഇനി വെള്ളപ്പൊക്കം കുറയ്ക്കാനുണ്ട്.

**MUTUALFUNDS ശриമാണ്**

“ലോങ്ങ്-ടേം പ്ലാനിങ്ങ് ചെയ്യാനാണോ.”

മുഖ്യമന്ത്രിയുടെ സമീപനം നേരിട്ട സർക്കാർ വൈദ്യവർഗ്ഗത്തിന് ഇനി വെള്ളപ്പൊക്കം കുറയ്ക്കാനുണ്ട്.

**അറിയിപ്പ്**

അറിയിപ്പ്. മുഖ്യമന്ത്രിയുടെ സമീപനം നേരിട്ട സർക്കാർ വൈദ്യവർഗ്ഗത്തിന് ഇനി വെള്ളപ്പൊക്കം കുറയ്ക്കാനുണ്ട്.

## ANNEXURE 19

| Thottapuzhassery Grama Panchayat<br>Maramon P.O., Phone: 04682214337 |  | A 8682205 |
|--|--|-----------|
| <b>ACKNOWLEDGEMENT (Not for Cash Transactions)</b>                   |  |           |
| Inward No  | 1337   | Year 2018 |
| Date of Receipt  | 03/04/2018   |           |
| Name of Applicant  | ABY MATHEW MANAGING PARTNER,<br>PANACHAYIL INDUSTRIES, WEST OTHER    |           |
| Subject  | ENVIRONMENTAL CLEARANCE<br>CERTIFICATE-NO<br>960/EC4/4470/2015/SEIAA |           |
| Date of Delivery   |  |           |
| Section  | C2   |           |
| Remarks :  |  |           |
| Counter No. & Staff :  | Secretary  |           |

KREWS (GLM, KANJIKODE) 2014

Cheques are subject to realisation

## ANNEXURE 20



## ANNEXURE 21



കേരളം കേരल KERALA

AR 839705

**AFFIDAVIT**

I, Aby Mathew, Managing Partner & Authorized Signatory of M/s Panachayil Industries having its correspondence office at West Othera P.O., Thiruvalla, Pathanamthitta, Kerala – 689 551 do hereby affirm and confirm as follows:-

1. That, M/s Panachayil Industries proposes to develop a Quarry project at Survey Nos. 3/5pt, 3/6pt, 11/2, 11/7, 11/3, 11/4, 12/3, 12/2, 12/6, 12/5, 16/3, 18/1pt, 17/8, 10/2-1, 10/3-1, 10/4, 3/8pt at Thottapuzhassery Village and Panchayat, Thiruvalla Taluk, Pathanamthitta District, Kerala.



*[Handwritten Signature]*

*[Handwritten Signature]*  
A.P. Gokula Chandran, B.A.;LL.B.  
Advocate & Notary  
Roll No:K/86/71 Thiruvalla.

no. 99332 ₹ 50/-

21-2-18.

Aby Mathew, Mg. Partner  
Panachayil Industries  
West Othera P.O.  
Thiruvalla.

KRISHNAN KUTTY NARAYAN  
THIRUVALLA VENDOR





കേരളം കേരल KERALA

AR 839706

2. That, the following specific conditions will be complied.
- That, at the base of the worked out pit with cliff like structure, at least 15m buffer distance will be provided as a no development zone as a measure of safety.
  - That, if any plant species endemic to Western Ghats are noticed in the area they will be properly protected in situ or by transplanting to an appropriate location outside the lease area.



*[Handwritten Signature]*

*A.P. Gokula Chandran*  
A.P. Gokula Chandran, B.A., LL.B.  
Advocate & Notary  
Roll No: K/86/71 Thiruvalla.

No. 99333 2501-Parachayil Industries  
21-12-18

Aby Mathew, Mg: Partner  
West Ollera P.O.  
Thiruvalla.





കേരളം കേരल KERALA

AR 839707

3. That, we hereby commit that to set apart an amount of Rs. 31 Lakhs (non-recurring) and Rs.33 Lakhs per annum (recurring) for CSR activities in consultation with the local panchayat for the welfare of the local community.
4. That, the general and specific conditions in the environmental clearance order will be followed.



*[Signature]*  
DEPONENT

*[Signature]*  
A.P. Gokula Chandran, B.A., B.L.,  
Advocate & Notary Public,  
Roll No: K/86/71 Thiruvalla



10.99334 ₹ 50/- Abg Mathew M: Partner  
Panchayat Industries  
West Obvara P.O  
Thiruvalla

KRISHNAN KUTTY NAIK  
THIRUVALLA KERALA



കേരളം കേരल KERALA

AR 839708

**Verification:**

Verified that my above statements are true to the best of my knowledge and belief and nothing material has been concealed therein.

*[Signature]*  
 DEPONENT

Place: Pathanamthitta

Date: 21-02-2018

*Solemnly affirmed and signed before me by the deponent who is personally known to me in my office at Thiruvalla on this the 21st day of Feb. 2018.*



*[Signature]*  
 A.P. Gokula Chandran, B.A., LL.B.  
 Advocate & Notary  
 Reg. No. A/8671 Thiruvalla.

*[Signature]*



Ln/o 99335 2501 - Aby Mathew Mg: Parthar  
 Panachayil Industries  
 West Oboora PO  
 Thiruvalla

## Air, water and Sound Analysis Reports



### POLUCHEM LABORATORIES (P) LTD.

CHEMICAL, ENVIRONMENTAL AND MICROBIOLOGY LABORATORY  
PALLATH BUILDING, N. KALAMASSERY P. O., ERNAKULAM - 683104

Phone : 0484-2544030, 8281982322, 9747400085, 9747400089, www.poluchem.com, poluchem@gmail.com

ACCREDITED BY KSPCB AS "A" GRADE LABORATORY

#### TEST REPORT

Page 01 of 01

|  |                             |   |
|--|-----------------------------|---|
| Client Name & Address  | Certificate No:             | PL/AMB/RT/350/2020  |
| M/s. Panachayil Industries<br>Thottapuzhassery<br>Thiruvalla<br>Kerala | Date of issue:              | 21/01/2020  |
|  | Date of monitoring          | 14/01/2020 10.00 Hrs to 14/01/2020 10.00 Hrs  |
|  | Date of sample received:    | 16/01/2020  |
|  | Date of analysis            | 16/01/2020  |
|  | Monitoring Location         | M/s. Panachayil Industries,<br>Survey Nos.: 15/7,15/15,16/5,16/2,20/1,19/1,<br>15/9part,21/5,21/6part,16/4-1 & 16/4<br>Village -Thottapuzhassery ,<br>Panchayath- Thottapuzhassery,<br>Taluk- Thiruvalla<br>Pathanamthitta District ,Kerala |
|  | Sample description          | Ambient air – Near East side boundary   |
|  | Sample code given by client | Nil   |

| SL NO | PARAMETERS                              | TEST METHOD                 | RESULTS                | Limit as per NAAQS    |
|-------|---|-----------------------------|------------------------|-----------------------|
| 01    | Particulate Matter (PM <sub>10</sub> )  | IS 5182 Part 23 2006RA2012  | 56.2 µg/m <sup>3</sup> | 100 µg/m <sup>3</sup> |
| 02    | Particulate Matter (PM <sub>2.5</sub> ) | CPCB                        | 28.7 µg/m <sup>3</sup> | 60 µg/m <sup>3</sup>  |
| 03    | Sulphur dioxide                         | IS 5182 Part 2 2001 RA 2017 | 10.2 µg/m <sup>3</sup> | 80 µg/m <sup>3</sup>  |
| 04    | Nitrogen dioxide                        | IS 5182 Part 06 2006 RA2017 | 14.7 µg/m <sup>3</sup> | 80 µg/m <sup>3</sup>  |

Note: NAAQS-National Ambient Air Quality Standards

\* End of the Report\*

The results are related only to the sample collected for analysis. This certificate shall not be reproduced except in full and without the written permission with authorized signatory.

For and on behalf of  
POLUCHEM LABORATORIES (P) LTD.

  
 AUTHORIZED SIGNATORY

SREEJA RAMESH  
 Quality Manager  
 PoluChem Laboratories (P) Ltd



## POLUCHEM LABORATORIES (P) LTD.

CHEMICAL, ENVIRONMENTAL AND MICROBIOLOGY LABORATORY  
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ACCREDITED BY KSPCB AS "A" GRADE LABORATORY

### TEST REPORT

Page 01 of 01

|  |                     |  |
|--|---------------------|--|
| Client Name & Address  | Certificate No:     | PL/RT/SD/351/2020  |
| M/s. Panachayil Industries<br>Thottapuzhassery<br>Thiruvalla<br>Kerala | Date of issue:      | 21/01/2020   |
|  | Date of monitoring  | 14/01/2020 10.00 Hrs to 14/01/2020 10.00 Hrs   |
|  | Monitoring Location | M/s. Panachayil Industries,<br>Survey Nos.: 23/5-1, 21/4, 21/6,20/1 & others<br>Village -Thottapuzhassery ,<br>Panchayath- Thottapuzhassery,<br>Taluk- Thiruvalla<br>Pathanamthitta District ,Kerala |
|  | Sample Description  | Ambient Sound Level (Leq)  |
| Monitoring Location  | Time                | Results  |
| East side boundary   | 10.00 Hrs           | 54.6 dB (A)  |
|  | 11.00 Hrs           | 54.8 dB (A)  |
|  | 12.00 Hrs           | 53.4 dB (A)  |
|  | 13.00 Hrs           | 54.2 dB (A)  |
|  | 14.00 Hrs           | 56.3 dB (A)  |
|  | 15.00 Hrs           | 51.4 dB (A)  |
|  | 16.00 Hrs           | 50.2 dB (A)  |
|  | 17.00 Hrs           | 51.3 dB (A)  |
|  | 18.00 Hrs           | 49.8 dB (A)  |
|  | 19.00 Hrs           | 42.3 dB (A)  |
|  | 20.00 Hrs           | 39.5 dB (A)  |
|  | 21.00 Hrs           | 38.4 dB (A)  |
|  | 22.00 Hrs           | 35.2 dB (A)  |
|  | 23.00 Hrs           | 36.3 dB (A)  |
|  | 00.00 Hrs           | 35.7 dB (A)  |
|  | 01.00 Hrs           | 37.4 dB (A)  |
|  | 02.00 Hrs           | 38.9 dB (A)  |
|  | 03.00 Hrs           | 39.6 dB (A)  |
|  | 04.00 Hrs           | 41.2 dB (A)  |
| 05.00 Hrs  | 42.3 dB (A)         |  |
| 06.00 Hrs  | 43.6 dB (A)         |  |
| 07.00 Hrs  | 46.5 dB (A)         |  |
| 08.00 Hrs  | 47.6 dB (A)         |  |
| 09.00 Hrs  | 48.2 dB (A)         |  |
| Leq (Day time)   |                     | 54.7 dB (A)  |
| Leq (Night time)   |                     | 36.3 dB (A)  |

\*End of the Report \*

For PoluChem Laboratories (P) Ltd.

Authorized Signatory

SREEJA KAMATH  
Quality Manager  
PoluChem Laboratories (P) Ltd.



## POLUCHEM LABORATORIES (P) LTD.

CHEMICAL, ENVIRONMENTAL AND MICROBIOLOGY LABORATORY

PALLATH BUILDING, N. KALAMASSERY P. O., ERNAKULAM - 683104

Phone : 0484-2544030, 8281982322, 9747400085, 9747400089, www.poluchem.com, poluchem@gmail.com

ACCREDITED BY KSPCB AS "A" GRADE LABORATORY

### TEST REPORT

Ref.No. PL/RT/OW/352/2020

Date of Issue: 21/01/2020

Page 01 of 02

Name & address of customer

: M/s. Panachayil Industries  
Thottapuzhassery  
Thiruvalla, Kerala

Project Site

: M/s. Panachayil Industries,  
Survey Nos.: 15/7,15/15,16/5,16/2,20/1,19/1,  
15/9part,21/5,21/6part,16/4-1 & 16/4  
Village -Thottapuzhassery ,  
Panchayath- Thottapuzhassery,  
Taluk- Thiruvalla  
Dist- Pathanamthitta ,Kerala

Sample drawn by

: PoluChem Laboratory Sample Collector

Sample description

: Drinking Water

Location of sampling

: Open Well water-North Side

Date of sample collected

: 15/01/2020

Date of analysis started

: 16/01/2020

Date of completion of analysis

: 20/01/2020

| Parameters tested                     | Test method                   | Results      | Acceptable Limit As Per IS 10500-2012 |
|---------------------------------------|-------------------------------|--------------|---------------------------------------|
| Color                                 | IS 3025 (P) 04 – 1983 RA2017  | 4 Hazen Unit | 5 Hazen Unit                          |
| Odour                                 | IS 3025 (P) 05 – 1983 RA2017  | Agreeable    | Agreeable                             |
| Turbidity                             | IS 3025 (P) 10 – 1984 RA2017  | BDL          | 1 NTU                                 |
| pH                                    | IS 3025 (P) 11 – 1983 RA 2017 | 5.69         | 6.5 – 8.5                             |
| Total Dissolved Solids                | IS 3025 (P) 16 – 1984 RA2017  | 51 mg/l      | 500 mg/l                              |
| Total Hardness as CaCO <sub>3</sub>   | IS 3025 (P) 21 – 1983 RA2014  | 19.7 mg/l    | 200 mg/l                              |
| Total Alkalinity as CaCO <sub>3</sub> | IS 3025 (P) 23 – 1986 RA2014  | 8.4 mg/l     | 200 mg/l                              |
| Residual Chlorine                     | IS 3025 (P) 26 – 1986 RA2014  | BDL          | 0.2 mg/l                              |
| Chloride as Cl <sup>-</sup>           | IS 3025 (P) 32 – 1988 RA2014  | 18.4 mg/l    | 250 mg/l                              |
| Calcium as Ca                         | IS 3025 (P) 40 – 1991 RA2014  | 4.16 mg/l    | 75 mg/l                               |
| Magnesium as Mg                       | IS 3025 (P) 46 – 1994 RA2014  | 1.87 mg/l    | 30 mg/l                               |
| Total Iron as Fe                      | IS 3025 (P) 53 – 2003 RA2014  | 0.17 mg/l    | 0.3 mg/l                              |
| Sulphate as SO <sub>4</sub>           | IS 3025 (P) 24 – 1986 RA2009  | 4.6 mg/l     | 200 mg/l                              |
| Fluoride as F                         | IS 3025 (P) 60 -2008 RA 2013  | BDL          | 1.0 mg/l                              |

Note : BDL – Below Detection Level

For PoluChem Laboratories (P) Ltd.

Authorized signatory  
SREEJA KAMATH  
Quality Manager  
PoluChem Laboratories (P) Ltd.



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### TEST REPORT

Ref.No. PL/RT/OW/353/2020

Date of Issue: 21/01/2020

Page 01 of 02

Name & address of customer

: M/s. Panachayil Industries  
Thottapuzhassery  
Thiruvalla, Kerala

Project Site

: M/s. Panachayil Industries,  
Survey Nos.: 15/7,15/15,16/5,16/2,20/1,19/1,  
15/9part,21/5,21/6part,16/4-1 & 16/4  
Village -Thottapuzhassery ,  
Panchayath- Thottapuzhassery,  
Taluk- Thiruvalla  
Dist- Pathanamthitta ,Kerala

Sample drawn by

: PoluChem Laboratory Sample Collector

Sample description

: Water Sample

Location of sampling

: Surface Water

Date of sample collected

: 15/01/2020

Date of analysis started

: 16/01/2020

Date of completion of analysis

: 20/01/2020

| Parameters tested                     | Test method                   | Results      | Acceptable Limit As Per IS 10500-2012 |
|---------------------------------------|-------------------------------|--------------|---------------------------------------|
| Color                                 | IS 3025 (P) 04 – 1983 RA2017  | 8 Hazen Unit | 5 Hazen Unit                          |
| Odour                                 | IS 3025 (P) 05 – 1983 RA2017  | Agreeable    | Agreeable                             |
| Turbidity                             | IS 3025 (P) 10 – 1984 RA2017  | 1 NTU        | 1 NTU                                 |
| pH                                    | IS 3025 (P) 11 – 1983 RA 2017 | 6.32         | 6.5 – 8.5                             |
| Total Dissolved Solids                | IS 3025 (P) 16 – 1984 RA2017  | 62.3 mg/l    | 500 mg/l                              |
| Total Hardness as CaCO <sub>3</sub>   | IS 3025 (P) 21 – 1983 RA2014  | 18.4 mg/l    | 200 mg/l                              |
| Total Alkalinity as CaCO <sub>3</sub> | IS 3025 (P) 23 – 1986 RA2014  | 10.6 mg/l    | 200 mg/l                              |
| Residual Chlorine                     | IS 3025 (P) 26 – 1986 RA2014  | BDL          | 0.2 mg/l                              |
| Chloride as Cl <sup>-</sup>           | IS 3025 (P) 32 – 1988 RA2014  | 16.3 mg/l    | 250 mg/l                              |
| Calcium as Ca                         | IS 3025 (P) 40 – 1991 RA2014  | 3.61 mg/l    | 75 mg/l                               |
| Magnesium as Mg                       | IS 3025 (P) 46 – 1994 RA2014  | 1.24 mg/l    | 30 mg/l                               |
| Total Iron as Fe                      | IS 3025 (P) 53 – 2003 RA2014  | 0.39 mg/l    | 0.3 mg/l                              |
| Sulphate as SO <sub>4</sub>           | IS 3025 (P) 24 – 1986 RA2009  | 6.2 mg/l     | 200 mg/l                              |
| Fluoride as F                         | IS 3025 (P) 60 -2008 RA 2013  | BDL          | 1.0 mg/l                              |

Note : BDL – Below Detection Level

For PoluChem Laboratories (P) Ltd.

SREEJA Authorized signatory  
Quality Manager  
PoluChem Laboratories (P) Ltd.