

M/S PLANTERS AGGREGATES



COMPLIANCE REPORT

October 2015– March 2016



**COMPLIANCE REPORT
TO
THE CONDITIONS
OF**

**ENVIRONMENTAL CLEARANCE ORDER
NO: 58/SEIAA/KL/7586/2012**

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

AT
**SURVEY NO. 168
Karukutty VILLAGE & PANCHAYATH, ALWAYS,
ERNAKULAM DISTRICT, KERALA.**

BY
**M/S PLANTERS AGGREGATES,
ERNAKULAM DISTRICT, KERALA.**

(October 2015 - March, 2016)

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INTRODUCTION

M/s Planters aggregates Quarry project is situated at survey no. 168 at Karukutty Village & Panchayath, Alwaye, Ernakulam District, Kerala. The quarry project was accorded with the Environmental Clearance (EC) by State Environmental Impact Assessment Authority on 15.13.2013.

The half yearly compliance report needs to be submitted as part of general condition No.25 of Environmental Clearance order by the project proponent. The compliance report to the specific conditions and general conditions of the Environmental Clearance for the period of January – June, 2016 is being submitted.

SALIENT FEATURES OF THE PROJECT

The project comes under Category B, Activity 1 (a), (i) as per the Schedule of EIA Notification 2006 (since it is below 50 hectares) and as per O.M No. L-11011/47/2011-IA.II (M) dated 18th May 2012 of Ministry of Environment and Forests. It is further categorized as Category B2 as per the O.M No. J-13012/12/2013-IA-II (I) dt.24.12.2013 of Ministry of Environment and Forests, since the area of the project is below 25 hectares.

Geographical location of the project site is in 9⁰59'21.50 to 9⁰59' 12.22" Latitude (N) and 76⁰37'20.43" to 76⁰37'06.07"(E). The quarry is interlinked with a Crusher / M sand unit located within the complex. The Capacity is 2, 70,000 MTA. There are no litigations against the lease area or applicant in any court of law. Topography is hilly. Highest elevation is 88m MSL and lowest 38m MSL. The approximate daily water demand is 5 KLD and total power requirement is 75 kw. The nearest house is located at 108m south west of the proposed quarry.

COMPLIANCE REPORT
(SPECIFIC CONDITIONS)

PART A

PART - A – SPECIFIC CONDITIONS

| | | |
|-----------|---|-----------------|
| 01 | The storm water drainage channels and drainage line to the existing pond in the site and its exit from the site should be made fully functional. | Complied |
|-----------|---|-----------------|

Compliance:

The storm water from entire project area is channeled to the existing pond in the site through well maintained channels and drainage lines. The project made it sure that the storm water exit from the site is without quarry wastes. The storm water drainage and its exit from the site are fully functional at all the time. The photograph showing the exit of drainage form the site is provided at **Plate No.1**.

| | | |
|-----------|---|-------------------------|
| 02 | The depth of the mining should be restricted to the 30m level as agreed in the proposal. | Will be Complied |
|-----------|---|-------------------------|

Compliance:

In the conceptual phase of quarry project, the exploration of mineral is from 145 – 30m RL. Therefore the mining depth will maintain as 30 m as agreed in the proposal.

COMPLIANCE REPORT

(GENERAL CONDITIONS)

PART B

PART – B – GENERAL CONDITIONS

| | | |
|----|--|----------|
| 01 | Rain water harvesting to collect and utilize the entire water falling in land area should be provided. | Complied |
|----|--|----------|

Compliance:

The Rain Water Harvesting (RWH) system is implemented and properly maintained in the project area. Rain water from entire land area is collected in the existing pond which is situated in the lowest level of project area through channels and drainages. Rain water is mainly used for gardening, wetting of roads and sprinkler system for contain dust emission. Two concrete tanks are also used for collecting rain water and its efficient utilization. The photograph showing the rain water collection pond and tank in the project area is attached at **Plate No. 2**.

| | | |
|----|--|----------------|
| 02 | Environment monitoring cell as agreed under the affidavit filed by the proponent should be formed and made functional. | Being complied |
|----|--|----------------|

Compliance:

An Environmental Monitoring Cell (EMC) was formed with Mr. Saji Vadakkekara (proprietor of Planters Aggregates) as head and made functional. Meeting of monitoring cell is arranged every month and discussed the status of the compliance of the specific and general conditions contained in the Environmental Clearance (EC) order. As part of monitoring, the sound levels, ambient air and water are monitored through a NABL accredited laboratory. The monitored results are well within the permissible limits. The results are given at **Annexure No. 11, 12, & 13**. The details of monitoring cell are given below.

TABLE 1 ENVIRONMENTAL MONITORING CELL (EMC)

| Sl. No. | Post | Name |
|---------|---|--|
| 1. | Head of monitoring cell (proprietor) | Saji Vadakkekara |
| 2. | Head in charge (Environmental) | Davis George |
| 3. | Senior Environmental Officer | Reji K. Paul |
| 4. | Asst. officer of Environment, Health and safety at site | Kamalkanth |
| 5. | Environmental consultant | M/s Environmental Engineers & Consultants Pvt. Ltd. A1-198, Janak Puri, New Delhi |
| 6. | Address of Environmental Laboratory | Standards Environmental & Analytical Laboratories, KJ Tower, Udyogamandal, EKM |

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

Compliance:

There are natural vegetation including trees, shrubs and climbers growing in the sides of the tarred road and open parking areas. The name and family of flora is given below in **Table Number 2**. The project is intending to plant suitable avenue trees along either side of the tarred road and open parking areas, where there is less vegetation. The photographs showing the natural vegetation is attached at **Plate No. 3**.

TABLE 2 Details of the natural vegetation existing along the road side is as follows

| Sl. No. | Scientific Name | Common Name | Family | Habit |
|---------|-------------------------------------|-----------------|---------------|---------|
| 1. | <i>Tectona grandis</i> | Thekku | Verbenaceae | Tree |
| 2. | <i>Tabernaemontana alternifolia</i> | Kunnanpala | Apocynaceae | Tree |
| 3. | <i>Chromolaena odorata</i> | Communist-pacha | Compositae | Shrub |
| 4. | <i>Mangifera indica</i> | Mavu | Anacardiaceae | Tree |
| 5. | <i>Ziziphus oenopolia</i> | Thodalli | Rhamnaceae | Climber |

| | | |
|----|--|----------|
| 04 | The project shall incorporate devices for solar energy generation and utilization wherever possible. | Complied |
|----|--|----------|

Compliance:

As part of energy conservation, solar energy generation and utilization the project installed solar street lights near to the office and magazine area. The photograph of the solar street lights is attached at **Plate No. 4.**

| | | |
|----|--|----------|
| 05 | Sprinklers shall be installed and used in the project site to contain dust emissions | Complied |
|----|--|----------|

Compliance:

To contain dust emissions, the project installed sprinklers in the sides of service road, on the top and nearby areas of crusher building and the same is using effectively. The photograph of the sprinklers is attached at **Plate No. 5.**

| | | |
|----|---|------------------|
| 06 | The eco-restoration plan submitted with the proposal should be fully implemented. | Will be complied |
|----|---|------------------|

Compliance:

The eco- restoration plan will be carried out as per the proposal submitted. The project converted a sloppy land in to benches by systematically dumping the overburden. To prevent soil erosion this has covered with a *geotex* coir mat and planted grass. As part of eco - restoration, the project is intending to plant various saplings and medicinal plant on the prepared benches. The photograph of benches covered by coir mat is attached at **Plate No. 6.**

| | | |
|----|--|----------------|
| 07 | Corporate social responsibility agreed upon by the proponent should be implemented | Being complied |
|----|--|----------------|

Compliance:

The project carried out many activities under corporate social responsibility, such as treatment support, promotion of sports and culture, aid for constructing houses and toilets, promotion of environment, etc. The project is providing food provisions to Emmanuel orphanage in every month. The details of activities under CSR are given below. The bills and receipts of the same are attached at **Annexure No. 1.**

Table 3 The details of performed activities under CSR

| Sectors | Activities | Partners | Beneficiaries | Location | Amount spent in Rs. |
|------------------------|--|--------------------------------------|-------------------------------------|----------|---------------------|
| Promotion of education | Donation | Educational service society of India | Children from economically backward | | 1,000 |
| Health care | Provide provisions for nutritious food | Nil | Destitute children of Emmanuel home | | 92,400 |

| | | | | | |
|--------------------------------------|--|--------------------------------|------------------------|--|-------|
| | Treatment support | Kerala Leprosy patients guild | | | 100 |
| | Treatment support | | Shaji P A | | 2,000 |
| Promotion of Arts and culture | Donation for festival | <i>Sasthampara temple</i> | Public | | 2,000 |
| | <i>Donation for festival</i> | Sreenarayana Kshetram | Public | | 5,000 |
| | <i>Donation for festival</i> | <i>Kodusseri Muthappan</i> | Public | | 2,000 |
| | <i>Donation for cultural Festival</i> | SNDP Library | Public | | 3,000 |
| | Donation for Festival | St. George Church | Public | | 3,000 |
| | Donation for cultural programme | Niracharthu | Public | | 5,000 |
| | Donation for Cultural programme | Che guvera Cultural Center | Public | | 500 |
| | Donation | Sree Bhadra trust | Public | | 500 |
| | Donation | Kaipallikkatil temple | Public | | 500 |
| | Donation for Kavadi programme | Vigneswara Kavbadi sangam | Public | | 1000 |
| | Donation | SRVCS | Public | | 500 |
| | Donation for festival | Mattapilly temple | Public | | 1,000 |
| | Donation for festival | St. Alphonsa Church | Public | | 5,000 |
| | Donation for festival | St. George Church, Munoorpilly | Public | | 2,000 |
| | Donation for festival | Vellapara temple | Public | | 3,300 |
| Infrastructure Development | Crusher products for construction of house | Nil | Jorly jose, Puthuisery | | 2,500 |

| | | | | | |
|----------------------------|--|-------------------------------------|--------------------------|--|-----------------|
| | Crusher products for construction of house | Nil | Biju K N, Kollam Mukalil | | 1,700 |
| | Crusher products for construction of house | | Shaju AR, Arakkal | | 7,500 |
| | Crusher products for construction of house | | Aprem, Arakkal | | 3,200 |
| | Crusher products for construction of house | | Shailaja Managatta | | 3,180 |
| | Crusher products and donation for waiting shed | Nattorumma | Public | | 4,000 |
| Environment | Donation | Paristhithi bodhavalkara na samithi | Public | | 1,000 |
| | Doantion | Pollution control Federation | Public | | 2,000 |
| Total amount in Rs. | | | | | 1,37,822 |

| | | |
|-----------|--|-----------------|
| 08 | Barbed metal wire fencing around the mining area shall be provided with a height of not less than 5 ft so that the falling of animals/human/belongings/dumping of garbage's etc. does not happen. | Complied |
|-----------|--|-----------------|

Compliance

To prevent the falling of animals/ human/dumping of garbage's etc, barbed metal wire fencing was installed around the mining area at 5ft height. The photograph of the barbed metal wire fencing is attached at **Plate No.7**.

| | | |
|----|---|----------|
| 09 | Warning alarms indicating the time of blasting (to be done at specific timings) has to be arranged as per stipulations of explosive department. | Complied |
|----|---|----------|

Compliance:

Warning alarms installed in the project area. It is working properly prior to the blasting. The blasting time is fixed between 6.00 AM to 6:00 PM. A danger board is also installed which gives information about the blasting time. The photograph showing the danger area, sign board etc, is provided at **Plate No. 8**.

Condition X

| | | |
|----|--|----------|
| 10 | Access roads to the quarry shall be tarred to contain dust emissions that may arise during transportation of materials | Complied |
|----|--|----------|

Compliance:

The project proponent has a crusher unit near to the quarry site in the project land. A well tarred road is maintaining up to crusher unit (2.5 Km) for contain dust emission that may arise during transportation of materials. The access road to the quarry is maintained under sprinkler system to control the dust emission during transportation. This access road is maintaining with granite metals for traveling Hitachi like machines. The photograph is showing the tarred access road, provided at **Plate No. 9**.

Condition XI

| | | |
|----|--|----------------|
| 11 | Overburden material should be managed within the site and the old quarries, if any, should be reclaimed and restored | Being complied |
|----|--|----------------|

Compliance:

The overburden excavated from the quarry is dumping in to three abandoned quarries within the site. The project converted a slope area of abandoned in to benches by systematically dumping the overburden. To prevent soil erosion this has covered with a *geotex* coir mat and planted grass. As part of eco - restoration, the project is intending to plant various saplings and medicinal plant on the prepared benches. The photograph of the overburden is attached as **Plate No. 10.**

| | | |
|----|---|-----------------------|
| 12 | Height of benches should not exceed 5m and width should not be less than 5m. | Being complied |
|----|---|-----------------------|

Compliance:

The project is maintaining the height and width of benches of the quarry with 5m. The minerals are exploring under the supervision of qualified persons so that the project can form the benches systematically. The copy of certificates of second class manager and mines mate are attached at **Annexure No 7 & 8.** The photograph showing the height and width of benches is attached at **Plate No. 11.**

| | | |
|----|---|-------------------------|
| 13 | Mats to reduce fly rock blast to a maximum of 15 PPV should be provided. | Will be complied |
|----|---|-------------------------|

Compliance:

Mats to prevent fly rock during blasting will be arranged shortly.

| | | |
|----|--|-------------------------|
| 14 | Mining depth should not exceed beyond 40m, unless otherwise specifies or not below the level of nearest stream bed whichever is less. | Will be complied |
|----|--|-------------------------|

Compliance:

The exploration of mineral will be maintained as 30 m as agreed in the proposal. To ensure this, the project appointed second class manager and mining mate. The all activities of these qualified persons will be under the supervision and monitoring of Environment Monitoring Cell.

| | | |
|----|---|-----------------|
| 15 | Acoustic enclosures should have been provided to reduce sound amplifications in addition to the provisions of greenbelt and hollow brick envelope for crushers so that the noise level is kept within prescribed standards given by CPCB/KSPCB | Complied |
|----|---|-----------------|

Compliance:

The crusher unit is encircled by green belt. The solid brick housing of crusher and green belt is maintaining the noise level as per CPCB standards. The result of NABEL accredited laboratory of ambient sound level is attached at **Annexure No. 11**. The photograph showing the crusher unit is attached at **Plate No. 12**.

| | | |
|----|---|-------------------------|
| 16 | Assurance in the form of affidavit should be given to SEIAA that eco-restoration including the mine closure plan shall be done at the own cost of the project proponent. | Will be complied |
|----|---|-------------------------|

Compliance:

Assurance in the form of affidavit was already submitted to SEIAA Kerala after getting the Environmental Clearance. The copy of the affidavit is attached at **Annexure No. 10**.

| | | |
|----|--|-----------------|
| 17 | Garland drains to be provided in the lower slopes around the core area to channelize storm water. | Complied |
|----|--|-----------------|

Compliance:

Storm water drains are provided within the lower slopes of project site to channelize the storm water to the storm water collection pond

| | | |
|----|--|-----------------------|
| 18 | Debris/ silt traps to be provided to prevent entry of dust and quarry wastes entering the main streams. | Being complied |
|----|--|-----------------------|

Compliance:

Storm water from entire project area is collected through channels and directed to the existing pond in the site. The deposited silt at the bottom of pond can collect in summer season by using excavator. The over flow water from the pond is released only through the top area and the outlet of the outward channel is protecting with steel mesh to trap the floating debris. This arrangement will prevent the quarry waste from the site to the mainstreams. The photograph showing the silt trap arrangement is attached at **Plate No. 13.**

| | | |
|----|---|-----------------|
| 19 | All other statutory clearances should have been obtained as applicable, by the project proponents from the respective competent authorities that for blasting and storage of explosives. | complied |
|----|---|-----------------|

Compliance:

All statutory approvals required for the quarrying activity is obtained. The copy of the approvals obtained is provided at **Annexure No. 2, 3, 4, 5 & 6**

Table 4 The details of statutory approvals

| Name of the Statutory approval | Name of the Statutory authority | Approval Number & Date |
|---------------------------------------|---|--|
| Environmental Clearance order | State Environmental Impact Assessment Authority, Kerala | 58/SEIAA/KL/7586/2012 Dated: 15/03/2013 |
| “Consent to Operate” | Kerala State Pollution Control Board | File No. 964872 Dated : 10/04.2015 |
| Explosive License | Ministry of Commerce & Industry – Petroleum & Explosives Safety Organization (PESO) | E/SC/KL/22/751(E33224) Dated : 14/3/2016 |
| License for quarry operations | Karukutty Gram Panchayat | 38/16-17 Dated:1/04/2016 |
| Lease order | Directorate of Mining and Geology | 660/2010-11/9439/M3/2010 Dated : 3/1/2011 |

| | | |
|-----------|---|-------------------------|
| 20 | In case of any change(s) in the scope of the project, the project would require a fresh appraisal by this authority. | Will be complied |
|-----------|---|-------------------------|

Compliance:

The project will appear for a fresh appraisal, in case any change in the scope of the project.

| | | |
|-----------|---|-------------------------|
| 21 | The authority reserved the right to add additional safeguard measures subsequently, if found necessary, and to take action including revoking of the environment clearance under the provisions of the Environment (protection) Act, 1986, to ensure effective implementation of the suggested safeguard measures in a time bound and satisfactory manner. | Will be complied |
|-----------|---|-------------------------|

Compliance:

The project will execute all additional possible environmental protection safeguards if authority found it is necessary.

| | | |
|----|--|-------------------------|
| 22 | The stipulations by Statutory Authorities under different Acts and notifications should be complied with, including the provisions of Water (Prevention and control of pollution) Act, 1974, the Air (Prevention and control of pollution) Act 1981, The Environment (Protection) Act, 1986, the public liability (Insurance) Act, 1991 and EIA notification, 2006. | Will be complied |
|----|--|-------------------------|

Compliance:

The project will assure to follow all relevant Acts and Notifications for quarrying activity.

| | | |
|----|--|-----------------|
| 23 | The project proponent should advertise in at least two local newspapers widely circulated in the region. One of which shall be in the vernacular language informing that the project has been accorded environmental clearance and copies of clearance letters area available with the Department of Environment and climate change, Govt. of Kerala and may also be seen on the website of the authority at www.seiaaKerala.org. The advertisement should be made within 10 days from the date of receipt of the clearance letter and a copy of the same should be forwarded to the office of this authority as confirmation. | Complied |
|----|--|-----------------|

Compliance:

An advertisement in two news paper regarding the accordance of environmental clearance to the quarrying activity was given within stipulated period and the copy of the same was submitted to SEIAA. The copy of newspaper advertisement is provided at **Annexure No. 09.**

| | | |
|----|--|----------|
| 24 | A copy of the clearance letter shall be sent by the proponent to concerned Gram Panchayat / District Panchayat / Municipality / Corporation / Urban local Body and also to the local NGO, if any, from whom suggestions / representations, if any, were received while processing the proposal. The clearance letter shall also be put on the website of the company by the proponent. | Complied |
|----|--|----------|

Compliance:

A copy of the environmental clearance letter was submitted to Karukutty Grama Panchayat office on 26/11/2013. Its inward no. is 7405/13. There were no suggestions/representations received while processing the proposal. The environmental clearance order is uploaded in the website of the company and it can be seen in the website www.plantergroup.com.

| | | |
|----|---|----------------|
| 25 | The proponent shall submit six monthly reports on the status of compliance of the stipulated EC conditions including results of monitored data (both in hand copies as well as by e-mail) and upload the status of compliance of the stipulated EC conditions including results of monitored data on their website and shall update the same periodically. It shall simultaneously be sent to the respective Regional Office of MoEF, Govt. of India and also the Directorate of Environment and Climate Change, Govt. of Kerala. | Being complied |
|----|---|----------------|

Compliance:

Shall be complied.

| | | |
|----|--|-----------------|
| 26 | The conditions of the environmental clearance should be prominently displayed in a metallic board of 3 ft x 3 ft with green background and yellow letters of Times New Roman fond size of not less than 40. | Complied |
|----|--|-----------------|

Compliance:

The specific conditions of the environmental clearance prominently displayed in a metallic board of 3 ft x 3 ft with green background and yellow letters of Times New Roman fond was installed. The photograph showing the sign board containing specific conditions is provided at **Plate No. 14**.

| | | |
|----|---|-----------------|
| 27 | The proponent shall provide affidavit that all the conditions stipulated in the EC shall be scrupulously followed. | Complied |
|----|---|-----------------|

Compliance:

An affidavit stating that all the conditions stipulated in the Environmental clearance will be scrupulously followed was submitted to State Environmental Impact Assessment Authority. The copy of affidavit submitted at SEIAA is attached at **Annexure No. 10**.

PLATES

PLATE No. 1



Drainage in the project site

Plate No.2



Rain water collection pond exist in the project site



Rain water collection tank

PLATE No. 3



The natural vegetation maintained along the roadside

PLATE No. 4



Solar street lights installed near to the magazine

PLATE No. 5



Sprinklers Installed in the project area

PLATE No. 6



Benches made by over burden and covered by coir mat

PLATE No. 7



Barbed metal wire fencing with a height of 5 meter

PLATE No. 8



Device for alarm prior to the blasting



Sign board mentioned danger and time of blasting

PLATE No. 9



Tarred road to the crusher unit

PLATE No. 10



Over burden managed within the site

PLATE No. 11



Minerals explored with bench system of 5 m width and height

PLATE No.12



Crusher unit existing in the project site

PLATE No. 13



Slit trap to prevent quarry wastes entering in to the main stream

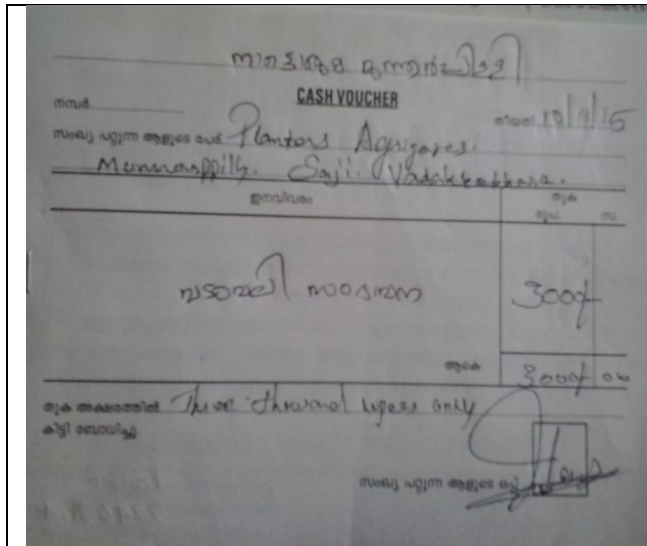
PLATE No. 14



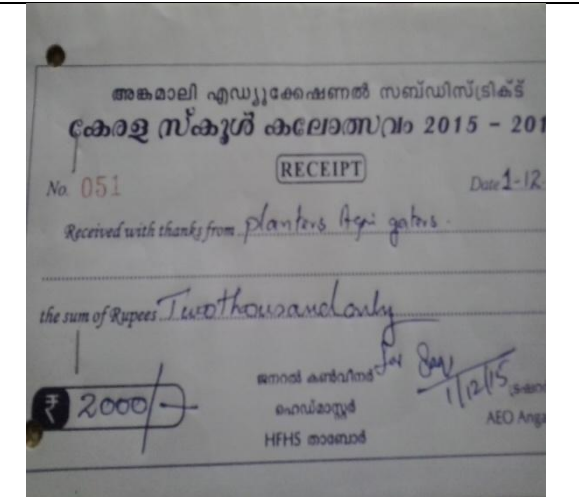
Metallic board described the details of EC

ANNEXURE

ANNEXURE No. 1




നോൻ റേജിമന്റ് രാമൻ രമിൻ Shaju AR
 ക്ഷീരമന്റ് രാമൻ രമിൻ. ഏകദേശം വീട് വെട്ടി പണിയിച്ചിരിക്കുന്നു.
 ഈ പണിക്ക് ഭരണഭാഗത്ത് ഏകദേശം രൂ. 7500/- (ഏഴ് ആയിരം രൂപ) വിലയ്ക്ക് റെസിഡൻ്റ്
 M. S. S. മെമ്പർമാർക്ക് വെട്ടി വിതരണം ചെയ്തു കൊടുത്തിരിക്കുന്നു.
 22-02-2016
 Phone - 9846194314
 (റേജിമന്റ് ഓഫീസ്)
 പി.വി.പി.പി.



K.S.R.MILLS

MOOKKANNOOR - 683 577
 Angamaly, Ernakulam Dist., Kerala
 THE KERALA VALUE ADDED TAX RULES 2005 FORM NO. 8
 (For Vat dealers - Manufactures) [See Rule 58 (10)]



Tin No : 32150835494
 CST No : 1508C003549
 Consignee

Telephone : 0484-2615449
 2615781

TAX INVOICE CASH/CREDIT


| | | | |
|---------------------------------------|--|--------------------------------|--|
| To <u>Planters Ggregates supplied</u> | | Invoice No. : <u>1196</u> | |
| to <u>Immennul or Phange</u> | | Date : <u>19/3/16</u> | |
| TIN <u>FDKhatm</u> | | Purchase Order No. : <u>.</u> | |
| CST | | Terms of Payment : (If any) | |
| Ph:No.....Cell No..... | | | |

| Sl. No. | Commodity Code | Commodity/Item | Rate/ Kg | No. of bags | Weight of bags | Weight Qtls. Kg | Amount Rs. Ps. | |
|----------------------------------|----------------|----------------|----------|-------------|----------------|-----------------|-----------------------|-------|
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | |
| | | Rice | 26 | 8 | 75 | 600 | 15600 | |
| Rupees (in words)..... | | | | | | | 9 Total | 15600 |
| Truck No.....Name of Driver..... | | | | | | | 10 Grand Total (9+10) | 15600 |

DECLARATION (TO BE FURNISHED BY THE SELLER)
 Certified that all the particulars shown in the above Tax Invoice are true and correct in all respects and the goods on which the tax charged and collected are in accordance with the provisions of the KVAT Act 2003 and the rules made there under. It is also certified that my/our registration under KVAT Act 2003 is not subject to any suspension/cancellation and it is valid as on the date of this bill.

Original (For the buyer) Duplicate (For the transport copy)

For K.S.R. MILLS



Authorised Signatory
(With status and seal)

Receipts of activates under CSR

ANNEXURE No. 3

सत्यमेव जयते

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

Sub: SEIAA Kerala - Proposed quarry project in Survey No. 168 at Karukutty Village, Karukutty Panchayath, Alwaye Taluk, Ernakulam District, Kerala by M/s Planters Aggregates – Environmental Clearance under EIA Notification 2006 accorded – Orders issued

Environmental Clearance

No. 58/SEIAA/KL/7586/2012

dated, Thiruvananthapuram 15-03-2013

ORDER

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

It is interalia, noted that the project comes under the Category B, Activity 1(a) of Schedule of EIA Notification 2006. The proposed project site falls within 10°16'N and 76°25' E. The proposed project is for quarrying of 2,88,000 TPA of building granite stone from an area of 4.8033 hectare of land. The expected life of mine will be 16 years. The proposed activity involves about 75 % of the pit area for exploring granite building stone. At the end of life of mine, the reclaimed area will be suitably planted and the remaining void at lower levels of excavated pit will be utilized as water storage/ground water recharge and will be utilized for domestic/agricultural purposes. The proposed project does not involve any underground mining activities. The mining will be done by open cast semi mechanised method of mining. The bench height and width proposed is 5 m. The exploitation of mineral is being done from 145-30 m RL in conceptual phase. A total quantity of 24,000 m³ of top soil from two pits will be removed during the mining operations. The top soil excavated from the quarry shall be dumped separately at predetermined place and subsequently will be utilized in spreading over reclaimed areas for plantation. The top soil will be utilized for green belt development/plantation and will also be utilized for filling the low lying areas or adjacent quarry site. The sewage of 0.8 KLD generated from the mine office will be diverted to the septic tank followed by soak pit. The daily water requirement of 5 KLD will be met from storm water / bore well. There will be fugitive emissions generated during material handling, transportation, loading, unloading, etc. that are proposed to be managed by regular water sprinkling on haul road, green belt development, avoiding overloading of vehicles and limiting the speed of the vehicles. Excavated material is transported to the crusher located at a distance of 0.15 km from the quarry site for further processing.

The SEIAA considered the proposal in its 13th meeting held on 13th December 2012 and 15th meeting held on 22nd February 2013. The SEIAA, after due consideration of the relevant documents and additional clarifications submitted by the project proponent, and in view of the recommendations of SEAC, approved for issuance of Environmental Clearance for the project mentioned above at its 15th meeting held on 22nd February 2013. Accordingly, the State Level Environment Impact Assessment Authority (SEIAA) Kerala constituted by Govt. of India vide Notification No. S.O. 2484(E) dt.3-11-

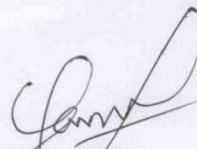
2011 of Ministry of Environment and Forests, Govt. of India, published as Gazette extraordinary No. 2074 on 3-11-2011, hereby accord necessary Environmental Clearance for the above project as per powers vested with it under the provisions of Environment Impact Assessment Notification – 2006 and subsequent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

1. Storm water drainage channels and drainage line to the existing pond in the site and its exit from the site should be made fully functional.
2. The depth of mining should be restricted to the 30 m level as agreed in the proposal.

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

The given address of correspondence of the Authorized Signatory of the project is:- Mr. Saji Vadakkekara, Proprietor, M/s Planters Aggregates, Palissery, Ezhattumugham P.O., Ernakulam, Kerala – 683577; Telephone No: 0484-2439166, 2439167; E-mail: plantersgroup@yahoo.com

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


 10/10 James Varghese IAS
 Member Secretary, SEIAA
 and Principal Secretary to Government
 Environment Department

To
 Mr. Saji Vadakkekara
 Proprietor
 M/s Planters Aggregates
 Palissery, Ezhattumugham P.O.
 Ernakulam, Kerala – 683577.

Copy to :

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

Annexure

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

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

- (xix) All other statutory clearances should have been obtained, as applicable, by project proponents from the respective competent authorities including that for blasting and storage of explosives.
- (xx) In the case of any change(s) in the scope of the project, the project would require a fresh appraisal by this Authority.
- (xxi) The Authority reserves the right to add additional safeguard measures subsequently, if found necessary, and to take action including revoking of the environment clearance under the provisions of the Environment (Protection) Act, 1986, to ensure effective implementation of the suggested safeguard measures in a time bound and satisfactory manner.
- (xxii) The stipulations by Statutory Authorities under different Acts and Notifications should be complied with, including the provisions of Water (Prevention and Control of Pollution) Act, 1974, the Air (Prevention and control of Pollution) act 1981, the Environment (Protection) Act, 1986, the Public Liability (Insurance) Act, 1991 and EIA Notification, 2006.
- (xxiii) The project proponent should advertise in at least two local newspapers widely circulated in the region, one of which shall be in the vernacular language informing that the project has been accorded Environmental Clearance and copies of clearance letters are available with the Department of Environment and Climate Change, Govt. of Kerala and may also be seen on the website of the Authority at www.seiaakerala.org. The advertisement should be made within 10 days from the date of receipt of the Clearance letter and a copy of the same should be forwarded to the office of this Authority as confirmation.
- (xxiv) A copy of the clearance letter shall be sent by the proponent to concerned Grama Panchayat/ District Panchayat/ Municipality/Corporation/Urban Local Body and also to the Local NGO, if any, from whom suggestions / representations, if any, were received while processing the proposal. The clearance letter shall also be put on the website of the company by the proponent.
- (xxv) The proponent shall submit six monthly reports on the status of compliance of the stipulated EC conditions including results of monitored data **(both in hard copies as well as by e-mail)** and upload the status of compliance of the stipulated EC conditions, including results of monitored data on their website and shall update the same periodically. It shall simultaneously be sent to the respective Regional Office of MoEF, Govt. of India and also to the Directorate of Environment and Climate Change, Govt. of Kerala.
- (xxvi) The conditions of Environmental Clearance should be prominently displayed in a metallic board of 3 ft x 3 ft with green background and yellow letters of Times New Roman font of size of not less than 40.
- (xxvii) The proponent should provide affidavit that all the conditions stipulated in the EC shall be scrupulously followed.

Sd/-
Member Secretary, SEIAA Kerala

Annexure No.3

अनुज्ञप्ति प्ररूप एन.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 रर
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/22/751(E33224)
वार्षिक फीस ररूप (Annual Fee Rs): 2400/-

1. Licence is hereby granted to
Saji Vadakkaekara (अधिभोगी / Occupier : Saji Vadakkaekara), Vadakkekara House, Mangattoor, Kolathur,
Ernakulam, Town/Village -, District-, State-, Pincode - 682311

को अनुज्ञप्ति अनुदत्त की जाती है।
को अनुज्ञप्तिधारी की प्रास्थिति | Status of licensee : Individual

2. अनुज्ञप्तिधारी की प्रास्थिति | Status of licensee : Individual

3. अनुज्ञप्ति निम्नलिखित प्रयोजनों के लिए विधिमान्य है।
Licence is valid only for the following purpose,
possess for use of Safety Fuse, Ordinary Detonator, Nitrate Mixture,
Electric Detonators, - के उपयोग के लिए

4. अनुज्ञप्ति विस्फोटकों के निम्नलिखित किस्मों, प्रकार और मात्रा के लिए विधिमान्य है।
Licence is valid for the following kinds and quantity of explosives: -- (क) (a)

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

(ख) किसी एक कलेंडर मास में खरीदे जाने वाले विस्फोटक की मात्रा [अनुच्छेद 3(ख) और (ग) के अधीन अनुज्ञप्ति के लिए] : 20 times
(b) Quantity of explosives to be purchased in a calendar month[applicable for licence under article 3(b) and (c)] : as above.

5. निम्नलिखित रेखाचित्र (रेखाचित्रों) से अनुज्ञप्ति परिसर की पुष्टि होती है।
The licensed premises shall conform to the following drawing(s):
रेखाचित्र क्र. (Drawing No.) E/SC/KL/22/751(E33224)
दिनांक (Dated) 27/12/2005

6. अनुज्ञप्ति परिसर निम्नलिखित पते पर स्थित है। The licensed premises are situated at following address:
Survey No(s). 168, ग्राम (Town/Village) : Karukutty
जिला (District) : ERNAKULAM राज्य (State) : Kerala पुलिस थाना (Police Station) : Karukutty
दूरभाष (Phone) ई.मेल (E-Mail) : Pincode पिनकोड (Pincode)
फैक्स (Fax)

7. अनुज्ञप्ति परिसर में निम्नलिखित सुविधाएं अंतर्विष्ट हैं।
The licensed premises consist of following facilities.
T and G type portable magazine and D type portable magazine

8. अनुज्ञप्ति समय - समय पर यथासंशोधित विस्फोटक अधिनियम, 1884 और उनके अधीन विरचित विस्फोटक नियम, 2004 के उपबंधों, शर्तों और अतिरिक्त शर्तों और निम्नलिखित उपाध्दों 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 2007 तक विधिमान्य रहेगी। This licence shall remain valid till **31st day of March 2007.**

यह अनुज्ञप्ति, अधिनियम या उसके अधीन विरचित नियमों या अनुसूची V के भाग 4 के प्रति निर्दिष्ट सेट-VII के अधीन तथा उपबंधित इस अनुज्ञप्ति की शर्तों का अधिकमण करने या यदि अनुज्ञप्ति परिसर योजना या उससे संलग्न उपबंध में दर्शित विवरण के अनुरूप नहीं पाए जाने पर निलंबित या प्रतिसहृत 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/-
संयुक्त मुख्य विस्फोटक नियंत्रक | Joint Chief Controller of Explosives
South Circle, Chennai

तारीख | The Date - 27/12/2005

अनुज्ञप्ति के पृष्ठांकन के लिए स्थान
Space for Endorsement of Renewal

नवीकरण की तारीख
Date of Renewal

समाप्ति की तारीख
Date of Expiry

अनुज्ञापन प्राधिकारी के हस्ताक्षर और स्टाम्प
Signature of licensing authority and stamp

14/03/2016


31/03/2021

Dy. Chief Controller of Explosives, Ernakulam
कुसे तप मुख्य विस्फोटक नियंत्रक
for Deputy Chief Controller of Explosives
Ernakulam

License to possess and use of Explosives

ANNEXURE No. 4

FILE NO : 964872 Date of Issue : 10/04/2015



KERALA STATE POLLUTION CONTROL BOARD

CONSENT TO

OPERATE/AUTHORISATION/REGISTRATION

ISSUED UNDER

Water (Prevention & Control of Pollution) Act, 1974
Air (Prevention & Control of Pollution) Act, 1981

&

Environment (Protection) Act, 1986

TO

M/s M/S.PLANTERS AGGREGATES OWNED BY SAJI VADAKKEKARA
PALISSERY
EZHATTUMUGHAM.PO
ANGAMALY
ERNAKULAM
ALUVA
683577
Taluk: ALUVA
District: ERNAKULAM I

Consent No. : R15ERRCTOA964872 Valid Upto : 31/03/2016

1. GENERAL

| | | |
|----|--|---|
| 1 | VALIDITY | 31/03/2016 |
| 2 | Name and Address of the establishment | M/S.PLANTERS AGGREGATES OWNED BY SAJI VADAKKEKARA PALISSERY EZHATTUMUGHAM PO ANGAMALY ERNAKULAM ALUVA 683577 ALUVA ERNAKULAM I |
| 3 | Communication | Telephone :0484-2439166 Fax :- E-mail:plantersgroup@yahoo.com |
| 4 | Occupier Details | SAJI VADAKKEKARA VADAKKEKARA MANGATTOOR KOLENCHERY PO ERNAKULAM.DIST KERALA 682311 PIN |
| 5 | Survey Number | 168 |
| 6 | Village | KARUKUTTY |
| 7 | Taluk | ALUVA |
| 8 | District | ERNAKULAM I |
| 9 | Panchayat /Municipality/ Corporation & Ward | KARUKUTTY PANCHAYATH |
| 10 | Category | RED |
| 11 | Scale | Small |
| 12 | Annual fee | RS.6560/- |
| | Fee remitted | Rs.22960/- |
| 13 | Capital Investment(Rs in Lakhs) | 46.0 |
| 14 | Water Consumption | 200 l/day |
| 15 | Effluent Generation | NA |
| 16 | Mode of Disposal of Treated Effluent | NA |
| 17 | Effluent Treatment Details | NA |
| 18 | RAW MATERIAL | PRODUCTS |
| | RUBBLES @500 Metric Tonnes | BUILDING STONE @500 Metric Tonnes |

2. GENERAL CONDITIONS

- 2.1 This integrated Consent/Authorisation is granted subject to the power of the Board to review and make variation in or revoke all or any of the conditions as the Board deems fit.

- 2.2 This consent, unless withdrawn earlier and subject to condition no.2.1, shall be valid upto 31/03/2016. For renewal of the consent in case of continuance of discharge/operation of the industry, application in the prescribed form shall be submitted to the through the web portal of the Board for Online Consent Management & Monitoring System on or before . Late application will be accepted only with a fine / late fee as applicable.
- 2.3 The applicant shall comply with the instructions that the Board may issue from time to time regarding the prevention and control of air, water, land and sound pollution.
- 2.4 No change or alteration of the industrial plant is to be made without the prior written permission of the Board. Any change in the particulars furnished and/or in the identity of the occupier/authorized agent is to be intimated to the Board forthwith.
- 2.5 If operations are done with backup power, the generator shall have adequate capacity to run all associated pollution control devices.
- 2.6 In case of process disturbance / failure of pollution control equipments, the respective units shall be shut down and shall not be restarted until the control measures are rectified to achieve the desired efficiency.
- 2.7 In case of discharge / apprehended discharge of any water / air pollutant or hazardous waste due to any accident or other unforeseen act or event, it shall be immediately intimated to the Board and the consentee / authorisee shall make all possible efforts to mitigate / prevent / remediate the discharge.
- 2.8 Arrangements for collection, segregation, storage, handling and disposal of solid waste including garbage shall be provided and maintained properly.
- 2.9 E-waste shall be disposed in an environmentally sound manner. The following details shall be submitted to the Board on or before 31/5/ December every year.

| Sl.NO. | Particulars of e-waste | Quantity of e-waste disposed in the previous year | Quantity of e-waste proposed to be disposed in the current year | Mode of disposal |
|--------|------------------------|---|---|------------------|
| 1 | NA | NA | NA | NA |

2.10 . Periodical reports as detailed below shall be submitted to the respective District Office of the Board.

| Statutes | Details | Mode of collection and analysis | Periodicity | | Form No. |
|----------|---------|---------------------------------|-------------|------------|----------|
| | | | Analysis | Submission | |
| NA | NA | NA | NA | NA | NA |

- 2.11 Energy and water conservation measures shall be adopted as far as possible.
- 2.12 Renewable sources of energy such as solar energy shall be utilized for lighting and heating wherever possible.

3. CONDITIONS AS PER The Water(Prevention and Control of Pollution)Act, 1974

- 3.1 In case of generation of trade effluent from the industry, Effluent Treatment Plant (ETP) consisting of treatment units having adequate capacity as listed under item 1.17 shall be functional at all times during the operation of the industry. Additional facilities required, if any, to achieve the standards laid down by the Board u/s 17(1)(g) of the Water Act shall also be made along with.
- 3.2 There shall be easy access to each and every effluent treatment unit and the final outlet for inspection and drawing of effluent samples.
- 3.3 The characteristics of effluent after treatment shall conform to the following tolerance limits:

| Sl.NO. | Characteristics | Unit | Tolerance Limit |
|--------|-----------------|------|-----------------|
| 1 | NA | NA | NA |

- 3.4 Water meter shall be fixed to record consumption of water. Separate meters should be fixed if gross or differential rates is claimed for use of water such as cooling/boiler feed, domestic, process where the effluent is easily biodegradable and/or not toxic and process where the effluent is not easily biodegradable and/or toxic.
- 3.5 Suitable facility shall be provided for safe storage and disposal of the sludge generated from the ETP, if any.
- 3.6 Adequate sanitation facilities shall be provided for the employees.

**4. CONDITIONS AS PER
The Air(Prevention and Control of Pollution)Act, 1981**

4.1 Following emission control equipments shall be installed and operated whenever emission is made:

| SLNO | Source of Emission | Stack Height | | Control Equipment |
|------|--------------------|--------------------|------------------|-------------------|
| | | Above Ground Level | Above Roof Level | |

| Capacity | Emission Rate[Nm3/hr | Unit |
|----------|----------------------|------|
|----------|----------------------|------|

4.2 Emission characteristics shall not exceed the following:

| SLNO | Parameter | Limiting Standards mg/Nm3 |
|------|-----------|---------------------------|
| 1 | NA | NA |

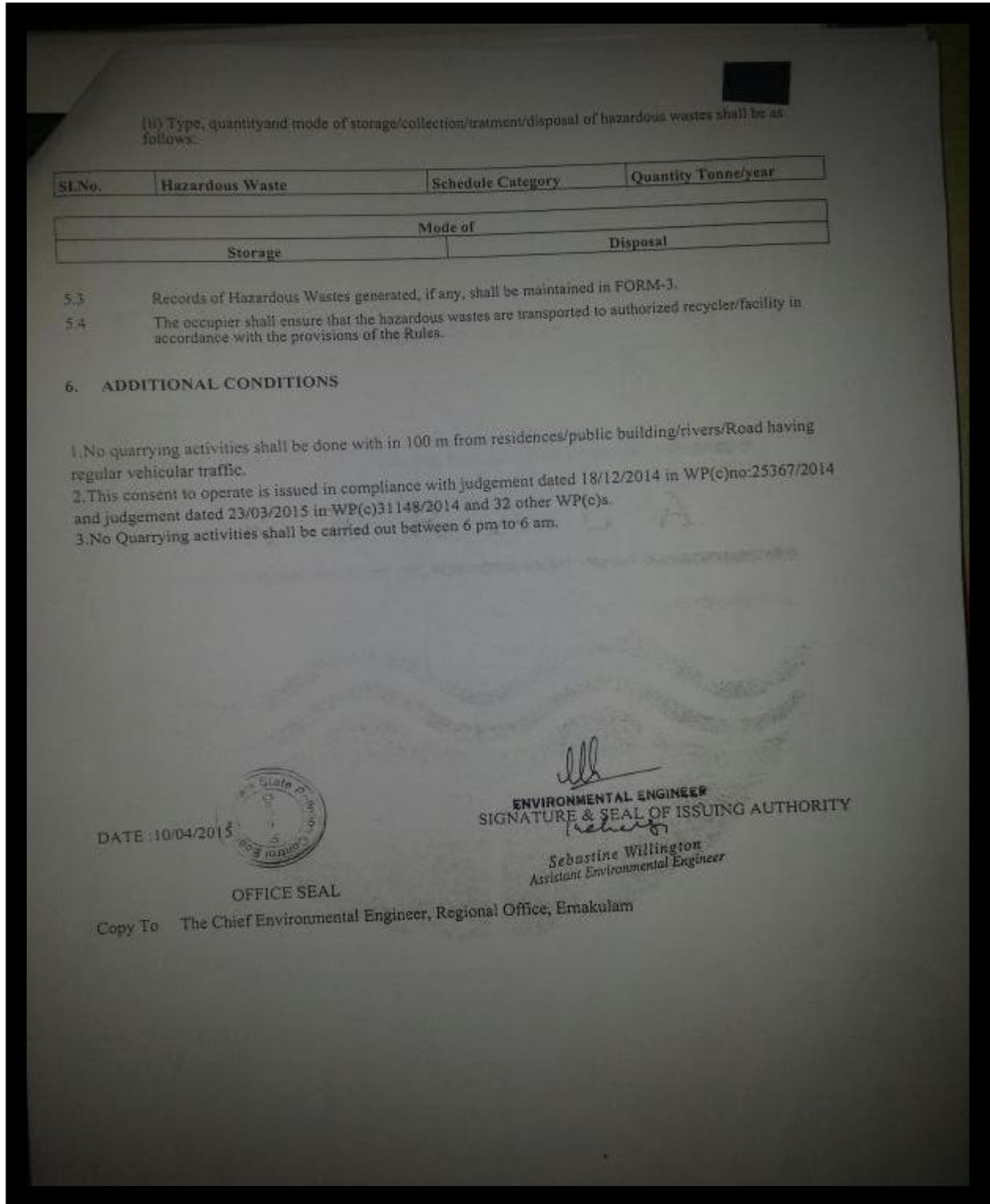
- 4.3 All stacks shall have adequate height and shall have port hole and platform cum ladder to facilitate monitoring of emissions.
- 4.4 Water sprinklers shall be provided to suppress spreading of dust outside the premises. Particulate matter (PM 10 & PM 2.5) at the boundary of the premises shall not exceed the standards applicable to the adjoining area.
- 4.5 Raw materials shall be transported with proper cover or after wetting to prevent spreading of dust during transportation.
- 4.6 There shall be no fugitive emission from the premises.
- 4.7 The sound level measured 1 m outside the boundary of the premises shall not exceed the standards applicable to the adjoining area.
- 4.8 All operations likely to produce dust or noise shall be carried out within appropriate enclosure.
- 4.9 Record of type, quantity and purpose of consumption of fuel, if any, shall be maintained and abstract shall be submitted to the Board along with emission monitoring reports.

**5. CONDITIONS AS PER
Hazardous Waste (Management, Handling and Transboundary Movement) Rules 2008.**

- 5.1 Hazardous wastes generated, if any, shall be handled as per the Hazardous Waste Management, Handling and Transboundary Movement Rules, 2008.
- 5.2 (i) Activities for which Authorization is granted:


| | |
|------------|-----------------------|
| Collection | Transportation |
| Reception | Storage |
| Treatment | Reprocessing/Disposal |





Consent to Operate from Kerala Pollution Control Board

ANNEXURE NO. 5




ലൈസൻസ് നമ്പർ 38/16.17 തീയതി 1.4.2016

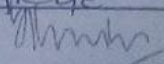
കുറ്റാടി ഗ്രാമ പഞ്ചായത്തിൽ നിന്നും

1994 ലെ ദക്ഷിണ പഞ്ചായത്ത് രാജ് ആക്ട് (1994 ലെ 13) 232, 233, 234, 254 എന്നീ വകുപ്പുകളും അതേ തുടർന്നുള്ള പട്ടണവും അനുസരിച്ചു നൽകുന്ന

ഡി & ഒ ലൈസൻസ്

| | | |
|--|--|----------------|
| ലൈസൻസിയുടെ പേരും മേൽവിലാസവും | രജി.വേണുവര, വടക്കേക്കര വില്ലേജ് റോഡ് കോലത്തുവരി Po കടന്നാകര 682311 | |
| സ്ഥാപനത്തിന്റെ പേരും സ്ഥലനാമവും | ജാലന്ദർ 'കോൾബുട്ടി' ഓഫീസ് | |
| ലൈസൻസ് നൽകിയിട്ടുള്ള പ്രവർത്തനങ്ങൾ | Quarrying of Granite , Building Stone | |
| കെട്ടിടത്തിന്റെ നമ്പരും വാർഡ് നമ്പരും | Ward VIII | |
| ലൈസൻസ് കാലയളവ് | 1.4.16 മുതൽ | 31.3.17 വരെ |
| ഇടയാക്കിയ ലൈസൻസ് ഫീസ് | 4000/- രൂപ | സെൽ നമ്പർ |
| | | 4293 22.2.16 |
| ലൈസൻസ് അനുവദിക്കുന്നതിനായി ഹാജരാക്കിയ നിരീക്ഷണ പത്രങ്ങളുടെ വിവരങ്ങൾ (നമ്പർ, തീയതി, കാലയളവ്, നൽകിയ അധികാരസ്ഥാനം) | I. Sanitary Certificate II. Environment Certificate III. P.C.B. Noc IV. Fire Noc V. Shot fires Certificate Mining & Geology Certificate | |




 സെക്രട്ടറി
 Karukuty Gram Panchayat

License from Gram Panchayat

ANNEXURE No. 6

PROCEEDINGS OF THE DIRECTOR OF MINING AND GEOLOGY

Sub: Mines and Minerals - Minor Minerals - Granite Building Stone-Quarrying lease to Shri. Saji Vadakkekara, Vadakkekara House, Mangattoor, Kolenchery P.O., Ernakulam- 682 311 – sanction orders issued.

Ref: 1. Application dated 27/9/2010 from Shri. Saji Vadakkekara, Vadakkekara House, Mangattoor, Kolenchery P.O., Ernakulam-682 311
 2. Letter No. DOE/4555/E2/2010 dated 29/11/2010 from the Geologist, District Office, Ernakulam
 3. Kerala Minor Mineral Concession Rules, 1967

No. 660/2010-11/9439/M3/2010 Dated, Thiruvananthapuram, 3/1/2011

ORDER

A quarrying lease is Granted to Shri. Saji Vadakkekara, Vadakkekara House, Mangattoor, Kolenchery P.O., Ernakulam-682 311 to quarry Granite Building Stone over an area of 5.8736 hectares of patta land comprised in Survey No. 168 of Block No. 1 of Karukutty Village, Aluva Taluk, Ernakulam District for 10 (Ten) years from the date of execution of the quarrying lease deed under the Kerala Minor Mineral Concession Rules, 1967 and as per the Survey map issued by the Tahsildar Aluva and submitted by the applicant subject to the under mentioned conditions.

- Royalty is payable to Government as per Rule 29(1)(c) of the Kerala Minor Mineral Concession Rules, 1967 in respect of minor mineral quarried and moved out of the quarry subject to revision from time to time on the basis of amendments to the schedule I of the said Rules.
- Dead rent is realisable under 29(1)(d) of the said rules subject to revision from time to time on the basis of amendments to the schedule II of the said rules.
- Surface rent realisable under 29(1)(e) of the said rules will be equal to the land revenue assessed by the Revenue Department subject to revision from time to time on the basis of the land revenue.
- The lessee shall execute a quarrying lease deed within a period of three months from the date of this order in form 'H' as per Rule 32 of the Kerala Minor Mineral Concession Rules, 1967.
- The lessee shall also deposit an amount of Rs. 1000/- (Rupees One Thousand only) as security deposit for the observance of the terms and conditions of the lease before the deed is executed as per rule 31 of the said rules. The lessee shall commence quarrying operation only after the deed is executed.
- The quarrying area shall be demarcated and boundary stones fixed at the lessee's expenses before execution of the quarrying lease deed.
- The lessee shall not win and dispose any type of dimension and decorative stones from the area over which the quarrying lease has been sanctioned on the strength of this order
- The production of Granite Building Stone from the area covered under this grant shall be restricted to 50, 000 M.T (Fifty thousand only) per year during the tenure of this quarrying lease.

9. The lessee should exhibit a signboard and a notice board for the intimation of the public at the entrance of the quarry. The following information should be inscribed on the notice board both in English & Malayalam

For information:

| Licence No | Validity period of the permit | Name of permit/ lease holder | Quantity permitted to be extracted |
|------------|-------------------------------|------------------------------|------------------------------------|
| | | | |

10. The lessee should provide retention wall/barricade/fencing compound wall surrounding the quarry before the commencement of the quarrying operation for preventing accidents by falling of human beings animals and materials into the quarry. The lessee should take effective preventive measures for the safety of labourers as well as the general /public.

11. The lessee should leave a distance of 7.5 m from the adjacent boundary lands while carrying out quarrying operations.

12. The lessee should not assign, sublet or transfer his lease or any right or interest therein to any person without previous permission of the Director of Mining & Geology

The terms and conditions stated in this order are subject to such further modifications as may be made by the State Government from time to time.

Sd/-
T.RAJENDRAN
DIRECTOR OF MINING AND GEOLOGY

To
Shri. Saji Vadakkekara, Vadakkekara House,
Mangattoor, Kolenchery P.O., Ernakulam-682 311

Copy to :

1. The Director of Mines Safety, Bangaluru Region, No. 27, 24th Main, Next to IDBI Bank, V Phase, J.P. Nagar, Bangaluru- 560 078
2. The District Collector, Ernakulam
3. The Geologist, District Office : Ernakulam
4. The Tahsildar Aluva
5. Stock File (2)
6. File Copy

(By Order)
Antalokentians
3.1.2
Senior Superintendent

yk-3 1.11

Lease order from Directotre of Mining and Geology

ANNEXURE No. 7





Cert No. SMR/4819/
भारत सरकार/Government of India
खान अधिनियम, 1952/Mines Act, 1952
खनन परीक्षा बोर्ड/Board of Mining Examinations
द्वितीय श्रेणी प्रबंधक सक्षमता प्रमाण-पत्र
SECOND CLASS MANAGER'S CERTIFICATE OF COMPETENCY
(केवल ओपनकास्ट खानों तक समित)
(Restricted to mines having opencast workings only)
(धात्विकीय खान विनियम, 1961 के अन्तर्गत)
(Under the Metalliferous Mines Regulations, 1961)

श्री कंकोणकर कमलाकान्त मंगेश सुपुत्र मंगेश बी. कंकोणकर
 जिनकी जन्म तिथि 21.01.1971 है, को विहित अर्हताएं एवं अनुभव प्राप्त करने
 का सन्तोषजनक प्रमाण प्रस्तुत करने एवं अक्टूबर, 2010 में आयोजित विहित परीक्षा में उत्तीर्ण होने पर
 एतद्वारा केवल ओपनकास्ट धात्विकीय खानों के प्रबंध हेतु द्वितीय श्रेणी प्रबंधक सक्षमता प्रमाण-पत्र प्रदान
 किया जाता है। यह प्रमाण-पत्र दिनांक 05.04.2011 से प्रभावी है।

Shri Kanikonkar Kamlaikant Mangesh of Mangesh B Kanikonkar
 born on 21st January, 1971 having given satisfactory evidence of possessing
 the prescribed qualifications and experience and having passed the prescribed examination held in
 October, 2010 is hereby granted SECOND CLASS MANAGER'S CERTIFICATE OF
 COMPETENCY to manage the metalliferous mines having opencast workings only. This
 certificate is effective from 05.04.2011



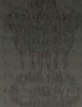
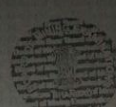
सचिव
 खनन परीक्षा बोर्ड
 Secretary
 Board of Mining
 Examinations

अध्यक्ष
 खनन परीक्षा बोर्ड
 Chairman
 Board of Mining
 Examinations

Signed and Sealed
 Date 12.08.11

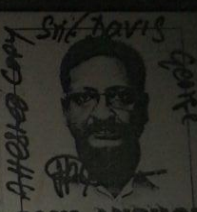
Certificate of second class manager

ANNEXURE No. 8

Cert No. MR/SZ/599

भारत सरकार/Government of India
 खान अधिनियम, 1952/Mines Act, 1952
 खनन परीक्षा बोर्ड/Board of Mining Examinations
 खनन मेट सक्षमता प्रमाण-पत्र
MINING MATE'S CERTIFICATE OF COMPETENCY
 (केवल ओपेनकास्ट खानों तक सीमित)
 (Restricted to mines having opencast workings only)
 (धात्विकीय खान विनियम, 1961 के अन्तर्गत)
 (Under the Metalliferous Mines Regulations, 1961)


 PAUL ANTHON
 MINE MANAGER

श्री सुपुत्र _____ है, को अपनी
 जिनकी जन्म तिथि _____
 आयु, स्वस्थता, सदाचार, साक्षरता और धात्विकीय खानों में काम करने के विहित अनुभव का सन्तोषजनक प्रमाण
 प्रस्तुत करने एवं दिनांक _____ को _____ केन्द्र पर आयोजित
 विहित परीक्षा में उत्तीर्ण होने पर एतद्वारा केवल ओपेनकास्ट खानों तक सीमित मेट सक्षमता प्रमाण-पत्र
 प्रदान किया जाता है।

Shri DAVIS GEORGE son of GEORGE D.
 born on 31ST MAY, 1969 (SIXTY NINE) having given satisfactory evidence of his age,
 medical fitness, good character, literacy and prescribed experience of working in metalliferous
 mines and having passed the prescribed examination held at GVTC, C.N.HALLI, TUMKUR
 centre on 23.03.2015 is hereby granted MINING MATE'S CERTIFICATE OF
 COMPETENCY restricted to mines having opencast workings only.

बाएं _____ का निशान
 Left hand thumb impression

अंचल सचिव
 खनन परीक्षा बोर्ड
 Zonal Secretary
 Board of Mining Examinations

अंचल सचिव
 खनन परीक्षा बोर्ड
 दक्षिणी अंचल बंगलूर
 Zonal Secretary
 Board of Mining Examinations
 Southern Zone, Bengaluru.

अध्यक्ष
 खनन परीक्षा बोर्ड
 Chairman
 Board of Mining Examinations

Signed and Sealed

Certificate of Mining mate

ANNEXURE No. 9


സംസ്ഥാന പരിസ്ഥിതി വകുപ്പിന്റെ സമര്പ്പണത്തിന് വിധേയമാക്കിയ കേരളത്തിലെ എല്ലാ മണ്ണിലും കമ്പോളം

NOTICE

This is to inform to the General Public that the proposed survey project in Survey Nos. 168 at Karamba Village, Alappuzha District, Kerala being developed by M/s. Planters M/S. GGREGATES is accorded with ENVIRONMENTAL CLEARANCE by State Environment Impact Assessment Authority, Kerala vide Order No. SEIAA/KP/2002/13-15-2013 and the copy of the Environmental Clearance is available with the office of Department of ENVIRONMENT and Climate Change, Govt. of Kerala and may also be seen on the website of the Authority at www.environment.gov.in

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Dr. Bobby Fernandez
Thyparambil House, Kalamassery
Successful Family and Friends

മുഖ്യമന്ത്രിയുടെ അനുമതിയോടെ 2015.04.2013 തീയതിയിൽ 1187-ൽ നടത്തിയ അന്വേഷണം N.S. രാജ് എസ്റ്റേറ്റ് നിലവിലുള്ള മണ്ണിലും കമ്പോളം

മുഖ്യമന്ത്രിയുടെ അനുമതിയോടെ 2015.04.2013 തീയതിയിൽ 1187-ൽ നടത്തിയ അന്വേഷണം N.S. രാജ് എസ്റ്റേറ്റ് നിലവിലുള്ള മണ്ണിലും കമ്പോളം

സംസ്ഥാന പരിസ്ഥിതി വകുപ്പിന്റെ സമര്പ്പണത്തിന് വിധേയമാക്കിയ കേരളത്തിലെ എല്ലാ മണ്ണിലും കമ്പോളം

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2 (Madras HSC/SSC) (NIOS)

SSLC +2/ DEGREE/ PG/ NITC

Employment

10,000+ Accommodation

ഏകദേശം 1990 രൂപ ക്ലബ്ബ്

20 LED

32 LED

3690/-

6990/-

13000 + HOSTEL

സംസ്ഥാന പരിസ്ഥിതി വകുപ്പിന്റെ സമര്പ്പണത്തിന് വിധേയമാക്കിയ കേരളത്തിലെ എല്ലാ മണ്ണിലും കമ്പോളം

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Situation Vacant

ഈർഷ്യ

Work from home

കമ്പനി അതിർ 7500 - 29000/-

ഈർഷ്യ

SSLC, 12 ക്ലാസ്സിൽ

ഈർഷ്യ

Wanted

NOTICE

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Advertisement in two news paper

ANNEXURE No. 10



കേരളം കേരल KERALA

AFFIDAVIT

X 340969

I, Saji Vadakkekara authorised signatory of Planters Aggregates having its correspondence office at Palissery, Ezhattumugham, Ankamaly, Ernakulam, Kerala, 683577 Pin- Do hereby affirm and confirm as follows.

- 1) That The Planters Aggregates, Proposed quarry project in Survey No 168 at Karukutty Village & Panchayath and Alwaye Taluk, Ernakulam District, Kerala.
- 2) That the EC proceedings number and date are 58/SEIAA/KL/7586/2012 dt.15-03-2013
- 3) That all conditions stipulated in the environment Clearance would be scrupulously followed.



DEPONENT

I hereby affirmed that may above statements are true to the best of my knowledge and belief and nothing material has been cancelled therein.

901
 100 Rs. 1st of 13 day of April 2013
 Saji, Vadakkekara
 vadakkekara house
 Kolenchery

KUMARI JAYA.N.
 ADVOCATE & NOTARY
 Reg.No. 106 / 97 / EKM.
 KOLENCHERY - 682 311
 KERALA - INDIA

Affidavit

ANNEXURE No.11

Standard^S
Environmental Monitoring

TEST REPORT

| | | |
|---------------------------------|------------------|-------------|
| Test Report No: SEANN/1512/R371 | Date: 28.12.2015 | Page 1 of 1 |
|---------------------------------|------------------|-------------|

| CUSTOMER DETAILS | | |
|--------------------|------------------------------------|--|
| Customer Details | Name & Address | M/s Planters Aggregates Karukutty, Aluva, Ernakulam District |
| | Survey No | 168, Block - 1 |
| | Village | Karukutty |
| | Panchayath | Karukutty |
| | Taluk | Aluva |
| | District | Ernakulam |
| | State | Kerala |
| Customer Reference | Test Request Form Dated 23.12.2015 | |

| SAMPLE DETAILS | |
|------------------------|-------------------------|
| Source of sample | Ambient Sound Level |
| Location of Monitoring | Near East side Boundary |
| Date of Monitoring | 23.12.2015 |

| DAYTIME | RESULT | NIGHTTIME | RESULT |
|-----------|-------------|-------------------------------------|-------------|
| 06.00 Hrs | 39.2 dB (A) | 23.00 Hrs | 35.8 dB (A) |
| 07.00 Hrs | 42.6 dB (A) | 00.00 Hrs | 36.1 dB (A) |
| 08.00 Hrs | 45.9 dB (A) | 01.00 Hrs | 34.7 dB (A) |
| 09.00 Hrs | 47.3 dB (A) | 02.00 Hrs | 35.7 dB (A) |
| 10.00 Hrs | 50.4 dB (A) | 03.00 Hrs | 35.3 dB (A) |
| 11.00 Hrs | 54.5 dB (A) | 04.00 Hrs | 36.5 dB (A) |
| 12.00 Hrs | 56.2 dB (A) | 05.00 Hrs | 37.1 dB (A) |
| 13.00 Hrs | 53.1 dB (A) | RESULTS | |
| 14.00 Hrs | 54.0 dB (A) | | |
| 15.00 Hrs | 53.1 dB (A) | | |
| 16.00 Hrs | 52.5 dB (A) | | |
| 17.00 Hrs | 52.9 dB (A) | | |
| 18.00 Hrs | 49.7 dB (A) | | |
| 19.00 Hrs | 45.1 dB (A) | | |
| 20.00 Hrs | 42.3 dB (A) | | |
| 21.00 Hrs | 39.5 dB (A) | | |
| 22.00 Hrs | 39.1 dB (A) | | |
| | | Ambient Sound Level (Leq) Daytime | 51.0 dB (A) |
| | | Ambient Sound Level (Leq) Nighttime | 35.9 dB (A) |

End of Report

For and on behalf of
Standard^S Environmental & Analytical Laboratories


[Signature]
Authorized Signatory

Standard^S Environmental & Analytical Laboratories
Accreditation and Approval: NABL as per ISO 17025:2005

Result of ambient sound level

ANNEXURE No.12

Standard^S
Environmental Monitoring


NABLIT-3620

TEST REPORT

| | | |
|---------------------------------|------------------|-------------|
| Test Report No: SEAAL/1512/R071 | Date: 28.12.2015 | Page 1 of 1 |
|---------------------------------|------------------|-------------|

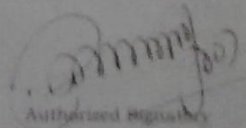
| CUSTOMER DETAILS | | |
|--------------------|------------------------------------|--|
| Customer Details | Name & Address | M/s Planters Aggregates Karukutty, Aluva, Ernakulam District |
| | Survey No | 168, Block - 1 |
| | Village | Karukutty |
| | Panchayath | Karukutty |
| | Taluk | Aluva |
| | District | Ernakulam |
| | State | Kerala |
| Customer Reference | Test Request form dated 23.12.2015 | |

| SAMPLE DETAILS | | | |
|------------------------|-------------------------|--------------------|----------------------|
| Source of Sample | Ambient Air | Sample Code | SEAAL/1512/S071 |
| Location of Monitoring | Near East Side Boundary | Sampled By | By Laboratory |
| Date of Monitoring | 23.12.2015 | Test Started On | 24.12.2015 |
| Sample Received On | 24.12.2015 | Test Completed On | 26.12.2015 |
| Humidity | 71 % | Sampling Procedure | IS 5182 Part V & XIV |

| SL NO | TEST PARAMETER | TEST METHOD | UNIT | RESULTS | NAAQ STANDARD |
|-------|---|---|-------------------|---------|---------------|
| 01 | Particulate matter (PM ₁₀) | IS 5182 Part 23: Reaff. 2012 SEAAL/SOP/01 Issue No.01 Dated 05.06.2015 | µg/m ³ | 58.1 | 100 |
| 02 | Particulate matter (PM _{2.5}) | EPA 40 CFR Part 50 Appendix - L SEAAL/SOP/02 Issue No.01 Dated 05.06.2015 | µg/m ³ | 32.5 | 60.0 |
| 03 | Sulphur dioxide (SO ₂) | IS 5182 Part 2: Reaff. 2012 SEAAL/SOP/03 Issue No.01 Dated 05.06.2015 | µg/m ³ | 6.3 | 80.0 |
| 04 | Nitrogen dioxide (NO ₂) | IS 5182 Part 6: Reaff. 2012 SEAAL/SOP/04 Issue No.01 Dated 05.06.2015 | µg/m ³ | 3.7 | 80.0 |

End of Report

For and on behalf of
Standard^S Environmental & Analytical Laboratories



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.


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Result of ambient air

ANNEXURE No.13



Standard^S
Environmental Monitoring



NABL(T-3620)

TEST REPORT

| | | |
|---------------------------------|------------------|-------------|
| Test Report No: SEAAL/1512/R072 | Date: 28.12.2015 | Page 1 of 2 |
|---------------------------------|------------------|-------------|

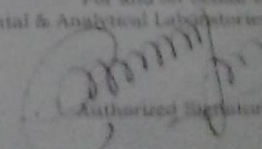
| CUSTOMER DETAILS | | | | | | | | | | | | | | | |
|--------------------|--|----------------|--|-----------|----------------|---------|-----------|------------|-----------|-------|-------|----------|-----------|-------|--------|
| Customer Details | <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 40%;">Name & Address</td> <td>M/s Planters Aggregates Karukutty, Aluva, Ernakulam District</td> </tr> <tr> <td>Survey No</td> <td>168, Block - 1</td> </tr> <tr> <td>Village</td> <td>Karukutty</td> </tr> <tr> <td>Panchayath</td> <td>Karukutty</td> </tr> <tr> <td>Taluk</td> <td>Aluva</td> </tr> <tr> <td>District</td> <td>Ernakulam</td> </tr> <tr> <td>State</td> <td>Kerala</td> </tr> </table> | Name & Address | M/s Planters Aggregates Karukutty, Aluva, Ernakulam District | Survey No | 168, Block - 1 | Village | Karukutty | Panchayath | Karukutty | Taluk | Aluva | District | Ernakulam | State | Kerala |
| Name & Address | M/s Planters Aggregates Karukutty, Aluva, Ernakulam District | | | | | | | | | | | | | | |
| Survey No | 168, Block - 1 | | | | | | | | | | | | | | |
| Village | Karukutty | | | | | | | | | | | | | | |
| Panchayath | Karukutty | | | | | | | | | | | | | | |
| Taluk | Aluva | | | | | | | | | | | | | | |
| District | Ernakulam | | | | | | | | | | | | | | |
| State | Kerala | | | | | | | | | | | | | | |
| Customer Reference | Test Request Form dated 23.12.2015 | | | | | | | | | | | | | | |

| SAMPLE DETAILS | | | |
|----------------------------|-----------------|--------------------|--------------|
| Sample Code | SEAAL/1512/S072 | Sample Received On | 24.12.2015 |
| Sample Name | Water | Sampling Procedure | SEAAL/MSP/24 |
| Sample Description | Borewell Water | Sampling Location | --- |
| Identification By Customer | --- | Sample Condition | Good |
| Sampled On | 23.12.2015 | Test Started On | 24.12.2015 |
| Sampled By | By Laboratory | Test Completed On | 26.12.2015 |

| SL NO | TEST PARAMETER | TEST METHOD | UNITS | RESULTS | ACCEPTABLE LIMIT (IS 10500 - 2012) |
|-------|--|------------------------------|------------|-----------------|------------------------------------|
| 01 | Colour | IS 3025 Part 4: Reaff. 2012 | Hazen Unit | 2.0 | 5.0 (Max) |
| 02 | Odour | IS 3025 Part 5: Reaff. 2012 | --- | Unobjectionable | Unobjectionable |
| 03 | Turbidity | IS 3025 Part 5: Reaff. 2012 | NTU | < 0.1 | 1.0 (Max) |
| 04 | pH @ 25 °C | IS 3025 Part 11: Reaff. 2012 | --- | 6.51 | 6.5 - 8.5 |
| 05 | Total Dissolved Solids | IS 3025 Part 16: Reaff. 2012 | mg/L | 228 | 500 (Max) |
| 06 | Total Hardness (as CaCO ₃) | IS 3025 Part 21: 2009 | mg/L | 103 | 200 (Max) |
| 07 | Calcium (as Ca) | IS 3025 Part 4: Reaff. 2009 | mg/L | 33.0 | 75.0 (Max) |
| 08 | Magnesium (as Mg) | IS 3025 Part 16: Reaff. 2009 | mg/L | 5.01 | 30.0 (Max) |
| 09 | Chloride (as Cl) | IS 3025 Part 32: Reaff. 2009 | mg/L | 20.2 | 250 (Max) |
| 10 | Total Alkalinity (as CaCO ₃) | IS 3025 Part 23: Reaff. 2009 | mg/L | 42.6 | 200 (Max) |
| 11 | Iron (as Fe) | IS 3025 Part 53: Reaff. 2009 | mg/L | 0.18 | 0.30 (Max) |
| 12 | Sulphate (SO ₄) | IS 3025 Part 24: Reaff. 2009 | mg/L | 45.1 | 200 (Max) |

End of Report

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Environmental Monitoring

Test Report No: SEAAL/1512/R072

Date: 28.12.2015

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| SL No | PARAMETERS TESTED | TEST METHOD | UNIT | RESULT | ACCEPTABLE LIMIT (IS 10500 - 2012) |
|-------|-------------------------|-------------------|-----------|--------|------------------------------------|
| 13 | Fluoride (as F) | IS 3025 (Part 60) | mg/L | BDL | 1.0 (Max) |
| 14 | Arsenic (as As) | APHA 3111B | mg/L | BDL | 0.01 (Max) |
| 15 | Copper (as Cu) | APHA 3111B | mg/L | BDL | 0.05 (Max) |
| 16 | Manganese (as Mn) | APHA 3111B | mg/L | BDL | 0.1 (Max) |
| 17 | Cadmium (as Cd) | APHA 3111B | mg/L | BDL | 0.003 (Max) |
| 18 | Chromium (as Cr) | APHA 3111B | mg/L | BDL | 0.05 (Max) |
| 19 | Zinc (as Zn) | APHA 3111B | mg/L | BDL | 5.0 (Max) |
| 20 | Mercury (as Hg) | APHA 3111B | mg/L | BDL | 0.001 (Max) |
| 21 | Cyanide (as CN) | APHA 3111B | mg/L | BDL | 0.05 (Max) |
| 22 | Lead (as Pb) | APHA 3111B | mg/L | BDL | 0.01 (Max) |
| 23 | Aluminium (as Al) | APHA 3111B | mg/L | BDL | 0.03 (Max) |
| 24 | Total coliform bacteria | IS 1622 - 1981 | MPN/100ml | 11.0 | Absent/100ml |
| 25 | E - Coli | IS 1622 - 1981 | --- | Absent | Absent/100ml |

BDL - Below Detection Level

End of Report

For and on behalf of
Standard^S Environmental & Analytical Laboratories


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Accreditation and Approval: NABL as per ISO 17025: 2005 & 'A' Grade laboratory of KSPCB

Result of drinking water