# COMPLIANCE REPORT

# October 2020 - March 2021

# M/S PLANTERS AGGREGATES

(QUARRY PROJECT)
ERNAKULAM DISTRICT
KERALA



Dt. 07-04-2021

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

Ref :- File No. 58/SEIAA/KL/7586/2012

Sub :- Environment Clearance - Quarry project at Karukutty Village & Panchayath, Alwaye, Ernakulam District, Kerala- Compliance Report -Second Half - Reg.

Respected Sir,

The Quarry (Building stone) project was accorded Environmental Clearance for 4.8033 Ha. by order No. 58/SEIAA/KL/7586/2012 dated 15-03-2013 Environmental Impact Assessment Authority, Kerala. The compliance report of Second half (October 2020 - March 2021) to the specific and general conditions of the Environment Clearance order is enclosed.

Thanking you,

Yours respectfully,

For M/s Planters Aggregates

For Mr. Saji Vadakkekara

(Proprietor)

Copy to:-The Member Secretary State Environment Impact Assessment Authority (SEIAA), Thiruvananthapuram, Kerala.

Encl: - As Above

Planters Aggregates

Palissery, Angamaly, Ezhattumugham P.O., Ernakulam, Kerala - 683 577. Phone: 0484 2439166, 2439167, Mob: 9562141400. E-mail: plantersgroup@yahoo.com

# **COMPLIANCE REPORT**

TO

THE CONDITIONS

OF

# **ENVIRONMENTAL CLEARANCE ORDER**

NO: 58/SEIAA/KL/7586/2012

**DATED ON: 15.03.2013** 

BY

# STATE ENVIRONMENT IMPACT ASSESSMENT AUTHORITY (SEIAA)

**FOR** 

**BUILDING STONE QUARRY** (MINOR MINERAL MINING) PROJECT

AT

**SURVEY NO. 168** KARUKUTTY VILLAGE & PANCHAYATH, ALWAYE, **ERNAKULAM DISTRICT, KERALA** 

> BY M/S PLANTERS AGGREGATES, **ERNAKULAM DISTRICT**

> > **KERALA**

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## **INTRODUCTION**

The quarry project of M/s Planters Aggregates 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 15.03.2013. As part of general condition No.25 of Environmental Clearance order, half yearly compliance report needs to be submitted by the project proponent. The compliance report of second half to the specific conditions and general conditions of the Environmental Clearance order for the period of October 2020 - March 2021 is being submitted

# Brief of the project

Type of Project	Quarry project (Building stone)
Name of the project	M/s Planters Aggregates
Category of the project	B2
GPS Locations	<b>Latitude (N)</b> 10 <sup>0</sup> 16' 31.28" N
Address for	Longitude (E) 76° 25' 07.37" E
correspondence	Palissery, Ezhattumugham P.O., Ernakulam District,
Correspondence	Kerala – 683 577
	Tel. No. 0484-2439166, 2439167
Website and E mail ID of	www.plantersgroup.com.
company	plantersgroup@yahoo.com
Name, Phone Number &	1. Saji Vadakkekara
e - mail id of responsible	Managing Director 0484-2439166
persons	plantersgroup@yahoo.com
	<del>plantologicap © yantooloom</del>
	2. Davis George
	General Manager
	9605040050
	davisgeorgekinattingal@gmail.com  Main Features
Total area under	
Total area under Environment Clearance	4.8033 hectare
Minable reserves	45,90,000
Production	2,88,000 TPA
Life of Mine	16 Years
Highest and lowest elevation	145 m MSL and lowest elevation is 95 m MSL.
Crusher unit	Yes within the project site
	Environmental Settings
Nearest house	nearest habitation is at 50 m towards N.
Nearest Water Body	Chalakudi River, 1.5km, N
Nearest town	Palissery, 0.74km, SW
Nearest hospital	Palissery Govt. Dispensary ( 1.5 km ) SW
Nearest School	Palissery Govt. LP School ( 1.5 km ) SW
Seismic zone	Zone-III, Moderate damage risk zone as par BMTPC,
	Vulnerability atlas Seismic zone of India IS: 1893-2002.
Air quality	PM <sub>10</sub> , PM <sub>2.5</sub> , SO <sub>2</sub> , NO <sub>2</sub> are under NAAQ standard
Water quality	Under acceptable limit (Bore well)
Ambient noise	Day time :- 48.8 dB(A) Night time :- 35.0 dB(A)

## 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 18<sup>th</sup> 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 9<sup>0</sup>59'21.50 to 9<sup>0</sup>59' 12.22" Latitude (N) and  $76^{\circ}37'20.43$ " to  $76^{\circ}37'06.07''(E)$ . 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 50m North 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	Complied	
	existing pond in the site and its exit from the site should be		
	made fully functional.		

## Compliance:

The project proponent has constructed storm water drainage channels and drainage lines to the existing pond in the site in order to manage storm water at project site. One of the expected adverse impacts to the community from the quarrying area is contamination of streams through storm water runoff. The project proponent has constructed various pits as de - siltation trap at the last point of drainage to settle down sediments at the bottom of the pits. The storm water drainage and its exit from the site are fully functional at all the time. The photograph showing the exit of drainage form the site is provided at **Plate No.1.** 

02	2	The depth of the mining should be restricted to the 30m level	Complied
		as agreed in the proposal.	

# Compliance:

As per the direction, Mining depth does not exceed beyond 30 meter or not below the level of the nearest stream bed, whichever is less. The project proponent has been scrupulously following the condition regarding the depth of mine stipulated in the Environmental clearance Order. As plan submitted before EAC (Expert Appraisal Committee), in the conceptual phase of quarry project the exploration of mineral is from 145 to 30m MSL.

# **COMPLIANCE REPORT**

(GENERAL CONDITIONS)

**PART B** 

#### **PART - B - GENERAL CONDITIONS**

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

#### Compliance:

Water is valuable natural resources, to conserve the rain water the proponent has developed rain water harvesting pond in the project site. Rain water from entire mining area has been collecting in the existing pond which is situated at the lowest level of project area through natural channels and drainages. The water from pond is mainly used for crusher work, watering of plants, wetting of roads and sprinkler system for contain dust emission. The photograph of RWH is provided in Plate No.2.

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

#### Compliance:

The Environmental Monitoring Cell (EMC) was formed with Mr. Saji Vadakkekara as head of the monitoring cell. The EMC meetings of the cell convene periodically and evaluate the activities towards the stipulations of Environmental Clearance order. The details of the monitoring cell are given in the **Table No.1.** The NABET accredited consultant helps the company to upkeep the environment friendly mining. As part of monitoring, the sound levels, ambient air and water are monitored through a NABL accredited laboratory. The details of monitoring cell are given below. The committee is looking after all parameters of environment.

TABLE 1 ENVIRONMENTAL MONITORING CELL (EMC)

SI. 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,	Vishavash sivaji
	Health and safety at site	
5.	Environmental consultant	M/s Environmental Engineers &
		Consultants Pvt. Ltd.
		A1-198, Janak Puri, New Delhi
6.	Address of Environmental	Standards Environmental & Analytical
	Laboratory	Laboratories, KJ Tower,
		Udyogamandal, EKM

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

Green belt is an important component in the mining sector. To reduce air and noise pollution, the project proponent has planted avenue trees along either side of the road and open parking areas. There are natural vegetation including trees, shrubs and climbers are presents in the project area. The project proponent is intending to plant more saplings along the road side and parking area, where the vegetation is less. The name and family of flora is given below in **Table Number 2**. The photograph of trees is attached as Plate No.3.

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

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

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

As part of energy conservation, the project proponent has installed solar street lights in the project site 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	Complied	
	contain dust emissions		

#### Compliance:

The project splashes the haulage road and critical areas with the help of vehicles in regular intervals to arrest dust emissions from the road while transportation of materials. The sprinklers are also installed in and around the crusher unit. Sprinklers are also installed in the project site. The photograph of the vehicle used for splashing of water is attached as Plate No.5.

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

#### Compliance:

Eco restoration is in an integral part of mining activity. The eco restoration and the mine closure plan will be done at the own cost of the project proponent as per the approved mining area. The project proponent started to plant various saplings in and around the project site. The project proponent converted a sloppy land in to benches by systematically dumping the overburden and top soil. To prevent soil erosion, the benches has covered with a geotex coir mat and planted grass. The photograph of benches covered by coir mat is attached as Plate No. 6.

07	Corporate	social	responsibility	agreed	upon	by	the	Complied
	proponent	should b	e implemented					

# Compliance:

The project has carried out many activities under Corporate Social Responsibility (CSR)/ Corporate Environmental Responsibility (CER); the main activities were in the sectors like education, health care, Environment sustainability etc. The detail of CSR provided in the period of First half is mentioned in the Table No.3. The receipts and bills area attached as Annexure No. 1.

Table 3 - Details of performed activities under CSR

Sectors	Activities	Beneficiaries	Amount
			spent in Rs.
Health	Medical Aid	Thomas K V	1000
	Donation	Sajitha Krishnan	1500
	Medical Aid	Syamala Ayyapan	2000
	Medical Aid	Rajan Ayappan	2500
Road	Donation	Karukutty Ezhattumugham road	1,00,000
Construction		development committee	
Infrastructure	House Maintenance	Byju Nedumpurath	2100
Development			
Education	Donation	Educational Service Society Of	1000
	India		
		Total	110100

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

# Compliance

To demarcate the lease area, the project proponent has installed barbed metal wire fencing with a height of 5 ft. around the project site where Environmental Clearance and lease obtained. This fencing can also prevent the falling of animals/ human/dumping of garbage's etc, in to the mining area. 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	Complied	
	specific timings) has to be arranged as per stipulations of		
	explosive department.		

As per the stipulation of Explosive department, the project has installed warning alarm in the quarry site. This alarm can intimate the general public that the blasting is going to happen. The timing of blasting in the quarry is in between 11.00am to 11.30am and 3.30pm to 4:00 pm. A danger board is also installed which gives information about the blasting time to the general public. The photograph showing the danger area, sign board etc, is provided at **Plate No. 8.** 

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

## Compliance:

To contain dust emissions and for the trouble free transportation of materials, the project proponent has tarred 2.5 kilometers of access road and maintaining the access road to the quarry site. The project proponent splashes water on the road to arrest the dust production during summer season. The project proponent is regularly maintaining the access road in a good manner. The photograph is showing the paved access road to the site which is attached as Plate No.9. The avenue trees also help to prevent the emission of dust from roads.

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

#### Compliance:

The overburden and topsoil need to extract during the time of mining, these natural resources being staked in the project site. At present the overburden excavated from the quarry is dumping in to three abandoned quarries near to the project site. The project converted a slope area in to benches by systematically dumping the overburden. To prevent soil erosion this has covered with a *geotex* coir mat and planted grass. The photograph of the overburden is attached as Plate No. 10.

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

To ensure safety of labours and living creatures, the project is maintaining the height of the bench not exceed 5 meters and width not less than 5 meter. The minor minerals are exploring under the supervision of qualified persons so that the project can form the benches systematically. At present the project proponent has created 3-4 benches in the site. The photograph of the benches created in the mining area is provided in Plate No. 11. The copy of certificates of second class manager and mines mate are attached at Annexure No 7 & 8.

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

## Compliance:

The project proponent is using blasting mat to reduce fly rocks during blasting. The project proponent is using ordinary delayed detonator for blasting therefore there is no issue with fly rock in the community and the project proponent also assure the maximum PPV is under 10. The purchasing bill copies of blasting mat is provided in Annexure No. 14.

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

#### Compliance:

Mining depth will not exceed beyond 40 meter or not below the level of the nearest stream bed, whichever is less. The exploration of building stone will be maintained as 40 m MSL in the mining area as agreed in the proposal.

The project proponent has appointed second class manager, foreman and mining mate in the industry to extract the minerals as per mining plan in an eco friendly way. The all activities of these qualified persons are under the supervision and monitoring of Environment Monitoring Cell. The nearest stream will be taken in to consideration while mining below surface level.

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

# Compliance:

To reduce the impact of sound to the labours in the unit, the project proponent has provided ear plugs. And there is a crusher unit functioning in the project site; the machines of crusher unit are housed with hollow bricks. Vegetation around the mining area will help to reduce noise and air pollution. This helps the noise level kept within prescribed standards. The project proponent is trying to enhance the vegetative cover by planting more tree saplings. The project proponent is regularly monitoring the ambient noise level at the project site. 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	Complied
	that eco-restoration including the mine closure plan shall be	
	done at the own cost of the project proponent.	

## Compliance:

Assurance in the form of affidavit was already submitted to SEIAA Kerala. Eco - restoration and mine closure plan will be done by the project proponent at own cost. As part of this the project proponent has stated to plant various specious in the project site. The copy of the affidavit is attached at **Annexure No. 10.** 

1	7	Garland drains to be provided in the lower slopes around the	Complied
		core area to channelize storm water.	

To catch the storm water, the proponent has constructed garland drain around the project site. This drain leads to the rain water collection pond, which is situated at the lowest portion of the project site.

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

## Compliance:

The project proponent has constructed effective garland drains to catch all the storm water during the time of monsoon season. These channels will be directed to the rain water collection pond. All sediments and silts will be settled at the bottom of the pond and only cleared water let out. 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 prevents 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	complied
	applicable, by the project proponents from the respective	
	competent authorities that for blasting and storage of	
	explosives.	

## Compliance:

All statutory clearances, approvals, licenses are obtained from concerned authorities. All conditions stipulated in such approvals are strictly followed. The obtained approvals are mentioned in Table No.4. The certificates obtained from concerned statutory authorities are enclosed in Annexure No. 2, 3, 4, 5 & 6

Table 4 - The details of statutory approvals

Name of the Statutory	Name of the Statutory authority	Approval Number & Date	
approval			
"Consent to Operate"	Kerala State Pollution Control	File No. PCB/EKM/DO-	

- Renewal	Board	1/OA-404/15
		Dated : 07/03/2019
Environmental	State Environmental Impact	58/SEIAA/KL/7586/2012
Clearance order	Assessment Authority, Kerala	Dated: 15/03/2013
Explosive License	Ministry of Commerce & Industry –	E/SC/KL/22/751(E33224)
	Petroleum & Explosives Safety	Dated : 14/3/2016
	Organization (PESO)	
License for quarry	Karukutty Gram Panchayat	2/2019-2020/B3/B3-695/19
operations		Dated:1/04/2019
Lease order	Directorate of Mining and Geology	660/2010-11/9439/M3/2010
		Dated : 3/1/2011
Quarrying Lease	Government of Kerala	2945/19
		Dt. 25/11/2019

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

In case of any change(s) in the scope of the project, the proponent will apply for fresh appraisal to get the Environmental Clearance.

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

# Compliance:

To enhance environmental sustainability and conserve natural resources, the project proponent is willing to add all possible additional safe guard measures subsequently if the authority found necessary.

22	The stipulations by Statutory Authorities under different Acts	complied	
	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.		
I		i I	

The stipulated orders and directions under different act and notification including EIA notification will be scrupulously followed. A brief list of various Acts and notifications which are followed by the proponent is given below

- ➤ Kerala Minor Mineral Concession Rules, 2015.
- ➤ Mines Act, 1952
- ➤ Explosive Rules, 2008
- ➤ Kerala Panchayat Raj Act, 1994
- ➤ Water Pollution (Prevention & Control) Act, 1974
- > Air Pollution (Prevention & Control) Act, 1981
- > Environment Protection Act, 1986
- > EIA Notification, 2006 / 2009
- > The Kerala Promotion of Tree Growth in Non-Forest Areas (Amendment) Act, 2007.

The project proponent should advertise in at least two local	Complied
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.	
	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

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. 9.** 

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

## Compliance:

A copy of the 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. environmental clearance order is uploaded in the website of the company and it can be seen in the website www.plantersgroup.com.

25	The proponent shall submit six monthly reports on the	complied
	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 the Directorate of	
	Environment and Climate Change, Govt. of Kerala.	
I		

#### Compliance:

The compliance report is being regularly submitted to the Regional Office of MoEF&CC, Govt. of India and State environment Impact Assessment Authority, (SEIAA) Kerala as mail. The result of monitored data is provided in compliance report.

The monitored results are attached as Annexure No. 11, 12 & 13. The compliance report is uploaded in the website www.plantersgroup.com.

26	The conditions of the environmental clearance should be	Complied	
	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.		

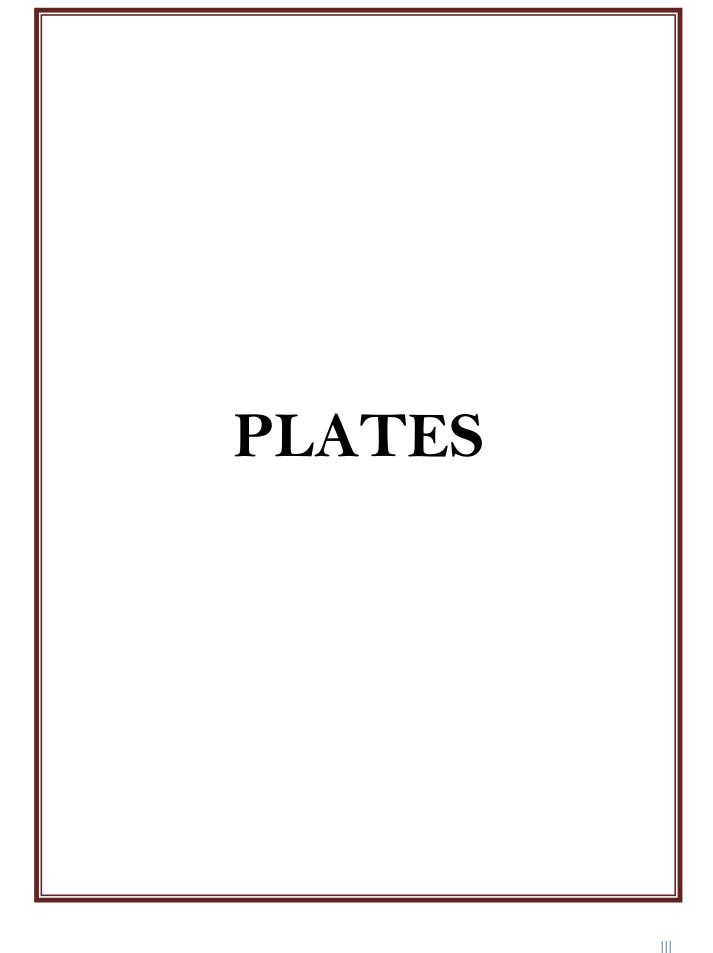
## Compliance:

The conditions of the environmental clearance prominently displayed in a metallic board of 3 ft x 3 ft with green background and yellow letters of Times New Roman font Same is attached as Plate No. 14.

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

# Compliance:

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





Drainage in the project site





Rain water collection pond exist in the project site



Rain water collection tank





The natural vegetation maintained along the roadside



Solar street lights installed near to the magazine





Sprinklers Installed in the project area



Benches made by over burden and covered by coir mat





Barbed metal wire fencing with a height of 5 meter



Device for alarm prior to the blasting



Sign board mentioned danger and time of blasting



Tarred road to the crusher unit





Over burden managed within the site



Minerals explored with bench system of 5 m width and height





Crusher unit existing in the project site

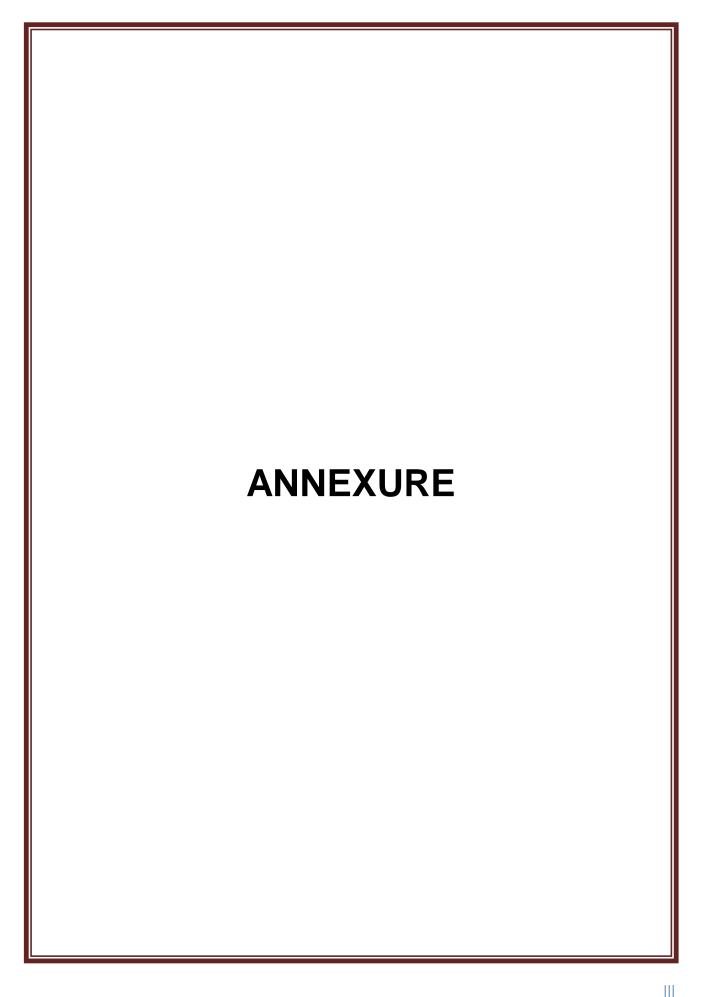


Slit trap to prevent quarry wastes entering in to the main stream

PLATE No. 14



Metallic board described the details of EC



## **ANNEXURE No. 1**



Receipts of activates under CSR

#### **ANNEXURE No. 2**



# Proceedings of the State Environment Impact Assessment Authority Kerala

Present: Dr. A.E. Muthunayagam, Chairman; Prof. (Dr.) K.P. Joy, Member; Sri. James Varghese IAS, Member Secretary

Sub: SEIAA Kerala - Proposed quarry project in Survey 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 2<sup>nd</sup> 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 13<sup>th</sup> meeting held on 13<sup>th</sup> December 2012 and 15<sup>th</sup> meeting held on 22<sup>nd</sup> 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 22<sup>nd</sup> February 2013. Accordingly, the State Level Environment Impact Assessment Authority (SEIAA) Kerala constituted by Govt. of India vide Notification No. S.O. 2484(E) dt.3-11-

Page 1 of 4

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

- 1. 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

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

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

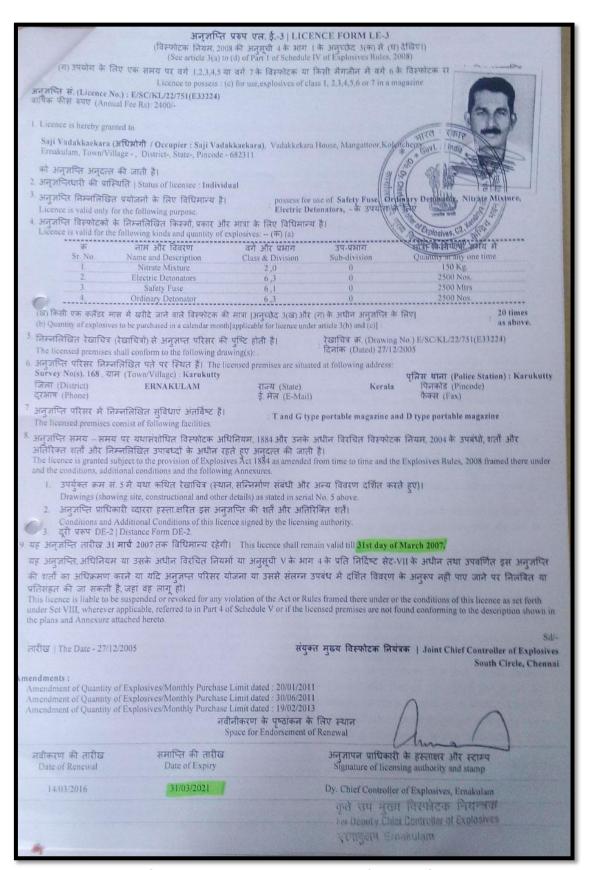
#### Copy to:

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

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#### **EC** order

#### Annexure No.3



License to possess and use of Explosives

5.883614



## KERALA STATE POLLUTION CONTROL BOARD

FILE NO.: PCB/EKM/DO-1/OA-404/15

Date of issue:07/03/2019

#### INTEGRATED CONSENT TO OPERATE - RENEWAL

Consent No: R15ERRCTOR964788

Ref: 1. R15ERRCTOA964872, DATED: 10.04.2015 2. Consent No: R15ERRCTO964788 Dated: 08.03.2016

The 'Integrated Consent to Operate' issued as per reference above to M/s PLANTERS AGGREGATES OWNED BY SAJI VADAKKEKARA, PALISSERY, EZHATTUMUGHAM P.O - 683577 is hereby renewed up to 31/03/2024 and issued to M/s PLANTERS AGGREGATES OWNED BY SAJI VADAKKEKARA, PALISSERY, EZHATTUMUGHAM P.O - 683577 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	Survey No.	168
2	Category	RED
3	Validity	31.03.2024
4	Capital investment	Rs.92 Lakhs
5	Annual Fee	Rs.22,000/-
6	Fee Remitted	Rs.131,874/-

#### II. Stack Details

Stack No.	Source of	Emission	Stack Hei	Control	
	Emission	Rate(Nm3/Hr)	Ground Level(In Meters)	Roof Level(In Meters)	Equipment

#### III. CONDITIONS

- The consent issued will be valid only for a period, during the period when all other statutory or necessary clearances from other concerned authorities valid.
- The consent issued from the board is only with respect to the powers vested under the water Act 1974 Air Act 1981 and The Rules there under. The operation of the quarry shall be commenced only after obtaining clearances from all concerned Authorities.
- There shall not be any quarrying activity between 6 pm to 6 am
- Mining activities shall be done only in the area marked by Mining & Geology. 3.4
- The PM10 in ambient air at the boundary shall not exceed 100 microgram/m3 3.5
- The PM 2.5 in ambient air at the boundary shall not exceed 60 microgram/m3 3.6
- The sound level (Leq)at 1 m outside the boundary of the site should not exceed the ambient noise Standard applicable to the adjoining areas.
- Conditions given in the Environmental clearance shall be strictly complied with. 3.8
- Mining shall be done only in the marked area in the mining plan attached with EC 3.9

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

Digitally signed by MINI MARY

MINI MARY SAM Date: 2019.03.07 16:53:26

+05'30'

SIGNATURE & SEAL OF ISSUING AUTHORITY

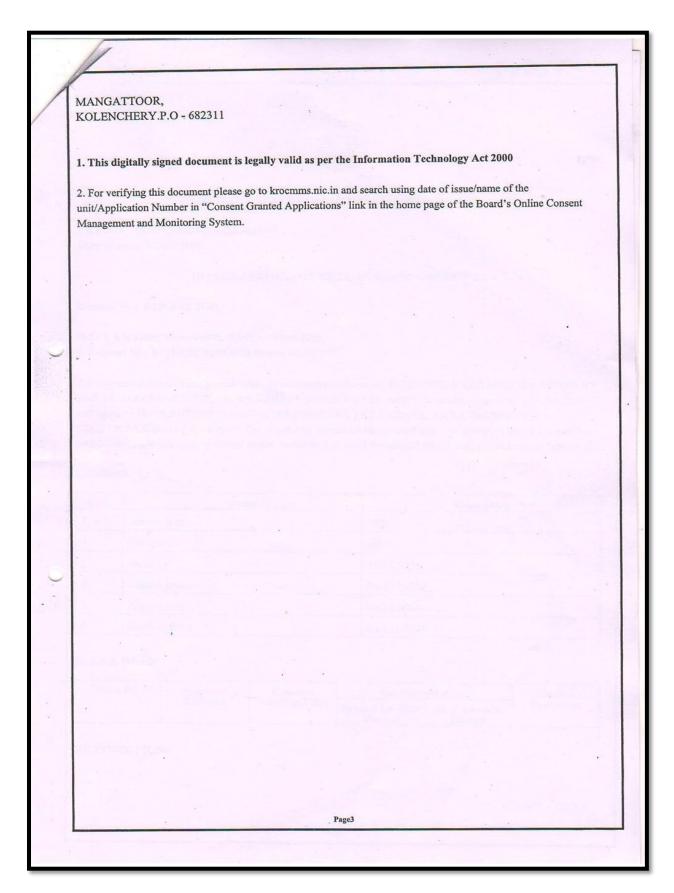
**ENVIRONMENTAL ENGINEER** 



SAJI VADAKKEKARA, VADAKKEKARA HOUSE,

DATE:07/03/2019

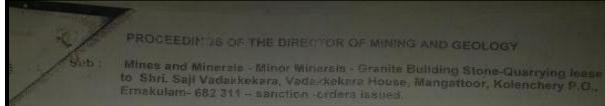
Page2



**Concent to Operate from Kerala Pollution Control Board** 



License from Gram Panchayat



Ref : 1. Application dated 27/9/2010 from Shri. Seji Vedakkekara, Vadekkekara 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

Kerala Minor Mineral Concession Rules, 1967

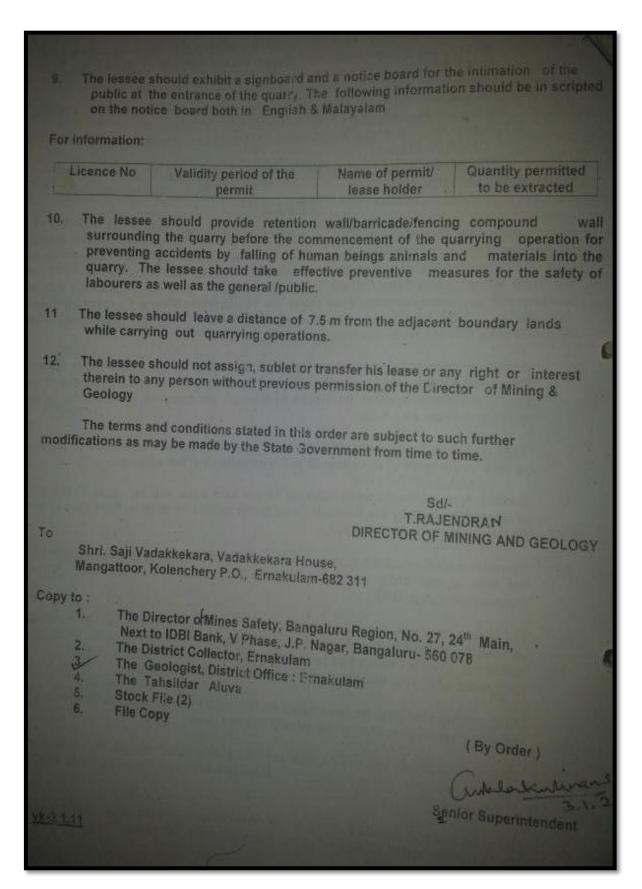
No. 660/2010-11/9439/M3/2010

Dated, Thiruvananthapuram, 3/1/2011

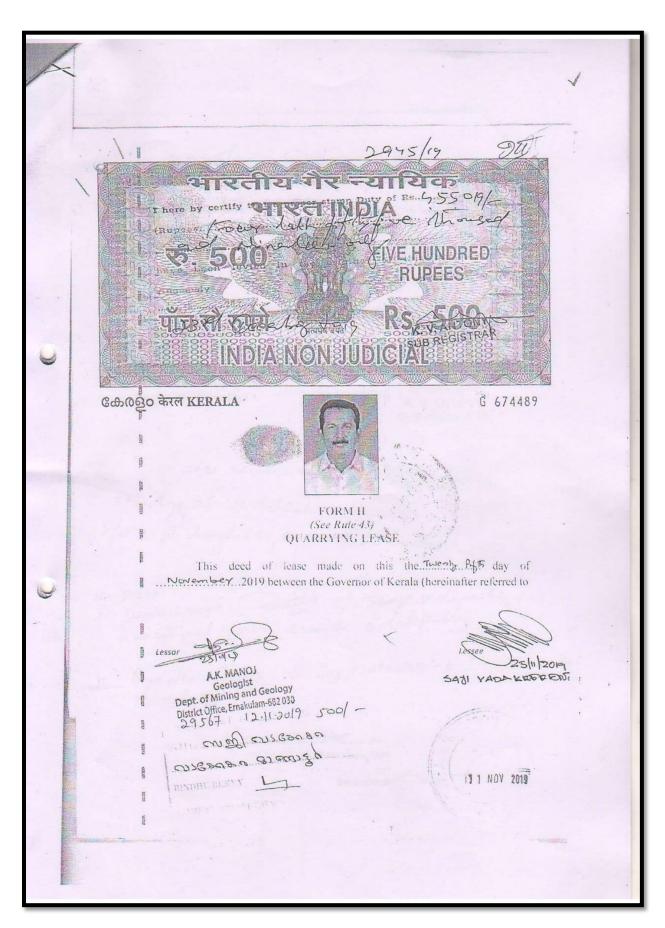
#### ORDER

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
- 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
- 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
- The lessee shall also deposit an amount of Rs. 1000/- (Rupees One Thousand only) 5. 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 leases's expenses before execution of the quarrying lease deed.
- The leases 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
- 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.



Lease order from Directrotre of Mining and Geology



as the "State Government" which expression shall, where the context so admits be deemed to include his successors and assigns) of the one part and Shri. Saji Vadakkekara, aged 51 years, S/o. V. P. Varghese, residing at Vadakkekara House, Mangattoor, Kolenchery P. O, Aikaranad North Village, Kunnathunadu Taluk, Ernakulam District - 682 311 (Aadhaar No. 2820 1755 7933) (hereinafter called the "lessee/lessees" which expression shall where the context so admits, include his/their heirs, executors, administrators, representatives and permitted assigns) of the other part.

Witnesseth that in consideration of the rents and royalties and lessee's/Lessees' covenants, hereinafter reserved and contained the State Government hereby give on lease to the lessee/lessees the land measuring 4.1885 hectares described in the schedule hereunder and delineated on the plan hereto annexed and therein coloured red (hereinafter called the "said lands") to hold the same for a period of 12 (Twelve) years commencing from the ... 25.11. 2019 .... and ending on the 24.11.2031... for the purposes of extracting minor mineral/minerals and subject to the terms and conditions contained in the Kerala Minor Mineral Concession Rules, 2015 (hereinafter referred to as "the Rules") and to the terms and conditions hereinafter appearing

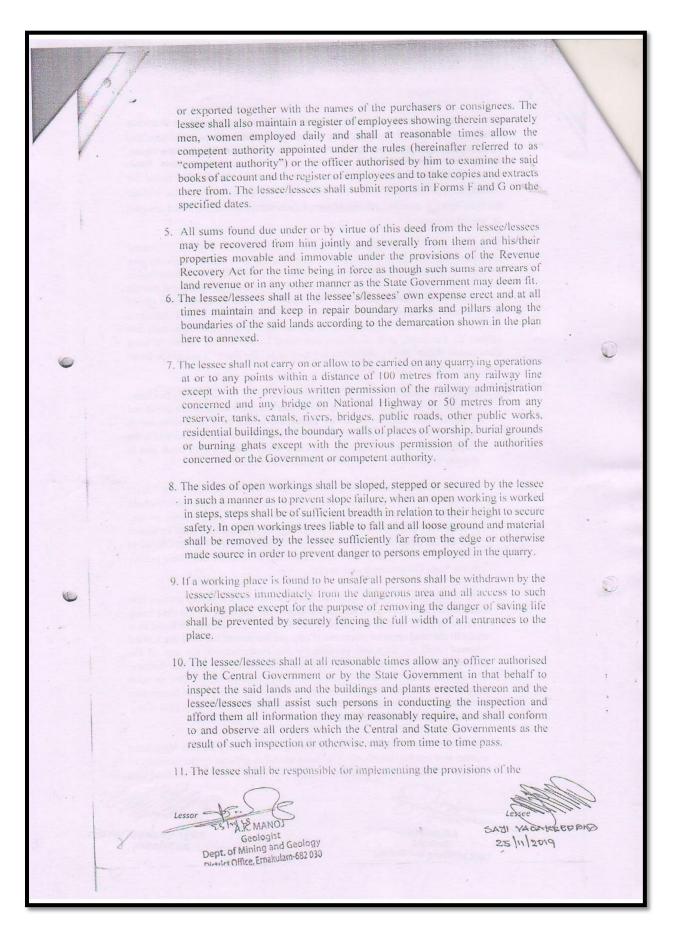
- The lessee/lessees shall have the right in and upon the said lands to extract Granite Building Stone (here in after called the said mineral/minerals) and to do all acts necessary for the extraction of the said mineral/minerals including the erection on the said lands, buildings and plant required for the purposes and also to take lead and carry away over the said lands and to dispose of the said minerals extracted as aforesaid.
- The lessee/lessees shall during the subsistence of this lease have the liberty to work the said mineral/minerals and remove the same from the leasehold on permits issued by the State Government/competent authority or any other officer authorized by him in this regard. The permits shall be issued only on the basis of pre-paid royalty at the rates specified in Schedule I to these Rules. The royalty rates shall be subject to revision from time to time as the State Government may order.
- 3. The lessee/lessees shall pay to the State Government a yearly surface rent equal to the land revenue if any, assessable under the rules for the time being in force, or if the land be the property of Government or in reserve forest then equal to the land revenue plus cess, if any, per hectare of the land the surface whereof shall be occupied or used by the lessee/lessees for any of the purposes of this deed and so in proportion for any area less than one hectare. The said surface rent shall be paid by yearly payments; the first of such payments to be made on or before the last day of the first year of occupation provided always that no such rent shall be paid or demanded in respect of any roads or ways now in existence.

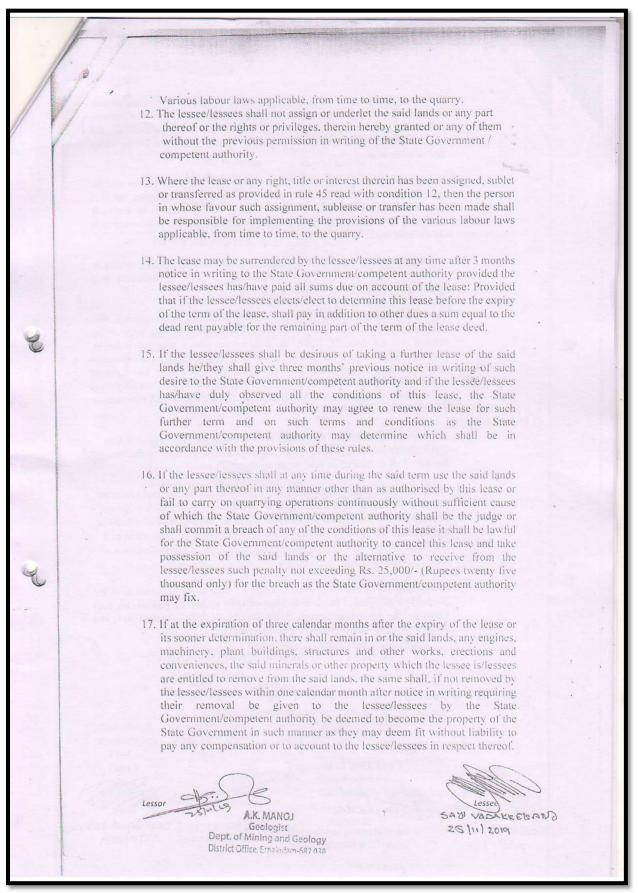
4. The lessee/lessees shall at all times during the currency of this lease keep correct and intelligible books of account showing accurately the quantity of the said minerals extracted and the weight and value of the said mineral sold

A.K. MANOJ Geologist Dept. of Mining and Geology

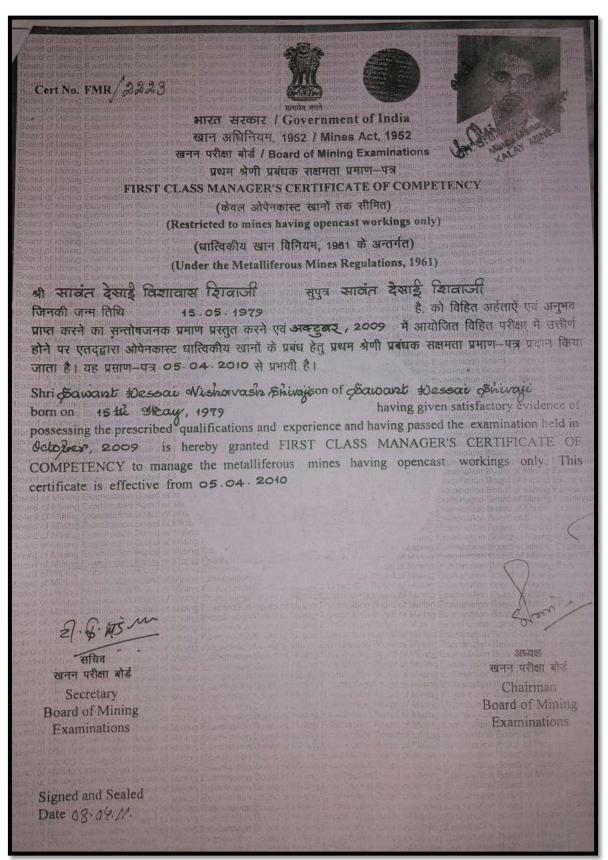
October 2020 - March 2021

25/11/2019

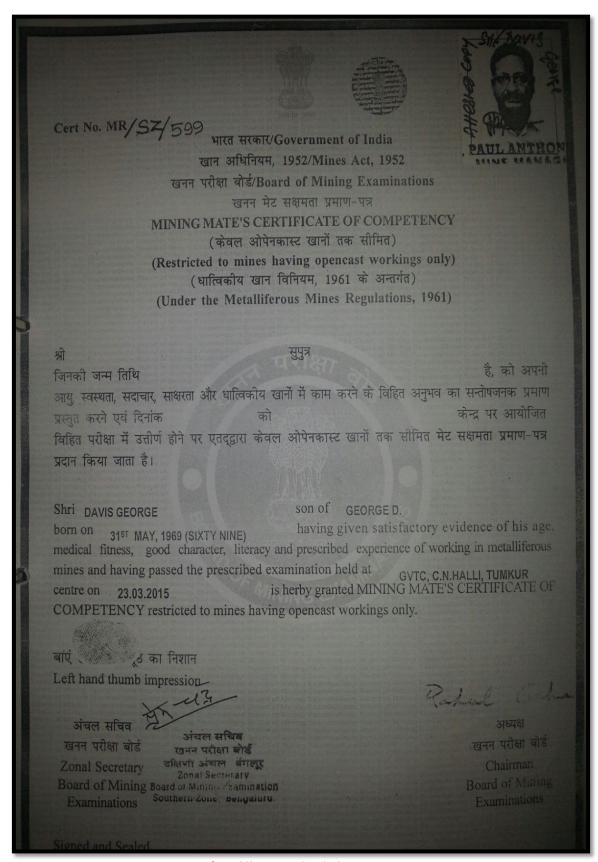




**Quarrying Lease** 

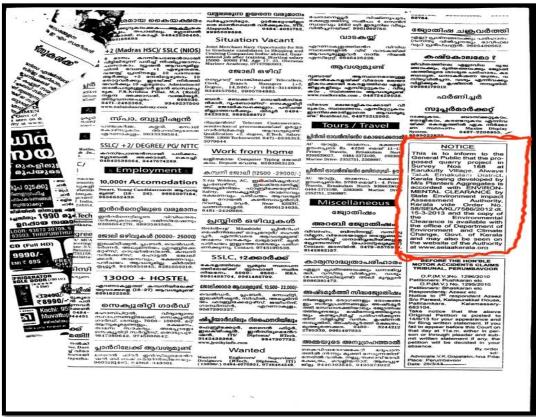


Certificate of First class manager

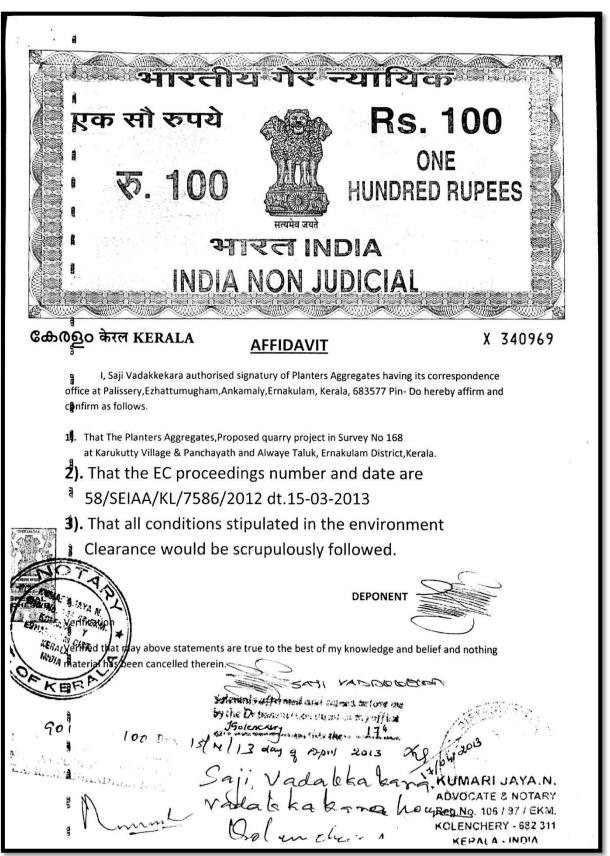


**Certificate of Mining mate** 

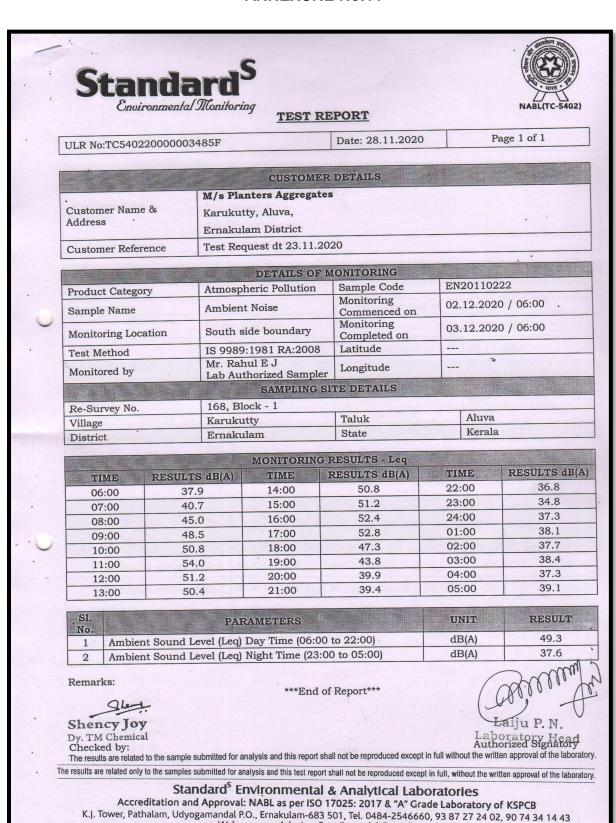




Advertisement in two news paper



**Affidavit** 



## Result of ambient sound level

Web: www.sealabs.in, E-mail: seaalab@gmail.com





#### TEST REPORT

[	ULR No:TC540220000003484F	Date: 28.11.2020	Page 1 of 1
- 1	ULK NO.1C370220000001011		

	CUSTOMER DETAILS	
Customer Name & Address	M/s Planters Aggregates  Karukutty, Aluva,  Ernakulam District	
Customer Reference	Test Request dt 23.11.2020	

SAMPLE DETAILS						
Product Category Atmospheric Pollution Sample Code EN20110221						
Sample Name	Ambient Air	Sample	Received on	24.11.2020 .		
Sample Conditions at Receipt	Fit for Analysis	Test Cor	mmenced on	24.12.2020		
Sampled by	Mr. Rahul E J Lab Authorized Sampler	er Test Completed on		28.11.2020		
型"提展型形"等	DETAILS OF	SAMPLI	NG	The second secon		
Sampling Location	East Side Boundary	Date	of Sampling	23.11.2020		
Sampling Procedure	SEAAL/ENL/GEN/SOP/C	02 Humi	dity	69%		
Location Coordinates		Temp	erature	31ºC		
	SAMPLING SI	ITE DETA	ILS			
Survey No.	Survey No. 168, Block - 1					
Village	Karukutty	Taluk		Aluva		
District	Ernakulam	rulam State		Kerala		

TEST RESULTS - CHEMICAL PARAMETERS						
Sl. No	PARAMETERS	TEST METHOD	UNIT	RESULT	NAAQ STANDARDS	
1	Particulate matter (PM <sub>10</sub> )	IS 5182 Part 23: 2006 RA 2017	μg/m³	69.7	100 (Max)	
2	Particulate matter (PM <sub>2.5</sub> )	EPA 40 CFR Part 50 Appendix - L	μg/m³	32.4	.60.0 (Max)	
3	Sulphur dioxide (SO <sub>2</sub> )	IS 5182 Part 2: 2001 RA 2017	μg/m³	< 2.00	80.0 (Max)	
4	Nitrogen dioxide (NO <sub>2</sub> )	IS 5182 Part 6: 2006 RA 2017	μg/m³	< 2.00	80.0 (Max)'	

Remarks:

\*\*\*End of Report\*\*\*

Shency Joy

Checked by:

Authorized Signatory

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Accreditation and Approval: NABL as per ISO 17025: 2017 & "A" Grade Laboratory of KSPCB K.J. Tower, Pathalam, Udyogamandal P.O., Ernakulam-683 501, Tel. 0484-2546660, 93 87 27 24 02, 90 74 34 14 43 Web: www.sealabs.in, E-mail: seaalab@gmail.com

Result of ambient air



# TEST REPORT



ULR No: TC540220000003487F	Date: 28.11.2020	Page 1 of 2
Name of the Control o		
	CUSTOMER DETAILS	

	CUSTOMER DETAILS	
Customer Name & Address	M/s Planters Aggregates  Karukutty, Aluva,  Ernakulam District	
Customer Reference	Test Request dt 23.11.2020	

SAMPLE DETAILS

Product Category Water Sample Code		WT20110070	
Sample Name	Quarry Water	Sample Received on	24.11.2020
Sample Conditions at Receipt	Fit for Analysis	Temperature @ Receipt	30 °C
Sample Quantity& Packing	2 litre & Plastic Bottle	Test Commenced on	24.11.2020
Sampled by	Mr. Rahul E J Lab Authorized Sampler	Test Completed on	28.11,2020
Information Provided by Customer	le le come de la come		
	DETAILS OF	SAMPLING	
Sample Source/Location	Inside the quarry	Date of Sampling	23.11.2020
Sampling Procedure	SEAAL/ENL/GEN/SOP/01& SEAAL/MBL/SOP/06	Sample Temperature	32 °C
Latitude		Longitude	
	SAMPLING SIT	TE DETAILS	
Re-Survey No.	168, Block - 1		
Village	Karukutty	Taluk	Aluva
District	Ernakulam	State	Kerala

	TEST RESULTS- CHEMICAL PARAMETERS						
Sl. No.	PARAMETERS	TEST METHOD	UNIT	RESULT	REQUIREMEN T AS PER ACCEPTABLE LIMIT OF IS 10500: '2012		
1	Colour	IS 3025 Part 4:1983 RA 2017	Hazen	1.00	5.00 (Max)		
2	Odour	IS 3025 Part 5: 2018		Unobjectionable	Unobjectionable		
3	Turbidity	IS 3025 Part 10:1984 RA 2017	NTU	0.40	1.00 (Max)		

Shency Joy Dy. TM Chemical

Dy. TM Chemical Microbiologist
Checked by: Authorized Signatory
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#### TEST REPORT

ULR No: TC540220000003487F	Date: 28.11.2020	Do 0 6 0
	Datc. 20.11.2020	Page 2 of 2

	TEST RESULTS- CHEMICAL PARAMETERS						
Sl. No.	PARAMETERS	TEST METHOD	UNIT	RESULT	REQUIREMEN T AS PER ACCEPTABLE LIMIT OF IS 10500: 2012		
.04	pH	IS 3025 Part 11:1983 RA 2017		6.88	6.50 - 8.50		
05	Conductivity	IS 3025 Part 14:1984 RA 2019	μS/cm	172	0.00 = 0.00		
06	Total Dissolved Solids	IS 3025 Part 16:1984 RA 2017	mg/L	111	500 (Max)		
07	Total Hardness (as CaCO <sub>3</sub> )	IS 3025 Part 21:2009 RA 2019	mg/L	58.0	200 (Max)		
08	Calcium (as Ca)	IS 3025 Part 40:1991 RA 2019	mg/L	14.4	75.0 (Max)		
09	Magnesium (as Mg)	IS 3025 Part 46:1994 RA 2019	mg/L	5.36	30.0 (Max)		
10	Chloride (as Cl)	IS 3025 Part 32:1988 RA 2019	mg/L	13.7	250 (Max)		
11	Total Alkalinity (as CaCO <sub>3</sub> )	IS 3025 Part 23:1986 RA 2019	mg/L	38.8	200 (Max)		
12	Iron (as Fe)	IS 3025 Part 53:2003 RA 2019	mg/L	0.21	1.00 (Max)		
13	Sulphate (SO <sub>4</sub> )	IS 3025 Part 24:1986 RA 2019	mg/L	5.82	200 (Max)		
14	Fluoride as F	IS 3025 Part 60: 2008 RA 2019	mg/L	< 0.10	Max 1.0		
15	Arsenic as As	APHA 23rd Edition 3111C:2017	mg/L	BDL (LOD-0.001	Max 0.01		
16	Copper as Cu	IS 3025 Part 42: 1992 RA 2019	mg/L	BDL (LOD-0.016)	Max 0.05		
18	Manganese as Mn	IS 3025 Part 59: 2006 RA 2017	mg/L	BDL (LOD-0.016)	Max 0.1		
19	Cadmium as Cd	IS 3025 Part 41: 1992 RA 2019	mg/L	BDL (LOD-0.003)	Max 0.003		
.20	Chromium as Cr Zinc as Zn	IS 3025 Part 52: 2003 RA 2019	mg/L	BDL (LOD-0.05)	Max 0.05		
21	Mercury as Hg	APHA 23rd Edition 3111B:2017	mg/L	BDL (LOD-0.008)	Max 5.0		
22	Lead as Pb	IS 3025 Part 48: 1994 RA 2019	mg/L	BDL (LOD-0.001)	Max 0.001		
23	Aluminium as Al	IS 3025 Part 47: 1994 RA 2019 APHA 23rd Edition 3111D:2017	mg/L	BDL (LOD-0.01)	Max 0.01		
		Al IIA 25th Edition 3111D:2017	mg/L	BDL (LOD-0.03)	Max 0.03		

	2017	TEST RESULTS - BIO	DLOGICAL		
Sl. No.	PARAMETERS	TEST METHOD	UNIT	RESULT	REQUIREME NT AS PER ACCEPTABL E LIMIT OF IS 10500:
24	Total Coliform Bacteria	IS 15185 : 2016		Absent/100 ml	2012 Absent/100 ml
25	E coli	IS 15185 : 2016		Absent/100 ml	Absent/100 ml

Remarks:

\*\*\*End of Report\*\*\*

Dy. TM Chemical

Checked by:

Authorized Signatory

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Web: www.sealabs.in, E-mail: seaalab@gmail.com

**Result of Quarry water** 





#### TEST REPORT

ULR No: TC540220000003486F Date: 28.1	1.2020 Page 1 of 2	
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ULR No: TC5402200000	)03486F	Date. 28.11.2020	1480 1 01 =
	CUSTOME	ER DETAILS	10 10 10 10 10 10 10 10 10 10 10 10 10 1
Customer Name & Address	M/s Planters Aggregates Karukutty, Aluva, Ernakulam District	AND THE STATE OF T	
Customer Reference	Test Request dt 23.11.2020	)	
The state of the state of	SAMPLE	DETAILS	
Product Category	Water	Sample Code	WT20110069 '
Sample Name	Bore Well	Sample Received on	24.11.2020
Sample Conditions at Receipt	Fit for Analysis	Temperature @ Receipt	30 °C
Sample Quantity& Packing	2 litre & Plastic Bottle	Test Commenced on	24.11.2020
Sampled by	Mr. Rahul E J Lab Authorized Sampler	Test Completed on	28.11,2020
Information Provided by Customer			Western Control of the Control of th

	DETAILS OF	SAMPLING	<b>"一种"。"季季"</b>
Sample Source/Location	Bore Well	Date of Sampling	23.11.2020
Sampling Procedure	SEAAL/ENL/GEN/SOP/01& SEAAL/MBL/SOP/06	Sample Temperature	32 °C
Latitude		Longitude	
	SAMPLING SI	TE DETAILS	
Re-Survey No.	168, Block - 1	2519   mark   Es	
Village	Karukutty	Taluk	Aluva
District	Ernakulam	State	Kerala

		TEST RESULTS- CHEMICAL	PARAMET	ERS	The residence of the
Sl. No.	PARAMETERS	TEST METHOD	UNIT	RESULT	REQUIREMEN T AS PER ACCEPTABLE LIMIT OF IS 10500: 2012
1	Colour	IS 3025 Part 4:1983 RA 2017	Hazen	1.00	5.00 (Max) '
2	Odour	IS 3025 Part 5: 2018		Unobjectionable	Unobjectionable.
3	Turbidity	IS 3025 Part 10:1984 RA 2017	NTU	0.80	1.00 (Max)

Dy. TM Chemical

Checked by:

Authorized Signatory

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

Standard<sup>s</sup> Environmental & Analytical Laboratories

Accreditation and Approval: NABL as per ISO 17025: 2017 & "A" Grade Laboratory of KSPCB K.J. Tower, Pathalam, Udyogamandal P.O., Ernakulam-683 501, Tel. 0484-2546660, 93 87 27 24 02, 90 74 34 14 43 Web: www.sealabs.in, E-mail: seaalab@gmail.com





## TEST REPORT

IJLR No: TC540220000003486F	Date: 28.11.2020	Page 2 of 2

		TEST RESULTS- CHEMICAL	PARAMET	ERS	
Sl. No.	PARAMETERS	TEST METHOD	UNIT	RESULT	REQUIREMEN TAS PER ACCEPTABLE LIMIT OF IS 10500: 2012
04	рН	IS 3025 Part 11:1983 RA 2017		6.75	6.50 - 8.50
05	Conductivity	IS 3025 Part 14:1984 RA 2019	μS/cm	235	
06	Total Dissolved Solids	IS 3025 Part 16:1984 RA 2017	mg/L	152	500 (Max)
07	Total Hardness (as CaCO <sub>3</sub> )	IS 3025 Part 21:2009 RA 2019	mg/L	64.0	200 (Max)
08	Calcium (as Ca)	IS 3025 Part 40:1991 RA 2019	mg/L	16.0	75.0 (Max)
09	Magnesium (as Mg)	IS 3025 Part 46:1994 RA 2019	mg/L	5.84	30.0 (Max)
10	Chloride (as Cl)	IS 3025 Part 32:1988 RA 2019	mg/L	41.1	250 (Max)
11	Total Alkalinity (as CaCO <sub>3</sub> )	IS 3025 Part 23:1986 RA 2019	mg/L	38.8	200 (Max)
12	Iron (as Fe)	IS 3025 Part 53:2003 RA 2019	mg/L	0.38	1.00 (Max)
13	Sulphate (SO <sub>4</sub> )	IS 3025 Part 24:1986 RA 2019	mg/L	10.2	200 (Max)
14	Fluoride as F	IS 3025 Part 60: 2008 RA 2019	mg/L	< 0.10	Max 1.0
15	Arsenic as As	APHA 23rd Edition 3111C:2017	mg/L	BDL (LOD-0.001	Max 0.01
16	Copper as Cu	IS 3025 Part 42: 1992 RA 2019	mg/L	BDL (LOD-0.016)	Max 0.05
17	Manganese as Mn	IS 3025 Part 59: 2006 RA 2017	mg/L	BDL (LOD-0.016)	Max 0.1
18	Cadmium as Cd	IS 3025 Part 41: 1992 RA 2019	mg/L	BDL (LOD-0.003)	Max 0.003
19	Chromium as Cr	IS 3025 Part 52: 2003 RA 2019	mg/L	BDL (LOD-0.05)	Max 0.05
20	Zinc as Zn	APHA 23rd Edition 3111B:2017	mg/L	BDL (LOD-0.008)	Max 5.0
21	Mercury as Hg	IS 3025 Part 48: 1994 RA 2019	mg/L	BDL (LOD-0.001)	Max 0.001
22	Lead as Pb	IS 3025 Part 47: 1994 RA 2019	mg/L	BDL (LOD-0.01)	Max 0.01
23	Aluminium as Al	APHA 23rd Edition 3111D:2017	mg/L	BDL (LOD-0.03)	Max 0.03

	LEAN BEAR	TEST RESULTS - BI	OLOGICAL		
Sl. No.	PARAMETERS	TEST METHOD	UNIT	RESULT	REQUIREME NT AS PER ACCEPTABL E LIMIT OF IS 10500: 2012
24	Total Coliform Bacteria	IS 15185 : 2016		Absent/100 ml	Absent/100 ml
25	E coli	IS 15185 : 2016		Absent/100 ml	Absent/100 ml

Remarks:

\*\*\*End of Report\*\*\*

Salini T. S.

Microbiologist

Dy. TM Chemical
Checked by:

Authorized Signatory
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K.J. Tower, Pathalam, Udyogamandal P.O., Ernakulam-683 501, Tel. 0484-2546660, 93 87 27 24 02, 90 74 34 14 43
Web: www.sealabs.in, E-mail: seaalab@gmail.com

**Result of Bore well** 

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