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Dt. 12-01-2018

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. 152/SEIAA/KL/3072/2013

Sub :- Environment Clearance - Quarry project at Village & Panchayat - Aruvikara, Taluk - Nedumangad, District - Thiruvananthapuram, Kerala - Compliance Report - First half - Reg.

Respected Sir,

The Quarry (Building stone) project was accorded Environmental Clearance for 12.0836 Ha. by order No. 152/SEIAA/KL/3072/2013 dated 31-03-2017 by State Environmental Impact Assessment Authority, Kerala. The compliance report of First half (April 2017 – September 2017) to the specific and general conditions of the Environment Clearance order is enclosed.

Thanking you,

Yours respectfully,

For M/s Trayancore Blue Metal Industries (P) Ltd.

Copy to:

The Member Secretary

State Environment Impact Assessment Authority (SEIAA),

Thiruvananthapuram, Kerala.



Encl: - As Above

Customer care number - 8592 800 300 / 8592 900 300



COMPLIANCE REPORT

TO

THE CONDITIONS

OF

ENVIRONMENTAL CLEARANCE ORDER

NO: 152/SEIAA/KL/3072/2013

Dated: 31-03-2017

BY

STATE ENVIRONMENT IMPACT ASSESSMENT AUTHORITY (SEIAA) FOR

BUILDING STONE QUARRY
(MINOR MINERAL MINING) PROJECT

AT

SURVEY Nos. 229/1, 229/13, 229/9, and others

in Village & Panchayat - Aruvikara, Taluk - Nedumangad, District - Thiruvananthapuram, Kerala

BY

M/s Travancore Blue Metal Industries (P) Ltd.

Building No. VI/67-12, Kainoor Nagar, Kizhakkumpattukara, East fort, Thrissur, Kerala-680005.

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INTRODUCTION

The quarry project of **M/s Travancore Blue Metal Industries (P) Ltd.** is situated at survey No. 229/1, 229/13, 229/9, and othersin Village & Panchayat - Aruvikara, Taluk - Nedumangad, District - Thiruvananthapuram, Kerala.

The quarry project was accorded with the Environmental Clearance (EC) by State Environmental Impact Assessment Authority on 31-03-2017. As part of general condition No.37 of Environmental Clearance order, half yearly compliance report needs to be submitted by the project proponent. The compliance report of first half to the specific conditions and general conditions of the Environmental Clearance order for the period of April - September, 2017 is being submitted.

COMPLIANCE REPORT

(SPECIFIC CONDITIONS)

PART A

PART - A - SPECIFIC CONDITIONS

01	Steep cliff like feature may be demarcated and fenced as danger zones	complied
	with sign boards.	-

The project proponent has demarcated by fencing on the top of steep cliff like feature in the mining area. Sign board is also installed to know it is a danger zone. This will be maintained in the project area.

02	Storm water drainage from the upper part must be channelized properly	complied
	and let out through well defined channels. Catch water drain should be	-
	provided and water must be clarified to avoid silt to reach the river. Avoid	
	letting out water be side of the approach road.	

As part of storm water management, the project proponent has been constructing well defined drainages to channelize all surface runoff in to the rain water harvesting pond in the project site. The de-siltation chamber is being provided to remove sediments from the storm water. At present the project proponent has been storing maximum possible rain water in to the constructed pond.

03	The rain water structure should be provided.	Complied

To collect rain water from the entire mining area, the proponent has developed two rain water harvesting pond in the project area. The storm water flow is leading to the pond through constructed and natural drainages. The stored rain water is using for gardening & agriculture, wetting of roads, and other domestic purposes. The photograph of the pond is attached as **Plate No.1.**

COMPLIANCE REPORT

(GENERAL CONDITIONS)

PART B

PART - B - GENERAL CONDITIONS

01	Rain Water Harvesting capacity should be installed as per the prevailing	Complied
	provisions of KMBR / KPBR, unless otherwise specified.	

Compliance:

To collect rain water from the entire mining area, the proponent has developed two rain water harvesting pond in the project area. The storm water flow is leading to the pond through constructed and natural drainages. The stored rain water is using for gardening & agriculture, wetting of roads, and other domestic purposes. The photograph of the pond is attached as **Plate No.1.**

02	Environment Monitoring Cell (EMC) as agreed under the affidavit filed by	Will	be
	the proponent should be formed and made functional.	comp	lied

Compliance:

The Environmental Monitoring Cell (EMC) will be formed with Mr. MP Thomas as head of the monitoring cell. The EMC meeting will convene regularly to evaluate and monitor quarrying work in connection with the specific and general conditions stipulated in the Environmental Clearance (EC) order.

<u>Table 1 - Environmental Monitoring Cell (EMC)</u>

SI. No.	Post		Name
1.	Head of monitoring cell (proprietor)	В	Biju vargheses
2.	Member	S	Saifudheen P Y
3.	Member	V	/ijayakumar K
4.	Member		Environmental Engineers and consultants Pvt. Ltd.

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

To reduce air and noise pollution, the project proponent has planted various avenue trees along either side of the road. There is natural vegetation including trees, shrubs and climbers are presents in the sides of road and parking area. The project could plant more suitable avenue trees along either side of the tarred road and open parking areas, where there is less vegetation. The photograph of the avenue tress is attached as **Plate No.2**. The bill purchased against plants is provided as **Annexure No.1**.

04	Maximum possible solar energy generation and utilization shall be	Will be
	ensured as an essential part of the project.	complied

Compliance:

As part of energy conservation, the project will generate and utilize energy from solar by installing solar lights in the project site.

05	Sprinklers shall be installed and used in the project site to contain dust	Being
	emissions.	complied

Compliance:

To prevent dust emissions from the road while transportation of materials, the project does splashes the haulage road and critical areas with the help of vehicles in regular intervals.

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

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 plan.

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

Compliance:

The project is intending to retain 10 percent of total excavated pit as rain water storage area after closure of the mine. The remaining area will be reclaimed with stacked dumping of overburden and top soil. As part of its eco – restoration plan, the project will plant indigenous plant species that are eco – friendly on the reclaimed area.

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

Compliance:

As part of inclusive growth of the community, the project proponent has executed many activities under Corporate Social Responsibility of the firm. The main activities were under the sectors of health, education, housing etc. The details of the CSR activity are provided at **Annexure No.2.** The details of activities under CSR is given below in the table.

Table No.2 - CSR Details

Sectors	Activities	Partners	Beneficiaries	Amount spent in Rs.
Health	Donation		Surendran vattiyoorkav	1,000
	Donation		Babu kadambanad	500
Donation			Ratheesh kumar,vellanad	7,000

Donation	Velappan Rajajinagar	500
Donation	Shafarunisa, Kulathara	2,000
Donation	Sasi Aryanadu	500
Donation	Joy Moozinada	1,300
Donation	Rajendran, Punalal	2,000
Donation	Vincent Punalal	2,500
Donation	Leela Aruvikkara	700
Donation	Suresh Kumar	500
Donation	Manoharan Pilla Mulayira	500
Donation	Vasandi	2,000
Donation	Sreedevi Aruvikkara	500
Donation	Maryangel, Valiyathura	500
Donation	Nancy, Cancer Patient	5,000
Donation	Visambaran	1,000
Donation	Ani Odanavattam	1,000
Donation	Mohanan Mailam	1,000
Donation	Balamma Cancer patient	500
Donation	Chandran Chiryinkeezu	2,000
Donation	Raju Kadambanad	900
Donation	Suleha Aryanadu	500
Donation	Sureshkumar Kuthirakalam	500
Donation	Santha Cherukode	500
Donation	Augustine Aruvikkara,Cancer Patient	1,000
Donation	Rajan Cheriyakonni,Hand patient	1,300
Donation	Sukumaran Nair, Kadambanadu	1,200
Donation	Soman Kachani	1,650
Donation	Sadanandan Pachamala, Eye Patient	1,200
Donation	Jessi, Vellanadu	1,400

	Donation		Chandran Mulayara,Kidney patient	1,300			
	Donation		Radakrishnan Cheriyakonni	2,600			
	Donation		1,100				
	Donation		Robinson Mulayara,Leg Patient				
	Donation		Thankappan,kalliyoor				
	Donation		Babu, Peroorkada	1,000			
	Donation		Rajan Mailom	700			
	Donation	Kudumba Sahayanidi	lumba Sahayanidi Santhosh				
Arts	Donation	Onam Kit	Community	84,441			
Environmental	Donation	Paristhithi Bodavalkarana Charitable Samidi	Public	500			
Social Donation Unnikrishnan smarak Charitable Society, Vellanadu			Asryam Lalkrishnan	2,000			
	Donation	Chaiydaniya Charitable Society, Mailamoodu		3,000			
	Donation	Nanma Charitable Santhi Theeram trust, Pathnapuram		500			
	Donation	Marraige	3,000				
		Total		1,45,892			

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

To prevent falling of animals/human being/dumping of garbage etc, the project installed fencing around the area where Environmental Clearance obtained. The complete installation of barbed metal wire fencing around the mining area with height of 5 ft will be completed.

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

Compliance:

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.

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

Compliance:

To reduce noise and vibration, the following measures are adopted in the project site.

- Proper maintenance of machinery and equipments
- The machineries like breaker and excavator has well sound proof cabin so that the machine operators can work without stress due to the sound.
- Personal protective devices i.e., ear plugs are provided to workers working in high noise areas.
- The mining activity held in day time only.
- > Noise level at quarry site checked periodically.

Blast vibrations and control measures

- Controlled blasting technique is adopted in this project in order to reduce blast vibrations.
- Ordinary detonators are using for the blasting

- ❖ The maximum charge per delay is not more than 10kg to limit the PPV values to 10mm/sec.
- Optimum delay sequence and stem to column ratio is maintaining to minimize the ground vibration intensity.

12	Quarrying	activities	should	be	limited	to	day	time	as	per	KSPCB	complied
	guidelines/	specific co	onditions	3.								

Quarrying activities are limited to day time only as per KSPCB guidelines. The working time of the quarry is from 8.00am to 5.00 pm.

13	Blasting should be done in a controlled manner as specified by the	Being
	regulations of explosives department or any other concerned agency.	complied

Compliance:

The blasting will be done in controlled manner by using ordinary delayed detonators. All blasting activities will carried out under the supervision of qualified persons with the specified regulations of explosive department.

14	A licensed person should supervise/control the blasting operations.	Being
		complied

Compliance:

The project has appointed mining mates, who supervise/control the blasting operations for the exploitation of minor minerals from the project site. **Annexure No. 3** is showing the certificate of qualified person.

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

To contain dust emissions, the project has tarred the access road of 550 meters to the quarry site. The project sprays water on the road to arrest the dust production during summer season. The photograph of the road is shown in **Plate No. 3.**

16	Overburden materials should be managed within the site and used for	Being
	reclamation of mine pits as per mine closure plan/ specific conditions.	complied

Compliance:

The overburden and topsoil need to extract during the time of mining, these natural resources will be staked in the project site. This will be used for plantation, haulage roads and land filling in the mining area. No overburden will let out from the project site.

less than 5m, if there is no mention is conditions.	s the mining plan/specific	complied

Compliance:

The quarrying will be carried out as per mining plan. To enhance the safety and conserve environment, the project is started to explore the minerals by creating benches. The benches will not exceed 5 meters of height. The width of the bench will have minimum of 5 meters.

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

Compliance:

The project proponent is using ordinary/electric delayed detonator. The blasting will be under the supervision of qualified person. The new system of blasting can reduce the incident of fly rock. There is no such incident reported in this mine, therefore mats are yet to use.

1	9	Maximum	depth	of	mining	from	general	ground	level	at	site	shall	not	Will	be
		exceed 10	m.											comp	lied

Mining depth will not exceed beyond 10 meter or not below the level of the nearest stream bed, whichever is less.

20	_	operations	should b	oe c	carried	out a	at place	s having	а	slope	Will	be
	greater	than 45°.									comp	lied

Compliance:

No mining operation is carried out with a slope greater than 45°.

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

Compliance:

To reduce the impact of sound to the labours in the unit, the project has provided ear plugs. Vegetation around the mining area will help to reduce noise and air pollution. This helps the noise level kept within prescribed standards.

2	22	The workers on the site should be provided with the required protective	complied
		equipments such as ear muffs, helmet, etc.	

Compliance:

To ensure the safety of workers in working site, the project has provided adequate Personnel Protective Equipments (PPE) such as helmets, ear plugs, safety belts, glows, etc.

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

The project proponent ensured that all storm water from the mining area is flowing in to the pond created at mining area. The project proponent is intending to create garland drains where it is necessary in the lower slopes of the project area for storm water management. At present the pond is working as a clarifier.

Ī	24	The transportation of	of minerals	should	be	done	in	covered	trucks	to	complied
		contain dust emission	ns.								

Compliance:

The project assure that the loaded trucks are covered to avoid dust emission from the vehicle while transportation of materials.

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

Compliance:

The project proponent has started to plant various saplings in the project area as a compensation of loss of trees while the project is clearing the land for mining. The project intending to plant more tree saplings in to the project site. The bill against the purchase of plants is provided at **Annexure No.1.**

ſ	26	Disposal of spent oil from diesel engines should be as specified under	Being
		relevant Rules/Regulations.	complied
			•

Compliance:

The spend oil will be sold only to the approved recyclers, some time it will be used as lubricant in the project site.

27	Explosives should be stored in magazines in isolated place specified	complied
	and approved by the explosives department.	

Explosives are stored in magazine. The magazine situated in an isolated place specified and approved by the explosives department. The area surrounded to the magazine was fenced with barbed metal wire.

28	A minimum buffer distance of 100m meter from the boundary of the	complied
	quarry to the nearest dwelling unit or other structures, not being any	
	facility for mining shall be provided.	

Compliance:

The norms of Kerala State Pollution Control Board regarding the distance criteria of residences, roads, rivers and worship places is adhered by the project. There is 115 meter distance to the nearest house from the boundary of mining area.

29	100 m buffer distance should be maintained from forest boundaries.	Not
		applicable

Compliance:

There is no forest near to the project site.

30	Consent from Kerala Pollution Control Board under Water and Air Act(s)	Complied
	should have been obtained before initiating activity.	

Compliance:

The project has obtained consent from KSPCB under Water and Air Act(s). The copy of certificate of "Consent to Operate" (Renewal) from Kerala State Pollution Control Board is provided in **Annexure No.4.**

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

The certificates obtained from other concerned statutory authorities are enclosed in Annexure No.4, 5, 6 & 7

TABLE NO.3 – DETAILS OF APPROVALS OBTAINED

Name of the Statutory approval	Name of the Statutory authority	Approval Number & Date
Environmental Clearance order	State Environmental Impact Assessment Authority, Kerala	152/SEIAA/KL/3072/2013 Dt. 31-03-2017
"Consent to Operate" (Renewal)	Kerala State Pollution Control Board	PCB/TVM-DO/ICO/AE2- 231/2011
Explosive License	Ministry of Commerce & Industry – Petroleum & Explosives Safety Organization (PESO)	E/SC/KL/22/1215(E58077) Dt. 16-03-2016
License for quarry operations	Gram Panchayath	A4.08?2017-18 dt. 05-04- 2017

32	In the case of any change(s) in the scope of the project, extent quantity,	
	process of mining technology involved or in any way affecting the environeme3ntal parameters/impacts as assessed, based on which only	complied
	environeme3ntal parameters/impacts as assessed, based on which only	Compiled
	the EC is issued, the project would require a fresh appraisal by this	
	Authority, for which the proponent shall apply and get the approval of	
	this Authority.	

Compliance:

There is no change in the scope of the project. At present the project is running as per plan submitted in Environmental Impact Assessment Authority, Govt. of India. The project will seek for a new Environmental clearance In the case of any change(s) in the scope of the project.

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

The project is willing to add all possible additional safe guard measures subsequently if the authority found necessary.

34	The stipulations by Statutory Authorities under different Acts and Noted
	Notifications should be complied with, including the provisions of Wate
	(Prevention and Control of Pollution) Act, 1974, the Air (Prevention and
	Control of Pollution) Act 1981, The Environment (Protection) Act, 1986
	the public liability (Insurance) Act, 1991 and EIA notification, 2006.

Compliance:

The stipulated orders and directions under different act and notification including EIA notification 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
- ➤ Central Ground Water Authority
- > 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 news papers widely circulated in the region, one which (both advertisement and the newspaper) shall be in the vernacular language informing that the project has been accorded Environmental Clearance and copies of clearance letters are available with the 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 the copy of the same signed in all pages should be forwarded to the office of this authority as confirmation.

Complied

Compliance:

An advertisement in two local daily newspapers (English and Malayalam) regarding Environmental Clearance accorded to the quarry project was given within the stipulated period and the copy of the same was submitted at SEIAA Kerala. The copy of the advertisement given in two local newspapers is provided at **Annexure No.8.**

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

Complied

Compliance:

A copy of the Environment Clearance letter was submitted to the Panchayat Office. The project proponent did not receive any suggestions / representation from anywhere while the processing the proposal therefore did not give the copy of clearance latter to anyone. At present the project does not have a website this will be created soon. The acknowledgment received from the Gram Panchayat is attached as **Annexure No. 9.**

37		
	compliance of the stipulated EC conditions including results of monitored data (both in hard copies as well as by e-mail) and	complied
	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 State Environment Impact Assessment Authority (SEIAA) office.

Compliance:

The compliance report is being submitted to the State Environmental Impact assessment Authority, Kerala and the Regional Office of MoEF&CC, Bangalore both in hard copy as well as mail.

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

Compliance:

The details of the Environmental Clearance are displayed in the project site. The project proponent has placed the metallic board as specified in the conditions of Environmental Clearance order. The extent of lease area boundary will depict soon.

39	The	propoi	nent	should provide	notarized aff	fidavit (indicatin	g the	nun	nber	Complied
	and	date	of	Environmental	Clearance	proceedings)	that	all	the	
conditions stipulated in the EC shall be scrupulously followed.										

Compliance:

An assurance in the form of affidavit was already submitted to SEIAA Kerala. The copy of the same is attached as **Annexure No.10.**

40	0	No char	ige in i	mining tech	nnol	ogy a	and scope	e of w	vorking s	hould be ma	ade	Will	be
		without	prior	approval	of	the	SEIAA,	No	further	expansion	or	comp	olied
		modifica	tion in	the mine s	hall	be c	arried out	with	out prior	approval of	the		
		SEIAA, a	as app	licable.									

The project proponent is not intending to expand the area of mine, technology and scope of working. The project will appear SEIAA for Environment Clearance if the project wants to expand its scope.

The project proponent shall ensure that no natural water course and/or water resources shall be obstructed due to any mining operations.

Necessary safeguard measures to protect the first order streams, if any originating from the mine lease shall be taken.

The Rain water harvesting pond in the site is working as clarifiers to prevent the quarry waste within the site. The project proponent will install additional clarifiers in the project site to prevent sediments and wastes from quarry site to enter in to the main stream. The project will constitute a Cell to monitor such commitments to the community.

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

The project proponent has monitored the ambient air quality as per National Ambient Air quality Standard (NAQQS). The project is intending to increase the splashing of water and installed sprinklers at loading, unloading and transfer points. This activity can reduce the fugitive emission.

The top soil, if any, shall be temporarily be stored at earmarked site(s) only for the topsoil shall be used for land reclamation and plantation. The Over Burden (OB) generated during the mining operations shall be staked at earmarked dump site(s) only. The maximum height of the dumps shall not exceed 8m and width 20m and overall slope of the dumps shall be maintained to 45°. The OB dumps should be scientifically vegetated with suitable native species to prevent erosion

Being complied

and surface run off. In critical areas, use of geo textiles shall be undertaken for stabilization of the bump. The entire excavated area shall be backfilled. Monitoring and management of rehabilitated areas should continue until the vegetation becomes self-sustaining.

The top soil and overburden will be stacked in a designated place within the project site. Only topsoil will be used for plantation. Overburden will be used for landfill and to construct haulage roads in the mining area. The excess will be stored in a designated place as per the direction of State Environment Impact Assessment Authority (SEIAA). The Environment Monitoring Cell will monitor the execution of eco restoration.

44 Catch drains and siltation ponds of appropriate size shall be constructed around the mine working, mineral and OB dumps to prevent run off of water and flow of sediments directly into the river and other water bodies. The water so collected should be utilized for watering the mine area, roads, green belt development etc., The drains shall be regularly de silted particularly after monsoon and maintained properly.

Will be complied

The project proponent has been constructing 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 water from the pond can be used for splashing of water on roads to arrest the dust.

45 Effective safeguard measures such as regular water sprinkling shall be carries out in critical areas prone to air pollution and having high levels of PM₁₀ and PM_{2.5}, such as haul road, loading an un loading points and transfer points – it shall be ensured that the Ambient Air Quality Parameters confirm to the norm prescribed by the Central Pollution Control Board in this regard.

Will be complied

The project proponent is regularly spraying water in critical areas prone to air pollution with the help of vehicle. The project proponent will increase the number of sprinklers in critical area to reduce the dust emission such as loading and un loading points, haul roads and transfer points. The ambient air quality will be monitored with the help of an approved laboratory.

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

The project proponent will install sprinklers in critical area to reduce the dust emission such as loading and unloading points, haul roads and transfer points. The water spraying has been carried out regularly to arrest the dust emission. The sprinklers and vehicle for water spraying will be properly marinated.

47	Measures should be taken for control of noise levels below 85 dBA	Being
	in the work environment.	complied

The main sound generating activities are the playing of jack hammer, breaker, vehicles and blasting operations. The level noise from all these activities will not go beyond 85dBA. The project proponent will take appropriate action to reduce the sound by employing possible measures. These are mentioned under the condition number 11.

48	A separate Environmental Management Cell with suitable qualified	Will	be
	personal should be set up under the control of a senior executive,	comp	lied
	who will report directly to the Head of the Organization.		

To monitor all conditions stipulated in the Environment Clearance and environment Management Plan, the project will constitute an Environment Monitoring Cell with Mr. Biju Varghese as the head of the Cell.

49	The funds earmarked for environmental protection and CSR	Will be
	activities should be kept in separate account and should not be	complied
	diverted for other purpose. Year wise expenditure should be	
	reported to the State Environment Impact assessment authority	
	(SEIAA) office.	

The project proponent is intending to execute more activities under Corporate Social Responsibility (CSR) for community development. To implement these activities in a good manner, the project proponent will open an account for keeping the funds earmarked for environmental protection and CSR.

50	The Reg	jional Office	of MoE	F &CC located	at Bang	galore shall	Noted	
	monitor	compliance	of the	stipulated cond	ditions. 1	The project		
	authorities should extend full cooperation to the officer(s) of the							
	regional	Office	by	furnishing	the	requisite		
	data/information/monitoring reports.							

The project proponent will extent all possible cooperation to the officers form regional office of MoEF & CC and can produce all data/information/reports when they are asking for.

51	Any appeal against this environmental clearance shall lie with the	Noted
	National Green Tribunal, if preferred within a period of 30 days as	
	prescribed under section 16 of the National Green tribunal Act,	
	2010.	

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

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

The project proponent is willing to implement the conditions stipulated in the Environment Clearance order. The project can execute all possible measures in the project site for the conservation of environment.

54	The above conditions shall prevail not withstanding anything to the	Will be		
	contrary, in consistent, or simplified, contained in any other permit,			
	license on consent given by any other authority for the same			
	project.			

The project will give priority to the conditions stipulated in the Environment clearance Order for its execution.

55	This order is valid for a period of 5 years or the expiry date of mine	Noted
	lease period issued by the Govt. of Kerala, whichever is earlier.	

The environmental clearance will be subject to the final order of the courts in any pending litigation related to the land or project, in any

	court of law.		
57	The mining operation shall be restricted to above ground water	Will b	е
	table and is should not intersect ground water table.	complie	d

The project proponent will restrict its mining operations above the ground water table.

58	All vehicle used for transportation and within the mine shall have	Will k	ре
	"PUC" certificate from authorized pollution taking center. Washing	complie	∌d
	of all vehicles shall be inside the lease area.		

As part of reduce air pollution, the project proponent will monitor the pollution level of all vehicles playing in the project site. This monitoring will be conducted only in authorized pollution checking center. Copy PUC certificate is attached as **Annexure No. 11.**

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

At present, the need of prior approval is not necessary to draw ground water and surface water for the project.

60	Regular monitoring of flow rates and water quality upstream and	Noted
	down streams of the springs and perennial nallahs flowing in and	
	around the mine lease area shall be carried out and reported in the	
	six monthly report to SEIAA.	

There is no stream or springs flowing in and around to the mine lease area. The project will install de siltation trap and other mechanism to prevent sediments and wastes from the mining area to the public drainage system.

61	Occupational health surveillance programe of the workers should	Will	be
	be under taken periodically to observe any contractions due to	compl	ied
	exposure to dust and take corrective measures, if needed.		

The project proponent will start an occupational health surveillance programme for the labous working in mining area and crusher.

Compliance report	M/s Travancore Blue Metal Industries (P) Ltd.
	PLATES

Plate No.1



Rain water Harvesting Pond in the project site

Plate No.2



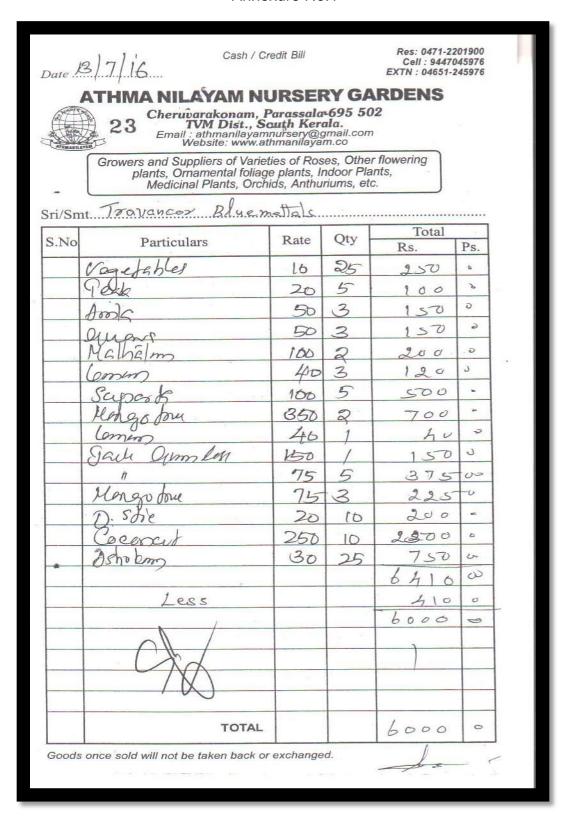
Avenue Trees

Plate No.3



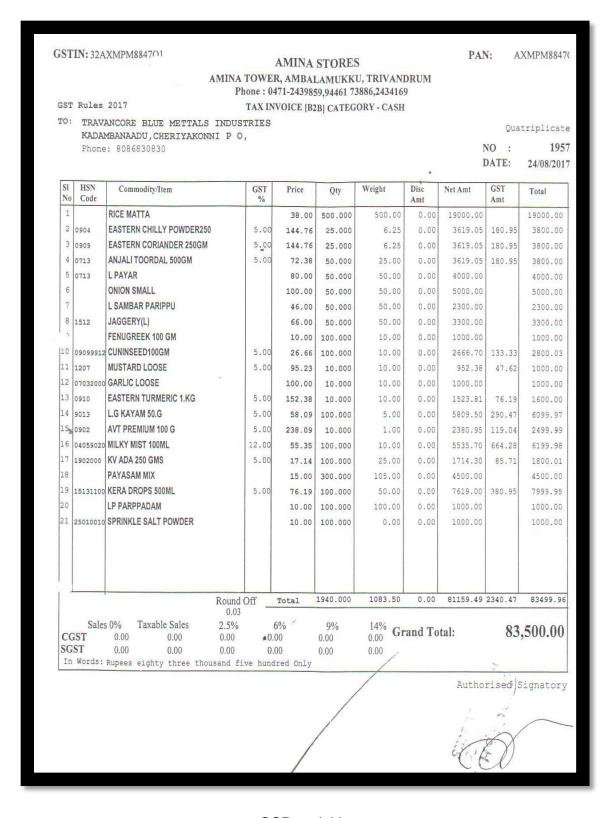
Approach road

Compliance report	M/s Travancore Blue Metal Industries (P) Ltd.
	ANNEXURE

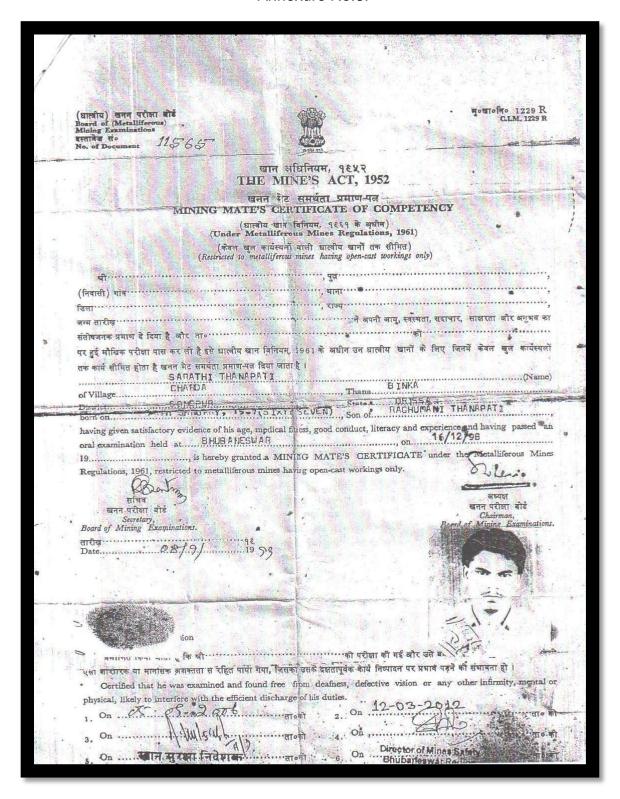


Bill of plants purchased

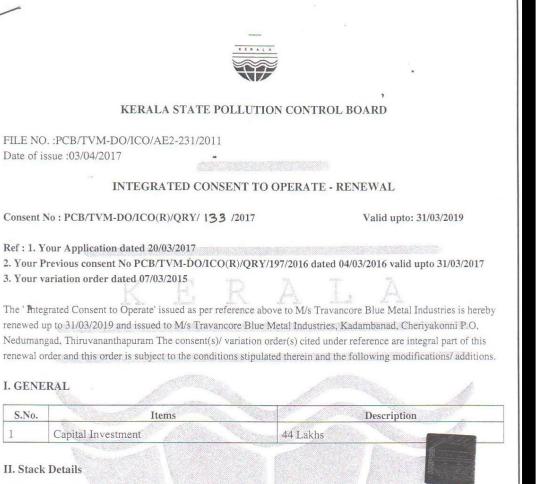
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CSR activities



Certificate of Mining mate



II. Stack Details

Capital Investment

I. GENERAL

S.No.

Date of issue :03/04/2017

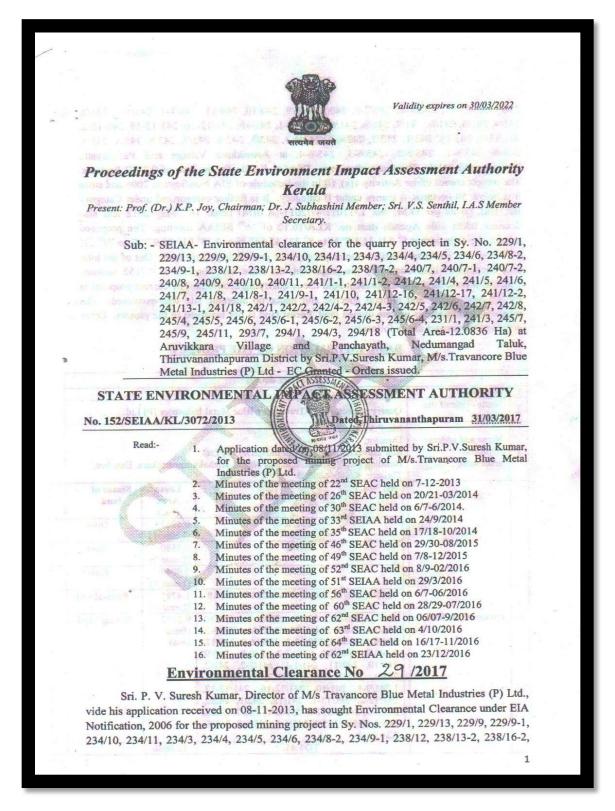
Stack No.	Source of	Emission	Stack Heig	ght above	Control
	Emission	Rate(Nm3/Hr)	Ground Level(In Meters)	Roof Level(In Meters)	Equipment

Items

III. CONDITIONS

- 5.1 Quarrying area is restricted to the land in Nedumangad Taluk, Aruvikara Village having valid lease from 4/10/2010 to 17/5/2020 on survey nos. 245/9,11, 293/7,294/1,3,18 issued by Department of Mining and Geology Thiruvananthapuram.
- 5.2 This consent will become invalid if any adverse order is passed by the Hon'ble Supreme Court, High Court, and National Green Tribunal against present quarrying and related activities.
- 5.3 Any adverse Government Order passed in the matter of quarrying by the Central Government, State Government & Pollution Control Board, etc this consent will become invalid immediately.
- 5.4 This Consent to Operate (Renewal) is issued only in accordance with norms and parameters of the Board

Copy of Consent form PCB



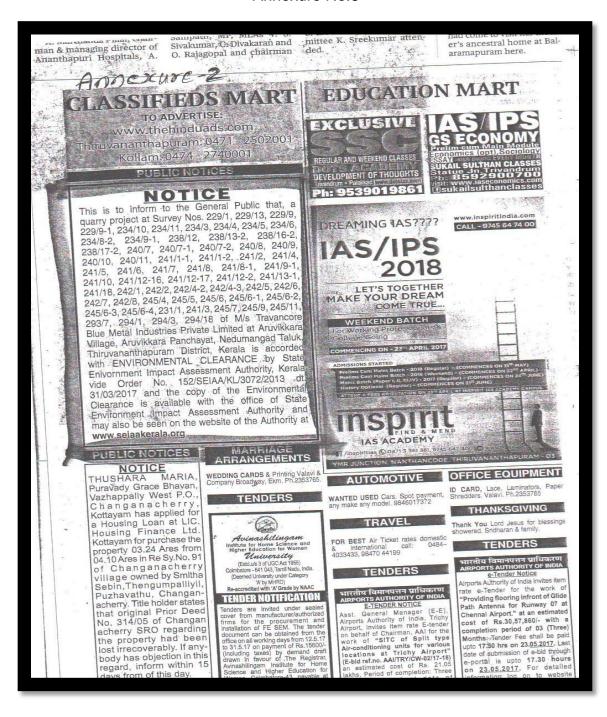
Copy of Environmental Clearance

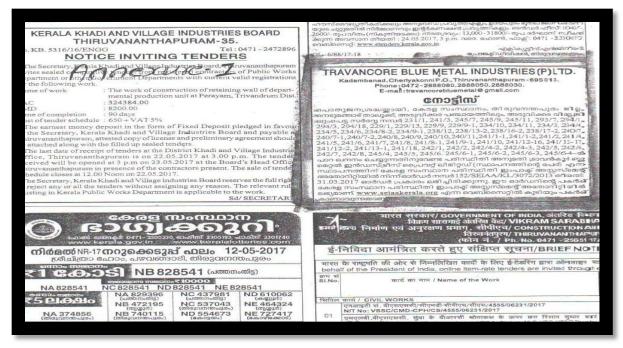
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		se.explosives of class 1 2 2	गजीन में वंगे 6	के विस्फोटकः	
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वार्षिक फीस रुपए (Annual I	Fee Rs): 2400/-				
1. Licence is hereby granted	to				
Shri, M/S Suresh Kumar	PV (arterature (A			त सरकार	
Industries Pvt Ltd Thekke	.P.V. (अधिमोगी / Occupier : Shri Su mala-Mylom, Cheriyakonni Post, Thir HIRUVANANTHAPURAM, State-Ke	resh Kumar.P.V.), Direc	tor, Travancore I	Blue Metal . A. of India	
Cheriyakonni, District-Ti	HIRUVANANTHAPURAM State-Ke	rala, Pincode - 695013	95013, Kerala.,	Town/Village	
न्। अग्रिमान्त अन्दर्भ का	जाता है।			120	No I May
2. अन्साप्तधारा की प्रास्थिति	Status of licensee : Individual			Tage Comment	
े अन्त्रीप्त निम्नलिखित प्र	योजनों के लिए विशियान के	possess for use of N	itrate Mivture	Electric and/or Ordin	1 / 1 / 1 / 1 / 1 / 1 / 1 / 1 / 1 / 1 /
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sr. No.	नाम और विवरण	वर्ग और प्रभाग	उप-प्रभाग	मात्रा किसी एक	
1.	Name and Description	Class & Division	Sub-division	Quantity at any	समय म
2. EI	Nitrate Mixture ectric and/or Ordinary Detonators	2,0	0	150 Kg	one time
3:	Safety Fuse	6,3 6,1	0	5000 No	S.
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(b) Quantity of explosives to b	be purchased in a calendar month[applicab	le for licence under article 3/1	नि अनुज्ञिष्ति के	लिए]	20 times
र्वा प्राची रहा पर	1 4 A H A S L A D D D T A THE A	ती है। जेगानि	o) and (c)] .		as above.
			(Dated) 29/04/2	No.) E/SC/KL/22/1215 2011	(E58077)
		emises are situated at follow	wing address:		
তিলা (District)	वत पत पर स्थित हैं। The licensed pr 41 , ग्राम (Town/Village) : Aruvikkar IRUVANANTHAPURAM	a village, Nedumangad I	aluk, Thiruvan	Anth error (Police Stee	(:\ N .
द्रभाष (Phone) 094	47178279		Kerala	पिनकोड (Pincode)	695013
7. अनुज्ञप्ति परिसर में निम्नति	The way and "	\$. मेल (E-Mail)	15/05/	फैक्स (Fax)	
The licensed premises consis	st of following facilities	D(110) and E(172) and Engg and Fabrication this amendment	Works Ernak	ortable magazine (Mf	d by Thekkans
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The licence is granted subject	t to the provision of Explosives Zet 18	नुदत्त की जाती है।			,
and the conditions, additiona	11यत उपाबध्दा के अधीन रहते हुए अ t to the provision of Explosives Act 18 l conditions and the following Annexu	res.	to time and the I	Explosives Rules, 2008	framed there under
1. उपयुक्त क्रम स. 5 मे	यथा कथित रेखानिय (स्थान गरिया	L. Asir and		टगा)।	
Drawings (showing s	site, constructional and other details) as	s stated in serial No. 5 abov	re.	3011	
3. दरी प्ररूप DE-2 Die	tance Form DE 2	by the licensing authority.			
9. यह अन्ज्ञाप्त तारीख 31 मार्च	2016 तक विधिमान्य रहेगी। This !!	cenge chall re			
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Copy of Explosive

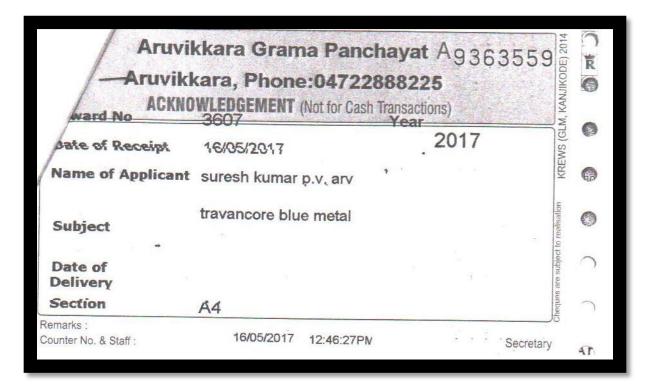
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Copy of license from Gram Panchayat

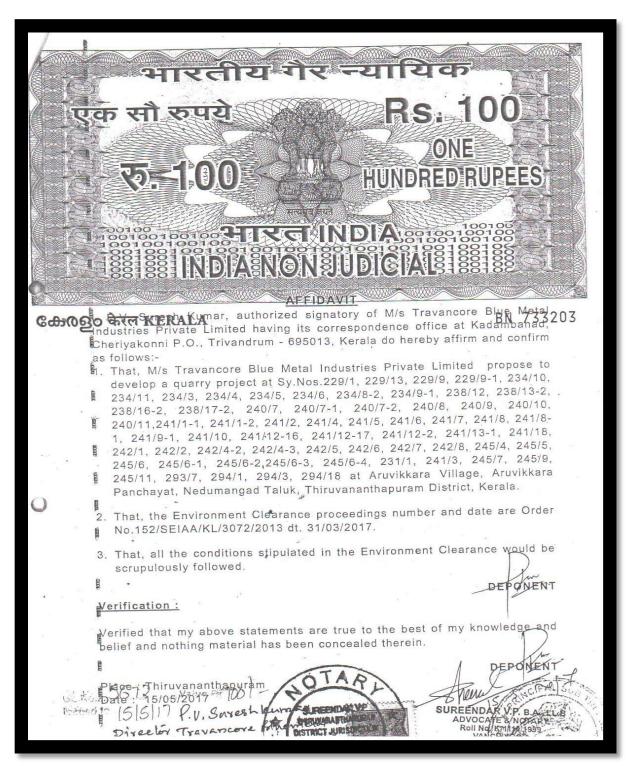




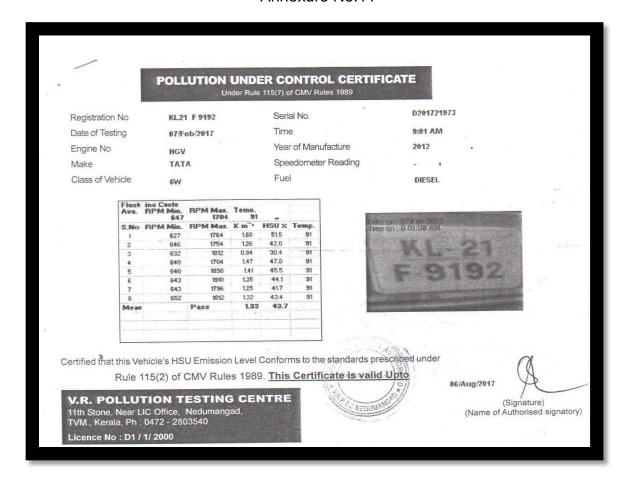
Advertisement in News papers



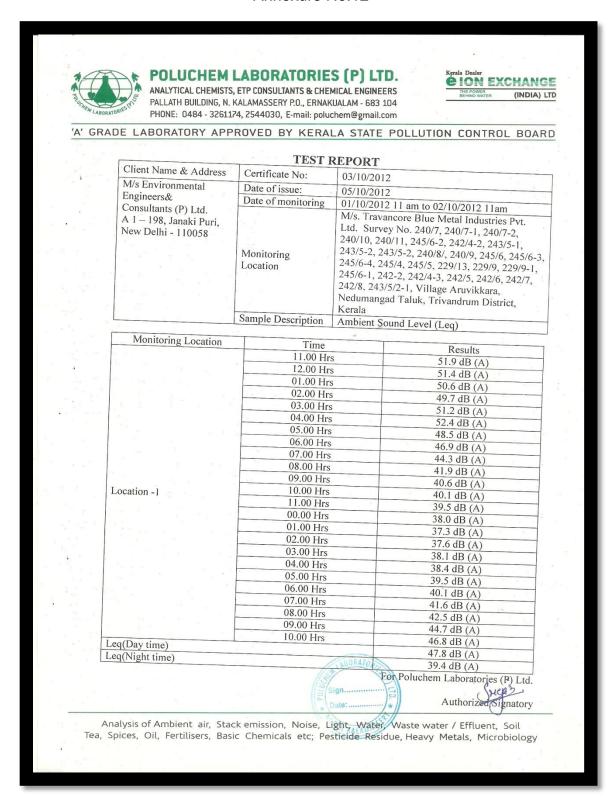
Acknowledgment from Gram Panchayat



Copy of Affidavit



Copy of PUC Certificate



Result of Noise



POLUCHEM LABORATORIES (P) LTD.

ANALYTICAL CHEMISTS, ETP CONSULTANTS & CHEMICAL ENGINEERS PALLATH BUILDING, N. KALAMASSERY P.O., ERNAKUALAM - 683 104 PHONE: 0484 - 3261174, 2544030, E-mail: poluchem@gmail.com



'A' GRADE LABORATORY APPROVED BY KERALA STATE POLLUTION CONTROL BOARD AND ACCREDITED BY NABL

TEST REPORT

Client Name & Address	Certificate No:	01/10/2012
M/ E	Date of issue:	05/10/2012
M/s Environmental Engineers& Consultants (P) Ltd.	Date of monitoring	01/10/2012 11 am to 02/10/2012 11am
A 1 – 198, Janaki Puri,	Date of sample received:	02/10/2012
New Delhi - 110058	Date of analysis	02/10/2012
	Monitoring Location	M/s. Travancore Blue Metal Industries Pvt. Ltd. Survey No. 240/7, 240/7-1, 240/7-2, 240/10, 240/11, 245/6-2, 242/4-2, 243/5-1, 243/5-2, 243/5-2, 243/6-3, 245/6-3, 245/6-4, 245/4, 245/5, 229/13, 229/9, 229/9-1, 245/6-1, 242-2, 242/4-3, 242/5, 242/6, 242/7, 242/8, 243/5/2-1, Village Aruvikkara, Nedumangad Taluk, Trivandrum District, Kerala.
	Sample description	Ambient air – Location 1
	Sample code given by client	Nil
	Sample identification No:	G/J/01/12

SL NO	PARAMETERS	TEST METHOD	RESULTS	LIMITS
01	Particulate Matter (PM ₁₀)	I S 5182 Part 4 1999	39.4 μg/M ³	100 μg/M ³
02	Particulate Matter (PM _{2.5})	CPCB	17.9 μg/M ³	60 μg/M ³
03	Sulphur dioxide	I S 5182 Part 2 2001	2.9 μg/M ³	80 μg/M ³
04	Nitrogen dioxide	IS 5182 Part 06 1975	1.3 μg/M ³	80 μg/M ³

The results are related only to the sample collected for analysis. This certificate shall not be reproduced except in full and without the written permission with authorized signatory For and on behalf of POLUCHEM LABORATORIES (P) LTD.

AUTHORIZED SIGNATORY

Analysis of Ambient air, Stack emission, Noise, Light, Water, Waste water / Effluent, Soil Tea, Spices, Oil, Fertilisers, Basic Chemicals etc; Pesticide Residue, Heavy Metals, Microbiology

Result of Air



POLUCHEM LABORATORIES (P) LTD.

ANALYTICAL CHEMISTS, ETP CONSULTANTS & CHEMICAL ENGINEERS PALLATH BUILDING, N. KALAMASSERY P.O., ERNAKUALAM - 683 104 PHONE: 0484 - 3261174, 2544030, E-mail: poluchem@gmail.com



'A' GRADE LABORATORY APPROVED BY KERALA STATE POLLUTION CONTROL BOARD AND ACCREDITED BY NABL

TEST REPORT

Ref.No. PL/RT/PW/01//2012

Name & address of customer

: Date of Issue: 05/10/2012

: M/S. Environmental Engineers & Consultants (P) Ltd,

Project Site

A1-198, Janaki Puri, New Delhi-110058 : M/s Travancore Blue Metal Industries Pvt. Ltd. Survey No. 240/7, 240/7-1, 240/7-2, 240/10, 240/11,

245/6-2, 242/4-2, 243/5-1, 243/5-2, 243/5-2, 240/8/, 240/9, 245/6, 245/6-3, 245/6-4, 245/4, 245/5, 229/13, 229/9, 229/9-1, 245/6-1, 242-2, 242/4-3, 242/5, 242/6, 242/7, 242/8, 243/5/2-1, Village Aruvikkara, Nedumangad Taluk, Trivandrum District,

Kerala.

Sample drawn by

Sample description Sample Code

: Drinking water :J/01/2012 : Open Well Water

Location of sampling Date of sample collected Date of analysis started

:01/10/2012 :02/10/2012

Date of completion of analysis

: 04/10/2012

: Self

Parameters tested	Test method	Result	Desirable Limits
Parameters tested	1 est method	Result	as per IS-10500
Color	IS 3025 (P) 04 – 1983	11 Hazen Unit	5 Hazen Unit
Odour	IS 3025 (P) 05 - 1983	Unobjectionable	Unobjectionable
Turbidity	IS 3025 (P) 10 – 1984	35 NTU	5 NTU
pH	IS 3025 (P) 11 - 1983	6.42	6.5 - 8.5
Total Dissolved Solids	IS 3025 (P) 15 – 1984	71 mg/l	500 mg/l
Total Hardness as CaCO ₃	IS 3025 (P) 21 – 1983	39.2 mg/l	300 mg/l
Total Alkalinity as CaCO ₃	IS 3025 (P) 23 – 1986	51 mg/l	200 mg/l
Residual Free Chlorine	IS 3025 (P) 26 - 1986	BDL	0.2 mg/l
Chloride as Cl	IS 3025 (P) 32 – 1988	16.82 mg/l	250 mg/l
Calcium as Ca	IS 3025 (P) 40 – 1991	7.85 mg/l	75 mg/l
Magnesium as Mg	IS 3025 (P) 46 – 1994	4.76 mg/l	30 mg/l
Iron as Fe	IS 3025 (P) 53 – 2003	2.7 mg/l	0.3 mg/l
Sulphate	IS 3025 (P) 31 – 1988	0.16 mg/l	200 mg/l
Fluoride	IS 3025 (P) 60 – 2008	0.05 mg/l	1.0 mg/l

Note: BDL - Below Detection Level

For Poluchem Labor

LAIJU Technical Manager Poluchem Laboratories (P) Ltd.

Analysis of Ambient air, Stack emission, Noise, Light, Water, Waste water / Effluent, Soil Tea, Spices, Oil, Fertilisers, Basic Chemicals etc; Pesticide Residue, Heavy Metals, Microbiology



POLUCHEM LABORATORIES (P) LTD.

ANALYTICAL CHEMISTS, ETP CONSULTANTS & CHEMICAL ENGINEERS
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Continuation of Test Certificate No:____

01/2012

Parameters tested	Test method	Result	Desirable Limits as per IS-10500
Selenium	APHA 3111B	BDL	0.01 mg/l
Arsenic	APHA 3111B	BDL	0.05 mg/l
Copper	APHA 3111B	BDL	0.05 mg/l
Manganese	APHA 3111B	BDL	0.1 mg/l
Cadmium	APHA 3111B	BDL	0.01 mg/l
Chromium	APHA 3111B	BDL	0.05 mg/l
Zinc	APHA 3111B	BDL	5 mg/l
Mercury	APHA 3111B	BDL	0.001 mg/l
Cyanide	APHA 4500 E	BDL	0.05 mg/l
Lead	APHA 3111 B	BDL	0.05 mg/l
Aluminum	APHA3500 D	BDL	0.03 mg/l
Boron	APHA 4500 B	BDL	1 mg/l

Note: BDL – Below Detection Level MICROBIOLOGICAL TESTS:

Parameters	Unit	Result	Desirable Limits
MPN Coliform Count	MPN/100ml	38	1.0
Coliform bacteria	/100ml	Present	Absent
E – Coli	/100ml	Present	Absent

LAIJU P. N. Technical Manager Poluchem Laboratories (P) Lt For Poluchem Laboratories (P) L(d)

Analysis of Ambient air, Stack emission, Noise, Light, Water, Waste water Efficient, Sollors, Tea, Spices, Oil, Fertilisers, Basic Chemicals etc; Pesticide Residue, Heavy Metals, Microbiology

Result of Water