Chettinad Cement,KW,TN / Dholipatti Mines/ Six Monthly Report / Apr'20-Sep'20/EHS-265
30th November, 2020

Regional Office (SEZ)
MoEF & CC, Government of India,
No.34, HEPC Campus, Cathedral Garden Road,
Nungambakkam, Chennai – 600 034
Ph No. 044-28222056/48613477
Email Id : eccompliance-tn@gov.in

Dear Sir,

Subject : **Submission of Six Monthly (April'2020 to September'2020) Compliance Report** of Environment Clearance for **Dholipatti Limestone Mines** of Chettinad Cement Corporation Private Limited located at Dholipatti, Karikkali & Palayam Villages, Guziliamparai Taluk, Dindigul District, Tamil Nadu – 624703

Reference : **Environmental Clearance F.No.J-11015/27/2000-IA 11(M) dated 19.03.2001**

* * * * * * * * *

We hereby submit the **Six Monthly Compliance report (April'2020 to September'2020)** pertaining to above referred Environmental clearance of our "Dholipatti Limestone Mines, mining lease area of 138.785 ha with a mining capacity of 1.40 million tons per annum located at Dholipati, Karikkali & Palayam Villages, Guziliamparai Taluk, Dindigul District, Tamil Nadu-624703.

Thanking you

Yours faithfully
for **CHETTINAD CEMENT CORPORATION PRIVATE LIMITED**

V.KRISHNAN
SENIOR VICE PRESIDENT [WORKS]

Copy to:

1. Regional Director, CPCB, Bangalore, Email id : **zobangalore.cpcb@nic.in**
2. Member Secretary, TNPCB, Chennai, email id : **tnpcbmembersecretary@gmail.com**
3. JCEE, TNPCB, Madurai, email id : **tnpcbjceemdu@gmail.com**
4. DEE, TNPCB, Dindigul, email id : **pcbdgl@gmial.com**

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Chettinad cement

KARIKKALI WORKS

Six Monthly EC Compliance Report

Period: April'2020 to September'2020

Chettinad cement
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CHETTIAND CEMENT CORPORATION PRIVATE LIMITED

Dholipatti Limestone Mines

Dholipatti, Karikkali & Palayam Villages, Guziliyampari Taluk, Dindigul District, Tamil Nadu

Six Monthly Compliance Report (Apr'20 – Sep'20)

[Mining lease area of 138.785 ha with a mining capacity of 1.40 million tons per annum]

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Annexure 1

Chettinad Cement Corporation Private Limited

Dholipatti Limestone Mines

Dholipatti, Karikkali & Palayam Villages, Guziliamparai Taluk, Dindigul, Tamilnadu -624703

Status of compliance Stipulated in Environmental Clearance
(For the Period of April 2020 to September 2020)

Reference : *EC granted by MoEF vide Letter No* ***F.No.J-11015/27/2000-1A 11(M) dated 19.03.2001*** for Mining lease area of 138.785 ha with a mining capacity of 1.40 million tons per annum located at Dholipatti, Karikkali & Palayam Villages, Guziliamparai Taluk, Dindigul District, Tamilnadu - 624703

Present Status of Project : *Under Operation since 24.07.2001*

A. Specific Conditions:

Sl. No	Specific Condition	Compliance Status
i.	OB dump should be stacked at earmarked dump site(s) only and should not be kept active for longer period.	*Complied* *Over Burden has been stacked at earmarked dump site only. The OB dump is not kept active for longer period by using the same within the Mine Area for formation of bunds.*
ii.	Top soil should be stacked properly with adequate measures at earmarked site. It should be used for reclamation and rehabilitation of mined out area.	*Complied* *Currently there is no stock of top soil as the same had already been used up for development greenbelt. The top soil generated in future will be concurrently used for greenbelt development.*
iii.	The final angle of slope of waste dump (s) should not exceed 28^{O}. A study shall be carried out to work out to find out maximum angle of repose and report to be submitted to the Ministry of Environmental and Forests.	*Complied* *The waste dump (mineral reject) is being stacked with proper slope (less than 28^{O}) at earmarked location only with adequate measures like retention wall, trenches and gully plugs. The same will be used for reclaiming mined out pits. The un reclaimed pits will be left as rainwater harvesting pits.* *The details of maximum angle of repose as per IBM approved Mining Plan included in the EIA Report and the same had been submitted to the Regional Office of MoEF, Bangalore.*

Sl. No	Specific Condition	Compliance Status
iv.	Provision should be made to interlock working of dust extractor with water injection system attached to drills so that if one system fails, the other gets automatically started.	*Complied* *Wet drilling and controlled blasting methods are being adopted to control air emissions during drilling and blasting.*
v.	Information on occupational health of employees should be properly recorded and analysed. Any contractions observed especially due to exposure to dust and noise levels should be considered for corrective measures.	*Complied* *Occupational health surveillance programme covering lung function test, audiometric, eye testing etc., being carried out on a regular basis and the records are being maintained. No abnormality has been observed so far.*
vi.	The pathways presently in use in the area to be mined should be realigned so as to continue the access already available.	*Not applicable as no path way exists inside the mining area.*
vii.	Check dam and siltation ponds of appropriate size should be constructed to arrest silt and sediments flow from OB and minerals dumps. The water so collected should be utilized for watering the mine area, roads, green belt etc., The drain should be regularly desilted and maintained properly.	*Complied* *Garland drains & catch drains with required gradient & size, gully plugs and sedimentation sumps (in the Mine Pits) had been provided in the Mining Lease Area to prevent solid particles getting carried away by the rainwater and collect rainwater in the mined out pits. The rainwater collected is being used for sprinkling and greenbelt development. The drains and the sedimentation sump are being regularly desilted and maintained properly.*
viii.	While mining is on, regular monitoring of ground water level and quality should be carried out by establishing a network of existing wells and constructing new piezometers. Frequency of monitoring should be four times in a year – Pre monsoon (April/May), monsoon (August), Post-monsoon (November) and winter (January) seasons. Data thus collected should be submitted to the ministry of environment & Forest and Central Ground Water Board Authority.	*Complied* *Regular monitoring of ground water level and quality is being carried out by establishing a network of existing wells manually at suitable locations in and around plant area on quarterly basis and also by installing 2 Nos of Piezometers.* *The collected data's are being submitted to Ministry of Environment, Forest and Climate Change and its Regional Office, Chennai, Central Ground Water Authority and State Ground Water Board.* *The consolidated Ground Water quality reports (Apr'20 - Sep'20) are hereby enclosed vide* ***Annexure 4***

Sl. No	Specific Condition	Compliance Status
ix.	A greenbelt of adequate width by planting the native plant species all around the ML area, roads, OB dump sites etc., should be raised in consultation with local DFO / Agriculture Department. Plantation should be not less than 500 trees / Ha.	*Complied* *In consultation with forest department, green belt, along the in boundary of the mines, dump sites etc., has been developed.* *So far 10207 Saplings (30 varieties such as Subabul, Asoka, Pungan etc.) have been planted.* *Total Mine Area : 138.785 ha.* *Area to be developed with greenbelt : 8 ha* *Greenbelt Developed Area : 6.62 ha* *Number of saplings planted so far : 10207 nos* *Target Date for Completing Greenbelt : Mar 2025* *Green Belt Development Photos are hereby enclosed vide **Annexure 5.***
x.	Controlled blasting should be practiced	*Complied* *Controlled blasting is practiced as stipulated.*
xi.	Crusher should be operated with high efficiency bag filters.	*Complied* *Crusher had been provided with high efficiency bag filters to control dust emission.*
xii.	A detailed mine decommissioning plan should be submitted to the Ministry of Environment & Forest 5 Years in advance for approval.	*Complied* *As stipulated, mine closure plan will be submitted to the Ministry of Environment Forest & Climate Change, 5 Years in advance, for approval.*
xiii.	No mining should be carried out within 500m of the Bangalore – Madurai BG Railway Line.	*Complied* *No mining is being carried out within 500m of the Bangalore – Madurai BG Railway Line.*

B. General Conditions :

S.No	General Condition	Compliance Status
i.	No change in mining technology and scope of working should be made without prior approval of the Ministry of Environment and Forest.	*Complied* *No change in mining technology and scope of working will be made without prior approval of the Ministry of Environment, Forest & Climate Change*
ii.	No change in the calendar plan including excavation, quantum of limestone, waste / OB dumps should be made.	*Complied* *No change in the calendar plan including excavation, quantum of limestone, waste / OB dumps will be made without prior approval from concerned authorities.*

S.No	General Condition	Compliance Status
iii.	Three Ambient Air Quality Monitoring stations should be established in the core zone as well as buffer zone for SPM, RPM, SO2, NOx and CO monitoring. Location of the ambient air quality stations should be decided based on the meteorological data, topographical features and environmentally and ecologically sensitive targets in consultation with the state Pollution Control Board.	*Complied* *The Ambient Air Quality (AAQ) is being monitored manually at 8 locations through external agency on monthly basis. In addition to the above, two numbers online CAAQMS (Continuous Ambient Air Quality Monitoring Station) installed to monitor the Ambient emission levels and same is being connected to Air Care Centre, TNPCB and CEMS, CPCB.* *The ROA of the AAQ survey conducted by TNPCB, DIndigul on 25.02.2020 reveals that the PM_{10} is in the range of 41µg/m^3 to 56µg/m^3 which is below the prescribed limit of 100 µg/m^3 and SO2 in the range of 15µg/m^3 to 21µg/m^3 and NO2 in the range of 21µg/m^3 to 27µg/m^3 which is below the prescribed limit of 80 µg/m^3.* *The consolidated AAQ Monitoring reports (Apr'20-Sep'20) are hereby enclosed vide* ***Annexure 2***
iv.	Data on ambient air quality should be regularly submitted to Ministry including its Regional office at Bangalore and the State Pollution Control Board / Central Pollution Control Board once in six months.	*Complied* *Data on ambient air quality is being regularly submitted to Ministry including its Regional office at Bangalore and Tamilnadu Pollution Control Board, Central Pollution Control Board once in six months.*
v.	Adequate measures for control of fugitive emissions should be taken during drilling and blasting operations, loading and transporting of minerals etc.,	*Complied* *Adequate measures are being taken to control fugitive emission as given below.* *a. Wet drilling and wetting of the places of operation* *b. Water Sprinkling before loading and unloading the over burden* *c. Water Sprinkling on the mined Limestone before loading into trucks* *d. Water Sprinkling on the haul roads within the mine area* *e. Using closed conveyors to send the Limestone to the Cement Plant* *f. Bag Filters at transfer points to collect dust* *g. Ensuring Speed Control* *h. Avoiding overloading* *i. Good maintenance of vehicles and mining machinery*

S.No	General Condition	Compliance Status
vi.	Adequate measures should be taken for control of noise levels below 85 db in the work environment.	*Complied* *Noise Control Measures like silencers for the equipment used for mining, Greenbelt along the boundary of the mine have been provided. The Mining Machinery/Vehicles used are being maintained well to ensure vibration / noise generated is well within the norms prescribed.* *The consolidated Noise level reports (Apr'20-Sep'20) are hereby enclosed vide* ***Annexure 3***
vii.	Personnel working in dusty areas should wear protective respiratory devices and they should also be provided with adequate training and information on safety and health aspects. Occupational health surveillance programme of the workers should be undertaken periodically to observe any contractions due to exposure to dust and take corrective measures, if needed.	*Complied* *Employees have been provided with Personnel Protective Equipment like helmet, safety shoes, safety goggles, dust mask etc., and use of the same is also being ensured by enhancing the safety awareness through adequate training and providing information on safety and health aspects.* *Occupational health surveillance programme of the employees is being undertaken periodically to find out whether any abnormality due to exposure to dust is there. Corrective measures, if needed, will be taken.*
viii.	The funds earmarked for Environmental Protection measures should be kept in separate account and not diverted for other purpose. Year wise expenditure should be reported to the Ministry of Environmental & Forests.	*Complied* *The funds earmarked for Environmental Protection measures will not be diverted for other purpose.* *Year wise expenditure incurred towards Environmental Protection measures is being submitted to the Ministry of Environmental & Forests.* *The expenditure incurred towards Environmental Protection during 2019-20 was Rs.7.65 lakhs.*
ix.	The Regional Office this Ministry located at Bangalore shall monitor compliance of the stipulated environmental safeguards. The project authorities should send one set of EIA / EMP report and mining plan to them and extend full cooperation to the officer(s) of the Regional Office by furnishing the requisite data /information / monitoring reports.	*Complied* *Copies of EIA/EMP Report had been submitted to Regional Office of MoEF, Bangalore. Full cooperation to the officer(s) of the Regional Office will be extended by furnishing the requisite data /information / monitoring reports.*

S.No	General Condition	Compliance Status
x.	The project authorities should inform to the Regional official located at Bangalore as well as to the Ministry of Environmental and Forest regarding date of financial closures and final approval of he project by the concerned authorities and the date of start of land development work.	*Complied* *As the internally accrued funds will be invested for the proposed expansion, this part of the condition is not applicable. The date of commencing land development work informed to the Ministry.*
xi.	A copy of clearance letter will be earmarked to concerned Panchayat / Local NGO, if any , from whom any suggestion / representation has been received while processing the proposal.	*Complied* *A copy of the Environmental Clearance had been send to Gujiliyamparai Panchayat union.*
xii.	State Pollution Control Board should display a copy of the clearance letter at the Regional office, District Industry Centre and Collector's office / Tehsildar's office for 30 days	*This is the responsibility of TNPCB.*
xiii.	The project authorities should advertise at least in two local newspapers widely circulated around the project , one of which shall be in the vernacular language of the locality concerned within 7 days of the issue of the clearance letter informing that the project has been accorded environmental clearance and a copy of the clearance letter is available with the state Pollution Control Board and may also be seen at website of the Ministry of Environmental & Forests at http://envfor.nic.in and a copy of the same should be forwarded to Regional office of the Ministry located at Bangalore.	*Complied* *Advertisements in two local newspapers have been published regarding grant of Environmental Clearance and the copies of the same have also been submitted to MoEF Regional office at Bangalore.*
xiv.	The Ministry or any other competent authority may stipulate any further condition for environmental protection.	*Noted and the additional condition stipulated will also be complied with.*

S.No	General Condition	Compliance Status
xv.	Failure to comply with any of the conditions mentioned above may result in withdrawal of this clearance.	*Guideline Noted.*
xvi.	The above conditions shall be enforced, Inter-alia under the provisions of Water (Prevention & Control of Pollution) Act, 1974, the Air (Prevention & Control of Pollution) Act, 1981, the Environment (Protection) Act, 1986, Hazardous Wastes (Management and Handling) Rules. 2008 and the Public (Insurance) Liability, Act.1991 along with their amendments and rules.	*Guideline Noted.*

for **CHETTINAD CEMENT CORPORATION PRIVATE LIMITED**

V.KRISHNAN
SENIOR VICE PRESIDENT [WORKS]

Annexure - 2

Chettinad Cement Corporation Private Limited, Karikkali Works

(Dholipatti Limestone Mines)

Ambient Air Quality Data (PM_{10}, $PM_{2.5}$, SO_2 & NO_X - µg/Nm^3) from Apr'2020 to Sep'2020

Month	Union Office at Mettukallathur (North)				Mr.Muniyappan House at Kolichivadi (North East)				Mr.Kutti house at mochanaikkanur (East)				Near Security railway Gate (South East)				Permissible Limit			
	PM_{10}	$PM_{2.5}$	SO_2	NO_2	PM_{10}	$PM_{2.5}$	SO_2	NO_2	PM_{10}	$PM_{2.5}$	SO_2	NO_2	PM_{10}	$PM_{2.5}$	SO_2	NO_2	PM_{10}	$PM_{2.5}$	SO_2	NO_2
Apr-20																	100	60	80	80
May-20	54.2	22.7	11.1	21.3	51.9	18.0	8.2	18.4	53.7	22.3	9.6	20.5	55.7	24.6	11.1	22.1				
Jun-20	55.4	22.0	11.3	21.4	49.8	19.2	7.9	18.9	52.7	22.7	9.8	20.1	55.3	25.2	11.3	22.1				
Jul-20	55.1	23.4	11.9	22.9	53.4	22.1	9.9	20.8	54.2	22.6	10.9	21.3	57.1	23.0	14.8	23.3				
Aug-20	51.4	22.1	8.4	20.2	52.8	22.6	8.5	20.5	54.4	23.0	8.6	20.7	56.6	23.2	8.8	21.1				
Sep-20	48.8	18.7	8.0	19.2	51.6	21.2	8.1	19.4	50.9	19.1	8.2	19.8	54.2	22.3	8.3	19.6				
Max	48.8	18.7	8.0	19.2	49.8	18.0	7.9	18.4	50.9	19.1	8.2	19.8	54.2	22.3	8.3	19.6				
Min	55.4	23.4	11.9	22.9	53.4	22.6	9.9	20.8	54.4	23.0	10.9	21.3	57.1	25.2	14.8	23.3				
Avg	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0				

Month	Near CEPL office at komittipati (South)				Perapankoundampati village (South West)				kanakupillaiyur Village (West)				Mr.Dharmalingam House at dholipatti (North West)				Permissible Limit			
	PM_{10}	$PM_{2.5}$	SO_2	NO_2	PM_{10}	$PM_{2.5}$	SO_2	NO_2	PM_{10}	$PM_{2.5}$	SO_2	NO_2	PM_{10}	$PM_{2.5}$	SO_2	NO_2	PM_{10}	$PM_{2.5}$	SO_2	NO_2
Apr-20																	100	60	80	80
May-20	51.0	20.9	9.1	19.5	54.6	23.2	10.1	21.5	50.3	20.2	7.7	18.4	51.5	19.2	8.2	18.2				
Jun-20	50.4	20.3	9.3	19.7	53.2	23.1	10.3	21.2	49.9	20.8	7.9	18.0	50.9	20.3	20.3	19.3				
Jul-20	55.5	23.0	10.4	21.3	54.1	24.3	9.8	21.7	51.5	21.0	9.4	20.4	52.3	20.5	9.9	17.7				
Aug-20	50.4	21.4	8.9	19.9	55.8	22.3	9.3	21.5	52.8	19.3	9.4	21.9	56.5	22.3	9.3	21.9				
Sep-20	53.9	20.9	8.4	19.8	49.2	18.1	8.5	19.6	52.2	18.5	8.4	20.2	53.1	19.3	8.6	20.6				
Max	50.4	20.3	8.4	19.5	49.2	18.1	8.5	19.6	49.9	18.5	7.7	18.0	50.9	19.2	8.2	17.7				
Min	55.5	23.0	10.4	21.3	55.8	24.3	10.3	21.7	52.8	21.0	9.4	21.9	56.5	22.3	20.3	21.9				
Avg	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0				

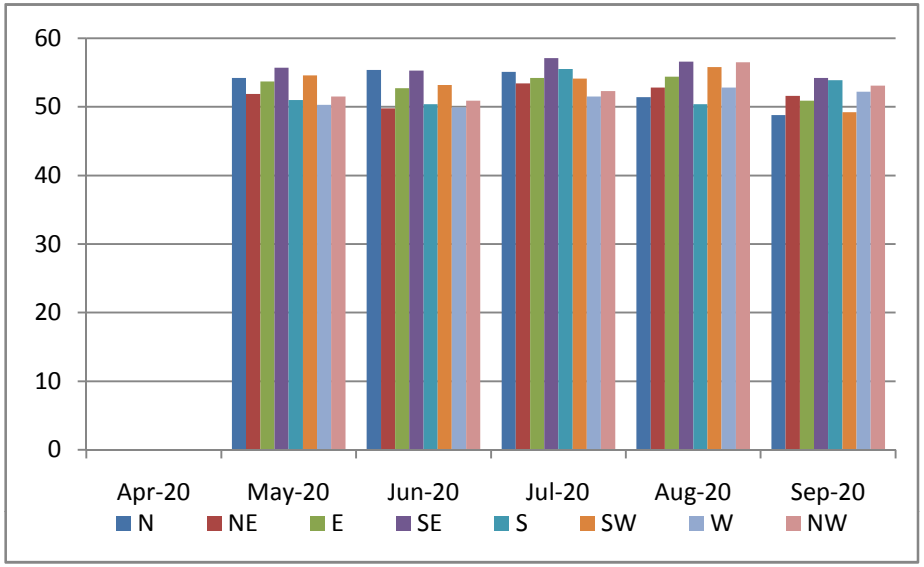
for **Chettinad Cement Corporation Private Limited**

V.Krishnan
Joint President[works]

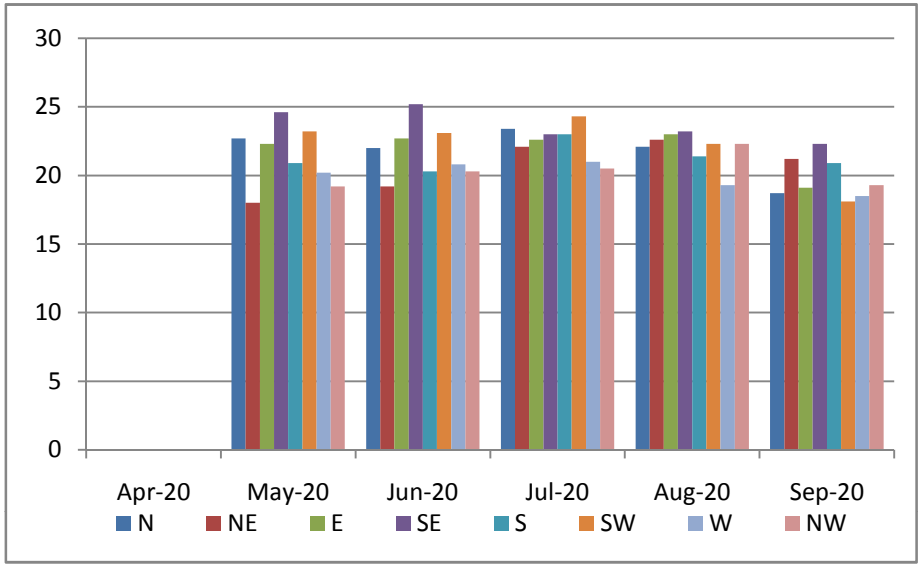
Chettinad Cement Corporation Private Limited, Karikkali Works

(Dholipatti Limestone Mines)

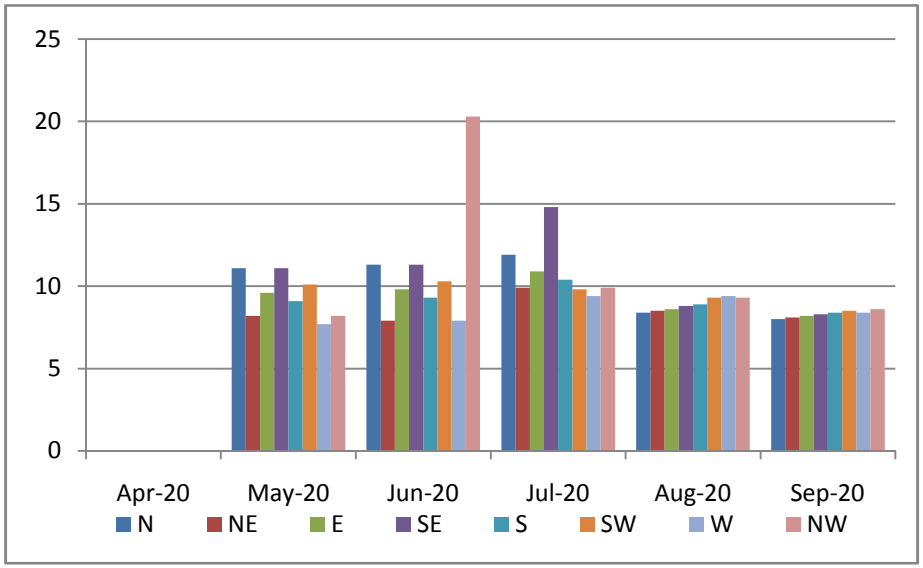
Trend Graph - Ambient Air Quality Data from Apr'2020 to Sep'2020



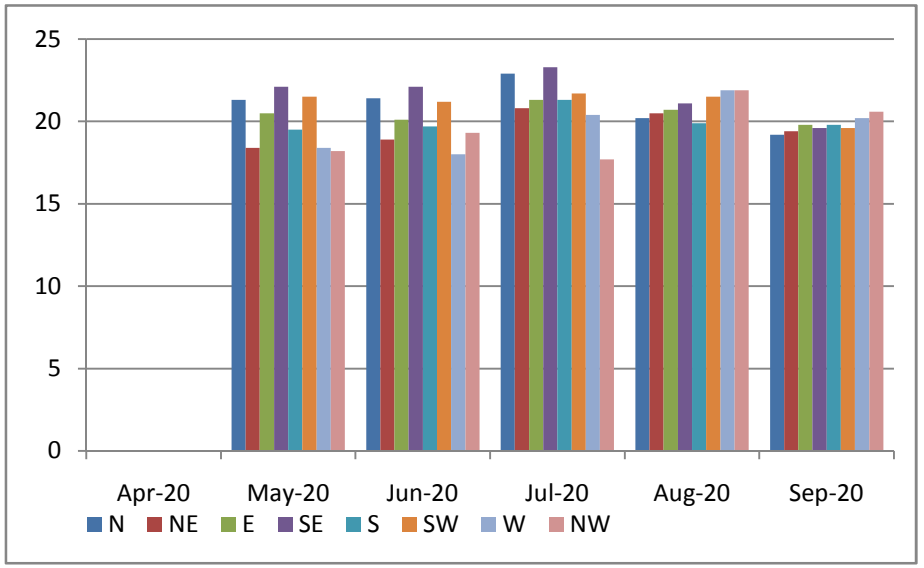
PM 10



PM2.5



SO2



NO2

Chettinad cement

Chettinad Cement Corporation Private Limited, Karikkali Works

(Dholipatti Limestone Mines)

Ambient Noise Level Data [dB(A)] from Apr'2020 to Sep'2020

Month	Union Office at Mettukallathur (North)		Mr.Muniyappan House at Kolichivadi		Mr.Kutti house mochanaikkanur (East)		Near Security railway Gate (South East)		Near CEPL office at komittipati		Perapankoundampati village (South West)		kanakupillaiyur Village (West)		Mr.Dharmalingam House at dholipatti (North West)		Permissible Limit	
	Day Time	Night Time	Day Time	Night Time	Day Time	Night Time	Day Time	Night Time	Day Time	Night Time	Day Time	Night Time	Day Time	Night Time	Day Time	Night Time	Day Time	Night Time
Apr-20																		
May-20	52.1	42.1	54.1	42.2	52.2	42.1	52.5	42.9	52.3	42.7	52.2	42.5	52.5	42.2	52.6	42.0		
Jun-20	52.5	42.3	52.3	42.9	52.1	42.4	52.6	42.3	52.8	42.6	52.9	42.6	52.4	42.3	52.1	42.7		
Jul-20	52.2	42.5	52.5	42.2	52.3	42.5	52.2	42.5	52.4	41.9	52.1	42.0	52.9	42.2	52.4	42.7		
Aug-20	52.2	42.3	52.2	42.2	52.6	42.5	52.5	42.3	52.2	42.1	52.5	42.1	52.1	42.2	52.1	42.8	55	45
Sep-20	52.5	42.2	52.4	42.6	51.7	42.2	51.8	42.1	51.9	42.4	51.9	43.0	52.4	42.5	52.4	42.3		
Max	52.5	42.5	54.1	42.9	52.6	42.5	52.6	42.9	52.8	42.7	52.9	43.0	52.9	42.5	52.6	42.8		
Min	52.1	42.1	52.2	42.2	51.7	42.1	51.8	42.1	51.9	41.9	51.9	42.0	52.1	42.2	52.1	42.0		
Avg	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		

Source Noise Level Data [dB(A)] from Apr'2020 to Sep'2020

Month	Crusher Area		Garage - Work shop Area		Permissible Limit	
	Day Time	Night Time	Day Time	Night Time	Day Time	Night Time
Apr-20						
May-20	66.9	43.2	65.6	43.7		
Jun-20	66.5	42.9	52.1	42.7		
Jul-20	70.1	43.7	51.3	42.9		
Aug-20	65.7	43.2	50.8	42.3	75	70
Sep-20	67.7	42.7	60.7	43.0		
Max	70.1	43.7	65.6	43.7		
Min	65.7	42.7	50.8	42.3		
Avg	0.0	0.0	0.0	0.0		

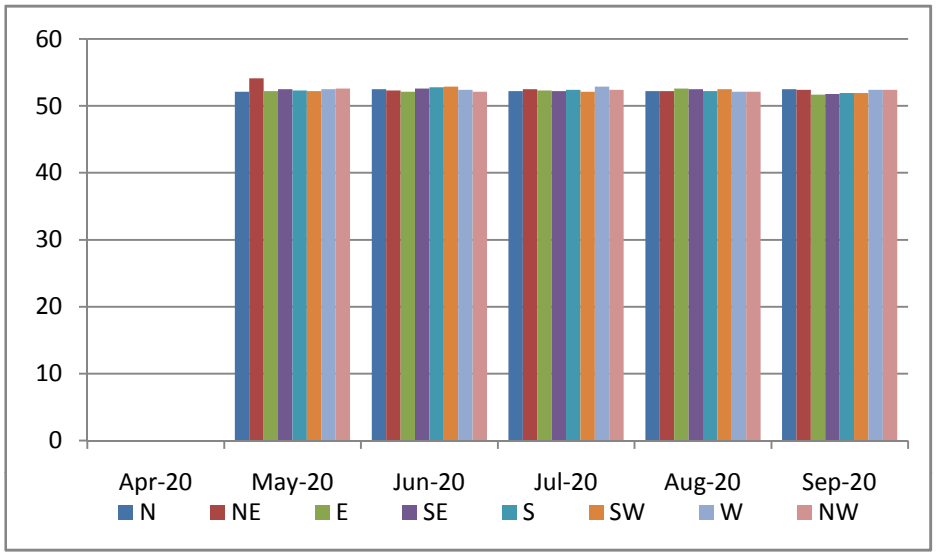
for **Chettinad Cement Corporation Private Limited**

V.Krishnan
Joint President[works]

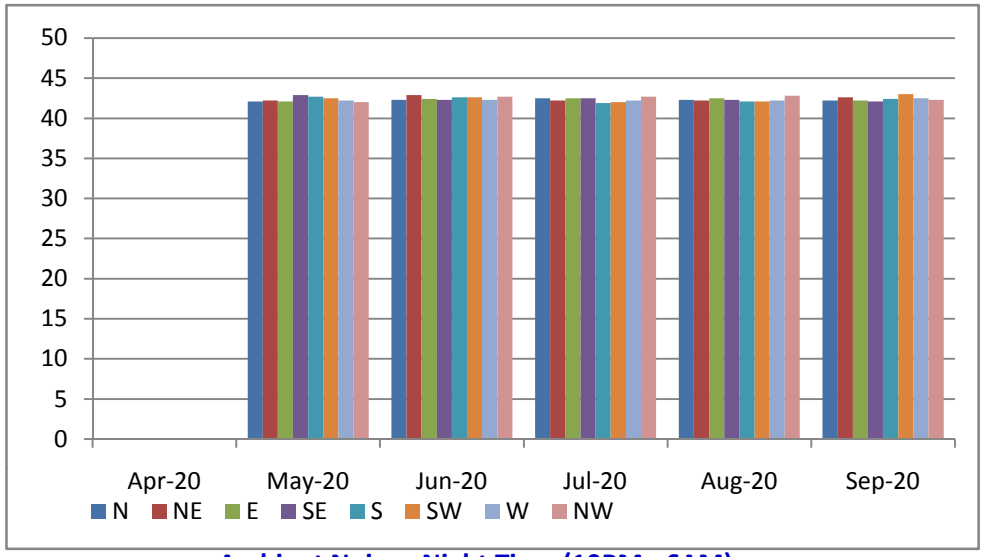
Chettinad Cement Corporation Private Limited, Karikkali Works

(Dholipatti Limestone Mines)

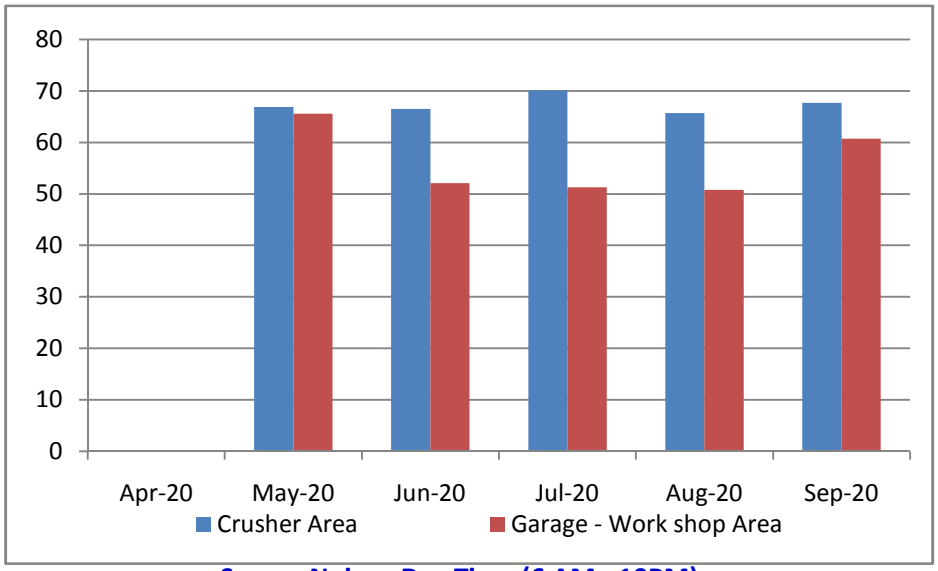
Trend Graph - Noise Level Data from Apr'2020 to Sep'2020



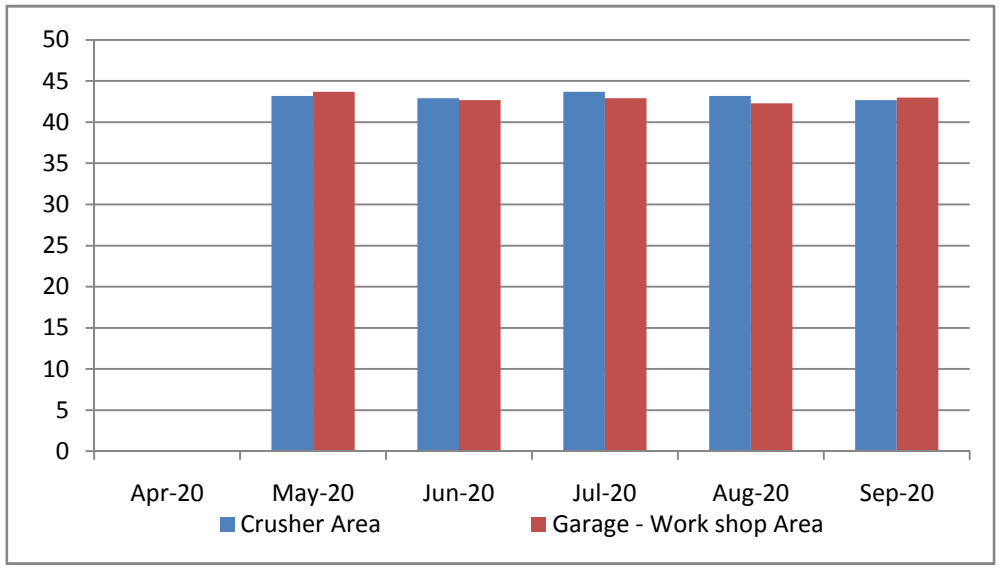
Ambinet Noise - Day Time (6 AM - 10PM)



Ambient Noise - Night Time (10PM - 6AM)



Source Noise - Day Time (6 AM - 10PM)



Source Noise - Night Time (10PM - 6AM)

Chettinad cement

Chettinad Cement Corporation Private Limited, Karikkali Works

(Dholipatti Limestone Mines)

Ground Water Quality Data from Apr'2020 to Sep'2020

Sr. No	Parameter	UoM	Karikkali Village		Dholipatti Village		Kottanatham Village		Palayam Village		Acceptable Limit
			May-20	Sep-20	May-20	Sep-20	May-20	Sep-20	May-20	Sep-20	
I. Physical Examination											
1	Appearance	-	Clear	Clear	Clear	Clear	Clear	Clear	Clear	Clear	Clear
2	Colour, Hazen Units	-	2	2	2	2	2	2	2	2	15
3	Odour	-	Agreeable								Agreeable
4	pH value	-	7.76	7.64	7.91	7.82	7.40	7.36	7.21	7.29	6.5-8.5
5	Turbidity	NTU	0.10	0.10	0.40	0.30	0.10	0.10	0.10	0.10	5
6	Total dissolved Solids	mg/l	642	666	672	692	722	715	762	725	2000
7	Total suspended Solids	mg/l	BDL (DL : 2.0)								-
II. Chemical Examination											
8	ph.Alkanity as $CaCO_3$	mg/l	NIL	NIL	NIL	NIL	NIL	NIL	NIL	NIL	-
9	Total Alkanity as $CaCO_3$	mg/l	91	96	89	93	106	105	124	131	600
10	Total Hardness as $CaCO_3$	mg/l	340	351	392	406	405	401	430	416	600
11	Calcium Hardness as CaCO3	mg/l	220	228	256	262	275	272	280	267	-
12	Magnesium Hardess as CaCO3	mg/l	120	123	136	144	130	129	150	149	
13	Calcium as Ca	mg/l	88	91	102	105	110	109	112	107	200
14	Magnesium as Mg	mg/l	29	30	33	35	31	31	36	36	100
15	Sodium as Na	mg/l	110	114	92	95	84	83	106	98	-
16	Iron as Fe	mg/l	0	0	0	0	0	0	0	0	0.3
17	Silica as SiO2	mg/l	20	23	27	28	24	24	24	21	-
18	Manganese as Mn	mg/l	BLQ(LOQ:0.001)								0.3
19	Free Ammonia as NH_3	mg/l	BDL(DL:0.03)								0.5
20	Nitrite as NO2	mg/l	BDL(DL:0.01)								-
21	Nitrate as NO3	mg/l	18	21	29	30	27	27	28	26	45
22	Chloride as Cl	mg/l	139	145	157	162	171	170	176	170	1000
23	Fluride as F	mg/l	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	1.5
24	Boron as B	mg/l	BLQ(LOQ:0.001)								1
25	Copper as Cu	mg/l	BLQ(LOQ:0.001)								1.5
26	Free residual chlorine	mg/l	BDL(DL:0.1)								1
27	Mineral Oil	mg/l	BLQ(LOQ:0.5)								0.5
28	Sulphate as SO4	mg/l	126	134	152	157	160	158	168	159	400
29	Selenium as Se	mg/l	BLQ(LOQ:0.001)								0.05
30	Anionic detergents as MBAS	mg/l	BDL(DL:0.05)								-
31	Phenolic Compound as	mg/l	BDL(DL:0.001)								0.001
32	Cadmium as Cd	mg/l	BLQ(LOQ:0.001)								0.003
33	Cyanide as CN	mg/l	BDL(DL:0.01)								0.05
34	Lead as Pb	mg/l	BLQ(LOQ:0.001)								0.01
35	Mercury as Hg	mg/l	BLQ(LOQ:0.0005)								0.001
36	Total Arsenic as As	mg/l	BLQ(LOQ:0.001)								0.05
37	Total Chromium as Cr	mg/l	BLQ(LOQ:0.001)								0.05
III. Bacteriological Examination											
38	Total Coliform	-	Absent / 100ml								Absent /100ml

BDL : Below Detectable Level, LOQ : Limit of Quantification, BLQ :Below Quanitication Limit

for Chettinad Cement Corporation Private Limited

V.Krishnan
Joint President[works]

CHETTINAD CEMENT CORPORATION PRIVATE LTD, KARIKKALI WORKS

DHOLIPATTI LIME STONE MINES

GREEN BELT DEVELOPMENT PHOTOS

Green Belt Developed area : 6.62 ha
So far, total no. of tree planted : 10207 nos as on 30.09.2020

1. Mines Office Back Side

Latitude : 10°71'54.31" N
Longitude : 78°10'71.08" E

2. Mines Office & Magazine area

Latitude : 10°71'52.69" N

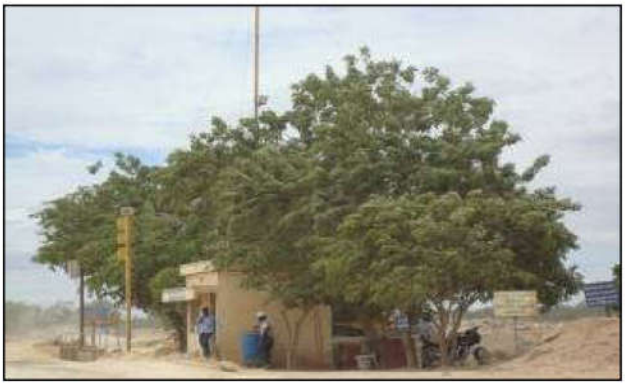
Longitude : 78°10'69.21"E

3. Crusher Area

Latitude : 10°71'31.41" N
Longitude : 78°10'98.78" E

4. Mines Area:

Latitude : 10°71'35.36" N
Longitude : 78°11'14.21" E



5. Canteen Area:

Latitude : 10°71'49.17" N
Longitude : 78°10'85.96" E

for Chettinad Cement Corporation Private Limited

V.Krishnan
Senior Vice President [works]

Chettinad Cement

THANK YOU!