Chettinad Cement/Tamilnadu/ Unjini Mine
/EC Compliance/ Apr'2021 - Sep'2021/2021-22/ 327

26th Nov, 2021

The Director
Regional Office [SEZ]
Ministry of Environment, Forest and Climate Change, GoI,
#34, HEPC Campus, Cathedral Garden Road
Nungambakkam, Chennai –600 034

Sir,

Sub: Submission of Six Monthly Environmental Clearance Compliance & Environmental Monitoring Reports (Apr'2021 - Sep'2021) – Unjini Limestone Mine (20.965 ha) of Chettinad Cement Corporation Private Limited at Unjini Village, Ariyalur Taluk & District, Tamilnadu – Expansion of capacity from 0.012 to 0.30 million tons per annum

Ref: Environmental Clearance granted by SEIAA, Tamilnadu vide Letter No SEIAA/TN/EC/1(a)/03/F-307/2012 dated 24.09.2012 for expansion of Mining Capacity.

We enclose herewith the Six Monthly Environmental Clearance Compliance & Environmental Monitoring Reports, as detailed below , pertaining to the expansion of Mining Capacity of Unjini Limestone Mine from 0.012 to 0.30 million tons per annum , within the same Mining Lease Area of 20.965 ha, located at Unjini Village, Ariyalur Taluk & District , Tamilnadu, for the period from Apr'2021 - Sep'2021.

a. Environmental Clearance Compliance Report **Annexure 1**
b. Environmental Monitoring Report comprising of
   i. Ambient Air Quality Monitoring - Consolidated Report - **Annexure 2**
   ii. Noise Level Monitoring - Consolidated Report - **Annexure 3**
   iii. Ground Water Quality Monitoring Report- **Annexure 4**

Yours faithfully
for **Chettinad Cement Corporation Private Limited**

A. Amalraj
Joint President (Works)

Copy to :
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Chettinad Cement Corporation Private Limited
Unjini Limestone Mine
Unjini Village, Ariyalur Taluk & District, Tamilnadu

Environmental Clearance (EC) Compliance Report (Apr-21 to Sep-21)

(EC granted by SEIAA, Tamilnadu vide Letter No: SEIAA/TN/EC/1(a)/03/F-307/2012 dated 24.09.2012 for the expansion of Mining Capacity from 0.012 to 0.3 million ton per annum & Mining Lease Area of 20.965 ha)

A. Specific Conditions:

S.No	Specific Condition	Compliance Status
i.	The proponent shall commence the mining operation only after submitting the certified compliance report of the earlier environmental clearance from the Regional Office, MoEF, Bangalore.	Mining operation commenced after obtaining Consent for Operation (CFO) from Tamilnadu pollution Control Board (TNPCB) on 18.02.2013. Prior to getting CFO from TNPCB, the certified compliance report of the earlier Environmental Clearance from the Regional Office, MoEF, Bangalore submitted to MoEF, Delhi on 20.02.2012.
ii.	The project proponent shall obtain Consent to Establish & Consent to Operate from the TNPCB and effectively implement all the conditions stipulated therein.	Consent for Establishment (CFE) from TNPCB obtained on 18.12.2012. Consent for Operation (CFO) from TNPCB obtained on 18.02.2013. The conditions stipulated in the consent orders are being implemented.
iii.	Scheduled species of fauna found in the area shall be monitored closely and a plan shall be prepared and implemented for their conservation	There is no Ecologically Sensitive Area/ Wildlife Sanctuary/ National Park/ Reserved Forest within 10 km radius of the ML area.
iv.	The Effective safeguard measures shall be taken to control particulate dust level in critical areas, transfer points and the haul road.	Adequate measures are being carried out to control particulate dust level as given below. a. Water Sprinkling before loading and unloading the top soil and over burden b. Water Sprinkling while handling materials containing finer particles c. Covering of materials with tarpaulin before commencement of transport d. Speed Control

S.No	Specific Condition	Compliance Status
		e. Avoiding overloading f. Good maintenance of vehicles and mining machinery There are no transfer points as no conveyor has been installed.
v.	Mine working shall be restricted up to above water label. At no point of time, the mine working should intersect ground water. For working below water table, necessary prior permission shall be obtained from MoEF for which clearance from CGWA for pumping of ground water table and detailed hydro-geological study will be a pre-requisite.	Mine working restricted above water label. At no point of time, the mine working intersected ground water. However, in case, there is a need to work below the ground water table in future, necessary prior permission will be obtained from MoEF & CC and Water Resources Department, Tamilnadu. The clearance from Water Resources Department, Tamilnadu for pumping of ground water and detailed hydro-geological study will be ensured prior to getting clearance.
vi.	Prior permission from competent authority for extraction of ground water shall be taken. Report of CGWA on intersection of ground water table shall be furnished.	The mine requires around 14 m^3 of water/day for domestic purpose, dust suppression and greenbelt development. Rainwater collected in the Mine Pit is being used and no ground water is drawn. In case, any need arises to use ground water, the required prior permission will be obtained from the Water Resources Department, Tamilnadu, the authority for granting permission to use ground water. However, application submitted to obtain permission from Water Resources Department, Tamilnadu for using rain water harvested in Mine Pit. No intersection of ground water table is envisaged. Hence, the need to furnish a report on ground water intersection is not envisaged.
vii.	Garland drains, catch drains, Check dams and siltation ponds of appropriate size shall be constructed around the mine working, soil and mineral dumps to prevent run off of water and flow of	Garland drains/catch drain has been constructed for the top soil & over burden dumps and mine. The rainwater is diverted and collected in the sump at the bottom most bench of the Mine Pit. The water

S.No	Specific Condition	Compliance Status
	sediments. The water so collected shall be utilized for watering mine area, roads, green belt development etc. The drains shall be regularly de silted, particularly after the monsoon and maintained properly.	collected, after settling, is being utilized for domestic purpose, dust suppression and green belt development. The mined Limestone not stored in Mining Lease area. The garland drains/catch drains are being desilted at regular intervals, particularly after the monsoon and are being maintained properly.
viii.	Dimension of the retaining wall at the toe of the OB benches within the mine to check run off and siltation should be based on the rainfall data.	The rainwater is diverted through garland drains/catch drains to Mine Pit Sump. As the rain water is collected in the Mine Pit, Sump there is no possibility of run off from the Mine Pit.
ix.	Green belt shall be raised including a 7.5 m wide statutory barrier all around the mining lease, reclaimed & rehabilated areas, around water body, roads etc by planting local species in consultation with local DFO/Agriculture department. The ultimate area to be planted/afforested shall not be less than 1.5 Ha. The density of trees should be around 2000 plants/Ha. Greenbelt shall be developed all along the mining lease area in a phased manner and shall be completed within first 5 years.	The details of greenbelt development carried out in consultation with the local DFO/Agriculture Department in the ML area are given below. ML area : 20.965 ha Recommended greenbelt area : 1.5 ha Saplings planted so far : 17775 Extent of existing greenbelt area : 9.15 ha Area covered with greenbelt : Dumps, bunds along the ML boundary **Tree Density : 2000 /ha** **Saplings Planted** a. Neem b. Pongan c. Vembu d. Pouvarasa e. Illupai f. Teak g. Tamrind **Greenbelt Development Plan** Greenbelt development is being carried out progressively. Herbs and shrubs will also be developed.
x.	The project authority shall implement suitable conservation measures including suitable rain water harvesting measures to augment ground water resources in the area in consultation with Regional	Garland drains have been provided to divert and collect rainwater in the sump at the bottom most bench of the Mine Pit. The rain water collected is being used for

S.No	Specific Condition	Compliance Status
	Director, Central ground water board.	dust control in haul roads, Greenbelt development and domestic purpose. The water stored in the sump itself helps to augment ground water recharge.
xi.	Regular monitoring of ground water level and quality shall be carried out in and around mining lease by establishing a network of existing wells and constructing new piezometers during the mining operation. The periodic monitoring atleast four times in a year-pre-monsoon(April-May) Monsoon(August),Post Monsoon (November) and Winter(January) ; once in each season shall be carried out in consultation with state Ground water board /Central ground water authority and the data thus collected may be sent regularly to the ministry of environment and forests and its regional office, Bangalore ,central ground water authority and the regional director , central ground water board. If at any stage, it is observed that the ground water table is getting depleted due to the mining activity; necessary corrective measures shall be carried out.	Regular monitoring of ground water quality is being be carried out by establishing a network of existing wells on a quarterly basis as stipulated and the data collected are being submitted to MoEF &CC, Central Ground water Authority and Regional Director, Central Ground water Board. If at any stage, if we observe that the ground water table is getting depleted due to the mining activity, necessary corrective measures will be carried out.
xii.	Vehicular emissions shall be kept under control and regularly monitored. Measures shall be taken for maintenance of vehicles used in mining operations and in transportation of mineral within the lease area. The mineral transportation with in the mining lease shall be carried out through the covered trucks only and the vehicles carrying the mineral shall not be overloaded.	The vehicles entering the Mine are being checked at the entry point for Pollution Under Control Certificate. Regular maintenance of vehicles used in mining operations and in transportation of minerals is being ensured. The material is being covered with tarpaulin, before commencement of transportation. The vehicles are not overloaded.
xiii.	The optimum charge for blasting shall be determined based on vibration study. Blasting shall be carried out only during the daytime. Controlled blasting shall be practiced. The mitigative measures for control of ground vibrations and to arrest fly rocks and boulders should be implemented.	Non conventional mining system is adopted. There is no drilling & blasting are involved. Hence, this condition is not available.
xiv.	Drills shall either be operated with dust	Non conventional mining system is

S.No	Specific Condition	Compliance Status
	extractors or equipped with water injection system.	adopted. There is no drilling involved. Hence, this condition is not available.
xv.	Mineral handling area shall be provided with adequate number of high efficiency dust extraction system. Loading and unloading areas including all the transfer points should have efficient dust control arrangements. These should be properly maintained and operated.	Water sprinkling is being carried out to suppress the dust at material handling area, loading and unloading areas. As there are no conveyors, no transfer points are available.
xvi.	The company shall stress upon the preventive aspects of occupational health.	Awareness Programme on Occupational Health, Diseases and Safety measures are being conducted on regular basis. The types of training programme conducted include a. Induction Training b. Job specific Training covering health and safety aspects c. Refresher Training Required Personal Protective Equipment (PPE) are made available to the employees and usage of the same also being ensured. Periodical Occupational health surveillance is being undertaken to observe any abnormality and take corrective measures, if needed.
xvii.	Pre placement medical examination and periodical examination of the workers engaged in the project shall be carried out and records to be maintained. For the purpose, Schedule of health examination of the workers should be drawn and followed accordingly.	Pre-placement medical examination and periodical medical examination of the workers engaged in the project are being carried out and records are also being maintained. Prepared Schedule of health examination of the workers is being followed.
xviii.	Provision shall be made for the housing of construction labour within the site with all necessary infrastructure and facilities such as fuel for cooking, mobile toilets , mobile STP, safe drinking water, medical health care etc. The housing may be in the form of the temporary structures to be removed after the completion of the project.	As this is a Mine, no major construction activity was involved and there was no requirement of construction labourers housing facilities.

S.No	Specific Condition	Compliance Status
xix.	The critical parameter such as RSPM (particulate matter with size less than 10micron ie ,PM_{10}) and NO_x in the Ambient Air within the impact zone, Peak particle velocity at 300 m distance or within the nearest habitation, whichever is closer shall be monitored periodically. Further, quality of discharged water shall also be monitored. (TDS,DO,PH and Total suspended solids (TSS). The monitored data shall be uploaded on the website of the company as well as displayed on a display board at the project site at a suitable location near the main gate of the public domain. The circular No.J-20012/1/2006-1A II (M) Dated 27/05/2009 issued by MoEF which is available on the website of the ministry www.evfor.nc.in shall al so be referred in this regard for its compliance.	The parameters such as $PM_{2.5}$, PM_{10} ,SO_2 and NOx in the ambient air within the impact zone are being monitored. The monitored data are being uploaded on the website of the company. As per the numerical estimation done, the peak particle velocity calculated at a distance of 500 m is only 4.5 mm/sec, which is within the permissible limits prescribed by DGMS as 10 mm/sec. The nearest habitation is at a distance of 1000 m. The domestic effluent generated is being treated in septic tank, followed by dispersion trench. As there is no generation of effluent from mining, no discharge of effluent from Leasehold is envisaged. Hence, the need to monitor effluent is not envisaged.
xx.	The company shall submit within 3 months their policy towards Corporate Environment Responsibility which should inter alia i) Standard operating process /procedure to bring in to focus any infringement /deviation/violation of environmental or forest norms/conditions ii) Hierarchical system or Administrative order of the company to deal with environmental issues and ensuring compliance of EC conditions and iii) system of reporting of non compliance/violation of environmental norms to the board of directors of the company and / or stake holder or share holders.	The copies of Corporate Environmental Policy (CEP) and the salient features of the CEP submitted to MoEFCC, Delhi and the Regional Office of MoEFCC, Chennai.
xxi.	A final Mine closure plan along with details of corpus fund, shall be submitted to the ministry of Environment and Forest 5 years in advance of final mine closure for approval.	A Final Mine Closure Plan along with details of Corpus Fund will be submitted to the SEIAA, TN , 5 years in advance, prior to the final mine closure for approval.
xxii.	Depth of water table of the wells located inside the mining area and monitoring wells located around the monitoring area shall be furnished.	There is no well inside the ML Area. Two piezometers received and the same will be installed to monitor ground water level. The monitored data will be submitted to MoEF & CC, Chennai.

S.No	Specific Condition	Compliance Status
xxiii.	Green belt shall be developed in an area of 2.565 Ha as per the condition of environmental clearance issued on 11.3.2005. This is in addition to green belt development in an area of not less than 1.50 ha under the current Environmental clearance.	Greenbelt has been developed over an area of 9.15 ha, planting 17775 saplings.

Part B –General Conditions

S.No	General Condition	Compliance Status
i.	No change in mining technology and scope of working shall be made without prior approval of the SEIAA.	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 calendar plan including excavation, quantum of mineral, Limestone and waste shall be made.	No change in calendar plan including excavation, quantum of mineral, Limestone ore and waste will be made without prior approval of the concerned authority.
iii.	Monitoring of well water level and quality of the wells in the locations furnished in the EIA report shall be done during Pre monsoon, and Post Monsoon period and results submitted to the Regional Officer, Bangalore and Ministry Of Environment and Forest, Government of India.	Ground water quality around the Mine area monitored on a quarterly basis as stipulated and the results are submitted to the Regional Officer of MoEF & CC, Chennai and Ministry Of Environment and Forest, Government of India.
iv.	The proponent shall conduct Ambient Air Quality Monitoring Survey once in 6 months in the locations furnished in the EIA report and furnish the report to Regional Office ,Bangalore and Ministry of Environment and Forests ,Government of India	Ambient Air Quality Monitoring is being carried out and the report is being submitted to the Regional Office of MoEF & CC, Chennai and Ministry of Environment, Forest & Climate Change, Government of India.
v.	Atleast four ambient air quality - monitoring stations shall be established in the core zone as well as in the buffer zone for RSPM (particulate matter with less than 10 micron) and NOx monitoring. Location of the stations should be decided based on meteorological data, topographical features and environmentally and ecologically sensitive targets and frequency of monitoring should be undertaken in consultation with State Pollution Control Board.	Four Ambient Air Quality Monitoring Stations has been established in the core zone and the buffer zone for monitoring $PM_{2.5}$ & PM_{10} and NOx and SO_2 in the ambient air in consultation with Tamilnadu Pollution Control Board. Monthly Monitoring being conducted regularly and reports were submitted.

S.No	General Condition	Compliance Status
vi.	Data on ambient air quality RSPM (particulate matter with size less than 10micron ie, PM10) should be regularly submitted to the Ministry including its Regional Office located at Bangalore and SPCB/CPCB once in six months.	Data on Ambient Air Quality ($PM_{2.5}$ & PM_{10}, NOx & SO_2) is being regularly submitted to the Regional Office of the MoEF & CC, Chennai, TNPCB and CPCB once in six months.
vii.	Fugitive dust emissions from all the sources shall be controlled regularly. Water spraying arrangements on haul roads, loading and unloading and at transfer points should be provided and properly maintained.	Adequate measures are being carried out to control fugitive emission as given below. a. Water Sprinkling before loading and unloading the top soil & over burden b. Water Sprinkling while handling materials containing finer particles c. Covering of materials with tarpaulin before commencement of transport d. Speed Control e. Avoiding overloading f. Good maintenance of vehicles and mining machinery There are no transfer points as no conveyor has been installed.
viii.	Measures shall be taken for control of noise levels below 85 dBA in the work environment. Workers engaged in operations of HEMM, etc should be provided with ear plugs /muffs.	Measures like silencers, greenbelt along the boundary of ML Area, etc., have been provided and good maintenance of Mining Machinery and vehicles is being ensured for controlling noise level below 85 dBA. Ear plugs/Muffs are provided to the operators of HEMM.
ix.	Industrial waste water (workshop and waste water from the mine) should be properly collected, treated so as to confirm to the standards prescribed under GSR 422 (E) Dated 19/05/1993 and 31/12/1993 or as amended from time to time . Oil and grease trap shall be installed before discharge of workshop effluents.	No workshop has been provided within the Mine Lease Area. Mining operations do not generate any waste water. Hence, the requirement of providing oil and grease trap is not envisaged.
x.	Personnel working in dusty areas shall wear protective respiratory devices and shall also be provided with adequate training and information on safety and health aspects. Occupational health	Personnel working in the mine are given adequate training, information on safety and health aspects and the employees are provided with required Personal Protective Equipment (PPE).

S.No	General Condition	Compliance Status
	surveillance program of the workers should be undertaken periodically to observe any contractions due to exposure to dust and take corrective measures if needed.	
xi.	A separate environment management cell with suitably qualified personnel shall be setup under the control of Senior Executive, who will report directly report to the Head of organization.	A separate Environmental Cell is available to take care of EHS function and the Head of the Cell is directly reporting to the Head of the Organization for complying with environmental regulations and implementing pollution control measures.
xii.	The Funds earmarked for environmental protection measures shall be kept in separate account and should not be diverted for other purpose. Year wise expenditure should be reported to the Ministry and its Regional Office located at Bangalore.	The funds earmarked for environmental protection measures kept in separate account and are not diverted for any other purpose. Year wise expenditure reported to the ministry and its regional office located at Chennai.
xiii.	The Project Authority shall inform to the Regional Office located at Bangalore regarding date of financial closures and final approval of the project by the concerned authorities and date of start of land development work.	As the internally accrued funds had been invested, the requirement of informing the date of financial closures and final approval of the project to the Regional Office of MoEF & CC, Chennai is not envisaged. The date of commencing land development work had been informed to the Regional Office of MoEF, Bangalore.
xiv.	The Regional office of this ministry located at bangalore shall monitor compliance of the stipulated conditions. The project authorities shall extend full cooperation to the officer(s) of the Regional office by furnishing the requisite data/information/monitoring reports.	Full cooperation to the officer (s) of the Regional Office of MoEF & CC, Chennai will be extended by furnishing the requisite data / information / monitoring reports
xv.	The project proponent shall submit six monthly reports on the status of compliance of the stipulated Environmental clearance conditions including results of monitored data (both in hard copies as well as by e-mail) to the MoEF, its Regional office Bangalore, the respective Zonal office of CPCB and SPCB. The proponent shall upload the status of compliance of environmental clearance conditions, including results of	The six monthly reports on the status of compliance of the stipulated environmental clearance conditions and the results of monitored data are being submitted to the MoEF & CC, its Regional Office at Chennai, the Zonal Office of Central Pollution Control Board, Bangalore and the Tamilnadu Pollution Control Board.

S.No	General Condition	Compliance Status
	monitored data on their website and shall update the same periodically. It shall simultaneously be sent to the regional office of the MoEF, Bangalore, the respective Zonal office of CPCB and SPCB.	
xvi.	A copy of the Environmental Clearance letter shall be sent by the proponent to concerned Panchayat, Municipal Corporation, Urban Local Body and 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.	Copy of the Environmental Clearance letter submitted to local Panchayat on 15.10.2016 and a copy of the same displayed in the website of the company.
xvii.	The SPCB should display a copy of the clearance letter at the Regional Office, District Industry Centre and Collector Office/Tehsildar's office for 30 days.	Noted.
xviii.	The project authorities shall advertise at least in two local newspapers widely circulated, 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 clearance letter is available with SPCB and also at the website of the MoEF at http://envfor.nic.in and a copy of the same should be forwarded to Regional Office of this Ministry located at Bangalore.	Advertisement in two local newspapers, one in English and the other in Tamil, published informing the public that the project has been accorded environmental clearance and copies of clearance letter are available with the TNPCB and also can be seen at website of the MOEF at http://envfor.nic.in The copies of advertisement submitted to Regional Office of MoEF, Bangalore.
xix.	The environmental clearance is valid for 10 years from the date of issue.	Noted.
xx.	The environmental clearance is being issued without prejudice to the action initiated under Environmental (protection) Act, 1986 or any court case pending or any other court order shall prevail.	Noted.
xxi.	The SEIAA, TN may alter/modify the above conditions or stipulate any further condition in the interest of environmental Protection.	Noted.

S.No	General Condition	Compliance Status
xxii.	Failure to comply with any of the conditions mentioned above may result in withdrawal of this clearance and attract action under the provisions of the Environment (Protection) Act, 1986	Noted.
xxiii.	The above conditions will be enforced inter alia under the provisions of the Water (Prevention and control of Pollution) Act, 1974, the Air (Prevention and control of Pollution) Act, 1981, the Environment Protection Act 1986 and Public Liability Insurance Act, 1991 along with their amendments and rules made there under and also any other orders passed by the Honorable Supreme court of India/High court of Chennai and other court of law relating to the subject matter.	Noted.
xxiv.	The environmental statement for each financial year ending 31 st march in FORM -V as is mandated to be submitted by the project proponent to the concerned SPCB as prescribed under the Environmental (Protection) Rules 1986 as amended subsequently shall also be put on the website of the company along with the status of compliance of environmental clearance conditions and shall also be sent to the respective Regional Office of the MoEF , Bangalore by E-mail.	The environmental statement for the financial year ending 31st March 2021, in Form – V, has been submitted on 24.09.2021 to the Tamilnadu Pollution Control Board and the Regional Officer of the Ministry of Environment, Forest & Climate Change, Chennai. The same has been put on the website of the company and also sent to the Regional Officer of the Ministry of Environment, Forest & Climate Change, Chennai by e-mail. The status of compliance of environmental clearance conditions is also being uploaded in the company website.
xxv.	Any appeal against this environmental clearance shall lie with National Green Tribunal, if preferred with in a period of 30 days as prescribed under section 16 of the National Green Tribunal Act, 2010	Noted.

For **Chettinad Cement Corporation Private Limited**

A. Amalraj
Joint President (Works)

ANNEXURE 2

Chettinad Cement Corporation Private Limited -Unjini Limestone Mine													
Unjini Village , Ariyalur District, Tamilnadu State													
Ambiant Air Quality Monitoring- Consolidated Report (April'2021 - September'2021)													
S.No	Location	PM_{10} (µg/m³)			$PM_{2.5}$ (µg/m³)			SO_2 (µg/m³)			NOx (µg/m³)		
		Max	Min	Avg	Max	Min	Avg	Max	Min	Avg	Max	Min	Avg
1	Near Mines Office	51.7	48.9	50.5	22.9	15.6	20.5	10.3	8.7	9.3	13.5	9.4	12.1
2	Near Haul Road	63.2	54.0	57.6	23.7	15.6	19.8	11.3	10.0	10.8	17.1	13.9	16.0
3	Unjini Village	53.5	53.5	53.5	24.7	24.7	24.7	8.4	8.4	8.4	12.5	12.5	12.5
4	Nathampalayam Village	55.2	55.2	55.2	23.3	23.3	23.3	11.1	11.1	11.1	12.5	12.5	12.5
5	Elagaicherry village	59.6	59.6	59.6	19.5	19.5	19.5	8.9	8.9	8.9	9.6	9.6	9.6
6	Rayampuram village	52.0	52.0	52.0	20.4	20.4	20.4	10.6	10.6	10.6	14.0	14.0	14.0
7	Sendurai village	57.6	51.3	55.0	24.4	19.1	21.6	10.0	6.9	8.8	12.6	9.7	11.4
8	Maruvathur village	57.9	55.5	56.6	21.0	18.3	19.6	10.9	8.8	9.9	18.2	11.4	15.5
Norm		100 µg/m³			60 µg/m³			80 µg/m³			80 µg/m³		

for Chettinad Cement Corporation Private Limited

A. Amalraj
Joint President (Works)

Chettinad Cement Corporation Private Limited -Unjini Limestone Mine								
Unjini Village , Ariyalur District, Tamilnadu State								
Noise Level Monitoring- Consolidated Report (April' 2021 to September'2021)								
S.No	Location	UoM	Day			Night		
			L_{min}	L_{max}	L_{eq}	L_{min}	L_{max}	L_{eq}
Within the Premises								
1	Mine Office	dB(A)	60.2	66.5	62.8	57.7	71.4	58.7
2	Loading Area	dB(A)	57.1	60.3	54.1	54.2	58.6	56.4
Limit (L_{eq})		dB(A)	85			85		
S.No	Location	UoM	Day			Night		
			L_{min}	L_{max}	L_{eq}	L_{min}	L_{max}	L_{eq}
Outside the Premises								
1	Nallampalayam Village	dB(A)	47.1	51.3	49.9	41.4	41.2	39.8
2	Unjini Village	dB(A)	46.3	53.4	53.3	37.0	42.7	41.1
Limit (L_{eq})		dB(A)	55			45		

for Chettinad Cement Corporation Private Limited

A.Amalraj
Joint President (Works)

ANNEXURE 4

Chettinad Cement Corporation Private Limited - Unjini Limestone Mine						
Unjini Village, Ariyalur District,Tamilnadu						
Ground /Surface Water Quality Monitoring Report(April '2021 to September' 2021)						
S. No	Parameter	UoM	GW1	GW2	SW3	Limit
			Jul-21	Aug-21	Aug-21	
1	pH	-	8.98	8.24	7.16	5.5 - 9.0
2	Temperature	Deg C	29.3	30.9	31.1	40
3	Particle size for TSS	-	100%	100%	100%	Shall pass 850 micron IS Sieve
4	TSS	mg/l	403	BDL(DL:1.0)	BDL(DL:1.0)	100
5	TDS	mg/l	139	710	98	2100
6	Chloride as Cl	mg/l	14	200	12	1000
7	Sulphide as S	mg/l	BLQ	BLQ	BLQ	2
8	Sulphate as SO_4	mg/l	8.8	96	12	1000
9	Fluride as F	mg/l	0.21	0.27	0.11	2
10	Sodium	mg/l	7	98	32	-
11	Copper	mg/l	0.053	BLQ(LOQ:0.002)	0.232	3
12	Zinc as Zn	mg/l	BDL	BDL	BDL	1
13	Phenolic compounds as C_6H_5OH	mg/l	BDL(DL:0.001)	BDL(DL:0.001)	BDL(DL:0.001)	1
14	Oil & Grease	mg/l	BLQ	BLQ	BLQ	10
15	Boron as B	mg/l	0.715	0.641	0.356	2
16	BOD 3 days 27°C	mg/l	BLQ	BLQ	BLQ	30
17	COD	mg/l	BLQ	BLQ	BLQ	250
18	Total Residual Chlorine	mg/l	BLQ	BLQ	BLQ	1
19	Arsenic as As	mg/l	BLQ(LOQ:0.002)	BLQ(LOQ:0.002)	BLQ(LOQ:0.002)	0.2
20	Cadmium as Cd	mg/l	BLQ(LOQ:0.002)	BLQ(LOQ:0.002)	BLQ(LOQ:0.002)	2
21	Total Chrominum as Cr	mg/l	BLQ	BLQ	BLQ	2
22	Hexavalant Chrominum	mg/l	BLQ	BLQ	BLQ	0.1
23	Lead as Pb	mg/l	BLQ(LOQ:0.002)	BLQ(LOQ:0.002)	BLQ(LOQ:0.002)	0.1
24	Selenium as se	mg/l	BLQ(LOQ:0.002)	BLQ(LOQ:0.002)	BLQ(LOQ:0.002)	0.05
25	Mercury as Hg	mg/l	BLQ(LOQ:0.0005)	BLQ(LOQ:0.0005)	BLQ(LOQ:0.0005)	0.01
26	Pesticides	mg/l	BLQ	BLQ	BLQ	---
27	Free Ammonia as NH_3	mg/l	1.9	BDL(DL:0.5)	BDL(DL:0.5)	5
28	Dissolved Phosphate as P	mg/l	BLQ	BLQ	BLQ	5
29	Total Kjeldahl Nitrogen as N	mg/l	BLQ	BLQ	BLQ	100
30	Cyanide as CN	mg/l	BDL(DL:0.01)	BDL(DL:0.01)	BDL(DL:0.01)	0.2
31	Nickel as Ni	mg/l	BLQ	BLQ	BLQ	3
GW1 : Unjini Village,			BLQ: Below Qualification Limit.			
GW2 : Nallampalayam Village, SW3 : Mine Sump Water			BDL : Below Detectable Level			

for Chettinad Cement Corporation Private Limited

A Amalraj
Joint President (Works)