

Tamilnadu Cements Corp. Ltd.,
Ariyalur Cement Works,
Ariyalur. TN.



1MTPA CEMENT EXPANSION PLANT

**HALF YEARLY EC COMPLIANCE REPORT DURING THE
PERIOD FROM APRIL-2023 TO SEPTEMBER- 2023**



தமிழ்நாடு சிமெண்ட் கழகம்

(தமிழ்நாடு அரசு நிறுவனம்)

TAMILNADU CEMENTS CORPORATION LIMITED

(A Government of Tamilnadu Undertaking)



அரியலூர் சிமெண்ட் ஆலை, அரியலூர் - 621 729 , அரியலூர் மாவட்டம், தமிழ்நாடு.

Ariyalur Cement Factory, Ariyalur - 621 729, Ariyalur District, Tamilnadu

E-mail : tanaridgmooffice@gmail.com website : www.tancem.com GSTIN : 33AABCT1819J1ZH

Ref:TANCER/ACW/1MTPA Cement Expansion Plant/Half Yearly Compliance Report/2023-2024

Date: 18.11.2023

The Additional Principal Chief Conservator of Forests (C),
Ministry of Environment, Forests and Climate change(MoEF&CC),
Integrated Regional Office (IRO),
1st Floor, Additional block, GPOA,
Shastri Bhavan, Haddows Road,
Nungambakkam,
Chennai-600 006.
Phone - 044-28222325

Sir,

Sub: Tamilnadu Cements Corporation Limited, Ariyalur - 1MTPA Cement Expansion Plant - Environmental clearance - Submission of half yearly Compliance report during the period from April-2023 to September -2023 - Reg.

Ref: Environmental Clearance - Cement Plant- 0.5 MTPA to 1.63 MTPA Cement Plant and 0.475 MTPA to 1.475 MTPA clinker - F.no.J-11011/83/2014-1A II (I), Dated: 08.09.2016.

We herewith submitting half yearly compliance report for the period from April-2023 to September -2023 related to Environmental Clearance letter issued to our cement plant.

Thanking you,

Yours faithfully,
For Tamilnadu Cements Corp. Ltd.,
Ariyalur Cement works


Dy. General Manager (Tech)

Encl:

1. MoEF conditions & Compliance report
2. Enterprise social commitment work with status.
3. Copy of Disaster management plan.
4. Copy of Environmental statement.
5. MoEF&CC O&M of standard EC conditions compliance report.
6. Copy of Stack emission, Air quality and water quality monitoring report.
7. Copy of Consent to Operate.

CC: CPCB/SPCB Zonal office.

Corporate Office : 5th Floor, Avin Illam, No.3 A Pasumpon Muthuramalinga Thevar Road, Nandanam, Chennai - 600 035

Phone : 044 - 2852 5461, 044 28525471 Toll Free No. 1800 599 7635

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CIN : U40200TN1976SGC007081 GSTIN : 33AABCT1819J1ZH

COMPLIANCE REPORT

Sub: Expansion of Cement Plant by a new production line of 1 MTPA clinker and 1.13 MTPA cement production TPD at TANCEM, Ariyalur Cement Works, Ariyalur-Reg

Ref: MoEF . CL. Lt. F.No.J-11011/83/2014-1A II (I)

A. SPECIFIC CONDITION

SL.NO	Conditions	Compliance
A	The present status of the project.	The Expansion plant was commissioned on 01.11.2019. The commercial production started on 21.03.2020.
i.	The project proponent should install 24x7 air monitoring devices to monitor air emissions, as provided by the CPCB and submit report to Ministry and its Regional Office.	1. The unit has installed air monitoring devices to monitor air emission in the Expansion Plant was designed and installed. 2. These stack emission data were connected to TNPCB and also CPCB portal. The CPCB Connectivity has done on 12.04.2021.
ii.	The Standards issued by the Ministry vide G.S.R. No. 612 (E) dated 25 th August, 2014 and subsequent amendment dated 9 th May, 2016 and 10 th May, 2016 regarding cement plants with respect to particulate matter, SO ₂ and NO _x shall be followed.	The Unit is operating and maintaining the air pollution control equipment efficiently and continuously to achieve emission (Particulate matter, SO ₂ , NO _x) standards prescribed by the Ministry.
iii.	Continuous stack monitoring facilities to monitor gaseous emissions from the process stacks shall be provided. After expansion, limit of PM shall be controlled to meet prescribed standards by installing adequate air pollution control viz Electrostatic precipitators to clinker cooler, bag house to raw mill/kiln and bag filters to coal mill and cement mill. Low NO _x burners shall be provided to control NO _x emissions. Regular calibration of the instruments must be ensured.	In the Expansion plant, limit of PM is controlling as per prescribed standards by installed adequate air pollution control equipment viz Electrostatic precipitators for clinker cooler, bag filters for raw mill/kiln and bag filters for coal mill and cement mill, low NO _x burners to control NO _x emissions in kiln. Regular calibrations are being followed in stack monitoring instruments.
iv.	Efforts shall be made to achieve power consumption of 70 units/tonne for Portland Pozzolana Cement (PPC) and 95 units/tonne for Ordinary Portland Cement (OPC) production and thermal energy consumption of 670 Kcal/Kg of clinker.	The unit has achieved power consumption of 62.2 units/tonne for Portland Pozzolana Cement (PPC) Cement production and thermal energy consumption of 738 Kcal/Kg of clinker.
v.	The National Ambient Air Quality Standards issued by the Ministry vide G. S.R. No. 826(E) dated 16 th November, 2009 shall be followed.	The National Ambient Air Quality Standards issued by the Ministry is following by TANCEM.

vi.	AAQ Modeling shall be carried out based on the specific mitigate measures taken in the existing project and proposed for the expansion project to keep the emissions well below prescribed standards.	The unit has maintaining stack emission below within the CPCB/TNPCB norms. For Expansion plant, outlet dust emission level is designed for 25 mg/Nm ³ .
vii.	Secondary fugitive emissions shall be controlled and shall be within the prescribed limits and regularly monitored. Guidelines/Code of Practice issued by the CPCB in this regard shall be followed.	The unit has engaged NABL accredited and CPCB empaneled laboratory M/s. R&C Environment Lab, Chennai to conduct fugitive emission monitoring. The lab was conducted fugitive emission monitoring and the emission level is within the norms. We herewith submit the report for fugitive emission in Annexure – I .
viii.	A statement on carbon budgeting including the quantum of equivalent CO ₂ being emitted by the existing plant operations, the amount of carbon sequestered annually by the existing green belt and the proposed green belt and the quantum of equivalent CO ₂ that will be emitted due to the proposed expansion shall be prepared by the project proponent and submitted to the Ministry and the Regional Office of the Ministry. This shall be prepared every year by the project proponent. The first such budget shall be prepared within a period of 6 months and subsequently it should be prepared every year.	For Expansion plant, Green belt area is preparing based on the quantum of equivalent CO ₂ that will be emitted proposed expansion and the data will be submitted to the Ministry. This will be prepared and will be implemented by TANCEM.
ix.	For the employees working in high temperature zones falling in the plant operation areas, the total shift duration would be 4 hrs. or less per day where the temperature is more than 50°C. Moreover, the jobs of these employees will be alternated in such a way that no employee is subjected to working in high temperature area for more than 1 hr. continuously. Such employees would be invariably provided with proper protective equipment, garments and gears such as head gear, clothing, gloves, eye protection etc. There should also be an arrangement for sufficient drinking water at site to prevent dehydration etc.	1. The condition indicated by the Ministry is following by TANCEM. 2. Employees working in those areas are provided with PPE & sufficient drinking water.
x.	Arsenic and Mercury shall be monitored in emissions, ambient air and water.	The unit is periodically monitoring Arsenic and Mercury in emissions and ambient air through M/s. R&C Environment Lab. The monitoring report meets the emission standards prescribed by the Board.
xi.	The coal yard shall be lined and covered.	The Coal yard lining and covering work is under progress.
xii.	The project proponent shall prepare a report on impact of project on surrounding reserve forests within six months and will get it approved from the State Forest Department. A copy of the same should be submitted to the Ministry and its Regional Office.	Not applicable.

xiii.	The project proponent shall take all precautionary measures for conservation and protection of wild fauna spotted in the study area. A Wildlife Conservation Plan specific to this project site shall be prepared in consultation with the State Forest and Wildlife Department. A copy of the Conservation plan shall be submitted to the Ministry and its Regional Office.	Not applicable.
xiv.	The project proponent will also provide the latest status of the environmental compliances in respect of its existing plant.	The status of environmental compliances in respect of its existing plant is provided in the Annexure -II.
xv.	Efforts shall be made to reduce impact of the transport of the raw materials and end products on the surrounding environment including agricultural land by the use of conveyors/rail mode of transport wherever feasible. The company shall have separate truck parking area. Vehicular emissions shall be regularly monitored.	<ol style="list-style-type: none"> 1.The Unit has taken measures to reduce impact of the transport of the raw materials and end products on the surrounding environment. 2. The Unit is using conveyors/rail mode for raw materials and end products transport. 3. The Unit has provided separate Truck parking area. 4.The Unit will regularly be monitoring vehicular emissions.
xvi.	Efforts shall be made to further reduce water consumption by using air cooled condensers. All the treated wastewater shall be recycled and reused in the process and/or for dust suppression and green belt development and other plant related activities etc. No process wastewater shall be discharged outside the factory premises and 'zero' discharge shall be adopted.	<ol style="list-style-type: none"> 1. The Unit has taken measures to reduce water consumption by using air cooled condensers. 2. The Unit has provided water treatment plant for recycling the waste water. 3. The treated water being used for Dust suppression, green belt development and other plant related activities. 4. Zero water discharge was adopted in the new Plant.
xvii.	Efforts shall be made to make use of rain water harvested. If needed, capacity of the reservoir shall be enhanced to meet the maximum water requirement. Only balance water requirement shall be met from other sources.	<ol style="list-style-type: none"> 1. Rain water harvesting work is under process for all the buildings in the Expansion Plant. 2. The capacity of the old reservoir in the TANCEM Colony was enhanced to store more water.
xviii.	Regular monitoring of influent and effluent surface, sub-surface and ground water shall be ensured and treated wastewater shall meet the norms prescribed by the State Pollution Control Board or described under the Environment (Protection) Act, 1986 whichever are more stringent. Leachate study for the effluent generated and analysis shall also be regularly carried out and report submitted to the Ministry's Regional Office, SPCB and CPCB.	We are periodically monitoring ground water prescribed by State Pollution Control Board and the Report is submitting periodically. The report is enclosed in Annexure - III.

xix.	All the bag filter dust, raw mill dust, coal dust, clinker dust and cement dust from pollution control devices shall be recycled and reused in the process and used for cement manufacturing. Spent oil and batteries shall be sold to authorized recyclers / re-processors only.	1. The dust from all the pollution control equipment are recycling and reusing in the cement manufacturing. 2. Spent oil is disposing to the TNPCB/CPCB's authorized recyclers/re-processors only.
xx.	The kiln shall be provided with a flexible fuel feeding system to enable use of hazardous wastes and other wastes including biomass, etc.	The Expansion plant kiln is provided with a flexible fuel feeding system.
xxi.	The proponent shall examine and prepare a plan for utilization of high calorific wastes such as chemical wastes, distillation residues, refuse derived fuels, etc. as alternate fuels based on availability and composition. For this, the proponent shall identify suitable industries with such wastes and enter into an MOU for long-term utilization of such wastes as per the Environment (Protection) Rules, 1986 and with necessary approvals.	TANCEM is preparing a plan for utilization of high calorific wastes such as chemical wastes, distillation residues, refuse derived fuels, etc. as alternate fuels based on availability and composition.
xxii.	Efforts shall be made to use the high calorific hazardous waste in the cement kiln and necessary provision shall be made accordingly. The PP shall enter into an MOU with units with potential for generating hazardous waste and in accordance with Hazardous Waste Regulations and prior approval of the TNPCB.	The Unit has taken efforts to make use of the high calorific hazardous waste in the cement kiln and necessary provision will be made accordingly.
xxiii.	Green belt over 33% of the total project area shall be developed within plant premises with at least 10-meter-wide green belt on all sides along the periphery of the project area and along road sides etc. by planting native and broad-leaved species in consultation with local DFO, local community and as per the CPCB guidelines.	1)The unit has been developing green belt in the Existing plant and Colony nearly consisting of 10,000 trees, for Expansion plant along the periphery of the plant 3,000 saplings are planted and maintaining. The total 9 hectares of area was Green Belt developed. As per TNPCB Kurunkadugal scheme, we have planted 1214 saplings inside the plant premises. 2) Green belt area developing work is under progress as per the CPCB guidelines.
xxiv.	The project proponent shall provide for solar light system for all common areas, street lights, villages, parking around project area and maintain the same regularly.	Solar light system has been provided in our TANCEM Hospital and school areas.
xxv.	The project proponent shall provide for LED lights in their offices and residential areas.	In the Expansion plant, the LED lights are fixing work is under progress. The LED lights installation works in residential areas are under progress.

xxvi.	All the recommendations made in the Charter on Corporate Responsibility for Environment Protection (CREP) for the Cement plants shall be implemented.	The Unit has completed all the recommendations made in the Charter on Corporate Responsibility for Environment Protection (CREP).
xxvii.	At least 2.5% of the total cost of the project shall be earmarked towards the Enterprise Social Commitment based on Public Hearing issues, locals need and item-wise details along with time bound action plan shall be prepared and submitted to the Ministry's Regional Office. Implementation of such program shall be ensured by constituting a Committee comprising of the proponent, representatives of village Panchayat and District Administration. Action taken report in this regard shall be submitted to the Ministry's Regional Office.	The Unit has prepared the Enterprise social commitment plan (ESC) for an amount of RS. 13.52 crores nearly all the works are completed and the remaining pending works will be completed soon. Enterprise social commitment plan of Rs.13.5 crores work is under the supervision of collectorate officials, Ariyalur. The detailed execution of woks is enclosed for your kind reference (Annexure-IV).
xxviii.	In addition to the above provision of ESC, the proponent shall prepare a detailed CSR Plan for the next 5 years including annual physical and financial targets for the existing-cum-expansion project, which includes village-wise, sector-wise (Health, Education, Sanitation, Skill Development and infrastructure etc) activities in consultation with the local communities and administration. The CSR Plan will include the amount of 2% retain annual profits as provided for in Clause 135 of the Companies Act, 2013 which provides for 2% of the average net profits of previous 3 years towards CSR activities for life of the project. A separate budget head shall be created and the annual capital and revenue expenditure on various activities of the Plan shall be submitted as part of the Compliance Report to RO. The details of the CSR Plan shall also be uploaded on the company website and shall also be provided in the Annual Report of the company.	The implementation of Corporate social responsibility (CSR) plan for next five years will be prepared and implemented as per the direction of MOEF&CC.
xxix.	A Risk Assessment Study and Disaster Preparedness and Management Plan along with the mitigation measures shall be prepared with a focus of Disaster Prevention and a copy submitted to the Ministry's Regional Office, SPCB and CPCB Within 3 months of issue of environment clearance letter.	Risk Assessment and Disaster Preparedness and Management Plan along with the mitigation measures are prepared. The details are shown in Annexure-V.
xxx.	To educate the workers, all the work places where dust may cause hazard shall be clearly indicated as a dust exposure area through the use of display signs which identifies the hazard and the associated health effects.	The Unit has providing regular classes to educate the workers. The hazards places are provided display signboards.

xxxii.	Provision shall be made for the housing of construction labor within the site with all necessary infrastructure and facilities such as fuel for cooking, mobile toilets, Safe drinking water, medical health care, crèche etc. The housing may be in the form of temporary structures to be removed after the completion of the project.	<p>1. The Unit has provided housing of construction labor and all necessary infrastructure facilities for the construction labor.</p> <p>2. The project was completed and we removed the temporary structures for labor colony and toilets.</p>
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B. GENERAL CONDITIONS		
i.	The project authorities must strictly adhere to the stipulations made by the Tamil Nadu Pollution Control Board and the State Government.	The Unit has strictly adhered to the stipulations made by the Tamil Nadu Pollution Control Board and the State Government.
ii.	No further expansion or modifications in the plant shall be carried out without prior approval of the Ministry of Environment, Forests and Climate Change (MoEF&CC).	The Unit will not carry out any expansion or modifications without prior approval of the Ministry of Environment, Forests and Climate Change (MoEF&CC).
iii.	At least four ambient air quality monitoring stations should be established in the downward direction as well as where maximum ground level concentration of PM ₁₀ PM _{2.5} , SO ₂ and NO _x are anticipated in consultation with the SPCB. Data on ambient air quality and stack emission shall be regularly submitted to this Ministry including its Regional Office at Chennai and the SPCB/CPCB once in six months.	<p>1. The Unit has installed 2 locations of ambient air quality monitoring stations. The Ambient air quality and stack emissions are regularly submitting to this Ministry including its Regional Office at Chennai and the SPCB/CPCB once in six months.</p> <p>2. As per the direction of TNPCB/ CPCB, The Unit has analyzed the feasibility to provide Continuous Ambient Air Quality Monitoring Stations (CAAQMS) with respect to ground level concentration around 10/25 km radius. In this location Cement factories are located in cluster. The ground level dust concentration may affect proposed CAAQMS by nearby cement factories. Even though the unit has taken survey for installation of CAAQMS within 10/25 km radius. Each proposed CAAQMS identified locations are falling by Minimum Six industries. The detailed feasibility report for installation of CAAQMS was sent to TNPCB and requested directions and suggestions for installation of proposed CAAQMS.</p> <p>3. The unit has taken measures to find GLCs in the receptors and identify the locations of proposed AAQMS station with the help of M/s. Glens Innovation Labs Pvt Ltd., Chennai. The work order was issued to M/s. Glens Innovation Labs Pvt Ltd., Chennai. M/s. Glens Innovation Labs Pvt Ltd., Chennai has conducted GLCs study in the receptors from 05.07.2022 to 09.07.2022. M/s. Glens Innovation Labs Pvt Ltd. was submitted the report. The unit will take necessary arrangements against report.</p>

iv.	Industrial wastewater shall be properly collected. Treated so as to conform to the standards prescribed under GSR 422 (E) dated 19 th May, 1993 and 31 st December, 1993 or as amended from time to time. The treated wastewater shall be utilized for plantation purpose.	The unit has provided STP for water treatment and it is being used for Green Belt Development. Every month TNPCB taking sewage samples which meets the standards prescribed under GSR 422 (E) dated 19 th May, 1993 and 31 st December, 1993 or as amended from time to time.
v.	The overall noise levels in and around the plant area shall be kept well within the standards (85 dBA) by providing noise control measures including acoustic hoods, silencers, enclosures etc. on all sources of noise generation. The ambient noise levels should conform to the standards prescribed under EPA Rules, 1989 viz. 75 dBA (daytime) and 70 dBA (nighttime).	<ol style="list-style-type: none"> 1.Noise control measuring including acoustic hoods, silencers, enclosures etc., are provided in all the required areas. 2.The unit has engaged NABL accredited and CPCB empaneled laboratory M/s. R&C Environment Lab, Chennai to conduct ambient noise level monitoring. The lab was conducted ambient noise level monitoring and the noise level is within the norms. Subsequently, TNPCB has conducted ambient noise level monitoring. The report is enclosed in Annexure – VI. 3.The Unit has maintaining the noise level within the standards.
vi.	Occupational health surveillance of the workers shall be done on a regular basis and records maintained as per the Factories act.	Surveillance of the workers is regularly done and records maintained as per the factories act.
vii.	The company shall develop rain water harvesting structures to harvest the rain water for utilization in the lean season besides recharging the ground water table.	Rain water harvesting structure works are under progress including recharging of ground water tables.
viii.	The project proponent shall also comply with all the environmental protection measures and safeguards recommended in the EIA/EMP report. Further, the company must undertake socio-economic development activities in the surrounding villages like community development programmes, educational programmes, drinking water supply and health care etc.	<p>The unit have been taken necessary actions to comply with EIA/EMP recommendations.</p> <ol style="list-style-type: none"> 1. For Air environment, the unit has installed bag houses in Raw mill, Kiln, Coal mill, cement mill and ESP in Cooler. Continuous monitoring Equipment, Sheds& Silos for raw material storage. 2.For Noise environment, the major noise generating sources are coal mill, Kiln, Raw mill, cement plant and compressors. These sources are located far off from each other and all major machinery/equipment noise not exceed as per OSHA limit and enclosures provided in noise generating sources, noise attenuating devices are provided for workers, building’s roof are constructed by reinforced concrete, compressor station vent valves equipped with mufflers/silencers. 3. For Wastewater management, the unit have installed Sewage Treatment Plant (STP) to treat wastewater and use for Plantation purpose.

		<p>4. For Greenbelt development, we have planting saplings in Plant and Colony. As per TNPCB Kurunkadugal scheme, we have planted 1214 saplings inside the plant premises.</p> <p>5. Rain water harvesting work is under process for all the buildings in the new Plant. The capacity of the old reservoir in the TANCEM Colony was enhanced to store more water.</p> <p>6. For Social welfare measures, The Unit has earmarked 2.5% of the total project cost i.e Rs.13.5 crores towards the Enterprise Social Commitment.</p> <p>7. For EMP, The Unit has allotted an amount of Rs. 50 crores for pollution control equipment for Expansion Plant and Recurring expenditure of Rs 4.72 crores has spent.</p>
ix.	<p>Requisite funds shall be earmarked towards capital cost and recurring cost/annum for environment pollution control measures to implement the conditions stipulated by the Ministry of Environment, Forest and Climate Change (MoEF&CC) as well as the State Government. An implementation schedule for implementing all the conditions stipulated herein shall be submitted to the Regional Office of the Ministry at Chennai. The funds so provided shall not be diverted for any other purpose.</p>	<p>Requisite fund was earmarked towards Capital and recurring cost/annum for environment pollution control measures to implement the conditions stipulated by the Ministry of Environment, Forest and Climate Change (MoEF&CC) as well as the State Government.</p>
x.	<p>A copy of clearance letter shall be sent by the proponent to concerned Panchayat, Zila Parishad/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 web site of the company by the proponent.</p>	<p>The Unit has submitted copy of clearance letter to local panchayat. The clearance letter was also uploaded in TANCEM's website.</p>
xi.	<p>The project proponent shall upload the status of compliance of the stipulated environment clearance conditions, including results of monitored data on their website and shall update the same periodically. It shall simultaneously be sent to the Regional Office of the MOEF&CC at Chennai. The respective Zonal Office of CPCB and the SPCB. The criteria pollutant levels namely; PM₁₀, SO₂, NO_x (ambient levels as well as stack emissions) or critical sectoral parameters, indicated for the projects shall be monitored and displayed at a convenient location near the main gate of the company in the public domain.</p>	<p>1. The unit is uploaded the status of compliance of the stipulated environment clearance conditions, including results of monitored data in our TANCEM website and updating the same periodically. The compliance report is periodically sent to MOEF&CC, SPCB and CPCB.</p> <p>2. LED display board commissioned and displayed in front of our main gate for the displaying of existing plant, expansion plant stack emission and ambient air data.</p>

xii.	<p>The project proponent shall also submit six monthly reports on the status of the compliance of the stipulated environmental conditions including results of monitored data (both in hard copies as well as by e-mail) to the Regional Office of MOEFCC, the respective Zonal Office of CPCB and the SPCB. The Regional Office of this Ministry at Chennai / CPCB / SPCB shall monitor the stipulated conditions.</p>	<p>1. The Unit has submitting six monthly reports on the status of the compliance of the stipulated environmental conditions including results of monitored data to the Regional Office of MOEFCC, the respective Zonal Office of CPCB and the SPCB.</p> <p>2. Every year we have conducting Ambient air quality, Ambient noise level, Stack monitoring and Ground water quality survey through M/s. R&C Environment Lab, Chennai. Subsequently, TNPCB has conducted the Ambient air quality, Ambient noise level, Stack monitoring and Ambient air quality once in six months. The Report of the both surveys meets emission standards as notified by MoEE&CC vide GSR497 (E) dated: 10.05.2016. The Report is enclosed in Annexure – III, Annexure – VI & Annexure –VII.</p> <p>3. The unit has engaged NABL accredited and CPCB empaneled laboratory M/s. R&C Environment Lab, Chennai to conduct fugitive emission monitoring. The lab was conducted fugitive emission monitoring and the emission level is within the norms. We herewith submit the report for fugitive emission in Annexure – I.</p>
xiii.	<p>The environmental statement for each financial year ending 31st March in Form-V as is mandated to be submitted by the project proponent to the concerned State Pollution Control Board as prescribed under the Environment (Protection) Rules, 1986, as amended subsequently, shall also be put on the website of the company along with the status of compliance of environmental conditions and shall also be sent to the respective Regional Office of the MOEFCC at Chennai by e-mail.</p>	<p>The Unit has submitting Environmental statement for each financial year ending 31st March in Form-V and compliance of Environmental conditions to the TNPCB and regional office of MOEF&CC Chennai. The environmental statement is enclosed in Annexure-VIII.</p>
xiv.	<p>The Project Proponent shall inform the public that the project has been accorded environmental clearance by the Ministry and copies of the clearance letter are available with the SPCB and may also be seen at Website of the Ministry of Environment, Forests and Climate Change (MoEFCC) at http://envfor.nic.in. This shall be advertised within seven days from the date of issue of the clearance letter, at least in two local newspapers that are widely circulated in the region of which one shall be in the vernacular language of the locality concerned and a copy of the same should be forwarded to the Regional office at Chennai.</p>	<p>Project clearance had been advertised in the local two newspapers.</p>
xv.	<p>Project authorities shall inform the Regional Office as well as the Ministry, the date of financial closure and final approval of the project by the concerned authorities and the date of commencing the land development work.</p>	<p>The plant commercial production started on 21.03.2020. The land development work is under progress.</p>



स्थापना १८५८
ESTD 1858
ISO 9001 Co.,

इंजिनियर्स

आर एंड सी पर्यावरण प्रयोगशाला,
पर्यावरण इंजीनियरिंग प्रयोगशाला प्रभाग,
१/६१, कुलकराई स्ट्रीट, वीओसी नगर मुख्य सड़क,
अदयालम्पेट, मद्रुरवोयल, चेन्नई-६०० ०९४. तमिल नाडु, भारत.
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९०४३० ७५९४९, फैक्स : + ९१-४४-२६२५ ८२९५

Richardson & Cruddas (1972) Ltd.

(A Government of India undertaking)

रिचर्डसन एण्ड क्रुडस (१९७२) लिमिटेड

(भारत सरकार का उपक्रम)



CERT No. TC-7742

ENGINEERS

R&C Environment Lab,

Environmental Engineering Laboratory Division,
1/61, Kulakarai Street, VOC Nagar Main Road, Adayalampet,
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An ISO 9001:2015 Certified Company
Certificate No. BE - 15 QMS 5840



ENVIRONMENTAL ENGINEERING LABORATORY

(Recognized by Central Pollution Control Board/MoEF/Accredited By NABL)

TEST REPORT OF FUGITIVE DUST EMISSION

Report Number	TC774222010938F	Report Date	06.01.2023		
Customer Name & Address	M/s.TAMILNADU CEMENTS CORPORATION LTD., (TANCEM), Ariyalur Cement Factory, Ariyalur - 621 729.				
Sample Drawn by	M/s. R&C Environment Lab.	Sample Reference No.	EELAB/2967		
Sample Collection date	24.12.2022	Sample Received on	26.12.2022		
Sampling Consumable	Filter Paper & Dust Collector - EELAB/0212-0216	Test Commenced on	26.12.2022		
Sample Description	Fugitive Dust Emission - Particulate Matter Concentration	Test Completed on	04.01.2023		
Sampling Method	IS 5182 : Part 4: 1999(RA 2019)	Vol. of Air Sampled - 1 lpm			
RESULTS					
S. No.	Location Name	TEST METHOD	RESULT	UNIT	Limits as per EPA
1	Expansion Coal Mill Feeding area	IS 5182 : Part 4 : 1999 - Reaffirmed 2019	404.6	mg/Nm ³	500
2	Expansion Coal Mill Weight Feeder area		392.4		
3	Near Expansion Coal Conveyor Belt		362.6		
4	Expansion Kiln Inlet - Preheater Outlet		304.8		
5	Expansion Kiln Outlet - Clinker Cooler Inlet		316.2		
Remarks :		The sample was collected and analysed as per IS methods. The values are found to be well within the stipulated limits for which the norms are mentioned in the report.			
Note: mg/ Nm ³ - Milligram Per Normal cubic metre		 Authorized Signatory Er.Arunkumar.V - Technical Manager			



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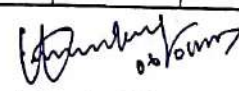
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ENVIRONMENTAL ENGINEERING LABORATORY

(Recognized by Central Pollution Control Board/MoEF/Accredited By NABL)

TEST REPORT OF FUGITIVE DUST EMISSION

Report Number	TC774222010939F	Report Date	06.01.2023		
Customer Name & Address	M/s.TAMILNADU CEMENTS CORPORATION LTD., (TANCEM), Ariyalur Cement Factory, Ariyalur - 621 729.				
Sample Drawn by	M/s. R&C Environment Lab.	Sample Reference No.	EELAB/2967		
Sample Collection date	24.12.2022	Sample Received on	26.12.2022		
Sampling Consumable	Filter Paper & Dust Collector - EELAB/0217-0221	Test Commenced on	26.12.2022		
Sample Description	Fugitive Dust Emission - Particulate Matter Concentration	Test Completed on	04.01.2023		
Sampling Method	IS 5182 : Part 4: 1999(RA 2019)	Vol. of Air Sampled - 1 lpm			
RESULTS					
S. No.	Location Name	TEST METHOD	RESULT	UNIT	Limits as per EPA
6	Expansion Cooler Outlet - Breaker point	IS 5182 : Part 4 : 1999 - Reaffirmed 2019	340.6	mg/Nm ³	500
7	Expansion Clinker Silo Inlet		362.8		
8	Expansion Clinker Silo Outlet		340.4		
9	Expansion Gypsum Stacker - Unloading Point		406.8		
10	Expansion Packing House Truck Loading - 1		382.2		
Remarks :		The sample was collected and analysed as per IS methods. The values are found to be well within the stipulated limits for which the norms are mentioned in the report.			
Note: mg/ Nm ³ - Milligram Per Normal cubic metre		 Authorized Signatory Er.Arunkumar.V - Technical Manager			



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CERT No. TC-7742

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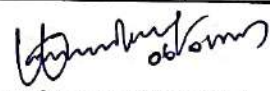
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TEST REPORT OF FUGITIVE DUST EMISSION

Report Number	TC774222010940F	Report Date	06.01.2023		
Customer Name & Address	M/s.TAMILNADU CEMENTS CORPORATION LTD., (TANCEM), Ariyalur Cement Factory, Ariyalur - 621 729.				
Sample Drawn by	M/s. R&C Environment Lab.	Sample Reference No.	EELAB/2967		
Sample Collection date	24.12.2022	Sample Received on	26.12.2022		
Sampling Consumable	Filter Paper & Dust Collector - EELAB/0222-0226	Test Commenced on	26.12.2022		
Sample Description	Fugitive Dust Emission - Particulate Matter Concentration	Test Completed on	04.01.2023		
Sampling Method	IS 5182 : Part 4: 1999(RA 2019)	Vol. of Air Sampled - 1 lpm			
RESULTS					
S. No.	Location Name	TEST METHOD	RESULT	UNIT	Limits as per EPA
11	Expansion Packing House Truck Loading - 2	IS 5182 : Part 4 : 1999 - Reaffirmed 2019	392.6	mg/Nm ³	500
12	Expansion Packing House Truck Loading - 3		378.2		
13	Expansion Packing House Truck Loading - 4		384.4		
14	Expansion Cement Mill Outlet		392.6		
15	Expansion Cement Mill Inlet		404.8		
Remarks :		The sample was collected and analysed as per IS methods. The values are found to be well within the stipulated limits for which the norms are mentioned in the report.			
Note: mg/ Nm ³ - Milligram Per Normal cubic metre		 Authorized Signatory Er.Arunkumar.V - Technical Manager			

**** End of the Report



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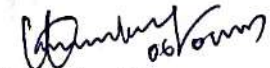
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TEST REPORT OF FUGITIVE DUST EMISSION

Report Number	TC774222010941F	Report Date	06.01.2023		
Customer Name & Address	M/s.TAMILNADU CEMENTS CORPORATION LTD., (TANCEM), Ariyalur Cement Factory, Ariyalur - 621 729.				
Sample Drawn by	M/s. R&C Environment Lab.	Sample Reference No.	EELAB/2967		
Sample Collection date	24.12.2022	Sample Received on	26.12.2022		
Sampling Consumable	Filter Paper & Dust Collector - EELAB/0227-0231	Test Commenced on	26.12.2022		
Sample Description	Fugitive Dust Emission - Particulate Matter Concentration	Test Completed on	04.01.2023		
Sampling Method	IS 5182 : Part 4: 1999(RA 2019)	Vol. of Air Sampled - 1 lpm			
RESULTS					
S. No.	Location Name	TEST METHOD	RESULT Particulate Matter	UNIT	Limits as per EPA
16	Expansion Cement Mill Weigh Feeder	IS 5182 : Part 4 : 1999 - Reaffirmed 2019	374.6	mg/Nm ³	500
17	Expansion Coal Crusher Feeding Point		382.4		
18	Expansion Coal Crusher		440.8		
19	Expansion Coal Mill Feeding Belt		432.4		
20	Expansion Packing House Roto Packer - 1		402.6		
Remarks :		The sample was collected and analysed as per IS methods. The values are found to be well within the stipulated limits for which the norms are mentioned in the report.			
Note: mg/ Nm ³ - Milligram Per Normal cubic metre		 Authorized Signatory Er.Arunkumar.V - Technical Manager			



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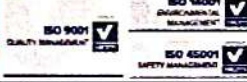
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TEST REPORT OF FUGITIVE DUST EMISSION

Report Number	TC774222010942F	Report Date	06.01.2023		
Customer Name & Address	M/s.TAMILNADU CEMENTS CORPORATION LTD., (TANCEM), Ariyalur Cement Factory, Ariyalur - 621 729.				
Sample Drawn by	M/s. R&C Environment Lab.	Sample Reference No.	EELAB/2967		
Sample Collection date	24.12.2022	Sample Received on	26.12.2022		
Sampling Consumable	Filter Paper & Dust Collector - EELAB/0232-0236	Test Commenced on	26.12.2022		
Sample Description	Fugitive Dust Emission - Particulate Matter Concentration	Test Completed on	04.01.2023		
Sampling Method	IS 5182 : Part 4: 1999(RA 2019)	Vol. of Air Sampled - 1 lpm			
RESULTS					
S. No.	Location Name	TEST METHOD	RESULT	UNIT	Limits as per EPA
21	Expansion Packing House Roto Packer - 2	IS 5182 : Part 4 : 1999 - Reaffirmed 2019	412.4	mg/Nm ³	500
22	Expansion Lime Stone Crusher Hopper		392.8		
23	Expansion Lime Stone Stacker		354.6		
24	Expansion Flue Dust Stacker		406.2		
25	Expansion Raw Mill Weigh Feeder		392.4		
Remarks :		The sample was collected and analysed as per IS methods. The values are found to be well within the stipulated limits for which the norms are mentioned in the report.			
Note: mg/ Nm ³ - Milligram Per Normal cubic metre		 Authorized Signatory Er.Arunkumar.V - Technical Manager			



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रिचर्डसन एण्ड क्रुडस (१९७२) लिमिटेड

(भारत सरकार का उपक्रम)



CERT No. TC-7742

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Environmental Engineering Laboratory Division,
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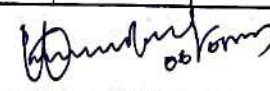
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ENVIRONMENTAL ENGINEERING LABORATORY

(Recognized by Central Pollution Control Board/MoEF/Accredited By NABL)

TEST REPORT OF FUGITIVE DUST EMISSION

Report Number	TC774222010943F	Report Date	06.01.2023		
Customer Name & Address	M/s.TAMILNADU CEMENTS CORPORATION LTD., (TANCEM), Ariyalur Cement Factory, Ariyalur - 621 729.				
Sample Drawn by	M/s. R&C Environment Lab.	Sample Reference No.	EELAB/2967		
Sample Collection date	24.12.2022	Sample Received on	26.12.2022		
Sampling Consumable	Filter Paper & Dust Collector - EELAB/0237-0241	Test Commenced on	26.12.2022		
Sample Description	Fugitive Dust Emission - Particulate Matter Concentration	Test Completed on	04.01.2023		
Sampling Method	IS 5182 : Part 4: 1999(RA 2019)	Vol. of Air Sampled - 1 lpm			
RESULTS					
S. No.	Location Name	TEST METHOD	RESULT	UNIT	Limits as per EPA
26	Expansion Raw Mill Additive Material Feeder	IS 5182 : Part 4 : 1999 - Reaffirmed 2019	374.2	mg/Nm ³	500
27	Expansion Raw Mill Vertical Roller Mill (VRM)		386.4		
28	Existing Packing House Truck Loading - 1,2&3		368.8		
29	Existing Packing House Roto Packer		396.2		
30	Imported Coal Shed		366.4		
Remarks :		The sample was collected and analysed as per IS methods. The values are found to be well within the stipulated limits for which the norms are mentioned in the report.			
Note: mg/ Nm ³ - Milligram Per Normal cubic metre		 Authorized Signatory Er.Arunkumar.V - Technical Manager			

**** End of the Report



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R&C/EEL/LQMS/QM/46

मुलुण्ड एल.बी. शास्त्री मार्ग मुलुण्ड पश्चिम मुम्बई - 400 080. फैक्स: 022-2569 0988 फोन : 022-2561 1973	Mulund L.B. Shastri Marg. Mulund West Mumbai - 400 080. Fax : 022 - 2569 0988 Phone : 022 - 2561 1973	पंजीकृत एवं मुख्यालय भायखला आयरन वर्क्स सर जे.जे. सड़क, मुम्बई - 400 008. फैक्स: 022-2373 1491 फोन : 022-2373 8086	Regd. & Head Office : Byculla Iron Works Sir J.J. Road Mumbai - 400 008. Fax : 022 - 2373 1491 Phone : 022 - 2373 8086	नागपूर एफ३, एम.आर्.डी.डी.सी. इंडस्ट्रियल एस्टेट हिंणा सड़क, नागपूर - 440016. फैक्स: 07104-237693 फोन : 07104-237061	Nagpur F3, MIDC Industrial Estate, Hingna Road, Nagpur - 440 016. Fax : 07104 - 237693 Phone : 07104 - 237061
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स्थापना १८५८
ESTD 1858
ISO 9001 Co.,

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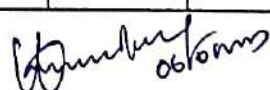
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ENVIRONMENTAL ENGINEERING LABORATORY

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TEST REPORT OF FUGITIVE DUST EMISSION

Report Number	TC774222010944F	Report Date	06.01.2023		
Customer Name & Address	M/s.TAMILNADU CEMENTS CORPORATION LTD., (TANCEM), Ariyalur Cement Factory, Ariyalur - 621 729.				
Sample Drawn by	M/s. R&C Environment Lab.	Sample Reference No.	EELAB/2967		
Sample Collection date	24.12.2022	Sample Received on	26.12.2022		
Sampling Consumable	Filter Paper & Dust Collector - EELAB/0242-0246	Test Commenced on	26.12.2022		
Sample Description	Fugitive Dust Emission - Particulate Matter Concentration	Test Completed on	04.01.2023		
Sampling Method	IS 5182 : Part 4: 1999(RA 2019)	Vol. of Air Sampled - 1 lpm			
RESULTS					
S. No.	Location Name	TEST METHOD	RESULT	UNIT	Limits as per EPA
			Particulate Matter		
31	Indian Coal Shed	IS 5182 : Part 4 : 1999 - Reaffirmed 2019	354.2	mg/Nm ³	500
32	Existing Plant Clinker Yard		344.6		
33	Existing Plant Clinker Unloading area		406.8		
34	Existing Plant Clinker D-Bucket Conveyor		382.6		
35	Existing Plant Cement Mill Inlet		406.4		
Remarks :		The sample was collected and analysed as per IS methods. The values are found to be well within the stipulated limits for which the norms are mentioned in the report.			
Note: mg/ Nm ³ - Milligram Per Normal cubic metre		 Authorized Signatory Er.Arunkumar.V - Technical Manager			

**** End of the Report



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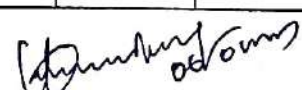
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TEST REPORT OF FUGITIVE DUST EMISSION

Report Number	TC774222010945F	Report Date	06.01.2023		
Customer Name & Address	M/s.TAMILNADU CEMENTS CORPORATION LTD., (TANCEM), Ariyalur Cement Factory, Ariyalur - 621 729.				
Sample Drawn by	M/s. R&C Environment Lab.	Sample Reference No.	EELAB/2967		
Sample Collection date	24.12.2022	Sample Received on	26.12.2022		
Sampling Consumable	Filter Paper & Dust Collector - EELAB/0247-0251	Test Commenced on	26.12.2022		
Sample Description	Fugitive Dust Emission - Particulate Matter Concentration	Test Completed on	04.01.2023		
Sampling Method	IS 5182 : Part 4: 1999(RA 2019)	Vol. of Air Sampled - 1 lpm			
RESULTS					
S. No.	Location Name	TEST METHOD	RESULT Particulate Matter	UNIT	Limits as per EPA
36	Existing Cement Mill Outlet	IS 5182 : Part 4 : 1999 - Reaffirmed 2019	392.4	mg/Nm ³	500
37	Existing Cement Mill - Clinker Weigh Feeder		412.2		
38	Existing Cement Mill - Gypsum Weigh Feeder		398.4		
39	Existing Plant Clinker Transfer Point		422.6		
40	Existing Cement Mill Despatch Belt		414.4		
Remarks : The sample was collected and analysed as per IS methods. The values are found to be well within the stipulated limits for which the norms are mentioned in the report.					
Note: mg/ Nm ³ - Milligram Per Normal cubic metre			 Authorized Signatory Er. Arunkumar.V - Technical Manager		

**** End of Report ****



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Annexure – II

COMPLIANCE STATUS REPORT FOR AIR ACT AS PER RENEWAL OF CONSENT CONDITIONS OF 2022-24

Special Additional Conditions:

Sl.no	Conditions	Compliance
i.	The unit shall install the approved retrofit emission control device/equipment with at least 70%Particulate matter reduction efficiency on all DG sets with capacity of 125 KVA and above or otherwise the unit shall be shift to gas-based generators within the time frame prescribed in the notification No. TNPCB/Labs/DD(L)02151/2019 dated 10.06.2020 issued by TNPCB.	The Unit has not met power failure problem since we have installed dedicated 110 KV sub-station power supply for our plant. The DG sets are in standby only not for continuous operation. Even though we have taken measures to install approved retrofit emission control devices.
ii.	The unit shall obtain No Objection Certificate (NOC) from the Tamil Nadu Bio Diversity Board /National Bio Diversity Authority if the unit is using any Biological resources or knowledge associated thereto as per the provisions of Biological Diversity Act 2002.	Not applicable.

Additional Conditions:

S.No	CONDITIONS	COMPLIANCE
1.	The unit shall operate and maintain the air pollution control measures efficiency and continuously so as to achieve the Ambient Air quality/ Emission standards prescribed by the Board & MoEF&CC.	1. The Unit is operating and maintaining the air pollution control equipments efficiently and continuously to achieve the ambient air quality / emission standards as notified by MoEE&CC vide GSR497 (E) dated: 10.05.2016. 2. Every year we have conducting Ambient air quality and Stack monitoring survey through TNPCB and M/s.R&C Environment Lab, Chennai. The ROA of the both surveys meets emission standards as notified by MoEE&CC vide GSR497 (E) dated: 10.05.2016. The Report is enclosed in Annexure – VI & Annexure –VII.
2.	The unit shall comply with the new emission standards prescribed by MoEF&CC vide notification dated 25.08.2014 &10.05.2016.	The unit is complying with the new emission standards prescribed by MoEF&CC vide notification dated 25.08.2014 &10.05.2016.

3.	The unit shall ensure that the noise generated by the unit shall adhere to the Ambient Noise Level standards prescribed by the Board.	<p>1.Noise control measuring including acoustic hoods, silencers, enclosures etc., are provided in all the required areas.</p> <p>2. The unit has engaged NABL accredited and CPCB empaneled laboratory M/s. R&C Environment Lab, Chennai to conduct ambient noise level monitoring. The lab was conducted ambient noise level monitoring and the noise level is within the norms. Subsequently, TNPCB has conducted ambient noise level monitoring. The report is enclosed in Annexure – VI.</p> <p>3. The Unit has maintaining the noise level standards prescribed by the Board.</p>
4.	The industry shall ensure that all the dust accumulated in the premises (in old line and new line areas) are cleared immediately.	TANCEM has taken measures to clearing all accumulated dust in the premises (in old line and new line areas) to keep dust free environment.
5.	The unit shall not run existing plant until further orders from the Government, as committed.	Agreed.
6.	The unit shall maintain the online stack monitoring system and the continuous AAQ monitoring system efficiently so as to send good quality data to Care Air Centre.	The Unit has maintaining all the online monitors continuously and efficiently. The data are continuously sending to Care Air Centre, TNPCB, Chennai and CPCB, Delhi.
7.	The unit shall comply with the fugitive emission guidelines prescribed by CPCB vide PROBES/118/2007 dated: 06.07.2007.	<p>The Unit is abiding and adheres to the CPCB guidelines on fugitive emission control as mentioned in notification. The following areas are concentrated to avoid fugitive emission as per CPCB guidelines.</p> <ol style="list-style-type: none"> 1. Unloading section (limestone, coal and other relevant materials). 2. Material Handling Section (Including transfer Points). 3. Coal Storage Section. 4. Clinker cooler section. 5. Clinker stock piles section. 6.Storage of limestone, gypsum, fly ash and other additives. 7. Cement packing section. 8. Silo section and 9. Roads.
8.	The storage of coal, clinker, lime stone, Gypsum, fly ash and other additives should be done under covered shed.	<p>1) As per the direction of TNPCB, TANCEM is storing the raw materials in closed sheds only.</p> <p>a) Coal is storing in the 3 closed sheds. The unit is construction of two new coal shed with capacity of 5000 MT each at cost of Rs.1.5 Crores.</p>

		<p>b) Limestone is storing in the 2 stockpiles. c) Gypsum is storing in the 2 closed sheds. d) Raw meal is storing in the 3 silos. e) Wet Fly ash is storing in the 2 closed sheds. f) Clinker is storing in the silo in Expansion plant and stockpile in Existing plant. g) Dry fly ash is storing in the 3 metal hoppers. 2) TANCEM has issued work order to provide side cladding in the Coal unloading shed (work is completed), Coal crusher shed (Work is completed), Flue dust shed (Work is completed) and Gypsum shed (Work is completed). 3) The Raw materials stored in the yard is covered with tarpaulin.</p>
9.	The unit shall carry out cleaning of spilled materials such as Gypsum, fly ash, and Coal dust inside the working area periodically to avoid carryover of dust to the surrounding.	<p>1. TANCEM has cleared old spilled materials like Gypsum, Fly ash, and Coal dust inside the working areas. 2. Further, TANCEM has providing One JCB and tipper separately to clean the spilled materials like Gypsum, Fly ash, and Coal dust inside the working areas regularly.</p>
10.	The unit shall pave all the areas where vehicle movement takes place.	The unit will identify the unpaved vehicle movement areas and will initiate the proposal to get approval from corporate office. The work will be completed within two years.
11.	The unit shall conduct the ground level concentration study due to various emission sources through a laboratory approved by CPCB within a month and install the CAAQM stations as already instructed by Board within 3 months.	<p>1. As per the direction of TNPCB/ CPCB, The Unit has analyzed the feasibility to provide Continuous Ambient Air Quality Monitoring Stations (CAAQMS) with respect to ground level concentration around 25 km radius. In Ariyalur location Cement factories are located in cluster. The ground level dust concentration may affect proposed CAAQMS by nearby cement factories. Even though the unit has taken survey for installation of CAAQMS within 25 km radius. Each proposed CAAQMS identified locations are falling by Minimum Six industries. The detailed feasibility report for installation of CAAQMS was sent to TNPCB and requested directions and suggestions for installation of proposed CAAQMS. 2. The unit has taken measures to find GLCs in the receptors and identify the locations of proposed CAAQMS station with the help of M/s. Glens Innovation Labs Pvt Ltd., Chennai. The work order was issued to M/s. Glens Innovation Labs Pvt Ltd., Chennai. M/s. Glens Innovation Labs Pvt Ltd., Chennai has conducted GLCs study in the receptors from 05.07.2022 to 09.07.2022. M/s. Glens Innovation Labs Pvt Ltd. was submitted the report. The unit will take necessary arrangements against report.</p>

12.	The performance efficiency of the APC devices shall be conducted through a laboratory approved by CPCB and report shall be submitted to TNPCB.	1. The Unit is operating and maintaining the air pollution control equipments efficiently and continuously to achieve the ambient air quality / emission standards as notified by MoEE&CC vide GSR497 (E) dated: 10.05.2016. 2. Every year we have conducting Ambient air quality and Stack monitoring survey through M/s. R&C Environment Lab, Chennai. Subsequently, TNPCB has conducting Ambient air quality and Stack monitoring. The ROA of the Both surveys meets emission standards as notified by MoEE&CC vide GSR497 (E) dated: 10.05.2016. The report is enclosed in Annexure - VII.
13.	Fugitive emission monitoring shall be conducted at cement mill, coal mill and Raw material handling area through a laboratory approved by CPCB and the report shall be submitted to TNPCB.	The unit has engaged NABL accredited and CPCB empaneled laboratory M/s. R&C Environment Lab, Chennai to conduct fugitive emission monitoring. The lab was conducted fugitive emission monitoring and the emission level is within the norms. We herewith submit the report for fugitive emission in Annexure -I.
14.	All continuous emission monitoring systems should be operated as per CPCB CEMs guidelines and the data shall be transmitted as per guidelines. Further the unit shall comply the following:	
a.	Kiln Stack Gaseous Analyzer:	
i.	Sampling flow rate shall be maintained at 60 TPH.	The unit is maintaining the sampling flow rate at 60 TPH.
ii.	NOX value shall be normalized and transmitted as NO2 instead of transmitting as NO.	NOX value is normalized and transmitted as NO2.
iii.	O2 correction shall be given for the NOX values.	O2 correction is given for NOX values.
iv.	Zero check shall be conducted daily and span check shall be conducted once in fortnight.	We have conducting the zero check is on daily basis and we have checked span and we will check in a fort night.
v.	Proper record for drift observations shall be maintained.	We have checking the drift periodically and we will maintain the observation record.
vi.	Analyzer values shall be directly transmitted to the TNPCB/CPCB server without having any intermediate server or PC.	The Analyzer values are directly transmitted to the TNPCB/CPCB server without having any intermediate server or PC.
b.	Kiln stack PM Analyzer:	

i.	Reference sampling port hole shall be provided for calibration/ manual iso kinetic sampling.	The unit is provided sampling port for calibration and manual Iso - kinetic sampling.
ii.	The unit shall ensure that the purge blower filter is not choked for adequate purge air supply to the analyzer.	We are regularly inspecting the purge blower filters and the purge air supply is normal.
iii.	The data shall be normalized and transmitted as mg/ Nm3 instead of mg/ m3.	The Data's are transmitted as mg/Nm3.
iv.	Dust factor check shall be done every month.	The unit has periodically checked the dust factor every month.
v.	The unit shall ensure that the analyzer should be TUV/ MCERTS certified analyzer.	The Unit is utilizing the stack and gaseous analyzers are certified analyzers.
vi.	Analyzer installed for coal mill, cement mill and raw mill shall be serviced and recalibrated since constant values were showing.	The unit was conducted performance calibration of online continuous emission monitoring system.
c.	CAAQMS	
i.	CAAQMS gaseous analyzers shall be serviced and recalibrated since they are not working properly.	The unit was conducted performance calibration of online continuous emission monitoring system.
ii.	The unit shall rectify the filter tapes for PM10 and PM2.5 and ensure that they are working properly.	We have identified and changed the filter tapes in PM10, PM2.5 and it is running normally.
iii.	Calibrator shall be made available at the unit and inhouse calibration shall be done as per the guidelines.	We have calibrating the analyzer periodically and we will maintain the calibration record.
iv.	The performance calibration of all the online analyzers shall be conducted once in a year through a laboratory approved by CPCB and report shall be submitted to TNPCB.	The unit is conducting the performance calibration by CPCB approved laboratory and the report is submitting to TNPCB. We herewith enclosed the Performance calibration report in Annexure - IX .
15.	The unit shall conduct a comprehensive Environmental audit through a laboratory approved by CPCB/MoEF once in a year which includes water audit, ETP/STP adequacy & efficacy, APCD performance efficiency etc., and shall furnish report to TNPCB.	<p>1. For the APCD performance and water audit, every year the unit has conducting Ambient air quality, Stack monitoring survey and water audit through M/s. R&C Environment Lab, Chennai. Subsequently, TNPCB has conduct the Ambient air quality and Stack monitoring survey. The ROA of the both surveys meets emission/effluent standards as notified by MoEE&CC vide GSR497 (E) dated: 10.05.2016. The report is enclosed in Annexure - III, Annexure - VI and Annexure - VII.</p> <p>2. For the STP, the unit has conducting the audit through TNPCB laboratory. We here with enclosed the STP ROA report in Annexure - X.</p>

16.	The unit shall continue to develop greener belt in and around the unit premises.	The unit has been developed in the Existing plant and Colony nearly consisting of 10,000 trees, for Expansion plant along the periphery of the plant 3,000 saplings are planted and maintaining. The total 9 hectares of area was Green Belt developed. As per TNPCB Kurunkadugal scheme, we have planted 1214 saplings inside the plant premises. We will continue the same.
17.	The industry shall operate and maintain the water sprinklers and street sweepers provided by the industry at all times.	<p>1. The unit has installed permanent water sprinkler system water sprinklers 61 No's in Coal yard & Clinker yard areas, 11 No's in Limestone crusher (LS-1) area, 7 No's in Existing plant CCR, 8 No's in Existing plant Cement mill, 6 No's in new plant Gypsum shed road and 13 No's in Packing house road. a) The Portable water sprinkler has provided 2 No's in Existing plant Raw mill and cement mill areas b) 1 No in Existing plant Packing house c) 1 No Expansion plant cement mill d) 2 No's in Coal yard & Clinker yard areas.</p> <p>2. The unit has utilizing the water tanker lorry to spraying the water in the vehicle movement roads.</p> <p>3. The unit has utilizing contract street sweepers for housekeeping the entire premises. The unit has purchased 1 no of Skid loader with Road sweeping attachment for effective housekeeping.</p> <p>4. The unit is operating water sprinklers and engaging street sweepers at all times.</p>
18.	The industry shall improve the house keeping in the entire premises.	<p>1. The Unit has continuously cleaning all internal roads by road sweepers. After road sweeping, water tanker lorry sprays the water on roads to control fugitive emissions.</p> <p>2. We have 1 no. skid loader with road sweeping attachment which one utilized for effective road sweeping purpose.</p>
19.	The industry shall calibrate and maintain the online continuous emission monitoring system provided for the Kilns, Clinker coolers, cement mill & coal mills and also the continuous AAQMS so as to send quality data to the CAC, TNPCB, Chennai.	1. TANCEM is calibrating and maintaining the online continuous emission monitoring system (CEMS) provided in Kiln, Clinker cooler, cement mills & coal mill and CAAQMS periodically. The datas are transmitting continuously to CAC, TNPCB, Chennai and CPCB, Delhi. We herewith enclosed the Performance calibration report in Annexure - IX .
20.	The unit shall ensure that calibration is done at frequent intervals to keep the analyzer intact.	The unit is calibrating the analyzer periodically and maintaining the calibration record.
21.	The unit shall maintain all the online monitors continuously and efficiently and should ensure the online connectivity with Care Air Centre of TNPCB, Chennai to provide proper quality data at all times.	The Unit has maintaining all the online monitors continuously and efficiently. The quality datas are continuously sending to Care Air Centre, TNPCB, Chennai and CPCB, Delhi.

22.	The unit shall continuously operate and maintain the online analyzer and online display board installed in the entrance of the unit efficiently.	The Unit has maintaining all the online monitors continuously and efficiently. The LED online display board is installed in the plant entrance and it is functioning efficiently.
23.	The unit shall ensure that the emission meets the emission standards as notified by MoEE&CC vide GSR497 (E) dated: 10.05.2016 and shall comply with the condition stipulated in the MoEF&CC, O&M, F.No22-34/2018-1A dated 09.08.2018.	1. The Unit is operating and maintaining the air pollution control equipments efficiently and continuously to achieve emission standards prescribed by the board. 2. The Unit has complying with the condition stipulated in the MoEF&CC, O&M,F.No22-34/2018-1A dated:09.08.2018 is enclosed Annexure- II A .
24.	All internal roads shall be cleaned with road sweeper then and there and the house keeping should be done all the time effectively and water sprinkling shall be done frequently so as to arrest the dust spreading due to vehicular movement.	1. The Unit has cleaned all internal roads by road sweepers. After road sweeping, water tanker lorry spray the water on roads to control fugitive emissions. 2. We have 1 no. skid loader with road sweeping attachment which one utilized for effective road sweeping purpose.
25.	The unit shall increase the consumption of ETP sludge with immediate effect.	1. As directed by TNPCB, 41 MTs of ETP sludge has been procured from M/s. Arunachalaa Enterprises during the month of November 2020. We have made an agreement with M/s. Arunachalaa Enterprises for supply of ETP Sludge from Dec'21. The sludge is started consuming in our Plant from Dec'21. 2. The unit has consumed 43.66 MT's of ETP sludge in December 2021, 395.145 MT's of ETP sludge in January 2022, 665.54 MT's of ETP sludge in February 2022, 604.465MT's of ETP sludge in March 2022 and 113.38MT's of ETP sludge in April 2022. In further course, the unit will consume the ETP sludge.
26.	The industry shall utilise /enhance the usage of Alternate Fuels and Raw materials (AFR such as Plastic wastes, Hazardous wastes) for Co-processing/Co-incineration in Cement Kiln so as to improve the Thermal Substitution Ratio (TSR). Also the unit shall provide necessary infrastructure facilities such as feeding system, conveyor systems, etc., for co processing to achieve the TSR of 10% during 2022-23 within 3 months and report to the Board.	1. Our existing cement plant was installed during the year 1979(40 years old). The plant equipments are very old and the technology also. We do not have provision for co- processing of hazardous waste and plastic waste. We are having suspension pre-heaters for kilns and there is no secondary firing in pre-heater system. In this system kiln inlet temperature is very low comparing with pre-calciner kiln. At present the Existing plant was stopped from January - 2021. 2. The Expansion plant was started for commercial production on 21.03.2020, we have proposed to utilization of Alternate Fuels and Raw materials (AFR such as Plastic wastes, Hazardous wastes) for Co-processing/Co-incineration in Expansion kiln.

		<p>3. To implementation of AFR in Expansion plant, the Unit has given work order to M/s. Development Consultants Private Limited, Kolkata to submitting Detailed Project Report (DPR) for implementation of infrastructure facilities for co-processing and co-incineration such as storage, processing, feeding system, conveyor systems, etc. The work order value is Rs.10 Lakhs dated 01.11.2021.</p> <p>4. The Consultant M/s. Development Consultants Private Limited, Kolkata has given Project report at the cost of Rs.30 Crores. The Financial commitment is enclosed in Annexure – XI.</p> <p>Our corporate office has initiated work to get approval from government and initiate the tender procedure.</p> <p>5.After completion of erection and commissioning the infrastructure facilities for AFR, the unit will give the monthly wise target statement and time schedule for achieving TSR 10%.</p> <p>6. In mean time, we have given manual feeding of AFR was utilized in the Expansion kiln at the rate of 0.34%, 0.65% during the month of October-2021, November-2021. We have achieved TSR 0.06 % in the Financial year 2021-2022, 5.61% in the Financial year 2022-2023 and 3.4% in the Financial year 2023-24 (Till Now).</p>
27.	The unit shall immediately take necessary action for providing infrastructure facilities to achieve the TSR as 10% and shall complete the same within 3 months to achieve 10%.	<p>1. Our existing cement plant was installed during the year 1979(40 years old). The plant equipments are very old and the technology also. We do not have provision for co- processing of hazardous waste and plastic waste. We are having suspension pre-heaters for kilns and there is no secondary firing in pre-heater system. In this system kiln inlet temperature is very low comparing with pre-calciner kiln. At present the Existing plant was stopped from January - 2021.</p> <p>2. The Expansion plant was started for commercial production on 21.03.2020, we have proposed to utilization of Alternate Fuels and Raw materials (AFR such as Plastic wastes, Hazardous wastes) for Co-processing/Co-incineration in Expansion kiln.</p> <p>3. To implementation of AFR in Expansion plant, the Unit has given work order to M/s. Development Consultants Private Limited, Kolkata to submitting Detailed Project Report (DPR) for implementation of infrastructure facilities for co-processing and co-incineration such as storage, processing, feeding system, conveyor systems, etc. The work order value is Rs.10 Lakhs dated 01.11.2021.</p>

		<p>4. The Consultant M/s. Development Consultants Private Limited, Kolkata has given Project report at the cost of Rs. 30 Crores. The Financial commitment is enclosed in Annexure – XI.</p> <p>Our corporate office has initiated work to get approval from government and initiate the tender procedure.</p> <p>5. After completion of erection and commissioning the infrastructure facilities for AFR, the unit will give the monthly wise target statement and time schedule for achieving TSR 10%.</p> <p>6. In mean time, we have given manual feeding of AFR was utilized in the Expansion kiln at the rate of 0.34%, 0.65% during the month of October-2021, November-2021. We have achieved TSR 0.06 % in the Financial year 2021-2022, 5.61% in the Financial year 2022-2023 and 3.4% in the Financial year 2023-24 (Till Now).</p>
28.	The industry shall develop more green belt in the premises by planting more number of tree saplings.	The unit has been developed in the Existing plant and Colony nearly consisting of 10,000 trees, for Expansion plant along the periphery of the plant 3,000 saplings are planted and maintaining. The total 9 hectares of area was Green Belt developed. As per TNPCB Kurunkadugal scheme, we have planted 1214 saplings inside the plant premises. We will continue the same.
29.	The unit shall operate the plant without attracting complaints from the nearby Public.	<p>1. The unit is continuously cleaning the roads by Road sweeping machine.</p> <p>2. The unit has utilizing the water tanker lorry to spraying the water in the vehicle movement roads.</p> <p>3. The unit has installed permanent water sprinkler system water sprinklers 61 No's in Coal yard & Clinker yard areas, 11 No's in Limestone crusher (LS-1) area, 7 No's in Existing plant CCR, 8 No's in Existing plant Cement mill, 6 No's in new plant Gypsum shed road and 13 No's in Packing house road. a) The Portable water sprinkler has provided 2 No's in Existing plant Raw mill and cement mill areas b) 1 No in Existing plant Packing house c) 1 No Expansion plant cement mill d) 2 No's in Coal yard & Clinker yard areas.</p> <p>We assure that this kind of lapse will not occur in future.</p>
30.	This consent order does not absolve from obtaining necessary permission / clearance from other Authority or under other Statute as applicable.	The Unit has obtained Permission/Clearance from the Concerned Authorities and Other Statutory.

COMPLIANCE STATUS REPORT FOR WATER ACT AS PER RENEWAL OF CONSENT CONDITIONS OF 2022-24

Special Additional Conditions:

Sl.no	Conditions	Compliance
1.	The unit shall obtain No Objection Certificate (NOC) from the Tamil Nadu Bio Diversity Board/National Bio Diversity Authority if the unit is using any Biological resources or knowledge associated thereto as per the provisions of Biological Diversity Act 2002.	Not applicable.

Additional Conditions:

S.No	CONDITIONS	COMPLIANCE
1.	The Unit shall manufacture only the products for which consent is obtained and shall ensure that the production is within the consented quantity.	The unit is manufacturing only the products which the consent is obtained and the production is within the consented quantity.
2.	The unit shall operate and maintain the Sewage Treatment Plant efficiently and continuously to achieve the Standards prescribed by the Board at all times and the treated sewage shall be utilized for gardening within the premises as reported after meeting standards prescribed by the Board.	As per the Board prescribed standards, The unit has been operating and maintaining the sewage treatment plant efficiently and continuously. TNPCB has testing sewage water analysis monthly which meets standards as notified by MoEE&CC vide GSR497 (E) dated: 10.05.2016. The report is enclosed in Annexure – X .
3.	The industry shall ensure that the sewage either treated or untreated is not discharged outside the premises.	The unit is utilizing the STP treated water for gardening and green belt development. The treated or untreated sewage water is not discharged outside the premises.
4.	The unit shall ensure that no trade effluent generated from the process.	The unit does not produce any trade effluent in the cement manufacturing process.
5.	The unit shall increase the consumption of ETP sludge with immediate effect.	1. As directed by TNPCB, 41 MTs of ETP sludge has been procured from M/s.Arunachalaa Enterprises during the month of November 2020. We have made an agreement with M/s.Arunachalaa Enterprises for supply of ETP Sludge from Dec'21. The sludge is started consuming in our Plant from Dec'21. 2. The unit has consumed 43.66 MT's of ETP sludge in December 2021, 395.145 MT's of ETP sludge in January 2022, 665.54 MT's of ETP sludge in February 2022, 604.465MT's of ETP sludge in March 2022and 113.38MT's of ETP sludge in April 2022. In further course, the unit will consume the ETP sludge.

<p>6.</p>	<p>The industry shall utilise /enhance the usage of Alternate Fuels and Raw materials (AFR such as Plastic wastes, Hazardous wastes) for Co-processing/Co-incineration in Cement Kiln so as to improve the Thermal Substitution Ratio (TSR). Also the unit shall provide necessary infrastructure facilities such as feeding system, conveyor systems, etc., for co processing to achieve the TSR of 10% during 2022-23 within 3 months and report to the Board.</p>	<p>1. Our existing cement plant was installed during the year 1979(40 years old). The plant equipments are very old and the technology also. We do not have provision for co- processing of hazardous waste and plastic waste. We are having suspension pre-heaters for kilns and there is no secondary firing in pre-heater system. In this system kiln inlet temperature is very low comparing with pre-calciner kiln. At present the Existing plant was stopped from January -2021.</p> <p>2. The Expansion plant was started for commercial production on 21.03.2020, we have proposed to utilization of Alternate Fuels and Raw materials (AFR such as Plastic wastes, Hazardous wastes) for Co-processing/Co-incineration in Expansion kiln.</p> <p>3. To implementation of AFR in Expansion plant, the Unit has given work order to M/s. Development Consultants Private Limited, Kolkata to submitting Detailed Project Report (DPR) for implementation of infrastructure facilities for co-processing and co-incineration such as storage, processing, feeding system, conveyor systems, etc. The work order value is Rs.10 Lakhs dated 01.11.2021.</p> <p>4. The Consultant M/s. Development Consultants Private Limited, Kolkata has given Project report at the cost of Rs. 30 Crores. The Financial commitment is enclosed in Annexure - XI.</p> <p>Our corporate office has initiated work to get approval from government and initiate the tender procedure.</p> <p>5. After completion of erection and commissioning the infrastructure facilities for AFR, the unit will give the monthly wise target statement and time schedule for achieving TSR 10%.</p> <p>6. In mean time, we have given manual feeding of AFR was utilized in the Expansion kiln at the rate of 0.34%, 0.65% during the month of October-2021, November-2021. We have achieved TSR 0.06 % in the Financial year 2021-2022, 5.61% in the Financial year 2022-2023 and , 3.4% in the Financial year 2023-24 (Till Now).</p>
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7.	The unit shall immediately take necessary action for providing infrastructure facilities to achieve the TSR as 10% and shall complete the same within 3 months to achieve 10%.	<p>1. Our existing cement plant was installed during the year 1979(40 years old). The plant equipments are very old and the technology also. We do not have provision for co- processing of hazardous waste and plastic waste. We are having suspension pre-heaters for kilns and there is no secondary firing in pre-heater system. In this system kiln inlet temperature is very low comparing with pre-calciner kiln. At present the Existing plant was stopped from January -2021.</p> <p>2. The Expansion plant was started for commercial production on 21.03.2020, we have proposed to utilization of Alternate Fuels and Raw materials (AFR such as Plastic wastes, Hazardous wastes) for Co-processing/Co-incineration in Expansion kiln.</p> <p>3. To implementation of AFR in Expansion plant, the Unit has given work order to M/s. Development Consultants Private Limited, Kolkata to submitting Detailed Project Report (DPR) for implementation of infrastructure facilities for co-processing and co-incineration such as storage, processing, feeding system, conveyor systems, etc.</p> <p>4. The Consultant M/s. Development Consultants Private Limited, Kolkata has given Project report at the cost of Rs. 30 Crores. The Financial commitment is enclosed in Annexure – XI.</p> <p>Our corporate office has initiated work to get approval from government and initiate the tender procedure.</p> <p>5. After completion of erection and commissioning the infrastructure facilities for AFR, the unit will give the monthly wise target statement and time schedule for achieving TSR 10%.</p> <p>6. In mean time, we have given manual feeding of AFR was utilized in the Expansion kiln at the rate of 0.34%, 0.65% during the month of October-2021, November-2021. We have achieved TSR 0.06 % in the Financial year 2021-2022, 5.61% in the Financial year 2022-2023 and, 3.4% in the Financial year 2023-24 (Till Now).</p>
8.	The unit shall always possess valid NOC for water drawl from the competent Authority.	The unit has applied Renewal of NOC for water drawl in the concerned Authority.
9.	The unit shall continue to develop green belt with native species of trees to attenuate the Air/Noise pollution.	The unit has been developed in the Existing plant and Colony nearly consisting of 10,000 trees, for Expansion plant along the periphery of the plant 3,000 saplings are planted and maintaining. The total 9 hectares of area was Green Belt developed. As per TNPCB Kurunkadugal scheme, we have planted 1214 saplings inside the plant premises. We will continue the same.

10.	The unit shall not use “Use and throw away Plastics” such as plastic sheets used for food wrapping, spreading on dining table etc., plastic plates, plastic coated tea cups, plastic tumbler, water pouches and packets, plastic straw, plastic carry bag and plastic flags irrespective of thickness within the industry premises. Instead it shall encourage use of eco-friendly alternatives such as banana leaf, areca nut palm plate, stainless steel glass, porcelain plates cups, cloth bag, jute bags etc.	<p>1. The unit is not using ‘use and throw plastics’ such as plastic sheets used for food wrapping, spreading on dining table etc., plastic plates, plastic coated tea cups, plastic tumbler, water pouches and packets, plastic straw, plastic carry bags and plastic flags irrespective of thickness, within the industry premises.</p> <p>2. The unit is using eco-friendly alternative such as banana leaf, areca nut palm plate, stainless steel, glass, porcelain plates/cups, cloth bag, jute bag etc.,</p>
11.	The unit shall operate the plant without attracting complaints from the nearby Public.	<p>1. The unit is continuously cleaning the roads by newly purchased Road sweeping machine.</p> <p>2. The unit has utilizing the water tanker lorry to spraying the water in the vehicle movement roads.</p> <p>3. The unit has installed permanent water sprinkler system water sprinklers 61 No’s in Coal yard & Clinker yard areas, 11 No’s in Limestone crusher (LS-1) area, 7 No’s in Existing plant CCR, 8 No’s in Existing plant Cement mill, 6 No’s in new plant Gypsum shed road and 13 No’s in Packing house road. a) The Portable water sprinkler has provided 2 No’s in Existing plant Raw mill and cement mill areas b) 1 No in Existing plant Packing house c) 1 No Expansion plant cement mill d) 2 No’s in Coal yard & Clinker yard areas.</p> <p>We assure that this kind of lapse will not occur in future.</p>
12.	This consent order does not absolve from obtaining necessary permission / clearance from other Authority or under other Statute as applicable.	The Unit has obtained Permission/Clearance from the Concerned Authorities and Other Statutory.

Annexure - II A

Compliance Report - MoEF&CC standard EC Conditions for Cement Grinding Units without Captive Power Plants

(Ref: MoEF&CC,O&M,F.No.22-34/2018-1A dated: 09.08.2018)

Sl.no	Conditions	Compliance
I.	Statutory compliance	
i.	The project proponent shall obtain forest clearance under the provisions of Forest (Conservation) Act, 1986, in case of the diversion of forest land for non-forest purpose involved in the project.	Not applicable.
ii.	The project proponent shall obtain clearance from the National Board for Wildlife, if applicable.	Not applicable.
iii.	The project proponent shall prepare a Site-Specific Conservation Plan & Wildlife Management Plan and approved by the Chief Wildlife Warden. The recommendations of the approved Site-Specific Conservation Plan /Wildlife Management Plan shall be implemented in consultation with the State Forest Department. The implementation report shall be furnished along with the six-monthly compliance report. (incase of the presence of schedule-I species in the study area)	Not applicable.
iv.	The project proponent shall obtain Consent to Establish / Operate under the provisions of Air (Prevention & Control of Pollution) Act, 1981 and the Water (Prevention & Control of Pollution) Act, 1974 from the concerned State Pollution Control Board/Committee.	The unit is periodically obtaining the Consent to Operate under the provisions of Air (Prevention & Control of Pollution) Act, 1981 and the Water (Prevention & Control of Pollution) Act, 1974 from the concerned State Pollution Control Board.

v.	The project proponent shall obtain the necessary permission from the Central Ground Water Authority, in case of drawl of ground water / from the competent authority concerned in case of drawl of surface water required for the project.	The unit has applied Renewal of No Objection Certificate from State Ground & Surface Water Resources Data Centre.
vi.	The Project proponent shall obtain authorization under the Hazardous and other Waste Management Rules, 2016 as amended from time to time.	The unit has applied Renewal of authorization under the Hazardous and other Waste Management Rules, 2016 as amended from time to time.
II.	Air quality monitoring and preservation	
i.	The project proponent shall install 24x7 continuous emission monitoring system at process stacks to monitor stack emission with respect to standards prescribed in Environment (Protection) Rules 1986 vide G.S.R. No. 612 (E) dated 25 th August, 2014 (Cement) and subsequent amendment dated 9 th May, 2016 (Cement) and connected to SPCB and CPCB online servers and calibrate these system from time to time according to equipment supplier specification through labs recognized under Environment (Protection) Act, 1986 or NABL accredited laboratories.	<p>1. The unit has installed 24x7 continuous emission monitoring system at process stacks viz. Existing plant stacks (Coal mill, Cooler I&II, Kiln I&II, Cement mill) and Expansion plant stacks (Coal mill, Kiln, Cooler, Cement mill) to monitor stack emissions. The above Existing and Expansion plant stacks data are connected to SPCB online server on 06.04.2016 (Existing plant), 18.10.2019 (Expansion plant) and CPCB online server on 25.01.2017 (Existing plant), 12.04.2021 (Expansion plant). Under the instrumentation department, the above system periodically calibrated by NABL accredited laboratories.</p> <p>2. Every year we have conducting Ambient air quality and Stack monitoring survey through both TNPCB and M/s.R&C Environment Lab, Chennai. The ROA of the both survey meets emission standards as notified by MoEE&CC vide GSR497 (E) dated: 10.05.2016.</p>
ii.	The project proponent shall monitor fugitive emissions in the plant premises at least once in every quarter through labs recognised under Environment (Protection) Act, 1986.	<p>1. The unit is monitoring fugitive emissions in the plant premises at least once in every quarter through labs recognized under Environment (Protection) Act, 1986.</p> <p>2. The unit has engaged NABL accredited and CPCB empanelled laboratory M/s. R&C Environment Lab, Chennai to conduct fugitive emission monitoring. The lab was conducted fugitive emission monitoring and the emission level is within the norms. We herewith submit the report for fugitive emission in</p> <p>Annexure – I.</p>

iii.	<p>The project proponent shall install system carryout to Ambient Air Quality monitoring for common/criterion parameters relevant to the main pollutants released (e.g PM₁₀ and PM_{2.5} in reference to PM emission, and SO₂ and NO_x in reference to SO₂ and NO_x emissions) within and outside the plant area at least at four locations (one within and three outside the plant area at an angle of 120° each), covering upwind and downwind directions. (case to case basis small plants :Manual; Large plants: Continuous)</p>	<ol style="list-style-type: none"> 1. The unit has installed 2 nos of Ambient Air Quality monitoring stations for certain criterion parameters relevant to the main pollutants such as PM₁₀, PM_{2.5}, SO₂, Nox, CO. The above 2 nos of AAQMS covering upwind and Downwind directions at within the plant area. 2. As per the direction of TNPCB/ CPCB, The Unit has analyzed the feasibility to provide Continuous Ambient Air Quality Monitoring Stations (CAAQMS) with respect to ground level concentration around 10/25 km radius. In this location Cement factories are located in cluster. The ground level dust concentration may affect proposed CAAQMS by nearby cement factories. Even though the unit has taken survey for installation of CAAQMS within 10/25 km radius. Each proposed CAAQMS identified locations are falling by Minimum Six industries. The detailed feasibility report for installation of CAAQMS was sent to TNPCB and requested directions and suggestions for installation of proposed CAAQMS. 3. The unit has taken measures to find GLCs in the receptors and identify the locations of proposed CAAQMS station with the help of M/s. Glens Innovation Labs Pvt Ltd., Chennai. The work order was issued to M/s. Glens Innovation Labs Pvt Ltd., Chennai. M/s. Glens Innovation Labs Pvt Ltd., Chennai has conducted GLCs study in the receptors from 05.07.2022 to 09.07.2022. M/s. Glens Innovation Labs Pvt Ltd. was submitted the report. The unit will take necessary arrangements against report.
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iv.	The project proponent shall submit monthly summary report of continuous stack emission and air quality monitoring and results of manual stack monitoring and manual monitoring of air quality / fugitive emissions to Regional Office of MoEF&CC, Zonal office of CPCB and Regional Office of SPCB along with six monthly monitoring report.	The unit herewith submit monthly summary report of continuous stack emission and air quality monitoring to Regional Office of MoEF&CC, Zonal office of CPCB and Regional Office of SPCB along with six monthly monitoring report. The report is enclosed in Annexure - XII .
v.	Appropriate Air Pollution Control (APC) system shall be provided for all the dust generating points including fugitive dust from all vulnerable sources, so as to comply prescribed stack emission and fugitive emission standards.	The unit has provided Air Pollution Control (APC) measures such as Bagfilters and ESP's to control stack emission and fugitive emission. a) The unit has provided 4 Nos. of ESP b) The unit has provided 45 Nos. of Bag filter c) The unit has provided 2 Nos. of RABH d) The unit has provided 2 Nos. of Cyclone separator for controlling stack and fugitive emission.
vi.	The project proponent shall provide leakage detection and mechanised bag cleaning facilities for better maintenance of bags.	The unit has provided leakage detection and mechanised bag cleaning facilities for better maintenance of bags.
vii.	Pollution control system in the cement plant shall be provided as per the CREP Guidelines of CPCB.	The unit has complied all the recommendations made in the Charter on Corporate Responsibility for Environment Protection (CREP) Guidelines of CPCB.
viii.	Sufficient number of mobile or stationery vacuum cleaners shall be provided to clean plant roads, shop floors, roofs, regularly.	1. The unit has utilizing 1 No. of mobile vacuum cleaners to clean plant shop floors, roofs regularly. 2. The unit has utilizing 1 no. of Skid loader with road sweeping attachment to clean plant roads regularly.
ix.	Ensure covered transportation and conveying of raw material to prevent spillage and dust generation; Use closed bulkers for carrying fly ash.	The unit has provided covered transportation and conveying of raw material to prevent spillage and used to carry fly-ash in closed bulkers while transportation.
x.	Provide wind shelter fence and chemical spraying on the raw material stock piles; and	The unit will provide wind shelter fence and chemical spraying on the raw material stock piles.
xi.	Have separate truck parking area and monitor vehicular emissions at regular interval.	1. The unit has provided separate Truck parking area. 2. The unit is regularly monitoring vehicular emissions.

xii.	Efforts shall be made to reduce impact of the transport of the raw materials and end products on the surrounding environment including agricultural land by the use of covered conveyor belts/railways as a mode of transport.	1. The unit has taken measures to reduce impact of the transport of the raw materials and end products on the surrounding environment. 2. The unit is using conveyors/rail mode for raw materials and end products transport.
xiii.	Ventilation system shall be designed for adequate air changes as per ACGIH document for all tunnels, motor houses, cement bagging plants.	In Existing plant clinker tunnel is provided with forced air circulation by using cyclone separator and fan. Presently, the unit is operating as natural ventilation system. Even though we have taken measures to provide mechanical ventilation system as per design of ACGIH document in all tunnels, motor houses, cement bagging plants.
III	Water quality monitoring and preservation	
i.	The project proponent shall install effluent monitoring system with respect to standards prescribed in Environment (Protection) Rules 1986 vide G.S.R No.612 (E) dated 25 th August, 2014 (Cement) and subsequent amendment dated 9th May, 2016 (Cement) and connected to SPCB and CPCB online servers and calibrate these system from time to time according to equipment supplier specification through labs recognized under Environment (Protection) Act, 1986 or NABL accredited laboratories. (case to case basis small plants: Manual; Large plants: continuous)	The unit does not produce any effluent in the cement manufacturing process.
ii.	The project proponent shall monitor regularly ground water quality at least twice a year (pre and post monsoon) at sufficient numbers of piezometers/sampling wells in the plant and adjacent areas through labs recognized under Environment (Protection) Act, 1986 and NABL accredited laboratories.	The unit is monitoring ground water quality regularly. The report is enclosed in Annexure – III .

iii.	The project proponent shall submit monthly summary report of continuous effluent monitoring and results of manual effluent testing and manual monitoring of ground water quality to Regional Office of MoEF&CC, Zonal office of CPCB and Regional Office of SPCB along with six-monthly monitoring report.	1. The unit does not produce any effluent in the cement manufacturing process. 2. The unit has engaged NABL accredited and CPCB empanelled laboratory M/s. R&C Environment Lab, Chennai to monitor the ground water quality. The report is enclosed in Annexure – III .
iv.	Adhere to 'Zero Liquid Discharge'.	The unit has installed Sewage Treatment Plant which treats the sewage water. The treated sewage water is using for green belt development.
v.	Sewage Treatment Plant shall be provided for treatment of domestic wastewater to meet the prescribed standards.	As per the Board prescribed standards, the unit has been operating and maintaining the sewage treatment plant efficiently and continuously.
vi.	Garland drains and collection pits shall be provided for each stock pile to arrest the run-off in the event of heavy rains and to check the water pollution due to surface runoff.	The unit will provide Garland drains and collection pits for each stock pile to arrest the run-off in the event of heavy rains.
vii.	The project proponent shall practice rainwater harvesting to maximum possible extent.	1. Rain water harvesting work is under process for all the buildings in the new Plant. 2. The capacity of the old reservoir in the TANCEM Colony was enhanced to store more water.
viii.	Water meters shall be provided at the inlet to all unit processes in the cement plant.	1. The unit has provided water meters at the inlet of the plant. 2. The unit has taken measures to provide water meters in all unit processes in the cement plant.
ix.	The project proponent shall make efforts to minimize water consumption in the cement plant complex by segregation of used water, practicing cascade use and by recycling treated water.	The unit has taken measures to minimize water consumption in the cement plant complex by segregation of used water, practicing cascade use and by recycling treated water.

IV	Noise monitoring and prevention	
i.	Noise level survey shall be carried as per the prescribed guidelines and report in this regard shall be submitted to Regional Officer of the Ministry as a part of six-monthly compliance report.	The unit has conducting the Noise level survey every year through TNPCB laboratory and M/s.R&C Environment Lab, Chennai.
ii.	The ambient noise levels should conform to the standards under E(P)A Rules, 1986 viz. 75 dB(A) during night time.	1. Noise control measuring including acoustic hoods, silencers, enclosures etc, are provided in all the required areas. 2. The Unit has maintaining the ambient noise level within the Standards prescribed by the Board.
V	Energy Conservation measures	
i.	Provide solar power generation on roof tops of buildings, for solar light system for all common areas, street lights, parking around project area and maintain the same regularly.	Solar light system has been provided in our TANCEM Hospital and school areas. The solar light system for all common areas, street lights, villages, parking around project area work is under progress.
ii.	Provide the project proponent for LED lights in their offices and residential areas.	The LED lights are provided in the Expansion plant and Existing plant premises. The LED lights installation works in residential areas is under progress.
iii.	Maximize utilization of fly ash, slag and sweetener in cement blend as per BIS standards.	The unit is utilizing the wet fly ash and dry fly ash in cement blend as per BIS standards.
VI	Waste management	
i.	The waste oil, grease and other hazardous shall be disposed of as per the Hazardous & Other waste (Management & Transboundary Movement) Rules,2016.	The unit is disposing used oil hazardous waste as per the Hazardous & Other waste (Management & Transboundary Movement) Rules,2016.
ii.	Kitchen waste shall be composed or converted to biogas for further use. (to be decided on case to case basis depending on type and size of plant)	The unit has taken measures to utilize Kitchen waste and converted to biogas for further use.

VII	Green Belt	
i.	Green belt shall be developed in an area equal to 33% of the plant area with a native tree species in accordance with CPCB guidelines. The green belt shall inter alia cover the entire periphery of the plant.	The unit has been developed in the Existing plant and Colony nearly consisting of 10,000 trees, for Expansion plant along the periphery of the plant 3,000 saplings are planted and maintaining. The total 9 hectares of area was Green Belt developed. As per TNPCB Kurunkadugal scheme, we have planted 1095 saplings inside the plant premises. We will continue the same.
ii.	The project proponent shall prepare GHG emissions inventory for the plant and shall submit the programme for reduction of the same including carbon sequestration including plantation.	The unit has taken measures to prepare GHG emissions inventory for the plant.
VIII	Public hearing and Human health issues	
i.	Emergency preparedness plan based on the Hazard identification and Risk Assessment (HIRA) and Disaster Management Plan shall be implemented.	The unit has implemented Disaster Management Plan. (Annexure-V)
ii.	The PP shall provide Personal Protection Equipment (PPE) as per the norms of Factory Act.	The unit has provided Personal Protective Equipment(PPE).
iii.	Provision shall be made for the housing of construction labour within the site with all necessary infrastructure facilities such as fuel for cooking, mobile toilets, mobile STP, safe drinking water, medical health care, crèche etc. The housing may be in the form of temporary structures to be removed after the completion of the project.	1. The Unit has provided housing of construction labor and all necessary infrastructure facilities for the construction labor. 2. The project was completed and we removed the temporary structures for labor colony and toilets.
iv.	Occupational health surveillance of the workers shall be done on a regular basis and records maintained as per the Factories Act.	Surveillance of the workers is regularly done and records maintained as per the factories act.

IX	Corporate Environment Responsibility	
i.	The project proponent shall comply with the provisions contained in this Ministry's OM vide F.No. 22-65/2017-1A.III dated 1st May 2018, as applicable, regarding Corporate Environment Responsibility.	The unit is complying the Corporate Environment Responsibility.
ii.	The company shall have a well laid down environmental policy duly approve by the Board of Directors. The environmental policy should prescribe for standard operating procedures to have proper checks and balances and to bring into focus any infringements/deviation/violation of the environmental /forest /wildlife norms / conditions. The company shall have defined system of reporting infringements/deviation/violation of the environmental /forest /wildlife norms / conditions and / or shareholders / stake holders. The copy of the board resolution in this regard shall be submitted to the MoEF&CC as a part of six-monthly report.	The unit has prepared an Environmental Policy with standard operating procedures.
iii.	A separate Environmental Cell both at the project and company head quarter level, with qualified personnel shall be set up under the control of senior Executive, who will directly to the head of the organization.	The unit will take necessary action to provide separate Environment Cell both at the unit and company head quarter level.
a.	Action plan for implementing EMP and environmental conditions along with responsibility matrix of the company shall be prepared and shall be duly approved by competent authority. The year wise funds earmarked for environmental protection measures shall be kept in separate account and not to be diverted for any other purpose. Year wise progress of implementation of action plan shall be reported to the Ministry/ Regional Office along with the Six Monthly Compliance Report.	For EMP, The Unit has allotted an amount of Rs.50 crores for pollution control equipment for Expansion Plant and Recurring expenditure of Rs 4.72 crores has spent.

iv.	Self environmental audit shall be conducted annually. Every three years third party environmental audit shall be carried out.	1. The unit has conducting environmental audit every year. 2. Every year the unit has conducting Ambient air quality, Stack monitoring and Ground water quality survey through M/s.R&C Environment Lab, Chennai. The Report of the survey meets emission standards as notified by MoEE&CC vide GSR497 (E) dated: 10.05.2016.
v.	All the recommendations made in the Charter on Corporate Responsibility for Environment Protection (CREP) for the cement plants shall be implemented.	The unit has completed all the recommendations made in the Charter on Corporate Responsibility for Environment Protection (CREP).
X	Miscellaneous	
i.	The project proponent shall make public the environmental clearance granted for their project along with the Environmental conditions and safeguards at their cost by prominently advertising it at least in two local newspapers of the District or State, of which one shall be in the vernacular language within seven days and in addition this shall also be displayed in the project proponent's website permanently.	Project clearance had been advertised in the local two newspapers. The clearance letter was also uploaded in TANCEM's website.
ii.	The copies of the environmental clearance shall be submitted by the project proponents to the heads of local bodies, Panchayats and Municipal Bodies in addition to the relevant offices of the Government who in turn has to display the same for 30 days from the date of receipt.	The Unit has submitted copy of clearance letter to local panchayat.
iii.	The project proponent shall upload the status of compliance of the stipulated environment clearance conditions, including results of monitored data on their website and update the same on half-yearly basis.	The unit is uploaded the status of compliance of the stipulated environment clearance conditions, including results of monitored data in our TANCEM website and updating the same periodically.

iv.	The project proponent shall monitor the criteria pollutants level namely: PM ₁₀ , SO ₂ , NO _x (Ambient levels as well as stack emissions) or critical sectoral parameters, indicated for the projects and display the same at a convenient location for disclosure to the public and put on the website of the company.	LED display board commissioned and displayed in front of our main gate for the existing plant and expansion plant emission data.
v.	The project proponent shall submit six-monthly reports on the status of the compliance of the stipulated environmental conditions on the website of the ministry of environment, Forest and Climate change at environment clearance portal.	The unit has submitting six monthly reports on the status of the compliance of the stipulated environmental conditions on the website of the ministry of environment, Forest and Climate change at environment clearance portal.
vi.	The project proponent shall submit the environmental statement for each financial year in Form-V to the concerned state pollution control board as prescribed under the Environment (Protection) Rules, 1986, as amended subsequently and put on the website of the company.	The Unit has submitting Environmental statement for each financial year ending 31st March in Form-V and compliance of Environmental conditions to the TNPCB and regional office of MOEF&CC Chennai. The environmental statement is enclosed in Annexure - VIII .
vii.	The project proponent shall inform the Regional Office as well as the ministry, the date of financial closure and final approval of the project by the concerned authorities, commencing the land development work and start of production operation by the project.	The plant commercial production started on 21.03.2020. The land development work is under progress.
a.	The project authorities must strictly adhere to the stipulations made by the state Pollution Control Board and the State Government.	The Unit has strictly adhere to the stipulations made by the TamilNadu Pollution Control Board and the State Government.
b.	The project proponent shall abide by all the commitments and recommendations made in the EIA/EMP report, commitment made during Public Hearing and also that during their presentation to the Expert Appraisal Committee.	The unit is abiding all the commitments and recommendations made in the EIA/EMP report, commitment made during Public Hearing and also that during their presentation to the Expert Appraisal Committee.

viii.	No further expansion or modifications in the plant shall be carried out without prior approval of the Ministry of Environment, Forests and Climate Change (MoEF & CC).	The Unit will not carry out any expansion or modifications without prior approval of the Ministry of Environment, Forests and Climate Change (MoEF&CC).
ix.	Concealing factual data or submission of false/fabricated data may result in revocations of this environmental clearance and attract action under the provisions of Environment (Protection) Act, 1986.	The unit will not submit the false/fabricated data to the Ministry of Environment, Forests and Climate Change (MoEF&CC).
x.	The Ministry may revoke or suspend the clearance, if implementation of any of the above conditions is not satisfactory.	Agreed.
xi.	The Ministry reserves the right to stipulate additional conditions if found necessary. The Company in a time bound manner shall implement these conditions.	Agreed. The unit will implement the Ministry additional conditions in time bound manner.
xii.	The Regional Office of this Ministry shall monitor compliance of the stipulated conditions. The project authorities should extend full cooperation to the officer (s) of the Regional Office by furnishing the requisite data / information/monitoring reports.	Agreed.

xiii.	The above conditions shall be enforced, inter-alia under the provisions of the Water (Prevention & Control of Pollution) Act, 1974, the Air (Prevention & Control of Pollution) Act, 1981, the Environment (Protection) Act, 1986, Hazardous and Other Wastes (Management and Transboundary Movement) Rules,2016 and the Public Liability Insurance Act, 1991 along with their amendments and Rules and any other orders passed by the Hon'ble Supreme Court of India / High Courts and any other Court of Law relating to the subject matter.	The unit will follow.
xiv.	Any appeal against this EC shall lie with the National Green Tribunal, if preferred, within a period of 30 days as prescribed under Section 16 of the National Green Tribunal Act, 2010.	Agreed.

Richardson & Cruddas (1972) Ltd.

(A Government of India undertaking)

रिचर्डसन एण्ड क्रुडस (१९७२) लिमिटेड

(भारत सरकार का उपक्रम)



स्थापना १८५८
ESTD 1858
ISO 9001 Co.,

इंजिनियर्स

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ISO 14001 ENVIRONMENTAL MANAGEMENT
ISO 45001 SAFETY MANAGEMENT



CERT No. TC-7742

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ENVIRONMENTAL ENGINEERING LABORATORY

(Recognized by Central Pollution Control Board / MoEF/Accredited by NABL)

TEST REPORT

Issued to	M/s.TAMILNADU CEMENTS CORPORATION LTD., (TANCEM), Ariyalur Cement Factory, Ariyalur, Tamil Nadu - 621 729.		
Reference	Acknowledgement Receipt number : 3099	Report Number	TC774223011343F
Sample Description	Kallar Bore well water sample (5 Ltrs)		
Sample drawn By	R&C Environment Lab.	Sampling date	31.03.2023
Sampling Method	R&C/EEL/LQMS/SOP-041	Test commenced on	31.03.2023
Report date	13.04.2023	Test completed on	12.04.2023

Sl.No.	PARAMETER(s)	Unit	RESULT	TEST METHOD	IS:10500:2018 LIMITS	
					Acceptable	Permissible
1.	pH	-	7.42	IS 3025 Part 11 (Reaff. 2022)	6.5 - 8.5	No relaxation
2.	Colour	Hazen	<5	IS 3025 Part 4 (Reaff. 2021)	5	25
3.	Odour	Agreeable	Un-Objectionable	IS 3025 Part 5 (Reaff. 2018)	Agreeable	Agreeable
4.	Temperature	°C	25.0	IS 3025 Part 9 (Reaff. 2022)	-	-
5.	Taste	Agreeable	Un-Objectionable	IS 3025 Part 7&8 (Reaff. 2022)	Agreeable	Agreeable
6.	Turbidity	NTU	1.8	IS 3025 Part 10 (Reaff. 2022)	1	5
7.	Conductivity	µmhos/cm	1339	IS 3025 Part 14 (Reaff. 2022)	-	-
8.	Total Dissolved Solids	mg/l	872	IS 3025 Part 16 (Reaff. 2023)	500	2000
9.	Aluminium (as Al)	mg/l	BDL (DL: 0.01)	IS 3025 Part 55 (Reaff. 2019)	0.03	0.2
10.	Ammonia (as total ammonia-N)	mg/l	0.18	IS 3025 Part 34 (Reaff. 2019)	0.5	No relaxation
11.	Anionic detergents (as MBAS)	mg/l	BDL (DL: 0.01)	Annex K of IS 13428	0.2	1.0
12.	Total Silica (as SiO ₂)	mg/l	34.2	IS 3025 Part 35 (Reaff. 2019)	-	-

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स्थापना १८५८
ESTD 1858
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Richardson & Cruddas (1972) Ltd.

(A Government of India undertaking)

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(भारत सरकार का उपक्रम)



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ENVIRONMENTAL ENGINEERING LABORATORY

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Reference	: Acknowledgement Receipt number : 3099			Report Number	: TC774223011343F	
13.	Barium (as Ba)	mg/l	BDL (DL: 0.01)	Annex F of IS 13428	0.7	No relaxation
14.	Boron (as B)	mg/l	BDL (DL: 0.01)	IS 3025 Part 57 (Reaff. 2019)	0.5	1.0
15.	Calcium (as Ca)	mg/l	58	IS 3025 Part 40 (Reaff. 2019)	75	200
16.	Chloramines (as NH ₂ Cl)	mg/l	5.2	IS 3025 Part 26 (Reaff. 2019)	4.0	No relaxation
17.	Chlorides (as Cl)	mg/l	182	IS 3025 Part 32 (Reaff. 2019)	250	1000
18.	Copper (as Cu)	mg/l	0.20	IS 3025 Part 42 (Reaff. 2019)	0.05	1.5
19.	Fluoride (as F)	mg/l	0.32	APHA 24 th Edn. 4500 F B,D	1.0	1.5
20.	Free residual chlorine	mg/l	BDL (DL: 0.1)	IS 3025 Part 26 (Reaff. 2019)	0.2	1.0
21.	Iron (as Fe)	mg/l	0.36	APHA 24 th Edn. 3111 B	0.3	No relaxation
22.	Magnesium (as Mg)	mg/l	20	IS 3025 Part 46 (Reaff. 2019)	30	100
23.	Manganese (as Mn)	mg/l	BDL (DL: 0.01)	IS 3025 Part 59 (Reaff. 2019)	0.1	0.3
24.	Mineral oil	mg/l	BDL (DL: 0.01)	Clause 6 of IS 3025 - (Part 39) Infrared	0.5	No relaxation
25.	Nitrate (as NO ₃)	mg/l	8.12	IS 3025 Part 34 (Reaff. 2019)	45	No relaxation
26.	Phenolic compounds (as C ₆ H ₅ OH)	mg/l	BDL (DL: 0.01)	IS 3025 Part 43 (Reaff. 2019)	0.001	0.002
27.	Selenium (as Se)	mg/l	BDL (DL: 0.001)	IS 3025 Part 56 (Reaff. 2019)	0.01	No relaxation
28.	Strontium (as Sr)	mg/l	BDL (DL: 0.001)	APHA 24 th Edn. 3500 Sr B	0.01	No relaxation
29.	Silver (as Ag), mg/l	mg/l	BDL (DL: 0.001)	Annex J of IS 13428	0.1	No relaxation
30.	Sulphate (as SO ₄)	mg/l	134	APHA 24 th Edn. 4500 SO ₄ B	200	400
31.	Sulphide (as H ₂ S)	mg/l	BDL (DL: 0.001)	IS 3025 Part 29 (Reaff. 2019)	0.05	No relaxation
32.	Alkalinity to Phenolphthalein	mg/l	BDL (DL: 1.0)	IS 3025 Part 23 (Reaff. 2019)	-	-
33.	Alkalinity to Methyl Orange	mg/l	148	IS 3025 Part 23 (Reaff. 2019)	200	600
34.	Total Hardness (as CaCO ₃)	mg/l	228	IS 3025 Part 21 (Reaff. 2019)	200	600

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ISO 9001 QUALITY MANAGEMENT
ISO 14001 ENVIRONMENTAL MANAGEMENT
ISO 45001 SAFETY MANAGEMENT

ENVIRONMENTAL ENGINEERING LABORATORY

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Reference	: Acknowledgement Receipt number : 3099		Report Number		: TC774223011343F	
35.	Zinc (as Zn)	mg/l	5.26	IS 3025 Part 49 (Reaff. 2019)	5	15
36.	Cadmium (as Cd)	mg/l	BDL (DL: 0.001)	IS 3025 Part 41 (Reaff. 2019)	0.003	No relaxation
37.	Cyanide (as CN)	mg/l	BDL (DL: 0.001)	IS 3025 Part 27 (Reaff. 2019)	0.05	No relaxation
38.	Lead (as Pb)	mg/l	BDL (DL: 0.001)	IS 3025 Part 47 (Reaff. 2019)	0.01	No relaxation
39.	Mercury (as Hg)	mg/l	BDL (DL: 0.001)	IS 3025 Part 48 (Reaff. 2019)	0.001	No relaxation
40.	Molybdenum (as Mo)	mg/l	BDL (DL: 0.001)	IS 3025 Part 2 (Reaff. 2017)	0.07	No relaxation
41.	Nickel (as Ni)	mg/l	BDL (DL: 0.01)	IS 3025 Part 54 (Reaff. 2019)	0.02	No relaxation
42.	Pesticides	µg/l	BDL (DL: 0.001)	USEPA 525.2, 8141 A	0.04	No relaxation
43.	Polychlorinated biphenyls	mg/l	BDL (DL: 0.001)	ASTM 5175	0.0005	No relaxation
44.	Polynuclear aromatic hydrocarbons (as PAH)	mg/l	BDL (DL: 0.0001)	APHA 24 th Edn. 6440	0.0001	No relaxation
45.	Total arsenic (as As)	mg/l	BDL (DL: 0.001)	IS 3025 Part 37 (Reaff. 2019)	0.01	0.05
46.	Total chromium (as Cr)	mg/l	BDL (DL: 0.001)	IS 3025 Part 52 (Reaff. 2019)	0.05	No relaxation
47.	Trihalomethanes:					
a)	Bromoform	mg/l	BDL (DL: 0.01)	APHA 24 th Edn. 6232	0.1	No relaxation
b)	Dibromochloromethane	mg/l	BDL (DL: 0.01)	APHA 24 th Edn. 6232	0.1	No relaxation
c)	Bromodichloromethane	mg/l	BDL (DL: 0.01)	APHA 24 th Edn. 6232	0.06	No relaxation
d)	Chloroform	mg/l	BDL (DL: 0.01)	APHA 24 th Edn. 6232	0.2	No relaxation

Note: The above water sample analyzed few parameters values are exceeding the acceptable limits as per IS:10500-2012 norms, so necessary treatment is required before use for domestic / potable usage. BDL - Below the Detectable Limit, DL - Detection Limit. Hyphen(-) denotes limits not provided by Bureau of Indian Standard as per IS 10500.

**** End of the Report ****



Authorized Signatory
Technical Manager - Er.Arunkumar.V

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स्थापना १८५८
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ISO 14001 ENVIRONMENTAL MANAGEMENT
ISO 45001 SAFETY MANAGEMENT

ENVIRONMENTAL ENGINEERING LABORATORY

(Recognized by Central Pollution Control Board / MoEF/Accredited by NABL)

TEST REPORT

Issued to	: M/s.TAMILNADU CEMENTS CORPORATION LTD., (TANCEM), Ariyalur Cement Factory, Ariyalur, Tamil Nadu - 621 729.		
Reference	: Acknowledgement Receipt number : 3099	Report Number	: TC774223011343F
Sample Description	: Kallar Bore well water sample (2 Ltrs)		
Sample drawn By	: R&C Environment Lab.	Sampling date	: 31.03.2023
Sampling Method	: R&C/EEL/LQMS/SOP-041	Test commenced on	: 31.03.2023
Report date	: 13.04.2023	Test completed on	: 12.04.2023

Sl.No.	PARAMETER(s)	Unit	RESULT	TEST METHOD	IS:10500:2018 LIMITS	
					Acceptable	Permissible
Bacteriological Parameters						
48.	Total Bacterial Count	MPN/100ml	-197-	APHA 23 rd Edn. 9221	Absent	Absent
49.	Faecal Coliforms	MPN/100ml	-125-	APHA 23 rd Edn. 9221,E	Absent	Absent
50.	Escherichia - Coli	MPN/100ml	-55-	APHA 23 rd Edn. 9221,F	Absent	Absent

Note: The above water sample analyzed Bacteriological parameters results are exceeding the acceptable limits as per IS:10500-2012 norms, so necessary treatment is required before use for Potable / Domestic purpose. NTU - Nephelometric Turbidity Unit, MPN - Most Probable Number.

**** End of the Report ****



(Signature)

Authorized Signatory

(Technical Manager - Er.Arunkumar.V)

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ESTD 1858
ISO 9001 Co.,

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(Recognized by Central Pollution Control Board / MoEF/Accredited by NABL)

TEST REPORT

Issued to	M/s.TAMILNADU CEMENTS CORPORATION LTD., (TANCEM), Ariyalur Cement Factory, Ariyalur, Tamil Nadu - 621 729.		
Reference	Acknowledgement Receipt number : 3099	Report Number	TC774223011341F
Sample Description	Colony Bore well water sample (5 Ltrs)		
Sample drawn By	R&C Environment Lab.	Sampling date	31.03.2023
Sampling Method	R&C/EEL/LQMS/SOP-041	Test commenced on	31.03.2023
Report date	13.04.2023	Test completed on	12.04.2023

Sl.No.	PARAMETER(s)	Unit	RESULT	TEST METHOD	IS:10500:2018 LIMITS	
					Acceptable	Permissible
1.	pH	-	7.48	IS 3025 Part 11 (Reaff. 2022)	6.5 - 8.5	No relaxation
2.	Colour	Hazen	<5	IS 3025 Part 4 (Reaff. 2021)	5	25
3.	Odour	Agreeable	Un-Objectionable	IS 3025 Part 5 (Reaff. 2018)	Agreeable	Agreeable
4.	Temperature	°C	25.0	IS 3025 Part 9 (Reaff. 2022)	-	-
5.	Taste	Agreeable	Un-Objectionable	IS 3025 Part 7&8 (Reaff. 2022)	Agreeable	Agreeable
6.	Turbidity	NTU	1.6	IS 3025 Part 10 (Reaff. 2022)	1	5
7.	Conductivity	µmhos/cm	1335	IS 3025 Part 14 (Reaff. 2022)	-	-
8.	Total Dissolved Solids	mg/l	886	IS 3025 Part 16 (Reaff. 2023)	500	2000
9.	Aluminium (as Al)	mg/l	BDL (DL: 0.01)	IS 3025 Part 55 (Reaff. 2019)	0.03	0.2
10.	Ammonia (as total ammonia-N)	mg/l	0.16	IS 3025 Part 34 (Reaff. 2019)	0.5	No relaxation
11.	Anionic detergents (as MBAS)	mg/l	BDL (DL: 0.01)	Annex K of IS 13428	0.2	1.0
12.	Total Silica (as SiO ₂)	mg/l	32.4	IS 3025 Part 35 (Reaff. 2019)	-	-

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Reference	: Acknowledgement Receipt number : 3099			Report Number : TC774223011341F		
13.	Barium (as Ba)	mg/l	BDL (DL: 0.01)	Annex F of IS 13428	0.7	No relaxation
14.	Boron (as B)	mg/l	BDL (DL: 0.01)	IS 3025 Part 57 (Reaff. 2019)	0.5	1.0
15.	Calcium (as Ca)	mg/l	54	IS 3025 Part 40 (Reaff. 2019)	75	200
16.	Chloramines (as NH ₂ Cl)	mg/l	4.2	IS 3025 Part 26 (Reaff. 2019)	4.0	No relaxation
17.	Chlorides (as Cl)	mg/l	168	IS 3025 Part 32 (Reaff. 2019)	250	1000
18.	Copper (as Cu)	mg/l	0.12	IS 3025 Part 42 (Reaff. 2019)	0.05	1.5
19.	Fluoride (as F)	mg/l	0.24	APHA 24 th Edn. 4500 F B,D	1.0	1.5
20.	Free residual chlorine	mg/l	BDL (DL: 0.1)	IS 3025 Part 26 (Reaff. 2019)	0.2	1.0
21.	Iron (as Fe)	mg/l	0.32	APHA 24 th Edn. 3111 B	0.3	No relaxation
22.	Magnesium (as Mg)	mg/l	18	IS 3025 Part 46 (Reaff. 2019)	30	100
23.	Manganese (as Mn)	mg/l	BDL (DL: 0.01)	IS 3025 Part 59 (Reaff. 2019)	0.1	0.3
24.	Mineral oil	mg/l	BDL (DL: 0.01)	Clause 6 of IS 3025 - (Part 39) Infrared	0.5	No relaxation
25.	Nitrate (as NO ₃)	mg/l	6.72	IS 3025 Part 34 (Reaff. 2019)	45	No relaxation
26.	Phenolic compounds (as C ₆ H ₅ OH)	mg/l	BDL (DL: 0.01)	IS 3025 Part 43 (Reaff. 2019)	0.001	0.002
27.	Selenium (as Se)	mg/l	BDL (DL: 0.001)	IS 3025 Part 56 (Reaff. 2019)	0.01	No relaxation
28.	Strontium (as Sr)	mg/l	BDL (DL: 0.001)	APHA 24 th Edn. 3500 Sr B	0.01	No relaxation
29.	Silver (as Ag), mg/l	mg/l	BDL (DL: 0.001)	Annex J of IS 13428	0.1	No relaxation
30.	Sulphate (as SO ₄)	mg/l	124	APHA 24 th Edn. 4500 SO ₄ B	200	400
31.	Sulphide (as H ₂ S)	mg/l	BDL (DL: 0.001)	IS 3025 Part 29 (Reaff. 2019)	0.05	No relaxation
32.	Alkalinity to Phenolphthalein	mg/l	BDL (DL: 1.0)	IS 3025 Part 23 (Reaff. 2019)	-	-
33.	Alkalinity to Methyl Orange	mg/l	132	IS 3025 Part 23 (Reaff. 2019)	200	600
34.	Total Hardness (as CaCO ₃)	mg/l	210	IS 3025 Part 21 (Reaff. 2019)	200	600

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Reference	: Acknowledgement Receipt number : 3099			Report Number : TC774223011341F		
35.	Zinc (as Zn)	mg/l	4.32	IS 3025 Part 49 (Reaff. 2019)	5	15
36.	Cadmium (as Cd)	mg/l	BDL (DL: 0.001)	IS 3025 Part 41 (Reaff. 2019)	0.003	No relaxation
37.	Cyanide (as CN)	mg/l	BDL (DL: 0.001)	IS 3025 Part 27 (Reaff. 2019)	0.05	No relaxation
38.	Lead (as Pb)	mg/l	BDL (DL: 0.001)	IS 3025 Part 47 (Reaff. 2019)	0.01	No relaxation
39.	Mercury (as Hg)	mg/l	BDL (DL: 0.001)	IS 3025 Part 48 (Reaff. 2019)	0.001	No relaxation
40.	Molybdenum (as Mo)	mg/l	BDL (DL: 0.001)	IS 3025 Part 2 (Reaff. 2017)	0.07	No relaxation
41.	Nickel (as Ni)	mg/l	BDL (DL: 0.01)	IS 3025 Part 54 (Reaff. 2019)	0.02	No relaxation
42.	Pesticides	µg/l	BDL (DL: 0.001)	USEPA 525.2, 8141 A	0.04	No relaxation
43.	Polychlorinated biphenyls	mg/l	BDL (DL: 0.001)	ASTM 5175	0.0005	No relaxation
44.	Polynuclear aromatic hydrocarbons (as PAH)	mg/l	BDL (DL: 0.0001)	APHA 24 th Edn. 6440	0.0001	No relaxation
45.	Total arsenic (as As)	mg/l	BDL (DL: 0.001)	IS 3025 Part 37 (Reaff. 2019)	0.01	0.05
46.	Total chromium (as Cr)	mg/l	BDL (DL: 0.001)	IS 3025 Part 52 (Reaff. 2019)	0.05	No relaxation
47.	Trihalomethanes:					
a)	Bromoform	mg/l	BDL (DL: 0.01)	APHA 24 th Edn. 6232	0.1	No relaxation
b)	Dibromochloromethane	mg/l	BDL (DL: 0.01)	APHA 24 th Edn. 6232	0.1	No relaxation
c)	Bromodichloromethane	mg/l	BDL (DL: 0.01)	APHA 24 th Edn. 6232	0.06	No relaxation
d)	Chloroform	mg/l	BDL (DL: 0.01)	APHA 24 th Edn. 6232	0.2	No relaxation

Note: The above water sample analyzed few parameters values are exceeding the acceptable limits as per IS:10500-2012 norms, so necessary treatment is required before use for domestic / potable usage. BDL - Below the Detectable Limit, DL - Detection Limit. Hyphen(-) denotes limits not provided by Bureau of Indian Standard as per IS 10500.

**** End of the Report ****

Authorized Signatory
(Technical Manager - Er.Arunkumar.V)

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ESTD 1858
ISO 9001 Co.,

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रिचर्डसन एण्ड क्रुडस (१९७२) लिमिटेड

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Certificate No. BE - 15 QMS 5840



ENVIRONMENTAL ENGINEERING LABORATORY

(Recognized by Central Pollution Control Board / MoEF/Accredited by NABL)

TEST REPORT

Issued to	M/s.TAMILNADU CEMENTS CORPORATION LTD., (TANCEM), Ariyalur Cement Factory, Ariyalur, Tamil Nadu - 621 729.		
Reference	Acknowledgement Receipt number : 3099	Report Number	TC774223011341F
Sample Description	Colony Bore well water sample (2 Ltrs)		
Sample drawn By	R&C Environment Lab.	Sampling date	31.03.2023
Sampling Method	R&C/EEL/LQMS/SOP-041	Test commenced on	31.03.2023
Report date	13.04.2023	Test completed on	12.04.2023

Sl.No.	PARAMETER(s)	Unit	RESULT	TEST METHOD	IS:10500:2018 LIMITS	
					Acceptable	Permissible
Bacteriological Parameters						
48.	Total Bacterial Count	MPN/100ml	-145-	APHA 23 rd Edn. 9221	Absent	Absent
49.	Faecal Coliforms	MPN/100ml	-97-	APHA 23 rd Edn. 9221,E	Absent	Absent
50.	Escherichia - Coli	MPN/100ml	-33-	APHA 23 rd Edn. 9221,F	Absent	Absent

Note: The above water sample analyzed Bacteriological parameters results are exceeding the acceptable limits as per IS:10500-2012 norms, so necessary treatment is required before use for Potable / Domestic purpose. NTU - Nephelometric Turbidity Unit, MPN - Most Probable Number.

**** End of the Report ****



(Signature)

Authorized Signatory
(Technical Manager - Er.Arunkumar.V)

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स्थापना १८५८
ESTD 1858
ISO 9001 Co.,

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(Recognized by Central Pollution Control Board / MoEF/Accredited by NABL)

TEST REPORT

Issued to	M/s. TAMILNADU CEMENTS CORPORATION LTD., (TANCEM), Ariyalur Cement Factory, Ariyalur, Tamil Nadu - 621 729.		
Reference	Acknowledgement Receipt number : 3099	Report Number	TC774223011342F
Sample Description	Coal Yard Bore well water sample (5 Ltrs)	Sampling date	31.03.2023
Sample drawn By	R&C Environment Lab.		
Sampling Method	R&C/EEL/LQMS/SOP-041	Test commenced on	31.03.2023
Report date	13.04.2023	Test completed on	12.04.2023

Sl.No.	PARAMETER(s)	Unit	RESULT	TEST METHOD	IS:10500:2018 LIMITS	
					Acceptable	Permissible
1.	pH	-	7.68	IS 3025 Part 11 (Reaff. 2022)	6.5 - 8.5	No relaxation
2.	Colour	Hazen	<5	IS 3025 Part 4 (Reaff. 2021)	5	25
3.	Odour	Agreeable	Un-Objectionable	IS 3025 Part 5 (Reaff. 2018)	Agreeable	Agreeable
4.	Temperature	°C	25.0	IS 3025 Part 9 (Reaff. 2022)	-	-
5.	Taste	Agreeable	Un-Objectionable	IS 3025 Part 7&8 (Reaff. 2022)	Agreeable	Agreeable
6.	Turbidity	NTU	2.2	IS 3025 Part 10 (Reaff. 2022)	1	5
7.	Conductivity	µmhos/cm	1195	IS 3025 Part 14 (Reaff. 2022)	-	-
8.	Total Dissolved Solids	mg/l	776	IS 3025 Part 16 (Reaff. 2023)	500	2000
9.	Aluminium (as Al)	mg/l	BDL (DL: 0.01)	IS 3025 Part 55 (Reaff. 2019)	0.03	0.2
10.	Ammonia (as total ammonia-N)	mg/l	0.12	IS 3025 Part 34 (Reaff. 2019)	0.5	No relaxation
11.	Anionic detergents (as MBAS)	mg/l	BDL (DL: 0.01)	Annex K of IS 13428	0.2	1.0
12.	Total Silica (as SiO ₂)	mg/l	30.6	IS 3025 Part 35 (Reaff. 2019)	-	-

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Reference	: Acknowledgement Receipt number : 3099			Report Number : TC774223011342F		
13.	Barium (as Ba)	mg/l	BDL (DL: 0.01)	Annex F of IS 13428	0.7	No relaxation
14.	Boron (as B)	mg/l	BDL (DL: 0.01)	IS 3025 Part 57 (Reaff. 2019)	0.5	1.0
15.	Calcium (as Ca)	mg/l	50	IS 3025 Part 40 (Reaff. 2019)	75	200
16.	Chloramines (as NH ₂ Cl)	mg/l	4.4	IS 3025 Part 26 (Reaff. 2019)	4.0	No relaxation
17.	Chlorides (as Cl)	mg/l	175	IS 3025 Part 32 (Reaff. 2019)	250	1000
18.	Copper (as Cu)	mg/l	0.18	IS 3025 Part 42 (Reaff. 2019)	0.05	1.5
19.	Fluoride (as F)	mg/l	0.22	APHA 24 th Edn. 4500 F,B,D	1.0	1.5
20.	Free residual chlorine	mg/l	BDL (DL: 0.1)	IS 3025 Part 26 (Reaff. 2019)	0.2	1.0
21.	Iron (as Fe)	mg/l	0.24	APHA 24 th Edn. 3111 B	0.3	No relaxation
22.	Magnesium (as Mg)	mg/l	16	IS 3025 Part 46 (Reaff. 2019)	30	100
23.	Manganese (as Mn)	mg/l	BDL (DL: 0.01)	IS 3025 Part 59 (Reaff. 2019)	0.1	0.3
24.	Mineral oil	mg/l	BDL (DL: 0.01)	Clause 6 of IS 3025 - (Part 39) Infrared	0.5	No relaxation
25.	Nitrate (as NO ₃)	mg/l	7.22	IS 3025 Part 34 (Reaff. 2019)	45	No relaxation
26.	Phenolic compounds (as C ₆ H ₅ OH)	mg/l	BDL (DL: 0.01)	IS 3025 Part 43 (Reaff. 2019)	0.001	0.002
27.	Selenium (as Se)	mg/l	BDL (DL: 0.001)	IS 3025 Part 56 (Reaff. 2019)	0.01	No relaxation
28.	Strontium (as Sr)	mg/l	BDL (DL: 0.001)	APHA 24 th Edn. 3500 Sr B	0.01	No relaxation
29.	Silver (as Ag), mg/l	mg/l	BDL (DL: 0.001)	Annex J of IS 13428	0.1	No relaxation
30.	Sulphate (as SO ₄)	mg/l	118	APHA 24 th Edn. 4500 SO ₄ B	200	400
31.	Sulphide (as H ₂ S)	mg/l	BDL (DL: 0.001)	IS 3025 Part 29 (Reaff. 2019)	0.05	No relaxation
32.	Alkalinity to Phenolphthalein	mg/l	BDL (DL: 1.0)	IS 3025 Part 23 (Reaff. 2019)	-	-
33.	Alkalinity to Methyl Orange	mg/l	126	IS 3025 Part 23 (Reaff. 2019)	200	600
34.	Total Hardness (as CaCO ₃)	mg/l	192	IS 3025 Part 21 (Reaff. 2019)	200	600

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Reference	: Acknowledgement Receipt number : 3099			Report Number : TC774223011342F		
35.	Zinc (as Zn)	mg/l	5.12	IS 3025 Part 49 (Reaff. 2019)	5	15
36.	Cadmium (as Cd)	mg/l	BDL (DL: 0.001)	IS 3025 Part 41 (Reaff. 2019)	0.003	No relaxation
37.	Cyanide (as CN)	mg/l	BDL (DL: 0.001)	IS 3025 Part 27 (Reaff. 2019)	0.05	No relaxation
38.	Lead (as Pb)	mg/l	BDL (DL: 0.001)	IS 3025 Part 47 (Reaff. 2019)	0.01	No relaxation
39.	Mercury (as Hg)	mg/l	BDL (DL: 0.001)	IS 3025 Part 48 (Reaff. 2019)	0.001	No relaxation
40.	Molybdenum (as Mo)	mg/l	BDL (DL: 0.001)	IS 3025 Part 2 (Reaff. 2017)	0.07	No relaxation
41.	Nickel (as Ni)	mg/l	BDL (DL: 0.01)	IS 3025 Part 54 (Reaff. 2019)	0.02	No relaxation
42.	Pesticides	µg/l	BDL (DL: 0.001)	USEPA 525.2, 8141 A	0.04	No relaxation
43.	Polychlorinated biphenyls	mg/l	BDL (DL: 0.001)	ASTM 5175	0.0005	No relaxation
44.	Polynuclear aromatic hydrocarbons (as PAH)	mg/l	BDL (DL: 0.0001)	APHA 24 th Edn. 6440	0.0001	No relaxation
45.	Total arsenic (as As)	mg/l	BDL (DL: 0.001)	IS 3025 Part 37 (Reaff. 2019)	0.01	0.05
46.	Total chromium (as Cr)	mg/l	BDL (DL: 0.001)	IS 3025 Part 52 (Reaff. 2019)	0.05	No relaxation
47.	Trihalomethanes:					
a)	Bromoform	mg/l	BDL (DL: 0.01)	APHA 24 th Edn. 6232	0.1	No relaxation
b)	Dibromochloromethane	mg/l	BDL (DL: 0.01)	APHA 24 th Edn. 6232	0.1	No relaxation
c)	Bromodichloromethane	mg/l	BDL (DL: 0.01)	APHA 24 th Edn. 6232	0.06	No relaxation
d)	Chloroform	mg/l	BDL (DL: 0.01)	APHA 24 th Edn. 6232	0.2	No relaxation

Note: The above water sample analyzed few parameters values are exceeding the acceptable limits as per IS:10500-2012 norms, so necessary treatment is required before use for domestic / potable usage. BDL - Below the Detectable Limit, DL - Detection Limit. Hyphen(-) denotes limits not provided by Bureau of Indian Standard as per IS 10500.

**** End of the Report ****



Arunkumar V

Authorized Signatory

(Technical Manager - Er.Arunkumar.V)

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स्थापना १८५८
ESTD 1858
ISO 9001 Co.,

इंजिनियर्स

आर एंड सी पर्यावरण प्रयोगशाला,
पर्यावरण इंजीनियरिंग प्रयोगशाला प्रभाग,
१/६१, कुलकरई स्ट्रीट, वीओसी नगर मुख्य सड़क,
अदयालम्पेट, मदुरवोयल, चेन्नई-६०० ०९४. तमिल नाडु, भारत.
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Richardson & Cruddas (1972) Ltd.

(A Government of India undertaking)

रिचर्डसन एण्ड क्रुडस (१९७२) लिमिटेड

(भारत सरकार का उपक्रम)



CERT No. TC-7742

ENGINEERS

R&C Environment Lab,

Environmental Engineering Laboratory Division,
1/61, Kulakarai Street, VOC Nagar Main Road, Adayalampet,
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Certificate No. BE - 15 QMS 5840



ENVIRONMENTAL ENGINEERING LABORATORY

(Recognized by Central Pollution Control Board / MoEF/Accredited by NABL)

TEST REPORT

Issued to	: M/s.TAMILNADU CEMENTS CORPORATION LTD., (TANCEM), Ariyalur Cement Factory, Ariyalur, Tamil Nadu - 621 729.		
Reference	: Acknowledgement Receipt number : 3099	Report Number	: TC774223011342F
Sample Description	: Coal Yard Bore well water sample (2 Ltrs)	Sampling date	: 31.03.2023
Sample drawn By	: R&C Environment Lab.		
Sampling Method	: R&C/EEL/LQMS/SOP-041	Test commenced on	: 31.03.2023
Report date	: 13.04.2023	Test completed on	: 12.04.2023

Sl.No.	PARAMETER(s)	Unit	RESULT	TEST METHOD	IS:10500:2018 LIMITS	
					Acceptable	Permissible
Bacteriological Parameters						
48.	Total Bacterial Count	MPN/100ml	-175-	APHA 23 rd Edn. 9221	Absent	Absent
49.	Faecal Coliforms	MPN/100ml	-105-	APHA 23 rd Edn. 9221,E	Absent	Absent
50.	Escherichia - Coli	MPN/100ml	-45-	APHA 23 rd Edn. 9221,F	Absent	Absent

Note: The above water sample analyzed Bacteriological parameters results are exceeding the acceptable limits as per IS:10500-2012 norms, so necessary treatment is required before use for Potable / Domestic purpose. NTU - Nephelometric Turbidity Unit, MPN - Most Probable Number.

**** End of the Report ****



Arunkumar V
03/04/2023

Authorized Signatory

(Technical Manager - Er.Arunkumar.V)

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Annexure-IV

TANCEM

New Cement Plant Project

Enterprise social commitment works

Sl. No.	Name of work	Place of work	Estimate cost (Rs. in lakhs)	Stage of work
1	Ariyalur Govt. hospital infrastructure facilities work		714	
1(a)	Construction of Additional 200 Bedded Ward with operation Theatre at Ariyalur Block. Government District Head Quarters Hospitals in Ariyalur. District including Electrical Arrangements.	Govt. Hospital, Ariyalur	616	Work completed
	Construction of steam Laundry Building at Ariyalur Government District Head Quarters Hospital in Ariyalur District including Electrical Arrangements.		61	Work completed
	Construction of Waiting Hall at Ariyalur Government District Head Quarters Hospital in Ariyalur District including Electrical Arrangements.		18	Work completed
	Construction of Mortuary Block at Ariyalur Government District Head Quarters Hospital in Ariyalur District including Electrical Arrangements.		19	Work completed
1(b)	Purchase of equipments for District Head Quarters Hospital at Ariyalur.		236	Equipments order by Collectorate through TNMSC was 90% of equipments received by Ariyalur hospital.

2	Infrastructure facilities at Panchayat Union and Government Schools			212	
2.1	Construction of additional class room (2 Units) at Panchayat Union Elementary School, Usenapath, Ariyalur Block.	Usenabath, ariyalur.	12.35	Work completed	
2.2	Additional Building (3 Class Rooms) in Panchayat Union Elementary School, Thamaraikulam, Ariyalur Block.	Thamaraikulam, Ariyalur.	16.80	Work completed	
2.3	Compound Wall in Panchayat Union Elementary School, Rajiv Nagar, Ariyalur Block.	Rajiv Nagar, Ariyalur.	10.72	Work completed	
2.4	Additional Building (3 Class Rooms) in Panchayat Union Elementary School, Venkatakrisnapuram, Ariyalur Block.	Venkatakrisnapuram, Ariyalur	16.80	Work completed.	
2.5	Compound Wall in Panchayat Union Elementary School, Ravuthanpatti, Ariyalur Block.	Ravuthanpatti, Ariyalur	9.76	Work completed.	
2.6	Compound Wall in Government High School, Manakudi, Ariyalur Block.	Manakudi, Ariyalur	69.38	Work completed.	
2.7	Additional Building (GF + 1st F) Government Higher Secondary School, Anandavadi, Senthurai Block.	Anandavadi, Senthurai, Ariyalur.	25.20	work completed	
2.8	Providing Bore well and Motor in Panchayat Union Elementary School, Venkatakrisnapuram, Ariyalur Block.	Venkatakrisnapuram, Ariyalur.	3.50	Work completed.	
2.9	Providing RO supply in Panchayat Union Elementary School, Thamaraikulam, Ariyalur Block.	Thamaraikulam, Ariyalur.	2.35	Work completed.	
2.10	Painting to the existing building in Government High School, Manakudi, Ariyalur Block.	Manakudi, Ariyalur	7.00	Work completed.	

2.11	Compound Wall in Panchayat Union Elementary School, Srinivasapuram, Ariyalur Block.	Srinivasapuram, Ariyalur	1.06	Work completed.
2.12	Toilet for boys in Panchayat Union Elementary School, Srinivasapuram, Ariyalur Block.	Srinivasapuram, Ariyalur	2.50	Work completed.
2.13	Toilet for girls in Panchayat Union Elementary School, Usenabath, Ariyalur Block.	Usenabath, Ariyalur	2.90	Work completed.
2.14	Toilet for girls in Panchayat Union Elementary School, Venkatakrisnapuram, Ariyalur Block.	Venkatakrisnapuram, Ariyalur.	2.90	Work completed.
2.15	Toilet for girls in Panchayat Union Elementary School, Srinivasapuram, Ariyalur Block.	Srinivasapuram, Ariyalur.	2.90	Work completed.
2.16	Compound Wall in Panchayat Union Elementary School, Manakudi, Ariyalur Block.	Manakudi, Ariyalur	2.08	Work completed.
2.17	Providing Weathering course to the existing building, Panchayat Union Elementary School, Srinivasapuram, Ariyalur Block.	Srinivasapuram, Ariyalur	2.00	Work completed.
2.18	Providing Bore well and Motor in Panchayat Union Elementary School, Srinivasapuram, Ariyalur Block.	Srinivasapuram, Ariyalur	3.50	Work completed.
2.19	Construction of Arch in Panchayat Union Elementary School, Usenabath, Ariyalur Block.	Usenabath, ariyalur.	1.20	Work completed.
2.20	Toilet for boys in Panchayat Union Elementary School, Valajanagaram, Ariyalur Block.	Valajanagaram, Ariyalur	2.50	Work completed.
2.21	Toilet for girls in Panchayat Union Elementary School, Valajanagaram, Ariyalur Block.	Valajanagaram, Ariyalur	2.90	Work completed.

	2.22	Compound Wall in Panchayat Union Elementary School, Venkatakrishnapuram, Ariyalur Block.	Venkatakrishnapuram, Ariyalur	6.30	Work completed.
	2.23	Toilet for boys in Panchayat Union Elementary School, Anandavadi, Sendurai Block, Ariyalur Block.	Anandavadi, Sendurai Ariyalur.	2.50	Work completed.
	2.24	Toilet for girls in Panchayat Union Elementary School, Anandavadi, Sendurai Block, Ariyalur Block.	Anandavadi, Sendurai Ariyalur.	2.90	Work completed.
3	Mass plantation, Formation of Percolation ponds and water harvesting structures			190	
	3.1	Rain water harvesting structure in SanthanaEri – Ravuthanpatti, Ariyalur Block.	Ravuthanpatti, Ariyalur	9.20	Work completed.
	3.2	Rain water harvesting structure in PeriyakuttaiEri – Valajanagaram, Ariyalur Block.	Valajanagaram, Ariyalur	11.85	Work completed.
	3.3	Tree plantation in SanthanaEri Bund – Ravuthanpatti, Ariyalur Block.	Ravuthanpatti, Ariyalur	3.20	Work completed.
	3.4	Rain water harvesting structure in VenkattanSavadiEri – Venkatakrishnapuram, Ariyalur Block.	Venkatakrishnapuram, Ariyalur	10.40	Work completed.
	3.5	Inlet Channel in ChettiEri – Ariyalur Block.	ChettiEri, Ariyalur	19.63	Work completed.
	3.6	Rain water harvesting structure in AyyasamyEri – Kallankurichi, Ariyalur Block.	Kallankurichi, Ariyalur	11.85	Work completed.
	3.7	Rain water harvesting structure in MeesaikaranEri – Thamaraikulam, Ariyalur Block.	Thamaraikulam, Ariyalur	12.50	Work completed.
	3.8	Rain water harvesting structure in Old Eri – Srinivasapuram, Ariyalur Block.	Srinivasapuram, Ariyalur.	10.46	Work completed.

3.9	Rain water harvesting structure in NagammalSavadi - Ariyalur South	Ariyalur South	22.13	Work completed.
3.10	Rain water harvesting structure in VasanEri - Ariyalur South	Ariyalur South	9.00	Work completed.
3.11	Rain water harvesting structure in KombukuzhiKuttai - Ariyalur South	Ariyalur South	7.74	Work completed.
3.12	Rain water harvesting structure in OppakonarEri - Eruthukaranpatti, Ariyalur	Eruthukaranpatti, Ariyalur	7.33	Work completed.
3.13	Rain water harvesting structure in Vadayathankuttai, Ariyalur	Vadayathankuttai, Ariyalur	7.11	Work completed.
3.14	Rain water harvesting structure in PerumalkuttaiEri, Periyagalur, Ariyalur	Periyagalur, Ariyalur	5.81	Work completed.
3.15	Rain water harvesting structure in SeranEri- Srinivasapuram, Ariyalur	Srinivasapuram, Ariyalur	5.05	Work completed.
3.16	Rain water harvesting structure in KalaranEri - Venkadakrishnapuram, Ariyalur	Venkadakrishnapuram Ariyalur	13.76	Work completed.
3.17	Rain water harvesting structure in KalaranEriLingathumedu - Kayarlabath, Ariyalur	Kayarlabath, Ariyalur	11.90	Work completed.
3.18	Rain water harvesting structure in ThelranKuttai - Thamaraiikulam, Ariyalur	Thamaraiikulam, Ariyalur	11.08	Work completed.

Annexure - V

RISK ASSESSMENT AND DISASTER MANAGEMENT PLAN

S.No	CONTENT
1.1	Introduction
1.2	Objective of Plan
1.3.1	Identification of Major Hazards
1.3.2	Scope of Plan
1.3.3	Basis of Plan
1.4	Post Disaster Analysis and Evaluation
1.5	The Availability, Organization and Utilization of resources for emergencies
1.5.1	Incident Controller (IC)
1.5.2	Site Main Controller (SMC)
1.5.3	Essential Worker (EW)
1.5.4	Other Key Personnel
	Safety
	Assembly Points
	Fire Control Arrangements
	Medical Arrangement
	Transportation and Evacuation Arrangement.

1. DISASTER MANAGEMENT PLAN

1.1 INTRODUCTION

An emergency is said to have arisen when operators in the plant are not able to cope up with a potential hazardous situation i.e. loss of control of an incident causes the plant to go beyond its normal operating conditions, thus creating danger. When such an emergency evolves, chain of events affect the normal working within the factory area and / or which may cause injuries ,loss of life, substantial damage to property and environment both inside and outside the factory and a disaster is said to have occurred. The various steps involved in the process of disaster management can be summarized as:

- 1) Minimize risk occurrence (Prevention)
- 2) Rapid control (Emergency Response)
- 3) Effectively Rehabilitate Damaged Areas (Restoration)

Disaster management plan is evolved by careful scrutiny and interlinking of:

- 1) Types and causes of disaster.
- 2) Technical know – how
- 3) Resource availability

1.2 OBJECTIVES OF PLAN

This plan is developed to make best possible use of resources to:

- 1) Rescue the victims and treat them suitably.
- 2) Safeguard others (evacuating them to safer places).
- 3) Contain the incident and control it with minimum damage.
- 4) Identify the persons affected.
- 5) Preserve relevant records and equipment needed as evidence incase on an inquiry.
- 6) Rehabilitate the affected areas.

1.3.1 IDENTIFICATION OF MAJOR HAZARDS

- 1) Fire hazard
- 2) Earthquake hazard

1.3.2 SCOPE OF PLAN

The plan will set into action immediately after a fire occurs inside the plant. However, fire hazard will be restricted to fuel storage area only and hence no major disaster is envisaged.

1.3.3 BASIS OF PLAN

M/s. Tamilnadu Cements corporation Ltd. will prepare an onsite emergency plan. The basic guidelines of the plan are as given below:

1. Informative brochure on emergency will be distributed to each staff member of the plant and telephone numbers of key personnel to be contacted during an emergency will be placed at all the operator placement point in the plant.
2. Company will have a direct tele-link service line with the central control room as well as nearest fire station in case of severe emergency.
3. Workers would be trained regularly on fire hazard drill, which will be organized once in a month by the safety and fire department.
4. Various locations would be covered with fire hydrant system that would be tested and put into operation in such a manner that it remains operational during emergency.
5. 24 hours vehicle for service and in- plant first aid emergency kit would provide.

1.4 POST DISASTER ANALYSIS AND EVALUATION

When an emergency is over, it is desirable to carry out a detailed analysis of the causes of the accident to evaluate the influence of various factors involved and to propose methods to eliminate or minimize them in future simultaneously, the adequacy of the disaster preparedness plan will be evaluated and any short comings will be rectified.

1.5 THE AVAILABILITY, ORGANIZATION, AND UTILIZATION OF RESOURCES FOR EMERGENCIES

In order to maintain emergency response capability, certain facilities must be kept in a state of readiness, and sufficient supplies and equipment must be available. Typical examples are:

1. Emergency operation center
2. Communication equipment
3. Alarm systems
4. Personal protection Equipment
5. Fire fighting facilities ,equipment and supplies
6. Spill and vapour release control equipment and supplies
7. Medical facilities ,equipment and supplies
8. Monitoring systems
9. Transportation systems
10. Security and access control equipment

It is the responsibility of the plant management to ensure that the appropriate equipment and materials are available to respond to their very hazard- specific emergencies at the facility. One of the most important objectives of emergency planning is to create a response organization structure capable of being deployed in the shortest possible time during an emergency. Command and control of an emergency condition encompasses the key management functions necessary to ensure safeguard of the health and safety of employees, as well as the public living in the vicinity. These primary functions are as follow:

1. Detection of the emergency condition
2. Assessment of the condition
3. Classification of the emergency
4. Mitigation of the emergency conditions
5. Notification to management personnel
6. Notification to local ,state and government agencies
7. Activation and response of the necessary onsite and off- site support personnel
8. Continuous assessment and reclassification, as necessary
9. Initiation of protective actions
- 10.Aid to affected personnel
- 11.Recovery and re-entry

The key personnel shall be nominated with special responsibilities according to the laid down procedures and to make the best use of available resources, the key personnel are as under:

1. Alarm raiser
2. Incident controller
3. Site main controller
4. Essential workers
5. Other key personnel

The responsibilities of the above key personnel are as described below:

1.5.1 INCIDENT CONTROLLER (IC)

His responsibilities include:

1. As soon as the sound of siren or bell is heard, he will arrive at the site of incident.
2. Take the charge of the scene of the incident
3. To assess the scale of emergency. If the emergency is minor, he will start to activate on – site plan.
4. As per the incident, direct the essential workers to prevent it by using extinguishers in case of fire; by covering the liquid spillage by sand or suitable materials in case of liquid.

5. Direct the shutdown of the plant or part of the plant and evacuate the plant personnel to assembly point.
6. Direct all operations within the affected areas with the following priorities.
 - (a) Secure the safety of personnel.
 - (b) Minimize loss of material.
 - (c) Minimize damage to plant, property and environment.
7. To search for casualties.
8. To brief site main controller and keep informed of development of situation.
9. To preserve evidence that will be necessary for subsequent inquiry into the cause of emergency and concluding preventive measures.

1.5.1.2 SITE MAIN CONTROLLER (SMC)

He is the head authority of the organization. He will have overall responsibility for directing operating and calling for outside help from emergency control centre.

The site main controller shall wear white helmet for his easy identification .the responsibilities and duties of the site main controller include:

1. Relieve the incident controller of his responsibilities of overall charge of main control.
2. On consultation with incident controller and other key personnel, decide about the type of emergency.
3. To ensure that key personnel are called in.
4. To continuously review and assess possible developments to determine the most probable cause of events.
5. To direct the safe closure of the plant and evacuate the plant incident controller and other key person.

1.5.1.3 ESSENTIAL WORKERS (EW)

As soon as the essential workers hear the emergency siren or any emergency brought to the knowledge, they will first report to the incident controller. The team of essential workers trained in fire fighting and first –aid will be made available in the factory round the clock in all shifts.

Their responsibilities include:

1. To fight fire till a fire brigade takes the charge.
2. To help the fire brigade and mutual aid teams.
3. To do emergency engineering work like isolation of equipment, materials, process, providing temporary by-pass line for safe transfer of materials, urgent repairs and replacement, electrical work etc.

4. To provide emergency services like power, water, lighting, instrument, equipment etc.
5. To move equipment, special vehicles and transport to or from the scene of incident.
6. To provide first aid and medical help.
7. To carry out atmospheric tests and pollution control.

1.5.1.4 OTHER KEY PERSONNEL

Other key personnel are required to provide advice and to implement the decisions taken by the site main controller in the light of information received on the situation from the site emergency.

The responsibilities and duties of key personnel include:

(1) SAFETY:

The safety officer /supervisor will carry out the following:

- a) To provide necessary equipment like Fire Fighting Equipment (FFE) and Personal Protective Equipment (PPE).
- b) To accompany factory inspector during investigation of the emergency.
- c) To train workers /supervisors in safety and safe operating procedures.
- d) To assist the site main controller, incident controller in preparing a brief report of the incidents.

(2) ASSEMBLY POINTS:

The assembly points for gathering non –essential workers / persons will be fixed and will be clearly marked as per the wind direction.

(3) FIRE CONTROL ARRANGEMENTS:

Fire fighting trained personnel will be made available in all the shift. The responsibilities and duties include:

- (a) To fight the fire with available internal Fire Fighting Equipment.
- (b) To provide personal protective Equipment to the team.
- (c) To cordon the area and inform incident controller or site main controller about the development of emergency.
- (d) To trained personnel (essential workers) to use Personal Protective Equipment and Fire Fighting Equipment

(4) MEDICAL ARRANGEMENT:

The responsibilities and duties include:

- a) To provide first aid to the affected persons, and if necessary, send them to hospitals for further treatment.
- b) To keep a list of blood groupings ready and updated.

(5) TRANSPORTATION AND EVACUATION ARRANGEMENT:

For transportation of people, company's vehicles, cars, rickshaws etc. will be utilized. The hazard in the proposed cement plant is mainly associated with cement production phases and results in the form of dust, noise and fire.

The main hazards during the transportation and storing of material are:

- a) The airborne dust created during the storage of material.
- b) The conveyor belts during their normal operation as well as during their maintenance

In order to reduce the risk from airborne dust:

- a) To use dust suction systems.
- b) To implement the necessary procedures for the routine cleaning of the settled dust

In material transport systems there are moving parts that are a constant source of hazard for any persons working near these conveyors during normal operation or during the maintenance activities. For the safe operation of material transportation system all the necessary guards are applied to isolate the moving parts. Additionally where personnel is working at a short distance from the guards, emergency stops are provided within short distance of these operators.

During the normal operation of the transportation systems:

- a) The removal of guards by unauthorized personnel must be prevented.
- b) Any maintenance work during the operation of the transportation system must be avoided.
- c) Removing material during the operation of the conveyors must be avoided.
- d) The cleaning of overflows during operation must be avoided unless the cleaning is done by the conveyor operatives.
- e) The use of unauthorized passageways either over or under the transportation system must be avoided because there is the risk of personnel getting trapped by the conveyor or overflowing material can fall from height.
- f) The overhead bridges must be clean in order to minimize the possibility of the tripping and falling of the personnel performing the checks on the conveyor belts.
- g) Any intervention on the conveyor belt overload systems must be done by authorized personnel



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रिचर्डसन एण्ड क्रुडस (१९७२) लिमिटेड

(भारत सरकार का उपक्रम)



CERT No. TC-7742

ENGINEERS

R&C Environment Lab,

Environmental Engineering Laboratory Division,

1/61, Kulakarai Street, VOC Nagar Main Road, Adayalampet,

Maduravoyal, Chennai - 600 095, Tamil Nadu, India.

Website: <http://www.rcenvirolab.com>e-mail: rcenvirolab@gmail.com

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90430 75949. Fax: +91-44-2625 8295

An ISO 9001:2015 Certified Company
Certificate No. BE - 15 OMS 5840

ENVIRONMENTAL ENGINEERING LABORATORY

(Recognized by Central Pollution Control Board/MoEF/Accredited By NABL)

TEST REPORT

Issued to	M/s.TAMILNADU CEMENTS CORPORATION LTD., (TANCEM), Ariyalur Cement Factory, Ariyalur, Tamil Nadu - 621 729.		
Reference	Acknowledgement Receipt number : 3099	Report Number	TC774223011340F
Sample Description	Ambient Noise Level Monitoring	Sampling date	31.03.2023
Sample drawn By	R&C Environment Lab.	Test commenced on	31.03.2023
Sampling Method	R&C/EEL/LQMS/SOP-041	Test completed on	12.04.2023
Report date	13.04.2023		
Instrument Used	Sound Level Meter		

Time in Hrs	Location Name				
	Near Admin Office (AN1)	Near Hospital (AN2)	Near Oxidation Pond (AN3)	Near Store area (AN4)	Near AAQ-2 area (AN5)
Leq. Noise Level @ Day Time, dB(A)					
06.00 - 10.00 hrs	60.8	57.5	58.5	66.7	59.6
10.00 - 14.00 hrs	68.7	61.2	60.6	70.5	63.2
14.00 - 18.00 hrs	64.5	60.8	61.5	69.3	61.7
18.00 - 22.00 hrs	58.6	58.3	57.2	65.4	60.3
Leq.(Mean)	63.2	59.5	59.5	68.0	61.2
CPCB Limit for Industrial area = 75.0 @ Day time					
Leq. Noise Level @ Night Time, dB(A)					
22.00 - 02.00 hrs	56.4	57.2	54.6	61.3	58.6
02.00 - 06.00 hrs	53.2	52.8	52.2	58.5	55.7
Leq.(Mean)	54.8	55.0	53.4	59.9	57.2
CPCB Limit for Industrial area = 70.0 @ Night time					

Note: dB(A) - Decibels in A scale, The above Leq. Noise Levels are well within the limits as per CPCB Industrial area norms. AN - Ambient Noise Level.

*** End of Report***



Arunkumar
13/04/23

Authorized Signatory
(Technical Manager - Er.Arunkumar.V)

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R&C/EEL/LQMS/QM/46

मुलुण्ड
एल.बी. शास्त्री मार्ग
मुलुण्ड पश्चिम
मुम्बई - 400 080.
फैक्स : 022-2569 0988 Fax : 022-2569 0988
फोन : 022-2561 1973 Phone : 022-2561 1973

पंजीकृत एवं मुख्यालय
भायखला आयरन वर्क्स
सर जे.जे. सड़क,
मुम्बई - 400 008.
फैक्स : 022-2373 1491
फोन : 022-2373 8086

Regd. & Head Office :
Byculla Iron Works
Sir J.J. Road
Mumbai - 400 008.
Fax : 022-2373 1491
Phone : 022-2373 8086

नागपुर
एफ३, एम.आर्.डी.सी. इंडस्ट्रियल एस्टेट
हिगना सड़क,
नागपुर - 440 016.
फैक्स : 07104-237693
फोन : 07104-237061

Nagpur
F3, MIDC Industrial Estate,
Hingna Road,
Nagpur - 440 016.
Fax : 07104-237693
Phone : 07104-237061



Tamil Nadu Pollution Control Board
Ambient Noise Level Survey - Report of Analysis

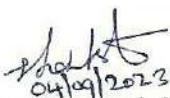
Report No: 41/NLS/2023-2024/ Date.04.09.2023

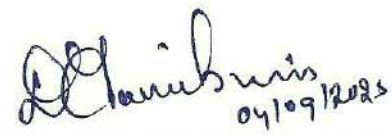
1	Name of the Industry	M/s. Tamil Nadu Cements Corporation Ltd.,		
2	Address of the Industry	Ariyalur Cement Works Ariyalur Taluk, Ariyalur District.		
3	Date of survey	09.08.2023		
4	Consent Order No.	2208243039244		
5	Category	Red/Large		
Type of survey		Ambient	Time of survey	Day
Meteorological Conditions		Calm		

Logging Parameters

Instrument Used	Casella	Serial No.	0499485
Logging Interval	10 Minutes in each point	Measuring Range	50-110 dB(A)
Weighting	"A"	Time Weighting	Fast
Sound Incidence	Random	Time of survey in Hrs.	03.00 – 04.00 PM

SI No	Location	Duration (m)	Distance (m)	Direction	Sound Level-dB(A)		
					L _{eq}	L _{Min}	L _{Max}
1	Near New Coal Crushing Unit	10	400	N	48.5	45.6	61.9
2	Near CAAQ Monitoring Station	10	500	NE	54.0	52.8	66.7
3	Near Oxidation Pond	10	600	ESE	51.1	47.9	58.5
4	Near Admin Building	10	700	SW	53.7	51.9	66.6
5	Near Diesel Bunk	10	800	WNW	46.5	40.1	65.4


04/09/2023
Environmental Scientist,


04/09/2023
Deputy Chief Scientific Officers,
AEL, TNPCB, Trichy-15.



स्थापना १८५८
ESTD 1858
ISO 9001 Co.,

इंजिनियर्स

आर एंड सी पर्यावरण प्रयोगशाला,

पर्यावरण इंजीनियरिंग प्रयोगशाला प्रभाग,

१/६१, कुलकारई स्ट्रीट, वीओसी नगर मुख्य सड़क,

अदयलम्पेट, मदुरवोयल, चेन्नई-६०० ०९४, तमिल नाडु, भारत.

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९०४३० ७५९९९, फैक्स : + ९१-४४-२६२५ ८२९५

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ISO 14001
Environmental Management System
ISO 45001
SAFETY MANAGEMENT

ENVIRONMENTAL ENGINEERING LABORATORY

(Recognized by Central Pollution Control Board/MoEF/Accredited By NABL)

TEST REPORT OF PARTICULATE MATTER PERFORMANCE IN STACK

Report Number	TC774223011326F	Report Date	13.04.2023				
Customer Name & Address	M/s.TAMILNADU CEMENTS CORPORATION LTD., (TANCEM), Ariyalur Cement Factory, Ariyalur, Tamil Nadu - 621 729.						
Sample Drawn by	M/s. R&C Environment Lab.	Sample Reference No.	EELAB/3099				
Sample Collection date	30.03.2023	Sample Received on	31.03.2023				
Sampling Consumable	Thimble - 13,14,15	Test Commenced on	31.03.2023				
Sample Description	Stack Emission - Particulate Matter Performance Test	Test Completed on	12.04.2023				
Sampling Method	IS : 11255	Vol. of Air Sampled - 24 lpm					
RESULTS							
S. No.	PARAMETER	TEST METHOD	Raw Mill KILN Expn. (Repeatability)			UNIT	Limits as per EPA
			Sample A	Sample B	Sample C		
1	Stack Height	-	115.2	115.2	115.2	m	-
2	Stack Diameter	Circular Duct	3.35	3.35	3.35	m	-
3	Stack Temperature	IS 11255,Part 3-2018	154.2	156.4	152.6	°C	-
4	Gas Velocity	IS 11255,Part 3-2018	7.2	7.0	7.4	m/sec	-
5	Gas Discharge	IS 11255,Part 3-2018	164201.81	158305.40	168293.85	Nm ³ /hr	-
6	Particulate Matter	IS 11255,Part 1-2019	24.4	23.2	22.6	mg/Nm ³	30
Remarks :							 Authorized Signatory
The sample was collected and analysed as per IS methods. The values are found to well within the stipulated limits for which the norms are mentioned in the report. Hyphen(-) denotes limits not provided by EPA.							
Note: m - metre, mg/Nm ³ - Milligram Per Normal cubic metre, m/sec - metre per second, Nm ³ /hr - Normal cubic metre per hour, °C - Degree Centigrade							

**** End of the Report ****



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R&C/EEL/LQMS/QM/46

मुलुण्ड एल.बी. शास्त्री मार्ग मुलुण्ड पश्चिम मुम्बई - 400 080. फैक्स : 022-2569 0988 फोन : 022-2561 1973	Mulund L.B. Shastri Marg. Mulund West Mumbai - 400 080. 022 - 2569 0988 Fax : 022 - 2569 0988 Phone : 022 - 2561 1973	पंजीकृत एवं मुख्यालय भायखला आयरन वर्क्स सर जे.जे. सड़क, मुम्बई - 400 008. फैक्स : 022 - 2373 1491 फोन : 022 - 2373 8086	Regd. & Head Office : Byculla Iron Works Sir J.J. Road Mumbai - 400 008. 022 - 2373 1491 Fax : 022 - 2373 1491 Phone : 022 - 2373 8086	नागपुर एफ३, एम आर्.डी.सी. इंडस्ट्रियल एस्टेट हिगना सड़क, नागपुर - 440 016. फैक्स : 07104 - 237693 फोन : 07104 - 237061	Nagpur F3, MIDC Industrial Estate, Hingna Road, Nagpur - 440 016. Fax : 07104 - 237693 Phone : 07104 - 237061
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स्थापना १८५८
ESTD 1858
ISO 9001 Co.,

इंजिनियर्स

आर एंड सी पर्यावरण प्रयोगशाला,
पर्यावरण इंजीनियरिंग प्रयोगशाला प्रभाग,
१/६१, कुलकर्णी स्ट्रीट, वीओसी नगर मुख्य सड़क,
अदयलम्पेट, मदुरवोयल, चेन्नई-६०० ०९४, तमिल नाडु, भारत
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CERT No. TC-7742

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ENVIRONMENTAL ENGINEERING LABORATORY

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TEST REPORT OF PARTICULATE MATTER PERFORMANCE IN STACK

Report Number	TC774223011327F	Report Date	13.04.2023				
Customer Name & Address	M/s.TAMILNADU CEMENTS CORPORATION LTD., (TANCEM), Ariyalur Cement Factory, Ariyalur, Tamil Nadu - 621 729.						
Sample Drawn by	M/s. R&C Environment Lab.	Sample Reference No.	EELAB/3099				
Sample Collection date	30.03.2023	Sample Received on	31.03.2023				
Sampling Consumable	Thimble - 18,19,20	Test Commenced on	31.03.2023				
Sample Description	Stack Emission - Particulate Matter Performance Test	Test Completed on	12.04.2023				
Sampling Method	IS: 11255	Vol. of Air Sampled - 24 lpm					
RESULTS							
S. No.	PARAMETER	TEST METHOD	Raw Mill KILN Expn. (Repeatability)			UNIT	Limits as per EPA
			Sample D	Sample E	Sample F		
1	Stack Height	-	115.2	115.2	115.2	m	-
2	Stack Diameter	Circular Duct	3.35	3.35	3.35	m	-
3	Stack Temperature	IS 11255,Part 3-2018	156.2	154.4	153.2	°C	-
4	Gas Velocity	IS 11255,Part 3-2018	7.2	7.4	7.2	m/sec	-
5	Gas Discharge	IS 11255,Part 3-2018	163436.65	168134.54	163514.85	Nm ³ /hr	-
6	Particulate Matter	IS 11255,Part 1-2019	23.2	24.6	22.6	mg/Nm ³	30
Remarks : The sample was collected and analysed as per IS methods. The values are found to well within the stipulated limits for which the norms are mentioned in the report. Hyphen(-) denotes limits not provided by EPA.							 Authorized Signatory
Note: m - metre, mg/Nm ³ - Milligram Per Normal cubic metre, m/sec - metre per second, Nm ³ /hr - Normal cubic metre per hour, °C - Degree Centigrade							

**** End of the Report ****



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R&C/EEL/LQMS/QM/46

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स्थापना १८५८
ESTD 1858
ISO 9001 Co.,

इंजिनियर्स

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अदयलम्पेट, मदुरवोयल, चेन्नई-६०० ०९४, तमिल नाडु, भारत
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(भारत सरकार का उपक्रम)



CERT No. TC-7742

ENGINEERS

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ENVIRONMENTAL ENGINEERING LABORATORY

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TEST REPORT OF PARTICULATE MATTER PERFORMANCE IN STACK

Report Number	TC774223011324F	Report Date	13.04.2023
Customer Name & Address	M/s.TAMILNADU CEMENTS CORPORATION LTD., (TANCEM), Ariyalur Cement Factory, Ariyalur, Tamil Nadu - 621 729.		
Sample Drawn by	M/s. R&C Environment Lab.	Sample Reference No.	EELAB/3099
Sample Collection date	30.03.2023	Sample Received on	31.03.2023
Sampling Consumable	Thimble - 01,02,03	Test Commenced on	31.03.2023
Sample Description	Stack Emission - Particulate Matter Performance Test	Test Completed on	12.04.2023
Sampling Method	IS : 11255	Vol. of Air Sampled - 26 lpm	

RESULTS

S. No.	PARAMETER	TEST METHOD	Cooler Vent Expn. (Repeatability)			UNIT	Limits as per EPA
			Sample A	Sample B	Sample C		
1	Stack Height	-	41.0	41.0	41.0	m	-
2	Stack Diameter	Circular Duct	2.5	2.5	2.5	m	-
3	Stack Temperature	IS 11255,Part 3-2018	182.5	184.4	185.2	°C	-
4	Gas Velocity	IS 11255,Part 3-2018	7.6	7.5	7.6	m/sec	-
5	Gas Discharge	IS 11255,Part 3-2018	90529.95	88677.87	89410.20	Nm ³ /hr	-
6	Particulate Matter	IS 11255,Part 1-2019	23.2	23.8	22.6	mg/Nm ³	30

Remarks :

The sample was collected and analysed as per IS methods. The values are found to well within the stipulated limits for which the norms are mentioned in the report. Hyphen(-) denotes limits not provided by EPA.

Note: m - metre, mg/Nm³ - Milligram Per Normal cubic metre, m/sec - metre per second, Nm³/hr - Normal cubic metre per hour, °C - Degree Centigrade

[Signature]

Authorised Signatory

**** End of the Report ****



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स्थापना १८५८
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Richardson & Cruddas (1972) Ltd.

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रिचर्डसन एण्ड क्रुडस (१९७२) लिमिटेड

(भारत सरकार का उपक्रम)



CERT No. TC-7742

ENGINEERS

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Maduravoyal, Chennai - 600 095. Tamil Nadu, India.

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TEST REPORT OF PARTICULATE MATTER PERFORMANCE IN STACK

Report Number	TC774223011325F	Report Date	13.04.2023				
Customer Name & Address	M/s.TAMILNADU CEMENTS CORPORATION LTD., (TANCEM), Ariyalur Cement Factory, Ariyalur, Tamil Nadu - 621 729.						
Sample Drawn by	M/s. R&C Environment Lab.	Sample Reference No.	EELAB/3099				
Sample Collection date	30.03.2023	Sample Received on	31.03.2023				
Sampling Consumable	Thimble - 04,05,06	Test Commenced on	31.03.2023				
Sample Description	Stack Emission - Particulate Matter Performance Test	Test Completed on	12.04.2023				
Sampling Method	IS : 11255	Vol. of Air Sampled - 26 lpm					
RESULTS							
S. No.	PARAMETER	TEST METHOD	Cooler Vent Expn. (Repeatability)			UNIT	Limits as per EPA
			Sample D	Sample E	Sample F		
1	Stack Height	-	41.0	41.0	41.0	m	-
2	Stack Diameter	Circular Duct	2.5	2.5	2.5	m	-
3	Stack Temperature	IS 11255,Part 3-2018	183.2	186.4	182.6	°C	-
4	Gas Velocity	IS 11255,Part 3-2018	7.6	7.4	7.5	m/sec	-
5	Gas Discharge	IS 11255,Part 3-2018	90391.04	87114.58	88737.28	Nm ³ /hr	-
6	Particulate Matter	IS 11255,Part 1-2019	22.6	23.2	24.0	mg/Nm ³	30
Remarks : The sample was collected and analysed as per IS methods. The values are found to well within the stipulated limits for which the norms are mentioned in the report. Hyphen(-) denotes limits not provided by EPA.							 Authorised Signatory
Note: m - metre, mg/Nm³ - Milligram Per Normal cubic metre, m/sec - metre per second, Nm³/hr - Normal cubic metre per hour, °C - Degree Centigrade							

**** End of the Report ****



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१/६१, कुलकर्णी स्ट्रीट, वीओसी नगर मुख्य सड़क,
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CERT No. TC-7742

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TEST REPORT OF PARTICULATE MATTER PERFORMANCE IN STACK

Report Number	TC774223011332F	Report Date	13.04.2023				
Customer Name & Address	M/s.TAMILNADU CEMENTS CORPORATION LTD., (TANCEM), Ariyalur Cement Factory, Ariyalur, Tamil Nadu - 621 729.						
Sample Drawn by	M/s. R&C Environment Lab.	Sample Reference No.	EELAB/3099				
Sample Collection date	31.03.2023	Sample Received on	31.03.2023				
Sampling Consumable	Thimble - 10,11,12	Test Commenced on	31.03.2023				
Sample Description	Stack Emission - Particulate Matter Performance Test	Test Completed on	12.04.2023				
Sampling Method	IS : 11255	Vol. of Air Sampled - 20 lpm					
RESULTS							
S. No.	PARAMETER	TEST METHOD	Coal Mill Expn. (Repeatability)			UNIT	Limits as per EPA
			Sample A	Sample B	Sample C		
1	Stack Height	-	55.9	55.9	55.9	m	-
2	Stack Diameter	Circular Duct	1.0	1.0	1.0	m	-
3	Stack Temperature	IS 11255,Part 3-2018	58.6	59.4	60.2	°C	-
4	Gas Velocity	IS 11255,Part 3-2018	22.4	21.8	20.6	m/sec	-
5	Gas Discharge	IS 11255,Part 3-2018	58643.59	56749.96	53322.53	Nm ³ /hr	-
6	Particulate Matter	IS 11255,Part 1-2019	26.2	26.8	27.0	mg/Nm ³	30
Remarks : The sample was collected and analysed as per IS methods. The values are found to well within the stipulated limits for which the norms are mentioned in the report. Hyphen(-) denotes limits not provided by EPA.							 Authorised Signatory
Note: m - metre, mg/Nm ³ - Milligram Per Normal cubic metre, m/sec - metre per second, Nm ³ /hr - Normal cubic metre per hour, °C - Degree Centigrade							

**** End of the Report ****



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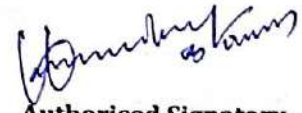
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TEST REPORT OF PARTICULATE MATTER PERFORMANCE IN STACK

Report Number	TC774223011333F	Report Date	13.04.2023				
Customer Name & Address	M/s.TAMILNADU CEMENTS CORPORATION LTD., (TANCEM), Ariyalur Cement Factory, Ariyalur, Tamil Nadu - 621 729.						
Sample Drawn by	M/s. R&C Environment Lab.	Sample Reference No.	EELAB/3099				
Sample Collection date	31.03.2023	Sample Received on	31.03.2023				
Sampling Consumable	Thimble - 30,31,32	Test Commenced on	31.03.2023				
Sample Description	Stack Emission - Particulate Matter Performance Test	Test Completed on	12.04.2023				
Sampling Method	IS : 11255	Vol. of Air Sampled - 20 lpm					
RESULTS							
S. No.	PARAMETER	TEST METHOD	Coal Mill Expn. (Repeatability)			UNIT	Limits as per EPA
			Sample D	Sample E	Sample F		
1	Stack Height	-	55.9	55.9	55.9	m	-
2	Stack Diameter	Circular Duct	1.0	1.0	1.0	m	-
3	Stack Temperature	IS 11255,Part 3-2018	58.2	59.4	58.6	°C	-
4	Gas Velocity	IS 11255,Part 3-2018	23.2	22.6	21.4	m/sec	-
5	Gas Discharge	IS 11255,Part 3-2018	60811.36	58832.53	55660.59	Nm ³ /hr	-
6	Particulate Matter	IS 11255,Part 1-2019	26.2	27.0	26.4	mg/Nm ³	30
Remarks :							 Authorised Signatory
The sample was collected and analysed as per IS methods. The values are found to well within the stipulated limits for which the norms are mentioned in the report. Hyphen(-) denotes limits not provided by EPA. Note: m - metre, mg/Nm ³ - Milligram Per Normal cubic metre, m/sec - metre per second, Nm ³ /hr - Normal cubic metre per hour, °C - Degree Centigrade							

**** End of the Report ****



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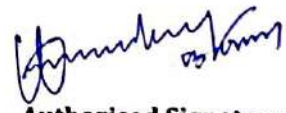
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TEST REPORT OF PARTICULATE MATTER PERFORMANCE IN STACK

Report Number	TC774223011330F	Report Date	13.04.2023				
Customer Name & Address	M/s.TAMILNADU CEMENTS CORPORATION LTD., (TANCEM), Ariyalur Cement Factory, Ariyalur, Tamil Nadu - 621 729.						
Sample Drawn by	M/s. R&C Environment Lab.	Sample Reference No.	EELAB/3099				
Sample Collection date	31.03.2023	Sample Received on	31.03.2023				
Sampling Consumable	Thimble - 22,23,24	Test Commenced on	31.03.2023				
Sample Description	Stack Emission - Particulate Matter Performance Test	Test Completed on	12.04.2023				
Sampling Method	IS : 11255	Vol. of Air Sampled - 22 lpm					
RESULTS							
S. No.	PARAMETER	TEST METHOD	Cement Mill Expn. (Repeatability)			UNIT	Limits as per EPA
			Sample A	Sample B	Sample C		
1	Stack Height	-	44.0	44.0	44.0	m	-
2	Stack Diameter	Circular Duct	1.6	1.6	1.6	m	-
3	Stack Temperature	IS 11255,Part 3-2018	140.2	142.4	140.8	°C	-
4	Gas Velocity	IS 11255,Part 3-2018	15.6	16.0	15.4	m/sec	-
5	Gas Discharge	IS 11255,Part 3-2018	83905.67	85322.50	82171.03	Nm ³ /hr	-
6	Particulate Matter	IS 11255,Part 1-2019	22.6	23.2	22.8	mg/Nm ³	30
Remarks :							 Authorised Signatory
The sample was collected and analysed as per IS methods. The values are found to well within the stipulated limits for which the norms are mentioned in the report. Hyphen(-) denotes limits not provided by EPA. Note: m - metre, mg/Nm ³ - Milligram Per Normal cubic metre, m/sec - metre per second, Nm ³ /hr - Normal cubic metre per hour, °C - Degree Centigrade							

**** End of the Report ****



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अदयालम्पेट, मदुरवोयल, चेन्नई-६०० ०९४. तमिल नाडु, भारत
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TEST REPORT OF PARTICULATE MATTER PERFORMANCE IN STACK

Report Number	TC774223011331F	Report Date	13.04.2023				
Customer Name & Address	M/s.TAMILNADU CEMENTS CORPORATION LTD., (TANCEM), Ariyalur Cement Factory, Ariyalur, Tamil Nadu - 621 729.						
Sample Drawn by	M/s. R&C Environment Lab.	Sample Reference No.	EELAB/3099				
Sample Collection date	31.03.2023	Sample Received on	31.03.2023				
Sampling Consumable	Thimble - 07,08,09	Test Commenced on	31.03.2023				
Sample Description	Stack Emission - Particulate Matter Performance Test	Test Completed on	12.04.2023				
Sampling Method	IS : 11255	Vol. of Air Sampled - 22 lpm					
RESULTS							
S. No.	PARAMETER	TEST METHOD	Cement Mill Expn. (Repeatability)			UNIT	Limits as per EPA
			Sample D	Sample E	Sample F		
1	Stack Height	-	44.0	44.0	44.0	m	-
2	Stack Diameter	Circular Duct	1.6	1.6	1.6	m	-
3	Stack Temperature	IS 11255,Part 3-2018	141.0	140.4	142.2	°C	-
4	Gas Velocity	IS 11255,Part 3-2018	15.6	15.2	15.4	m/sec	-
5	Gas Discharge	IS 11255,Part 3-2018	83743.53	81448.52	81893.96	Nm ³ /hr	-
6	Particulate Matter	IS 11255,Part 1-2019	21.6	22.0	21.2	mg/Nm ³	30
Remarks :							 Authorized Signatory
The sample was collected and analysed as per IS methods. The values are found to well within the stipulated limits for which the norms are mentioned in the report. Hyphen(-) denotes limits not provided by EPA.							
Note: m - metre, mg/Nm ³ - Milligram Per Normal cubic metre, m/sec - metre per second, Nm ³ /hr - Normal cubic metre per hour, °C - Degree Centigrade							

**** End of the Report ****



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R&C/EEL/LQMS/QM/46

मुलुण्ड एल.बी. शास्त्री मार्ग मुलुण्ड पश्चिम मुम्बई - 400 080. फैक्स : 022 - 2569 0988 फोन : 022 - 2561 1973	Mulund L.B. Shastri Marg. Mulund West Mumbai - 400 080. Fax : 022 - 2569 0988 Phone : 022 - 2561 1973	पंजीकृत एवं मुख्यालय भायखुला आयरन वर्क्स सर जे.जे. सड़क, मुम्बई - 400 008. फैक्स : 022 - 2373 1491 फोन : 022 - 2373 8086	Regd. & Head Office : Byculla Iron Works Sir J. J. Road Mumbai - 400 008. Fax : 022 - 2373 1491 Phone : 022 - 2373 8086	नागपूर एफ३, एम.आर्.डी.रो. इंडस्ट्रियल एस्टेट हिंगना सड़क, नागपूर - 440 016. फैक्स : 07104 - 237693 फोन : 07104 - 237061	Nagpur F3, MIDC Industrial Estate, Hingna Road, Nagpur - 440 016. Fax : 07104 - 237693 Phone : 07104 - 237061
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स्थापना १८५८
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पर्यावरण इंजीनियरिंग प्रयोगशाला प्रभाग,
१/६१, कुलकर्णी स्ट्रीट, वीओसी नगर मुख्य सड़क,
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CERT No. TC-7742

ENGINEERS

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ENVIRONMENTAL ENGINEERING LABORATORY

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TEST REPORT OF PARTICULATE MATTER PERFORMANCE IN STACK

Report Number	TC774223011328F	Report Date	13.04.2023				
Customer Name & Address	M/s.TAMILNADU CEMENTS CORPORATION LTD., (TANCEM), Ariyalur Cement Factory, Ariyalur, Tamil Nadu - 621 729.						
Sample Drawn by	M/s. R&C Environment Lab.	Sample Reference No.	EELAB/3099				
Sample Collection date	30.03.2023	Sample Received on	31.03.2023				
Sampling Consumable	Thimble - 16,17,21	Test Commenced on	31.03.2023				
Sample Description	Stack Emission - Particulate Matter Performance Test	Test Completed on	12.04.2023				
Sampling Method	IS : 11255	Vol. of Air Sampled - 18 lpm					
RESULTS							
S. No.	PARAMETER	TEST METHOD	Cement Mill Existing (Repeatability)			UNIT	Limits as per EPA
			Sample A	Sample B	Sample C		
1	Stack Height	-	25.8	25.8	25.8	m	-
2	Stack Diameter	Circular Duct	0.89	0.89	0.89	m	-
3	Stack Temperature	IS 11255,Part 3-2018	80.2	82.4	81.6	°C	-
4	Gas Velocity	IS 11255,Part 3-2018	17.6	17.8	18.0	m/sec	-
5	Gas Discharge	IS 11255,Part 3-2018	34265.66	34328.33	34678.66	Nm ³ /hr	-
6	Particulate Matter	IS 11255,Part 1-2019	27.2	26.4	25.6	mg/Nm ³	30
Remarks :							 Authorized Signatory
The sample was collected and analysed as per IS methods. The values are found to well within the stipulated limits for which the norms are mentioned in the report. Hyphen(-) denotes limits not provided by EPA.							
Note: m - metre, mg/Nm ³ - Milligram Per Normal cubic metre, m/sec - metre per second, Nm ³ /hr - Normal cubic metre per hour, °C - Degree Centigrade							

**** End of the Report ****



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R&C/EEL/LQMS/QM/46

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TEST REPORT OF PARTICULATE MATTER PERFORMANCE IN STACK

Report Number	TC774223011329F	Report Date	13.04.2023				
Customer Name & Address	M/s.TAMILNADU CEMENTS CORPORATION LTD., (TANCEM), Ariyalur Cement Factory, Ariyalur, Tamil Nadu - 621 729.						
Sample Drawn by	M/s. R&C Environment Lab.	Sample Reference No.	EELAB/3099				
Sample Collection date	30.03.2023	Sample Received on	31.03.2023				
Sampling Consumable	Thimble - 25,26,27	Test Commenced on	31.03.2023				
Sample Description	Stack Emission - Particulate Matter Performance Test	Test Completed on	12.04.2023				
Sampling Method	IS: 11255	Vol. of Air Sampled - 18 lpm					
RESULTS							
S. No.	PARAMETER	TEST METHOD	Cement Mill Existing (Repeatability)			UNIT	Limits as per EPA
			Sample D	Sample E	Sample F		
1	Stack Height	-	25.8	25.8	25.8	m	-
2	Stack Diameter	Circular Duct	0.89	0.89	0.89	m	-
3	Stack Temperature	IS 11255,Part 3-2018	81.4	80.6	82.4	°C	-
4	Gas Velocity	IS 11255,Part 3-2018	18.2	17.4	17.8	m/sec	-
5	Gas Discharge	IS 11255,Part 3-2018	35313.82	33727.73	34216.15	Nm ³ /hr	-
6	Particulate Matter	IS 11255,Part 1-2019	27.4	25.6	26.6	mg/Nm ³	30
Remarks : The sample was collected and analysed as per IS methods. The values are found to well within the stipulated limits for which the norms are mentioned in the report. Hyphen(-) denotes limits not provided by EPA.							 Authorized Signatory
Note: m - metre, mg/Nm ³ - Milligram Per Normal cubic metre, m/sec - metre per second, Nm ³ /hr - Normal cubic metre per hour, °C - Degree Centigrade							

**** End of the Report ****



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CHART 1 : PARTICULATE MATTER PERFORMANCE IN STACK EMISSION

Client : TANCEM, ARIYALUR.
 DATE : 30 & 31 MARCH 2023

Unit : mg/Nm³

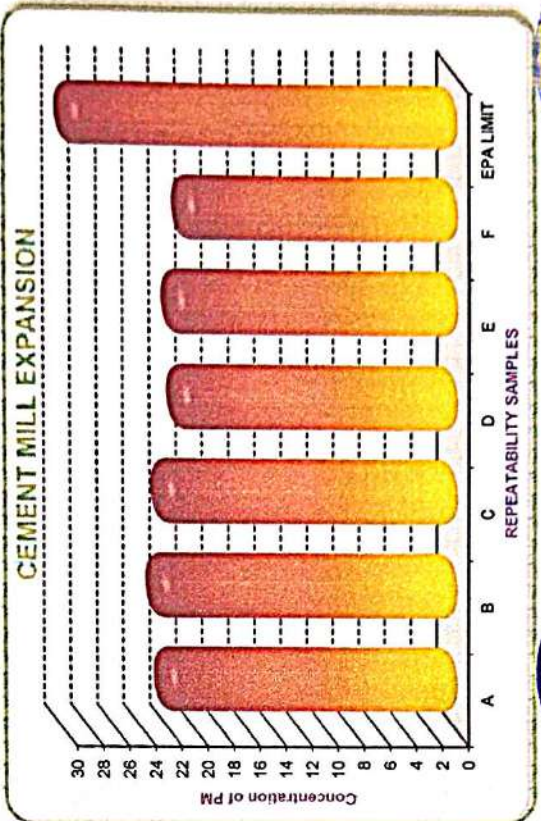
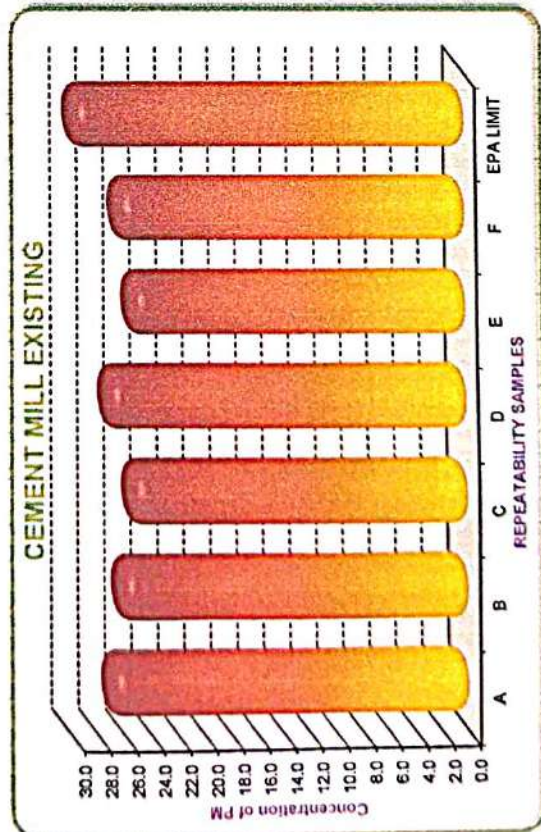
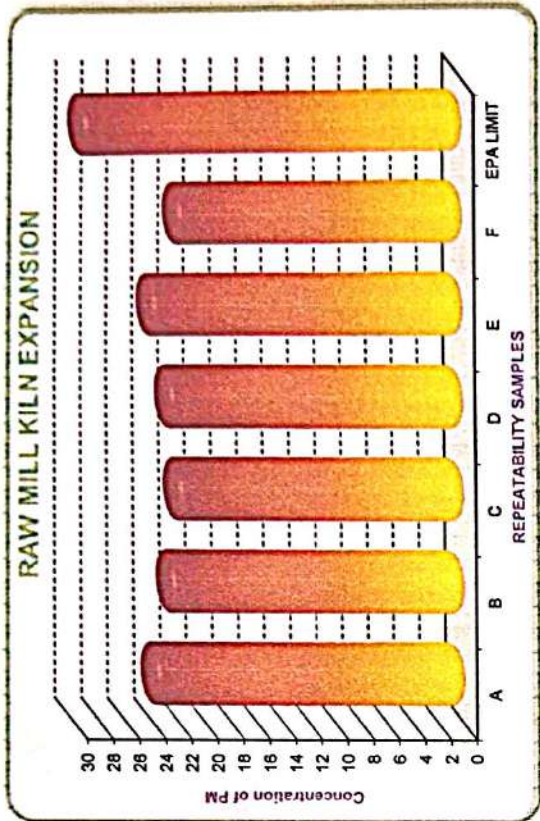
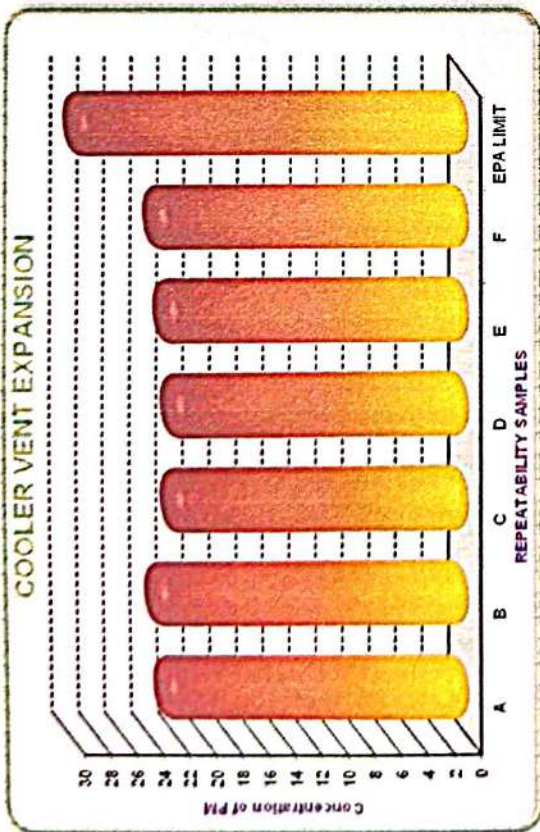
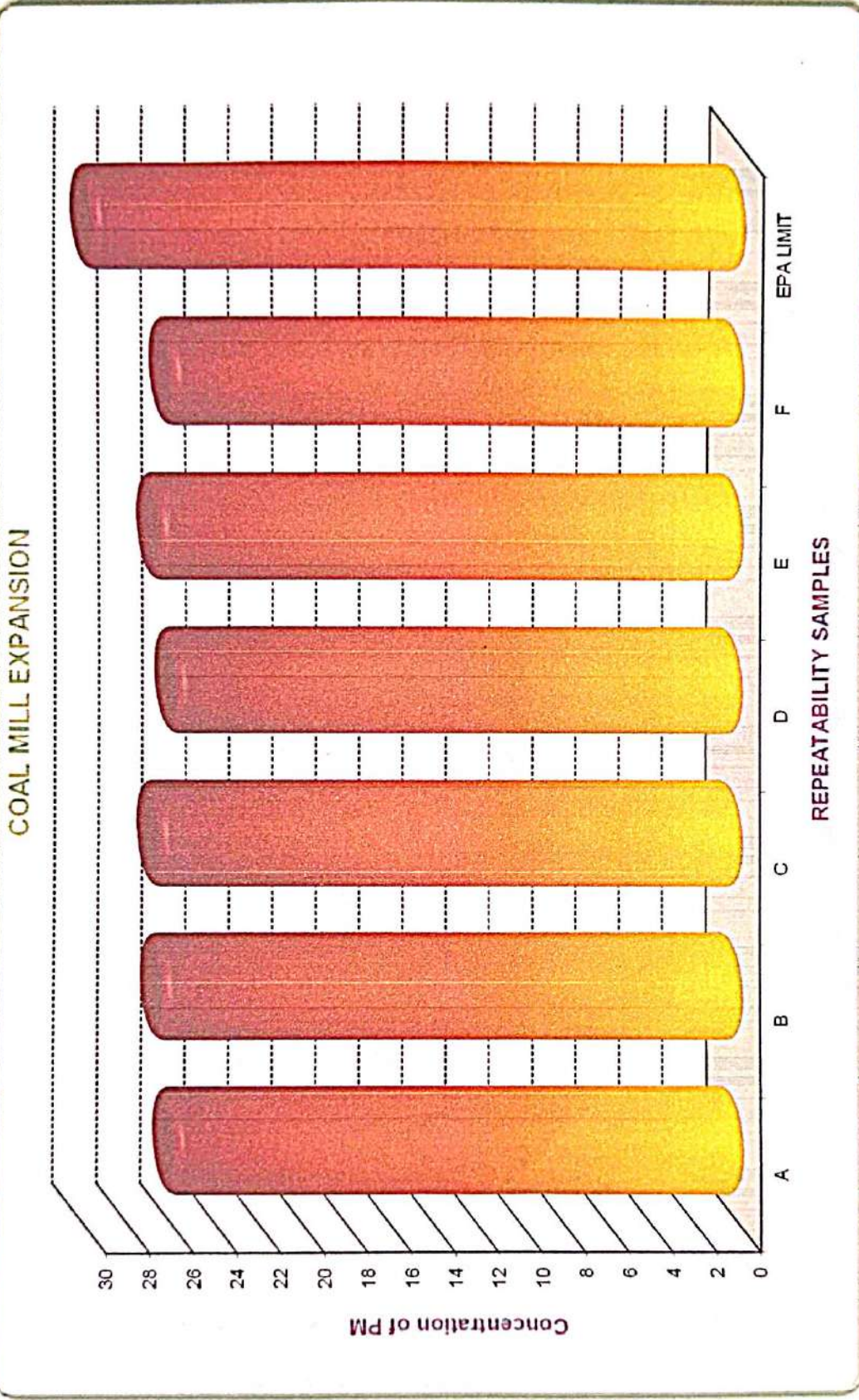


CHART 2 : PARTICULATE MATTER PERFORMANCE IN STACK EMISSION

Client : TANCEM, ARIYALUR.
DATE : 30 & 31 MARCH 2023

Unit : mg/Nm³





स्थापना १८५८
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CERT No. TC-7742

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TEST REPORT OF PARTICULATE MATTER PERFORMANCE IN STACK

Report Number	TC774223011334F	Report Date	13.04.2023
Customer Name & Address	M/s.TAMILNADU CEMENTS CORPORATION LTD., (TANCEM), Ariyalur Cement Factory, Ariyalur, Tamil Nadu - 621 729.		
Sample Drawn by	M/s. R&C Environment Lab.	Sample Reference No.	EELAB/3099
Sample Collection date	30.03.2023	Sample Received on	31.03.2023
Sampling Consumable	Thimble - 28,29,33,34,35	Test Commenced on	31.03.2023
Sample Description	Stack Emission - Particulate Matter Performance Test	Test Completed on	12.04.2023
Sampling Method	IS : 11255	Vol. of Air Sampled - 20 lpm	

RESULTS

S. No.	Location	RESULT - Parameter	
		Arsenic, As (mg/Nm ³)	Mercury, Hg (mg/Nm ³)
1	Expansion Cooler Vent	BDL (DL - 0.01)	BDL (DL - 0.01)
2	Expansion Raw Mill Kiln	BDL (DL - 0.01)	BDL (DL - 0.01)
3	Existing Cement Mill	BDL (DL - 0.01)	BDL (DL - 0.01)
4	Expansion Cement Mill	BDL (DL - 0.01)	BDL (DL - 0.01)
5	Expansion Coal Mill	BDL (DL - 0.01)	BDL (DL - 0.01)
EPA Limits		0.05	0.05
Test Methodology		EPA Method 0060	

Remarks :

The sample was collected and analysed as per IS methods. The values are found to well within the stipulated limits for which the norms are mentioned in the report.

Note: BDL - Below the Detectable Limit, DL - Detection Limit, mg/Nm³ - Milligram Per Normal cubic metre.

(Signature)

Authorised Signatory

**** End of the Report ****



Note: This report relates only to the particular sample submitted for test. Any correction not attested shall invalidate this report. This report shall not be reproduced except in full without our written approval. Sample are not drawn by us unless otherwise stated. Retention period of tested samples 15 days only unless otherwise specified.

R&C/EEL/LQMS/QM/46

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स्थापना १८५८
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अदयलपेट, मदुरवोयल, चेन्नई-६०० ०९४. तमिल नाडु, भारत
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TEST REPORT

Issued to	M/s.TAMILNADU CEMENTS CORPORATION LTD., (TANCEM), Ariyalur Cement Factory, Ariyalur, Tamil Nadu - 621 729.				
Reference	Acknowledgement Receipt number : 3099	Report Number	TC774223011335F		
Sample Description	Ambient Air Quality - AAQ1		Sampling date & time:	30 & 31.03.2023 - 24 Hourly sampling	
Sample drawn By	M/s.R&C Environment Lab.		Test commenced on :	31.03.2023	
Sampling Method	R&C/EEL/LQMS/SOP-041		Test completed on :	12.04.2023	
Report date	13.04.2023				
Instrument Used	Respirable Dust Sampler & Fine Particulate Sampler				
Ambient Temp	Min - 26.0°C, Max - 34.0°C		Relative Humidity:	Min - 46%, Max - 64%	
S. No.	Parameters	RESULT Near Admin Office	Unit	Test Method	NAAQ Standards
1	Sulphur Dioxide (SO ₂)	27.2	µg/m ³	IS: 5182(P-2) Reaff:2022	80
2	Nitrogen Dioxide (NO ₂)	31.4	µg/m ³	IS: 5182(P-6) Reaff:2022	80
3	PM ₁₀	62	µg/m ³	IS: 5182(P-23) Reaff:2022	100
4	PM _{2.5}	28	µg/m ³	IS: 5182(P-24) Reaff:2019	60
5	Carbon Monoxide (CO)	BDL (DL:0.005)	mg/m ³	IS: 5182(P-10) Reaff:2019	2
6	Lead (Pb)	BDL (DL:0.05)	µg/m ³	IS: 5182(P-22) Reaff:2019	1
7	Ozone (O ₃)	26.8	µg/m ³	IS: 5182(P-9) Reaff:2019	180
8	Ammonia (NH ₃)	12.4	µg/m ³	IS: 5182(P-25) Reaff:2018	400
9	Benzene (C ₆ H ₆)	BDL (DL:1)	µg/m ³	IS: 5182(P-11) Reaff:2022	5
10	Benzo(a)Pyrene (C ₂₀ H ₁₂)	BDL (DL:0.01)	ng/m ³	IS: 5182(P-12) Reaff:2019	1
11	Arsenic (As)	BDL (DL:1)	ng/m ³	APHA 3 rd Edn. (AP)	6
12	Nickel (Ni)	BDL (DL:5)	ng/m ³	IS: 5182(P-26) Reaff:2020	20
13	Mercury (Hg)	BDL (DL:1)	µg/m ³	APHA 3 rd Edn. (AP) / EPA Method IO-5	100

Note: PM₁₀-Particulate Matter ≤10 microns, PM_{2.5}-Particulate Matter ≤2.5 microns, BDL - Below the Detectable Limit, D.L - Detection Limit, µg/m³ - Micrograms per cubic meter, mg/m³ - Milligrams Per cubic meter, ng/m³ - Nano grams Per cubic meter

*** End of Report***



Authorized Signatory

(Technical Manager - Er.Arunkumar.V)

Note: This report relates only to the particular sample submitted for test. Any correction or amendment shall be made in the report. This report shall not be reproduced except in full without our written approval. Sample are not drawn by us unless otherwise stated. Retention period for tested samples is 15 days only unless otherwise specified.

R&C/EEL/LQMS/QM/46

मुलुण्ड एल.बी. शास्त्री मार्ग मुलुण्ड पश्चिम मुम्बई - 400 080. फैक्स : 022-2569 0988 फोन : 022-2561 1973	Mulund L.B. Shastri Marg. Mulund West Mumbai - 400 080. Fax : 022 - 2569 0988 Phone : 022 - 2561 1973	पंजीकृत एवं मुख्यालय भायखला आयरन वर्क्स सर जे.जे. सड़क, मुम्बई - 400 008. फैक्स : 022-2373 1491 फोन : 022-2373 8086	Regd. & Head Office : Byculla Iron Works Sir J.J. Road Mumbai - 400 008. Fax : 022 - 2373 1491 Phone : 022 - 2373 8086	नागपुर एफ३, एम.आई.डी.सी. इंडस्ट्रियल एस्टेट हिगना सड़क, नागपुर - 440 016. फैक्स : 07104-237693 फोन : 07104-237061	Nagpur F3, MIDC Industrial Estate, Hingna Road, Nagpur - 440 016. Fax : 07104 - 237693 Phone : 07104 - 237061
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स्थापना १८५८
ESTD 1858
ISO 9001 Co.,

इंजिनियर्स

आर एंड सी पर्यावरण प्रयोगशाला,

पर्यावरण इंजीनियरिंग प्रयोगशाला प्रभाग,

१/६१, कुलकर्णी स्ट्रीट, वीओसी नगर मुख्य सड़क,

अदयलम्पेट, मदुरवोयल, चेन्नई-६०० ०९४, तमिल नाडु, भारत

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९०४३० ७५९४९, फैक्स : +९१-४४-२६२५ ८२९५

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रिचर्डसन एण्ड क्रुड्दास (१९७२) लिमिटेड

(भारत सरकार का उपक्रम)



CERT No. TC-7742

ENGINEERS

R&C Environment Lab,

Environmental Engineering Laboratory Division,

1/61, Kulakarai Street, VCC Nagar Main Road, Adayalampet,

Maduravoyal, Chennai - 600 095. Tamil Nadu, India.

Website: <http://www.rcenvirolab.com>

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ISO 9001
QUALITY MANAGEMENT

ISO 14001
ENVIRONMENTAL MANAGEMENT

ISO 45001
SAFETY MANAGEMENT

ENVIRONMENTAL ENGINEERING LABORATORY

(Recognized by Central Pollution Control Board/MoEF/Accredited By NABL)

TEST REPORT

Issued to	M/s.TAMILNADU CEMENTS CORPORATION LTD., (TANCEM), Ariyalur Cement Factory, Ariyalur, Tamil Nadu - 621 729.		
Reference	Acknowledgement Receipt number : 3099	Report Number	TC774223011336F
Sample Description	Ambient Air Quality - AAQ2		Sampling date & time: 30 & 31.03.2023 - 24 Hourly sampling
Sample drawn By	M/s.R&C Environment Lab.		
Sampling Method	R&C/EEL/LQMS/SOP-041		Test commenced on : 31.03.2023
Report date	13.04.2023		Test completed on : 12.04.2023
Instrument Used	Respirable Dust Sampler & Fine Particulate Sampler		
Ambient Temp	Min - 26.0°C, Max - 34.0°C		Relative Humidity: Min - 46%, Max - 64%

S. No.	Parameters	RESULT Near Hospital	Unit	Test Method	NAAQ Standards
1	Sulphur Dioxide (SO ₂)	25.2	µg/m ³	IS: 5182(P-2) Reaff:2022	80
2	Nitrogen Dioxide (NO ₂)	30.4	µg/m ³	IS: 5182(P-6) Reaff:2022	80
3	PM ₁₀	64	µg/m ³	IS: 5182(P-23) Reaff:2022	100
4	PM _{2.5}	32	µg/m ³	IS: 5182(P-24) Reaff:2019	60
5	Carbon Monoxide (CO)	BDL (DL:0.005)	mg/m ³	IS: 5182(P-10) Reaff:2019	2
6	Lead (Pb)	BDL (DL:0.05)	µg/m ³	IS: 5182(P-22) Reaff:2019	1
7	Ozone (O ₃)	30.6	µg/m ³	IS: 5182(P-9) Reaff:2019	180
8	Ammonia (NH ₃)	12.2	µg/m ³	IS: 5182(P-25) Reaff:2018	400
9	Benzene (C ₆ H ₆)	BDL (DL:1)	µg/m ³	IS: 5182(P-11) Reaff:2022	5
10	Benzo(a)Pyrene (C ₂₀ H ₁₂)	BDL (DL:0.01)	ng/m ³	IS: 5182(P-12) Reaff:2019	1
11	Arsenic (As)	BDL (DL:1)	ng/m ³	APHA 3 rd Edn. (AP)	6
12	Nickel (Ni)	BDL (DL:5)	ng/m ³	IS: 5182(P-26) Reaff:2020	20
13	Mercury (Hg)	BDL (DL:1)	µg/m ³	APHA 3 rd Edn. (AP) / EPA Method IO-5	100

Note: PM₁₀-Particulate Matter ≤10 microns, PM_{2.5}-Particulate Matter ≤2.5 microns, BDL - Below the Detectable Limit, D.L - Detection Limit, µg/m³ - Micrograms per cubic meter, mg/m³ - Milligrams Per cubic meter, ng/m³ - Nano grams Per cubic meter

*** End of Report ***



Authorized Signatory
(Technical Manager - Er.Arunkumar.V)

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R&C/EEL/LQMS/QM/46

Page 1 of 1

मुलुण्ड एल.बी. सास्त्री मार्ग मुलुण्ड पश्चिम मुम्बई - 400 080. फैक्स : 022-2569 0988 फोन : 022-2561 1973	Mulund L.B. Shastri Marg. Mulund West Mumbai - 400 080. Fax : 022 - 2569 0988 Phone : 022 - 2561 1973	पंजीकृत एवं मुख्यालय भायखला आपरन वर्क्स सर जे.जे. सड़क, मुम्बई - 400 008. फैक्स : 022-2373 1491 फोन : 022-2373 8086	Regd. & Head Office : Byculla Iron Works Sir J.J. Road Mumbai - 400 008. Fax : 022 - 2373 1491 Phone : 022 - 2373 8086	नागपुर एफ३, एम.आर्डी.डी.सी. इंडस्ट्रियल एस्टेट हिंगना सड़क, नागपुर - 440016. फैक्स: 07104-237693 फोन: 07104-237061	Nagpur F3, MIDC Industrial Estate, Hingna Road, Nagpur - 440 016. Fax : 07104 - 237693 Phone : 07104 - 237061
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स्थापना १८५८
ESTD 1858
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इंजिनियर्स

आर एंड सी पर्यावरण प्रयोगशाला,
पर्यावरण इंजीनियरिंग प्रयोगशाला प्रभाग,
१/६१, कुलकर्णी स्ट्रीट, वीओसी नगर मुख्य सड़क,
अदयलाम्पेट, मदुरवोयल, चेन्नई-६०० ०९४. तमिल नाडु, भारत.
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९०४३० ७५९४९, फैक्स : + ९१-४४-२६२५ ८२९५

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रिचर्डसन एण्ड क्रुडस (१९७२) लिमिटेड

(भारत सरकार का उपक्रम)



CERT No. TC-7742

ENGINEERS

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ENVIRONMENTAL ENGINEERING LABORATORY

(Recognized by Central Pollution Control Board/MoEF/Accredited By NABL)

TEST REPORT

Issued to	: M/s.TAMILNADU CEMENTS CORPORATION LTD., (TANCEM), Ariyalur Cement Factory, Ariyalur, Tamil Nadu - 621 729.		
Reference	: Acknowledgement Receipt number : 3099	Report Number	: TC774223011337F
Sample Description	: Ambient Air Quality - AAQ3	Sampling date & time:	30 & 31.03.2023 - 24 Hourly sampling
Sample drawn By	: M/s.R&C Environment Lab.		
Sampling Method	: R&C/EEL/LQMS/SOP-041	Test commenced on	: 31.03.2023
Report date	: 13.04.2023	Test completed on	: 12.04.2023
Instrument Used	: Respirable Dust Sampler & Fine Particulate Sampler		
Ambient Temp	: Min - 26.0°C, Max - 34.0°C	Relative Humidity:	Min - 46%, Max - 64%

S. No.	Parameters	RESULT Near Oxidation Pond	Unit	Test Method	NAAQ Standards
1	Sulphur Dioxide (SO ₂)	18.6	µg/m ³	IS: 5182(P-2) Reaff:2022	80
2	Nitrogen Dioxide (NO ₂)	24.2	µg/m ³	IS: 5182(P-6) Reaff:2022	80
3	PM ₁₀	52	µg/m ³	IS: 5182(P-23) Reaff:2022	100
4	PM _{2.5}	24	µg/m ³	IS: 5182(P-24) Reaff:2019	60
5	Carbon Monoxide (CO)	BDL (DL:0.005)	mg/m ³	IS: 5182(P-10) Reaff:2019	2
6	Lead (Pb)	BDL (DL:0.05)	µg/m ³	IS: 5182(P-22) Reaff:2019	1
7	Ozone (O ₃)	31.8	µg/m ³	IS: 5182(P-9) Reaff:2019	180
8	Ammonia (NH ₃)	24.6	µg/m ³	IS: 5182(P-25) Reaff:2018	400
9	Benzene (C ₆ H ₆)	BDL (DL:1)	µg/m ³	IS: 5182(P-11) Reaff:2022	5
10	Benzo(a)Pyrene (C ₂₀ H ₁₂)	BDL (DL:0.01)	ng/m ³	IS: 5182(P-12) Reaff:2019	1
11	Arsenic (As)	BDL (DL:1)	ng/m ³	APHA 3 rd Edn. (AP)	6
12	Nickel (Ni)	BDL (DL:5)	ng/m ³	IS: 5182(P-26) Reaff:2020	20
13	Mercury (Hg)	BDL (DL:1)	µg/m ³	APHA 3 rd Edn. (AP) / EPA Method IO-5	100

Note: PM₁₀-Particulate Matter ≤10 microns, PM_{2.5}-Particulate Matter ≤2.5 microns, BDL - Below the Detectable Limit, D.L - Detection Limit, µg/m³ - Micrograms per cubic meter, mg/m³ - Milligrams Per cubic meter, ng/m³ - Nano grams Per cubic meter

*** End of Report ***

Authorized Signatory

(Technical Manager - Er.Arunkumar.V)

Note: This report relates only to the particular sample submitted for test. Any correction or attestation of this report. This report shall not be reproduced except in full without our written approval. Sample are not drawn by us unless otherwise stated. Retention period of tested samples 75 days only unless otherwise specified.

R&C/EEL/LQMS/QM/46

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स्थापना १८५८
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आर एंड सी पर्यावरण प्रयोगशाला,
पर्यावरण इंजीनियरिंग प्रयोगशाला प्रभाग,
१/६१, कुलकर्णी स्ट्रीट, वीओसी नगर मुख्य सड़क,
अदयलम्पेट, मदुरावोयल, चेन्नई-६०० ०९४. तमिल नाडु, भारत
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९०४३० ७५९४९, फैक्स : + ९१-४४-२६२५ ८२९५

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रिचर्डसन एण्ड क्रुडस (१९७२) लिमिटेड

(भारत सरकार का उपक्रम)



CERT No. TC-7742

ENGINEERS

R&C Environment Lab,

Environmental Engineering Laboratory Division,
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ENVIRONMENTAL ENGINEERING LABORATORY

(Recognized by Central Pollution Control Board/MoEF/Accredited By NABL)

TEST REPORT

Issued to	: M/s.TAMILNADU CEMENTS CORPORATION LTD., (TANCEM), Ariyalur Cement Factory, Ariyalur, Tamil Nadu - 621 729.		
Reference	: Acknowledgement Receipt number : 3099	Report Number	: TC774223011338F
Sample Description	: Ambient Air Quality - AAQ4	Sampling date & time:	30 & 31.03.2023 - 24 Hourly sampling
Sample drawn By	: M/s.R&C Environment Lab.	Test commenced on	: 31.03.2023
Sampling Method	: R&C/EEL/LQMS/SOP-041	Test completed on	: 12.04.2023
Report date	: 13.04.2023		
Instrument Used	: Respirable Dust Sampler & Fine Particulate Sampler		
Ambient Temp	: Min - 26.0°C, Max - 34.0°C	Relative Humidity:	Min - 46%, Max - 64%

S. No.	Parameters	RESULT Near Store area	Unit	Test Method	NAAQ Standards
1	Sulphur Dioxide (SO ₂)	30.6	µg/m ³	IS: 5182(P-2) Reaff:2022	80
2	Nitrogen Dioxide (NO ₂)	34.2	µg/m ³	IS: 5182(P-6) Reaff:2022	80
3	PM ₁₀	68	µg/m ³	IS: 5182(P-23) Reaff:2022	100
4	PM _{2.5}	34	µg/m ³	IS: 5182(P-24) Reaff:2019	60
5	Carbon Monoxide (CO)	BDL (DL:0.005)	mg/m ³	IS: 5182(P-10) Reaff:2019	2
6	Lead (Pb)	BDL (DL:0.05)	µg/m ³	IS: 5182(P-22) Reaff:2019	1
7	Ozone (O ₃)	31.2	µg/m ³	IS: 5182(P-9) Reaff:2019	180
8	Ammonia (NH ₃)	10.8	µg/m ³	IS: 5182(P-25) Reaff:2018	400
9	Benzene (C ₆ H ₆)	BDL (DL:1)	µg/m ³	IS: 5182(P-11) Reaff:2022	5
10	Benzo(a)Pyrene (C ₂₀ H ₁₂)	BDL (DL:0.01)	ng/m ³	IS: 5182(P-12) Reaff:2019	1
11	Arsenic (As)	BDL (DL:1)	ng/m ³	APHA 3 rd Edn. (AP)	6
12	Nickel (Ni)	BDL (DL:5)	ng/m ³	IS: 5182(P-26) Reaff:2020	20
13	Mercury (Hg)	BDL (DL:1)	µg/m ³	APHA 3 rd Edn. (AP) / EPA Method IO-5	100

Note: PM₁₀-Particulate Matter ≤10 microns, PM_{2.5}-Particulate Matter ≤2.5 microns, BDL - Below the Detectable Limit, D.L - Detection Limit, µg/m³- Micrograms per cubic meter, mg/m³ - Milligrams Per cubic meter, ng/m³ - Nano grams Per cubic meter

*** End of Report ***



Authorized Signatory
(Technical Manager - Er.Arunkumar.V)

Note: This report relates only to the particular sample submitted for test. Any correction requested shall be made within 10 days of the report. This report shall not be reproduced except in full without our written approval. Sample are not drawn by us unless otherwise stated. Retention period for tested samples: 30 days only unless otherwise specified.

R&C/EEL/LQMS/QM/46

मुलुण्ड एल.बी. शास्त्री मार्ग मुलुण्ड पश्चिम मुम्बई - 400 080. फैक्स : 022 - 2569 0988 फोन : 022 - 2561 1973	Mulund L.B. Shastrri Marg. Mulund West Mumbai - 400 080. Fax : 022 - 2569 0988 Phone : 022 - 2561 1973	पंजीकृत एवं मुख्यालय भायखला आयरन वर्क्स सर जे.जे. सड़क, मुम्बई - 400 008. फैक्स : 022 - 2373 1491 फोन : 022 - 2373 8086	Regd. & Head Office : Byculla Iron Works Sir J. J. Road Mumbai - 400 008. Fax : 022 - 2373 1491 Phone : 022 - 2373 8086	नागपुर एच३, एम.आर्.डी.सी. इंडस्ट्रियल एस्टेट हिंगना सड़क, नागपुर - 440 016. फैक्स : 07104 - 237693 फोन : 07104 - 237061	Nagpur F3, MIDC Industrial Estate, Hingna Road, Nagpur - 440 016. Fax : 07104 - 237693 Phone : 07104 - 237061
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स्थापना १८५८
ESTD 1858
ISO 9001 Co.,

इंजिनियर्स

आर एंड सी पर्यावरण प्रयोगशाला,

पर्यावरण इंजीनियरिंग प्रयोगशाला प्रभाग,

१/६१, कुलकरई स्ट्रीट, वीओसी नगर मुख्य सड़क,

अदयालम्पेट, मदुरवोयल, चेन्नई-६०० ०९४. तमिल नाडु, भारत.

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रिचर्डसन एण्ड क्रुडस (१९७२) लिमिटेड

(भारत सरकार का उपक्रम)



CERT No. TC-7742

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ENVIRONMENTAL ENGINEERING LABORATORY

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TEST REPORT

Issued to	M/s.TAMILNADU CEMENTS CORPORATION LTD., (TANCEM), Ariyalur Cement Factory, Ariyalur, Tamil Nadu - 621 729.		
Reference	Acknowledgement Receipt number : 3099	Report Number	TC774223011339F
Sample Description	Ambient Air Quality - AAQ5		Sampling date & time: 30 & 31.03.2023 - 24 Hourly sampling
Sample drawn By	M/s.R&C Environment Lab.		
Sampling Method	R&C/EEL/LQMS/SOP-041	Test commenced on	31.03.2023
Report date	13.04.2023	Test completed on	12.04.2023
Instrument Used	Respirable Dust Sampler & Fine Particulate Sampler		
Ambient Temp	Min - 26.0°C, Max - 34.0°C	Relative Humidity:	Min - 46%, Max - 64%

S. No.	Parameters	RESULT Near AAQ-2 area	Unit	Test Method	NAAQ Standards
1	Sulphur Dioxide (SO ₂)	24.6	µg/m ³	IS: 5182(P-2) Reaff:2022	80
2	Nitrogen Dioxide (NO ₂)	28.2	µg/m ³	IS: 5182(P-6) Reaff:2022	80
3	PM ₁₀	60	µg/m ³	IS: 5182(P-23) Reaff:2022	100
4	PM _{2.5}	28	µg/m ³	IS: 5182(P-24) Reaff:2019	60
5	Carbon Monoxide (CO)	BDL (DL:0.005)	mg/m ³	IS: 5182(P-10) Reaff:2019	2
6	Lead (Pb)	BDL (DL:0.05)	µg/m ³	IS: 5182(P-22) Reaff:2019	1
7	Ozone (O ₃)	31.2	µg/m ³	IS: 5182(P-9) Reaff:2019	180
8	Ammonia (NH ₃)	14.8	µg/m ³	IS: 5182(P-25) Reaff:2018	400
9	Benzene (C ₆ H ₆)	BDL (DL:1)	µg/m ³	IS: 5182(P-11) Reaff:2022	5
10	Benzo(a)Pyrene (C ₂₀ H ₁₂)	BDL (DL:0.01)	ng/m ³	IS: 5182(P-12) Reaff:2019	1
11	Arsenic (As)	BDL (DL:1)	ng/m ³	APHA 3 rd Edn. (AP)	6
12	Nickel (Ni)	BDL (DL:5)	ng/m ³	IS: 5182(P-26) Reaff:2020	20
13	Mercury (Hg)	BDL (DL:1)	µg/m ³	APHA 3 rd Edn. (AP) / EPA Method IO-5	100

Note: PM₁₀-Particulate Matter ≤10 microns, PM_{2.5}-Particulate Matter ≤2.5 microns, BDL - Below the Detectable Limit, D.L - Detection Limit, µg/m³- Micrograms per cubic meter, mg/m³ - Milligrams Per cubic meter, ng/m³ - Nano grams Per cubic meter

*** End of Report ***

Authorized Signatory

(Technical Manager - Er.Arunkumar.V)

Note: This report relates only to the particular sample submitted for test. Any correction or modification shall be made to this report. This report shall not be reproduced except in full without our written approval. Sample are not drawn by us unless otherwise stated. Retention period of tested samples - 15 days only unless otherwise specified.

R&C/EEL/LQMS/QM/46

Page 1 of 1

मुलुण्ड एल.बी. सास्त्री मार्ग मुलुण्ड पश्चिम मुम्बई - 400 080. फैक्स : 022-2569 0988 फोन : 022-2561 1973	Mulund L.B. Shastri Marg. Mulund West Mumbai - 400 080. Fax : 022 - 2569 0988 Phone : 022 - 2561 1973	पंजीकृत एवं मुख्यालय भायखला आयरन वर्क्स सर जे.जे. सड़क, मुम्बई - 400 008. फैक्स : 022- 2373 1491 फोन : 022-2373 8086	Regd. & Head Office : Byculla Iron Works Sir J. J. Road Mumbai - 400 008. Fax : 022 - 2373 1491 Phone : 022 - 2373 8086	नागपुर एफ३, एम.आई.डी.सी. इंडस्ट्रियल एस्टेट हिग्ना सड़क, नागपुर - 440 016. फैक्स : 07104 - 237693 फोन : 07104 - 237061	Nagpur F3, MIDC Industrial Estate, Hingna Road, Nagpur - 440 016. Fax : 07104 - 237693 Phone : 07104 - 237061
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Tamil Nadu Pollution Control Board
Stack Monitoring Survey Report of Analysis

Report No : 41/SM/2023-24/ Date : 04.09.2023

1. Name and Address of the Industry : M/s.Tamil Nadu Cements Corporation Ltd.,
Ariyalur Cement Works
Ariyalur Taluk,
Ariyalur District
2. Date of Survey : 08.08.2023 & 09.08.2023
3. Consent Order No : 2208243039244
4. Category : Red/ Large

Stack Analysis Report

Sl. No	Stack attached to	Stack Temp °K	Velocity in (M/sec)	Discharge rate in (Nm ³ /hr)	Pollutants (mg/Nm ³)				O ₂ %
					PM	SO ₂	NO _x	CO PPM	
1	Raw Mill Kiln- New APC: Bag Filter Fuel: Coal	406	14.3	339768	28	126	264	81	10.4
2	Coal Mill-New APC: Bag Filter	344	14.1	34887	21	112	195	-	-
3	Cooler vent - New APC :ESP	396	15.1	199773	18	-	-	-	-
4	Cement Mill-New APC :Bag Filter	364	11.4	68126	23	-	-	-	-
5	Lime Stone Crusher APC: Bag Filter	311	10.6	35901	25	-	-	-	-
6.	DG Set 2500 KVA-I Fuel:HSD	411	12.1	5406	22	26	310	-	-
7.	DG Set 2500 KVA-II Fuel:HSD	385	12.9	6158	27	32	332	-	-

Shankar
04/09/2023

Environmental Scientist,

Mani Mohan
04/09/2023

Deputy Chief Scientific Officers,
AEL, TNPCB, Trichy-15.



Tamil Nadu Pollution Control Board Ambient Air Quality Survey Report


Report No: 41 /AAQS/2023-2024/ Date.04.09.2023

1. Name Address of the Industry : M/s. Tamil Nadu Cements Corporation Ltd.,
Ariyalur Cement Works
Ariyalur Taluk,
Ariyalur District.
3. Date of survey : 08.08.2023 & 09.08.2023
4. Duration of survey : 24 hours
5. Category : Red/Large
6. Consent Order No : 2208243039244

Ambient Temperature (°C)	Min	Max	Relative Humidity (%)	Min	Max
	28	38		35	70
Weather Condition	Partially Cloudy		Rain Fall (mm)	Nil	
Predominant Wind Direction	SW to NE		Mean Wind Speed (Km/hr)	18.4 km/hr	

Sl. No	Location of Sampling Stations	From Source			Pollutants in µg/m ³		
		Dire.	Dist. (m)	Ht. from gl (m)	PM ₁₀	SO ₂	NO ₂
1.	On top of scaffolding Near New Coal Crushing Unit	N	400	2.0	86	18.0	22.0
2.	On top of scaffolding Near CAAQ Monitoring Station	NE	500	2.0	88	19.0	25.0
3.	On top of scaffolding near Oxidation Pond	ESE	600	2.0	82	17.0	21.0
4.	On top of scaffolding near Admin Building	SW	700	2.0	79	16.0	20.0
5.	On top of scaffolding near Diesel Bunk	WNW	800	2.0	81	18.0	23.5


04/09/2023
Environmental Scientist,


04.09.2023
Deputy Chief Scientific Officers,
AEL, TNPCB, Trichy-15.



தமிழ்நாடு சிமெண்ட் கழகம்

(தமிழ்நாடு அரசு நிறுவனம்)

TAMILNADU CEMENTS CORPORATION LIMITED
(A Government of Tamilnadu Undertaking)



அரியலூர் சிமெண்ட் ஆலை, அரியலூர் - 621 729 , அரியலூர் மாவட்டம், தமிழ்நாடு.

Ariyalur Cement Factory, Ariyalur - 621 729, Ariyalur District, Tamilnadu

E-mail : tanaridgloffice@gmail.com website : www.tancem.com GSTIN : 33AABCT1819J1ZH

20.09.2023

ENVIRONMENTAL STATEMENT FOR THE FINANCIAL YEAR ENDING

31ST MARCH 2023

1. Name and address of the owner / occupier of the industry operation or process : Managing Director
Tamilnadu Cements Corpn. Ltd.,
5th Floor, Aavin Illam, No.3A,
Pasumpon Muthuramalinga Thevar Road,
Nandanam,
Chennai - 600 035.
2. Industry Category : Large (Red)
3. Year of Establishment : 1979
4. Operating Capacity : 3000 MT/day
5. Date of last environmental statement submitted : September - 2022

PART - B

WATER AND RAW MATERIALS CONSUMPTION:

1. WATER CONSUMPTION

Process	: Nil
Cooling	: 547 K.L./Day
Domestic	: 110 K.L./Day

Name of the product	Water consumption per unit of products	
	For the year 2021-22	For the year 2022-23
Cement	0.19 K.L	0.17 K.L

2. RAW MATERIAL CONSUMPTION:

SL.NO	Name of the Raw Material	Consumption of Raw Material Per Unit of Output	
		For the year 2021-22	For the year 2022-23
1	Coal lignite etc.,	0.1305	0.114
2	Gypsum	0.0322	0.034
3	Fly ash	0.2514	0.298
4	Lime stone	1.272	1.158

Cont...2

Corporate Office : 5th Floor, Aavin Illam, No.3 A Pasumpon Muthuramalinga Thevar Road,
Nandanam, Chennai - 600 035

Phone : 044 - 2852 5461, 044 28525471 Toll Free No. 1800 599 7635

E-mail : cscoc.tancem@tn.gov.in Fax : 044 - 28523991 Website : www.tancem.com

CIN : U40200TN1976SGC007081 GSTIN : 33AABCT1819J1ZH

PART – C

POLLUTION – DISCHARGED TO ENVIRONMENT /UNIT OF OUTPUT
(Parameter as specified in the consent issued)

Pollutants	Quantity of pollutants discharged mass/day	Concentration of pollutants in discharge Mass/Volume	Percentage of variation from prescribed standards
a)WATER 1. P.H.Value 2. B.O.D. 3. C.O.D. 4.Total Suspended solids	90 KL/day Sewage	7.12 10 mg/Ltr 64 mg/Ltr 20 mg/Ltr	Below tolerance limit
b) AIR 1.From Limestone Crusher (Expansion) a.Spm	22.173 kg	26 mg/NM ³	Below tolerance limit
2.From Kiln(Expansion) a. So ₂ b. NO _x c.Spm	833.46 kg 2087.6 kg 222.26 kg	105 mg/NM ³ 263 mg/NM ³ 28 mg/NM ³	Above tolerance limit Below tolerance limit Below tolerance limit
3. From Coal mill (Expansion) a.So ₂ b. NO _x c. Spm	93.55 kg 211.77 kg 22.96 kg	110 mg/NM ³ 249 mg/NM ³ 27 mg/NM ³	Above tolerance limit Below tolerance limit Below tolerance limit
4.From Cooler ESP (Expansion) a.So ₂ b. NO _x c. Spm	--- --- 106.18 kg	--- --- 22 mg/NM ³	Below tolerance limit
5.From Cement Mill Bag House (Expansion) a. Spm	37.606 kg	23 mg/NM ³	Below tolerance limit
6.From Cement Mill Bag House (Existing) a. Spm	18.359 kg 3655.9 kg	24 mg/NM ³	Below tolerance limit

Cont...3

POLLUTION DISCHARGED TO ENVIRONMENT / UNIT OF OUTPUT

1. WATER

Average sewage let out /day	=	90 K.L
Average daily cement production in the year 2022-2023	=	$\frac{1451321}{365}$
	=	3976.22 MT/Day
Water Pollution discharged to Environment/Unit of output	=	$\frac{90}{3976.22} = 0.0226$ K.L

2. AIR:

Total Pollution discharged into Atmosphere from all the chimneys/day	=	3.6559 MT
Average daily Cement production in the Year 2022-2023	=	$\frac{1451321}{365}$
	=	3976.22 MT/Day
Air pollution discharged into environment Unit of output	=	$\frac{3.6559}{3976.22} = 0.00092$ MT

PART – D

As specified under Hazardous wastes/management and handling rules 2016

Hazardous	Total Quantity in kgs	
	2020-2021	2021-2022
1. From Process	0.2 T Waste Oil and reused for Lubrication.	
2. From Pollution control facilities	Nil	

PART – E

SOLID WASTE:

Solid Waste	Total quantity in MTs	
	2021-2022	2022-2023
1. From Process	Nil	Nil
2. From Pollution control facilities	281411.39	217451.93
3. Quality recycled or re-utilised	281411.39	217451.93

All the materials collected in pollution Control equipments are reutilized.

Cont...4

PART – F

The Hazardous Waste generated in the plant is waste Lub oil and it is 0.2 T. It is stored in barrels and utilized for open gear lubrication in the plant. It is not transported outside the plant area.

PART – G

Since the materials collected in the pollution control facilities are either intermediate products or final products, they are again fed into the system and hence there is lot of savings in the intermediate and final products.

For example the plant has saved nearly 217451.93 MT of intermediate product through Limestone (Expansion) Bag filter, Kiln (Expansion) Bag houses, Coal Mill (Expansion) Bag houses and Cooler (Expansion) ESP. It has also saved nearly 160771.5 MT of cement (final product) from the both Existing and Expansion plant cement mill bag houses.

The above figure shows that not only lot of valuable final product is saved but also intermediate products like limestone powder, Raw meal powder, Cooler powder and coal powder are saved. The above intermediate products are nothing but limestone and coal, which are valuable natural resources.

PART – H

Tamilnadu Cements Corporation Limited, Ariyalur Cement Works has taken all our efforts to control pollution by installing latest pollution control equipments in major dust emanating areas.

The Pollution Control equipments available at TANCEM are listed below:

i.	ESPs	=	4 nos
ii.	Bag House	=	4 no
iii.	RABHs	=	2 nos.

- ❖ Since January – 2021, Existing plant was not in operation except Cement mill and Packing house. 1 ESP Cooler (Expansion) is emitting dust below 30 mg/Nm³. The Raw mill /Kiln (Expansion) Bag house, Coal mill (Expansion) Bag house and Cement Mill (Existing & Expansion) Bag House emission level is below 30 mg/Nm³. In Expansion plant, all major stacks i.e kiln, Coal mill, Cooler, Cement mill, which designed dust emission level is below 30 mg/Nm³.
- ❖ To adhere to the pollution control norms we have taken the following measures.
 - We have commissioned RABH instead of kiln ESP for kiln II and I on 21.12.2015 and 06.03.2016 respectively at the cost of 16.1 crores (designed emission level below 30mg/Nm³).
 - Cooler ESP-II is functioning from May-2013 and Cooler ESP-I is functioning from July-2013. Designed emission level is 30 mg/Nm³.

Cont ...5

- We have planned coal mill ESP upgrading into a new bag filters.
- In Expansion plant, we have installed Bag houses for Kiln, Coal mill, Cement mill and ESP for Cooler. The Pollution control equipments are commissioned on 01.11.2019.
- Green Belt:

In Our mines area we have already planted 12.50 lakhs plants/saplings. In Our colony and Plant area, we are having at about 10,000 trees. In addition to that we have planted 2370 saplings in the plant/colony area in the past few years. In the year 2013-14 we have planted 6000 new saplings on the eastern side of our plant through forest dept. In the year 2016-2017 world environment day celebrations and planted 150 new saplings in our production plant areas. In the year of 2019-20 we had celebrated world environment day on 5th June the theme of Biodiversity and planted 100 new saplings in our oxidation pond areas. In the year of 2020-2021, we had celebrated world environment day in the theme of Ecosystem Restoration and planted 120 saplings in Expansion plant and Oxidation pond areas. In the year of 2021-2022, we have celebrated world environment day in the theme of Only One Earth and planted 250 saplings in Plant premises. In the year 2022-2023, We have planted 1095 saplings under TNPCB Kurunkadugal scheme and Further 100 saplings planted on the occasion of World Environment Day with the theme of 'Beat Plastic Pollution' in the plant premises.

- AAQMS station 2 nos installed and all the major stacks (10 nos) are having online stack monitors through which the data's are transmitted through exclusive Broad band line to TNPCB/CPCB.

REMARKS AND CONCLUSION:

1. The figures given in this reports are based on the following:
 - a. Plant production report for the year 2021-2022 and 2022-2023
 - b. Stack monitoring and ambient air quality survey reports of Tamilnadu pollution Control board taken in and February – 2023.
 - c. Major equipments design data.

TAMILNADU CEMENTS CORPORATION LIMITED
ARIYALUR
ANNEXURE

ENVIRONMENTAL AUDIT REPORT:

PART-B:

I. WATER AND RAW MATERIAL CONSUMPTION:

1. Water consumption per unit of production:
 Total water consumption in a year = (547+110) x 365
 = 2,39,805 KL / year
- Total production of cement in the year
 2021-2022 = 11,99,227 MT
- Hence water consumption per unit of cement
 Production in the year (2021-2022) = $\frac{2,39,805}{11,99,227}$
 = 0.19 KL.
- Total production of cement in the year
 2022-2023 = 1451321 MT
- Hence water consumption per unit of cement
 Production in the year (2022-2023) = $\frac{2,39,805}{1451321}$ = 0.17 KL.

II. RAW MATERIAL CONSUMPTION:

Consumption of Raw material/Ton of Cement Production

- a) Total Cement production in the year
 2021-2022 = 1199227 MT
- b) Total Cement Production in the year
 2022-2023 = 1451321 MT

**CONSUMPTION OF DIFFERENT RAW MATERIALS IN THE YEAR
2022-2023**

SL.NO		2021-2022 (Qty.in MTs.)	2022-2023 (Qty.in MTs.)
1	Coal	1,56,513	165128
2	gypsum	38,557	49431
3	Fly ash	3,01,598	432208
4	Lime stone	15,25,417	1681331

CONSUMPTION OF DIFFERENT RAW MATERIALS /TONNE OF CEMENT PRODUCTION

SL.NO		2021-2022 (Qty.in MTs.)	2022-2023 (Qty.in MTs.)
1	Coal	0.1305	0.114
2	gypsum	0.0322	0.034
3	Fly ash	0.2514	0.298
4	Lime stone	1.272	1.158

PART-C

I. WATER POLLUTION (By TNPCB report on 06.03.2023):

1. P.H. Value	=	7.12
Tolerance limit prescribed by TNPCB	=	5.5-9.0
2. B.O.D at 27 ⁰ C for 3 days	=	10 mg/lt.
Tolerance limit	=	20 mg/lt.
3. C.O.D	=	64 mg/lt.
Tolerance limit	=	100 mg/lt.
4. Total suspended solids	=	20 mg/lt.
Tolerance limit	=	30 mg/lt.

II. AIR POLLUTION:

Parameters and limits specified in the consent order

i.	SO ₂	=	100 mg/Nm ³
ii.	CO	=	2000 mg/Nm ³
iii.	NO _x	=	600 mg/Nm ³

POLLUTION GENERATED IN DIFFERENT STACKS:

I. LIMESTONE CRUSHER (EXPANSION):

Velocity of gas in the stack	=	11.42 m/sec.at 311 K
Area of the stack	=	0.985 m ² (1.12 m dia)
Gas discharge through the stack	=	11.42 x 0.985
	=	11.244 m ³ /sec.
	=	9.87 Nm ³ /sec
	=	35534 Nm ³ /hr

POLLUTANTS IN LIMESTONE CRUSHER (EXPANSION) STACK:

i.	SO ₂	=	-----
ii.	NO _x	=	-----
iii.	Spm	=	26 mg/Nm ³
Total Spm emission /day	=	$\frac{26 \times 35534 \times 24}{10^6}$	
	=	22.173 kgs.	

% Variation of actual emission from the Standards = Below tolerance limit

II. KILN (EXPANSION):

Velocity of gas in the stack	=	15.99 m/sec. at 418 K
Area of the stack	=	8.8 m ² (3.35 m dia)
Gas discharge through the stack	=	15.99 x 8.8
	=	140.67 m ³ /sec.
	=	91.872 Nm ³ /sec
	=	330739 Nm ³ /hr

POLLUTANTS IN KILN (EXPANSION) STACK:

i.	SO ₂	=	105 mg/Nm ³
ii.	NO _x	=	263 mg/Nm ³
iii.	Spm	=	28 mg/Nm ³
iv.	CO	=	Nil

$$\begin{aligned} \text{Total SO}_2 \text{ emission/day} &= \frac{105 \times 330739 \times 24}{10^6} \\ &= 833.46 \text{ kgs} \end{aligned}$$

$$\begin{aligned} \text{Total NO}_x \text{ emission/day} &= \frac{263 \times 330739 \times 24}{10^6} \\ &= 2087.6 \text{ kgs.} \end{aligned}$$

$$\begin{aligned} \text{Total Spm emission/day} &= \frac{28 \times 330739 \times 24}{10^6} \\ &= 222.26 \text{ kgs.} \end{aligned}$$

% Variation of actual emission from the Standards = SO₂ Above tolerance limit.

III. COAL MILL (EXPANSION)

Velocity of gas in the stack	=	15.75 m/sec. at 343 K
Area of the stack	=	0.785 m ² (1 m dia)
Gas discharge through the stack	=	15.75 x 0.785
	=	12.37 m ³ /sec.
	=	9.84 Nm ³ /sec
	=	35436 Nm ³ /hr

POLLUTANTS IN COAL MILL (EXPANSION) STACK

i.	SO ₂	=	110 mg/Nm ³
ii.	NO _x	=	249 mg/Nm ³
iii.	Spm	=	27 mg/Nm ³

$$\begin{aligned} \text{Total SO}_2 \text{ emission/day} &= \frac{110 \times 35436 \times 24}{10^6} \\ &= 93.55 \text{ kgs} \end{aligned}$$

$$\begin{aligned} \text{Total NO}_x \text{ emission/day} &= \frac{249 \times 35436 \times 24}{10^6} \\ &= 211.77 \text{ kgs.} \end{aligned}$$

$$\begin{aligned} \text{Total Spm emission/day} &= \frac{27 \times 35436 \times 24}{10^6} \\ &= 22.96 \text{ kgs.} \end{aligned}$$

% Variation of actual emission from the Standards = SO₂ Above tolerance limit

IV. COOLER (EXPANSION):

$$\begin{aligned} \text{Velocity of gas in the stack} &= 16.4 \text{ m/sec.at } 393 \text{ K} \\ \text{Area of the stack} &= 4.9 \text{ m}^2 \text{ (2.5 m dia)} \\ \text{Gas discharge through the mill/day} &= 16.4 \times 4.9 \\ &= 80.4 \text{ m}^3/\text{sec.} \\ &= 55.86 \text{ Nm}^3/\text{sec} \\ &= 201096 \text{ Nm}^3/\text{hr} \end{aligned}$$

POLLUTANTS IN COOLER (EXPANSION) STACK

i.	SO ₂	=	----
ii.	NO _x	=	----
iii.	Spm	=	22 mg/Nm ³

$$\begin{aligned} \text{Total Spm emission /day} &= \frac{22 \times 201096 \times 24}{10^6} \\ &= 106.18 \text{ kgs.} \end{aligned}$$

% Variation of actual emission from the Standards = Below tolerance limit

V. CEMENT MILL (EXPANSION):

$$\begin{aligned} \text{Velocity of gas in the stack} &= 12.58 \text{ m/sec.at } 363 \text{ K} \\ \text{Area of the stack} &= 2 \text{ m}^2 \text{ (1.6 m dia)} \\ \text{Gas discharge through the stack} &= 12.58 \times 2 \\ &= 25.163 \text{ m}^3/\text{sec.} \\ &= 18.924 \text{ Nm}^3/\text{sec} \\ &= 68126 \text{ Nm}^3/\text{hr} \end{aligned}$$

POLLUTANTS IN CEMENT MILL (EXPANSION) STACK:

iv.	SO ₂	=	-----
v.	NO _x	=	-----
vi.	Spm	=	23 mg/Nm ³

$$\begin{aligned} \text{Total Spm emission /day} &= \frac{23 \times 68126 \times 24}{10^6} \\ &= 37.606 \text{ kgs.} \end{aligned}$$

% Variation of actual emission from the Standards = Below tolerance limit

VI. CEMENT MILL BAG HOUSE (EXISTING):

Velocity of gas in the stack	=	18.5 m/sec.at 353 K
Area of the stack	=	0.62 m ² (0.89 m dia)
Gas discharge through the stack	=	18.5 x 0.62
	=	11.45 m ³ /sec.
	=	8.85 Nm ³ /sec
	=	31873 Nm ³ /hr

POLLUTANTS IN CEMENT MILL BAG HOUSE (EXISTING) STACK:

i.	SO ₂	=	-----
ii.	NO _x	=	-----
iii.	Spm	=	24 mg/Nm ³
Total Spm emission /day		=	$\frac{24 \times 31873 \times 24}{10^6}$
		=	18.359 kgs.
% Variation of actual emission from the Standards		=	Below tolerance limit

MATERIAL SAVINGS:

1. LIMESTONE CRUSHER (EXPANSION):

Average dust concentration in the Limestone crusher Bag house inlet	=	37 gm/Nm ³
	=	37000 mg/Nm ³
Bag house outlet emission	=	26 mg/Nm ³
Gas flow rate	=	35534 x24
	=	852816 Nm ³ /day
Limestone crusher (Expansion) running hours in the year 2022 – 2023	=	3967.5 Hrs.
	=	165.3 days
Material saving in the Limestone crusher Bag house in the year 2022-2023	=	$\frac{(37000-26) \times 852816 \times 165.3}{10^9}$
	=	5212.24 MT

2. KILN (EXPANSION):

Average dust concentration in the kiln Bag house inlet	=	9.9165 gm/Nm ³
	=	9916.5 mg/Nm ³
Bag house outlet emission	=	28 mg/Nm ³
Gas flow rate	=	330739x24
	=	7937736 Nm ³ /day

Cont...11

Kiln (Expansion) running hours in the year 2022 – 2023	= 7940.25 Hrs. = 330.84 days
Material saving in the kiln Bag house in the year 2021-2022	= $\frac{(9916.5-28) \times 7937736 \times 330.84}{10^9}$ = 25968.39 MT
3. <u>COAL MILL (EXPANSION):</u>	
Average dust concentration in the Coal mill Bag house inlet	= 301.9653 gm/Nm ³ = 301965.3 mg/Nm ³
Bag house outlet emission	= 27 mg/Nm ³
Gas flow rate	= 35436x24 = 850464 Nm ³ /day
Coal mill (Expansion) running hours in the year 2022 – 2023	= 6966 Hrs. = 290.25 days
Material saving in the Coal mill Bag house in the year 2022 – 2023	= $\frac{(301965.3-27) \times 850464 \times 290.25}{10^9}$ = 74532.62 MT.
4. <u>COOLER (EXPANSION):</u>	
Average dust concentration in the kiln Bag house inlet	= 70.0015 gm/Nm ³ = 70001.5 mg/Nm ³
Bag house outlet emission	= 22 mg/Nm ³
Gas flow rate	= 201096x24 = 4826304 Nm ³ /day
Cooler (Expansion) running hours in the year 2022 – 2023	= 7940.25 Hrs. = 330.84 days
Material saving in the Cooler ESP in the year 2022-2023	= $\frac{(70001.5-22) \times 4826304 \times 330.84}{10^9}$ = 111738.68 MT
5. <u>CEMENT MILL BAG HOUSE (EXPANSION):</u>	
Average dust concentration in the Cement Mill Bag House Inlet	= 387.1612 gm/Nm ³ = 387161.2 mg/Nm ³
Bag House outlet emission	= 23 mg/Nm ³
Gas Flow rate	= 68126x24 = 1635024 Nm ³ /day
Cement mill running hours in the year 2022 – 2023	= 4850 hrs = 202.08 days

$$\begin{aligned} \text{Material saving in the Cement mill Bag House} &= \frac{(387161.2-23) \times 1635024 \times 202.08}{10^9} \\ \text{in the year 2022 - 2023} &= 127912.65 \text{ MT} \end{aligned}$$

6. CEMENT MILL BAG HOUSE (EXISTING):

$$\begin{aligned} \text{Average dust concentration in the Cement Mill Bag House} &= 182 \text{ gm/Nm}^3 \\ \text{Inlet} &= 182000 \text{ mg/Nm}^3 \\ \text{Bag House outlet emission} &= 24 \text{ mg/Nm}^3 \\ \text{Gas Flow rate} &= 31873 \times 24 \\ &= 764952 \text{ Nm}^3/\text{day} \\ \text{Cement mill running hours in the year} & \\ \text{2022 - 2023} &= 5665.25 \text{ hrs} \\ &= 236.05 \text{ days} \\ \text{Material saving in the Cement mill Bag House} &= \frac{(182000-24) \times 764952 \times 236.05}{10^9} \\ \text{in the year 2022 - 2023} &= 32858.85 \text{ MT} \end{aligned}$$

TOTAL MATERIAL SAVINGS:

Sl.NO	EQUIPMENT	INTERMEDIATE PRODUCTS MTs.	FINAL PRODUCTS MTs.
1.	Limestone Crusher (Expansion)	5212.24	
2.	Kiln Bag house (Expansion)	25968.39	
3.	Coal mill Bag house (Expansion)	74532.62	
4.	Cooler ESP (Expansion)	111738.68	
5.	Cement Mill Bag House (Expansion)		127912.65
6.	Cement Mill Bag House (Existing)		32858.85
	Total	217451.93	160771.5

$$\begin{aligned} \text{Total material collected from Pollution Control equipment} &= 217451.93 + 160771.5 \\ &= 378223.43 \text{ MTs} \end{aligned}$$

Yours faithfully,
For Tamilnadu Cements Corporation Ltd,
Ariyalur Cement Works,


Deputy General Manager (Tech)



ENVIRO EARTH CARE

Air, Water, Soil Pollution Monitoring Instruments Manufacturing,
Sale, Calibration and Servicing & Safety Equipments.

Ref. No.

Date. 02/06/23.

Calibration Certificate

Certificate No:	EEC/SDS/95	Page	1 of 1
SRF No:	2023/47	Calibration Date:	24/05/2023
SRF Date	24/05/2023	Due Date :	23/05/2024
Company Name & Address		Issue Date :	2/6/2023
M/s.TAMILNADU CEMENTS CORPORATION LTD., (TANCEM), Ariyalur Cement Factory, Ariyalur, Tamil Nadu - 621 729.			

DUC Details

Instrument Name	CEMS	Location	Existing Plant Cement Mill
Make	Durag	DUC Condition	Ok
Model No.	D-R-290 M	ID No.	-
Sr.No.	1210584	Calibration Performed at	Site

Calibration Details

Sr. No.	Parameter (s)	Amplification Factor	Date of Calibration
1	LED INT. Calibration	#129	1168
2	Zero INT. Calibration	#175	1168
3	SPAN Calibration	#71	1168
4	ZERO EXT. Calibration	#30	1168

Environment Condition	Temp.	B.Pressure	Humidity %	Reference Standard	Calibration Procedure No.
	29.7°C	755.1 mmHg	54 %RH	IS:15575 - 2005	EI/WI-SDS-01

Check Cycle and output readings after clear path calibration

Parameter	Signal	Tolerance
Zerp Point Check	0.0% to 4.00 mA	0.0% ↔ 4.00 mA
Window Check	0.1% to 3.98 mA	0.0 to 0.2% ↔ 4.00 mA to 4.03 mA
Span Check	71.8% to 15.48 mA	71.1 to 71.9 % ↔ 15.41 mA to 15.49 mA
Output (OP)		
Optical Density (OD1)	-0.0 to 3.99 mA	0.0 to 0.02 ↔ 4.00 to 4.03 mA
Optical Density (OD2)	- 0.00 to 3.99 mA	0.0 to 0.02 ↔ 4.00 to 4.03 mA

Check Cycle and Output Readings after OFFSET Calibration

Parameter	Signal	Tolerance
Zerp Point Check	0.0% to 4.00mA	0.0% ↔ 4.00 mA
Window Check	0.1% to 4.01 mA	0.0 to 0.2% ↔ 4.00 mA to 4.03 mA
Span Check	71.8% to 15.46 mA	71.1 to 71.9 % ↔ 15.41 mA to 15.49 mA
Output (OP)		
Optical Density (OD1)	0.002 to 4.02 mA	0.0 to 0.02 ↔ 4.00 to 4.03 mA
Optical Density (OD2)	0.002 to 4.02 mA	0.0 to 0.02 ↔ 4.00 to 4.03 mA

Authorized By



Head Office : J-22/5 Street No.-3 Jai Prakash Nagar, Ghonda, North East Delhi, Delhi-110053 India

Contact Us: +91-8279311209, +91-8470807481, +91-9654745352, E-mail: enviroearthcare@gmail.com, website: www.enviroearthcare.com



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Air, Water, Soil Pollution Monitoring Instruments Manufacturing,
Sale, Calibration and Servicing & Safety Equipments.

Ref. No.

Date: 02/06/23-

Calibration Certificate

Certificate No:	EEC/SDS/95	Page	1 of 1
SRF No:	2023/47	Calibration Date:	24/05/2023
SRF Date	24/05/2023	Due Date :	23/05/2024
Company Name & Address		Issue Date :	2/6/2023
M/s.TAMILNADU CEMENTS CORPORATION LTD., (TANCEM), Ariyalur Cement Factory, Ariyalur, Tamil			

DUC Details			
Instrument Name	CEMS	Location	Expansion Plant Killn
Make	SICK	DUC Condition	Ok
Model No.	8710	ID No.	-
Sr.No.	717431	Calibration Performed at	Site

Environment Condition	Temp.	B.Pressure	Humidity %	Reference Standard	Calibration Procedure No.
	29.4°C	755.1 mmHg	53 %RH	IS:15575 - 2005	EI/WI-AQMS-01

Calibration Details								
Sr. No.	Analyzer Name	Zero Calibration		Span Calibration			Factor	
		Pre	Post	Set Value	Before Calibration	After Calibration	Old Factor	New Factor
1	SO2 Analyser	0.07 PPM	0 PPM	100 PPM	98.78 PPM	100.49 PPM	1.2140	1.1837
2	NO Analyser	0.12 PPM	0 PPM	200 PPM	199.33 PPM	201.23 PPM	1.3756	1.3356
3	O2 Analyser	21.0%	20.9%	21%	20.90%	20.90%	-	-

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Air, Water, Soil Pollution Monitoring Instruments Manufacturing,
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Ref. No.

Date. 02/06/23

Calibration Certificate

Certificate No:	EEC/SMK/91	Page	1 of 1
SRF No:	2023/47	Calibration Date:	24/05/2023
SRF Date	21/05/2023	Due Date :	23/05/2024
Company Name & Address		Issue Date :	2/6/2023
M/s.TAMILNADU CEMENTS CORPORATION LTD., (TANCEM), Ariyalur Cement Factory, Ariyalur, Tamil Nadu - 621 729.			

DUC Details

Instrument Name	CEMS	Location	Expansion Plant Cement Mill Stack
Make	Durag India	DUC Condition	Ok
Model No. (Measuring Head)	D-R-220 M	Model No. (Reflector)	D-R-220 RI
Sr. No. (Measuring Head)	1266099	Sr. No. (Reflector)	126437
Calibration Path Length	Flange to Flange distance is 1600 mm	Calibration Performed at	Site

Parameter Details

Sr. No.	Parameter (s)		
1	LED Current	125 mA	
2	Integration Time	4 S	
3	Measurement: Optical Density/ Opacity	Optical Density	

Environment Condition	Temp.	B.Pressure	Humidity %	Reference Standard	Calibration Procedure No.
	29.7°C	755.1 mmHg	54 %RH	IS:15575 - 2005	EI/WI-SDS-01

Calibration Details:

Clear Path Calibration	Zero Calibration	0.0 to 0.1%	Actual	- 0.20 %	03.67 mA
	Span Calibration	100%	Actual	100%	20.0 mA
OFFSET Calibration	Zero Calibration	0.0 to 0.1%	Actual	0%	4.00 mA
	Span Calibration	100%	Actual	100%	20.0 mA





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Air, Water, Soil Pollution Monitoring Instruments Manufacturing,
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Ref. No.

Date. 02/06/23

Calibration Certificate

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SRF No:	2023/47	Calibration Date:	24/05/2023
SRF Date	21/05/2023	Due Date :	23/05/2024
Company Name & Address		Issue Date :	2/6/2023
M/s.TAMILNADU CEMENTS CORPORATION LTD., (TANCEM), Ariyalur Cement Factory, Ariyalur, Tamil Nadu - 621 729.			

DUC Details

Instrument Name	CEMS	Location	EXPANSION PLANT KILN STACK
Make	Durag India	DUC Condition	Ok
Model No. (Measuring Head)	D-R-220 M	Model No. (Reflector)	D-R-220 RI
Sr. No. (Measuring Head)	1267467	Sr. No. (Reflector)	1266911
Calibration Path Length	Flange to Flange distance is 3950 mm	Calibration Performed at	Site

Parameter Details

Sr. No.	Parameter (s)		
1	LED Current	125 mA	
2	Integration Time	4 S	
3	Measurement: Optical Density/ Opacity	Optical Density	

Environment Condition	Temp.	B.Pressure	Humidity %	Reference Standard	Calibration Procedure No.
	29.7°C	755.1 mmHg	54 %RH	IS:15575 - 2005	EI/WI-SDS-01

Calibration Details:

Clear Path Calibration	Zero Calibration	0.0 to 0.1%	Actual	- 0.20 %	03.67mA
	Span Calibration	100%	Actual	100%	20.0 mA
OFFSET Calibration	Zero Calibration	0.0 to 0.1%	Actual	0%	4.00 mA
	Span Calibration	100%	Actual	100%	20.0 mA





GSTIN: 07EASPK0857B1ZM

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Date. 02/06/23

Calibration Certificate

Certificate No:	EEC/SMK/89	Page	1 of 1
SRF No:	2023/47	Calibration Date:	24/05/2023
SRF Date	21/05/2023	Due Date :	23/05/2024
Company Name & Address		Issue Date :	2/6/2023
M/s.TAMILNADU CEMENTS CORPORATION LTD., (TANCEM), Ariyalur Cement Factory, Ariyalur, Tamil Nadu - 621 729.			

DUC Details			
Instrument Name	CEMS	Location	Expansion Plant Coal Mill
Make	Durag India	DUC Condition	Ok
Model No. (Measuring Head)	D-R-220 M	Model No. (Reflector)	D-R-220 RJ
Sr. No. (Measuring Head)	1267469	Sr. No. (Reflector)	1266913
Calibration Path Length	Flange to Flange distance is 1800 mm	Calibration Performed at	Site

Parameter Details			
Sr. No.	Parameter (s)		
1	LED Current	500 mA	
2	Integration Time	4 S	
3	Measurement: Optical Density/ Opacity	Optical Density	

Environment Condition	Temp.	B.Pressure	Humidity %	Reference Standard	Calibration Procedure No.
	29.7°C	755.1 mmHg	54 %RH	IS:15575 - 2005	EI/WI-SDS-01

Calibration Details:

Clear Path Calibration	Zero Calibration	0.0 to 0.1%	Actual	- 0.20 %	03.67 mA
	Span Calibration	100%	Actual	100%	20.0 mA
OFFSET Calibration	Zero Calibration	0.0 to 0.1%	Actual	0%	4.00 mA
	Span Calibration	100%	Actual	100%	20.0 mA



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Air, Water, Soil Pollution Monitoring Instruments Manufacturing,
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Ref. No:

Date: 02/06/23

Calibration Certificate

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SRF No:	2023/47	Calibration Date:	24/05/2023
SRF Date	21/05/2023	Due Date :	23/05/2024
Company Name & Address		Issue Date :	2/6/2023
M/s.TAMILNADU CEMENTS CORPORATION LTD., (TANCEM), Ariyalur Cement Factory, Ariyalur, Tamil Nadu - 621 729.			

DUC Details			
Instrument Name	CEMS	Location	Expansion Plant Cooler Stack
Make	Durag India	DUC Condition	Ok
Model No. (Measuring Head)	D-R-220 M	Model No. (Reflector)	D-R-220 RI
Sr. No. (Measuring Head)	1267473	Sr. No. (Reflector)	1266930
Calibration Path Length	Flange to Flange distance is 3100 mm	Calibration Performed at	Site

Parameter Details			
Sr. No.	Parameter (s)		
1	LED Current	750 mA	
2	Integration Time	4 S	
3	Measurement: Optical Density/ Opacity	Optical Density	

Environment Condition	Temp.	B.Pressure	Humidity %	Reference Standard	Calibration Procedure No.
	29.7°C	755.1 mmHg	54 %RH	IS:15575 - 2005	EI/WI-SDS-01

Calibration Details:

Clear Path Calibration	Zero Calibration	0.0 to 0.1%	Actual	- 0.20 %	03.67 mA
	Span Calibration	100%	Actual	100%	20.0 mA
OFFSET Calibration	Zero Calibration	0.0 to 0.1%	Actual	0%	4.00 mA
	Span Calibration	100%	Actual	100%	20.0 mA





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Calibration Certificate

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SRF No:	2023/47	Calibration Date:	24/05/2023
SRF Date	24/05/2023	Due Date :	23/05/2024
Company Name & Address		Issue Date :	2/6/2023
M/s.TAMILNADU CEMENTS CORPORATION LTD., (TANCEM), Ariyalur Cement Factory, Ariyalur, Tamil Nadu - 621 729.			

DUC Details			
Instrument Name	CAAQMS	Location	Near Packing House
Make	ESA	DUC Condition	Ok
Model No.	-	ID No.	-
Sr.No.	-	Calibration Performed at	Site

Analyzer Details			
Sr. No.	Analyzer Name	Model no.	Serial Number
1	SO2 Analyser	AF 22 M	2105
2	NO Analyser.	AC 32 M	2509
3	CO Analyser	CO 12 M	1737
4	PM10 Analyser	MP 101 M	4380
5	PM2.5 Analyser	MP 101 M	4379

Environment Condition	Temp.	B.Pressure	Humidity %	Reference Standard	Calibration Procedure No.
	27.4°C	755.1 mmHg	51 %RH	-	EI/WI-AQMS-01

Calibration Details								
Sr. No.	Analyzer Name	Zero Calibration		Span Calibration			Factor	
		Pre	Post	Set Value	Before Calibration	After Calibration	Old Factor	New Factor
1	SO2 Analyser	0.17 PPM	0 PPM	200 PPM	198.78 PPM	200.18 PPM	1.4120	1.4239
2	NO Analyser	0.70 PPM	0 PPM	500 PPM	498.33 PPM	500.98 PPM	0.3755	0.3955
3	CO Analyser	0.13 PPM	0 PPM	5 PPM	5.11 PPM	5.03 PPM	1.0370	1.1841
4	PM10 Analyser	Blank	OK	851 µ/cm2		Calibrated	1.3229	1.3977
5	PM2.5 Analyser	Blank	OK	819 µ/cm2		Calibrated	0.8679	0.9139





ENVIRO EARTH CARE

Air, Water, Soil Pollution Monitoring Instruments Manufacturing,
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Ref. No.

Date: 02/06/23

Calibration Certificate

Certificate No:	EEC/SDS/93	Page	1 of 1
SRF No:	2023/47	Calibration Date:	24/05/2023
SRF Date	24/05/2023	Due Date :	23/05/2024
Company Name & Address		Issue Date :	2/6/2023
M/s.TAMILNADU CEMENTS CORPORATION LTD., (TANCEM), Ariyalur Cement Factory, Ariyalur, Tamil Nadu - 621 729.			

DUC Details			
Instrument Name	CAAQMS	Location	Near Admin Gate-1
Make	ESA	DUC Condition	Ok
Model No.	-	ID No.	-
Sr.No.	-	Calibration Performed at	Site

Analyzer Details			
Sr. No.	Analyzer Name	Model no.	Serial Number
1	SO2 Analyser	AF 22 M	2103
2	NO Analyser	AC 32 M	2508
3	CO Analyser	CO 12 M	1734
4	PM10 Analyser	MP 101 M	4381
5	PM2.5 Analyser	MP 101 M	4382

Environment Condition	Temp.	B.Pressure	Humidity %	Reference Standard	Calibration Procedure No.
	27.7°C	755.1 mmHg	53 %RH	-	EI/WI-AQMS-01

Calibration Details								
Sr. No.	Analyzer Name	Zero Calibration		Span Calibration			Factor	
		Pre	Post	Set Value	Analyser Result		Old Factor	New Factor
					Before Calibration	After Calibration		
1	SO2 Analyser	0.07 PPM	0 PPM	100 PPM	98.78 PPM	100.49 PPM	1.2140	1.1837
2	NO Analyser	0.12 PPM	0 PPM	200 PPM	199.33 PPM	201.23 PPM	1.3756	1.3356
3	CO Analyser	0.21 PPM	0 PPM	3 PPM	2.95 PPM	3.05 PPM	1.2798	1.2458
4	PM10 Analyser	Blank	OK	857 µ/cm2		Calibrated	1.1478	1.1398
5	PM2.5 Analyser	Blank	OK	814 µ/cm2		Calibrated	0.9821	0.9789





TAMIL NADU POLLUTION CONTROL BOARD
REPORT OF ANALYSIS

R.O.A. No.606/AEL/TRY /Water Report/2023-2024 /Dated:12.10.2023

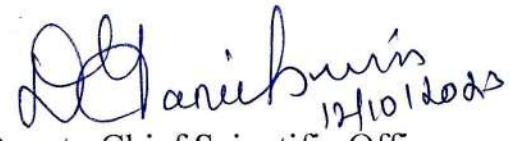
1. Sample Received From : The District Environmental Engineer,
Ariyalur.
2. Nature and Number of Samples(s) : One No. of sample.
3. Date of Collection : 13.09.2023 at 11.35AM
4. Date of Receipt of Sample : 13.09.2023 at 05.00 PM
5. Code No. : BA-182/DEE/ARY
6. Point of Collection : BA-182/DEE/ARY – STP Outlet

Sl. No	Parameters	DEE Code	BA-182/DEE/ARY
		LAB Code	1093
		Unit	
1.	pH		7.54
2.	Total Suspended Solids	mg/l	12
3.	B O D at 27° C for 3 days	mg/l	10
4.	COD	mg/l	64
5.	Ammonical Nitrogen	mg/l	*
6.	Total Nitrogen	mg/l	30.3
7.	Fecal Coliform	MPN/100ml	FNA
Analytical Charges			Rs.3620/-

*Instrument Failure

FNA-Facility is Not Available


12/10/2023
Environmental Scientist


12/10/2023
Deputy Chief Scientific Officer,
AEL, TNPCB, Trichy-15.

Annexure - XI



 Tamil Nadu Cements Corporation Limited	DETAILED PROJECT REPORT (DPR) FOR INSTALLATION OF ALTERNATE FUEL FEEDING PLANT IN THE 1 MPTA PLANT AT ARIYALUR CEMENTS WORKS, TAMILNADU	 DEVELOPMENT CONSULTANTS
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TABLE-9.42(Savings for using different % of AFR along with Coal as fuel)

Sr No		Coal(cost INR 7.5/Kg)	AFR(Final product){ cost INR 3/Kg)	Coal used per day in Te	AFR used per day in KG	Total Fuel cost in Lakh INR/day)	savings (compared to 100% coal) through Fuel cost(Lakh INR/day)	savings (compared to 100% coal) through Fuel cost(Lakh INR/Year)
1	Total K Cal Heat required to produce clinker @3300MT/ Day	2.442X10 ⁹	2.442X10 ⁹					
2A	TSR (0%)	100	0	5,42,667	0	40.70	0	0
2B	TSR (5%)	95	5	5,15,533	27,909	39.50	1.20	395
2C	TSR (10%)	90	10	4,88,400	55,817	38.30	2.40	791
2D	TSR (15%)	85	15	4,61,267	83,726	37.11	3.59	1,186
2E	TSR (20%)	80	20	4,34,133	1,11,634	35.91	4.79	1,581
2F	TSR (25%)	75	25	4,07,000	1,39,543	34.71	5.99	1,976

Considerations:-

1.	Power consumption for AFR plant(KW)=	75
2.	Power consumption for feeding AFR to Precalciner (KW)=	25
3.	Power Tariff (INR/KWHR)	7.5
4.	O&M cost per Year	3% (of Capital Cost)
5.	Cost of AFR Project(INR Lakh)	2,800 (Refer Clause 8.0 of DPR)
6.	GST(%)	18
7.	Cost of AFR Project(INR Lakh) including GST(%) on Mechanical,Electrical C & I items etc	3,016

TABLE-9.43(Operational cost for running AFR Plant)

Sr No		Power consumption(KW hourly average) for running AFR Plant	Power consumption(KW) for AFR Feeding to precalciner through Belt Conveyors	Total Power Consumption(K W/day) for AFR Plant	Cost of Power Per Year(INR lakh)	O &M cost per Year(INR lakh)	Total Cost incurred owing to O&M and operational cost(INR Lakh) in respective years	Net savings/Year for using AFR along with coal(Lakh INR)
1	TSR (0%)	0	0	0	0	0	0	0
2	TSR (5%)	13.75	25	930	23	84	107	288
3	TSR (10%)	15	25	960	24	84	108	683
4	TSR (15%)	16.25	25	990	25	84	109	1,077
5	TSR (20%)	17.5	25	1,020	25	84	109	1,472
6	TSR (25%)	18.75	25	1,050	26	84	110	1,866

CALCULATION OF PAY BACK PERIOD CONSIDERING PROJECT COMPLETED WITHIN ONE FINANCIAL YEAR

Year	% of Coal :AFR used	Total out flow (in Lakhs) for proposed project	Cost savings for Using AFR along with coal(Lakh INR)	Cumulative flow(Lakh INR)	Remarks
1	100:0	-3016	0	-3,016	
2	95:5	0	288	-2,728	
3	90:10	0	683	-2,045	
4	85:15	0	1,077	-968	
5	80:20	0	1,472	504	
6	75:25	0	1,866	2,370	

Annexure - XII**Average Report**

Industry	TAMILNADU CEMENT CORPORATION LTD, ARIYALUR				
Station	AAQMS_1				
Avg Period	From: 01-APR-2023 To: 30-APR-2023				
Date	Parameters				
	PM10(ug/m3)	PM2.5(ug/m3)	SO2(ug/m3)	NOx(ug/m3)	CO(ug/m3)
01.04.2023	32.8	9.0	22.5	27.5	1053.7
02.04.2023	35.7	9.2	32.43	39.3	1518.5
03.04.2023	31.8	10.4	11.62	14.9	530.4
04.04.2023	36.1	10.8	8.55	11.3	384.3
05.04.2023	34.2	10.4	18.32	22.6	848.0
06.04.2023	Under Maintenance(For Service work)				
07.04.2023					
08.04.2023					
09.04.2023					
10.04.2023					
11.04.2023	28.9	9.1	14.58	18.3	670.3
12.04.2023	35.9	9.9	19.36	23.8	898.3
13.04.2023	40.5	12.7	25.79	20.6	384.3
14.04.2023	33.6	9.5	24.18	12.5	431.5
15.04.2023	35.3	9.5	21.52	31.8	1232.2
16.04.2023	39.8	12.4	23.33	36.5	1409.1
17.04.2023	39.7	13.6	28.33	34.4	1337.6
18.04.2023	51.9	15.7	14.28	20.9	688.9
19.04.2023	45.1	13.6	13.59	19.6	564
20.04.2023	35.9	10.1	16.59	23.6	596.9
21.04.2023	41	15.2	24.48	11.7	662.3
22.04.2023	47.5	19.9	18.96	14.7	1093.5
23.04.2023	51	18.3	18.07	24.5	884.7
24.04.2023	45.6	17.5	18.52	63	445.1
25.04.2023	47.6	16.1	38.16	21.4	619.6
26.04.2023	41.1	14.2	28.08	18.2	495.9
27.04.2023	29.5	11.5	23.04	13.7	383.5
28.04.2023	40.01	12.5	21.2	24.1	799.6
29.04.2023	37.4	14.4	3.74	2.1	59.9
30.04.2023	37.4	14.1	2.1	2.1	59.9

Average Report					
Industry	TAMILNADU CEMENT CORPORATION LTD, ARIYALUR				
Station	AAQMS_1				
Avg Period	From: 01-MAY-2023 To: 31-MAY-2023				
Date	Parameters				
	PM10(ug/m3)	PM2.5(ug/m3)	NOx(ug/m3)	SO2(ug/m3)	CO(ug/m3)
01.05.2023	34.4	13.2	21.3	8	231.6
02.05.2023	33.6	13.3	30.89	19.5	546.8
03.05.2023	41.9	15.9	22.9	14.8	436.2
04.05.2023	35.2	13.3	42.2	28.7	864.2
05.05.2023	41.2	15.9	30.26	20.3	550.3
06.05.2023	101.9	16.1	19.72	12.2	346.1
07.05.2023	33.7	13.1	30.8	19.5	544.8
08.05.2023	40.8	16.8	15.54	9.9	254.5
09.05.2023	41.8	17.9	23.76	17.2	482.5
10.05.2023	49	15.6	26.52	23.2	812.1
11.05.2023	48.8	19	39.06	10.3	990.1
12.05.2023	42.6	11.8	40.22	16.1	1056.9
13.05.2023	41	13.8	28.62	18.5	419.5
14.05.2023	44.8	16.2	31.14	19.6	300
15.05.2023	38.8	13.3	11.83	8.3	382.3
16.05.2023	35.8	13.9	6.91	21.5	689.7
17.05.2023	36.4	14.4	14.6	26.7	566.2
18.05.2023	45.6	16.8	27.85	21.5	492.1
19.05.2023	41.1	15.8	38.31	20.1	431.1
20.05.2023	37.1	16.4	22.88	12.7	351.1
21.05.2023	37.9	14	14.7	11.3	351.1
22.05.2023	36.4	12.4	13.4	14.8	401.8
23.05.2023	39.5	12.2	15.9	23.9	608
24.05.2023	45.4	12.2	40.54	20.4	498.7
25.05.2023	45.2	6.4	43.12	13.9	329.2
26.05.2023	40.1	8	22.33	18.7	463.6
27.05.2023	40.8	13.2	25.1	23.7	363.9
28.05.2023	44.3	13.6	38.65	26.7	112.2
29.05.2023	41.5	14.9	27.9	15.7	258.9
30.05.2023	43.5	13.1	19	10.1	355.8
31.05.2023	41.3	11.8	17.73	20.8	476.5

	Average Report				
Industry	TAMILNADU CEMENT CORPORATION LTD, ARIYALUR				
Station	AAQMS_1				
Avg Period	From: 01-JUN-2023 To: 30-JUN-2023				
Date	Parameters				
	PM10(ug/m3)	PM2.5(ug/m3)	SO2(ug/m3)	NOx(ug/m3)	CO(ug/m3)
01.06.2023	43.5	12.1	16.42	18.90	528.1
02.06.2023	38.3	9.9	11.44	9.20	359.3
03.06.2023	33.5	10.3	22.42	16.10	331.8
04.06.2023	31.3	11.5	28.45	20.10	254.7
05.06.2023	32.7	9.3	9.39	7.90	732.5
06.06.2023	36.6	11.4	18.33	11.50	585.1
07.06.2023	35.2	12	21.07	9.80	370.8
08.06.2023	39.5	12.4	26.04	12.00	463.6
09.06.2023	35.3	10.5	12.07	13.10	367.7
10.06.2023	33.4	11	13	8.30	228.2
11.06.2023	31.2	8.7	11.67	7.60	207.1
12.06.2023	38.9	11.7	19.07	13	361.3
13.06.2023	14.2	10.5	17.3	11	279.8
14.06.2023	37	11	6.9	4.2	116.8
15.06.2023	35.4	10.2	23.56	14.80	415.2
16.06.2023	36	10.8	19.02	12.00	333.6
17.06.2023	37.5	9.6	26.38	16.90	463.3
18.06.2023	46	9.1	12.46	23.90	94.5
19.06.2023	33	9.3	12.34	34.80	56.2
20.06.2023	21	9.6	23.49	24.10	318.3
21.06.2023	32.8	10.8	27.68	20.10	479.2
22.06.2023	28.3	11.3	14.85	24.10	107.7
23.06.2023	28.6	10.9	15.79	22	147.2
24.06.2023	29	11.1	14.4	17.60	386.4
25.06.2023	29	11.1	4.13	3.90	367.7
26.06.2023	35.8	11.7	9.66	9.60	450.2
27.06.2023	10.8	3.7	3.39	9.70	247.2
28.06.2023	27.7	8.9	11.4	15.20	493.8
29.06.2023	36.3	16.1	19.16	27.00	862.3
30.06.2023	36.8	17.6	15.91	31.10	848

Average Report					
Industry	TAMILNADU CEMENT CORPORATION LTD, ARIYALUR				
Station	AAQMS_1				
Avg Period	From: 01-JUL-2023 To: 31-JUL-2023				
Date	Parameters				
	PM10(ug/m3)	PM2.5(ug/m3)	SO2(ug/m3)	NOx(ug/m3)	CO(ug/m3)
01.07.2023	29.4	13.2	13.06	25.50	650.9
02.07.2023	29	13	12.95	25.20	643.2
03.07.2023	24.8	10.4	9.41	25.20	431.4
04.07.2023	21.6	8.5	6.41	19.80	264
05.07.2023	24	9.3	9.29	8.80	91.3
06.07.2023	25.9	10	11.59	8.00	58.1
07.07.2023	26	10	11.48	8.00	58.6
08.07.2023	28.1	12	13.08	11.10	121.2
09.07.2023	28.7	14.8	14.4	14.80	182.7
10.07.2023	28.7	14.9	14.47	14.90	183.4
11.07.2023	39.7	19.7	16.51	15.00	416.4
12.07.2023	40.9	18.7	19.81	18.60	496.8
13.07.2023	35.9	12.6	28.33	21.30	598.2
14.07.2023	43.5	14.1	33.37	11.80	748.8
15.07.2023	38.1	9.1	18.21	23.80	609.3
16.07.2023	37.8	9	7.48	30.40	876.2
17.07.2023	40.9	13.7	12.49	23.80	686.6
18.07.2023	51.3	23	17.6	13.80	480.5
19.07.2023	58	26	15.21	9.70	543.1
20.07.2023	57.5	25.7	15.16	9.60	538.7
21.07.2023	55.3	24.8	16.2	11.70	519.1
22.07.2023	48	21.5	18.9	17.60	450.4
23.07.2023	46.1	20.7	18.31	16.60	450.6
24.07.2023	44.7	20	17.58	14.90	467.5
25.07.2023	53.1	23.8	20.82	17.7	497
26.07.2023	65.1	29.1	16.26	22.5	542.1
27.07.2023	76.6	34.4	11.73	27.1	583.8
28.07.2023	70.2	31.5	18.04	17.8	643.8
29.07.2023	52.4	23.5	29.56	10.8	512.4
30.07.2023	43.2	19.4	32.04	16	310.6
31.07.2023	55.5	24.9	31.96	9.9	511.4

Average Report					
Industry	TAMILNADU CEMENT CORPORATION LTD, ARIYALUR				
Station	AAQMS_1				
Avg Period	From: 01-AUG-2023 To: 31-AUG-2023				
Date	Parameters				
	PM10(ug/m3)	PM2.5(ug/m3)	SO2(ug/m3)	NOx(ug/m3)	CO(ug/m3)
01.08.2023	43.4	19.4	16.81	17.8	693.7
02.08.2023	43.3	19.4	14.81	20	737.6
03.08.2023	46.2	20.7	18.39	14.3	593.5
04.08.2023	33.9	15.2	13.49	11.3	317.6
05.08.2023	44.2	19.8	25.43	11.9	488.2
06.08.2023	48.5	21.7	31.89	19.4	590.1
07.08.2023	47.1	21.1	30.76	19	597.4
08.08.2023	52.4	23.5	23.38	17.7	724
09.08.2023	60.1	26.9	26.08	21.1	567.3
10.08.2023	47.7	21.4	18.9	24.7	447.2
11.08.2023	42.5	19.1	16.76	19.9	398.5
12.08.2023	41.4	18.6	17.02	6.7	390.5
13.08.2023	42.8	19.2	25	4.6	383.6
14.08.2023	43.8	19.6	20.95	16.4	242.9
15.08.2023	45.5	20.4	19.1	22.2	307.4
16.08.2023	72	32.3	30.73	13.3	675.2
17.08.2023	61.3	27.5	25.98	14.2	673.3
18.08.2023	46.9	21	19.32	12.7	505
19.08.2023	47.2	21.1	16.49	15.6	341.1
20.08.2023	30.1	13.5	3.46	29.4	546.2
21.08.2023	35.8	16.1	11.1	24.3	399.4
22.08.2023	51.1	23	17.33	16.7	480.4
23.08.2023	52	23.3	22.49	16.8	474.6
24.08.2023	44.9	20.1	28.14	24.2	408.8
25.08.2023	33.8	15.1	28.07	24.1	588
26.08.2023	48.6	21.8	21.5	13.1	325.1
27.08.2023	61.6	27.6	15.17	3.2	88.9
28.08.2023	50.8	22.7	17.9	11.4	304.3
29.08.2023	60.1	26.9	11.63	16.6	588.3
30.08.2023	53.9	24.2	18.83	13	242.8
31.08.2023	48.1	21.6	11.98	23.8	490.7

Average Report					
Industry	TAMILNADU CEMENT CORPORATION LTD, ARIYALUR				
Station	AAQMS_1				
Avg Period	From: 01-SEP-2023 To: 30-SEP-2023				
Date	Parameters				
	PM10(ug/m3)	PM2.5(ug/m3)	SO2(ug/m3)	NOx(ug/m3)	CO(ug/m3)
01.09.2023	50.2	22.5	14.43	20.7	523.2
02.09.2023	54.7	24.5	22.31	17	482
03.09.2023	42.1	18.9	21.24	23.3	558.9
04.09.2023	28.8	12.7	18.8	17.6	189.1
05.09.2023	30.4	13.6	25.08	19.2	336
06.09.2023	39.6	17.7	21.16	14.8	489.7
07.09.2023	34.3	15.4	12.47	10.7	255.2
08.09.2023	29.7	13.3	16.11	18.2	439.4
09.09.2023	46.8	21	21.37	19.2	459.5
10.09.2023	61.8	27.7	15.27	3.2	209.6
11.09.2023	67.3	30.2	11.49	13.3	444.5
12.09.2023	73.4	32.9	19.91	17.8	699.9
13.09.2023	63.8	28.6	25.51	14.3	548.3
14.09.2023	50.4	22.6	13.25	12.2	290.9
15.09.2023	47.1	21.1	13.35	17.4	399.8
16.09.2023	41.9	18.8	13.66	17.9	471.7
17.09.2023	43.3	19.4	7.95	15.3	436.4
18.09.2023	62.5	28	7.83	24.7	729.8
19.09.2023	52.4	23.5	7.3	20	585.1
20.09.2023	33.4	15	6.04	11.2	313.5
21.09.2023	51.2	23	18.97	8.1	197.9
22.09.2023	50.2	22.5	22.97	15.7	464.9
23.09.2023	61.7	27.7	16.2	10.6	317
24.09.2023	66.9	30	16.23	6.4	179.2
25.09.2023	58.9	26.4	11.98	7.8	341
26.09.2023	41.6	18.6	13.05	11.3	520.2
27.09.2023	51.2	22.9	18.95	14.7	402.7
28.09.2023	39.2	17.6	13.52	5.5	559.1
29.09.2023	45.3	20.3	10.87	17.9	291
30.09.2023	48.9	21.9	14.61	18	578.2

Average Report					
Industry	TAMILNADU CEMENT CORPORATION LTD, ARIYALUR				
Station	AAQMS_2				
Avg Period	From: 01-APR-2023 To: 30-APR-2023				
Date	Parameters				
	PM10(ug/m3)	PM2.5(ug/m3)	NOx(ug/m3)	SO2(ug/m3)	CO(ug/m3)
01.04.2023	30.2	8.5	32.4	22.0	627.7
02.04.2023	29.9	12.8	49.9	22.9	930.6
03.04.2023	29.4	6.8	14.6	21.5	278.5
04.04.2023	37.5	6.8	31.1	21.7	596.7
05.04.2023	40.8	7.0	37.1	22.1	722.2
06.04.2023	Under Maintenance(For Service work)				
07.04.2023					
08.04.2023					
09.04.2023					
10.04.2023					
11.04.2023	32.4	5.6	7.1	22.8	116.1
12.04.2023	37.2	7.5	37.3	22.3	781
13.04.2023	40.6	6.8	43.3	22.4	928.6
14.04.2023	38.7	6.8	41.1	22.5	831
15.04.2023	34.1	6.1	15.8	22.4	336
16.04.2023	37.7	6	15.2	22.5	431.8
17.04.2023	46.1	7.8	15.4	22.8	313.9
18.04.2023	56.3	11.3	33.3	19.3	455.7
19.04.2023	44.4	7.9	15.2	31.1	283.5
20.04.2023	37.7	7.6	21.3	31.8	724.7
21.04.2023	41.8	9.5	22	32.5	771.3
22.04.2023	49.7	8.7	26.7	26.4	708.2
23.04.2023	40.9	7.7	32.7	26.2	793.4
24.04.2023	57.2	7.2	29.9	26	511.8
25.04.2023	54.5	8.5	22.5	26	174
26.04.2023	53.9	16.8	22.1	26.1	134
27.04.2023	41.3	7.6	39.7	25.9	729.1
28.04.2023	37.7	5.9	18.9	18	340.9
29.04.2023	50.3	7.7	25.7	18.6	472
30.04.2023	49.1	8.5	25.1	18.4	472

Average Report					
Industry	TAMILNADU CEMENT CORPORATION LTD, ARIYALUR				
Station	AAQMS_2				
Avg Period	From: 01-MAY-2023 To: 31-MAY-2023				
Date	Parameters				
	PM10(ug/m3)	PM2.5(ug/m3)	NOx(ug/m3)	SO2(ug/m3)	CO(ug/m3)
01.05.2023	46.6	7	21.2	20.3	386.3
02.05.2023	41.5	7.6	18.7	26.3	355.8
03.05.2023	42.9	8	26.5	26.5	556.7
04.05.2023	42.5	8.6	33.5	24.1	966.4
05.05.2023	34.8	6	29.8	26.8	852.3
06.05.2023	53.4	10.4	16.5	29.1	499.5
07.05.2023	51.1	8.8	16.2	27.7	371
08.05.2023	44.1	7.2	34.7	26.3	677.4
09.05.2023	45	8.9	35.6	29	576.8
10.05.2023	43.8	6.9	14.2	23.2	451.2
11.05.2023	47	9.2	31.6	19.1	591.1
12.05.2023	33	5.4	20.7	18.6	458.4
13.05.2023	41.2	6	12.9	23.3	221.9
14.05.2023	49	7.3	11.2	27	921.9
15.05.2023	41.7	5.8	23.5	23	640.4
16.05.2023	41.9	6.9	14.1	19.5	576.3
17.05.2023	41.7	7.8	23.6	22.1	692.7
18.05.2023	37.1	6.4	10.7	21.6	553.8
19.05.2023	37.9	7.7	37.3	24.7	660.7
20.05.2023	38.1	6.2	46.1	38.7	960.2
21.05.2023	36.2	4.1	52.1	46.9	1038.4
22.05.2023	40.9	5.8	37.5	46.4	732.7
23.05.2023	43	8.5	23	30.3	395.4
24.05.2023	41.1	9.2	51	15.7	939.8
25.05.2023	40.2	7.1	57.1	16.2	849.6
26.05.2023	40.5	6.8	37.5	15.7	422.4
27.05.2023	40.8	6.9	15	16.2	360.4
28.05.2023	41.1	7.3	24	12.9	472
29.05.2023	39.6	8.6	17.7	18.8	350.9
30.05.2023	37.1	8.6	24.5	23.2	481
31.05.2023	40	15.6	29.4	23.3	587.7

Average Report					
Industry	TAMILNADU CEMENT CORPORATION LTD, ARIYALUR				
Station	AAQMS_2				
Avg Period	From: 01-JUN-2023 To: 30-JUN-2023				
Date	Parameters				
	PM10(ug/m3)	PM2.5(ug/m3)	NOx(ug/m3)	SO2(ug/m3)	CO(ug/m3)
01.06.2023	54	15.7	21.7	20.4	516.2
02.06.2023	45	9.9	24.1	14.7	628.8
03.06.2023	41.1	8.5	10.5	18.1	211.6
04.06.2023	78.6	7.9	8.2	18	168.1
05.06.2023	37.9	7.7	30.9	17.5	768.9
06.06.2023	45	8.4	25	18.4	480.9
07.06.2023	42.6	6.9	35.1	21.8	496.9
08.06.2023	47.2	9.3	38.4	24	1233.6
09.06.2023	40.9	7.2	37.3	25.7	306.8
10.06.2023	40.7	7.8	16.7	25.2	717.2
11.06.2023	37.8	7.3	9	25.1	169.7
12.06.2023	44.3	9.1	34.1	26.5	660.8
13.06.2023	43.4	7.8	23.7	24.2	585.6
14.06.2023	39.4	8.3	23.5	23.9	1016.9
15.06.2023	41	8.8	17.9	24.1	816.3
16.06.2023	36.2	9.1	29.1	26	318.6
17.06.2023	40.5	11.1	28.1	28	386.1
18.06.2023	36.8	8.2	27.1	21.5	464.9
19.06.2023	35.8	6.4	32	17.1	310.8
20.06.2023	39.5	6.4	41.7	23.2	567.6
21.06.2023	37.2	6	42.1	20.6	145.3
22.06.2023	39.1	6.1	21.6	22.8	413.9
23.06.2023	36.4	6.4	24.4	23	479.8
24.06.2023	46.8	8.4	17.1	28.7	216.5
25.06.2023	43.7	8.3	32.9	37.3	377.6
26.06.2023	55.3	15.9	15	40.1	238.6
27.06.2023	22.4	10.2	8.6	19.8	85.3
28.06.2023	27.7	12.2	10.3	19.4	116.3
29.06.2023	42.9	19.8	12.8	22.5	236.5
30.06.2023	38.4	18.5	9.7	26.1	253.3

Average Report					
Industry	TAMILNADU CEMENT CORPORATION LTD, ARIYALUR				
Station	AAQMS_2				
Avg Period	From: 01-JUL-2023 To: 31-JUL-2023				
Date	Parameters				
	PM10(ug/m3)	PM2.5(ug/m3)	NOx(ug/m3)	SO2(ug/m3)	CO(ug/m3)
01.07.2023	23.6	11.6	8	17.4	185
02.07.2023	23.7	11.6	8	17.4	185.7
03.07.2023	21.5	10	7.1	16.3	124.5
04.07.2023	18.2	8.7	5.7	14.3	70.4
05.07.2023	11.5	6.8	7.9	14.7	67.2
06.07.2023	9.5	6	10	15.9	82.8
07.07.2023	9.4	6	10.1	15.8	81.9
08.07.2023	10	7.1	9.3	14.5	115.1
09.07.2023	9.5	9.1	8.1	10.1	172.3
10.07.2023	9.6	9	8	10.1	173.4
11.07.2023	17.9	15.6	14.4	29.6	370.7
12.07.2023	24	17.7	23.1	43	549.4
13.07.2023	20.7	13.3	24.9	35.8	495.3
14.07.2023	18	15.8	20.8	32	412.2
15.07.2023	22	21.3	13.2	17.7	619.4
16.07.2023	43.9	24.3	10.5	8.4	629.2
17.07.2023	23.1	22.6	15.8	11.6	497.6
18.07.2023	28.2	17.3	23.2	15.6	270.5
19.07.2023	46.4	16.8	25.2	12	428.6
20.07.2023	50.2	18.4	30	12	493.7
21.07.2023	50.7	18.6	29.5	12.1	498.1
22.07.2023	48.6	18	28.9	11.7	473.3
23.07.2023	29.3	12.9	17.5	8.4	247
24.07.2023	35	15.4	20.7	8.4	295
25.07.2023	46.5	20.5	27.6	8.5	391.6
26.07.2023	49.4	21.8	23.7	12.9	470.6
27.07.2023	54.6	24.1	17.5	20	601.4
28.07.2023	49.3	20.2	22.9	20.3	396.4
29.07.2023	48.4	18.6	30.5	12.2	328.5
30.07.2023	50.1	22.1	30	8	528.6
31.07.2023	42.7	18.8	19.7	24.6	601.8

Average Report					
Industry	TAMILNADU CEMENT CORPORATION LTD, ARIYALUR				
Station	AAQMS_2				
Avg Period	From: 01-AUG-2023 To: 31-AUG-2023				
Date	Parameters				
	PM10(ug/m3)	PM2.5(ug/m3)	NOx(ug/m3)	SO2(ug/m3)	CO(ug/m3)
01.08.2023	37.4	16.5	13.5	33.7	631.3
02.08.2023	44.7	19.7	20.3	23.7	423.9
03.08.2023	51.2	23.2	24.8	13.8	363
04.08.2023	42.2	18.6	15	24.9	493.4
05.08.2023	38.3	16.9	18.6	19.2	539.2
06.08.2023	41.9	18.5	32.8	16	565.6
07.08.2023	40.5	17.8	31.4	17.4	541
08.08.2023	42.3	18.6	25.1	32	391.3
09.08.2023	51.8	22.8	33.9	25.4	353.9
10.08.2023	42.1	18.5	39.1	16	152.4
11.08.2023	40.9	18	32.5	19.5	257.6
12.08.2023	41.8	18.5	25.3	20.3	384
13.08.2023	50.2	22.4	33	10	247.1
14.08.2023	46.5	20.4	21.8	14.7	401.8
15.08.2023	44.1	19.5	21.8	20.3	439.1
16.08.2023	44	19.3	41.7	13.5	393.4
17.08.2023	45.6	20.1	31.7	17	407.6
18.08.2023	41.2	18.1	20.1	18.3	279
19.08.2023	39.2	17.3	27.9	16.5	258
20.08.2023	21.1	9.3	18.5	30.5	234.3
21.08.2023	39.6	17.3	25.8	32.5	177.2
22.08.2023	44.6	19.9	26.1	24.8	402.5
23.08.2023	46.5	20.3	25	18.9	314.5
24.08.2023	47.2	20.7	27.2	27.8	280.6
25.08.2023	32.4	14.4	16.8	27.9	461
26.08.2023	42.1	18.5	26.6	15.5	322.1
27.08.2023	50.4	22.1	35.1	4	191.2
28.08.2023	42.3	18.8	32.1	12.4	195.2
29.08.2023	42.3	18.6	24.9	30.2	355.7
30.08.2023	43.5	19.1	20.4	27.8	404
31.08.2023	34.6	15.3	26.5	15.3	308.7

Average Report					
Industry	TAMILNADU CEMENT CORPORATION LTD, ARIYALUR				
Station	AAQMS_2				
Avg Period	From: 01-SEP-2023 To: 30-SEP-2023				
Date	Parameters				
	PM10(ug/m3)	PM2.5(ug/m3)	NOx(ug/m3)	SO2(ug/m3)	CO(ug/m3)
01.09.2023	34.1	15	25.6	15.5	226
02.09.2023	35	15.4	22.7	19.5	281.8
03.09.2023	35	15.4	32.6	13	275.4
04.09.2023	59.1	26	20.1	28.1	518.6
05.09.2023	59.3	26.1	19.9	28.2	519.9
06.09.2023	52.5	23.1	26.5	28	385.9
07.09.2023	28.7	12.7	37.4	19.4	165.7
08.09.2023	40.5	17.9	28.5	14.4	418.8
09.09.2023	45.8	20.2	17.9	12.6	515.8
10.09.2023	29.6	13	11.4	9.2	355.4
11.09.2023	36.6	13	16.1	12.9	281.7
12.09.2023	57.4	21.5	15.9	20	390.9
13.09.2023	49.1	21.7	17.5	14.8	476.2
14.09.2023	45.3	20	24.6	10.5	229.4
15.09.2023	37.6	16.6	25.3	16.5	308.8
16.09.2023	43.2	19	34.6	17.8	496.5
17.09.2023	48.9	24.3	29.5	15.7	452.5
18.09.2023	27	24.8	11.8	29.5	298
19.09.2023	31.9	22.6	21.2	22.4	391.9
20.09.2023	41.9	19.1	38.7	9.4	575.4
21.09.2023	34.9	13.7	21.3	10.3	520.5
22.09.2023	37.7	14.8	22.4	17.2	411.2
23.09.2023	34.6	15.9	23.5	20.1	167.9
24.09.2023	28.1	13	15.5	16.3	130.8
25.09.2023	37.2	17	11.8	12.4	270.6
26.09.2023	47.6	21.6	16.3	14.3	452.6
27.09.2023	45.1	20.5	28.2	30.9	327.7
28.09.2023	28.9	13.3	21.7	20.5	182.3
29.09.2023	41.9	19.1	15.1	23.3	215.8
30.09.2023	38.9	17.8	31.5	20	196.7

Average Report					
Industry	TAMILNADU CEMENT CORPORATION LTD, ARIYALUR				
Avg Period	From: 01-APR-2023 To: 30-APR-2023				
Station	EXPANSION PLANT STACK				
Parameters	KILN - PM (mg/Nm3)	KILN -NOX (mg/Nm3)	COOLER - PM (mg/Nm3)	COAL MILL - PM (mg/Nm3)	CEMENT MILL - PM (mg/Nm3)
01.04.2023	17.414	177.6	2.149	10.149	17.2
02.04.2023	14.842	87	2.411	9.995	18.83
03.04.2023	17.6	145.3	2.097	10.638	16.35
04.04.2023	17.456	222.8	2.513	10.289	16.66
05.04.2023	18.071	217	2.054	10.142	19.38
06.04.2023	18.541	217.4	2.078	9.961	18.88
07.04.2023	21.521	237.1	2.144	10.213	20.05
08.04.2023	20.621	189.7	2.175	11.126	19.98
09.04.2023	22.6	145.9	2.141	10.83	20.76
10.04.2023	24.055	141.4	2.111	10.626	20.83
11.04.2023	18.4	135.5	2.214	10.36	10.36
12.04.2023	4.001	178.1	2.043	11.496	10.06
13.04.2023	10.893	172.8	2.215	11.633	11.91
14.04.2023	21.148	175.6	1.988	11.511	15.25
15.04.2023	25	109.2	2.023	11.351	20.33
16.04.2023	26.2	73.7	2.414	11.685	19.66
17.04.2023	20.963	100.4	1.993	12.275	18.82
18.04.2023	19.9	90	1.965	10.852	19.25
19.04.2023	12.088	171.9	2.029	11.012	17.32
20.04.2023	8.62	150.1	3.428	11.696	21.87
21.04.2023	14.038	137.9	4.077	11.834	20.02
22.04.2023	8.912	132.8	3.993	10.816	21.91
23.04.2023	6.959	161.2	4.419	11.949	20.05
24.04.2023	13.713	46.1	4.172	11.787	20.4
25.04.2023	15.674	66.2	2.172	10.039	22.1
26.04.2023	10.495	95.9	3.19	10.035	12.78
27.04.2023	26.24	71.99	2.39	11.56	19.41
28.04.2023	21.01	99.56	1.97	12.19	18.62
29.04.2023	2.9	39.3	2.108	2.782	9.57
30.04.2023	2.884	25.9	2.183	2.552	15.06

Average Report					
Industry	TAMILNADU CEMENT CORPORATION LTD, ARIYALUR				
Avg Period	From: 01-MAY-2023 To: 31-MAY-2023				
Station	EXPANSION PLANT STACK				
Parameters	KILN - PM (mg/Nm3)	KILN -NOX (mg/Nm3)	COOLER - PM (mg/Nm3)	COAL MILL - PM (mg/Nm3)	CEMENT MILL - PM (mg/Nm3)
01.05.2023	2.795	27.1	2.192	2.575	16.24
02.05.2023	3.205	24.1	2.227	4.512	16.42
03.05.2023	5.037	14.3	2.157	3.983	10.40
04.05.2023	13.580	35.9	4.061	7.934	10.44
05.05.2023	11.061	41.8	2.889	8.085	9.12
06.05.2023	11.562	29.5	2.267	8.570	11.00
07.05.2023	11.840	21.7	2.665	8.576	15.23
08.05.2023	12.385	30.9	2.116	8.292	15.82
09.05.2023	12.801	24.4	3.674	8.225	14.42
10.05.2023	10.933	24.1	5.005	8.472	19.78
11.05.2023	10.860	46.1	2.512	8.277	18.11
12.05.2023	12.271	52.4	3.642	8.568	12.91
13.05.2023	11.732	62.1	2.092	8.172	13.07
14.05.2023	11.622	98.0	2.035	7.902	13.63
15.05.2023	13.361	52.6	2.824	8.222	18.88
16.05.2023	11.688	62.3	2.160	8.368	21.41
17.05.2023	14.273	7.8	3.023	8.519	21.52
18.05.2023	11.784	82.0	2.673	10.575	19.79
19.05.2023	11.311	82.4	2.533	12.161	11.52
20.05.2023	10.609	68.1	2.398	10.624	7.04
21.05.2023	12.147	12.7	2.239	9.653	6.88
22.05.2023	10.045	39.1	2.703	9.973	9.97
23.05.2023	12.381	119.4	2.576	11.059	10.00
24.05.2023	9.488	351.7	2.153	9.537	11.92
25.05.2023	12.425	300.5	2.185	9.633	14.67
26.05.2023	9.174	328.4	2.158	10.125	18.52
27.05.2023	10.369	276.3	2.219	9.368	19.95
28.05.2023	10.654	307.5	2.077	10.561	19.69
29.05.2023	12.616	295.7	2.024	9.955	23.76
30.05.2023	9.609	297.2	2.208	9.798	17.26
31.05.2023	11.343	245.4	2.254	10.040	7.24

Average Report					
Industry	TAMILNADU CEMENT CORPORATION LTD, ARIYALUR				
Avg Period	From: 01-JUN-2023 To: 30-JUN-2023				
Station	EXPANSION PLANT STACK				
Parameters	KILN - PM (mg/Nm3)	KILN -NOX (mg/Nm3)	COOLER - PM (mg/Nm3)	COAL MILL - PM (mg/Nm3)	CEMENT MILL - PM (mg/Nm3)
01.06.2023	11.144	302.0	2.503	10.312	9.56
02.06.2023	13.232	282.4	2.053	10.218	11.02
03.06.2023	10.134	203.8	2.368	9.521	10.89
04.06.2023	10.251	339.4	2.729	9.874	12.53
05.06.2023	14.173	378.6	2.344	10.597	16.02
06.06.2023	9.613	469.1	2.058	9.723	19.12
07.06.2023	13.678	300.6	2.478	9.300	16.70
08.06.2023	9.847	341.9	3.473	8.646	17.97
09.06.2023	9.632	395.4	2.917	9.253	19.51
10.06.2023	10.721	366.6	2.222	9.755	20.64
11.06.2023	9.819	365.7	2.069	9.373	21.95
12.06.2023	11.368	260.1	2.366	9.847	21.66
13.06.2023	10.026	363.9	2.187	10.008	19.34
14.06.2023	11.159	339.9	2.488	10.120	19.59
15.06.2023	10.849	216.1	2.425	10.163	11.04
16.06.2023	10.640	250.7	2.081	10.117	8.50
17.06.2023	13.363	63.8	2.306	10.562	8.14
18.06.2023	13.433	201.4	3.008	11.442	9.99
19.06.2023	12.464	214.0	3.487	10.559	11.42
20.06.2023	12.337	230.4	2.251	10.112	10.59
21.06.2023	11.750	205.4	2.246	9.824	10.83
22.06.2023	10.594	199.6	2.371	9.989	12.98
23.06.2023	11.223	167.6	2.369	10.075	14.08
24.06.2023	12.645	91.6	9.884	9.959	12.78
25.06.2023	11.259	234.5	1.964	10.259	13.08
26.06.2023	11.549	183.8	1.631	10.397	14.31
27.06.2023	13.424	163.8	2.354	14.599	14.84
28.06.2023	11.984	194.1	1.148	13.585	16.15
29.06.2023	12.327	151.2	1.745	12.813	15.18
30.06.2023	4.356	101.8	1.074	7.410	11.53

Average Report					
Industry	TAMILNADU CEMENT CORPORATION LTD, ARIYALUR				
Avg Period	From: 01-JUL-2023 To: 31-JUL-2023				
Station	EXPANSION PLANT STACK				
Parameters	KILN - PM (mg/Nm3)	KILN -NOX (mg/Nm3)	COOLER - PM (mg/Nm3)	COAL MILL - PM (mg/Nm3)	CEMENT MILL - PM (mg/Nm3)
01.07.2023	4.81	122.5	1.067	7.901	11.51
02.07.2023	4.63	98.8	1.13	7.911	11.15
03.07.2023	4.748	115.5	1.149	6.496	11.86
04.07.2023	4.763	131.3	1.188	6.681	13.57
05.07.2023	4.84	150.3	1.146	6.764	12.7
06.07.2023	2.82	152.8	1.16	6.886	13.23
07.07.2023	1.543	135.9	1.544	6.86	13.14
08.07.2023	1.552	149.4	1.139	6.09	13.22
09.07.2023	2.412	158.8	1.224	7.292	16.95
10.07.2023	9.434	95.8	3.701	9.851	22.26
11.07.2023	11.1	152	1.324	12.213	18.36
12.07.2023	9.872	144.7	1.148	12.057	16.12
13.07.2023	12.594	173.5	1.673	12.518	16.37
14.07.2023	9.496	177.3	1.563	11.795	15.44
15.07.2023	9.27	181.8	1.111	11.753	16.42
16.07.2023	5.7	154.2	1.384	7.4	11.7
17.07.2023	8.4	135	2.345	10.5	15.6
18.07.2023	10.772	163.8	2.443	11.325	18.39
19.07.2023	10.543	155.7	1.167	11.796	11.51
20.07.2023	10.206	108.6	1.672	11.96	3.48
21.07.2023	11.896	131.8	2.883	11.296	3.95
22.07.2023	9.219	125.4	1.628	11.479	4.67
23.07.2023	10.853	105.5	1.165	11.099	4.17
24.07.2023	11.403	145.3	1.319	13.012	3.56
25.07.2023	14.688	72.3	2.431	12.755	3.92
26.07.2023	12.957	36.3	1.18	12.121	3.89
27.07.2023	14.289	47.5	2.981	11.46	4.23
28.07.2023	16.164	42.8	1.183	11.483	3.92
29.07.2023	14.022	51.8	1.483	10.83	3.92
30.07.2023	13.641	68.4	1.068	10.7	3.65
31.07.2023	16.988	81.7	1.094	11.462	3.9

Average Report					
Industry	TAMILNADU CEMENT CORPORATION LTD, ARIYALUR				
Avg Period	From: 01-AUG-2023 To: 31-AUG-2023				
Station	EXPANSION PLANT STACK				
Parameters	KILN - PM (mg/Nm3)	KILN -NOX (mg/Nm3)	COOLER - PM (mg/Nm3)	COAL MILL - PM (mg/Nm3)	CEMENT MILL - PM (mg/Nm3)
01.08.2023	14.924	78.0	1.092	11.621	5.84
02.08.2023	17.001	93.4	1.216	12.239	7.06
03.08.2023	14.189	73.3	1.333	13.035	8.13
04.08.2023	18.915	98.9	3.170	13.521	7.61
05.08.2023	15.988	111.0	1.116	13.930	8.53
06.08.2023	16.583	51.4	1.076	13.796	8.16
07.08.2023	21.285	75.4	1.827	14.096	8.34
08.08.2023	17.189	106.3	1.450	15.826	8.44
09.08.2023	17.027	105.3	1.197	15.114	10.37
10.08.2023	19.506	61.2	1.275	13.295	13.11
11.08.2023	16.144	41.2	2.738	10.693	8.90
12.08.2023	21.425	34.0	1.582	12.125	9.70
13.08.2023	18.957	47.0	1.244	11.565	11.43
14.08.2023	18.909	39.3	1.244	11.679	11.83
15.08.2023	21.427	43.4	1.121	11.092	15.11
16.08.2023	18.231	13.2	1.258	10.441	15.59
17.08.2023	22.6	12.1	2.341	9.312	12.92
18.08.2023	18.889	23.4	1.139	8.988	13.32
19.08.2023	20.111	34.5	1.178	8.938	14.06
20.08.2023	22.380	26.3	1.073	8.479	15.45
21.08.2023	21.676	31.1	1.146	8.393	14.62
22.08.2023	15.976	24.0	1.399	9.578	16.54
23.08.2023	10.083	25.1	1.414	9.062	19.16
24.08.2023	9.646	20.4	1.118	9.232	9.08
25.08.2023	9.863	31.4	1.375	9.166	7.51
26.08.2023	12.094	24.4	1.129	9.770	8.31
27.08.2023	10.077	24.4	1.099	10.300	7.06
28.08.2023	13.378	19.9	1.130	11.740	8.79
29.08.2023	10.703	15.3	1.137	11.405	12.04
30.08.2023	12.709	15.1	1.188	12.125	14.46
31.08.2023	11.069	13.6	1.195	11.272	12.26

Average Report					
Industry	TAMILNADU CEMENT CORPORATION LTD, ARIYALUR				
Avg Period	From: 01-SEP-2023 To: 30-SEP-2023				
Station	EXPANSION PLANT STACK				
Parameters	KILN - PM (mg/Nm3)	KILN -NOX (mg/Nm3)	COOLER - PM (mg/Nm3)	COAL MILL - PM (mg/Nm3)	CEMENT MILL - PM (mg/Nm3)
01.09.2023	11.675	9.5	1.132	10.870	12.74
02.09.2023	11.387	12.3	1.473	10.824	13.30
03.09.2023	13.835	13.7	1.157	11.162	12.64
04.09.2023	8.462	6.0	1.252	8.781	13.26
05.09.2023	12.793	8.4	1.161	11.193	11.92
06.09.2023	12.628	10.3	1.142	12.847	13.07
07.09.2023	12.021	8.8	1.195	14.407	17.55
08.09.2023	12.375	7.2	1.171	14.835	14.42
09.09.2023	12.569	8.2	1.148	14.307	10.57
10.09.2023	14.452	7.9	1.195	11.618	12.74
11.09.2023	12.703	7.1	1.166	11.465	11.71
12.09.2023	11.715	19.0	1.129	12.949	9.94
13.09.2023	11.232	21.0	2.570	12.360	10.94
14.09.2023	12.013	23.3	1.413	13.621	11.33
15.09.2023	13.472	40.2	3.273	13.889	11.10
16.09.2023	12.643	193.4	1.186	13.774	11.64
17.09.2023	11.728	183.9	1.209	13.903	14.16
18.09.2023	16.170	155.5	1.417	14.570	17.43
19.09.2023	12.559	174.5	1.184	14.223	19.66
20.09.2023	15.469	134.5	1.287	14.501	11.03
21.09.2023	11.356	183.8	1.128	14.897	8.04
22.09.2023	13.148	180.5	1.167	15.054	11.57
23.09.2023	13.584	178.5	1.171	15.187	16.00
24.09.2023	13.447	200.7	1.152	13.705	19.31
25.09.2023	12.721	190.0	1.158	14.333	23.76
26.09.2023	13.164	187.2	1.212	14.703	17.07
27.09.2023	13.009	205.7	1.173	13.654	10.63
28.09.2023	13.508	207.4	1.299	11.862	13.01
29.09.2023	11.823	217.0	1.178	15.362	16.35
30.09.2023	13.292	162.1	1.195	14.837	18.96

Category of the Industry :

RED



CONSENT ORDER NO. 2208243039244 DATED: 12/07/2022.

PROCEEDINGS NO.T4/TNPCB/F.0288ARY/RL/ARY/A/2022 DATED: 12/07/2022

SUB: Tamil Nadu Pollution Control Board - RENEWAL OF CONSENT –M/s. TAMILNADU CEMENTS CORPORATION LTD , S.F.No. 32,33,42,45 to 50,53,79,80,81,84,87,88,89,, KAIRLABATH village, Ariyalur Taluk and Ariyalur District - Renewal of Consent for the operation of the plant and discharge of emissions under Section 21 of the Air (Prevention and Control of Pollution) Act, 1981 as amended in 1987 (Central Act 14 of 1981) –Issued- Reg.

REF: 1. Proc.No. T4/TNPCB/F.0288ARY/RL/ARY/W&A/2021 DATED: 01/11/2021
2. IR.No : F.0288ARY/RL/JCEE-M/ARY/2022 dated 19/05/2022

RENEWAL OF CONSENT is hereby granted under Section 21 of the Air (Prevention and Control of Pollution) Act, 1981 as amended in 1987 (Central Act 14 of 1981) (hereinafter referred to as “The Act”) and the rules and orders made there under to

The Deputy General Manager
M/s.TAMILNADU CEMENTS CORPORATION LTD,
S.F.No. 32,33,42,45 to 50,53,79,80,81,84,87,88,89,,
KAIRLABATH village,
Ariyalur Taluk,
Ariyalur District.

Authorizing the occupier to operate the industrial plant in the Air Pollution Control Area as notified by the Government and to make discharge of emission from the stacks/chimneys.

This is subject to the provisions of the Act, the rules and the orders made there under and the terms and conditions incorporated under the Special and General conditions stipulated in the Consent Order issued earlier and subject to the special conditions annexed.

This RENEWAL OF CONSENT is valid for the period ending March 31, 2024

RAGUPATHI
SANGANAN

Digitally signed by RAGUPATHI
SANGANAN
Date: 2022.07.13 18:00:45 +05'30'

**For Member Secretary,
Tamil Nadu Pollution Control Board,
Chennai**

SPECIAL CONDITIONS

1. This renewal of consent is valid for operating the facility for the manufacture of products (Col. 2) at the rate (Col. 3) mentioned below. Any change in the products and its quantity has to be brought to the notice of the Board and fresh consent has to be obtained.

Sl. No.	Description	Quantity	Unit
Product Details			
1.	CLINKER	1475000	MT/ANNUUM
2.	ORDINARY PORTLAND CEMENT AND PORTLAND POZZOLANA CEMENT	1630000	MT/ANNUUM
By-Product Details			
1.	No by product	0	0
Intermediate Product Details			
1.	No intermediate product	0	0

2. This renewal of consent is valid for operating the facility with the below mentioned emission/noise sources along with the control measures and/or stack. Any change in the emission source/control measures/change in stack height has to be brought to the notice of the Board and fresh consent/Amendment has to be obtained.

I Point source emission with stack :				
Stack No.	Point Emission Source	Air pollution Control measures	Stack height from Ground Level in m	Gaseous Discharge in Nm3/hr
1	LIMESTONE CRUSHER - I (EXISTING)	Cyclone Separator with stack	14.9	30000
2	LIMESTONE CRUSHER - I (EXPANSION)	Bag Filters with stack	22.5	50000
3	LIMESTONE STORAGE-I TRANSFER POINT (EXPANSION)	Bag Filters	15.8	6500
4	LIMESTONE STORAGE-II TRANSFER POINT (EXPANSION)	Bag Filters	24.8	5600
5	RAW MILL (EXISTING)	Bag Filters with stack	12.5	30000
6	RAW MILL FEED HOPPER (EXPANSION)	Bag Filters	10.5	14000
7	RAW MILL TRANSFER POINT (EXPANSION)	Bag Filters	23.06	7500
8	RAW MILL (EXPANSION)	Bag Filters	28.88	13000
9	RAW MILL TRANSFER POINT (EXPANSION)	Bag Filters	26.3	4500
10	RAW MEAL SILO TRANSFER POINT (EXPANSION)	Bag Filters	53.3	8000
11	RAW MEAL SILO TRANSFER POINT (EXPANSION)	Bag Filters	11.2	10000
12	KILN-I (EXISTING)	Reverse Air Bag House with Stack	58.3	200000
13	KILN-II (EXISTING)	Reverse Air Bag House with Stack	58.3	200000
14	KILN (EXPANSION)	Bag Filters with stack	115.2	597600
15	KILN FEED TRANSFER POINT (EXISTING)	Bag Filters with stack	11.5	30000
16	KILN FEED TRANSFER POINT (EXPANSION)	Bag Filters	39.1	8000
17	KILN FEED TRANSFER POINT (EXPANSION)	Bag Filters	107.4	3720
18	BLENDING SILO-I (EXISTING)	Bag Filters with stack	11.5	30000
19	BLENDING SILO-II (EXISTING)	Bag Filters with stack	11.5	30000
20	CLINKER COOLER-I (EXISTING)	ESP with stack	37.22	200000
21	CLINKER COOLER-II (EXISTING)	ESP with stack	37.22	200000
22	CLINKER COOLER (EXPANSION)	ESP with stack	41	338400

23	CLINKER COOLER TRANSFER POINT (EXISTING)	Bag Filters with stack	18.9	30000
24	CLINKER COOLER TRANSFER POINT (EXPANSION)	Bag Filters	1.2	6000
25	DEEP BUCKET CONVEYOR TRANSFER POINT (EXISTING)	Bag Filters with stack	7	30000
26	CLINKER STOCK PILE TRANSFER POINT (EXISTING)	Cyclone Separator with stack	10.5	30000
27	CLINKER SILO (EXPANSION)	Bag Filters	38.8	35000
28	CLINKER SILO TRANSFER POINT (EXPANSION)	Bag Filters	4.98	17500
29	CLINKER SILO TRANSFER POINT (EXPANSION)	Bag Filters	19.5	1500
30	COAL MILL (EXISTING)	ESP with stack	25.8	60000
31	COAL MILL (EXPANSION)	Bag Filters with stack	55.9	72360
32	COAL MILL TRANSFER POINT (EXPANSION)	Bag Filters	38.15	3500
33	COAL MILL TRANSFER POINT (EXPANSION)	Bag Filters	38.15	3500
34	COAL CRUSHER (EXISTING)	Bag Filters with stack	14.15	20000
35	CEMENT MILL (EXISTING)	Bag Filters with stack	38.5	60000
36	CEMENT MILL TRANSFER POINT (EXISTING)	Bag Filters with stack	13.5	30000
37	CEMENT MILL (EXPANSION)	Bag Filters with stack	44	38880
38	CEMENT MILL SEPARATOR (EXPANSION)	Bag Filters with stack	44	51840
39	CEMENT MILL TRANSFER POINT (EXPANSION)	Bag Filters	14.3	5000
40	CEMENT MILL TRANSFER POINT (EXPANSION)	Bag Filters	28.55	11000
41	CEMENT MILL FEED TRANSFER POINT (EXPANSION)	Bag Filters	28.55	8000
42	CEMENT MILL TRANSFER POINT (EXPANSION)	Bag Filters	16.45	7000
43	CEMENT MILL SEPARATOR TRANSFER POINT (EXPANSION)	Bag Filters	15.9	3000
44	CEMENT SILO TRANSFER POINT (EXPANSION)	Bag Filters	45.17	6600

45	CEMENT SILO TRANSFER POINT (EXPANSION)	Bag Filters	12.07	10000
46	CEMENT SILO TRANSFER POINT (EXPANSION)	Bag Filters	10.12	5200
47	CEMENT SILO TRANSFER POINT (EXPANSION)	Bag Filters	45.17	6600
48	CEMENT SILO (EXPANSION)	Bag Filters	17.1	25000
49	FLY ASH HOPPER (EXISTING)	Bag Filters with stack	11.5	30000
50	FLY ASH SILO (EXPANSION)	Bag Filters	33.8	13000
51	PACKING HOUSE-I (EXISTING)	Bag Filters with stack	13	30000
52	PACKING HOUSE-II (EXISTING)	Bag Filters with stack	13	30000
53	PACKING PLANT (EXPANSION)	Bag Filters	17.1	25000
54	DG SET 2500 KVA (EXISTING)	Stack	8	15000
55	DG SET 1000 KVA (EXPANSION)	Stack	30	7000
II	Fugitive/Noise emission :			
Sl. No.	Fugitive or Noise Emission sources	Type of emission	Control measures	
1.	TRANSPORT VEHICLE MOVEMENT LOADING & UNLOADING	Fugitive	WATER SPRAYING BY TIPPER AND WATER SPRINKLER SYS.	
2.	DG SET 2500 KVA 1 NO	Noise	ACOUSTIC ENCLOUSE	
3.	DG SET 1000 KVA 1 NO	Noise	ACOUSTIC ENCLOUSE	

Special Additional Conditions:

- i. The unit shall install the approved retrofit emission control device/equipment with at least 70% Particulate matter reduction efficiency on all DG sets with capacity of 125 KVA and above or otherwise the unit shall be shift to gas based generators within the time frame prescribed in the notification No. TNPCB/Labs/DD(L)02151/2019 dated 10.06.2020 issued by TNPCB.
- ii. The unit shall obtain No Objection Certificate (NOC) from the Tamil Nadu Bio Diversity Board /National Bio Diversity Authority if the unit is using any Biological resources or knowledge associated thereto as per the provisions of Biological Diversity Act 2002.

Additional Conditions:

1. The unit shall operate and maintain the air pollution control measures efficiency and continuously so as to achieve the Ambient Air quality / Emission standards prescribed by the Board & MoEF &CC.
2. The unit shall comply with the new emission standards prescribed by MoEF&CC vide notification dated 25.08.2014 &10.05.2016.
3. The unit shall ensure that the noise generated by the unit shall adhere to the Ambient Noise Level standards prescribed by the Board.
4. The industry shall ensure that all the dust accumulated in the premises (in old line and new line areas) are cleared immediately.
5. The unit shall not run existing plant until further orders from the Government, as committed.
6. The unit shall maintain the online stack monitoring system and the continuous AAQ monitoring system efficiently so as to send good quality data to Care Air Centre.
7. The unit shall comply with the fugitive emission guidelines prescribed by CPCB vide PROBES/118/2007 dated: 06.07.2007.
8. The storage of coal, clinker, lime stone, Gypsum, fly ash and other additives should be done under covered shed.
9. The unit shall carry out cleaning of spilled materials such as Gypsum, Fly ash, and Coal dust inside the working area periodically to avoid carryover of dust to the surrounding.
10. The unit shall pave all the areas where vehicle movement take place.
11. The unit shall conduct the ground level concentration study due to various emission sources through a laboratory approved by CPCB within a month and install the CAAQM stations as already instructed by Board within 3 months.
12. The performance efficiency of the APC devices shall be conducted through a laboratory approved by CPCB and report shall be submitted to TNPCB.
13. Fugitive emission monitoring shall be conducted at cement mill, coal mill and Raw material handling area through a laboratory approved by CPCB and the report shall be submitted to TNPCB.
14. All continuous emission monitoring systems should be operated as per CPCB CEMs guidelines and the data shall be transmitted as per guidelines. Further the unit shall comply the following:
 - a. Kiln Stack Gaseous Analyzer:
 - (i) Sampling flow rate shall be maintained at 60 TPH.
 - (ii) NOX value shall be normalized and transmitted as NO₂ instead of transmitting as NO.
 - (iii) O₂ correction shall be given for the NOX values.
 - (iv) Zero check shall be conducted daily and span check shall be conducted once in fortnight.
 - (v) Proper record for drift observations shall be maintained.
 - (vi) Analyzer values shall be directly transmitted to the TNPCB/CPCB server without having any intermediate server or PC.
 - b. Kiln stack PM Analyser:
 - (i) Reference sampling port hole shall be provided for calibration/ manual iso kinetic sampling.
 - (ii) The unit shall ensure that the purge blower filter are not choked for adequate purge air supply to the analyzer.
 - (iii) The data shall be normalized and transmitted as mg/ Nm³ instead of mg/ m³.
 - (iv) Dust factor check shall be done every month.
 - (v) The unit shall ensure that the analyzer should be TUV/MCERTS certified analyser.
 - (vi) Analyzer installed for coal mill, cement mill and raw mill shall be serviced and recalibrated since constant values were showing.
 - c. CAAQMS
 - (i) CAAQMS gaseous analyzers shall be serviced and recalibrated since they are not working properly.
 - (ii) The unit shall rectify the filter tapes for PM₁₀ and PM_{2.5} and ensure that they are working properly.
 - (iii) Calibrator shall be made available at the unit and inhouse calibration shall be done as per the guidelines.
 - (iv) The performance calibration of all the online analyzers shall be conducted once in a year through a laboratory approved by CPCB and report shall be submitted to TNPCB.
15. The unit shall conduct a comprehensive Environmental audit through a laboratory approved by CPCB/MoEF once in a year which includes water audit, ETP/STP adequacy & efficacy, APCD performance efficiency etc, and shall furnish report to TNPCB.
16. The unit shall continue to develop more green belt in and around the unit premises.
17. The industry shall operate and maintain the water sprinklers and street sweepers provided by the industry at all times.
18. The industry shall improve the house keeping in the entire premises.
19. The industry shall calibrate and maintain the online continuous emission monitoring system provided for the Kilns, Clinker coolers, cement mill & coal mills and also the continuous AAQMS so as to send quality data to the CAC, TNPCB, Chennai.
20. The unit shall ensure that calibration is done at frequent intervals to keep the analyzer intact.
21. The unit shall maintain all the online monitors continuously and efficiently and should ensure the online connectivity with Care Air Centre of TNPCB, Chennai to provide proper quality data at all

times.

22. The unit shall continuously operate and maintain the online analyzer and online display board installed in the entrance of the unit efficiently.

23. The unit shall ensure that the emission meets the emission standards as notified by MoEE&CC vide GSR497 (E) dated: 10.05.2016 and shall comply with the condition stipulated in the MoEF&CC,O&M,F.No22-34/2018-1A dated 09.08.2018.

24. All internal roads shall be cleaned with road sweeper then and there and the house keeping should be done all the time effectively and water sprinkling shall be done frequently so as to arrest the dust spreading due to vehicular movement.

25. The unit shall increase the consumption of ETP sludge with immediate effect.

26. The industry shall utilise /enhance the usage of Alternate Fuels and Raw materials (AFR such as Plastic wastes, Hazardous wastes) for Co- processing/Co-incineration in Cement Kiln so as to improve the Thermal Substitution Ratio (TSR). Also the unit shall provide necessary infrastructure facilities such as feeding system, conveyor systems, etc., for co processing to achieve the TSR of 10% during 2022-23 within 3 months and report to the Board.

27. The unit shall immediately take necessary action for providing infrastructure facilities to achieve the TSR as 10% and shall complete the same within within 3 months to achieve 10%.

28. The industry shall develop more green belt in the premises by planting more number of tree saplings.

29. The unit shall operate the plant without attracting complaints from the nearby Public.

30. This consent order does not absolve from obtaining necessary permission / clearance from other Authority or under other Statute as applicable.

RAGUPATHI
SANGANAN

Digitally signed by RAGUPATHI
SANGANAN
Date: 2022.07.13 18:01:19 +05'30'

**For Member Secretary,
Tamil Nadu Pollution Control Board,
Chennai**

To
The Deputy General Manager,
M/s.TAMILNADU CEMENTS CORPORATION LTD,
TAMIL NADU CEMENTS CORPORATION LIMITED, ARIYALUR CEMENT WORKS,ARASU
NAGAR,ARIYALUR,
Pin: 621729

Copy to:

- 1.The Commissioner, ARIYALUR-Panchayat Union, Ariyalur Taluk, Ariyalur District .
2. The District Environmental Engineer, Tamil Nadu Pollution Control Board, ARIYALUR.
3. The JCEE-Monitoring, Tamil Nadu Pollution Control Board, Triuchirappalli.
4. File

Category of the Industry :

RED



CONSENT ORDER NO. 2208143039244 DATED: 12/07/2022.

PROCEEDINGS NO.T4/TNPCB/F.0288ARY/RL/ARY/W/2022 DATED: 12/07/2022

SUB: Tamil Nadu Pollution Control Board - RENEWAL OF CONSENT – M/s. TAMILNADU CEMENTS CORPORATION LTD , S.F.No. 32,33,42,45 to 50,53,79,80,81,84,87,88,89,, KAIRLABATH village, Ariyalur Taluk and Ariyalur District - Renewal of Consent for the operation of the plant and discharge of sewage and/or trade effluent under Section 25 of the Water (Prevention and Control of Pollution) Act, 1974 as amended in 1988 (Central Act 6 of 1974) – Issued- Reg.

REF: 1. Proc.No. T4/TNPCB/F.0288ARY/RL/ARY/W&A/2021 DATED: 01/11/2021
2. IR.No : F.0288ARY/RL/JCEE-M/ARY/2022 dated 19/05/2022

RENEWAL OF CONSENT is hereby granted under Section 25 of the Water (Prevention and Control of Pollution) Act, 1974 as amended in 1988 (Central Act, 6 of 1974) (hereinafter referred to as “The Act”) and the rules and orders made there under to

The Deputy General Manager
M/s.TAMILNADU CEMENTS CORPORATION LTD,
S.F.No. 32,33,42,45 to 50,53,79,80,81,84,87,88,89,,
KAIRLABATH Village ,
Ariyalur Taluk ,
Ariyalur District .

Authorising the occupier to make discharge of sewage and /or trade effluent.

This is subject to the provisions of the Act, the rules and the orders made there under and the terms and conditions incorporated under the Special and General conditions stipulated in the Consent Order issued earlier and subject to the special conditions annexed.

This RENEWAL OF CONSENT is valid for the period ending March 31, 2024

RAGUPATHI
SANGANAN

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SANGANAN
Date: 2022.07.13 17:59:38 +05'30'

**For Member Secretary,
Tamil Nadu Pollution Control Board,
Chennai**

SPECIAL CONDITIONS

1. This renewal of consent is valid for operating the facility for the manufacture of products/byproducts (Col. 2) at the rate (Col 3) mentioned below. Any change in the product/byproduct and its quantity has to be brought to the notice of the Board and fresh consent has to be obtained.

Sl. No.	Description	Quantity	Unit
Product Details			
1.	CLINKER	1475000	MT/ANNUM
2.	ORDINARY PORTLAND CEMENT AND PORTLAND POZZOLANA CEMENT	1630000	MT/ANNUM
By-Product Details			
1.	No by product	0	0
Intermediate Product Details			
1.	No intermediate product	0	0

2. This renewal of consent is valid for operating the facility with the below mentioned outlets for the discharge of sewage/trade effluent. Any change in the outlets and the quantity has to be brought to the notice of the Board and fresh consent has to be obtained.

Outlet No.	Description of Outlet	Maximum daily discharge in KLD	Point of disposal
Effluent Type : Sewage			
1.	SEWAGE	110.0	On land for gardening
Effluent Type : Trade Effluent			
1.	No trade effluent	0.0	Not applicable

Special Additional Conditions:

The unit shall obtain No Objection Certificate (NOC) from the Tamil Nadu Bio Diversity Board /National Bio Diversity Authority if the unit is using any Biological resources or knowledge associated thereto as per the provisions of Biological Diversity Act 2002.

Additional Conditions:

1. The Unit shall manufacture only the products for which consent is obtained and shall ensure that the production is within the consented quantity.
2. The unit shall operate and maintain the Sewage Treatment Plant efficiently and continuously to achieve the Standards prescribed by the Board at all times and the treated sewage shall be utilized for gardening within the premises as reported after meeting standards prescribed by the Board.
3. The industry shall ensure that the sewage either treated or untreated is not discharged outside the premises.
4. The unit shall ensure that no trade effluent generated from the process.
5. The unit shall increase the consumption of ETP sludge with immediate effect.
6. The industry shall utilise /enhance the usage of Alternate Fuels and Raw materials (AFR such as Plastic wastes, Hazardous wastes) for Co- processing/Co-incineration in Cement Kiln so as to improve the Thermal Substitution Ratio (TSR). Also the unit shall provide necessary infrastructure facilities such as feeding system, conveyor systems, etc., for co processing to achieve the TSR of 10% during 2022-23 within 3 months and report to the Board.
7. The unit shall immediately take necessary action for providing infrastructure facilities to achieve the TSR as 10% and shall complete the same within within 3 months to achieve 10%.
8. The unit shall always possess valid NOC for water drawl from the competent Authority.
9. The unit shall continue to develop green belt with native species of trees to attenuate the Air/Noise pollution.
10. The unit shall not use "Use and throw away Plastics" such as plastic sheets used for food wrapping, spreading on dining table etc., plastic plates, plastic coated tea cups, plastic tumbler, water pouches and packets, plastic straw, plastic carry bag and plastic flags irrespective of thickness within the industry premises. Instead it shall encourage use of eco friendly alternatives such as banana leaf, areca nut palm plate, stainless steel glass, porcelain plates cups, cloth bag, jute bags etc.
11. The unit shall operate the plant without attracting complaints from the nearby Public.
12. This consent order does not absolve from obtaining necessary permission / clearance from other Authority or under other Statute as applicable.

RAGUPATHI
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SANGANAN
Date: 2022.07.13 18:00:10 +05'30'

**For Member Secretary,
Tamil Nadu Pollution Control Board,
Chennai**

To
The Deputy General Manager,
M/s.TAMILNADU CEMENTS CORPORATION LTD,
TAMIL NADU CEMENTS CORPORATION LIMITED, ARIYALUR CEMENT WORKS,ARASU
NAGAR,ARIYALUR,
Pin: 621729

Copy to:

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4. File
