

To  
**The Director**  
Ministry of Environment, Forest and Climate Change  
Integrated Regional Office,  
1<sup>st</sup> Floor, Additional Office Block for GPOA,  
Shastri Bhawan, Haddows Road, Nungambakkam,  
Chennai – 600 006.

Respected Sir,

**Sub:** Half Yearly Environmental Clearance Compliance Report – Oct'22 to Mar'23 of Dalmia Cement (Bharat) Limited, Govindapuram and Ottakovil Village, Ariyalur.

**Ref:** F.No J-11011/751/2007-IA II(I), dated 19.06.2008.

We hereby submit the Half yearly environmental clearance compliance report for “**Cement & Captive Power Plant**” along with the following annexures for the period from October 2022 to March 2023.

- a) Summary report of Stack emission & Noise monitoring – Annexure: 1
- b) Summary of Ambient air quality – Annexure: 2
- c) Ambient Air quality survey report from NABL accredited lab – Annexure:3
- d) Green belt development & Solar Plant – Annexure: 4
- e) Ground water clearances from State Ground and Surface Water Resources Data Centre – Annexure: 5
- f) CSR activities – Annexure: 6
- g) Environmental Clearance published in Newspapers – Annexure: 7
- h) Stack emission real time data display in entry gate – Annexure: 8
- i) Awards & Accolades – Annexure: 9

Kindly acknowledge the receipt of the same.

Thanking you

Yours faithfully

**For Dalmia Cement (Bharat) Limited, Ariyalur**

  
**T Robert**  
Unit Head

**Encl:** As stated above.

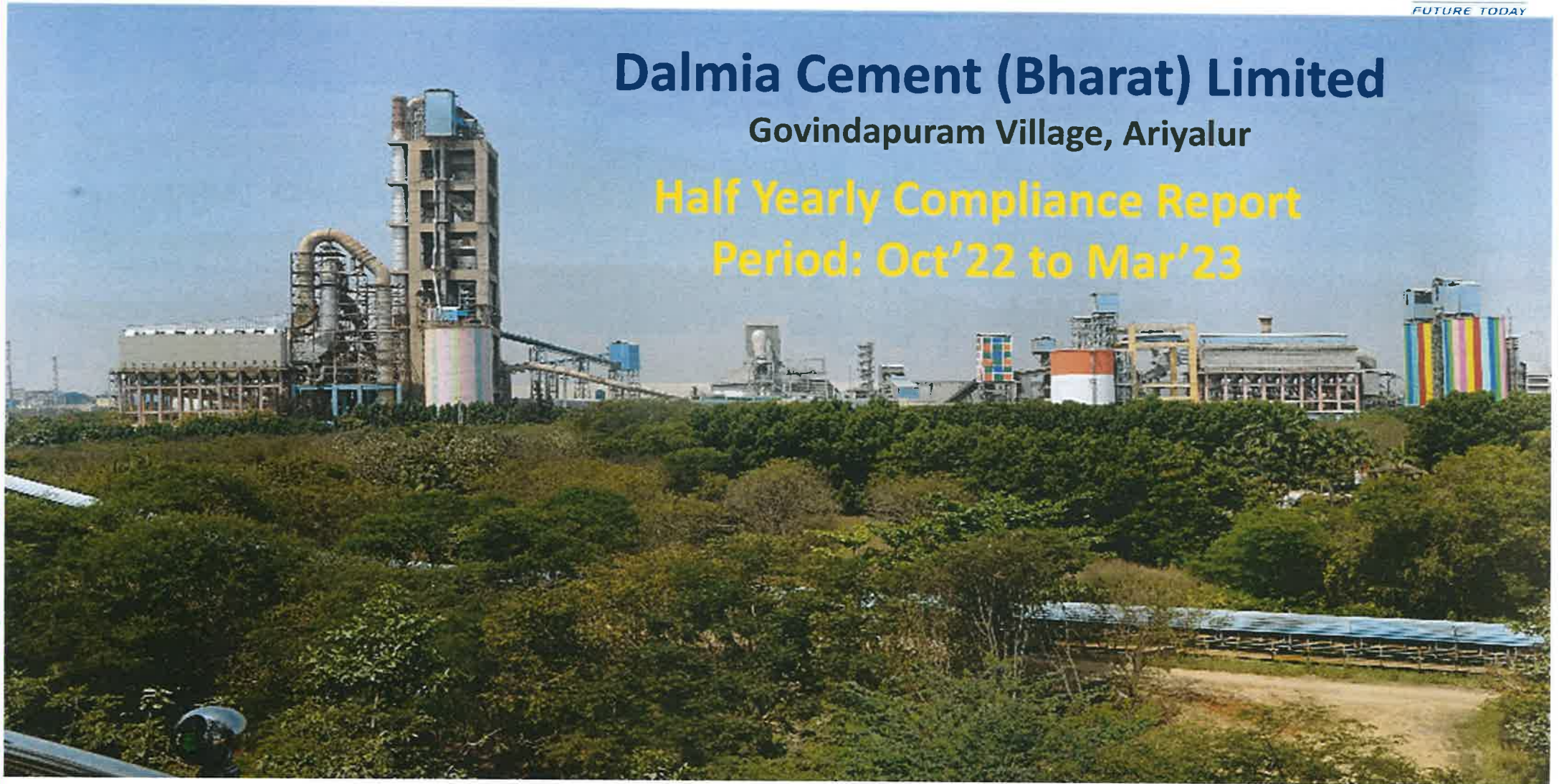
**CC:** 1. The Joint Chief Environmental Engineer, TNPCB, Trichy – 620 015.  
2. The District Environmental Engineer, TNPCB, Ariyalur – 621 707.

# Dalmia Cement (Bharat) Limited

Govindapuram Village, Ariyalur

Half Yearly Compliance Report

Period: Oct'22 to Mar'23



## Dalmia Cement (Bharat) Limited, Ariyalur

Status of compliance stipulated in Environmental Clearances  
(For the period of Oct 2022 to Mar 2023)

Ref: MoEF Letter No J-11011/751/2007-IA II (I) dated 19<sup>th</sup> June, 2008

Sl. No	Conditions	Compliance
<b>A</b>	<b>Specific Conditions</b>	
i	<p>Continuous stack monitoring facilities to monitor gaseous emissions from all the stacks shall be provided and limit of SPM shall be controlled by installing adequate air pollution control system Viz. Electrostatic precipitator (ESP) to cooler and captive power plant and bag house /bag filters etc. to other plants within 50 mg/Nm<sup>3</sup> from the cement plant and 100 mg/Nm<sup>3</sup> from captive Power Plant and data submitted to the Ministry's regional office at Bangalore, TNPCB and CPCB regularly. Raw meal, Clinker and fly ash shall be stored in silos.</p>	<p>Complied with.</p> <p>Installed Online Continuous Emission Monitoring Systems in all stacks (Cement mill, Coal mill, Cooler, Raw mill/kiln &amp; Boiler of power plant) and following air pollution control systems were installed &amp; maintained to control the emission levels well within the limits of 30 &amp; 50 mg/Nm<sup>3</sup>;</p> <p>1. Cement mill - Bag house, 2. Kiln/Preheater - Bag house, 3. Coal mill - Bag house 4. Cooler - ESP &amp; 5. CPP- ESP.</p> <p>Stack monitoring is being carried manually every month and Quarterly through NABL accredited labs and half yearly by TNPCB. The Monitoring report is being submitted regularly to MoEF on half yearly basis &amp; to TNPCB on monthly basis.</p> <p>Raw meal, clinker and dry fly ash were stored in concrete silos.</p> <p>Refer Annexure: 1 for Ambient Air Quality, Fugitive Emission &amp; Stack emission report from NABL accredited lab.</p>
ii	<p>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 should be followed. The Company shall install adequate dust collection and extraction system to control fugitive dust emissions at various transfer points, raw material handling (unloading, conveying, transporting, stacking), Vehicular movement, bagging and packing areas etc. Asphaltting/concreting of roads and water spray all around the stockyard and loading /unloading areas shall be carried</p>	<p>Complied with.</p> <p>Secondary fugitive emissions are controlled by providing closed conveyors and storage sheds. Half yearly fugitive emission monitored through accredited labs &amp; quarterly once internally. Fugitive emission guidelines issued by CPCB is been complied with.</p> <p>Dust extraction system provided at transfer points, raw material handling (Unloading, conveying, transporting, stacking) and packing areas to control fugitive dust. Water sprinkling carried out around stockyard, loading &amp; unloading area, haul roads and other predominant places to control fugitive dust. Road sweeping carried out through sweeping machines daily. Also vacuum sweeping machines is being used for sweeping spilled cement on shop floor and recycled back.</p> <p>Covered sheds provided for raw materials like crushed limestone, Coal, petcoke, Alternative fuels,</p>

*[Signature]*

	out to control fugitive emissions. Covered sheds for storage of raw materials and fully covered conveyers for transportation of materials shall be provided.	Fire clay, gypsum and wet Fly ash. Raw meal, Clinker, Cement & dry Fly ash are stored in silos with bag filters. All belt conveyors were fully closed.
iii	Efforts shall be made to reduce impact of the transport of the raw materials and end products on the surrounding environment including agricultural land.	Complied with. We are getting limestone from Perianagalur, Kallakudi, Kavandukuruchi and Periyathirukonam mines and the transportation enroute has some agricultural lands and settlements. However, so far no complaints have been received from villages. Also, all the raw materials vehicles are covered with tarpaulin cover during transportation.
iv	Total ground water requirement shall not exceed 2,500 m <sup>3</sup> /day. No surface water shall be used. All the treated wastewater treated in a neutralized plant shall be recycled and reused in the cement Plant for cooling purpose and/or for dust suppression, green belt development and other plant related activities etc. No process Waste water shall be discharged outside the factory premises and zero discharge shall be adopted. Domestic treated effluent shall be used for greenbelt development within the plant and colony area.	Complied with. The total ground water requirements not exceed 2500 m <sup>3</sup> /day and the present water consumption is 1600 m <sup>3</sup> /day. No surface water is used for the plant operations. Treated waste water from the neutralization plant is recycled back into cement process and also in dust suppression. Domestic waste water generated is treated in the STP and treated water is used for gardening purpose. No process water is discharged outside and Zero discharge condition is maintained.
v	Permission for the drawl of 2,500 m <sup>3</sup> /day ground water shall be obtained from the state Ground Water Board/Central Ground Water Authority (SGWB/CGWA) and all the recommendations of the SGWB/ CGWA shall be followed	Complied with. Permission for Ground water withdrawal for 1620 m <sup>3</sup> obtained from State Ground and Surface water resources data center, valid still 21.02.2024.
vi	All the cement dust collected from pollution control devices like ESPs, bag house, bag filters etc. shall be recycled and reused in the process and used for cement manufacturing Fly Ash from Captive power plant shall be used for manufacturing Pozzolana Portland Cement (PPC). Bottom ash shall be used as boiler bed material. Refractory bricks shall be disposed off in environment-friendly manner. ETP Sludge	Complied with Cement dust collected from pollution control devices is recycled back in the process. Fly ash from Captive Power Plant is used for making PPC. The bottom ash is collected in form of dry ash and the same is completely used in cement manufacturing. Some portion of refractory bricks is used for garden decoration, developing internal roads and also sold to recyclers. No ETP sludge is generated as neutralization method is adopted and sludge generated from STP

*[Handwritten signature]*



	shall be disposed off at landfill site. STP Sludge shall be used as manure for green belt development. Waste oil and grease and scrapped automobiles batteries shall be sold to authorized recyclers/re-processors only.	is used as manure for green belt development. Used oil & grease generated from the process is collected and disposed to the authorized recyclers and used lead acid batteries is been send back to manufacturers.						
vii	The Project authorities shall adhere to the provisions stipulated in the fly ash Notification, 1999 as amended in 2003.	Complied with. All the fly ash generated from Captive Power Plant is completely used in the cement manufacturing process.						
viii	Efforts shall be made to use fly ash maximum in making Pozzolana Portland cement (PPC)	Complied with. The entire fly ash generated is used in the cement manufacturing process. Percentage of fly ash used in PPC for FY 22-23 is 33.89%.						
ix	An effort shall be made to use of high calorific hazardous waste in the cement kiln and necessary provision shall be made accordingly	Complied with. Installed Full fledge alternative fuel feeding system for Co-Processing Hazardous/Non hazardous waste in Kiln with shredders, magnetic separators, screen, extractor and closed belt feeding system. Presently, co-processing Non Hazardous waste like Plastics, Refuse Derived Fuel, Dry municipal waste, foot ware waste and Hazardous waste like Resin, Textile ETP Sludge, Paint sludge & Oil rags in Cement kiln by getting necessary authorization from TNPCB.						
x	Efforts shall be made to use low grade lime, more fly ash and solid waste in the cement manufacturing.	Complied with. Low grade Limestone is blended with High grade limestone and used for Cement manufacturing. Also, co-processing Textile ETP sludge as an alternative raw material for replacement of limestone. Maximum quantity of fly ash is used for manufacturing Pozzolana Portland cement. Further, high calorific value hazardous & non Hazardous wastes co-processed in the cement kiln.						
xi	As proposed, green belt shall be developed in 33% area in and around the project site as per as the CPCB guidelines to mitigate the effects of air emissions in consultation with local DFO	Complied with. More than 34% of the total area is covered with Green belt. As of Mar'23, 68,934 nos of trees were maintained inside the plant premises in consultation with local DFO initially and with 96% survival rate.						
xii	All recommendations made in the Corporate Responsibility for Environment Protection (CREP) for cement plants shall be implemented.	Complied with. <table border="1"> <thead> <tr> <th>S.No</th> <th>Conditions</th> <th>Compliance</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>Cement Plants, which are not complying with notified</td> <td>Air Pollution Control Devices installed &amp; maintained in order to meet the emission</td> </tr> </tbody> </table>	S.No	Conditions	Compliance	1	Cement Plants, which are not complying with notified	Air Pollution Control Devices installed & maintained in order to meet the emission
S.No	Conditions	Compliance						
1	Cement Plants, which are not complying with notified	Air Pollution Control Devices installed & maintained in order to meet the emission						

		standards, will do the following to meet the standards: <ul style="list-style-type: none"> <li>• Augmentation of existing Air Pollution Control Devices-by July 2003</li> <li>• Replacement of existing Air Pollution Control Devices-by July 2004</li> </ul>	norms of <30 mg/Nm <sup>3</sup> . Regular checking of Bags is carried out based on the DP value and if any damage is observed, it is replaced immediately. Also, during every shutdown/stoppages, Bag house chambers is inspected and maintained.
		2 Cement Plants located in critically polluted or urban areas (including 5km distance outside urban boundary) will meet 100 mg/Nm <sup>3</sup> limit of particulate matter by December 2004 and continue working to reduce the emission of particulate matter to 50 mg/Nm <sup>3</sup>	The particulate emissions from pollution control equipment's designed to meet the emission norms of <30 mg/Nm <sup>3</sup> . Regular checking of Bags is being carried out based on the DP value and if any damage is observed, it is replaced immediately. Also, during every shutdown/stoppages, Bag house chambers is inspected and maintained.
		3 The new cement kilns to be accorded NOC/Environmental Clearance w.e.f 01.04.2003 will meet the limit of 50 mg/Nm <sup>3</sup> for particulate matter emissions	The particulate emissions from pollution control equipment's is within the emission norms of <30 mg/Nm <sup>3</sup> .
		4 CPCB will evolve load based standards by December 2003.	The Load based emission for Particulate matter from Raw mill, kiln and pre-calciner system put together is less than 0.125 kg/

			ton of clinker.
5	CPCB and NCBM will evolve SO <sub>2</sub> and NO <sub>x</sub> emission standards by June 2004		The emissions levels of NO <sub>x</sub> and SO <sub>2</sub> are well within the standards proposed by CPCB. We also installed Duoplex burner (low NO <sub>x</sub> ) in kiln main stack
6	The Cement industries will control fugitive emissions from all the raw material and products storage and transfer points by December 2003. However, the feasibility for the control of fugitive emissions from limestone and coal storage areas will be decided by the National Task Force (NTF). The NTF will submit its recommendations within three months.		The fugitive emission is controlled by following initiatives, 1. Most of the area including raw material handling area covered with RCC pavement and road sweeping carried out using sweeping machines. 2. All transfer points are fully closed and fugitives controlled by water spraying or extraction to Bag filters. 3. Covered sheds provided for Raw materials like crushed limestone, Imported Coal, petcoke, Alternative fuels, Lignite, Wet Fly ash and Gypsum 4. Raw meal, Clinker, Cement and dry fly ash stored in Silos with bag filters. 5. Cement packing rotors/machines equipped with dust extraction system with adequate ventilation. Also, we complied with respect to the CPCB guidelines on fugitive emission control vide PROBES/118/2007.

			dated 06.07.2007.
		7	<p>CPCB, NCBM, BIS and Oil refineries will jointly prepare the policy on use of petroleum coke as fuel in cement kiln by July 2003.</p> <p>We are using imported/domestic pet coke in the manufacturing process by obtaining necessary permission apart from imported coal and Lignite as a fuel in cement kiln.</p>
		8	<p>After performance evaluation of various types of continuous monitoring equipment and feedback from the industries and equipment manufacturers, NTF will decide feasible unit operations/sections for installation of continuous monitoring equipment. The industry will install the continuous monitoring systems (CMS) by December 2003</p> <p>The Continuous Emission and Effluent monitoring systems has been installed and readings are connected to TNPCB CAREAIR Centre, Chennai &amp; also to CPCB Server through online. Further, the analyzers are calibrated regularly with respect to their functioning, drift, linearity as per the CPCB guidelines.</p>
		9	<p>Tripping in Kiln ESP to be minimized by July 2003 as per the recommendations of NTF</p> <p>Tripping of ESP is minimized by taking all the necessary precautions like water spraying on flue gas and interlocking system with fan main drive.</p>
		10	<p>Industries will submit the target date to enhance the utilization of waste material by April 2003.</p> <p>Every monthly the quantity co-processed in kiln is being intimated to TNPCB and yearly to CPCB. Installed Alternative fuel feeding system consisting of Shredders, Magnetic separator, Extractor,</p>



			hopper, Closed belt conveyor with all safety system. Co-processing emission monitoring carried out with NABL accredited labs half yearly & reports are submitted to TNPCB.
		11	NCBM will carry out a study on hazardous waste utilization in cement kiln by December 2003
		12	Cement industries will carry out feasibility study and submit target dates to CPCB for co-generation of power by July 2003.
xiii	Recommendation of the state forest department regarding impact of proposed plant on surrounding reserve forests Viz. Vannankurichchi RF (9.5Km, E), Sedalaradi RF (14Km, NE), Manager RF(13Km, ESE), Vilangudi RF (14Km, SE) shall be obtained and implemented	Complied with. District forest officer had given NOC stating that there is no rare, endangered or threatened species of the plant and animals in or near the reserved forest. As per discussion with Forest department, the following plants viz Neem, Gulmohar, Casualina, Pungamia Glubra, Cassia, Bouhiana, etc were planted in our plant premises.	
xiv	No operation of the cement plant shall be carried out till the environmental clearance for the mining project is obtained from the ministry of environment and forests and a copy submitted to the ministry's regional office at Bangalore.	Complied with. The Cement plant is commissioned only after obtaining the environmental clearance for Limestone mines. The required limestone is sourced from own mines located at various locations and there is no single captive mine for this project.	
<b>B</b>	<b>General Conditions</b>		
i	The Project authority shall adhere to the stipulations made by T.N. Pollution control Board (TNPCB) and State Government.	Complied with. All the stipulations made by Tamil Nadu Pollution Control Board and State Government is complied.	
ii	No further expansion or modification of the plant shall be carried out without prior approval of this Ministry	Noted and complied with. As per MoEF&CC S.O 980(E) dated 21.03.2021, uploaded the information on PARIVESH Portal on 25.06.2021 for 'No increase in Pollution Load'	

		<p>towards modernization and upgradation of Cement plant for production of Clinker from 2.0 to 2.5 MTPA and Cement from 3.0 to 4.0 MTPA and obtained acknowledgement with Single Window No. SW/1545/2021.</p> <p>Further, No Increase in Pollution Load Certificate obtained from TNPCB Pollution Load Assessment Committee vide Lr. No T4/TNPCB/F.0038/ARY/2021, dated 11.03.2022. Accordingly, Consent to Establishment obtained from TNPCB under Air and Water act and modernization and upgradation work is being carried out.</p>
iii	<p>The gaseous and particulate matter emissions from various units shall conform to the standards prescribed by the T.N. Pollution control Board. At no time, the particulate emissions from the cement plant shall exceed TNPCB limit. Interlocking facility shall be provided in the pollution control equipment so that in the event of the pollution control equipment not working, the respective unit(s) is shut down automatically.</p>	<p>Complied with.</p> <p>Online Emission Monitoring system is installed in all stacks and the monitored data is directly transmitted to Care Air Centre, TNPCB &amp; CPCB. The Gaseous and particulate emissions from all the stacks are well within the prescribed norms. All necessary precautions like maintenance of Bag filters have been taken to ensure that the particulate emissions are within the prescribed limits. Interlock facilities provided. If the emission level of Raw mill/kiln, Cooler, Coal mill, Cement mill, CPP boiler goes above the prescribed norms, the ID fans gets tripped automatically and the unit will be tripped.</p>
iv	<p>One ambient air quality monitoring station shall be installed in downward direction. Ambient air quality including ambient noise levels shall not exceed the standards stipulated under EPA or by the state authorities. Monitoring of ambient air quality and stack emissions shall be carried out regularly in consultation with TNPCB and report submitted to the TNPCB quarterly and to the Ministry's Regional office at Bangalore - Half yearly</p>	<p>Complied with.</p> <p>Continuous Ambient Air Quality Monitoring Stations have been established in downwind and leeward direction. Necessary precautions like water spraying, regular cleaning of roads through sweeping machines carried out to control dust levels. Acoustic enclosures provided to control noise levels. Ambient noise, ambient air and stack emission monitoring is being monitored Quarterly through accredited labs. The Monitoring report is being submitted regularly to MoEF on half yearly basis &amp; to TNPCB on monthly basis.</p>
v	<p>The company must harvest the rain water from the rooftops and storm water drains to recharge the ground water and use the same water for the various activities project to conserve fresh water.</p>	<p>Complied with.</p> <p>Roof top rain water harvesting structures provided as well as storm water drainage facilities to recharge ground water. The storm water is routed to two rain water harvesting pond (Logistic pond: 44000 m<sup>3</sup> and Enviro park 9000 m<sup>3</sup>) of total capacity 53000 m<sup>3</sup>. In addition to this, two recharge shaft bore well</p>



		were constructed near logistic Rain water harvesting pond and Raw mill bore well area. The harvested rain water is used for Green belt development and dust suppression activities.
vi	The company shall undertake eco-development measures including community welfare measures in the project area.	Complied with. Eco development measures like de-silting of village ponds, Check dams, Provision of Drinking water facility, Sanitation, Community cleaning and Rain water harvesting structures in schools carried out in nearby community. For community welfare measures, medical camps, fuel efficient stoves, solar lanterns, Livelihood development through skill trainings and awareness in schools & Villages carried out regularly.
vii	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 source of noise generation. The ambient noise levels shall conform to the standards prescribed under Environmental (protection) Act, 1986 Rules, 1989 viz 75 dBA (day time) and 70 dBA (night time).	Complied with. Overall noise levels in and around the plant area are well within the TNPCB norms. Acoustic hoods and silencers provided in the noise generating equipment's. Ambient noise levels are being monitored internally every month and Quarterly once through external laboratory during day & night time and the levels are within the prescribed limits. Refer Annexure: 1 for the Noise monitoring report.
viii	Adequate rainwater harvesting measures shall be adopted to recharge the ground water.	Complied with. Roof top rain water harvesting structures provided as well as storm water drainage facilities to recharge ground water. The storm water is routed to two rain water harvesting pond (Logistic pond: 44000 m <sup>3</sup> and Enviro park 9000 m <sup>3</sup> ) of total capacity 53000 m <sup>3</sup> . In addition to this, two recharge shaft bore well were constructed near logistic Rain water harvesting pond and Raw mill bore well area.
ix	Proper housekeeping and adequate occupational health programmes shall be taken up	Complied with. Good housekeeping practice followed and the same is monitored through daily checklist, monthly audits by zone members and top management and quarterly SHE audits. Various Occupational health programmes and awareness campaign like yoga, personal and industrial hygiene, food habits, hand washing, health tips, first aid training, medical camp, fitness etc carried out and records are maintained.
x	A separate environmental management cell to carry out various management and	Complied with. A full fledged separate environmental cell is in place with two qualified environments professional and a

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	monitoring functions shall be set up under the control of Senior Executive.	Horticulturist under the direct supervision of Unit Head. Also, formed department wise SPOC's persons to monitor the Environmental aspects/impacts for taking effective corrective measures through Environment Management programme (EMP).
xi	As proposed, Rs.17.45 Cores and Rs.4.85 Crores/annum shall be earmarked towards the capital cost and recurring cost/annum earmarked for environment pollution control measures and judiciously used to implement the conditions stipulated by the Ministry of Environment and Forests as well as the state Government. The funds so provided shall not be diverted for any other purposes.	Complied with. Capital cost invested for the pollution control measures is 45 crore. Every year, for environmental protection budget is allotted and wisely spent. In FY 22-23, around 145.05 lakhs utilized as recurring cost for general activities and around 149.0 Crore towards environment & Energy improvement capex projects. Also, additional funds are being allocated separately for implementing the conditions stipulated by MoEF & PCB from time to time. The funds provided for environmental pollution control measures is not be diverted for other purpose
xii	The regional Office of this Ministry at Bangalore / CPCB / TNPCB shall monitor the stipulated conditions. A six monthly compliance report and the monitored data along with statistical interpretation shall be submitted to them regularly.	Complied with. Half yearly compliance report is being submitted to MoEF Regional office & TNPCB. The last compliance report was submitted vide our letter no ARY/MoEF/Cement & CPP/EC/22-23/126 dated 26.11.2022.
xiii	The project authorities shall inform the Regional Office as well as 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.	Complied with. Term loan sanctioned on 25.08.2008 & ECA sanctioned on 06.11.2008. For Cement plant, Date of commencement: 28.07.2008 & commissioning: Feb 2009. For Captive Power plant, Date of commencement: 10.09.2008 & commissioning: Aug 2010
ivx	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 T.N. Pollution control Board / Committee and may also be seen at website of the Ministry of Environment and Forests at <a href="http://envfor.nic.in">http://envfor.nic.in</a> . This should be advertised within seven days from the date of issue of the clearance letter at least in two	Complied with. Environmental clearance had been submitted to TNPCB office and also available in the website of the Ministry of Environment and Forests.  Advertisement regarding obtaining of Environment clearance had been published in The Hindu paper and Local Tamil newspaper (Dinamani) on 01/07/08 and same has been submitted to MoEF regional office.

	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 shall be forwarded to the Regional office at Bangalore.	
<b>Additional conditions issued by MoEF on 06.04.2011, Ref.No: J-11013/41/2006-IA. II(I)</b>		
i	Continuous monitoring of stack emissions as well as ambient air quality (as per notified standards) shall be carried out and continuous records maintained. Based on the monitored data, necessary corrective measures as may be required from time to time shall be taken to ensure that the levels are within permissible limits. The results of monitoring shall also be submitted to the respective Regional office of MoEF regularly. Besides, the results of monitoring will also be put on the website of the company in the public domain.	Installed Continuous Emission Monitoring System in all stacks for monitoring particulate emission and two no's of Continuous Ambient Air Quality Monitoring System. The online monitoring data is connected to the CARE AIR, TNPCB and to CPCB server. The data are being monitored daily and the emission levels are well within the limits. Also, manual monitoring report is being submitted half yearly to MoEF regional office & the compliance report along with monitoring results are uploaded in our website. The real time data is displayed at the main gate.
ii	The six monthly monitoring reports as well as the monitored data on various parameters as stipulated in the environment clearance conditions shall be put on the website of the company and also regularly updated. The monitored data shall also be submitted to respective state pollution control board/UTPCCs and the regional office of MoEF.	We are updating the compliance condition stipulated in Environment clearance regularly in the website. Website address: <a href="http://www.dalmiacement.com">www.dalmiacement.com</a> (under Sustainability tab click Environmental Clearances and compliances for plant). Also the monitoring data is submitted to TNPCB on monthly basis & MoEF on half yearly regularly.
iii	The ambient air quality data as well as the stack emission data will also be displayed in public domain at some prominent place near the main gate of the company and updated in real time.	Real time Online monitoring data's is displayed in Public domain at the Main gate of the plant.

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# Annexure - 1



# ANNEXURE - 1

## Dalmia Cement (Bharat) Limited



### Ariyalur Plant

Department : Environment

Plant - Cement & CPP

#### SUMMARY REPORT OF STACK EMISSION (PM)

PERIOD: Apr 2022 - Mar 2023

UNIT – mg/Nm<sup>3</sup>

Month	Kiln/Raw mill		Clinker cooler		Coal mill		Cement mill		Boiler ID fan	
	Observed Level	Norms	Observed Level	Norms	Observed Level	Norms	Observed Level	Norms	Observed Level	Norms
<b>Max</b>	24.3	30	26.8	30	23.9	30	24.3	30	33.5	50
<b>Min</b>	5.5		13.4		17.6		11.6		20.7	
<b>Avg</b>	13.4		23.2		21.3		19.0		26.7	
<b>St. Deviation</b>	5.0		3.3		1.9		4.5		6.4	

#### SUMMARY REPORT OF STACK EMISSION (SO<sub>2</sub> & NO<sub>x</sub>)

PERIOD: Apr 2022 - Mar 2023

UNIT – mg/Nm<sup>3</sup>

Month	SO <sub>2</sub> Emission				NO <sub>x</sub> Emission			
	Kiln/Raw mill		Boiler ID fan		Kiln/Raw mill		Boiler ID fan	
	Observed Level	Norms	Observed Level	Norms	Observed Level	Norms	Observed Level	Norms
<b>Max</b>	2.9	100	264.5	600	720.9	800	42.8	300
<b>Min</b>	1.0		192.4		295.0		9.8	
<b>Avg</b>	2.3		236.9		464.0		31.1	
<b>St. Deviation</b>	0.6		38.9		144.2		18.5	

#### SUMMARY OF NOISE MONITORING REPORT

PERIOD: Apr 2022 - Mar 2023

UNIT – dB (A)

DAY & NIGHT TIME

Month	Northeast Boundary (Near CPP)		Southeast Boundary (Near crusher Transport system)		Southeast Boundary (Near Limestone stacker)		Northwest Boundary (Near substation)		Permissible Limit	
	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night
<b>Max</b>	54.2	43.1	53.7	43.9	53.9	43.5	54.1	43.4	55	45
<b>Min</b>	50.4	40.4	49.7	39.6	50.9	40.7	50.3	39.8		
<b>Avg</b>	52.6	42.2	51.7	41.7	52.6	42.3	52.0	41.9		
<b>St. Deviation</b>	1.4	0.8	1.3	1.2	0.9	0.9	1.1	1.2		

**B.R. Prasannakumar**  
 Manager - Environment



## Dalmia Cement (Bharat) Limited

### Ariyalur Plant

Stack monitoring (PM - mg/Nm<sup>3</sup>) for Apr 2022 - Mar 2023 DOC. No: SP-3;AM-7

Month	Kiln/Raw mill	Clinker cooler	Coal mill	Cement mill	Boiler ID fan	Norms for Cement / CPP
Apr/22	14.4	23.7	22.9	18.5	33.5	30/50
May/22	5.5	13.4	17.6	11.6	20.7	30/50
Jun/22	10.9	23.9	19.3	12.3	26.0	30/50
Jul/22	9.1	24.4	23.9	20.7	Not in Operational	30/50
Aug/22	11.0	21.4	20.2	16.7	Not in Operational	30/50
Sep/22	10.5	24.6	22.4	23.3	Not in Operational	30/50
Oct/22	15.6	24.6	23.3	19.20	Not in Operational	30/50
Nov/22	11.2	23.1	22.6	13.4	Not in Operational	30/50
Dec/22	12.8	23.4	22.6	24.3	Not in Operational	30/50
Jan/23	16.9	26.8	19.7	23.1	Not in Operational	30/50
Feb/23	18.7	24.6	20.5	22.9	Not in Operational	30/50
Mar/23	24.3	24.7	20.2	21.8	Not in Operational	30/50
Max	24.3	26.8	23.9	24.3	33.5	30/50
Min	5.5	13.4	17.6	11.6	20.7	
Avg	13.4	23.2	21.3	19.0	26.7	
St. Deviation	5.0	3.3	1.9	4.5	6.4	



## Dalmia Cement (Bharat) Limited

### Ariyalur Plant

Stack monitoring (SO<sub>2</sub>- mg/Nm<sup>3</sup>) for Apr 2022 - Mar 2023      DOC. No: SP-3;AM-7

Month	Kiln/Raw mill	Clinker cooler	Coal mill	Cement mill	Boiler ID fan	Norms for Cement / CPP
Apr/22	2.8	2.5	10.3	BDL	192.4	100/600
May/22	2.3	2.8	9.4	BDL	253.7	100/600
Jun/22	2.5	2.1	9.2	BDL	264.5	100/600
Jul/22	2.9	1.9	8.5	BDL	Not in Operational	100/600
Aug/22	2.3	2.2	8.8	BDL	Not in Operational	100/600
Sep/22	1.0	2.4	8.6	BDL	Not in Operational	100/600
Oct/22	2.3	2.0	8.9	BDL	Not in Operational	100/600
Nov/22	2.5	2.2	9.2	BDL	Not in Operational	100/600
Dec/22	2.7	2.4	10.3	BDL	Not in Operational	100/600
Jan/23	2.5	2.1	9.7	BDL	Not in Operational	100/600
Feb/23	2.7	2.3	9.5	BDL	Not in Operational	100/600
Mar/23	1.3	BDL	4.2	BDL	Not in Operational	100/600
<b>Max</b>	<b>2.9</b>	<b>2.8</b>	<b>10.3</b>	<b>0.0</b>	<b>264.5</b>	100/600
<b>Min</b>	<b>1.0</b>	<b>1.9</b>	<b>4.2</b>	<b>0.0</b>	<b>192.4</b>	
<b>Avg</b>	<b>2.3</b>	<b>2.3</b>	<b>8.9</b>	<b>BDL</b>	<b>236.9</b>	
<b>St. Deviation</b>	<b>0.6</b>	<b>0.3</b>	<b>1.6</b>	<b>0.0</b>	<b>38.9</b>	



## Dalmia Cement (Bharat) Limited

### Ariyalur Plant

Stack monitoring (NO<sub>x</sub> - mg/Nm<sup>3</sup>) for Apr 2022 - Mar 2023

DOC. No: SP-3;AM-7

Month	Kiln/Raw mill	Clinker cooler	Coal mill	Cement mill	Boiler ID fan	Norms for Cement / CPP
Apr/22	582.5	7.5	13.3	BDL	9.8	800/300
May/22	589.8	6.8	12.1	BDL	40.6	800/300
Jun/22	484.7	7.4	11.8	BDL	42.8	800/300
Jul/22	396.5	8.3	12.3	BDL	Not in Operational	800/300
Aug/22	592.5	9.6	11.7	BDL	Not in Operational	800/300
Sep/22	328.6	10.2	10.9	BDL	Not in Operational	800/300
Oct/22	295.0	10.5	10.3	BDL	Not in Operational	800/300
Nov/22	566.8	11.9	25.7	BDL	Not in Operational	800/300
Dec/22	720.9	10.5	28.9	BDL	Not in Operational	800/300
Jan/23	302.5	10.7	30.4	BDL	Not in Operational	800/300
Feb/23	398.1	13.5	35.6	BDL	Not in Operational	800/300
Mar/23	310.5	10.4	25.4	BDL	Not in Operational	800/300
<b>Max</b>	<b>720.9</b>	<b>13.5</b>	<b>35.6</b>	<b>0.0</b>	<b>42.8</b>	800/300
<b>Min</b>	<b>295.0</b>	<b>6.8</b>	<b>10.3</b>	<b>0.0</b>	<b>9.8</b>	
<b>Avg</b>	<b>464.0</b>	<b>9.8</b>	<b>19.0</b>	<b>#DIV/0!</b>	<b>31.1</b>	
<b>St. Deviation</b>	<b>144.2</b>	<b>2.0</b>	<b>9.3</b>	<b>#DIV/0!</b>	<b>18.5</b>	

# Annexure - 2

## ANNEXURE - 2

### Dalmia Cement (Bharat) Limited



#### Ariyalur Plant

Department : Environment

Plant - Cement & CPP

SUMMARY REPORT OF AMBIENT AIR QUALITY  
PARTICULATE MATTER (PM<sub>10</sub>)  
PERIOD: Apr 2022 - Mar 2023  
UNIT - µg/m<sup>3</sup>

Month	Eastern Boundary near HR building	SE - Boundary near Crusher Transport system	SW - Boundary near Limestone Stacker	Western boundary near 110KVA substation	NW - Boundary compound wall	NE - Boundary near CPP	Permissible Limit
Max	78.6	68.2	73.1	74.3	76.2	75.3	100
Min	58.3	53.8	64.8	60.8	63.6	64.9	
Avg	65.5	60.0	69.7	66.8	71.1	71.0	
St. Deviation	5.8	4.4	2.4	4.9	3.2	3.1	

SUMMARY REPORT OF AMBIENT AIR QUALITY  
PARTICULATE MATTER (PM<sub>2.5</sub>)  
PERIOD: Apr 2022 - Mar 2023  
UNIT - µg/m<sup>3</sup>

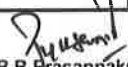
Month	Eastern Boundary (Weigh bridge)	SE - Boundary near Crusher Transport system	SW - Boundary near Limestone Stacker	Western boundary near substation	NW - Boundary compound wall	NE - Boundary near CPP	Permissible Limit
Max	32.4	30.3	36.1	35.2	38.6	37.5	60
Min	22.8	24.3	30.4	24.7	26.7	29.1	
Avg	27.9	27.1	33.3	30.3	33.6	34.2	
St. Deviation	3.5	1.7	1.6	3.2	3.4	2.5	

SUMMARY REPORT OF AMBIENT AIR QUALITY  
SULPHUR DIOXIDE (SO<sub>2</sub>)  
PERIOD: Apr 2022 - Mar 2023  
UNIT - µg/m<sup>3</sup>

Month	Eastern Boundary near HR building	SE - Boundary near Crusher Transport system	SW - Boundary near Limestone Stacker	Western boundary near 110KVA substation	NW - Boundary compound wall	NE - Boundary near CPP	Permissible Limit
Max	32.5	31.5	34.6	33.6	36.5	37.7	80
Min	22.8	24.5	26.6	29.7	27.9	29.7	
Avg	27.5	27.3	29.5	31.2	32.8	33.2	
St. Deviation	3.1	2.2	2.4	1.2	2.5	2.4	

SUMMARY REPORT OF AMBIENT AIR QUALITY  
NITROGEN DIOXIDE (NO<sub>x</sub>)  
PERIOD: Apr 2022 - Mar 2023  
UNIT - µg/m<sup>3</sup>

Month	Eastern Boundary (Weigh bridge)	SE - Boundary near Crusher Transport system	SW - Boundary near Limestone Stacker	Western boundary near substation	NW - Boundary compound wall	NE - Boundary near CPP	Permissible Limit
Max	35.9	34.6	33.4	34.9	36.5	37.4	80
Min	23.7	27.6	28.5	27.8	29.5	29.5	
Avg	29.3	30.9	31.3	31.4	33.8	34.3	
St. Deviation	3.2	2.2	1.5	2.0	2.2	2.4	

  
B.R. Prasannakumar  
Manager - Environment





# Dalmia Cement (Bharat) Limited

## Ariyalur Plant

AAQS Locations (PM<sub>2.5</sub> - µg/m<sup>3</sup>) for Apr 2022 - Mar 2023

DOC. No: SP-3;AM-7

Month	Eastern Boundary (HR Building)	SE - Boundary near Crusher Transport system	SW - Boundary near Limestone Stacker	Western boundary near substation	NW - Boundary compound wall	NE - Boundary near CPP	Permissible Limit
Apr/22	31.5	26.8	30.4	24.7	36.2	29.1	60
May/22	32.4	27.9	31.8	26.4	38.6	31.2	60
Jun/22	31.4	24.3	33.2	28.4	37.3	33.6	60
Jul/22	30.5	26.8	31.6	30.1	35.6	34.9	60
Aug/22	27.1	24.6	32.5	27.7	34.2	36.5	60
Sep/22	25.8	27.3	33.6	29.4	31.3	33.7	60
Oct/22	24.7	25.3	34.5	30.2	33.5	35.6	60
Nov/22	22.8	27.5	32.5	33.7	35.6	34.1	60
Dec/22	23.6	28.4	33.6	35.2	31.7	36.8	60
Jan/23	24.8	30.3	34.6	32.3	29.8	35.5	60
Feb/23	28.4	27.5	36.1	32.2	26.7	37.5	60
Mar/23	31.6	28.1	34.6	33.6	32.8	31.6	60
Max	32.4	30.3	36.1	35.2	38.6	37.5	60
Min	22.8	24.3	30.4	24.7	26.7	29.1	
Avg	27.9	27.1	33.3	30.3	33.6	34.2	
SD	3.5	1.7	1.6	3.2	3.4	2.5	



# Dalmia Cement (Bharat) Limited

## Ariyalur Plant

AAQS Locations (PM<sub>10</sub> - µg/m<sup>3</sup>) for Apr 2022 - Mar 2023

DOC. No: SP-3;AM-7

Month	Eastern Boundary (HR Building)	SE - Boundary near Crusher Transport system	SW - Boundary near Limestone Stacker	Western boundary near substation	NW - Boundary near crusher transfer tower	NE - Boundary near CPP WTP	Permissible Limit
Apr/22	68.4	60.5	64.8	62.7	70.5	64.9	100
May/22	65.5	57.6	67.6	61.5	73.6	66.8	100
Jun/22	62.7	53.8	70.3	63.7	76.2	68.5	100
Jul/22	63.8	56.7	72.4	60.8	74.1	71.5	100
Aug/22	60.3	59.2	67.3	62.1	70.3	72.8	100
Sep/22	62.6	57.6	70.5	64.8	69.2	71.5	100
Oct/22	60.5	54.8	67.6	66.8	72.0	73.6	100
Nov/22	58.3	60.5	69.5	70.3	73.2	69.3	100
Dec/22	64.5	61.8	71.5	74.3	70.7	72.6	100
Jan/23	66.7	62.5	73.1	71.8	69.5	74.3	100
Feb/23	73.9	66.7	70.5	69.7	63.6	75.3	100
Mar/23	78.6	68.2	71.6	73.4	70.8	70.3	100
Max	78.6	68.2	73.1	74.3	76.2	75.3	100
Min	58.3	53.8	64.8	60.8	63.6	64.9	
Avg	65.5	60.0	69.7	66.8	71.1	71.0	
SD	5.8	4.4	2.4	4.9	3.2	3.1	



# Dalmia Cement (Bharat) Limited

## Ariyalur Plant

AAQS Locations (NO<sub>x</sub> - µg/m<sup>3</sup>) for Apr 2022 - Mar 2023

DOC. No: SP-3;AM-7

Month	Eastern Boundary (HR Building)	SE - Boundary near Crusher Transport system	SW - Boundary near Limestone Stacker	Western boundary near substation	NW - Boundary compound wall	NE - Boundary near CPP	Permissible Limit
Apr/22	30.2	32.4	29.7	27.8	34.7	29.5	80
May/22	28.6	30.7	30.5	29.7	36.3	31.8	80
Jun/22	27.5	28.4	32.8	31.7	35.3	37.4	80
Jul/22	26.4	29.5	33.4	34.9	36.5	35.9	80
Aug/22	23.7	30.3	31.2	30.5	31.9	34.3	80
Sep/22	26.8	27.6	30.6	31.7	33.2	36.8	80
Oct/22	29.5	28.4	28.5	34.3	33.2	34.5	80
Nov/22	30.7	32.1	32.3	32.7	36.1	35.2	80
Dec/22	29.7	33.5	33.4	29.3	34.4	34.9	80
Jan/23	30.1	34.6	31.4	30.7	33.2	36.3	80
Feb/23	35.9	31.5	30.5	32.4	29.5	34.1	80
Mar/23	32.8	31.7	31.8	30.6	31.2	30.7	80
Max	35.9	34.6	33.4	34.9	36.5	37.4	80
Min	23.7	27.6	28.5	27.8	29.5	29.5	
Avg	29.3	30.9	31.3	31.4	33.8	34.3	
SD	3.2	2.2	1.5	2.0	2.2	2.4	



# Dalmia Cement (Bharat) Limited

## Ariyalur Plant

AAQS Locations (SO<sub>2</sub> - µg/m<sup>3</sup>) for Apr 2022 - Mar 2023

DOC. No: SP-3;AM-7

Month	Eastern Boundary (HR Building)	SE - Boundary near Crusher Transport system	SW - Boundary near Limestone Stacker	Western boundary near substation	NW - Boundary compound wall	NE - Boundary near CPP	Permissible Limit
Apr/22	23.2	25.7	34.6	30.4	32.7	30.5	80
May/22	24.8	26.5	32.3	30.1	34.8	29.7	80
Jun/22	22.8	25.3	31.6	31.4	32.9	33.8	80
Jul/22	23.8	24.5	29.5	33.6	34.3	34.8	80
Aug/22	28.3	25.2	27.1	29.7	36.5	37.7	80
Sep/22	30.4	29.5	29.6	31.3	32.8	35.7	80
Oct/22	27.9	25.3	26.6	31.7	33.6	32.8	80
Nov/22	28.5	29.4	28.3	31.5	34.2	31.6	80
Dec/22	30.1	28.4	29.5	32.7	33.1	35.1	80
Jan/23	29.4	31.5	27.5	29.7	32.5	32.8	80
Feb/23	32.5	27.5	29.7	31.8	27.9	33.7	80
Mar/23	28.4	28.2	27.5	30.8	28.4	30.3	80
Max	32.5	31.5	34.6	33.6	36.5	37.7	80
Min	22.8	24.5	26.6	29.7	27.9	29.7	
Avg	27.5	27.3	29.5	31.2	32.8	33.2	
SD	3.1	2.2	2.4	1.2	2.5	2.4	

# Annexure - 3



## TEST REPORT

ULR No : TC858222000007320F

Report No : EN23030080-02 Report Date : 10 April 2023

### SAMPLE DRAWN BY LABORATORY

Customer Name : M/S. Dalmia Cements (Bharat) Ltd  
 Customer Address : SF-630 Thamaraikulam Village, Ariyalur, Tamilnadu-621705  
 Sample Name : Ambient Air Quality  
 Sample Description : Ambient Air Quality Sampling Date & Time : 29 to 30 Mar 2023  
 Sample No : EN23030080-02 09.40am to 09.40 am  
 Sampling Location : Near Steel Yard Sample Received on : 03 April 2023  
 Sample Condition : Fit for Analysis Test Started on : 03 April 2023  
 Relative Humidity : 58% Test Completed on : 10 April 2023  
 Sampling Procedure : IS 5182 Part V & XIV Ambient Temperature : 32°C

### Test Results

Sl.No	Test Name	Test Method	Results	Units	Requirement as per NAAQS Specification
1	Sulphur Dioxide as SO <sub>2</sub>	IS 5182 (Part 2):2001	12.3	µg/m <sup>3</sup>	80
2	Nitrogen Dioxide as NO <sub>2</sub>	IS 5182 (Part 6):2006	24.6	µg/m <sup>3</sup>	80
3	Particulate Matter (PM 10)	IS 5182 (Part 23):2006	59.8	µg/m <sup>3</sup>	100
4	Particulate Matter (PM 2.5)	GL/EN/SOP/062	23.6	µg/m <sup>3</sup>	60
5	Ozone as O <sub>3</sub>	IS 5182 (Part 9):1974	BDL(DL:20.0)	µg/m <sup>3</sup>	100
6	Lead as Pb	IS 5182 (Part 22):2004	BLQ(LOQ:0.002)	µg/m <sup>3</sup>	1
7	Carbon Monoxide as CO (1 hour)	IS 5182 (Part 10):1999	BDL(DL:1.14)	mg/m <sup>3</sup>	4
8	Ammonia as NH <sub>3</sub>	GL/EN/SOP/057	BDL(DL:20.0)	µg/m <sup>3</sup>	400
9	Benzene	GL/EN/SOP/08	BLQ(LOQ:4.0)	µg/m <sup>3</sup>	-
10	Benzo (a)Pyrene (Particulate Phase)	GL/EN-INS/SOP/09	BLQ(LOQ:0.03)	ng/m <sup>3</sup>	-
11	Arsenic as As	IS 5182 (Part 22):2004	BLQ(LOQ:2.0)	ng/m <sup>3</sup>	-
12	Nickel as Ni	IS 5182 (Part 22):2004	BLQ(LOQ:2.0)	ng/m <sup>3</sup>	-

Remarks : The above Sample complies as per NAAQS limit which is provided in the environmental protection Rule 3 (3B) Nov.2009, against the above tested parameter.

Note : BDL: Below Detection Limit, DL: Detection Limit / NAAQS: National Ambient Air Quality Standard  
BLQ-Below Limit of Quantification, LOQ-Limit of Quantification

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

Authorized Signature  
 E. PRITHIVIRAJAN  
 LAB MANAGER

#6/1, 1st Floor, Sri Jothi Complex, Murugesan Street, Balavinayagar Nagar, Arumbakkam, Chennai - 600106.

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 \* A Satisfactory test report in no way implies that the product so tested is approved by I/VIL.\* Laboratory is not responsible for the authenticity of photocopied test reports.

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## TEST REPORT

ULR No : TC858222000007319F

Report No : EN23030080-01 Report Date : 10 April 2023

### SAMPLE DRAWN BY LABORATORY

Customer Name : M/S. Dalmia Cements (Bharat) Ltd  
 Customer Address : SP-630 Thamaraikulam Village, Ariyalur, Tamilnadu-621705  
 Sample Name : Ambient Air Quality  
 Sample Description : Ambient Air Quality Sampling Date & Time : 29 to 30 Mar 2023  
 Sample No : EN23030080-01 09.30am to 09.30 am  
 Sampling Location : Near O & M Colony Sample Received on : 03 April 2023  
 Sample Condition : Fit for Analysis Test Started on : 03 April 2023  
 Relative Humidity : 58% Test Completed on : 10 April 2023  
 Sampling Procedure : IS 5182 Part V & XIV Ambient Temperature : 32°C

### Test Results

Sl.No	Test Name	Test Method	Results	Units	Requirement as per NAAQS Specification
1	Sulphur Dioxide as SO <sub>2</sub>	IS 5182 (Part 2):2001	13.6	µg/m <sup>3</sup>	80
2	Nitrogen Dioxide as NO <sub>2</sub>	IS 5182 (Part 6):2006	21.8	µg/m <sup>3</sup>	80
3	Particulate Matter (PM 10)	IS 5182 (Part 23):2006	56.5	µg/m <sup>3</sup>	100
4	Particulate Matter (PM 2.5)	GL/EN/SOP/062	21.2	µg/m <sup>3</sup>	60
5	Ozone as O <sub>3</sub>	IS 5182 (Part 9):1974	BDL(DL:20.0)	µg/m <sup>3</sup>	100
6	Lead as Pb	IS 5182 (Part 22):2004	BLQ(LOQ:0.002)	µg/m <sup>3</sup>	1
7	Carbon Monoxide as CO (1 hour)	IS 5182 (Part 10):1999	BDL(DL:1.14)	mg/m <sup>3</sup>	4
8	Ammonia as NH <sub>3</sub>	GL/EN/SOP/057	BDL(DL:20.0)	µg/m <sup>3</sup>	400
9	Benzene	GL/EN/SOP/08	BLQ(LOQ:4.0)	µg/m <sup>3</sup>	-
10	Benzo (a)Pyrene (Particulate Phase)	GL/EN-INS/SOP/09	BLQ(LOQ:0.03)	ng/m <sup>3</sup>	-
11	Arsenic as As	IS 5182 (Part 22):2004	BLQ(LOQ:2.0)	ng/m <sup>3</sup>	-
12	Nickel as Ni	IS 5182 (Part 22):2004	BLQ(LOQ:2.0)	ng/m <sup>3</sup>	-

Remarks : The above Sample complies as per NAAQS limit which is provided in the environmental protection Rule 3 (3B) Nov.2009, against the above tested parameter.

Note : BDL: Below Detection Limit, DL: Detection Limit / NAAQS: National Ambient Air Quality Standard  
BLQ-Below Limit of Quantification, LOQ-Limit of Quantification

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

Authorized Signature

E. PRITHIVIRAJAN  
LAB MANAGER

#6/1, 1st Floor, Sri Iothi Complex, Murugesan Street, Balavinayagar Nagar, Arumbakkam, Chennai - 600106.

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## TEST REPORT

ULR No : TC858222000007318F

Report No : EN23030080-04 Report Date : 10 April 2023

### SAMPLE DRAWN BY LABORATORY

Customer Name : M/S. Dahmia Cements (Bharat) Ltd  
Customer Address : SF-630 Thamaraikulam Village, Ariyalur, Tamilnadu-621705  
Sample Name : Ambient Air Quality  
Sample Description : Ambient Air Quality Sampling Date & Time : 29 to 30 Mar 2023  
Sample No : EN23030080-04 10.00am to 10.00 am  
Sampling Location : Near 110 KVA Sub station Sample Received on : 03 April 2023  
Sample Condition : Pit for Analysis Test Started on : 03 April 2023  
Relative Humidity : 58% Test Completed on : 10 April 2023  
Sampling Procedure : IS 5182 Part V & XIV Ambient Temperature : 32°C

### Test Results

Sl.No	Test Name	Test Method	Results	Units	Requirement as per NAAQS Specification
1	Sulphur Dioxide as SO <sub>2</sub>	IS 5182 (Part 2):2001	13.6	µg/m <sup>3</sup>	80
2	Nitrogen Dioxide as NO <sub>2</sub>	IS 5182 (Part 6):2006	25.9	µg/m <sup>3</sup>	80
3	Particulate Matter (PM 10)	IS 5182 (Part 23):2006	51.3	µg/m <sup>3</sup>	100
4	Particulate Matter (PM 2.5)	GL/EN/SOP/062	22.9	µg/m <sup>3</sup>	60
5	Ozone as O <sub>3</sub>	IS 5182 (Part 9):1974	BDL(DL:20.0)	µg/m <sup>3</sup>	100
6	Lead as Pb	IS 5182 (Part 22):2004	BLQ(LOQ:0.002)	µg/m <sup>3</sup>	1
7	Carbon Monoxide as CO (1 hour)	IS 5182 (Part 10):1999	BDL(DL:1.14)	mg/m <sup>3</sup>	4
8	Ammonia as NH <sub>3</sub>	GL/EN/SOP/057	BDL(DL:20.0)	µg/m <sup>3</sup>	400
9	Benzene	GL/EN/SOP/08	BLQ(LOQ:4.0)	µg/m <sup>3</sup>	-
10	Benzo (a)Pyrene (Particulate Phase)	GL/EN-INS/SOP/09	BLQ(LOQ:0.03)	ng/m <sup>3</sup>	-
11	Arsenic as As	IS 5182 (Part 22):2004	BLQ(LOQ:2.0)	ng/m <sup>3</sup>	-
12	Nickel as Ni	IS 5182 (Part 22):2004	BLQ(LOQ:2.0)	ng/m <sup>3</sup>	-

Remarks : The above Sample complies as per NAAQS limit which is provided in the environmental protection Rule 3 (3B) Nov.2009, against the above tested parameter.

Note : BDL: Below Detection Limit, DL: Detection Limit / NAAQS: National Ambient Air Quality Standard  
BLQ-Below Limit of Quantification, LOQ-Limit of Quantification

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

Authorized Signature

E. PRITHIVIRAJAN  
LAB MANAGER

#6/1, 1st Floor, Sri Jothi Complex, Murugosan Street, Balavinayagar Nagar, Arcimbakkam, Chennai - 600105.

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## TEST REPORT

ULR No : TC858222000007317F

Report No : EN23030080-03 Report Date : 10 April 2023

### SAMPLE DRAWN BY LABORATORY

Customer Name : M/S. Dalmia Cements (Bharat) Ltd  
 Customer Address : SF-630 Thamarakulam Village, Ariyalur, Tamilnadu-621705  
 Sample Name : Ambient Air Quality  
 Sample Description : Ambient Air Quality Sampling Date & Time : 29 to 30 Mar 2023  
 Sample No : EN23030080-03 09.40am to 09.40 am  
 Sampling Location : Near Circular stack Sample Received on : 03 April 2023  
 Sample Condition : Flt for Analysis Test Started on : 03 April 2023  
 Relative Humidity : 58% Test Completed on : 10 April 2023  
 Sampling Procedure : IS 5182 Part V & XIV Ambient Temperature : 32°C

### Test Results

Sl.No	Test Name	Test Method	Results	Units	Requirement as per NAAQS Specification
1	Sulphur Dioxide as SO <sub>2</sub>	IS 5182 (Part 2):2001	12.6	µg/m <sup>3</sup>	80
2	Nitrogen Dioxide as NO <sub>2</sub>	IS 5182 (Part 6):2006	23.9	µg/m <sup>3</sup>	80
3	Particulate Matter (PM 10)	IS 5182 (Part 23):2006	58.5	µg/m <sup>3</sup>	100
4	Particulate Matter (PM 2.5)	GL/EN/SOP/062	25.9	µg/m <sup>3</sup>	60
5	Ozone as O <sub>3</sub>	IS 5182 (Part 9):1974	BDL(DL:20.0)	µg/m <sup>3</sup>	100
6	Lead as Pb	IS 5182 (Part 22):2004	BLQ(LOQ:0.002)	µg/m <sup>3</sup>	1
7	Carbon Monoxide as CO (1 hour)	IS 5182 (Part 10):1999	BDL(DL:1.14)	mg/m <sup>3</sup>	4
8	Ammonia as NH <sub>3</sub>	GL/EN/SOP/057	BDL(DL:20.0)	µg/m <sup>3</sup>	400
9	Benzene	GL/EN/SOP/08	BLQ(LOQ:4.0)	µg/m <sup>3</sup>	-
10	Benzo (a)Pyrene (Particulate Phase)	GL/EN-INS/SOP/09	BLQ(LOQ:0.03)	ng/m <sup>3</sup>	-
11	Arsenic as As	IS 5182 (Part 22):2004	BLQ(LOQ:2.0)	ng/m <sup>3</sup>	-
12	Nickel as Ni	IS 5182 (Part 22):2004	BLQ(LOQ:2.0)	ng/m <sup>3</sup>	-

Remarks : The above Sample complies as per NAAQS limit which is provided in the environmental protection Rule 3 (3B) Nov.2009, against the above tested parameter.

Note : BDL: Below Detection Limit, DL: Detection Limit / NAAQS: National Ambient Air Quality Standard  
BLQ-Below Limit of Quantification, LOQ-Limit of Quantification

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

Authorized Signature  
 E. PRITHIVIRAJAN  
 LAB MANAGER

#6/1, 1st Floor, Sri Jothi Complex, Murugesan Street, Balavinayagar Nagar, Arumbakkam, Chennai - 600106.

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## TEST REPORT

ULR No : TC858222000007322F

Report No : EN23030000-06 Report Date : 10 April 2023

### SAMPLE DRAWN BY LABORATORY

Customer Name : M/S. Dalmia Cements (Bharat) Ltd  
Customer Address : SF-630 Thamaraikulam Village, Ariyalur, Tamilnadu-621705  
Sample Name : Ambient Air Quality  
Sample Description : Ambient Air Quality Sampling Date & Time : 30 to 31 Mar 2023  
Sample No : EN23030080-06 09.45am to 09.45am  
Sampling Location : Near CPP boiler Sample Received on : 03 April 2023  
Sample Condition : Fit for Analysis Test Started on : 03 April 2023  
Relative Humidity : 58% Test Completed on : 10 April 2023  
Sampling Procedure : IS 5182 Part V & XIV Ambient Temperature : 31.6°C

### Test Results

Sl.No	Test Name	Test Method	Results	Units	Requirement as per NAAQS Specification
1	Sulphur Dioxide as SO <sub>2</sub>	IS 5182 (Part 2):2001	13.3	µg/m <sup>3</sup>	80
2	Nitrogen Dioxide as NO <sub>2</sub>	IS 5182 (Part 6):2006	23.6	µg/m <sup>3</sup>	80
3	Particulate Matter (PM 10)	IS 5182 (Part 23):2006	50.8	µg/m <sup>3</sup>	100
4	Particulate Matter (PM 2.5)	GL/EN/SOP/062	21.6	µg/m <sup>3</sup>	60
5	Ozone as O <sub>3</sub>	IS 5182 (Part 9):1974	BDL(DL:20.0)	µg/m <sup>3</sup>	100
6	Lead as Pb	IS 5182 (Part 22):2004	BLQ(LOQ:0.002)	µg/m <sup>3</sup>	1
7	Carbon Monoxide as CO (1 hour)	IS 5182 (Part 10):1999	BDL(DL:1.14)	mg/m <sup>3</sup>	4
8	Ammonia as NH <sub>3</sub>	GL/EN/SOP/057	BDL(DL:20.0)	µg/m <sup>3</sup>	400
9	Benzene	GL/EN/SOP/08	BLQ(LOQ:4.0)	µg/m <sup>3</sup>	-
10	Benzo (a)Pyrene (Particulate Phase)	GL/EN-INS/SOP/09	BLQ(LOQ:0.03)	ng/m <sup>3</sup>	-
11	Arsenic as As	IS 5182 (Part 22):2004	BLQ(LOQ:2.0)	ng/m <sup>3</sup>	-
12	Nickel as Ni	IS 5182 (Part 22):2004	BLQ(LOQ:2.0)	ng/m <sup>3</sup>	-

Remarks : The above Sample complies as per NAAQS limit which is provided in the environmental protection Rule 3 (3B) Nov.2009, against the above tested parameter.

Note : BDL: Below Detection Limit, DL: Detection Limit / NAAQS: National Ambient Air Quality Standard  
BLQ-Below Limit of Quantification, LOQ-Limit of Quantification

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

Authorized Signature

E. PRITHIVIRAJAN  
LAB MANAGER

#6/1, 1st Floor, Sri Jothi Complex, Murugesan Street, Balavinayagar Nagar, Arumbakkam, Chennai - 600106.

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## TEST REPORT

ULR No : TC858222000007321F

Report No : EN23030080-05 Report Date : 10 April 2023

### SAMPLE DRAWN BY LABORATORY

Customer Name : M/S. Dalmia Cements (Bharat) Ltd  
 Customer Address : SF-630 Thamaraikulam Village, Ariyalur, Tamilnadu-621705  
 Sample Name : Ambient Air Quality  
 Sample Description : Ambient Air Quality Sampling Date & Time : 30 to 31 Mar 2023  
 Sample No : EN23030080-05 09.45am to 09.45am  
 Sampling Location : Near coal crusher Sample Received on : 03 April 2023  
 Sample Condition : Fit for Analysis Test Started on : 03 April 2023  
 Relative Humidity : 58.1% Test Completed on : 10 April 2023  
 Sampling Procedure : IS 5182 Part V & XIV Ambient Temperature : 31.6°C

### Test Results

Sl.No	Test Name	Test Method	Results	Units	Requirement as per NAAQS Specification
1	Sulphur Dioxide as SO <sub>2</sub>	IS 5182 (Part 2):2001	14.6	µg/m <sup>3</sup>	80
2	Nitrogen Dioxide as NO <sub>2</sub>	IS 5182 (Part 6):2006	26.9	µg/m <sup>3</sup>	80
3	Particulate Matter (PM 10)	IS 5182 (Part 23):2006	53.9	µg/m <sup>3</sup>	100
4	Particulate Matter (PM 2.5)	GL/EN/SOP/062	20.9	µg/m <sup>3</sup>	60
5	Ozone as O <sub>3</sub>	IS 5182 (Part 9):1974	BDL(DL:20.0)	µg/m <sup>3</sup>	100
6	Lead as Pb	IS 5182 (Part 22):2004	BLQ(LOQ:0.002)	µg/m <sup>3</sup>	1
7	Carbon Monoxide as CO (1 hour)	IS 5182 (Part 10):1999	BDL(DL:1.14)	mg/m <sup>3</sup>	4
8	Ammonia as NH <sub>3</sub>	GL/EN/SOP/057	BDL(DL:20.0)	µg/m <sup>3</sup>	400
9	Benzene	GL/EN/SOP/08	BLQ(LOQ:4.0)	µg/m <sup>3</sup>	-
10	Benzo (a)Pyrene (Particulate Phase)	GL/EN-INS/SOP/09	BLQ(LOQ:0.03)	ng/m <sup>3</sup>	-
11	Arsenic as As	IS 5182 (Part 22):2004	BLQ(LOQ:2.0)	ng/m <sup>3</sup>	-
12	Nickel as Ni	IS 5182 (Part 22):2004	BLQ(LOQ:2.0)	ng/m <sup>3</sup>	-

Remarks : The above Sample complies as per NAAQS limit which is provided in the environmental protection Rule 3 (3B) Nov.2009, against the above tested parameter.

Note : BDL: Below Detection Limit, DL: Detection Limit / NAAQS: National Ambient Air Quality Standard  
BLQ-Below Limit of Quantification, LOQ-Limit of Quantification

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

  
 Authorized Signature  
**E. PRITHIVIRAJAN**  
 LAB MANAGER

#5/1, 1st Floor, Sri Jothi Complex, Murugesan Street, Balavinayagar Nagar, Arumbakkam, Chennai - 600106.

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## TEST REPORT

ULR No : TC858222000007316F

Report No : EN23030080-08 Report Date : 10 April 2023  
Sample drawn by : Laboratory  
Customer Name : M/S. Dalmia Cements (Bharat) Ltd  
Customer Address : SF-630 Thamaraikulam Village, Ariyatur, Tamilnadu-621705  
Sample Name : Ambient Air Quality  
Sample Description : Ambient Air Quality Sampling Date & Time : 30 to 31 Mar 2023  
Sample No : EN23030080-08 10.30am to 10.30am  
Sampling Location : Near HR Building Sample Received on : 03 April 2023  
Sample Condition : Fit for Analysis Test Started on : 03 April 2023  
Relative Humidity : 57.9% Test Completed on : 10 April 2023  
Sampling Procedure : IS 5182 Part V & XIV Ambient Temperature : 31.6°C

### Test Results

Sl.No	Test Name	Test Method	Results	Units	Requirement as per NAAQS Specification
1	Sulphur Dioxide as SO <sub>2</sub>	IS 5182 (Part 2):2001	12.0	µg/m <sup>3</sup>	80
2	Nitrogen Dioxide as NO <sub>2</sub>	IS 5182 (Part 6):2006	27.2	µg/m <sup>3</sup>	80
3	Particulate Matter (PM 10)	IS 5182 (Part 23):2006	51.5	µg/m <sup>3</sup>	100
4	Particulate Matter (PM 2.5)	GL/EN/SOP/062	27.2	µg/m <sup>3</sup>	60
5	Ozone as O <sub>3</sub>	IS 5182 (Part 9):1974	BDL(DL:20.0)	µg/m <sup>3</sup>	100
6	Lead as Pb	IS 5182 (Part 22):2004	BLQ(LOQ:0.002)	µg/m <sup>3</sup>	1
7	Carbon Monoxide as CO (1 hour)	IS 5182 (Part 10):1999	BDL(DL:1.14)	mg/m <sup>3</sup>	4
8	Ammonia as NH <sub>3</sub>	GL/EN/SOP/057	BDL(DL:20.0)	µg/m <sup>3</sup>	400
9	Benzene	GL/EN/SOP/08	BLQ(LOQ:4.0)	µg/m <sup>3</sup>	-
10	Benzo (a)Pyrene (Particulate Phase)	GL/EN-INS/SOP/09	BLQ(LOQ:0.03)	ng/m <sup>3</sup>	-
11	Arsenic as As	IS 5182 (Part 22):2004	BLQ(LOQ:2.0)	ng/m <sup>3</sup>	-
12	Nickel as Ni	IS 5182 (Part 22):2004	BLQ(LOQ:2.0)	ng/m <sup>3</sup>	-

Remarks : The above Sample complies as per NAAQS limit which is provided in the environmental protection Rule 3 (3B) Nov.2009, against the above tested parameter.

Note : BDL: Below Detection Limit, DL: Detection Limit / NAAQS: National Ambient Air Quality Standard  
BLQ-Below Limit of Quantification, LOQ-Limit of Quantification

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

  
Authorized Signature  
E. PRITHIVIRAJAN  
LAB MANAGER

#5/1, 1st Floor, Sri Jothi Complex, Murugesan Street, Balavinayagar Nagar, Arumbakkam, Chennai - 600106.

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## TEST REPORT

ULR No : TC858222000007323F

Report No : EN23030080-07 Report Date : 10 April 2023

### SAMPLE DRAWN BY LABORATORY

Customer Name : M/S. Dalmla Cements (Bharat) Ltd  
 Customer Address : SF-630 Thamaraikulam Village, Ariyalur, Tamilnadu-621705  
 Sample Name : Ambient Air Quality  
 Sample Description : Ambient Air Quality Sampling Date & Time : 30 to 31 Mar 2023  
 Sample No : EN23030080-07 10.15am to 10.15am  
 Sampling Location : Near WTP Sample Received on : 03 April 2023  
 Sample Condition : Fit for Analysis Test Started on : 03 April 2023  
 Relative Humidity : 58.1% Test Completed on : 10 April 2023  
 Sampling Procedure : IS 5182 Part V & XIV Ambient Temperature : 31.6°C

### Test Results

Sl.No	Test Name	Test Method	Results	Units	Requirement as per NAAQS Specification
1	Sulphur Dioxide as SO <sub>2</sub>	IS 5182 (Part 2):2001	11.6	µg/m <sup>3</sup>	80
2	Nitrogen Dioxide as NO <sub>2</sub>	IS 5182 (Part 6):2006	28.1	µg/m <sup>3</sup>	80
3	Particulate Matter (PM 10)	IS 5182 (Part 23):2006	57.9	µg/m <sup>3</sup>	100
4	Particulate Matter (PM 2.5)	GL/EN/SOP/062	26.3	µg/m <sup>3</sup>	60
5	Ozone as O <sub>3</sub>	IS 5182 (Part 9):1974	BDL(DL:20.0)	µg/m <sup>3</sup>	100
6	Lead as Pb	IS 5182 (Part 22):2004	BLQ(LOQ:0.002)	µg/m <sup>3</sup>	1
7	Carbon Monoxide as CO (1 hour)	IS 5182 (Part 10):1999	BDL(DL:1.14)	mg/m <sup>3</sup>	4
8	Ammonia as NH <sub>3</sub>	GL/EN/SOP/057	BDL(DL:20.0)	µg/m <sup>3</sup>	400
9	Benzene	GL/EN/SOP/08	BLQ(LOQ:4.0)	µg/m <sup>3</sup>	-
10	Benzo (a)Pyrene (Particulate Phase)	GL/EN-INS/SOP/09	BLQ(LOQ:0.03)	ng/m <sup>3</sup>	-
11	Arsenic as As	IS 5182 (Part 22):2004	BLQ(LOQ:2.0)	ng/m <sup>3</sup>	-
12	Nickel as Ni	IS 5182 (Part 22):2004	BLQ(LOQ:2.0)	ng/m <sup>3</sup>	-

Remarks : The above Sample complies as per NAAQS limit which is provided in the environmental protection Rule 3 (3B) Nov.2009, against the above tested parameter.

Note : BDL: Below Detection Limit, DL: Detection Limit / NAAQS: National Ambient Air Quality Standard  
BLQ-Below Limit of Quantification, LOQ-Limit of Quantification

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

Authorized Signature

E. PRITHIVIRAJAN  
LAB MANAGER

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# Glens Innovation Labs Pvt Ltd.

NABL ACCREDITED AS PER ISO/IEC 17025 : 2017, CERTIFIED AS PER ISO 9001:2015 & ISO 45001 : 2018



## TEST REPORT

ULR NO: TC858223000001473P

M/S.Dalmia Cements (Bharat) Ltd

SF-630 Thamarakulam Village, Ariyalur, Tamilnadu - 621705

<b>Test Report Number</b>	: EN23020034-01	<b>Report Date</b>	: 21 Feb 2023
<b>Lab Code</b>	: EN23020034-01	<b>Page</b>	: 1 to 02
<b>Sample Name</b>	: Stack Emission	<b>Received on</b>	: 13 Feb 2023
<b>Sample Location</b>	: Line-1 Kiln	<b>Commenced on</b>	: 13 Feb 2023
<b>Customer Reference</b>	: Test Request Form Dated 10.02.2023	<b>Completed on</b>	: 21 Feb 2023
<b>Sampled on</b>	: 10.02.2023 (1.00 PM to 06:00 PM)		
<b>Sampled by</b>	: Glens Innovation Labs Pvt Ltd		

Parameters	Unit	EMISSION STANDARDS	Procedure	RESULTS AT 10% OXYGEN LEVEL
Stack Temperature	K	NA	IS 11255 Part 3: 2008	365*
Velocity of the flue gas	m/sec	NA	EPA method 1-3 : 1991	15.60*
Volume of the gas discharged	Nm <sup>3</sup> /hr	NA	IS 11255 (Part 3) :2018	714572*
Oxygen as O <sub>2</sub>	% v/v	NA	GL/EN/SOP/149	11.60*
Carbon Dioxide as CO <sub>2</sub>	% v/v	NA	GL/EN/SOP/149	16.40*
Carbon Monoxide as CO	mg/Nm <sup>3</sup>	NA	GL/EN/SOP/149	167
Sulphur Dioxide as SO <sub>2</sub>	mg/Nm <sup>3</sup>	100	EPA 6 : 1991	BDL(DL:3.0)
Oxides of Nitrogen as NOx	mg/Nm <sup>3</sup>	800	GL/EN/SOP/149	157
Particulate Matter	mg/Nm <sup>3</sup>	30	GL/ EN/SOP/113 (EPA 5): 1991	22.80
Total Organic carbon	mg/Nm <sup>3</sup>	10	EPA Method 21(PID)	3.70
Lead as Pb	mg/m <sup>3</sup>	NA	EPA method- 29 : 1991	BDL(DL:0.03)
Cadmium as Cd	mg/m <sup>3</sup>	NA	EPA method- 29 : 1991	BDL(DL:0.03)
Copper as Cu	mg/m <sup>3</sup>	NA	EPA method- 29 : 1991	BDL(DL:0.03)
Nickel as Ni	mg/m <sup>3</sup>	NA	EPA method- 29 : 1991	BDL(DL:0.03)
Selenium as Se	mg/m <sup>3</sup>	NA	EPA method- 29 : 1991	BDL(DL:0.03)
Antimony as Sb	mg/m <sup>3</sup>	NA	EPA method- 29 : 1991	BDL(DL:0.03)

Verified by

Authorized Signature  
E. PRITHIVIRAJAN  
LAB MANAGER

#6/1, 1st Floor, Sri Jothi Complex, Murugesan Street, Balavinayagar Nagar, Arumbakkam, Chennai - 600106.

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# GLens Innovation Labs Pvt Ltd.

NABL ACCREDITED AS PER ISO/IEC 17025 : 2017, CERTIFIED AS PER ISO 9001:2015 & ISO 45001 : 2018



## TEST REPORT

Report No : EN23020034-01

Report Date: 21 Feb 2023

Parameters	Unit	EMISSION STANDARDS	Procedure	RESULTS AT 10% OXYGEN LEVEL
Mercury as Hg	mg/m <sup>3</sup>	0.05	EPA Method 29 :1991	BDL(DL:0.03)
Arsenic as As	mg/m <sup>3</sup>	NA	EPA Method 29 :1991	BDL(DL:0.03)
Total Chromium as Cr	mg/m <sup>3</sup>	NA	EPA Method 29 :1991	BDL(DL:0.03)
Vanadium as V	mg/m <sup>3</sup>	NA	EPA Method 29 :1991	BDL(DL:0.03)
Manganese as Mn	mg/m <sup>3</sup>	NA	EPA Method 29 :1991	0.020
Thallium as Tl	mg/m <sup>3</sup>	NA	EPA Method 29 :1991	BDL(DL:0.03)
Cd+Tl +their Compounds	mg/Nm <sup>3</sup>	0.05	EPA Method 29 :1991	BDL(DL:0.03)
Sb+As+Pb+Cr+Co+Cu+Mn+Ni+V+their compounds	mg/Nm <sup>3</sup>	0.5	EPA Method 29 :1991	0.021
Hg and its compounds	mg/Nm <sup>3</sup>	0.05	EPA Method 29 :1991	BDL(DL:0.03)
Hydrogen Chloride (HCL)	mg/Nm <sup>3</sup>	10	GL/EN/SOP/153	BDL(DL:0.02)
Hydrogen Fluoride (HF)	mg/Nm <sup>3</sup>	1	GL/EN/SOP/154	BDL(DL:0.02)
Dioxin and Furan ##	ngTEQ/ Nm <sup>3</sup>	0.1	EPA method- 23A	Less than 0.01

Note: ## Dioxin and Furan Subcontracted to Eurofins Group Lab

\* RESULTS AT EFFECTIVE OXYGEN LEVEL

BDL: Below Detection Limit, DL: Detection Limit

..... End of Report.....

  
verified by

  
Authorized Signature  
E. PRITHIVIRAJAN  
LAB MANAGER

#6/1,1st Floor, Sri Jothi Complex, Murugesan Street, Balavinayagar Nagar,Arumbakkam, Chennai – 600106.

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## TEST REPORT

ULR No : TC858222000007018F

Report No : EN23030080-26 Report Date : 10 April 2023  
Sample drawn by : Laboratory  
Customer Name : M/S. Dalmia Cements (Bharat) Ltd  
Customer Address : SF-630 Thamaraikulam Village, Ariyalur, Tamilnadu-621705  
Sample Description : Stack Emission  
Sample No : EN23030080-26 Sampling Date : 30 Mar 2023  
Sample Identification : Cooler stack Sample Received on : 03 April 2023  
Sample Condition : Fit for Analysis Test Started on : 03 April 2023  
Sampling Procedure : GL/EN/SOP/111 Test Completed on : 10 April 2023

### Test result

S.No	Test Name	Test Method	Results	Units	Limit as per CPCB Standard
1	Stack Temperature	IS 11255 (Part -3):2008	568	K	-
2	Velocity	EPA Method 1-3	14.8	m/sec	-
3	Volume of Gas Discharge	IS 11255 (Part -3):2008	263311	Nm <sup>3</sup> /hr	-
4	Oxygen as O <sub>2</sub>	GL/EN/SOP/149	20.8	%	-
5	Carbon Monoxide as CO	GL/EN/SOP/149	BDL(DL:1.14)	mg/Nm <sup>3</sup>	-
6	Carbon Dioxide as CO <sub>2</sub>	GL/EN/SOP/149	0.1	%	-
7	Particulate Matter	GL/EN/SOP/113	19.8	mg/Nm <sup>3</sup>	30
8	Sulphur Dioxide as SO <sub>2</sub>	EPA Method 6	BDL(DL:3.0)	mg/m <sup>3</sup>	-
9	Oxides Of Nitrogen as NO <sub>2</sub>	GL/EN/SOP/149	BDL(DL:2.0)	mg/Nm <sup>3</sup>	-

Note: BDL-Below Detection Limit, DL- Detection Limit

.....End of Report.....  
Page 1 of 1

  
Authorized Signature  
**E. PRITHVIRAJAN**  
LAB MANAGER

#5/1, 1st Floor, Sri Jothi Complex, Murugesan Street, Balavinayagar Nagar, Arumbakkam, Chennai - 600106.

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## TEST REPORT

ULR No : TC85822200007018F

Report No : EN23030080-23 Report Date : 10 April 2023

Sample drawn by : Laboratory

Customer Name : M/S. Dalmia Cements (Bharat) Ltd

Customer Address : SF-630 Thamarakulam Village, Ariyalur, Tamilnadu-621705

Sample Description : Stack Emission

Sample No : EN23030080-23 Sampling Date : 30 Mar 2023

Sample Identification : Coal Mill-01 Sample Received on : 03 April 2023

Sample Condition : Fit for Analysis Test Started on : 03 April 2023

Sampling Procedure : GL/EN/SOP/111 Test Completed on : 10 April 2023

### Test result

S.No	Test Name	Test Method	Results	Units	Limit as per CPCB Standard
1	Stack Temperature	IS 11255 (Part -3):2008	338	K	-
2	Velocity	EPA Method 1-3	10.1	m/sec	-
3	Volume of Gas Discharge	IS 11255 (Part -3):2008	98621	Nm <sup>3</sup> /hr	-
4	Oxygen as O <sub>2</sub>	GL/EN/SOP/149	10.71	%	-
5	Carbon Monoxide as CO	GL/EN/SOP/149	104	mg/Nm <sup>3</sup>	-
6	Carbon Dioxide as CO <sub>2</sub>	GL/EN/SOP/149	18.5	%	-
7	Particulate Matter	GL/EN/SOP/113	26.3	mg/Nm <sup>3</sup>	30
8	Sulphur Dioxide as SO <sub>2</sub>	EPA Method 6	BDL(DL:3.0)	mg/m <sup>3</sup>	-
9	Oxides Of Nitrogen as NO <sub>2</sub>	GL/EN/SOP/149	510	mg/Nm <sup>3</sup>	-

Note: BDL-Below Detection Limit, DL- Detection Limit

.....End of Report.....  
Page 1 of 1

  
Authorized Signature  
**E. PRITHIVIRAJAN**  
LAB MANAGER

#6/1,1st Floor, Sri Jothi Complex, Murugesan Street, Balavinayagar Nagar, Arumbakkam, Chennai - 600106.

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## TEST REPORT

ULR No : TC858222000007018F

Report No : EN23030080-25 Report Date : 10 April 2023

Sample drawn by : Laboratory

Customer Name : M/S. Dalmia Cements (Bharat) Ltd

Customer Address : SF-630 Thamarakulam Village, Ariyalur, Tamilnadu-621705

Sample Description : Stack Emission

Sample No : EN23030080-25 Sampling Date : 30 Mar 2023

Sample Identification : Cement mill Sample Received on : 03 April 2023

Sample Condition : Flt for Analysis Test Started on : 03 April 2023

Sampling Procedure : GL/EN/SOP/111 Test Completed on : 10 April 2023

### Test result

S.No	Test Name	Test Method	Results	Units	Limit as per CPCB Standard
1	Stack Temperature	IS 11255 (Part -3):2008	394	K	-
2	Velocity	EPA Method 1-3	18.80	m/sec	-
3	Volume of Gas Discharge	IS 11255 (Part -3):2008	310257	Nm <sup>3</sup> /hr	-
4	Oxygen as O <sub>2</sub>	GL/EN/SOP/149	20.8	%	-
5	Carbon Monoxide as CO	GL/EN/SOP/149	BDL(DL:1.14)	mg/Nm <sup>3</sup>	-
6	Carbon Dioxide as CO <sub>2</sub>	GL/EN/SOP/149	0.1	%	-
7	Particulate Matter	GL/EN/SOP/113	20.7	mg/Nm <sup>3</sup>	30
8	Sulphur Dioxide as SO <sub>2</sub>	EPA Method 6	BDL(DL:3.0)	mg/m <sup>3</sup>	-
9	Oxides Of Nitrogen as NO <sub>2</sub>	GL/EN/SOP/149	BDL(DL:2.0)	mg/Nm <sup>3</sup>	-

Note: BDL-Below Detection Limit, DL- Detection Limit

.....End of Report.....  
Page 1 of 1

  
Authorized Signature  
**E. PRITHIVIRAJAN**  
LAB MANAGER

#6/1, 1st Floor, Sri Jothi Complex, Murugesan Street, Balavinayagar Nagar, Arumbakkam, Chennai - 600106.

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 \* A Satisfactory test report in the way implies that the services are tested as specified by NABL. \* Laboratory is not responsible for the authenticity of photographs of test reports.  
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## TEST REPORT

ULR No : TC85822200007018F

Report No : EN23030080-27 Report Date : 10 April 2023  
Sample drawn by : Laboratory  
Customer Name : M/S. Dalmia Cements (Bharat) Ltd  
Customer Address : SF-630 Thamarakulam Village, Ariyalur, Tamilnadu-621705  
Sample Description : Stack Emission  
Sample No : EN23030080-27 Sampling Date : 31 Mar 2023  
Sample Identification : Packer stack -01 Sample Received on : 03 April 2023  
Sample Condition : Fit for Analysis Test Started on : 03 April 2023  
Sampling Procedure : GL/EN/SOP/111 Test Completed on : 10 April 2023

### Test result

S.No	Test Name	Test Method	Results	Units	Limit as per CPCB Standard
1	Stack Temperature	IS 11255 (Part-3):2008	306	K	-
2	Velocity	EPA Method 1-3	19.1	m/sec	-
3	Volume of Gas Discharge	IS 11255 (Part-3):2008	51792	Nm <sup>3</sup> /hr	-
4	Oxygen as O <sub>2</sub>	GL/EN/SOP/149	20.8	%	-
5	Carbon Monoxide as CO	GL/EN/SOP/149	BDL(DL:1.14)	mg/Nm <sup>3</sup>	-
6	Carbon Dioxide as CO <sub>2</sub>	GL/EN/SOP/149	0.1	%	-
7	Particulate Matter	GL/EN/SOP/113	10.9	mg/Nm <sup>3</sup>	30
8	Sulphur Dioxide as SO <sub>2</sub>	EPA Method 6	BDL(DL:3.0)	mg/m <sup>3</sup>	-
9	Oxides Of Nitrogen as NO <sub>2</sub>	GL/EN/SOP/149	BDL(DL:2.0)	mg/Nm <sup>3</sup>	-

Note: BDL-Below Detection Limit, DL- Detection Limit

.....End of Report.....  
Page 1 of 1

  
Authorized Signature  
E. PRITHIVIRAJAN  
LAB MANAGER

#5/1, 1st Floor, Sri Jothi Complex, Murugesan Street, Balavinayagar Nagar, Arumbakkam, Chennai - 600106.

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## TEST REPORT

ULR No : TC858222000007018F

Report No : EN23030080-29 Report Date : 10 April 2023

Sample drawn by : Laboratory

Customer Name : M/S. Dalmla Cements (Bharat) Ltd

Customer Address : SF-630 Thamarakulam Village, Ariyalur, Tamilnadu-621705

Sample Description : Stack Emission

Sample No : EN23030080-29 Sampling Date : 31 Mar 2023

Sample Identification : Packer stack -03 Sample Received on : 03 April 2023

Sample Condition : Fit for Analysis Test Started on : 03 April 2023

Sampling Procedure : GL/EN/SOP/111 Test Completed on : 10 April 2023

### Test result

S.No	Test Name	Test Method	Results	Units	Limit as per CPCB Standard
1	Stack Temperature	IS 11255 (Part -3):2008	306	K	-
2	Velocity	EPA Method 1-3	21.00	m/sec	-
3	Volume of Gas Discharge	IS 11255 (Part -3):2008	56160	Nm <sup>3</sup> /hr	-
4	Oxygen as O <sub>2</sub>	GL/EN/SOP/149	20.8	%	-
5	Carbon Monoxide as CO	GL/EN/SOP/149	BDL(DL:1.14)	mg/Nm <sup>3</sup>	-
6	Carbon Dioxide as CO <sub>2</sub>	GL/EN/SOP/149	0.1	%	-
7	Particulate Matter	GL/EN/SOP/113	12.7	mg/Nm <sup>3</sup>	30
8	Sulphur Dioxide as SO <sub>2</sub>	EPA Method 6	BDL(DL:3.0)	mg/m <sup>3</sup>	-
9	Oxides Of Nitrogen as NO <sub>2</sub>	GL/EN/SOP/149	BDL(DL:2.0)	mg/Nm <sup>3</sup>	-

Note: BDL-Below Detection Limit, DL- Detection Limit

.....End of Report.....  
Page 1 of 1

Authorized Signature

E. PRITHIVIRAJAN  
LAB MANAGER

#6/1st Floor, Sri Jothi Complex, Murugesan Street, Balavinayagar Nagar, Arumbakkam, Chennai - 600106.

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## TEST REPORT

ULR No : TC858222000007018F

Report No : EN23030080-28 Report Date : 10 April 2023

Sample drawn by : Laboratory

Customer Name : M/S. Dalmla Cements (Bharat) Ltd

Customer Address : SF-630 Thamarakulam Village, Ariyalur, Tamilnadu-621705

Sample Description : Stack Emission

Sample No : EN23030080-28 Sampling Date : 31 Mar 2023

Sample Identification : Packer stack -02 Sample Received on : 03 April 2023

Sample Condition : Fit for Analysis Test Started on : 03 April 2023


Sampling Procedure : GL/EN/SOP/111 Test Completed on : 10 April 2023

### Test result

S.No	Test Name	Test Method	Results	Units	Limit as per CPCB Standard
1	Stack Temperature	IS 11255 (Part -3):2008	306	K	-
2	Velocity	EPA Method 1-3	19.8	m/sec	-
3	Volume of Gas Discharge	IS 11255 (Part -3):2008	52929	Nm <sup>3</sup> /hr	-
4	Oxygen as O <sub>2</sub>	GL/EN/SOP/149	20.8	%	-
5	Carbon Monoxide as CO	GL/EN/SOP/149	BDL(DL:1.14)	mg/Nm <sup>3</sup>	-
6	Carbon Dioxide as CO <sub>2</sub>	GL/EN/SOP/149	0.1	%	-
7	Particulate Matter	GL/EN/SOP/113	14.0	mg/Nm <sup>3</sup>	30
8	Sulphur Dioxide as SO <sub>2</sub>	EPA Method 6	BDL(DL:3.0)	mg/m <sup>3</sup>	-
9	Oxides Of Nitrogen as NO <sub>2</sub>	GL/EN/SOP/149	BDL(DL:2.0)	mg/Nm <sup>3</sup>	-

Note: BDL-Below Detection Limit, DL- Detection Limit

.....End of Report.....  
Page 1 of 1

  
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## TEST REPORT

ULR No : TC858222000007021Fto 7029F

Sample code : EN23030080-09 TO 14 Report Date : 10 April 2023

Sample drawn by : Laboratory

Customer Name : M/S. Dalmia Cements (Bharat) Ltd

Customer Address : SF-630 Thamarakulam Village, Ariyalur, Tamilnadu-621705

Sample Description : Fugitive Emission Sampling Date : 30 Mar 2023

Sample No : EN23030080-09 TO 14 Sample Received on : 03 April 2023

Sample Condition : Fit for Analysis Test Started on : 03 April 2023

Test Completed on : 10 April 2023

### Test result

S.No	Sample Location	Test Name	Test Method	Results	Units
1	Coal Yard	Respirable Suspended Particulate matter	NIOSH-0600	88.9	µg/m <sup>3</sup>
2	ESP Cooler	Respirable Suspended Particulate matter	NIOSH-0600	60.3	µg/m <sup>3</sup>
3	Coal Tippler	Respirable Suspended Particulate matter	NIOSH-0600	71.8	µg/m <sup>3</sup>
4	Packing Plant	Respirable Suspended Particulate matter	NIOSH-0600	68.6	µg/m <sup>3</sup>
5	LS Crusher	Respirable Suspended Particulate matter	NIOSH-0600	80.6	µg/m <sup>3</sup>
6	Cement mill	Respirable Suspended Particulate matter	NIOSH-0600	78.6	µg/m <sup>3</sup>

.....End of Report.....

Page 1 of 1

  
Authorized Signature

**E. PRITHIVIRAJAN**  
LAB MANAGER

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# Annexure - 4

## Green Belt



**Plantation: 68,934 Nos (34% Plant area)**

**96% Sustenance Rate**

**Individual Zone Owner Responsibility**

**Plant in the Garden & not Garden in the  
plant**

**Good Biodiversity, 94 Acre**



# Development of Biodiversity Park

2500 plants covering 32 varieties planted in 6.5 acre land for attracting birds



# Renewable Energy – Solar Power Plant



# Annexure - 5





**GOVERNMENT OF TAMIL NADU**  
**WATER RESOURCES DEPARTMENT**

**From:**  
Er. S.Prabakaran, B.E.,  
Chief Engineer, WRD,  
State Ground & Surface Water  
Resources Data Centre  
Tharamani, Chennai 600 113.  
Phone : 91-44-22542223 (Direct)  
91-44-22541526/27(Board)  
Email: [ceqwchennai@gmail.com](mailto:ceqwchennai@gmail.com)  
Web site: [www.groundwatertnpwd.org](http://www.groundwatertnpwd.org)

**To:**  
M/s. Dalmia Cement (Bharat) Ltd.,  
SF.NO.630, Tmaraikulam Village,  
Ariyalur Block & Taluk,  
Ariyalur-621 705.

**Lr.No.OT 8/AG-2/197/Renewal of NOC /Trichy/ 2023 dated: // .03.2023.**

Sir,

**Sub:** "Renewal of No Objection Certificate" for drawal of ground water to M/s. Dalmia Cement (Bharat) Ltd., Govindapuram and Ottakovil Village , Ariyalur Firka, Ariyalur Block , Ariyalur Taluk, Ariyalur District – 8<sup>th</sup> Renewal of NOC - Reg.

**Ref:** 1.This Office Lr.No. OT8/AG-2/273/renewal of NOC/Trichy/2022 dt:25.04.2022  
2.The firm Renewal of NOC application date:16.02.2023  
3.This Office Lr.No:71DD(G)/AG-VI/Renewal of NOC/2023Dt:16.02.2023  
4.SE,GWC,ThanjavurLr.No:65<sup>s</sup>/AG/T.F44C(TRY)/NOC/GWC/TNJ/2022 Dt:27.02.2023

Please find the enclosed "Renewal of No Objection Certificate", for drawal of ground water to M/s. Dalmia Cement (Bharat) Ltd., Govindapuram and Ottakovil Village , Ariyalur Block , Ariyalur Taluk, Ariyalur District. As per the G.O.(Ms).No 142 PW(R2)Department dt:23.07.2014, NOC should be renewed every year for the water based industries. You are requested to strictly adhere to the quantity permitted and conditions mentioned in the certificate and apply for renewal of NOC before two months from the date of expiry i.e., 21.02.2024 without fail. If you fail to apply for renewal of NOC, it will be treated as "illegal" and informed to District Monitoring Committee to seal the bore well in your unit as per Madras High Court Order, dt:20.03.2020 in WP.No.16299/2018.

**Enclosure:**

1. Renewal of No Objection Certificate & Conditions

  
Chief Engineer (SG & SWRDC),  
WRD, Tharamani, Chennai-113





Certificate No.197/2023 (R-8)

Dated: 14.03.2023

**GOVERNMENT OF TAMIL NADU**  
**WATER RESOURCES DEPARTMENT**  
**STATE GROUND & SURFACE WATER RESOURCES DATA**  
**CENTRE CHENNAI – 113**  
**Renewal of No Objection Certificate**

This is to certify that "M/s. Dalmia Cement (Bharat) Ltd", Govindapuram and Ottakovil Village, Ariyalur Firka, Ariyalur Block, Ariyalur Taluk, Ariyalur District is hereby given the "Renewal of No Objection Certificate" for the drawal of total quantity of 16,20,000 LPD (Sixteen Lakh and Twenty Thousand Litres per day) of groundwater for the purpose of "Industry (Cement Industry)" from the Groundwater structure listed below with strict adherence of stipulated conditions.

Sl. No	Referred Well / Bore Well & SF. No	Village/Firka	Co-ordinates		Quantity Permitted for pumping in LPD
			Latitude	Longitude	
1.	TW1/630/1 2B	Govindapuram/Ariyalur	11° 10'85" N	79° 06'01" E	2,43,000
2.	TW2/640/0 5	Govindapuram/Ariyalur	11° 11'05" N	79° 06'08" E	2,43,000
3.	TW3/614/0 8B	Govindapuram/Ariyalur	11° 10'59" N	79° 05'96" E	3,73,500
4.	TW4/158/0 5	Ottakovil/Ariyalur	11° 11'17" N	79° 06'01" E	3,73,500
5.	TW5/162/1 1	Ottakovil /Ariyalur	11° 10'23" N	79° 05'19" E	3,87,000
<b>Total</b>					<b>16,20,000</b>

This renewal certificate is valid from 22.02.2023 to 21.02.2024 and the Renewal of NOC is issued under the conditions laid down.

  
Chief Engineer (SG & SWRDC),  
WRD, Tharamani, Chennai-113

**Renewal of NOC Conditions pertaining to M/s. Dalmia Cement (Bharat) Limited,  
Ariyalur District**

- 1 This No Objection certificate issued for ground water extraction applies to the referred ground water abstraction structure only.
- 2 All the other ground water abstraction structures (dug wells/bore wells/dug-cum bore wells) other than the permitted one inside the plant area should not be considered for this permission.
- 3 Such structures as said in Condition No.2 should be closed or used only for Rain water harvesting purposes.
- 4 This Certificate is applicable for drawal of permitted Quantity of ground water only and not for transportation.
- 5 The Company should install necessary "flow meters" to the referred well /bore well and monitor the quantity which should not exceed the permitted level. **Proper Records** should be maintained continuously from the date of drawal. Monthly statement of daily drawal of water should be sent to the Executive Engineer, Groundwater Division, Trichy as per format enclosed.
- 6 As and when the officials of Ground Water Wing of WRD inspect the site/premises, perusal of drawal records and water quality observations should be allowed.
- 7 **Rain water harvesting structure** is to be established as per the direction of this department. Rain water harvesting structures already exist inside the plant premises, it should be maintained properly.
- 8 **Violation of the above stipulations in any form may lead to cancellation of the permission accorded by the Government.**
- 9 The Company should be ready to pay the **levy/charges for drawal of ground water** for commercial purposes, if Government / Ground Water Authority imposes any such orders in future.
- 10 As per the G.O.(Ms).No 142 PW(R2)Department dt:23.07.2014, NOC should be renewed every year for the water based industries.
- 11 It is also informed that during the renewal of the NOC, depending upon the hydrogeological condition the category of the area and the site conditions, the quantity will be vary from permitted quantity.
- 12 The handed over Bore Well to this Department for Water Level monitoring purpose should be maintained properly
- 13 This No Objection Certificate is applicable **only for the purpose of "Cement Industry"**, if any deviation in the usage of ground water is found, the NOC accorded is automatically deemed to be cancelled.
- 14 The **Executive Engineer, Ground Water Division** of the respective District **would inspect** either the rain water harvesting structures established in the premises of the firm or the records maintained or even the drawal of ground water as and when needed and it is the mandatory of the firm to maintain the Rain water harvesting structure/ structures properly and show the records needed.
- 15 **If any information / Documents submitted by this firm is found to false / in correct or any data provided by the firm is found to be incorrect, the NOC issued to the firm will be cancelled by this department without any prior notice.**

  
Chief Engineer, SG & SWRDC,  
WRD, Tharamani, Chennai-113.

# Annexure - 6

### Sustainability Oriented Priorities

- One Million Livelihoods mission Journey - 2030
- 20 times water positivity well before 2025



### Need Oriented Priorities

- Drinking water
- Infrastructure support for Education, sports and health sectors
- Village amenities





# Soil and Water Conservation



Village Pond De-silting at Thamaraikulam and Kamarajapuram



Bore well recharge pit at Eluppaiyur and Kamrajapuram



RO Plant 25 LPH at Edayathankudi Govt school



Bore well for Drinking water at Keelakaangiyannur



# Livestock support camps



Veterinary Camps at Kallankurichi, Manakkudi, Srinivasapuram



Rabies Awareness and Vaccination Camp

Farmers Training program



# Social Infrastructure



Fencing at Ottakovil PHC



Plantation drive at Thamaraikulam Village



Medical Check up at Ariyalur



Furniture to Thamaraikulam and Asthinapuram Schools



Fans and Cupboards to Edaiyathankudi School

# Annexure - 7







# Annexure - 8

# Online Monitoring System and real time display



Online Effluent monitoring system at ETP



Online Emission Monitoring System



Real Time display at Gate



Online Effluent monitoring system at STP

# Annexure – 9



## Awards & Accolades

### Green Champion Award from Tamil Nadu Pollution Control Board



# Awards & Accolades

Consolation award for Circular Economy and Environment function from NCCBM in 2022





# Awards & Accolades

Excellent Energy efficient consecutive for 11 years from CII



Energy Leadership Award from CII in 2022





## Awards & Accolades

### Winner in 22<sup>nd</sup> Annual Greentech Environment Award 2022



### Apex India Platinum Award 2022, Environment Excellence



## Awards & Accolades

### Industry 4.0 Award (Smart operations) 2021, Certificate of Appreciation



### Platinum Award from Green Crest - Green Maple Foundation





# Awards & Accolades

## IconSWM-CE Excellence Award for Plastic & RDF Category (Diamond)





Thank You