



# FUTURE TODAY ARY/MoEF/Cement & CPP/EC/24-25/28

25.05.2024

To

#### The Director

Ministry of Environment, Forest and Climate Change Integrated Regional Office, 1st Floor, Additional Office Block for GPOA, Shastri Bhawan, Haddows Road, Nungambakkam, Chennai – 600 006.

Respected Sir,

**Sub:** Half Yearly Environmental Clearance Compliance Report – Oct'23 to Mar'24 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 2023 to March 2024.

- 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

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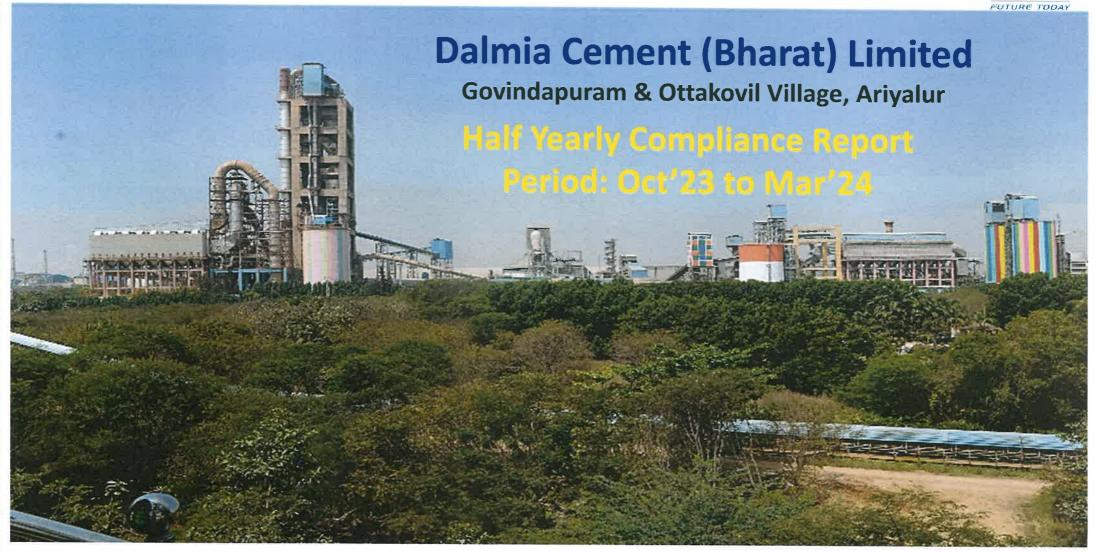
T Robert
Unit Head

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, Ariyalur

Status of compliance stipulated in Environmental Clearances (For the period of October 2023 to March 2024)

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

Sl. No	Conditions	Compliance
A	Specific Conditions	
î	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/Nm³ from the cement plant and 100 mg/Nm³ 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.	Complied with.  Installed Online Continuous Emission Monitoring Systems in all stacks (Cement mill, Coal mill, Cooler, Raw mill/kiln & Boiler of power plant), Gaseous monitoring system in Raw mill/Kiln stack & Power Plant and following air pollution control systems were installed & maintained to control the emission levels well within the limits of 30 & 50 mg/Nm³;  1. Cement mill - Bag house, 2. Kiln/Preheater - Bag house, 3. Coal mill - Bag house 4. Cooler - ESP & 5. CPP- ESP.  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 & to TNPCB on monthly basis.  Raw meal, clinker and dry fly ash were stored in concrete silos.  Refer Annexure: 1 for Ambient Air Quality, Fugitive Emission & Stack emission report from NABL accredited lab.
ii	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. Asphalting/concreting of roads and water spray all	Complied with. Secondary fugitive emissions are controlled by providing closed conveyors and storage sheds. Quarterly fugitive emission monitored through accredited labs. Fugitive emission guidelines issued by CPCB is been complied with. Dust extraction system provided at transfer points, raw material handling (Unloading, conveying, transporting, stacking) and Cement packing areas to control fugitive dust. Water sprinkling carried out

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	around the stockyard and loading /unloading areas shall be carried out to control fugitive emissions. Covered sheds for storage of raw materials and fully covered conveyers for transportation of materials shall be provided.	crushed limestone, Coal, petcoke, Alternative fuels, 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 the villages. Also, all the raw materials vehicles are covered with tarpaulin cover during transportation.
iv	Total ground water requirement shall not exceed 2,500 m³/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 m³/day and the present water consumption is 1600 m³/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 m³/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 m³ obtained from State Ground and Surface water resources data center, valid still 21.02.2024.  Renewal application submitted and field inspection carried out.  Also, obtained approval for withdrawing 380 m³ of ground water from State Ground and Surface water resources data center, valid still 19.11.2024 for Solar Power Plant and additional Cement mill.
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	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 retractory bricks is used for garden

	ash shall be used as boiler bed material. Refractory bricks shall be disposed off in environment-friendly manner. ETP Sludge 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.	decoration, developing internal roads and also sold to recyclers.  No ETP sludge is generated as neutralization method is adopted and sludge generated from STP 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 the 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 all PPC varieties for FY 23-24 is 28.1%.
íx	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 Trommel screen, Shredders, Magnetic separators, Screen, Extractor and closed belt feeding systems. Presently, co-processing Non-Hazardous waste like Plastics, Refuse Derived Fuel, Dry municipal waste, foot ware waste, Biomass, Rubber waste etc and Hazardous waste like Textile ETP Sludge, Oil rags & Solid waste mix from Pre-processing vendors in Cement kiln by getting necessary authorization from TNPCB.
х	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'24, 69,009 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	Comp	olied with.	
	Corporate Responsibility for	S.No	Conditions	Compliance
	Environment Protection (CREP)	1	Cement Plants,	Air Pollution Control
	for cement plants shall be		which are not	Devices installed &
	implemented.		complying	maintained in order
	implemented.		with notified	to meet the emission
			standards, will do	norms of <30
			the following	mg/Nm <sup>3</sup> . Regular
			_	checking of Bags is
			to meet the	carried out based on
			standards:	
			• Augmentation of	
			existing Air	any damage is
			Pollution Control	observed, it is
			Devices-by July	replaced
			2003	immediately. Also,
			• Replacement of	during every
			existing Air	
			Pollution Control	Bag house chambers
			Devices-by July	is inspected and
			2004	maintained.
			2004	In FY 23-24, replaced
				all the chamber bags,
				Thimbles and tube
				mill/Kiln & Coal mill
				Bag houses. All
				Emitting &
				Collecting Electrode
				replaced in cooler
				first ESP field and
		11		additional ESP field
		H		added in Cooler. Four
		[]		Chambers Bags
				replaced in Cement
		11		mill.
		2	Cement Plants	The particulate
		-	located in critically	_
			polluted or urban	
			areas (including	1
			5km distance	
			outside urban	
			boundary) will	
			meet 100 mg/Nm <sup>3</sup>	checking of Bags is
			limit of particulate	being carried out
			matter by	based on the DP
			December 2004 and	
			continue working to	
			reduce the emission	
			of particulate	immediately. Also,
			matter to 50	



	mg/Nm <sup>3</sup>	shutdown/stoppage, Bag house chambers is inspected and maintained.
3	The new cement kilns to be accorded NOC/Environmenta l Clearance w.e.f 01.04.2003 will meet the limit of 50 mg/Nm³ 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. CPCB, NCBM, BIS and Oil refineries will jointly prepare the policy on use of petroleum coke as fuel in cement kiln by July 2003.  8. After performance evaluation of petroleum coke as fuel in cement kiln by July 2003.  8. After performance evaluation 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 and cellbration of CEMS distributed the continuous monitoring systems and cellbration of CEMS distributed regularly with respect to the CPCB guidelines on fugitive emission control vide PROBES/118/2007. dated 06.07.2007.  7. CPCB, NCBM, BIS and Oil refineries will jointly prepare the policy on use of petroleum coke as fuel in cement kiln.  8. After performance evaluation of Continuous monitoring equipment and feedback from the industries and equipment and fe				
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			monitoring systems	734

			(CMS) by	
	-		December 2003	
		9	Tripping in Kiln	Tripping of ESP is
			ESP to be	minimized by taking
			minimized by July	all the necessary
			2003 as per the	
			recommendations	spraying on flue gas and interlocking
			of NTF	and interlocking system with fan main
				drive.
		10	Industries will	Every monthly the
			submit the target	, ,
			date to enhance the	in kiln is being
			utilization of waste	intimated to TNPCB
			material by April	
			2003.	Installed Alternative
				fuel feeding system consisting of
				Trommel Screen,
				Shredders, Magnetic
				separator, Extractor,
				hopper, Closed belt
				conveyor with all
				safety system.
				Co-processing emission monitoring
				carried out with
				NABL accredited
				labs half yearly &
l'				reports are summited
			NGDA 'II	to TNPCB.
		11	NCBM will carry out a study on	High Calorific Hazardous and non-
				hazardous waste is
	=		utilization in	
			cement kiln by	incinerated in the
			December 2003	cement kiln.
		12	Cement industries	Entire cooler hot gas
			will carry out	is being used to dry raw materials in
			feasibility study and submit target	raw materials in vertical raw mill as
			dates to CPCB for	well as in the vertical
			co-generation of	cement mill.
			power by July	
			2003.	
XIII	Recommendation of the state	_	olied with.	riven NOC stating that
	forest department regarding impact of proposed plant on			given NOC stating that or threatened species of
	surrounding reserve forests Viz.			ear the reserved forest.
	Vannankurichchi RF (9.5Km, E),			Forest department, the
	Note the second			San

	Sedalaradi RF (14Km, NE), Manager RF(13Km, ESE), Vilangudi RF (14Km, SE) shall be obtained and implemented	following plants viz Neem, Gulmohar, Casualina, Pungamia Glubra, Cassia, Bouhiania, 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.
В	<b>General Conditions</b>	" 1
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 & 05.02.2023 for 'No increase in Pollution Load' 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 through Debottle neck projects with additional Cement mill & Packer and obtained acknowledgement with Single Window No. SW/1545/2021 & SW/2407/2023 respectively. 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 and amendment Lr.No: T1/TNPCB/F.005599/ARY/Dalmia/2023, dated: 25.07.2023. Accordingly, Consent to Establishment obtained from TNPCB under Air and Water act for modernization & upgradation work and the same has been commissioned by obtaining Consent to
iii	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	Operate – Expansion.  Complied with.  Online Emission Monitoring system is installed in all stacks and the monitored data is directly transmitted to Care Air Centre, TNPCB & 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

	not working, the respective unit(s) is shut down automatically.	11
iv	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	Continuous Ambient Air Quality Monitoring Stations have been installed in downwind, leeward and Cross wind 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 & to TNPCB on monthly basis.
V	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.	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 m³ and Enviro park 9000 m³) of total capacity 53000 m³.  In addition to this, two recharge shafts bore well 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	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.

	(protection) Act, 1986 Rules, 1989 viz 75 dBA (day time) and 70 dBA (night time).	
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 m³ and Enviro park 9000 m³) of total capacity 53000 m³.  In addition to this, two recharge shafts 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.
Х	A separate environmental management cell to carry out various management and monitoring functions shall be set up under the control of Senior Executive.	Complied with.  A full fledge separate environmental cell is in place with two qualified environments professional and a 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 crores.  Every year, for environmental protection budget is allotted and wisely spent. In FY 23-24, around 264.35 lakhs utilized as recurring cost for general activities and around 185.92 Crores 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	Complied with.  Half yearly compliance report is being submitted to MoEF Regional office & TNPCB. The last

stipulated conditions. A sixmonthly compliance report and the monitored data along with statistical interpretation shall be submitted to them regularly. compliance report was submitted vide our letter no ARY/MoEF/Cement & CPP/EC/23-24/123, dated 25.11.2023.

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 2010. Capacity enhancement of Clinker from 2.0 to 2.5 MTPA and Cement from 3.0 to 4.0 MTPA commissioned on 23.03.2024.

For Captive Power plant, Date of commencement: 10.09.2008 & commissioning: Aug 2010

xiv

i

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 http://envfor.nic.in. This should 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 ofthe locality concerned and a copy of the same shall be forwarded to Regional office at Bangalore.

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.

#### Additional conditions issued by MoEF on 06.04.2011, Ref.No: J-11013/41/2006-IA. II(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

Installed Continuous Emission Monitoring System in all stacks for monitoring particulate emission and three nos 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.

	results of monitoring will also be put on the website of the company in the public domain.	
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.	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.





# Annexure - 1

#### **ANNEXURE - 1**

## Dalmia Cement (Bharat) Limited





**Department: Environment** 

Plant - Cement & CPP

#### SUMMARY REPORT OF STACK EMISSION (PM) $\,$

PERIOD: Apr 2023 - Mar 2024 UNIT - mg/Nm<sup>3</sup>

Month	Kiln/Raw mill		Clinker cooler		Coal mill		Cement mill		Boiler ID fan	
	Observed Level	Norms								
Max	27.4		26.2		19.3	30	27.3	30	35.6	50
Min	9.7	30	20.4	30	7.8		18.6		10.8	
Avg	19.2	.30	23.5	30	12.5		24.6		21.9	
St. Deviation	4.5		1.9		2.8		2.3		6.4	

# SUMMARY REPORT OF STACK EMISSION (SO $_2$ & NO $_x$ ) PERIOD: Apr 2023 - Mar 2024

UNIT – mg/Nm<sup>3</sup>

	SO <sub>2</sub> Emission				NOx Emission				
Month	Kiln/Raw mill		Boiler ID fan		Kiln/Raw mill		Boiler ID fan		
	Observed Level	Norms		Norms	Observed Norms		Observed Level	Norms	
Max	12.0		160.4		568.0	800	192.5	300	
Min	1.0	100	22.6	600	219.4		153.4		
Avg	6.8	100	115.2	000	323.5		172.0	300	
St. Deviation	4.0		44.0		120.5		14.8		

#### SUMMARY OF NOISE MONITORING REPORT

PERIOD: Apr 2023 - Mar 2024 UNIT - dB (A) DAY & NIGHT TIME

Month	Northeast Boundary (Near CPP)		,		Southeast Boundary (Near Limestone stacker)		Northwest Boundary (Near substation)		Permissible Limit	
	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night
Max	52.4	43.2	53.2	44.1	54.4	43.1	53.4	43.5		
Min	50.1	40.6	50.1	40.3	50.1	40.1	50.1	40.2	55	45
Avg	51.3	42.5	51.7	41.9	52.2	41.4	51.5	41.8		
St. Deviation	0.7	0.8	1.1	1.1	1.3	0.9	1.1	1.2		

B.R.Prasannakumar

Senior Manager - Environment



# **Dalmia Cement (Bharat) Limited**

# Ariyalur Plant

Stack monitoring (PM - mg/Nm<sup>3</sup>) for Apr 2023 - Mar 2024 DOC. No: SP-3;AM-7

Month	Kiln/Raw mill	Clinker cooler	Coal mill	Cement mill	Boiler ID fan	Norms for Cement /
Apr-23	21.1	23.8	11.5	18.6	Not in Operational	30/50
May-23	27.4	21.3	19.3	24.5	Not in Operational	30/50
Jun-23	Not in Operational	Not in Operational	Not in Operational	25.6	Not in Operational	30/50
Jul-23	15.8	24.5	7.8	26.1	10.8	30/50
Aug-23	9.7	20.4	12.5	27.3	35.6	30/50
Sep-23	22.6	26.2	10.8	25.6	18.8	30/50
Oct-23	21.4	25.5	12.7	24.10	22.7	30/50
Nov-23	18.7	23.9	14.3	26.8	21.4	30/50
Dec-23	16.9	22.1	11.5	23.2	22.9	30/50
Jan-24	20.7	24.1	13.3	25.8	20.6	30/50
Feb-24	17.6	25.3	12.8	24.4	21.7	30/50
Mar-24	19.2	21.8	11.4	22.6	22.9	30/50
Max	27.4	26.2	19.3	27.3	35.6	
Min	9.7	20.4	7.8	18.6	10.8	30/50
Avg	19.2	23.5	12.5	24.6	21.9	
St. Deviation	4.5	1.9	2.8	2.3	6.4	



# Dalmia Cement (Bharat) Limited

# Ariyalur Plant

	Stack monitoring (SO <sub>2</sub> - mg/Nm <sup>3</sup> ) for Apr 2023 - Mar 2024 DOC. No: SP-3;AM-7											
Month	Kiln/Raw mill	Clinker cooler	Coal mill	Cement mill	Boiler ID fan	Norms for Cement / CPP						
Apr-23	1.0	BDL	5.8	BDL	Not in Operational	100/600						
May-23	1.8	BDL	8.2	BDL	Not in Operational	100/600						
Jun-23	Not in Operational	Not in Operational	Not in Operational	BDL	Not in Operational	100/600						
Jul-23	4.5	BDL	10.4	BDL	22.6	100/600						
Aug-23	12.0	BDL	16.4	BDL	86.5	100/600						
Sep-23	4.2	BDL	14.6	BDL	90.2	100/600						
Oct-23	5.2	BDL	11.5	BDL	109.4	100/600						
Nov-23	9.6	BDL	13.9	BDL	160.4	100/600						
Dec-23	4.6	BDL	12.4	BDL	133.3	100/600						
Jan-24	10.5	BDL	15.6	BDL	149.1	100/600						
Feb-24	11.9	BDL	14.1	BDL	156.3	100/600						
Mar-24	9.9	BDL	12.6	BDL	129.4	100/600						
Max	12.0	0.0	16.4	0.0	160.4							
Min	1.0	0.0	5.8	- 0.0	22.6	100/600						
Avg	6.8	BDL	12.3	BDL	115.2							
St. Deviation	4.0	BDL	3.2	0.0	44.0							



# Dalmia Cement (Bharat) Limited Ariyalur Plant

	Stack n	nonitoring (NO	x - mg/Nm³) for	Apr 2023 - Ma	r 2024 DOC.	No: SP-3;AM-7
Month	Kiln/Raw mill	Clinker cooler	Coal mill	Cement mill	Boiler ID fan	Norms for Cement / CPP
Apr-23	380.0	BDL	30.6	BDL	Not in Operational	800/450
May-23	305.0	BDL	24.4	BDL	Not in Operational	800/450
Jun-23	Not in Operational	Not in Operational	Not in Operational	BDL	Not in Operational	800/450
Jul-23	530.0	BDL	20.6	BDL	154.6	800/450
Aug-23	568.0	- BDL	18.4	BDL	190.6	800/450
Sep-23	298.0	BDL	10.4	BDL	180.4	800/450
Oct-23	281.4	BDL	9.6	BDL	192.5	800/450
Nov-23	268.0	BDL	16.8	BDL	175.7	800/450
Dec-23	226.7	BDL	13.4	BDL	163.2	800/450
Jan-24	247.4	BDL	14.6	BDL	153.4	800/450
Feb-24	234.9	BDL	15.5	BDL	159.9	800/450
Mar-24	219.4	BDL	12.8	BDL	177.6	800/450
Max	568.0	0.0	30.6	0.0	192.5	
Min	219.4	0.0	9.6	0.0	153.4	800/450
Avg	323.5	BDL	17.0	BDL	172.0	
St. Deviation	120.5	BDL	6.3	BDL	14.8	



# Dalmia Cement (Bharat) Limited

# ANOS dB (A) Locations for Apr 202

				dB (A) Location			DOC. No: SP-		
Month	Northeast Bour	dary (Near CPP)	Southeast Boundary (Near crusher Transport system)		SouthWest Boundary (Near Limestone stacker)			oundary (Near tation)	Permissib
	Day	Night	Day	Night	Day	Night	Day	Night	- Day/Nigh
Apr-23	51.2	40.6	52.6	41.9	52.8	41.2	53.4	42.4	55/45
May-23	52.4	43.1	51.3	40.5	50.6	40.1	50.2	43.4	55/45
Jun-23	51.6	42.8	50.8	41.1	50.1	40.6	52.1	42.5	55/45
Jul-23	52.1	43.2	51.6	40.3	50.6	41.3	50.4	41.8	55/45
Aug-23	50.6	42.6	50.1	41.2	52.4	41.5	52.3	42.8	55/45
Sep-23	50.1	43.1	52.4	42.5	52	42.1	50.8	40.3	55/45
Oct-23	51.4	42.4	53.1	42.9	51.6	41.5	50.1	40.7	55/45
Nov-23	52.0	43.2	50.5	41.7	52.1	41.2	51.4	40.5	55/45
Dec-23	50.8	41.9	51.7	42.1	53.3	42.4	52.9	41.6	55/45
Jan-24	51.3	42.3	52.1	43.2	53.8	41.8	50.6	42.4	55/45
Feb-24	52.1	43.2	50.4	41.4	52.6	40.4	51.2	43.5	55/45
Mar-24	50.4	42.1	53.2	44.1	54.4	43.1	52.4	40.2	55/45
Max	52.4	43.2	53.2	44.1	54.4	43.1	53.4	43.5	
Min	50.1	40.6	50.1	40.3	50.1	40.1	50.1	40.2	55/45
Avg	51.3	42.5	51.7	41.9	52.2	41.4	51.5	41.8	1
St. deviation	0.7	0.8	1.1	1.1	1.3	0.9	1.1	1.2	



# 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 2023 - Mar 2024
UNIT - µg/m³

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	84.6	80.2	80.1	89.6	88.3	78.4	
Min	76.2	74.3	72.9	78.9	79,5	70.7	100
Avg	79.4	77.1	76.1	82.3	83.1	74.4	100
St. Deviation	2.5	1.9	23	3.0	2.5	2.0	

SUMMARY REPORT OF AMBIENT AIR QUALITY
PARTICULATE MATTER (PM<sub>2.5</sub>)
PERIOD: Apr 2023 - Mar 2024
UNIT - µg/m³

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	38.5	35.4	33.6	39.5	39.3	32.1	
Min	31.2	29.2	29.6	30.2	32.1	27.4	60
Avg	35.2	32.4	31.8	34.9	36.0	30.0	60
St. Deviation	2.3	1.8	1.2	2.7	2.2	1.4	

SUMMARY REPORT OF AMBIENT AIR QUALITY SULPHUR DIOXIDE (SO<sub>2</sub>) PERIOD: Apr 2023 - Mar 2024 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	28.2	29.1	28.0	27.6	29.9	30.2	
Min	20.2	20.8	21.0	20.2	22.6	20.9	80
Avg	22.7	23.3	23.6	23.7	26.3	23.5	30
St. Deviation	2.4	2.4	2.2	2.0	2.3	2.5	

SUMMARY REPORT OF AMBIENT AIR QUALITY NITROGEN DIOXIDE (NO $_{\star}$ ) PERIOD: Apr 2023 - Mar 2024 UNIT -  $\mu g/m^3$ 

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	24.3	22.7	26.1	22.7	23.5	23.5	
Min	17.2	19.4	19.9	18,8	20.7	19.8	80
Avg	20.7	21.4	22.7	21.0	22.1	21.2	00
St. Deviation	2.0	1.1	1.7	1.1	0.9	0.9	

B.R.Prasannakumar Senior Manager - Environment

	(C)		Dalmia Cen	nent (Bharat) L	imited		
Dalmi				riyalur Plant			
	AA	QS Locations (P	M <sub>10</sub> - μg/m <sup>3</sup> ) for A	pr 2023 - Mar 20	024 DO	C. 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 crsuher transfer tower	NE - Boundary near CPP WTP	Permissible Limit
Арг-23	82.5	78.5	80.1	83.1	82.8	78.4	100
May-23	78.5	74.3	76.8	80.3	81.6	76.1	100
Jun-23	78.8	75.1	77.6	79.5	80.8	77.7	100
Jul-23	76.2	75.8	75.3	80.4	84.3	76.1	100
Aug-23	84.6	80.2	79.6	82.1	84.9	78.2	100
Sep-23	78.5	79.6	75.2	80.2	85.8	73.2	100
Oct-23	76.2	77.8	74.1	89.6	88.3	72.6	100
Nov-23	81.3	76.9	77.1	85.6	83.4	70.7	100
Dec-23	79.6	75.2	72.9	81.7	80.9	74.6	100
Jan-24	77.6	78.5	74.6	84.2	79.5	72.1	100
Feb-24	80.4	77.3	76.4	82.3	81.6	71.8	100
Mar-24	78.7	76.4	73.6	78.9	83.1	70.9	100
Max	84.6	80.2	80.1	89.6	88.3	78.4	
Min	76.2	74.3	72.9	78.9	79.5	70.7	100
Avg	79.4	77.1	76.1	82.3	83.1	74.4	
SD	2.5	1.9	2.3	3.0	2.5	2.9	
		AAQS Locations	(PM <sub>2.5</sub> - μg/m <sup>3</sup> ) fo	r Apr 2023 - Mar	2024	DOC. No: SP-	3; <b>AM-</b> 7
Month	Eastern Boundary (HR Building)	SE - Boundary near Crusher Transport system	SW - Boundary near Limestone Stacker	Western boundary near substation	NW - Boundary near crsuher transfer tower	NE - Boundary near CPP	Permissible Limit
Apr-23	34.5	29.2	32.8	31.6	32.1	27.4	60
May-23	32.8	31.1	30.5	34.3	33.7	28.4	60
Jun-23	31.2	32.5	31.3	32.8	33.5	30.4	60
Jul-23	32.5	31.6	29.6	30.2	36.1	30.1	60
Aug-23	38.5	34.4	32.7	35.3	38.5	31.5	60
Sep-23	34.6	32.4	33.1	38.4	39.3	30.1	60
Oct-23	36.1	31.4	32.2	39.5	37.2	29.8	60
Nov-23	35.2	33.6	31.7	37.4	38.1	28.3	60
Dec-23	38.1	35.4	32.9	35.7	36.0	30.2	60
Jan-24	36.3	32.7	30.4	33.1	34.9	31.8	60
Feb-24	37.7	34.2	33.6	36.2	37.3	29.9	60
Mar-24	34.9	30.6	31.3	34.7	35.4	32.1	60
Max	38.5	35.4	33.6	39.5	39.3	32.1	
Min	31.2	29.2	29.6	30.2	32.1	27.4	60
Avg	35.2	32.4	31.8	34.9	36.0	30.0	
SD	2.3	1.8	1.2	2.7	2.2	1.4	

Dalmi	¢			ent (Bharat) L	imited		
- Control	CI	11001		riyalur Plant		500 11 05	
	Τ	AAQS Location	ons (SO <sub>2</sub> - μg/m <sup>3</sup> )	tor Apr 2023 - N	Mar 2024	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 crsuher transfer tower	NE - Boundary near CPP	Permissible Limit
Apr-23	28.2	29.1	28.0	27.6	27.8	30.2	80
May-23	20.2	21.1	22.6	23.2	22.6	22.1	80
Jun-23	21.3	22.8	21.5	22.4	23.1	21.6	80
Jul-23	23.5	21.6	22.1	23.4	24.2	23.4	80
Aug-23	24,2	23.5	23.6	24.1	26.4	25.3	80
Sep-23	22.4	21.5	22.1	23.6	27.5	23.4	80
Oct-23	21.3	20.8	21	24.5	28.8	22.6	80
Nov-23	23.8	22.3	24.5	26.1	29.9	21.7	80
Dec-23	25.1	24.8	26.3	24.7	27.1	25.4	80
Jan-24	22.6	21.8	23.7	22.3	25.4	23.5	80
Feb-24	20.4	23.7	21.6	21.9	28.3	20.9	80
Mar-24	21.1	26.2	25.7	20.2	24.8	22.4	80
Max	28.2	29.1	28.0	27.6	29.9	30.2	
Min	20.2	20.8	21.0	20.2	22.6	20.9	80
Avg	22.7	23.3	23.6	23.7	26.3	23.5	
SD	2.4	2.4	2.2	2.0	2.3	2.5	
	A	AQS Locations	$NO_x - \mu g/m^3$ ) for $I$	Apr 2023 - Mar 2	024	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 crsuher transfer tower	NE - Boundary near CPP	Permissible Limit
Apr-23	24.3	22.6	26.1	21.4	21.1	21.6	80
May-23	22,6	21.9	24.3	20.8	21	20.3	80
Jun-23	21.4	21.6	23.2	21.5	22.4	21.6	80
Jul-23	21.8	22.4	23.6	22.5	23.3	21.9	80
Aug-23	20.5	21.5	22.7	20.9	22.3	20.7	80
Sep-23	18.6	20.4	21.1	18.8	21.8	21.1	80
Oct-23	17.2	19.4	22.3	19.5	22.3	20.8	80
Nov-23	19.4	22.1	23.8	20.9	23.5	19.8	08
Dec-23	22.1	20.4	21.9	22.7	22.4	21.3	80
Jan-24	18.9	21.4	20.6	21.2	20.7	23.5	80
Feb-24	20.2	19.8	22.6	20.3	21.9	20.6	80
Mar-24	21.6	22.7	19.9	21.4	22.3	21.7	80
Max	24.3	22.7	26.1	22.7	23.5	23.5	
Min	17.2	19.4	19.9	18.8	20.7	19.8	80
Avg	20.7	21.4	22.7	21.0	22.1	21.2	
SD	2.0	1.1	1.7	1.1	0.9	0.9	



# Annexure - 3



#### TEST REPORT



TC-6118

ULR - TC611823000042742F Report No: QEN23120394-01 Page Loft

Report Date: 28 Dec 2023

Customer Name

© M/s. DALMIA CEMENT (BHARAT) LIMITED

Customer Address

SF No: 630, Thamaráikulam Village, Ariyalur, Tamil Nadu - 621705.

Sample Name

Ambient Air Quality Monitoring

Sampling Date & Time : 18 to 19 Dec 2023

09.00 am to 09.00 am

Sample Description

Sample Received on

: 21 Dec 2023

Reference

: Ambient Air Quality Monitoring : Test Request Form Dated 18,12,2023

Test Started on

: 22 Dec 2023

Sample Drawn By

: Laboratory

Sample Location

: Near HR Building

Test Completed on

: 28 Dec 2023

Sample Procedure Relative Humidity

: 1S 5182

: 68%

Ambient Temperature

:30°C

Ther pretti Te

S.NO	Parameter	Test Method	Results	Unit	Limit as per NAAQ! Specification
Chem	ical				
	Ammonia as N113	IS 5182 (Part 25)	BLQ(LOQ:20.0)	μg/m³	400 Max
2	Carbon Monoxide as CO (8hrs)	IS 5182 (Part 10)	BLQ(LOQ:1.14)	mg/m³	02 Max
3	Nitrogen dioxide as NO2	1S 5182 (Part 06)	22,8	μg/m³	80 Max
4	Ozone as O3	IS 5182 (Part 09)	BLQ(LOQ:20.0)	μg/m³	180 Max
5	Particulate Matter (PM10)	IS 5182 (Part 23)	63.8	րք/ույ	100 Max
6	Particulate Matter (PM2.5)	IS 5182 (Part 24)	26.3	μg/m³	60 Max
7	Sulphur Dioxide as SO2	IS 5182 (Part 02)	11.6	μg/m³	80 Max
Polycy	clic Aromatic Hydrocarbons				
8	Benzo(a)Pyrene (Particulate Phase)	SMSLA/GS/SOP/06	BLQ(LOQ:0.05)	ng/m³	01 Max
Trace	Metal Elements				
9	Arsenic	Compendium Method 10-3.4	BLQ(LOQ:0.1)	ng/m³	06 Max
10	1.ead	Compendium Method 10-3.4	BLQ(LOQ:0.001)	μg/m³	1,0 Max
11	Nickel	Compendium Method 10-3.4	BLQ(LOQ:0.1)	ng/m³	20 Max
Volati	le Organic Compounds				
12	Benzene	SMSLA/GM/SOP/31	BLQ(LOQ:10)	дg/m³	05 Max

); Below Limit of Quantification LOO; Limit of Quantification

Conclusion: The above tested Sample Conforms to the NAAQ Standards for the above tested Parameters.

/\*\*\*\*\*\*\*\* Find of the Report \*\*\*\*\*\*\*\*\*/

M. Sarathkumar Anthorized Signatory-Chemical

Laboratory Address: 39/6, Thiruvallur High Road, Puduchatram Post, Thirumazhisai Vin, Poonamallee Taluk, Chennai - 600124

Note: Test results relate only to the items tested. Test Report shall not be reproduced in full or part without the approval of SMS Labs. Non-Perishable remnant samples will be disposed 15 days from the date of receipt unless otherwise agreed with the customer except in case of regulatory samples, which will be retained for a specific period as per regulatory requirements; while perishable and environmental remnant samples will be disposed consequently upon completion of testing. Samples are not drawn by laboratory unless or otherwise stated. A satisfactory test report in no way implies that a product so tested is approved by NABL. The Laboratory accepts no liability with regard to the origin or source from which the sample(s) is/ are said to be extracted



#### TEST REPORT



TC-6118

ULR - TC611823000042743F Report No: QEN23120394-02 Page Loft

Report Date: 28 Dec 2023

Customer Name

1 M/s. DALMIA CEMENT (BHARAT) LIMITED

Customer Address

SF No: 630, Thamaraikulam Village, Ariyalur, Tamil Nadu - 621705.

Sampling Date & Time : 18 to 19 Dec 2023

Sample Name

Ambient Air Quality Monitoring

09.15 am to 09.15 am

Sample Description

Ambient Air Quality Monitoring

Sample Received on

: 21 Dec 2023

Reference

Test Request Form Dated 18.12.2023

Test Started on

: 22 Dec 2023

Sample Drawn By

Laboratory

Test Completed on

: 28 Dec 2023

Sample Location

Near CPP WTP

IS 5182

15 . 72

Sample Procedure Relative Humidity

68%

Ambient Temperature

:30°C

#### TEST RESULTS

s.no	Parameter	Test Method	Results	Unit	Limit as per NAAQS Specification
Chem	ical				
1	Ammonia as NH3	1S 5182 (Part 25)	BLQ(LOQ:20.0)	μg/m³	400 Max
2	Carbon Monoxide as CO (8hrs)	IS 5182 (Part 10)	BLQ(LOQ:1.14)	mg/m³	02 Max
3	Nitrogen dioxide as NO2	IS 5182 (Part 06)	20.1	μg/m¹	80 Max
4	Ozone as O3	tS 5182 (Part 09)	BLQ(LOQ:20,0)	jig/m³	180 Max
5 Particulate Matter (PM10)		1S 5182 (Part 23)	59.5	μg/m³	100 Max
6	Particulate Matter (PM2.5)	iculate Matter (PM2,5) IS 5182 (Part 24)		μg/m³	60 Max
7	Sulphur Dioxide as SO2	1S 5182 (Part 02)	8.9	μg/m³	80 Max
Polyc	yelie Aromatic Hydrocarbons				
8	Benzo(a)Pyrene (Particulate Phase)	SMSLA/GS/SOP/06	BLQ(LOQ:0,05)	ng/m³	01 Max
Trace	Metal Elements				
9	Arsenic	Compendium Method 10-3.4	BLQ(LOQ:0.1)	ng/m³	06 Max
10	Lead	Compendium Method 10-3.4	BLQ(LOQ:0.001)	μg/m³	1.0 Max
11	Nickel	Compendium Method 10-3.4	BLQ(LOQ:0,1)	ng/m³	20 Max
Volati	te Organic Compounds	1/4			
12	Benzene	SMSLA/GM/SOP/31	BLQ(LOQ:1.0)	μg/m³	05 Max

Note : BLQ: Below Limit of Quantification LOQ: Limit of Quantification

Conclusion: The above tested Sample Conforms to the NAAQ Standards for the above tested Parameters.

/\*\*\*\*\*\*\*\*\* End of the Report \*\*\*\*\*\*\*\*\*/

- M. Synribianian Anthonical Eigentony-Chemical

Laboratory Address: 39/6, Thiruvallur High Road, Puduchatram Post, Thirumazhisai Via, Poonamallee Taluk, Chennai - 600124.

Note: Test results relate only to the items tested. Test Report shall not be reproduced in full or part without the approval of SMS Labs, Non-Perishable remnant samples will be disposed 15 days from the date of receipt unless otherwise agreed with the customer except in case of regulatory samples, which will be retained for a specific period as per regulatory requirements; while perishable and environmental remnant samples will be disposed consequently upon completion of testing. Samples are not drawn by laboratory unless or otherwise stated. A satisfactory test report in no way implies that a product so tested is approved by NABL The Laboratory accepts no liability with regard to the origin or source from which the sample(s) is/ are said to be extracted.



#### TEST REPORT



TC-6118

ULR - TC611823000042744F

Report No: QEN23120394-03

Page | of 13

Report Date: 28 Dec 2023

Customer Name

🛊 M/s. DALMIA CEMENT (BHARAT) LIMITED

Customer Address

SF No: 630, Thamaraikulam Village, Ariyalur, Tamil Nadu - 621705.

Sample Name

Sampling Date & Time : 18 to 19 Dec 2023 09.30 am to 09.30 am

Ambient Air Quality Monitoring

Sample Description

# Ambient Air Quality Monitoring

Sample Received on

21 Dec 2023

Reference Sample Drawn By

Test Request Form Dated 18,12,2023 Laboratory

Test Started on Test Completed on 22 Dec 2023 28 Dec 2023

Sample Location

Near CPP Boiler

Y IS 5182

Sample Procedure Relative Humidity

68%

Ambient Temperature

:30°C

#### TEST RESULTS

S.NO	Parameter	Test Method	Results	Unit	Limit us per NAAQS Specification
Chem	ical				
1	Ammonia as NII3	1S 5182 (Part 25)	BLQ(LOQ:20.0)	μg/m³	400 Max
2	Carbon Monoxide as CO (8hrs)	IS 5182 (Part 10)	BLQ(LOQ:1.14)	mg/m³	02 Max
3	Nitrogen dioxide as NO2	IS 5182 (Part 06)	24.4	µg/m³	80 Max
4	Ozone as O3	1S 5182 (Part 09)	BLQ(I <sub>2</sub> OQ:20.0)	μg/m³	180 Max
5	Particulate Matter (PM10)	IS 5182 (Part 23)	66.8	μg/m³	100 Max
6	Particulate Matter (PM2.5)	IS 5182 (Part 24)	27.3	μ <b>g</b> /m³	60 Max
7	Sulphur Dioxide as SO2	IS 5182 (Part 02)	11.9	μg/m³	80 Max
Polyc	yelic Aromatic Hydrocarbous	***************************************			
8	Benzo(a)Pyrene (Particulate Phase)	SMSLA/GS/SOP/06	BLQ(LOQ:0.05)	ng/m³	01 Max
Trace	Metal Elements				*****
9	Arsenic	Compendium Method 10-3,4	BLQ(LOQ:0.1)	ng/m³	06 Max
10	Lead	Compendium Method IO-3.4	BLQ(LOQ:0.001)	με/m³	1.0 Max
11	Nickel	Compendium Method 10-3,4	BLQ(LOQ:0.1)	ng/m³	20 Max
Volati	le Organie Compounds				
12	Benzene	SMSLA/GM/SOP/31	BLQ(LOQ:1.0)	μg/m³	05 Max

: BLQ: Below Limit of Quantification LOQ: Limit of Quantification

Conclusion: The above tested Sample Conforms to the NAAQ Standards for the above tested Parameters.

/\*\*\*\*\*\*\*\*\* End of the Report \*\*\*\*\*\*\*\*\*/

Aminorized Signatury-Chamleri

Laboratory Address: 39/6, Thiruvallur High Road, Puduchatram Post, Thirumazhisai Via, Poonamallee Taluk, Chennai - 600124.

Note: Test results relate only to the items tested. Test Report shall not be reproduced in full or part without the approval of SMS Labs, Non-Perishable remnant samples will be disposed 15 days from the date of receipt unless otherwise agreed with the customer except in case of regulatory samples, which will be retained for a specific period as per regulatory requirements; while perishable and environmental remnant samples will be disposed consequently upon completion of testing. Samples are not drawn by laboratory unless or otherwise stated. A satisfactory test report in no way implies that a product so tested is approved by NABL The Laboratory accepts no fiability with regard to the origin or source from which the sample(s) is/ are said to be extracted,



#### TEST REPORT



TC-6118

ULR - TC611823000042745F

Report No: QEN23120394-04

Page Loft!

Report Date: 28 Dec 2023

Customer Name

M/s. DALMIA CEMENT (BHARAT) LIMITED

Customer Address

SF No: 630, Thamaraikulam Village, Ariyalur, Tamil Nadu - 621705.

Sample Name

Sampling Date & Time : 18 to 19 Dec 2023

Ambient Air Quality Monitoring

09.45 am to 09.45 am

Sample Description

Ambient Air Quality Monitoring

Sample Received on

21 Dec 2023

Reference

Test Request Form Dated 18.12.2023 Laboratory

Test Started on

22 Dec 2023

Sample Drawn By Sample Location

: Near CPP Coal Crusher

Test Completed on

28 Dec 2023

Sample Procedure Relative Humidity 1S 5182 : 68%

Ambient Temperature

:30°C

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s.NO	Parameter	Test Method	Results	Unit	Limit as per NAAQS Specification
Chem	ical .				
1	Ammonia as NI13	IS 5182 (Part 25)	BLQ(LOQ:20.0)	յւց/տ¹	400 Max
2	Carbon Monoxide as CO (8hrs)	IS 5182 (Part 10)	BLQ(LOQ:1.14)	mg/m'	02 Max
3	Nitrogen dioxide as NO2	IS 5182 (Part 06)	18.3	μ <u>α</u> /m³	80 Max
rļ.	Ozone as O3	IS 5182 (Part 09)	BLQ(LOQ:20.0)	μg/m³	180 Max
5 Particulate Matter (PM10)		IS 5182 (Part 23)	57.8	μg/m³	100 Max
6	Particulate Matter (PM2.5)	IS 5182 (Part 24)	23.1	μg/m³	60 Max
7	Sulphur Dioxide as SO2	IS 5182 (Part 02)	8.7	μg/m³	80 Max
Polyc	yelie Aromatic Hydrocarbons				
8	Benzo(a)Pyrene (Particulate Phase)	SMSLA/GS/SOP/06	BLQ(LOQ:0.05)	ng/m³	01 Max
Trace	Metal Elements				
9	Arsenic	Compendium Method 10-3.4	BLQ(LOQ:0.1)	ng/m³	06 Max
10	Lead	Compendium Method IO-3.4	BLQ(LOQ:0.001)	μg/m³	1.0 Max
11	Nickel	Compendium Method 10-3.4	BLQ(LOQ:0.1)	ng/m³	20 Max
Volati	ile Organic Compounds				
12	Benzene	SMSLA/GM/SOP/31	BLQ(LOQ:1.0)	μg/m³	05 Max

: BLQ: Below Limit of Quantification LOQ: Limit of Quantification

Conclusion: The above tested Sample Conforms to the NAAQ Standards for the above tested Parameters.

/\*\*\*\*\*\*\*\*\* End of the Report \*\*\*\*\*\*\*\*\*/

Authorized Signatory-Chemical

Laboratory Address: 39/6, Thiruvallur High Road, Puduchatram Post, Thirumazhisai Via, Poonamallee Taluk, Chennaì - 600124

Note: Test results relate only to the items tested. Test Report shall not be reproduced in full or part without the approval of SMS Labs. Non-Perishable remaint samples will be disposed 15 days from the date of receipt unless otherwise agreed with the customer except in case of regulatory samples, which will be retained for a specific period as per regulatory requirements; while perishable and environmental remnant samples will be disposed consequently upon completion of testing. Samples are not drawn by laboratory unless or otherwise stated. A satisfactory test report in no way implies that a product so tested is approved by NABL The Laboratory accepts no liability with regard to the origin or source from which the sample(s) is/ are said to be extracted



#### TEST REPORT



TC-6118

ULR - TC611823000042751F

Report No: QEN23120394-05

Page Loft

Report Date: 28 Dec 2023

Customer Name

M/s. DALMIA CEMENT (BHARAT) LIMITED

Customer Address

SF No: 630, Thamaraikulam Village, Ariyalur, Tamil Nadu - 621705.

Sample Name

Ambient Air Quality Monitoring

Sampling Date & Time 118 to 19 Dec 2023

10.00 am to 10.00 am

Sample Description

: Ambient Air Quality Monitoring

Sample Received on

121 Dec 2023

Reference

: Test Request Form Dated 18.12.2023

Test Started on

: 22 Dec 2023

Sample Drawn By

Laboratory

Test Completed on

128 Dec 2023

Sample Location

Near 110 KVA Substation

FIS 5182

Sample Procedure Relative Humidity

: 68%

Ambient Temperature

:30°C

#### TEST RESULTS

S.NO	Parameter	- Test Method	Results	Unit	Limit as per NAAQ! Specification
Chem	ical				
1	Ammonia as NH3	IS 5182 (Part 25)	BLQ(LOQ:20.0)	μg/m³	400 Max
2	Carbon Monoxide as CO (8hrs)	IS 5182 (Part 10)	BLQ(LOQ:1.14)	mg/m³	02 Max
3	Nitrogen dioxide as NO2	IS 5182 (Part 06)	20.3	μg/m³	80 Max
4	Ozone as O3	IS 5182 (Part 09)	BLQ(LOQ:20.0)	μg/m³	180 Max
5	Particulate Matter (PM10)	IS 5182 (Part 23).	62.9	μg/in³	100 Max
6	Particulate Matter (PM2.5)	IS 5182 (Part 24)	25.5	µg/m³	60 Max
7	Sulphur Dioxide as SO2	IS 5182 (Part 02)	9,5	μg/m³	80 Max
Polycy	gelic Aromatic Hydrocarbons	16-11-11-11-11-11-11-11-11-11-11-11-11-1			
8	Benzo(a)Pyrene (Particulate Phase)	SMSLA/GS/SOP/06	B1.Q(LOQ:0.05)	ng/m³	01 Max
Trace	Metal Elements				
9	Arsenic	Compendium Method 10-3.4	BLQ(LOQ:0,1)	ng/m³	06 Max
10	Lead	Compendium Method 10-3.4	BLQ(LOQ:0.001)	μg/m³	I 0 Max
11	Nickel	Compendium Method 10-3.4	BLQ(LOQ:0.1)	ng/m³	20 Max
Volati	le Organie Compounds				
12	Benzene	SMSLA/GM/SOP/31	BLQ(LOQ:1.0)	μg/m³	05 Max

: BLQ: Below Limit of Quantification LOQ; Limit of Quantification

Conclusion: The above tested Sample Conforms to the NAAQ Standards for the above tested Parameters.

/\*\*\*\*\*\*\*\* End of the Report \*\*\*\*\*\*\*\*\*/

and other signment. Ore sind

Laboratory Address: 39/6, Thiruvallur High Road, Puduchatram Post, Thirumazhisai Via, Poonamallee Taluk, Chennai - 600124

Note: Test results relate only to the items tested. Test Report shall not be reproduced in full or part without the approval of SMS Labs. Non-Perishable remnant samples will be disposed 15 days from the date of receipt unless otherwise agreed with the customer except in case of regulatory samples, which will be retained for a specific period as per regulatory requirements; white perishable and environmental remnant samples will be disposed consequently upon completion of testing. Samples are not drawn by laboratory unless or otherwise stated. A satisfactory test report in no way implies that a product so tested is approved by NABL The Laboratory accepts no liability with regard to the origin or source from which the sample(s) is/ are said to be extracted.



#### TEST REPORT



TC-6118

ULR - TC611823000042752F

Report No: QEN23120394-06

Page Loft

Report Date: 28 Dec 2023

Customer Name

M/s. DALMIA CEMENT (BHARAT) LIMITED

Customer Address

\* SF No: 630, Thamaraikulam Village, Ariyalur, Tamil Nadu - 621705.

Sample Name

& Ambient Air Quality Monitoring

Sampling Date & Time #18 to 19 Dec 2023

10,15 am to 10.15 am

Sample Description

Sample Received on

: 21 Dec 2023

Reference

: Ambient Air Quality Monitoring : Test Request Form Dated 18.12.2023

Test Started on

122 Dec 2023

Sample Drawn By

; Laboratory

Test Completed on

128 Dec 2023

Sample Location

: Near O & M Colony

Sample Procedure

: IS 5182

Relative Humidity : 68% Ambient Temperature

#### TEST RESULTS

S.NO	Parameter	Test Method	Results	Unit	Limit as per NAAQS Specification
Chem	ical				
Ĭ.	Ammonia as NH3	IS 5182 (Part 25)	BLQ(LOQ:20.0)	μg/m³	400 Max
2	Carbon Monoxide as CO (8hrs)	IS 5182 (Part 10)	BLQ(LOQ:1.14)	mg/m³	02 Max
3	Nitrogen dioxide as NO2	IS 5182 (Part 06)	19,2	μg/m³	80 Max
4	Ozone us O3	IS 5182 (Part 09)	BLQ(LOQ:20.0)	μg/m³	180 Max
5	Particulate Matter (PM10)	IS 5182 (Part 23)	58.8	μg/m³	100 Max
6	Particulate Matter (PM2.5)	ticulate Matter (PM2.5) IS 5182 (Part 24)		μg/m³	60 Max
7	Sulphur Dioxide as SO2	IS 5182 (Part 02)	10.0	μg/m³	80 Max
Polyc	yelic Aromatic Hydrocarbons				
8	Benzo(a)Pyrene (Particulate Phase)	SMSLA/GS/SOP/06	BLQ(LOQ:0.05)	ng/m³	01 Max
Trace	Metal Elements				
9	Arsenic	Compendium Method IO-3.4	BLQ(LOQ:0.1)	ng/m³	06 Max
10	Lead	Compendium Method 10-3,4	BLQ(LOQ:0.001)	μg/m³	1.0 Max
. []	Nickel	Compendium Method IO-3.4	BLQ(LOQ:0.1)	ng/m³	20 Max
Volati	ile Organic Compounds				
12	Benzene	SMSLA/GM/SOP/31	BLQ(LQQ:1.0)	μg/m³	05 Max

: BLQ: Below Limit of Quantification LOQ: Limit of Quantification

Conclusion: The above tested Sample Conforms to the NAAQ Standards for the above tested Parameters.

/\*\*\*\*\*\*\*\* End of the Report \*\*\*\*\*\*\*\*\*/

Anthorized Signerouy-Citemical

Laboratory Address: 39/6, Thiruvallur High Road, Puduchatram Post, Thirumazhisai Via, Poonamallee Taluk, Chennai - 600124.

Note: Test results relate only to the items tested. Test Report shall not be reproduced in full or part without the approval of SMS Labs. Non-Perishable remnant samples will be disposed 15 days from the date of receipt unless otherwise agreed with the customer except in case of regulatory samples, which will be retained for a specific period as per regulatory requirements; while perishable and environmental remnant samples will be disposed consequently upon completion of testing. Samples are not drawn by laboratory unless or otherwise stated. A satisfactory test report in no way implies that a product so tested is approved by NABL The Laboratory accepts no liability with regard to the origin or source from which the sample(s) is/ are said to be extracted.



#### TEST REPORT



TC-6118

ULR - TC611823000042754F

Report No: QEN23120394-07

Page 1 of 1

Report Date: 28 Dec 2023

Customer Name

M/s. DALMIA CEMENT (BHARAT) LIMITED

Customer Address

SF No: 630, Thamaraíkulam Village, Ariyalur, Tamil Nadu - 621705.

Sample Name

Ambient Air Quality Monitoring

Sampling Date & Time | 18 to 19 Dec 2023

10.30 am to 10.30 am

Sample Description

Sample Received on

121 Dec 2023

Reference

Ambient Air Quality Monitoring

Test Started on

22 Dec 2023

Sample Drawn By

\* Test Request Form Dated 18.12.2023

: Laboratory

Test Completed on

3 28 Dec 2023

Sample Location Sample Procedure Near Scrap Yard

Ambient Temperature

:30°C

Relative Humidity

3 IS 5182 68%

		TEST RESULTS			
S.NO	Parameter	Test Method	Results	Unit	Limit as per NAAQS Specification
Chem	ical				
1	Ammonia as N113	1S 5182 (Part 25)	BLQ(LOQ:20.0)	μg/m³	400 Max
2	Carbon Monoxide as CO (8hrs)	JS 5182 (Part 10)	BLQ(LOQ:1.14)	mg/m²	02 Max
3	Nitrogen dioxide as NO2	IS 5182 (Part 06)	24.9	μg/m³	80 Max
4	Ozone as O3	IS 5182 (Part 09)	BLQ(LOQ:20.0)	μg/m³	180 Max
5	Particulate Matter (PM10)	1S 5182 (Part 23)	66.8	μg/m³	100 Max
6	Particulate Matter (PM2.5)	IS 5182 (Part 24)	27.3	μg/m³	60 Max
7	Sulphur Dioxide as SO2	1S 5182 (Part 02)	12.8	μg/m³	80 Max
Polycy	clic Aromatic Hydrocarbons	··············			
8	Benzo(a)Pyrene (Particulate Phase)	SMSLA/GS/SOP/06	DLQ(LOQ:0.05)	ng/m³	01 Max
Trace	Metal Elements			1	
9	Arsenic	Compendium Method 1O-3.4	BLQ(1.0Q:0.1)	ng/m³	06 Max
10	Lead	Compendium Method IO-3.4	BLQ(LOQ:0.001)	μg/m³	1.0 Max
.11	Nickel	Compendium Method IO-3.4	BLQ(LOQ:0.1)	ng/m³	20 Max
Volati	le Organic Compounds				
12	Benzene	SMSLA/GM/SOP/31	BLQ(LOQ:1.0)	րց/տյ	05 Max

: BLQ: Below Limit of Quantification LOQ: Limit of Quantification

Conclusion: The above tested Sample Conforms to the NAAQ Standards for the above tested Parameters.

/\*\*\*\*\*\*\*\*\* End of the Report \*\*\*\*\*\*\*\*\*\*\*/

M. Carrothitumar Authorized Signmary-Charattal

Laboratory Address: 39/6, Thiruvallur High Road, Puduchatram Post, Thirumazhisai Via, Poonamallee Taluk, Chennai - 600124

Note: Test results relate only to the items tested. Test Report shall not be reproduced in full or part without the approval of SMS Labs. Non-Perishable remnant samples will be disposed 15 days from the date of receipt unless otherwise agreed with the customer except in case of regulatory samples, which will be retained for a specific period as per regulatory requirements; while perishable and environmental remnant samples will be disposed consequently upon completion of testing. Samples are not drawn by laboratory unless or otherwise stated. A satisfactory test report in no way implies that a product so tested is approved by NABL The Laboratory accepts no liability with regard to the origin or source from which the sample(s) is/ are said to be extracted.



### TEST REPORT



TC-6118

ULR - TC611823000042755F

Report No: QEN23120394-08

Page Lof1

Report Date: 28 Dec 2023

Customer Name

M/s. DALMIA CEMENT (BHARAT) LIMITED

Customer Address

SF No: 630, Thamaraikulam Village, Ariyalur, Tamil Nadu - 621705.

Sample Name

Ambient Air Quality Monitoring

Sampling Date & Time | 18 to 19 Dec 2023

Ambient Air Quality Monitoring

Sample Received on

10.45 am to 10.45 am

Sample Description

£21 Dec 2023

Reference

Test Request Form Dated 18,12,2023

Test Started on

: 22 Dec 2023

Sample Drawn By

# Laboratory

Test Completed on

: 28 Dec 2023

Sample Location Sample Procedure \* Near Circular Stacker

IS 5182

: 68%

Ambient Temperature

:30°C

Relative Humidity

#### TEST RESULTS

s.no	Parameter	Test Method	Results	Unit	Limit as per NAAQS Specification
Chem	icat	****			
1	Ammonia as NH3	IS 5182 (Part 25)	BLQ(LOQ:20.0)	μg/m³	400 Max
2	Curbon Monoxide as CO (8hrs)	IS 5182 (Part 10)	BLQ(LOQ:1.14)	ເກຍ∕m¹	02 Max
3	Nitrogen dioxide as NO2	IS 5182 (Part 06)	21.9	μg/m³	80 Max
4	Ozone as O3	IS 5182 (Part 09)	BLQ(LOQ:20.0)	μg/m³	180 Max
5	Particulate Matter (PM10)	IS 5182 (Part 23)	62.8	μg/m³	100 Max
6	Particulate Matter (PM2.5)	IS 5182 (Part 24)	25.8	μg/m³	60 Max
7	Sulphur Dioxide as SO2	IS 5182 (Part 02)	10.9	μg/m³	80 Max
Polyc	yelic Aromatic Hydrocarbons				
8	Benzo(a)Pyrene (Particulate Phase)	SMSLA/GS/SOP/06	BLQ(LOQ:0.05)	ng/m³	01 Max
Trace	Metal Elements				
9	Arsenic	Compendium Method IO-3,4	BLQ(LOQ:0.1)	ng/m³	06 Max
10	1.ead	Compendium Method IO-3.4	BLQ(LOQ:0.001)	μg/m³	1.0 Max
11	Nickel	Compendium Method IO-3,4	BLQ(LOQ:0.1)	ng/m³	20 Max
Volati	le Organic Compounds				
12	Benzene	SMSLA/GM/SOP/31	BLQ(LOQ:1.0)	μg/m³	05 Max

: BLQ: Below Limit of Quantification LOQ: Limit of Quantification

Conclusion: The above tested Sample Conforms to the NAAQ Standards for the above tested Parameters.

/\*\*\*\*\*\*\*\* End of the Report \*\*\*\*\*\*\*\*\*/

M. C.

Laboratory Address: 39/6, Thiruvallur High Road, Puduchatram Post, Thirumazhisaí Via, Poonamallee Taluk, Chennai - 600124.

Note: Test results relate only to the items tested. Test Report shall not be reproduced in full or part without the approval of SMS Labs. Non-Perishable remnant samples will be disposed 15 days from the date of receipt unless otherwise agreed with the customer except in case of regulatory samples, which will be retained for a specific period as per regulatory requirements; while perishable and environmental remnant samples will be disposed consequently upon completion of testing. Samples are not drawn by Jaboratory unless or otherwise stated, A satisfactory test report in no way implies that a product so tested is approved by NABL The Laboratory accepts no liability with regard to the origin or source from which the sample(s) is/ are said to be extracted.



#### TEST REPORT



TC-6118

ULR - TC611823000042756F

Report No: QEN23120394-09 to 16

Page 1 of 1

Report Date: 28 Dec 2023

Customer Name

m/s. DALMIA CEMENT (BHARAT) LIMITED

Customer Address

SF No: 630, Thamaraikulam Village, Ariyalur, Tamil Nadu - 621705.

Sample Name

Fugitive Emission Monitoring

Sampling Date

18 to 19 Dec 2023

Sample Description

# Fugitive Emission Monitoring

Sample Received on

1 21 Dec 2023

Reference

Test Request Form Dated 18,12,2023

Test Started on

3 22 Dec 2023

Sample Drawn By

1 Laboratory

Test Completed on

28 Dec 2023

#### TEST RESULTS

	Parameters									Locatio	ins			
S. No		Test Method	Unit	Crusher	Cont Stacker	AFR Location	Packing Plant	Raw Mill	Cement Mill	CPP Boiler	CPP Cont Crusher			
1.	Respirable Suspended Particulate Matter	NIOSH 600	mg/m³	0.064	0.058	0.069	0.061	0.067	0.058	0.063	0.075			

/\*\*\*\*\*\*\*\*\*\* End of the Report \*\*\*\*\*\*\*\*/

M. Carathicumar Anthorized Signatory-Chemical



### TEST REPORT



TC-6118

ULR - TC611824000003450F

Report No: QEN23120392-01

Page Lof 2

Report Date: 24 Jan 2024

Customer Name

: M/s. DALMIA CEMENTS (BHARAT) LIMITED

Customer Address

: SF No: 630, Thamaraikulam Village, Ariyalur, Tamil Nadu - 621705.

Sample Description

: Stack Monitoring

Sampling Date

: 19 Dec 2023

Reference

: Test Request Form Dated 19.12.2023

Sample Received on

121 Dec 2023

Sample Drawn By

: Laboratory

22 Dec 2023

Test Started on

Sample Location

: Kiln Raw Mill

Test Completed on

23 Jan 2024

Sample Procedure

: 1S 11255 & SMSLA/EN/SOP/046

Ambient Temperature

:31°C

Diameter of Stack (m)

: 4.5 m

#### TEST RESULTS

s.no	Parameter	Test Method	Unit	Results	(*Values are Corrected in 10% O2 level)	Limit as per CPCI Specification					
Anion	S										
1	HCI	EPA 26A	mg/m³	BLQ(LOQ:0.02)		10 Max					
2	HE	EPA 26A	mg/m³	BLQ(LOQ:0.02)		1 Max					
Chem	ical										
3	Carbon Dioxide as CO2	SMSLA/EN/SOP/017	%	5.9							
4	Carbon Monoxide as CO	SMSLA/EN/SOP/017	mg/Nm3	99							
5	Nitrogen Oxides as Nox	SMSLA/EN/SOP/017	mg/Nm3	251	301*	800 Max					
6	Oxygen as O2	SMSLA/EN/SOP/017	%	11.8	-	**					
7	Particulate Matter	IS 11255 (Part 01)	mg/Nm3	15.4	18.4*	30 Max					
8	Stack temperature	IS 11255 (Part 03)	К	367	364						
9	Sulphur Dioxide as SO2	IS 11255 (Part 02)	mg/Nm3	BLQ(1.OQ:3.0)	BLQ(LOQ:3.0)*	100 Max					
10	TOC	SMSLA/EN/SOP/018	mg/m³	BLQ(LOQ:0.1)		10 Max					
11	Velocity	EPA 1-3	m/s	12,0	**	**					
12	Volume of Gas Discharged	IS 11255 (Part 03)	Nm3/Hr	544467	**	**					
Trace	Metal Elements										
13	Antimony	EPA - 29	mg/m³	BLQ(LOQ:0.00002)	••						
14	Arsenie	EPA - 29	mg/m³	BLQ(LOQ:0.00002)	**						
15	Barium	EPA - 29	mg/m³	BLQ(LOQ:0.00002)	-	)##x					
16	Cadmium	EPA - 29	mg/m³	BLQ(LOQ:0.00002)	·						
17	Cd+TI + their Compounds	EPA - 29	mg/m³	BLQ(LOQ:0.00002)	\$ TT.	0.05 Max					
18	Chromium	EPA - 29	mg/m³	BLQ(LOQ:0.00002)	***						

K. Elakkiyathasan Authorized Signatory-Chemical

M. Sarathkumar Authorized Signatory-Chemical

Laboratory Address: 39/6, Thiruvallur High Road, Puduchatram Post, Thirumazhisai Via, Poonamallee Taluk, Chennai - 600124.

Note: Test results relate only to the items tested. Test Report shall not be reproduced in full or part without the approval of SMS Labs, Non-Perishable remnant samples will be disposed 15 days from the date of receipt unless otherwise agreed with the customer except in case of regulatory samples, which will be retained for a specific period as per regulatory requirements; while perishable and environmental remnant samples will be disposed consequently upon completion of testing. Samples are not drawn by laboratory unless or otherwise stated. A satisfactory test report in no way implies that a product so tested is approved by NABL. The Laboratory accepts no liability with regard to the origin or source from which the sample(s) is/ are said to be extracted



### **TEST REPORT**



TC-6118

ULR - TC611824000003450F

Report No: QEN23120392-01

Page 2 of 2

Report Date: 24 Jan 2024

s.no	Parameter	Test Method	Unit	Results	(*Values are Corrected in 10% O2 level)	Limit as per CPCB Specification
19	Cobalt	EPA - 29	mg/m³	BLQ(LOQ:0.00002)		m/.
20	Copper	EPA - 29	mg/m³	BLQ(LOQ:0.00002)		-
2.1	Lead	EPA - 29	mg/m³	BLQ(LOQ:0.00002)	-	247
22	Manganese	EPA - 29	itig/m³	BLQ(LOQ:0.00002)		
23	Mercury	EPA - 29	mg/m³	BLQ(LOQ:0,00002)		0.05 Max
24	Nickel	EPA - 29	mg/m³	DLQ(LOQ:0.00002)	144	**
25	Sb+As+Pb+Cr+Co+Cu+Mn+Ni+V+	EPA - 29	mg/m³	BLQ(LOQ:0.00002)		0.5 Max.
26	Titanium	EPA - 29	mg/m²	BLQ(LOQ:0.00002)	**	#2
27	Vanadium	EPA - 29	mg/m³	BLQ(LOQ:0.00002)	3##	He .
28	Hg and its compounds	El'A - 29	mg/m³	BLQ(LOQ:0.00002)	(44	**

Note: BLO: Below Limit of Quantification LOQ: Limit of Quantification.

Conclusion: The above tested Sample Conforms to the CPCB Standards for the above tested Parameters.

/\*\*\*\*\*\*\* End of the Report \*\*\*\*\*\*\*\*/

K. Elakkiyathasan Authorized Signatory-Chemical



#### **TEST REPORT**

Page 1 of 2

Report Date: 24 Jan 2024

Report No: QEN23120392-01

Customer Name

# M/s. DALMIA CEMENTS (BHARAT) LIMITED

Customer Address

F SF No: 630, Thamaraikulam Village, Ariyalur, Tamil Nadu - 621705.

Sample Description

# Stack Monitoring

Sampling Date

: 19 Dec 2023

Reference

Frest Request Form Dated 19.12.2023

Sample Received on

21 Dec 2023

Test Started on

: 22 Dec 2023

Sample Drawn By

Laboratory

Sample Location

# Kitn Raw Mill

Test Completed on

£23 Jan 2024

Sample Procedure

18 11255 & SMSLA/EN/SOP/046

Diameter of Stack (m)

🤰 4.5 m

Ambient Temperature

:31°C

#### TEST RESULTS

Parameter	Protocol	Results	Limit as per CPCB	
Díoxin & Furan at Effective Oxygen Level	USEPA 23A/QA,16.4.73	< 0.01 ng TEQ/Nm3	NA	
Dioxin & Furan at 10% Oxygen		< 0.01 ng TEQ/Nm3	0.1 ng TEQ/Nm3	

Note 1: Dioxin Analysis was subcontracted to INSTITUTE FOR APPLIED CHROMATOGRAPHY, EFRAC Kolkata. Levels of 17 congeners are enclosed as Annexure - 1

M.S.g

M. Sarathkumar Authorized Signatory-Chemical

Laboratory Address; 39/6, Thiruvallur High Road, Puduchatram Post, Thirumazhisai Via, Poonamallee Taluk, Chennai - 600124.

Note: Test results relate only to the items tested. Test Report shall not be reproduced in full or part without the approval of SMS Labs. Non-Perishable remnant samples will be disposed 15 days from the date of receipt unless otherwise agreed with the customer except in case of regulatory samples, which will be retained for a specific period as per regulatory requirements; while perishable and environmental remnant samples will be disposed consequently upon completion of testing. Samples are not drawn by laboratory unless or otherwise stated. A satisfactory test report in no way implies that a product so tested is approved by NABL. The Laboratory accepts no liability with regard to the origin or source from which the sample(s) is/ are said to be extracted.



#### TEST REPORT

Report No : QEN23120392-01

Page 2 of 2 Report Date: 24 Jan 2024

Parameter	Uom	Method	Results
1,2,3,4,6,7,8- Heptachlorodibenzo-p- dioxin	ng,TEQ	USEPA 23A/QA.16.4,73	<0.00024
1,2.3,4,7,8- Hexachlorodibenzo-p-diexin	ng.TEQ	USEPA 23A/QA.16 4.73	<0.0024
1,2,3,7,8,9- Hexachlorodibenzo-p-dioxin	ng, TEQ	USEPA 23A/QA,16 4.73	<0.0024
1,2,3,7,8- Pentachlorodibenzo-p-dioxin	ng, l'EQ	USEPA 23A/QA,16.4.73	<0.024
2,3,7,8-Tetrachlorodibenzo- p-dioxin	ng.TEQ	USEPA 23A/QA,16.4,73	<0.005
1,2,3,6,7,8- Hexachlorodibenzo-p-dioxin	ng,TEQ	USEPA 23A/QA.16.4,73	<0.0024
Octachlorodibenzo-p-dioxin	ng,TEQ	USEPA 23A/QA_16,4.73	<0.000015
2,3,4,7,8- Pentachlorodibenzofuran	ng,TEQ	USEPA 23A/QA.16.4.73	<0.0072
1,2,3,4,6,7,8- Heptachlorodibenzofuran	ng,TEQ	USEPA 23A/QA 16.4.73	<0.00024
1,2,3,4,7,8,9- Heptachlorodibenzofuran	ng,TEQ	USEPA 23A/QA.16.4.73	<0.00024
1,2,3,4,7,8- Hexachlorodibenzofuran	ng,TEQ	USEPA 23A/QA.16.4.73	<0.0024
1,2,3,6,7,8- Hexachlorodibenzofuran	ng TEQ	USEPA 23A/QA 16.4.73	<0,0024
1,2,3,7,8,9- Hexachlorodibenzofuran	ng TEQ	USEPA 23A/QA.16.4.73	<0.0024
1,2,3,7,8- Pentachlorodibenzofuran	ng TEQ	USEPA 23A/QA.16.4.73	<0 00072
2,3,4,6,7,8- Hexachlorodibenzofuran	ng,TEQ	USEPA 23A/QA.16.4.73	<0.0024
2,3,7,8- "l'etrachlorodibenzofuran	ng,TEQ	USEPA 23A/QA,16.4.73	<0.0005
Octachlorodibenzofuran	ng.TEQ	USEPA 23A/QA 16.4.73	<0.000015

Note : UOM:Unit of Measurement TEQ:Toxicity Equivalent.

Conclusion: The above tested Sample Conforms to the CPCB Standards for the above tested Parameters.

/\*\*\*\*\*\*\*\* End of the Report \*\*\*\*\*\*\*\*\*/

MICIE

M. Sarathkumar Authorized Signatory-Chemical

Laboratory Address: 39/6, Thiruvallur High Road, Puduchatram Post, Thirumazhisai Via, Poonamallee Taluk, Chennai - 600124.

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#### TEST REPORT



TC-6118

ULR - TC611823000042771F

Report No: QEN23120394-18

Page Loft

Report Date: 28 Dec 2023

Customer Name

§ M/s. DALMIA CEMENT (BHARAT) LIMITED

Customer Address

SF No: 630, Thamaraikulam Village, Ariyalur, Tamil Nadu - 621705.

Sample Description

Stack Emission Monitoring

Sampling Date

#18 Dec 2023

Reference

: Test Request Form Dated 18,12,2023

Sample Received on

: 21 Dec 2023

Sample Drawn By

Laboratory

Test Started on

: 22 Dec 2023

Sample Location

Cement Mill (OPC)

Test Completed on

# IS 11255 & SMSLA/EN/SOP/017

28 Dec 2023

Sample Procedure

Ambient Temperature

:28°C

Diameter of Stack (m)

: 2.8 m

#### TEST RESULTS

S.NO	Parameter	Test Method	Vait	Results	Limit as per CPCB
Chem	ical		-		
1	Carbon Dioxide as CO2	SMSLA/EN/SOP/017	%	0.2	
2	Carbon Monoxide as CO	SMSLA/EN/SOP/017	mg/Nm3	BLQ(LOQ:1,14)	,
3	Moisture Content	EPA 1-3	%	2.7	
4	Nitrogen Oxides as Nox	SMSLA/EN/SOP/017	mg/Nm3	BLQ(LOQ:2.0)	
5	Oxygen as O2	SMSLA/EN/SOP/017	%	20,6	
6	Particulate Matter	IS 11255 (Part 01)	mg/Nm3	27,3	30 Max
7	Stack temperature	IS 11255 (Part 03)	K	348	
8	Sulphur Dioxide as SO2	IS 11255 (Part 02)	mg/Nm3	BLQ(LOQ:3.0)	
9	Velocity	EPA 1-3	m/s	12.5	**
10	Volume of Gas Discharged	IS 11255 (Part 03)	Nm3/Ur	233443	

: BLQ: Below Limit of Quantification LOQ: Limit of Quantification.

Conclusion: The above tested Sample Conforms to the CPCB Standards for the above tested Parameters.

/\*\*\*\*\*\*\*\*\* End of the Report \*\*\*\*\*\*\*\*\*/

Anthorized Signatory-Chemier

Laboratory Address: 39/6, Thiruvallur High Road, Puduchatram Post, Thirumazhisai Via, Poonarnallee Taluk, Chennai - 600124.

Note: Test results relate only to the items tested. Test Report shall not be reproduced in full or part without the approval of SMS Labs. Non-Perishable remnant samples will be disposed 15 days from the date of receipt unless otherwise agreed with the customer except in case of regulatory samples, which will be retained for a specific period as per regulatory requirements; while perishable and environmental remnant samples will be disposed consequently upon completion of testing. Samples are not drawn by laboratory unless or otherwise stated. A satisfactory test report in no way implies that a product so tested is approved by NABL The Laboratory accepts no liability with regard to the origin or source from which the sample(s) is/ are said to be extracted,



#### TEST REPORT



TC-6118

ULR - TC611823000042774F

Report No: QEN23120394-19

Page Lof 1

Report Date: 28 Dec 2023

Customer Name

E M/s. DALMIA CEMENT (BHARAT) LIMITED

Customer Address

SF No: 630, Thamaraikulam Village, Ariyalur, Tamil Nadu - 621705.

Sample Description

# Stack Emission Monitoring

Sampling Date

18 Dec 2023

Reference

# Test Request Form Dated 18.12,2023

Sample Received on

21 Dec 2023

Laboratory

Test Started on

22 Dec 2023

Sample Drawn By

ESP Cooler Stack

Test Completed on

:28 Dec 2023

Sample Location

# IS 11255 & SMSLA/EN/SOP/017

Sample Procedure Diameter of Stack (m)

≗ 3.5 m

Ambient Temperature

:29°C

#### TEST RESULTS

S.NO	Parameter	Test Method	Unit	Results	Limit as per CPCB
Chem	ical				
1	Carbon Dioxide as CO2	SMSLA/EN/SOP/017	%	0,3	
2.	Carbon Monoxide as CO	SMSUA/EN/SOP/017	mg/Nm3	BLQ(LOQ:1.14)	
3	Moisture Content	EPA 1-3	%	Less than 1.0	
4	Nitrogen Oxides as Nox	SMSLA/EN/SOP/017	mg/Nm3	BLQ(LOQ:2.0)	
5	Oxygen as O2	SMSLA/EN/SOP/017	%	20.5	
6	Particulate Matter	IS 11255 (Part 01)	mg/Nm3	13.6	30 Max
7	Stack temperature	IS 11255 (Part 03)	K	549	966
8	Sulphur Dioxide as SO2	IS 11255 (Part 02)	mg/Nm3	BLQ(LOQ:3.0)	
9	Velocity	EPA 1-3	m/s	15.4	128
10	Volume of Gas Discharged	IS 11255 (Part 03)	Nm3/Hr	284471	355

: BLQ: Below Limit of Quantification LOQ: Limit of Quantification.

Conclusion: The above tested Sample Conforms to the CPCB Standards for the above tested Parameters,

/\*\*\*\*\*\*\*\*\* End of the Report \*\*\*\*\*\*\*\*\*/

Antihorized Signatory-Chemical



#### TEST REPORT



TC-6118

ULR - TC611823000042778F

Report No: QEN23120394-20

Page Loft

Report Date: 28 Dec 2023

Customer Name

# M/s. DALMIA CEMENT (BHARAT) LIMITED

Customer Address

SF No: 630, Thamaraikulam Village, Ariyalur, Tamil Nadu - 621705.

Sample Description

5 Stack Emission Monitoring

Sampling Date

18 Dec 2023

Reference

Sample Received on

21 Dec 2023

Sample Drawn By

Test Request Form Dated 18.12.2023

: Laboratory

Test Started on

22 Dec 2023

Sample Location

Packing Plant - 1

Test Completed on

: 28 Dec 2023

Sample Procedure Diameter of Stack (m)

IS 11255 & SMSLA/EN/SOP/017 .: 0.8 m

Ambient Temperature

:32°C

#### TEST RESULTS

S.NO	Parameter	Test Method	Unit	Results	Limit as per CPCII
Chem	ical				
15	Carbon Dioxide as CO2	SMSLA/EN/SOP/017	%	Less than 0.1	**
2	Carbon Monoxide as CO	SMSLA/EN/SOP/017	mg/Nm3	Bl.Q(LOQ:1.14)	**
3	Moisture Content	EPA 1-3	9/4	Less than 1.0	+=:
4	Nitrogen Oxides as Nox	SMSLA/EN/SOP/017	mg/Nm3	BLQ(LOQ:2.0)	**
5	Oxygen as O2	SMSLA/EN/SOP/017	1/4	20.6	
6	Particulate Matter	IS 11255 (Part 01)	mg/Nm3	11.3	30 Max
7	Stack temperature	IS 11255 (Part 03)	К	307	+-
8	Sulphur Dioxide as SO2	IS 11255 (Part 02)	mg/Nm3	BLQ(LOQ:3.0)	
9	Velocity	EPA 1-3	m/s	14.9	¥*
10	Volume of Gas Discharged	IS 11255 (Part 03)	Nm3/Hr	25682	200

: BLQ: Below Limit of Quantification LOQ: Limit of Quantification.

Conclusion: The above tested Sample Conforms to the CPCB Standards for the above tested Parameters.

/\*\*\*\*\*\*\* End of the Report \*\*\*\*\*\*\*\*\*/

M.C. J. M. Sove'hlouseer A minorhed Signatory-Chemical

Laboratory Address: 39/6, Thiravallur High Road, Puduchatram Post, Thiramazhisai Via, Poonamallee Taluk, Chennai - 600124.

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#### **TEST REPORT**



TC-6118

ULR - TC611823000042780F

Report No: QEN23120394-21

Page t of 1

Report Date: 28 Dec 2023

Customer Name

M/s, DALMIA CEMENT (BHARAT) LIMITED

Customer Address

SF No: 630, Thamaraikulam Village, Ariyalur, Tamil Nadu - 621705.

Sample Description

: Stack Emission Monitoring

Sampling Date

18 Dec 2023

Reference

: Test Request Form Dated 18.12.2023

Sample Received on

21 Dec 2023

Sample Drawn By

Test Started on

22 Dec 2023

: Laboratory

Sample Location

: Packing Plant - 2

Test Completed on

28 Dec 2023

Sample Procedure

; IS 11255 & SMSLA/EN/SOP/017

Diameter of Stack (m)

: 0.8 m

Ambient Temperature

:31°C

#### TEST RESULTS

S.NO	Parameter	Test Method	Unit	Results	Limit as per CPCB
Chem	ical	.00			1
1	Carbon Dioxide as CO2	SMSLA/EN/SOP/017	%	Less than 0,1	55
2	Carbon Monoxide as CO	SMSLA/EN/SOP/017	mg/Nm3	BLQ(LOQ:1.14)	-
3	Moisture Content	EPA 1-3	%	Less than 1.0	
4	Nitrogen Oxides as Nox	SMSLA/EN/SOP/017	mg/Nm3	BLQ(I.OQ:2.0)	267
5	Oxygen as O2	SMSLA/EN/SOP/017	%	20.3	\$£1
6	Particulate Matter	-1S 11255 (Part 01)	mg/Nm3	12.4	30 Max
7	Stack temperature	IS 11255 (Part 03)	K	302	99
8	Sulphur Dioxide as SO2	(S 11255 (Part 02)	mg/Nm3	BLQ(LOQ:3.0)	-
9	Velocity	EPA 1-3	m/s	14.1	
10	Volume of Gas Discharged	IS 11255 (Part 03)	Nm3/Hr	24705	**

: BLQ: Below Limit of Quantification LOQ: Limit of Quantification.

Conclusion: The above tested Sample Conforms to the CPCB Standards for the above tested Parameters

/\*\*\*\*\*\*\*\* End of the Report \*\*\*\*\*\*\*\*\*/

Authorized Signatory-Chemical

Laboratory Address: 39/6, Thiruvallur High Road, Puduchatram Post, Thirumazhisai Via, Poonamatlee Taluk, Chennai - 600124.

Note: Test results relate only to the items tested. Test Report shall not be reproduced in full or part without the approval of SMS Labs. Non-Perishable remnant samples will be disposed 15 days from the date of receipt unless otherwise agreed with the customer except in case of regulatory samples, which will be retained for a specific period as per regulatory requirements; while perishable and environmental remnant samples will be disposed consequently upon completion of testing. Samples are not drawn by laboratory unless or otherwise stated. A satisfactory test report in no way implies that a product so tested is approved by NABL The Laboratory accepts no liability with regard to the origin or source from which the sample(s) is/ are said to be extracted.



#### TEST REPORT



ULR - TC611823000042782F

Report No: QEN23120394-22

Page Loft

Report Date: 28 Dec 2023

Customer Name

M/s. DALMIA CEMENT (BHARAT) LIMITED

Customer Address

SF No: 630, Thamaraikulam Village, Ariyalur, Tamil Nadu - 621705.

Sample Description

Stack Emission Monitoring

Sampling Date

118 Dec 2023

Reference

Test Request Form Dated 18.12.2023

Sample Received on

#21 Dec 2023

# 22 Dec 2023

Sample Drawn By

Laboratory

Test Started on

Sample Location

Packing Plant - 3

Test Completed on

:: 28 Dec 2023

Sample Procedure

: IS 11255 & SMSLA/EN/SOP/017

Diameter of Stack (m)

: 0.8 m

Ambient Temperature

:29°C

#### TEST RESULTS

S.NO	Parameter	Test Method	Unit	Results	Limit as per CPCE
Chem	ical				
1	Carbon Dioxide as CO2	SMSLA/EN/SOP/017	%	Less than 0.1	
2	Carbon Monoxide as CO	SMSLA/EN/SOP/017	mg/Nm3	BLQ(LOQ:1:14)	144
3	Moisture Content	EPA 1-3	%	Less than 1.0	277
4	Nitrogen Oxides as Nox	SMSLA/EN/SOP/017	mg/Nm3	BLQ(LOQ:2.0)	377
5	Oxygen as O2	SMSUA/EN/SOP/017	%	20.7	
6	Particulate Matter	IS 11255 (Part 01)	mg/Nm3	18.3	30 Max
7	Stack temperature	1S 11255 (Part 03)	K	303	
8	Sulphur Dioxide as SO2	IS 11255 (Part 02)	mg/Nm3	BLQ(LOQ:3.0)	
9	Velocity	EPA 1-3	m/s	14.8	
10	Volume of Gas Discharged	IS 11255 (Part 03)	Nm3/Hr	25847	/##

: BLQ: Below Limit of Quantification LOQ: Limit of Quantification

Conclusion: The above tested Sample Conforms to the CPCB Standards for the above tested Parameters.

/\*\*\*\*\*\*\* End of the Report \*\*\*\*\*\*\*\*\*/

Anthorized Signatory-Chamberl

Laboratory Address: 39/6, Thiruvallur High Road, Puduchatram Post, Thirumazhisai Via, Poonamallee Taluk, Chennai - 600124

Note: Test results relate only to the items tested. Test Report shall not be reproduced in full or part without the approval of SMS Labs. Non-Perishable remnant samples will be disposed 15 days from the date of receipt unless otherwise agreed with the customer except in case of regulatory samples, which will be retained for a specific period as per regulatory requirements; while perishable and environmental remnant samples will be disposed consequently upon completion of testing. Samples are not drawn by laboratory unless or otherwise stated. A satisfactory test report in no way implies that a product so tested is approved by NABL. The Laboratory accepts no liability with regard to the origin or source from which the sample(s) is/ are said to be extracted.



#### TEST REPORT



TC-6118

ULR - TC611823000042783F

Report No: QEN23120394-23

Page 1 of 1

Report Date: 28 Dec 2023

Customer Name

m M/s, DALMIA CEMENT (BHARAT) LIMITED

Customer Address

SF No: 630, Thamaraikulam Village, Ariyalur, Tamil Nadu - 621705.

Sample Description

Stack Emission Monitoring

Sampling Date

: 19 Dec 2023

Reference

Test Request Form Dated 18.12.2023

Sample Received on

: 21 Dec 2023

Sample Drawn By

... Laboratory

Test Started on

: 22 Dec 2023

Sample Location

CPP Primary Crusher

Test Completed on

: 28 Dec 2023

Sample Procedure

3 IS 11255 & SMSLA/EN/SOP/017

Diameter of Stack (m)

0.37 m

Ambient Temperature

:29°C

#### TEST RESULTS

s.no	Parameter	Test Method	Unit	Results	Limit as per CPCB
Chem	icul		1		
1	Carbon Dioxide as CO2	SMSLA/EN/SOP/017	%	0.2	-
2	Carbon Monoxide as CO	SMSLA/EN/SOP/017	mg/Nm3	BLQ(LOQ:1,14)	5591.
3	Moisture Content	EPA 1-3	%	1,4	***
4	Nitrogen Oxides as Nox	SMSLA/EN/SOP/017	mg/Nm3	BLQ(LOQ:2.0)	1557
5	Oxygen as O2	SMSLA/EN/SOP/017	%	20.7	19/
6	Particulate Matter	IS 11255 (Part 01)	mg/Nm3	9.1	30 Max
7	Stack temperature	IS 11255 (Part 03)	K	305	
8	Sulphur Dioxide as SO2	IS 11255 (Part 02)	mg/Nm3	BLQ(LOQ:3.0)	(44)
9	Velocity	EPA 1-3	m/s	9.6	(46)
10	Volume of Gas Discharged	IS 11255 (Part 03)	Nm3/Hr	3586	(44)

: BLQ: Below Limit of Quantification LOQ: Limit of Quantification.

Conclusion: The above tested Sample Conforms to the CPCB Standards for the above tested Parameters,

/\*\*\*\*\*\* End of the Report \*\*\*\*\*\*\*\*\*/

Authorized Cigardory-Chemical



#### TEST REPORT



TC-6118

ULR - TC611823000042785F

Report No: QEN23120394-24

Page 1 of 1

Report Date: 28 Dec 2023

Customer Name

M/s. DALMIA CEMENT (BHARAT) LIMITED

Customer Address

SF No: 630, Thamaraikulam Village, Ariyalur, Tamil Nadu - 621705.

Sample Description

Stack Emission Monitoring

Sampling Date

19 Dec 2023

Reference

Test Request Form Dated 18.12.2023

Sample Received on

21 Dec 2023

Sample Drawn By

: Laboratory

Test Started on

22 Dec 2023

Sample Location

Coal Mill Stack IS 11255 & SMSLA/EN/SOP/017 Test Completed on

3 28 Dec 2023

Sample Procedure

Diameter of Stack (m) : 2.0 m

Ambient Temperature

:29°C

#### TEST RESULTS

S.NO	Parameter	Test Method	Unit	Results	Limit as per CPCB
Chem	ical				
1	Carbon Dioxide as CO2	SMSLA/EN/SOP/017	%	4,8	
2	Carbon Monoxide as CO	SMSLA/EN/SOP/017	mg/Nm3	106	**
3	Moisture Content	EPA 1-3	%	4.1	**
4	Nitrogen Oxides as Nox	SMSLA/EN/SOP/017	mg/Nm3	215	**
5	Oxygen as O2	SMSLA/EN/SOP/017	%	12.5	55
6	Particulate Matter	IS 11255 (Part 01)	mg/Nm3	28.5	30 Max
7	Stack temperature	IS 11255 (Part 03)	K	333	
8	Sulphur Dioxide as SO2	IS 11255 (Part 02)	mg/Nm3	BLQ(LOQ:3.0)	**
9	Velocity	EPA 1-3	m/s	12.7	22
10	Volume of Gas Discharged	IS 11255 (Part 03)	Nm3/Hr	127030	**

: BLQ: Below Limit of Quantification LOQ: Limit of Quantification.

Conclusion: The above tested Sample Conforms to the CPCB Standards for the above tested Parameters.

/\*\*\*\*\*\*\*\*\* End of the Report \*\*\*\*\*\*\*\*\*\*/

M.C.J. in flu dese Signatory-Ci cerian)



#### TEST REPORT



TC-6118

ULR - TC611823000042786F

Report No: QEN23120394-25

Page Lof 1

Report Date: 28 Dec 2023

Customer Name

\* M/s, DALMIA CEMENT (BHARAT) LIMITED

Customer Address

# SF No: 630, Thamaraikulam Village, Ariyalur, Tamil Nadu - 621705.

Sample Description

# Stack Emission Monitoring

Sampling Date

20 Dec 2023

Reference

Test Request Form Dated 18,12,2023

Sample Received on

: 21 Dec 2023

Sample Drawn By

Test Started on

: 22 Dec 2023

Sample Location

Laboratory

Test Completed on

28 Dec 2023

CPP Secondary Crusher

Sample Procedure

IS 11255 & SMSLA/EN/SOP/017

Diameter of Stack (m)

0.33 m

Ambient Temperature

:29°C

#### TEST RESULTS

S.NO	Parameter	Test Method	Unit	Results	Limit as per CPCB
Chem	ical				
1	Carbon Dioxide as CO2	SMSLA/EN/SOP/017	%	0,2	na:
2	Carbon Monoxide as CO	SMSLA/EN/SOP/017	mg/Nm3	BLQ(LOQ:1.14)	**
3	Moisture Content	EPA 1-3	%	Less than 1.0	4.6
4	Nitrogen Oxides as Nox	SMSLA/EN/SOP/017	mg/Nm3	BLQ(LOQ:2.0)	
5	Oxygen as O2	SMSLA/EN/SOP/017	1%	20.6	
6	Particulate Matter	IS 11255 (Part 01)	mg/Nm3	8,6	30 Max
7	Stack temperature	1S 11255 (Part 03)	K	305	÷-
8	Sulphur Dioxide as SO2	IS 11255 (Part 02)	mg/Nm3	BLQ(LOQ:3.0)	
9	Velocity	EPA 1-3	m/s	11,5	
10	Volume of Gas Discharged	IS 11255 (Part 03)	Nm3/Hr	3417	

: BLQ: Below Limit of Quantification LOO: Limit of Quantification.

Conclusion: The above tested Sample Conforms to the CPCB Standards for the above tested Parameters.

/\*\*\*\*\*\*\* End of the Report \*\*\*\*\*\*\*\*/

H.C. \_\_\_\_\_ M. Sarathkamar Amthorized Signutory-Chesplant



#### TEST REPORT



TC-6118

ULR - TC611823000042787F

Report No: QEN23120394-26

Page 1 of 1

Report Date: 28 Dec 2023

Customer Name

M/s. DALMIA CEMENT (BHARAT) LIMITED

Customer Address

SF No: 630, Thamaraikulam Village, Ariyalur, Tamil Nadu - 621705.

Sample Description

§ Stack Emission Monitoring

Sampling Date

: 19 Dec 2023

Reference

Test Request Form Dated 18.12,2023

Sample Received on

: 21 Dec 2023

Sample Drawn By

# Laboratory

Test Started on

: 22 Dec 2023

Sample Location

: CPP Boiler (Power Plant)

Test Completed on

: 28 Dec 2023

Sample Procedure

4 IS 11255 & SMSLA/EN/SOP/017

Diameter of Stack (m) 2.7 m

Ambient Temperature

:29°C

TEST RESULTS

s.no	Parameter	Test Method	Unit	Results	(*Values are Corrected in 6% O2 level)	Limit as per CPCB
Anion	S		<b>-</b>			
ı	HCI	EPA 26A	mg/m³	BLQ(LOQ:0.02)	***	10 Max
2	HE	EPA 26A	mg/m³	BLQ(1.OQ:0.02)	***	1 Max
Chem	ical					
3	Carbon Dioxide as CO2	SMSLA/EN/SOP/017	%	6.2	++	
4	Carbon Monoxide as CO	SMSLA/EN/SOP/017	mg/Nm3	20	2	
5	Moisture Content	EPA 1-3	%	2.3		**
6	Nitrogen Oxides as Nox	SMSLA/EN/SOP/017	mg/Nm3	146	196*	450 Max
7	Oxygen as O2	SMSLA/EN/SOP/017	%	9.8	940	**:
8	Particulate Matter	IS 11255 (Part 01)	mg/Nm3	34.9	46.8*	50 Max
9	Stack temperature	IS 11255 (Part 03)	K	399	**	HE?
10	Sulphur Dioxide as SQ2	IS 11255 (Part 02)	mg/Nm3	325	436*	600 Max
11	TOC	SMSLA/EN/SOP/018	mg/m³	BLQ(LOQ:0.1)		**
12	Velocity	EPA 1-3	m/s	7.6	12:	72
13	Volume of Gas Discharged	IS 11255 (Part 03)	Nm3/Hr	115415		77

BLQ: Below Limit of Quantification LOQ: Limit of Quantification.

Conclusion: The above tested sample conforms the CPCB standards for the above tested parameters.

/\*\*\*\*\*\*\*\*\* End of the Report \*\*\*\*\*\*\*\*\*\*/

And relact Signatory-Greater

K, Elakkivathasan

of Charles

Authorized Signatory-Chemical

Laboratory Address: 39/6, Thiruvallur High Road, Puduchatram Post, Thirumazhisai Via, Poonamallee Taluk, Chennai - 600124

Note: Test results relate only to the items tested. Test Report shall not be reproduced in full or part without the approval of SMS Labs. Non-Perishable remnant samples will be disposed 15 days from the date of receipt unless otherwise agreed with the customer except in case of regulatory samples, which will be retained for a specific period as per regulatory requirements; while perishable and environmental remnant samples will be disposed consequently upon completion of testing. Samples are not drawn by laboratory unless or otherwise stated. A satisfactory test report in no way implies that a product so tested is approved by NABL The Laboratory accepts no liability with regard to the origin or source from which the sample(s) is/ are said to be extracted.



## Annexure - 4

### **Green Belt**







Plantation: 69,009 Nos (34% Plant area)

96% Sustenance Rate

**Individual Zone Owner Responsibility** 

Plant in the Garden & not Garden in the plant

**Good Biodiversity, 94 Acre** 

## **Kurunkadugal Plantation**



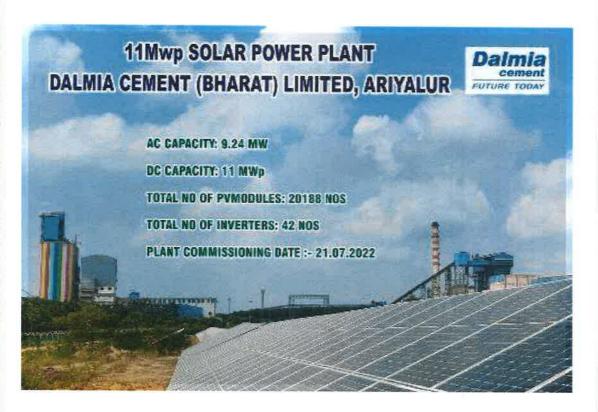






## Renewable Energy - Solar Power Plant











## 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: cegwchennai@gmail.com Web site: 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: //u .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.

SI.	Referred	V	Co-ord	Quantity Permitted	
No	Well / Bore Well & SF. No	Village/Firka	Latitude	Longitude	for pumping in LPD
1	TW1/630/1 2B	Govindapuram/Ariyalur	11º 10'85" N	79 <sup>0</sup> 06′01'' E	2,43,000
2.	TW2/640/0 5	Govindapuram/Ariyalur	11 <sup>0</sup> 11'05" N	79 ⁰06'08" E	2,43,000
3.	TW3/614/0 8B	Govindapuram/Ariyalur	11 <sup>0</sup> 10'59" N	79 <sup>0</sup> 05'96" E	3,73,500
4.	TW4/158/0 5	Ottakovil/Ariyalur	11 <sup>0</sup> 11'17" N	79 <sup>0</sup> 06'01" E	3,73,500
5.	TW5/162/1 1	Ottakovil /Ariyalur	11º 10'23" N	79 ⁰05′19′' E	3,87,000
				Total	16,20,000

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

- This No Objection certificate issued for ground water extraction applies to the referred ground water abstraction structure only.
- 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.
- 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.
- 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.
- 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.
- 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.
- 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.
- 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.
- It is also informed that during the renewal of the NOC, depending upon the hydrogelogical 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
- 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.
- 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.



## GOVERNMENT OF TAMIL NADU WATER RESOURCE DEPARTMENT

To:

M/s. Dalmia Cement (Bharat) Limited-

Power Plant, SF.No:630,

Thamaraikulam Village, Ariyalur – 621 705.

From:

Er. S.Prabakaran, B.E., Chief Engineer, WRD, State Ground & Surface Water Resources Data Centre Tharamani, Chennai 600 113.

Phone: 91-44-2254223 (Direct)

91-44-22541526/27(Board) Email: <u>cegwchennai@gmail.com</u>

Web site: www.groundwatertnpwd.org

Lr.No.OT8/AG-2/147/NOC/Trichy/2023 dated: 20 .11.2023.

Sir,

Ref:

Sub: "No Objection Certificate" for drawal of ground water to 
"M/s. Dalmia Cement (Bharat) Limited-Power Plant, Ottakoil and 
Govindapuram Village, Ariyalur Firka, Ariyalur Taluk, Ariyalur 
District - Groundwater Drawal - Cement Industry-Power Plant Sector

purpose - NOC Issued-Reg.

1. The industry NOC application Dated: 18.07.2023.

2.SE,GWC,ThanjavurLr.No:167<sup>s</sup>/AG/T.F44C(TRY)/NOC/GWC/TNJ/2023 Dt:07.11.2023.

Please find the enclosed "No Objection Certificate", for drawal of groundwater to "M/s. Dalmia Cement (Bharat) Limited-Power Plant, Ottakoil and Govindapuram Village, Ariyalur Firka, 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 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 month from the date of expiry, i.e., .11.2024 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 Orders in WP.No.28535 of 2014 & WP.No.16299/2018.

#### Enclosure:

1. No Objection Certificate & Conditions

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



Certificate No.147/2023

Dated: 20.11.2023

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

This is to certify that "M/s. Dalmia Cement (Bharat) Limited-Power Plant, Ottakoil and Govindapuram Village, Ariyalur Firka, Ariyalur Taluk, Ariyalur District falling under the "Safe Category" as on 2022 Categorisation, is hereby given the "No Objection Certificate" for the drawal of total quantity of 3,80,000 LPD (Three Lakh Eighty Thousand Litres per day) of groundwater for "Cement Industry-Power Plant Sector" purpose from the Ground water structure listed below with strict adherence to stipulated conditions.

SI. No	Referred Well / Bore Well & SF. No	Village / Firka	Co-ordinates		Quantity Permitted	
			Latitude	Longitude	for Pumping in LPD	
1,	TW-1 163/18C	Ottakoil / Ariyalur	11 <sup>0</sup> 11'11.4"N	79 <sup>0</sup> 06'17.0''E	1,35,000	
2.	TW-2 629/9A	Govindapuram / Ariyalur	11 <sup>0</sup> 10′56.1″N	79 <sup>0</sup> 05'59.5''E	2,45,000	
	To					

This No Objection Certificate now issued is valid only for one year from the date of issue and the NOC is accorded under the conditions laid down over leaf

Chief Engineer (SG &SWRDC), WRD, Tharamani, Chennai-113. Fresh NOC Conditions pertaining to M/s. Dalmia Cement (Bharat) Limited-Power Plant, Arivalur District

- 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.
- This Certificate is applicable for drawal of permitted Quantity of ground water only and not for transportation.
- The flow meter should be fixed in the suction tube near to bore well during the time of extraction. Failure fitting flow meter / Absence of flow meter in the abstraction well during the time of extraction will leads to cancellation of NOC issued.
- 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.
- 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.
- 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.
- 9 Violation of the above stipulations in any form may lead to cancellation of the permission accorded by the Government.
- 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.
- The company has to **drill one new bore well** within the extraction well located premises for monitoring water level and observing water quality within 30 days from the date of issue of NOC. The bore well should have been **constructed with platform and locking arrangements** (in full shape). If any bore well already existing and unused within the premises of the plant the same may also be utilized for the purpose.
- 12 It is also informed that during the renewal of the NOC, depending upon the hydrogelogical condition the category of the area and the site conditions, the quantity will be vary from permitted quantity. The company should make alternate arrangements for the reducing quantity for sustaining their industrial activity by means of availing water through local bodies/by desalinization of sea water /or using the urban waste water after proper treatment
- The Missing Documents Should be submitted within 90 days from the receipt of No Objection Certificate, otherwise issued No Objection Certificate will be cancelled without prior information.
- As per the G.O.(Ms).No 142 PW(R2)Department dt:23.07.2014, NOC should be renewed every year for water based industries.
- This No Objection Certificate is applicable only for the purpose of "Cement Industry-Power Plant Sector", if any deviation in the usage of ground water is found, the NOC accorded is automatically deemed to be cancelled.
- The Executive Engineer, Ground Water Division/ The Assistant Director (G), Groundwater Sub Division/The Assistant Geologist 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.
- 17 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

#### Part I: Water and Livelihood Initiatives

#### Village Pond Deepening



Village pond deepening activity at Thamaraikulam being inspected by Civil Engineering team from DCBL-Ariyalur

- Two village ponds deepening activity carried out during FY24 at Ariyalur Location
- One of the ponds at Thamaraikulam was deepened to hold 3000KL of additional water
- Bunds of the pond was also strengthened.
- The second pond was at Edayathankudi, a mining village
- The whole pond was unusable due to contaminated water which need to be cleaned. This was done by pumping out the entire water
- Through this cleaning activity, the pond with about 15,000KL capacity became usable for the communities around the pond.

#### **CO5** Super Napier Grass:

- Super Napier Grass or CO5 Fodder for cattle is an activity extensively promoted by Ariyalur Gram Parivartan team in Ariyalur location.
- This intervention has yielded quick and visible results among cattle growers.
- Success of this intervention can be seen in many cattle owning beneficiaries having expanded the CO5 growing area for more fodder for their cattle.
- CO5 has resulted in increasing milk yield, faster growth of meat animals like goats and sheep, and also has helped dairy dependent families reduce feed expenses considerably.
- Rough calculation of Ariyalur team indicates nearly 1500 cattle are fed with CO5 fields created by GP team benefiting about 500 households in 32 villages.



A cow rearing beneficiary in his newly developed CO5 field.

#### **Azolla Cultivation**

- Promoting azolla was handled by the GP team through out the year.
- Team reached out to 176 households with azolla bags.
- Households with milch animals were given preference by the team for promoting this intervention
- Poultry and Goatry beneficiaries were also part of this intervention as these livestock gained weight due to azolla feeding.
- Households feeding cows reported 100ml to 250ml of increase in milk yield
- 300 cows and about 150 goat beneficiaries own an azolla unit promoted by GP team



A farmer with goats and cows with his azolla unit

#### Livelihood through Poultry interventions

- Poultry has been a ready choice of many households for earning an additional income
- 685 household in the core villages have opted to select poultry units as one of their livelihood options
- The GP team supported the households with procurement of good quality chicken from cost effective and reliable vendors
- Beneficiaries were supported with about 50% of procurement cost



Beneficiaries of poultry intervention at Poiyathanallur village

#### **Poultry Steel Cage support**

- A considerable number of households had opted to buy poultry cages
- Beneficiaries who opted for poultry cages were also further supported with custom designed cages with capacity to accommodate around 25 birds.
- Poultry cages help in reducing bird mortality by administering controlled food and drinking water.
- Cages help in quick laying of eggs and weight gain
- The cage is being used by around 100 households





Poultry cage beneficiaries are receiving new cages

#### **Promoting Bio Fertilizers through Vermicompost Units**

- Vermicompost units promoted in two types. 1. Permanent structures 2. Compost Bags
- Promoting compost bags are a easy choice due to less establishment cost involved.
- 113 beneficiaries have participated in this intervention with compost bags installed in their farm or backyard
- 4 permanent structures were also created. Govt. subsidy available for permanent structures in some blocks.
- The farmers report positive results from application of compost manure in their fields.
- Esp. horticulture farmers growing fruit bearing trees, or moringa or smaller saplings such as chilli, brinjal and tomato report reduction in input cost and increase in yield.



A permanent Vermicompost Unit beneficiary preparing her unit for fresh harvest of compost manure in Ariyalur block

#### Goat Support (DBT)

- Livestock interventions suit most rural households as additionality of income is better assured compared to agriculture related activities.
- Goatry is one of such choices made by multiple households in Ariyalur location where in 400 households were added with goats or kids.
- Along with kids, total population of goats in the communities increased by 800, including newly delivered kids after purchase of goats.
- Goats like poultry, support beneficiaries in earning a sustained income twice or thrice in a year for the initial three years. Quantity of sale considerably increases during subsequent years.

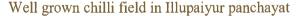


Goats given to a beneficiary at Periyathirukonam panchayat

#### Chilli Saplings Support

- Promoting cultivation of chilli is a viable option for increased income
- Chilli compared to many other horticulture crops remains more profitable
- Unlike perishable vegetables like tomato or brinjal, yield from chilli can be sold immediately or can be stored and sold at a time when market price is favorable.
- Due to such flexibility, DBF team promoted chilli extensively in the core villages and supported about 270 households to cultivate the crop
- Mostly farmers encouraged to cultivate chilly in 15 cents to remain competitive and avoid over production







Newly developed chilli field by GP

#### Milk Can Support to Diary farmers

- 1080 households owning milch animals were supported with milk cans
- Dalmia branded milk can were distributed to beneficiaries for reducing spillage of milk and use containers which are easy to maintain hygienically.
- The intervention was carried out in about 30 villages around the plant and in the mining villages.
- This intervention helped the GP team get more closer with the communities in the core villages and paved way for planning more interventions and micro enterprise activities



Mr. Robert, plant head of Ariyalur unit, with milk can beneficiaries at Ottakovil village

#### AI with Sex Sorted Semen

- Artificial insemination with sex sorted semen is a relevant livelihood option for dairy beneficiaries
- GP team promoted this by working in association with KVK-Ariyalur
- KVK is the only known agency in the surrounding area who has stock of AI shots and KVK is a well recognized and reliable agency for any livestock related initiative.
- Hence in collaboration with KVK, 40 households were given artificial insemination with sex sorted semen.
- A normal insemination generally costs Rs.20 which is commonly available in Ariyalur veterinary facilities.
- Sex sorted semen is available for Rs.500 after subsidy with KVK.
- In spite of high cost, a considerable number of beneficiaries had chosen to opt for this due to female calf assurance
- This will be further promoted among more households for a well assured additional income in coming months.



A cow is being inseminated with sex sorted semen in Manakudi village

#### **Promoting Honey Bee Boxes with Bee Colonies**

- A highly benefiting intervention for the horticulture farmers
- Honey bee farming is not popular in the surrounding area though most farmers are aware about the activity
- GP team had to spend a lot of time convincing the farmers to opt for this intervention
- Already executed successful farmers were quoted for encouraging them
- Thus convinced about 50 farmers to maintain bee colonies in their farm
- Sale of natural honey is one way of earning money out of this intervention
- Indirect, but a larger benefit, is out of enhanced pollination in flowers due to honey bee activities



A Honey bee beneficiary in his farm land at Ariyalur.

#### **Promoting Bio-Inputs for agriculture**

- Promoting farm made bio inputs helps reducing use of harmful chemical
- Helps in protecting soil health
- Promoted preparation of Panchakavya in households with cows
- Panchakavya is a very effective growth regulator in crops both in agriculture and horticulture
- This solution not only increases yield in crops, but also helps farmers reduce expenses in their input materials
- 20 households were trained and motivated to prepare Panchakavya.
- Each household supported with two drums to prepare this bio growth regulator, with 50% financial support from DBF
- Farmers have used this solution on vegetable crops and found encouraging results



Beneficiaries in Periyathirukonam receiving Panchakavya preparation material from DBF team

#### **Aari Work Training**

- Aari work in Ariyalur location is an emerging trade with reasonable score for additional income
- Women are ready to pay a nominal amount and learn this skill
- Dedicated work has potential to make the women earn around Rs.4000 to 8000 a month
- Women with tailoring background are likely to benefit more from such trainings as they can club these two closely related skills for better earning
- In Thamaraikulam panchayat, 37 women got trained in Aari work and in the entire year about 300 women were trained to practice Aari.
- 40 women are already earning an additional income from this trade.



Women from Thamaraikulam Panchayat undergoing a 15 days training on Aari work.

#### **Mushroom Cultivation Training**

- Mushroom cultivation is a micro enterprise initiative with assured returns to enhance income
- With support of RSETI-SBI, the DBF team trained women in mining villages to take up mushroom cultivation as a livelihood initiative
- 4 mushroom sheds managed by 6 women are already functional in Ariyalur Location
- Depending on size of the mushroom shed and the number of mushroom beds made, the beneficiaries earn around Rs.4000 to 10000 a month.
- Mushroom produced has a round the year market for the producers in Ariyalur location



A mushroom cultivation training in progress at Periyanagalur village. Women learn to pack mushroom beds in this session.

#### **Integrated Farm Training**

- With support of RSETI-SBI, the Gram Parivartan team organized an Integration Cattle Farming training for 90 women in two panchayats at Ariyalur block
- Primarily the women were trained in goat rearing as this intervention is common for many households in these two panchayats
- Many beneficiaries with cattle benefitted in this training.
- As azolla is benefitting multiple types of cattle, the training included cultivation of azolla also
- Fertilization, feed, disease management were part of the training





Cattle rearing households undergoing training with RSETI

Educating women in azolla cultivation procedures

#### **Foot Mat Making Training**

- With support of SIDBI (Small Industries Development Bank of India), 30 women were trained to make foot mats and table mats
- Women of Salayakurichi village participated in this training.
- Variety of mats were produced by women during training indicating a good skill set developing for a new trade in this location
- The women are pricing the mats between Rs.40 to Rs.150
- GP team will work on making a marketing plan for promoting these products
- Online platforms are being explored for this purpose



Mr. Robert, Plant Head of Ariyalur Unit, interacting with the foot mat producing women at Salayakurichi village

#### Cow Loan

- Adding cows to a households increases the household income considerably
- Cow loans are easy solution to achieve this.
- The DBF team has established a purposeful relationship with relevant financial institutions sush as Cooperative banks, nationalized banks and private financial institutions to fetch loans for the beneficiaries.
- Through such linkages, the team managed to get cow loans for 50 households thus adding a considerable number of cattle in the intervention villages.
- These set of beneficiaries received cows loans from IDBI and Bank of Baroda.
- Eligible households got Rs.15k subsidy from Agriculture department.
- The households are likely to earn Rs.35k due to this intervention annually.





Cow loan beneficiaries with their newly purchased cows

#### **Veterinary Camps**



Veterinary camp in progress. A cow is being treated in the camp

- Veterinary camps are conducted as many households own livestock
- Cow, Goat and Poultry owners benefit predominantly from these camps
- In the reporting year, 485 cows and 633 goats were treated.
- More than 300 households with milch animals benefited from several vaccination camps conducted in the core villages
- The collaboration with veterinary hospitals run by the Govt. was highly supportive for carrying out these interventions in the target villages

#### Working with SHGs



An SHG meeting organized by Gram Parivartan team VDF is in progress at Thamaraikulam village

- Working with SHGs helps in implementing livelihood interventions more effectively
- Through SHG activities, many households got funded for their livelihood activities through sanction of loans internally and from banks
- Organizing trainings and awareness sessions also were possible due to SHGs which helped Gram Parivartan team bring out many micro enterprises
- Micro enterprises such created have resulted in supporting women earn additional income, become economically independent and have financial empowerment in their community
- The GP team created about eighteen self help groups bringing in 276 women for regular savings and many other activities carried out through SHGs
- The SHG members received credits around Rs.1.5cr during the reporting year. This has enabled execution of many micro enterprise and farm related activities

#### DIKSHa Training Started at Ariyalur

In the month of March, the newly started DIKSHa center at Ariyalur launched its first batch of HHA students. The center is also ready with its Asst. Electrician Trade lab set up and the first batch of students will be launched shortly.

#### Part 2: Gram Parivartan



Households mapped:3591
Households Planned:5771
Households with additional income:963

Additional income: Rs.5.73 Cr

	HH in Different Levels of Additional Income						
<25K	25K to 50K	50K to 75K	75K to 1L	>1L			
317	184	216	84	162			

#### Social Infrastructure

#### **Tower Light for PTK Mines**

- Two tower lights installed on request of the residents of the mining villages named Vaipam and Aaranur
- Installation aims at road safety and safety of local residents
- The tower lights were installed and handed over to Panchayat in the presence of Mines Manager



#### Water tank construction for Periathirukkonam Panchayat



- 200 household benefit from this construction
- Residents belong to Chettithirukkonam village near PTK mines
- The construction structure has been dedicated to the use of residents in the presence of the village leaders

#### **CCTV** Installation



DCBL expert inspecting installation of CCTV camera quality in Thamaraikualm village

- 24 CCTV cameras were installed in 9 locations in Thamaraikulam village
- Installations were done in 9 chosen locations to ensure safety of residents on the highway, safety of the panchayat hospital, schools and places of worship

• The installation was initiated by the DSP of Ariyalur in the presence of Mr. Robert, unit head of cement plant at Ariyalur

#### **Tree Plantations**



- Tree saplings were planted at multiple locations at Ariyalur
- Schools, hospitals, village ponds were covered for plantation
- Trees aiming green cover were planted with support of local youth and panchayat leaders

#### **Community Sports events**



- Every year DBF team organizes community sports to encourage youth and school going boys and girls
- More than 150 boys and girls participate in these Sports and games with high competitive spirit every year
- These events are organized in Ottakovil and Thamaraikulam panchayats
- Cultural events are also supported and encouraged

#### Multipurpose water tank construction for Kayarlabath Panchayat



The construction was carried out near PNR Mines in Kayarlabath village

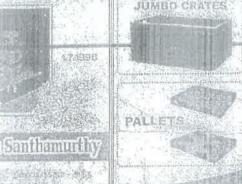
Nearly 250 beneficiaries in the neighboring areas benefit from this construction

The construction was dedicated to the villagers for use in the presence of village leaders



## Annexure - 7





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### PUBLIC NOTICE

The Ivinistry of Environment & Forests New Delhi had accorded Environmental Clearance to the Proposed Project of 2.0 MTPA Clinker & 3.0 MTPA Cement and 27 MW Power Plant by M/S. Dalmia Cement (Bharat) Limited at Sevindapuram Village of Ariyalur Taluk Ariyalur District, Tamil Nadu.

The Copies of the clearance are available with Tamil Nadu Pollution Control Board and also in the website of Ministry of Environment & Forest at http://envfor.nic.in

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## Annexure - 8

## Online Emission Monitoring systems and Real Time display







Sick Opacity meter in all stacks



**Emission display in Main Gate** 



ABB SO<sub>2,</sub> NO & O<sub>2</sub> analyser



Online Monitoring at STP



**CAAQM Station** 



**Online Monitoring at ETP** 



## Annexure – 9



#### **Green Product Certification from CII**





Confederation of Indian Industry

#### CII-Green Products and Services Council

hereby certifies that

Dalmia PPC/ Vajram Cement

(GPDC10001)

Manufactured by Dalmia Cement (Bharat) Ltd meets the requirements of GreenPro Ecolabel and qualifies as Green Product.

This certification is valid till December 2024

Jamshyd N Godre

Jamshyd N Godrej Chairman, CII-Godrej GBC ParasuRaman R

Chairman, CII-Green Products & Services Council

K S Venkatagiri

Executive Director, Cll-Godrej GBC

Supporting Council and programmes







24th National Award for Excellence in Energy Management 2023 organized by CII "Excellent Energy Efficient Unit" - 12<sup>th</sup> Consecutive year

"National Energy Leader" – 4<sup>th</sup> Consecutive year.





## Runner-up in Zero carbon Initiative by Manufacturing Today











## 3<sup>rd</sup> QCFI National Sustainability Awards on Cement and RMC organized by QCFI, Hyderabad

- ☐ Excellent unit in Health and Safety Excellence
- ☐ Excellent unit in Environmental Excellence
- ☐ Excellent unit in Energy Excellence
- ☐ Excellent unit in Productivity Excellence
- ☐ Excellent unit in Alternative Fuel Excellence
- ☐ Excellent unit in Water Excellence





### **IsconSWM CE Excellence Award 2023**



Platinum Award for Average TSR achieved over past five years



Platinum Award for Total quantum of plastic & RDF co-processed in five years



Platinum Award for TSR achieved in 2023



Appreciation award for the contribution to coprocessing



Thank you