

ZCL/ENV/EC/PLANT/2022/ *May 09*
Date: 30.05.2022

Zuari Cement Limited
CIN: U26942AP2000PLC050415
Krishna Nagar, Yerraguntla,
District Kadapa,
Andhra Pradesh - 516311,
Tel: +91 85632 75107 / 08
Fax: +91 85632 75101 / 64
www.zuaricements.com

To,
Ministry of Environment, Forests & Climate Change,
IA Division, Paryavaran Bhavan,
C.G.O.Complex, Lodhi Road,
New Delhi-110003.

Sub: Environmental Clearance Six monthly Compliance conditions Report of M/s Zuari Cements Ltd, located in Krishnagar, Yerraguntla, District Y.S.R Kadapa – A.P.

Ref: - Environment Clearance letter No. J-11011/310/2008-IA-II-(I) dated 22.09.2008.

Dear Sir,

In reference to the above subject and referred letter, we are submitting herewith the point wise compliance of conditions of above environmental clearance letter for the period from Oct 2021 to March 2022.

Thanking you,

Yours faithfully
For Zuari Cement Limited


V.Madhava Reddy
AGM -Environment

Encl: As above

Cc to: The Regional Director,
Integrated Regional Office,
Ministry of Environment, Forests & Climate Change,
Buckinghampetta,Vijayawada,
Andharapradesh -520002.

The Member Secretary
Andhra Pradesh Pollution Control Board,
D No:33-26-14 D/2, Near Sunrise Hospital,
Puspha Hotel Centre,Chalamavari Street,
Kasturibaipet,Vijayawada-520010

COMPLIANCE OF CONDITIONS OF ENVIRONMENT CLEARANCE
LETTER NO. J-11011/310/2008-IA-II-(I) dated 22.09.2008

Of M/s Zuari Cement Ltd, located in Krishnagar, Yerraguntla, District Y.S.R Kadapa –A.P.

(A) Specific Conditions

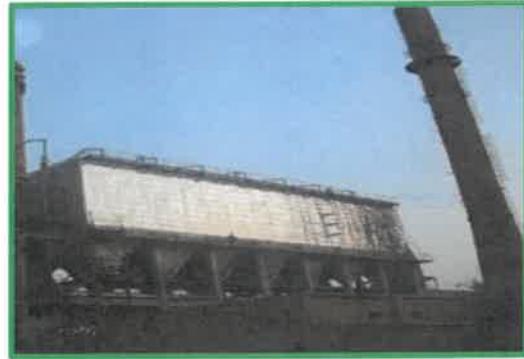
- i. *The company shall provide Electrostatic Precipitator (ESP) to Kiln , Raw Mill, Cement Mill in existing plant and bag filters to the Cement Mill, Raw Mill, Crushers, storage silos etc for control of Particulate emissions. The stack emissions from various sources shall not exceed 50mg/NM3.*

Complied.

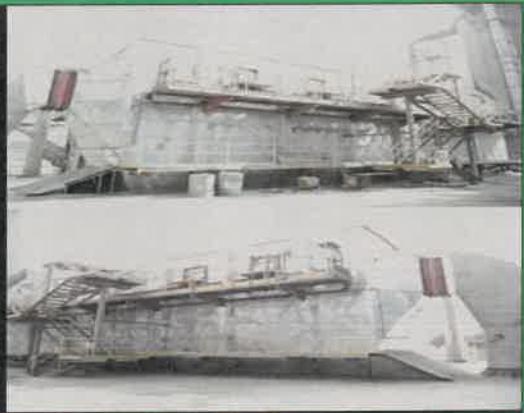
We have installed Bag filters /Bag house in the place of ESP for line-1 Kiln, Calciner, cement mill-2, and Cement mill -3 to controlling of source emissions.



Replaced L-1 C line ESP by Baghouse



Replaced L-1 K line ESP by Baghouse



Replaced Cement Mill-2&3 ESPs by Baghouse

The stack Outlet particulate concentrations are well within the limit.

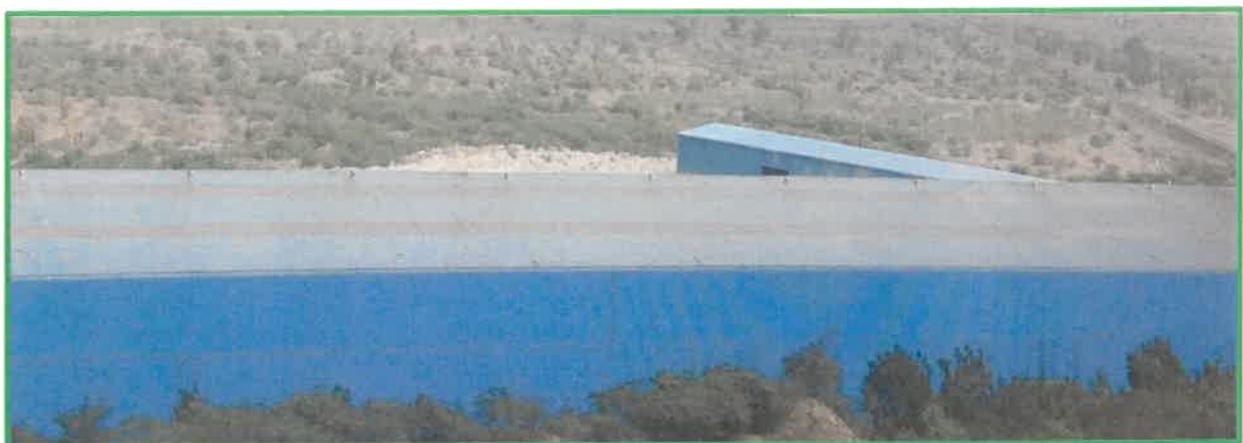
The Monitoring Report is Enclosed as Annexure-I for your reference

- ii. *Bag House / Filter shall be provided to control the fugitive emissions generated during material transfer, packing, loading and unloading. The project authorities shall store all raw materials except limestone in covered sheds to control emissions.*

Complied.

Additional Bag filters /dust collectors are installed at various transfer points to reduce the fugitive emissions

Constructed Coal shed



Storage Sheds



Lime stone Shed



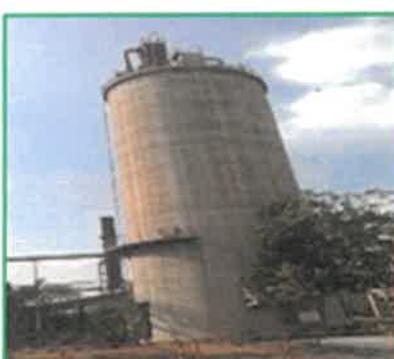
Additives Shed



Coal Shed



Gypsum Shed



Flyash Silo



Clinker Silo

- iii. The location of Ambient Air Quality Monitoring stations shall be set up as per statutory requirement in consultation with the Andhra Pradesh Pollution Control Board (APPCB) and additional stations will be installed if required in the downwind direction as well as where maximum ground level concentrations are anticipated.

Complied

Ambient air quality stations are installed down wind, upwind and max. ground level concentration locations in consultation with APPCB. Ambient air monitoring & Stack emission monitoring has been monitored on monthly basis and same is submitting to APPCB and half yearly submitting to the ministry. Latest Report is enclosed as Annexure-I for your reference.

3 nos. of Online Ambient Air Quality Monitoring Stations are installed in Down wind & up wind direction.

- Main gate
- School
- Store

Ambient Air Quality and Stack Emission data connected to APPCB and CPCB website.

- iv. *Total Ground water requirement shall not exceed 1500KLD. The project authorities shall install Sewage treatment plant to treat domestic sewage and treated water shall be utilized for green development. No waste water shall be discharged outside of the premises and 'zero' discharge shall be ensured.*

Complied.

We are meeting our water requirement from our mine pit only(harvested water)

No Process waste water is generated in the cement manufacturing process.

The Domestic waste water generated from the ZCL colony is treated at the existing Sewage Treatment Plant (STP) and the treated waste water is being utilized for Green belt development. Hence 'Zero Discharge' is achieved.

Mines Harvested Water



Sewage Treatment Plant

- v. The company shall obtain prior permission for draw of ground water from the Central Ground Authority/Central Ground Water Board and a copy shall be submitted to the Ministry's regional office in Bangalore within three months from date of issue of this letter.

CGWA does not Issue NOC for Groundwater withdrawal in Andhra Pradesh and industries need to obtain NOC form state govt bodies.

We have obtained Permission from State ground water authority.

We are meeting our water requirement from our mine pit only (harvested water). No ground water is using for industrial purpose.

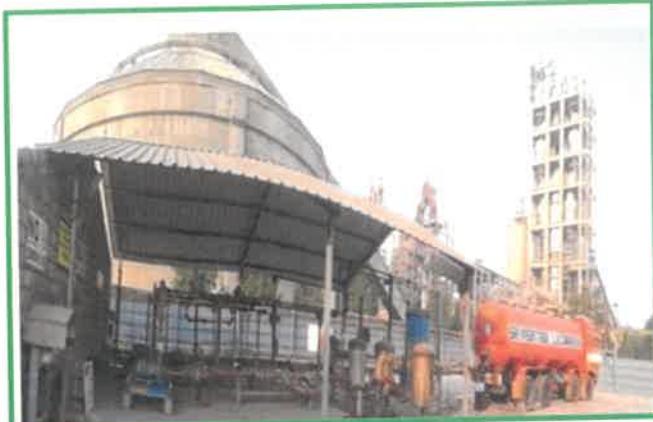
- vi. The project authorities shall make all out efforts to use high calorific value hazardous waste in the Kiln and accordingly, necessary provisions in Kiln shall be made.

We are using Tyre Chips ,RDF & Pharma wastes as Alternative Fuel in our kiln. Pant has covered storage shed with Solid & Liquid waste feeding System as per standard.

Solid Alternative Fuel Handling System



Liquid Alternative Fuel Handling System



- vii. *The Fly ash generated from Captive Power Plant shall be handled in dry silos and shall be utilized 100% for manufacture of Pozzolana Cement.*

There is no CPP in our plant, hence not applicable.

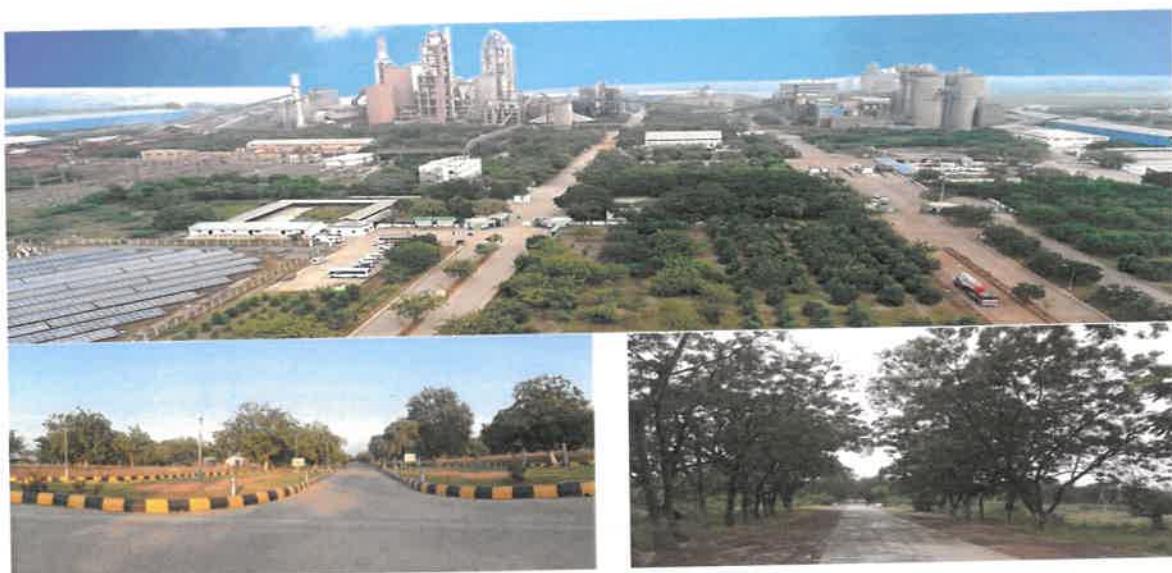
- viii. *The project authorities shall transport Raw Materials and product in covered means.*

Complied

- ix. *The green belt shall be developed in minimum 33% of the project area as per the guide lines of Central Pollution Control Board to mitigate the effect of fugitive emission.*

Being adhered to.

Tree plantation is our on-going process and we had developed green belt 41% of the plant area. 2021-22 –plantation: Plant:4700 & Mines:1600 NO's



- x. *The project authorities shall provide a health centre with all emergency medicines and ambulance along with full time doctor. Occupational health surveillance of the worker shall be carried on a regular basis and record shall be maintained as per the factories act.*

Complied.

The OHC Centre is equipped clinical laboratory, ECG, X-ray, spirometer, audiometer, ultrasound scanning, eye testing equipment and nebulizer. Once in a six months lung function test & sputum analysis is being done and all records are maintained.

Hospital Staff: Total 7 Members which include one male and one female doctor's qualification with MBBS, 3 male nurses, 1 sister, 1 dresser, 1 female attendant. Our health centre building consists of 2 consultation rooms for doctors , 3 in patient beds, one emergency room with all emergency equipment to deal all emergency cases, 1 dressing room, 1 pharmacy store room

Health Centre



- xi. *The company shall comply with all the stipulations made in the environmental clearances issued to the plant by the Ministry.*

Noted.

- xii. *The company shall prepare the conservation plan for the reserve/protected forest located within a radius 5 Km from the plant and submit to State forest department A.P. and recommendations, if any shall be implemented.*

There is NO any schedule-I Flora and Fauna as per divisional forest officer issued letter No RC NO:2327/2006-P4 dated 10.10.2006.

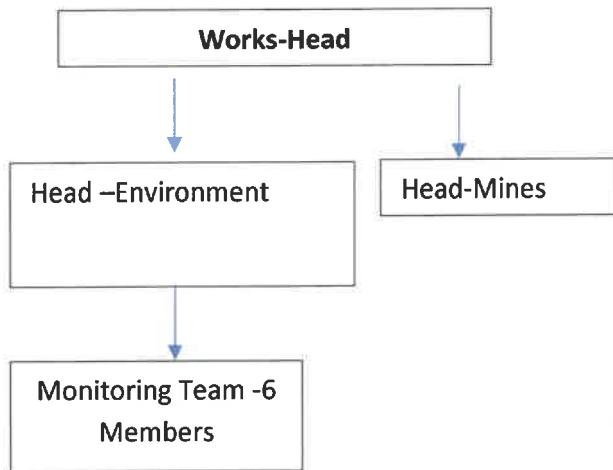
- xiii. *All the recommendations mentioned in the CREP guidelines for cement shall be followed and complied.*

Complied.

CREP Guidelines point wise status is enclosed as Annexure -II for your reference.

- xiv. *The company shall obtain separate environmental clearance for the limestone mines from the Ministry for the enhanced capacity.*

A separate Environmental Management cell is established under the control of senior executive and direct reporting to the head of the organization who is responsible for environmental management of Mines.



(B) General Conditions

- i. *The project authorities shall strictly adhere to the stipulations of the APPCB/State Government or any other statutory body.*

Being adhered to.

We are strictly following APPCB stipulated conditions.

- ii. *No further expansion or modifications in the plant shall be carried out without prior approval of the Ministry of Environment and Forest. In case of deviations or alterations in the project proposal from those submitted to the Ministry for clearance, a fresh reference shall be made to the Ministry to assess the adequacy of the condition imposed and to add additional environmental protection measures required, if any.*

Noted & will be complied.

- iii. *The gaseous emissions (So₂/NO_x) and particulate matter levels from various process units shall conform to standards prescribed by the concerned authorities from time to time. At no time, the emissions shall not exceed the prescribed limits. In the event of failure of any pollution control system adopted by the unit, the unit shall be immediately put out of operation and shall not be restarted until the desired efficiency has been achieved.*

Noted and Complied.

iv The company shall undertake following Waste Minimization measures:-

Reuse of by-products from the process at raw materials or as raw material substitutes in other processes. Use of "Closed pneumatic" system for transport of line Material. All venting systems shall be connected with dust arresting equipments.dust collected in pollution control equipment's shall be reused.

Noted and Complied.

Material / Dust collected from pollution control equipment's is reused in process.

v *Fugitive emissions in the work zone environment, product, and raw materials storage area shall be regularly monitored. The emissions shall conform to the limits stipulated by the state Pollution Control Boards/Central Pollution Control Board.*

Complied

TPS machine & truck mounted system are operated for road sweeping in plant and colony. Apart from this manually operated floor sweeping machines are in operation for good housekeeping. Fugitive dust monitoring is done on regular basis and all measures taken to control fugitive dust emissions.



Lime stone Shed



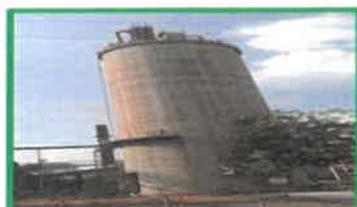
Additives Shed



Coal Shed



Gypsum Shed



Flyash Silo



Clinker Silo

vi *The overall noise levels in and around the plant area shall be kept well within the standards by providing noise control measures including acoustic hoods, silencers, enclosures etc., on all sources of noise generation. The ambient noise levels shall conform to the standards prescribed under Environment (Protection) Act, 1986 Rules. 1989 viz., 75dBA (day time) and 70 dBA (night time).*

Complied.

Noise generating sources like Blowers and Compressors have been housed in secluded buildings.

The Monitoring Report is Enclosed for your reference.

- vii *The project authorities shall strictly comply with the rules and guidelines under Manufacture, Storage and Import of Hazardous Chemicals Rules 1989 as amended and Hazardous waste (Management and Handling) Rules 1989 as amended from time to time. Authorization from the SPCB shall be obtained for collection, treatment, storage and disposal of hazardous wastes.*

Complied

- viii *Rain water harvesting shall be done within the premises. Ground water recharge structures shall be installed around the plant area in consultation with local authorities to contain the ground water table.*

Complied.

Rainwater Harvesting



ix

The company shall undertake eco-developmental measures including community welfare measures in the project area for the overall improvement of the environment. The eco-development plan should be submitted to the SPCB within three months of receipt of this letter for approval.

Eco-development measures has been taken including implementation of self sustain income generating programmes candle making, Stitching & etc.

Roads are constructed and RO water facility has been provided for near by villages.

Implemented self sustain income generating programmes candle making, Stitching & etc.



x

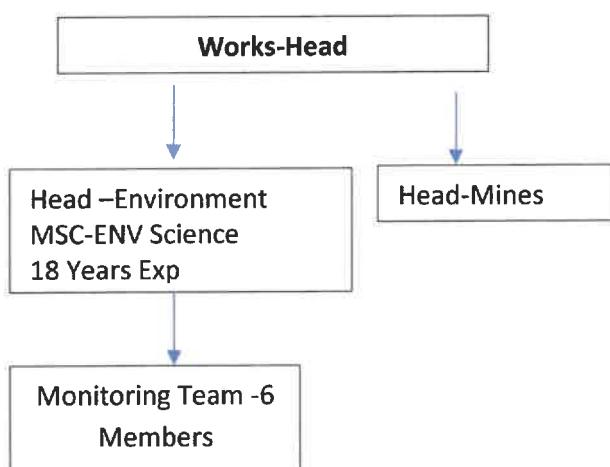
The project authorities shall earmark the adequate fund to implement the conditions stipulated by the Ministry of Environment and Forests as well as the state government along with the implementation schedule for all the conditions stipulated herein. The funds so provided shall not be diverted for any other purpose.

Complied.

xi

Separate Environmental Management Cell equipped with full fledged laboratory facilities shall be set up to carry out the Environmental Management and Monitoring functions.

A separate Environmental Management cell is established under the control of senior executive and direct reporting to the head of the organization who is responsible for environmental management of Mines.



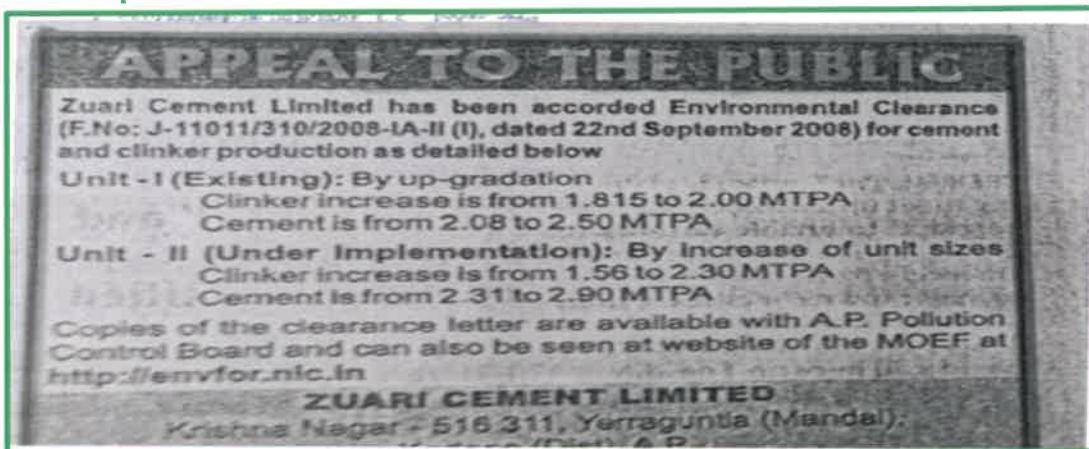
xii *The implementation of the project vis-à-vis environmental action plans Shall be monitored by the concerned Regional Office of the ministry/SPCB/CPCB.A six monthly compliance status reports shall be submitted to monitoring agencies and shall be posted on the website of the Company.*

Being adhered to.

xiii *The project proponent shall inform the public that the project has been accorded environmental clearance by the Ministry and copies of the clearance letter are available with the SPCB and may also be seen at website of the Ministry at <http://envfor.nic.in>. This shall be advertised within seven days from the date of issue of the clearance letter at least in two local newspapers that are widely circulated in the region of which one shall be in the vernacular language of the locality concerned and a copy of the same shall be forwarded to the concerned regional Office of the Ministry.*

Complied.

EC Paper Advertisement



xiv *The project authorities shall inform the Regional Office as well as the Ministry the date of financial closure and final approval of the project by the concerned authorities and the date of start of the project.*

Being adhered to.

D/C



Zuari Cement
HEIDELBERGCEMENT Group

ZCL/ YA/ EM /2021/ **Novoy**

Date: 16.11.2021

The Member Secretary
Andhra Pradesh Pollution Control Board,
D No:33-26-14 D/2, Near Sunrise Hospital,
Puspha Hotel Centre,
Chalamavari Street, Kasturibaipet,
Vijayawada-520010

Zuari Cement Limited
CIN: U26942AP2000PLC050415
Krishna Nagar, Yerraguntla,
District Kadapa,
Andhra Pradesh - 516311,
Tel: +91 85632 75107 / 08
Fax: +91 85632 75101 / 64
www.zuaricements.com

Dear Sir,

Please find enclosed the reports of Stack Emissions, Ambient Air Quality, Waste Water quality and Ambient Noise Quality data of Zuari Cement Plant –Yerraguntla for the month of Oct 2021.

Thanking you,

Yours faithfully
For Zuari Cement Ltd

V.Madhava Reddy
V.Madhava Reddy

AGM-Environment

Encl: As above

cc :

The Environment Engineer,
Andhra Pradesh Pollution Control Board,
Regional Office, 2nd Floor,
D.No.1/2277, Rajiv Park Road,
A.P. Housing Board Colony,
Kadapa – 516003.

Oct 2021

I.Ambient Air Quality

S.NO	Location	Parameter →	PM ₁₀ µg/m ³	PM _{2.5} µg/m ³	SO ₂ µg/m ³	NOX µg/m ³
		Limit	100	60	80	80
1.	Near Main Gate		59.6	21.4	12.8	22.8
2.	Near Store		58.1	22.1	7.6	16.5
3.	Near Mines Office		59.8	20.2	11.5	20.6
4.	Near Pumphouse		61.4	20.6	10.2	18.4

II.Stack Emissions in Line-11

1.	Kiln+Rawmill-1 Baghouse	19.9		
2.	Calciner +Rawmill-2 Baghouse	23.7		
3.	Cooler ESP	23.8		
4.	Coalmill-1Baghouse-1	16.7		
5.	Coalmill-1Baghouse-2	15.5		
6.	Coal mill-2 Baghouse	12.9		
7.	Cement mill-1 Baghouse	Shutdown		
8.	Cement mill-2 Baghouse	20.6		
9.	Cement mill-3 Baghouse	18.2		
10.	DG Set 1500KV	Not in operation	75mg/Nm ³	
11.	DG Set 4 x750 KV	Not in operation	75mg/Nm ³	

Stack Emissions in Line-2

1.	Kiln+Rawmill+Cooler Baghouse	8.9		
2.	Coal mill -3 Baghouse	18.6		
3.	Cement Mill-4 Baghouse	25.4		
4.	Crusher-3 Bagfilter	25.7		

III.Water Analysis Reports

		pH	BOD mg/Ltr	COD mg/Ltr	S.S mg/Ltr	Oil & Grease mg/Ltr
Limiting Standards at Outlet		5.5 -9.0	100	250	100	10
1.	STP –Treated Effluent	7.36	10	26	28	<1.0

IV.Ambient Noise levels

		Day time	Night time	Day - Limit	Night -Limit
1.	Planrt Boundary -East	64.2	59.3	75dB	70dB
2.	Planrt Boundary -West	63.9	58.4		
3.	Planrt Boundary –North	65.1	60.1		
4.	Planrt Boundary –South	62.4	57.5		
5.	Near Health Centre	58.6	53.2		
6.	Near New Guest house	61.7	56.8		

Note: Line-1 Cooler ESP trippings: NIL



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 CERTIFIED COMPANY

TEST REPORT

REF.NO: LAWN/ZCL/AAQ/009/2021

ANNEXURE - 2

Date: 02-11-2021

AMBIENT AIR QUALITY DATA

Name of the Industry & : M/s. ZUARI CEMENT LIMITED.,
 Address : Krishna Nagar P.O, Yerraguntla, Kadapa (Dist),
 Andhra Pradesh – 516 311.

Code	A-1	A-2	A-3	A-4	NAAQ Standards (24 hourly standard)	PROTOCOL/ TEST METHOD
Date	25-10-2021 to 26-10-2021	25-10-2021 to 26-10-2021	25-10-2021 to 26-10-2021	25-10-2021 to 26-10-2021		
Starting Time	8.15 am	8.30 am	9.00 am	9.30 am		
Ending Time	8.15 am	8.30 am	9.00 am	9.30 am		
Locations	Near Main Gate	Near Stores	Near Mines Office	Near Pump House		
PM ₁₀	59.6	58.1	59.8	61.4	100 ($\mu\text{g}/\text{m}^3$)	IS-5182 (Part-23); 2017 / Gravimetric Method
PM _{2.5}	21.4	22.1	20.2	20.6	60 ($\mu\text{g}/\text{m}^3$)	IS-5182 (Part-24); 2019 / Gravimetric Method
SO ₂	12.8	7.6	11.5	10.2	80 ($\mu\text{g}/\text{m}^3$)	IS-5182 (Part-2); 2018 / New West & Gaeke Method
NO ₂	22.8	16.5	20.6	18.4	80 ($\mu\text{g}/\text{m}^3$)	IS-5182 (Part-6); 2017 / JACOB & Hochheiser Method
CO	<1.0	<1.0	<1.0	<1.0	2.0(mg/m^3) (8 hrs)	IS-5182 (Part-10); 2019 GC Method

AUTHORISED SIGNATORY

- RESPIRABLE DUST SAMPLER MODEL/SL.NO. RDS 9000 / 090717, CALIBRATED ON 02-09-2021, DUE ON 01-09-2022
- RESPIRABLE DUST SAMPLER MODEL/SL.NO. RDS 9000 / 090718, CALIBRATED ON 02-09-2021, DUE ON 01-09-2022
- RESPIRABLE DUST SAMPLER MODEL/SL.NO. RDS 9000 / 070706, CALIBRATED ON 19-05-2021, DUE ON 18-05-2022
- RESPIRABLE DUST SAMPLER MODEL/SL.NO. RDS 9000 / 070707, CALIBRATED ON 19-05-2021, DUE ON 18-05-2022

- FINE PARTICULATE SAMPLER/APM 550 (SL.NO. 371-DTF-2011), CALIBRATED ON 16-02-2021, DUE ON 15-02-2022
- FINE PARTICULATE SAMPLER/APM 550 (SL.NO. 454-DTH-2011), CALIBRATED ON 16-02-2021, DUE ON 15-02-2022
- FINE PARTICULATE SAMPLER/APM 550 (SL.NO. 276-DTE-2010), CALIBRATED ON 16-08-2021, DUE ON 15-08-2022
- FINE PARTICULATE SAMPLER/APM 550 (SL.NO. 455-DTH-2010), CALIBRATED ON 12-08-2021, DUE ON 11-08-2022



ISO 9001, 14001 & 45001
CERTIFIED COMPANY

LAWN ENVIRO ASSOCIATES

[Engineers & Consultants in Pollution Control]

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& Laboratory Accredited by NABL

TEST REPORT

REF.NO: LAWN/ZCL/STACK/001/2021

ANNEXURE - 1

Date: 02-11-2021

STACK MONITORING DATA

Name of the Industry & : M/s. ZUARI CEMENT LIMITED.,
Address : Krishna Nagar P.O, Yerraguntla, Kadapa (Dist),
Andhra Pradesh - 516 311.

S.No.	Parameters	Results		LIMIT	PROTOCOL
		Kiln + Raw Mill - 1	Calciner + Raw Mill - 2		
1	Date of Sampling	26-10-2021	27-10-2021	--	---
2	Time of Monitoring	3.30 pm	11.15 am	--	---
3	Stack diameter (m)	4.25	2.98	--	---
4	Stack cross sectional area (m ²)	14.1790	6.971	--	---
5	Pollution Control Equipment	Bag House	Bag House	--	---
6	Ambient temperature (C)	35	38	--	---
7	Flue gas temperature (oC)	137	97	--	IS-11255 (Part-3); 2018
8	Exit velocity of flue gases (m/sec)	12.86	19.20	--	IS-11255 (Part-3); 2018
9	Flow rate (Nm ³ /hr)	4,83,133	3,97,032	--	IS-11255 (Part-3); 2018
10	Suspended particulate matter Concentration (mg/N m ³)	19.9	23.7	<30	IS-11255 (Part-1); 2019
11	PM Load based standard Kg/ton of clinker	0.0495	0.0484	0.125	CPCB Standard

AUTHORISED SIGNATORY

STACK MONITORING KIT : MODEL NO: APM-160/Sl. No. 75-DTD-2016, Calibrated on 03-04-2021, Due on 02-04-2022
M/s. LATA ENVIROTECH SERVICES.,



LAWN ENVIRO ASSOCIATES

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CERTIFIED COMPANY

TEST REPORT

ANNEXURE - 1

Date: 02-11-2021

REF.NO: LAWN/ZCL/STACK/002/2021

STACK MONITORING DATA

Name of the Industry & : M/s. ZUARI CEMENT LIMITED.,
Address : Krishna Nagar P.O, Yerraguntla, Kadapa (Dist),
Andhra Pradesh – 516 311.

S.No.	Parameters	Cooler	Coal Mill - I	LIMIT	PROTOCOL
1	Date of Sampling	27-10-2021	27-10-2021	--	---
2	Time of Monitoring	9.05 am	4.45 pm	--	---
3	Stack diameter (m)	4.00	1.00	--	---
4	Stack cross sectional area (m ²)	12.56	0.785	--	---
5	Pollution Control Equipment	ESP	Bag House - 1	--	---
6	Ambient temperature (C)	40	36	--	---
7	Flue gas temperature (°C)	221	80	--	IS-11255 (Part-3); 2018
8	Exit velocity of flue gases (m/sec)	12.35	10.45	--	IS-11255 (Part-3); 2018
9	Flow rate (Nm ³ /hr)	3,46,219	25,338	--	IS-11255 (Part-3); 2018
10	Suspended particulate matter Concentration (mg/N m ³)	23.8	16.7	<30	IS-11255 (Part-1); 2019

AUTHORISED SIGNATORY

STACK MONITORING KIT : MODEL NO: VSS1/SI. No. 142-DTB-13, Calibrated on 03-04-2021, Due on 02-04-2022
M/s. VAYUBODHAN STACK SAMPLER



LAWN ENVIRO ASSOCIATES

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ISO 9001, 14001 & 45001
CERTIFIED COMPANY

TEST REPORT

REF.NO: LAWN/ZCL/STACK/003/2021

ANNEXURE - 1
Date: 02-11-2021

STACK MONITORING DATA

Name of the Industry & : M/s. ZUARI CEMENT LIMITED.,
Address : Krishna Nagar P.O, Yerraguntla, Kadapa (Dist),
Andhra Pradesh – 516 311.

S.No.	Parameters	Coal Mill - I	Coal Mill - II	LIMIT	PROTOCOL
1	Date of Sampling	26-10-2021	26-10-2021	--	---
2	Time of Monitoring	2.05 pm	10.45 am	--	---
3	Stack diameter (m)	1.32	1.50	--	---
4	Stack cross sectional area (m ²)	1.367	1.766	--	---
5	Pollution Control Equipment	Bag House - 2	Bag House	--	---
6	Ambient temperature (C)	38	39	--	---
7	Flue gas temperature (°C)	76	88	--	IS-11255 (Part-3); 2018
8	Exit velocity of flue gases (m/sec)	11.32	12.76	--	IS-11255 (Part-3); 2018
9	Flow rate (Nm ³ /hr)	48,689	68,711	--	IS-11255 (Part-3); 2018
10	Suspended particulate matter Concentration (mg/N m ³)	15.5	12.9	<30	IS-11255 (Part-1); 2019


AUTHORISED SIGNATORY

STACK MONITORING KIT : MODEL NO: APM-160/SI. No. 75-DTD-2016, Calibrated on 03-04-2021, Due on 02-04-2022
M/s. LATA ENVIROTECH SERVICES.,



ISO 9001, 14001 & 45001
CERTIFIED COMPANY

LAWN ENVIRO ASSOCIATES

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TEST REPORT

REF.NO: LAWN/ZCL/STACK/008/2021

ANNEXURE - 1

Date: 02-11-2021

STACK MONITORING DATA

Name of the Industry & : M/s. ZUARI CEMENT LIMITED.,
Address : Krishna Nagar P.O, Yerraguntla, Kadapa (Dist),
Andhra Pradesh – 516 311.

S.No.	Parameters	Cement Mill-I Bag House	LIMIT	PROTOCOL
1	Date of Sampling	--	--	---
2	Time of Monitoring	--	--	---
3	Stack diameter (m)	1.0	--	---
4	Stack cross sectional area (m ²)	0.785	--	---
5	Pollution Control Equipment	Bag House - I	--	---
6	Ambient temperature (C)	Shut Down	--	---
7	Flue gas temperature (°C)		--	IS-11255 (Part-3); 2018
8	Exit velocity of flue gases (m/sec)		--	IS-11255 (Part-3); 2018
9	Flow rate (Nm ³ /hr)		--	IS-11255 (Part-3); 2018
10	Suspended particulate matter Concentration (mg/N m ³)		<30	IS-11255 (Part-1); 2019

AUTHORISED SIGNATORY

STACK MONITORING KIT : MODEL NO: APM-160/Sl. No. 75-DTD-2016, Calibrated on 03-04-2021, Due on 02-04-2022
M/s. LATA ENVIROTECH SERVICES.,



ISO 9001, 14001 & 45001
CERTIFIED COMPANY

LAWN ENVIRO ASSOCIATES

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TEST REPORT

REF.NO: LAWN/ZCL/STACK/004/2021

ANNEXURE - 1

Date: 02-11-2021

STACK MONITORING DATA

Name of the Industry & : M/s. ZUARI CEMENT LIMITED.,
Address : Krishna Nagar P.O, Yerraguntla, Kadapa (Dist),
Andhra Pradesh – 516 311.

S.No.	Parameters	Results		LIMIT	PROTOCOL
		Cement Mill - II	Cement Mill - III		
1	Date of Sampling	25-10-2021	26-10-2021	--	--
2	Time of Monitoring	2.40 pm	9.00 am	--	--
3	Stack diameter (m)	1.12	1.12	--	--
4	Stack cross sectional area (m ²)	0.984	0.984	--	--
5	Pollution Control Equipment	Bag House	Bag House	--	--
6	Ambient temperature (C)	38	36	--	--
7	Flue gas temperature (°C)	80	82	--	IS-11255 (Part-3); 2018
8	Exit velocity of flue gases (m/sec)	8.36	9.51	--	IS-11255 (Part-3); 2018
9	Flow rate (Nm ³ /hr)	25,587	28,736	--	IS-11255 (Part-3); 2018
10	Suspended particulate matter Concentration (mg/N m ³)	20.6	18.2	<30	IS-11255 (Part-1); 2019



AUTHORISED SIGNATORY

STACK MONITORING KIT : MODEL NO: APM-160/SI. No. 75-DTD-2016, Calibrated on 03-04-2021, Due on 02-04-2022
M/s. LATA ENVIROTECH SERVICES.,



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TEST REPORT

ANNEXURE - 1

Date: 02-11-2021

REF.NO: LAWN/ZCL/STACK/005/2021

STACK MONITORING DATA

Name of the Industry & : M/s. ZUARI CEMENT LIMITED.,
Address : Krishna Nagar P.O, Yerraguntla, Kadapa (Dist),
Andhra Pradesh – 516 311.

S.No.	Parameters	Results		LIMIT	PROTOCOL
		Kiln + Raw Mill + Cooler	Coal Mill - III		
1	Date of Sampling	25-10-2021	25-10-2021	--	---
2	Time of Monitoring	11.00 am	4.30 pm	--	---
3	Stack diameter (m)	11.67	2.10	--	---
4	Stack cross sectional area (m ²)	106.908	3.461	--	---
5	Pollution Control Equipment	Bag House	Bag House	--	---
6	Ambient temperature (C)	39	35		---
7	Flue gas temperature (°C)	108	80	--	IS-11255 (Part-3); 2018
8	Exit velocity of flue gases (m/sec)	3.27	11.75	--	IS-11255 (Part-3); 2018
9	Flow rate (Nm ³ /hr)	10,09,334	1,25,172	--	IS-11255 (Part-3); 2018
10	Suspended particulate matter Concentration (mg/N m ³)	8.90	18.60	<30	IS-11255 (Part-1); 2019
11	PM Load based standard Kg/ton of clinker	0.0427	----	0.125	CPCB Standard

AUTHORISED SIGNATORY

STACK MONITORING KIT : MODEL NO: APM-160/SL No. 75-DTD-2016, Calibrated on 03-04-2021, Due on 02-04-2022
M/s. LATA ENVIROTECH SERVICES.,



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CERTIFIED COMPANY

TEST REPORT

REF.NO: LAWN/ZCL/STACK/006/2021

ANNEXURE - 1

Date: 02-11-2021

STACK MONITORING DATA

Name of the Industry & : M/s. ZUARI CEMENT LIMITED.,
Address : Krishna Nagar P.O, Yerraguntla, Kadapa (Dist),
Andhra Pradesh – 516 311.

S.No.	Parameters	Cement Mill - IV	Crusher-III	LIMIT	PROTOCOL
1	Date of Sampling	25-10-2021	27-10-2021	--	---
2	Time of Monitoring	9.45 am	3.15 pm	--	---
3	Stack diameter (m)	3.80	1.20	--	---
4	Stack cross sectional area (m^2)	11.335	1.130	--	---
5	Pollution Control Equipment	Bag House	Bag Filter	--	---
6	Ambient temperature (C)	38	35	--	---
7	Flue gas temperature ($^{\circ}C$)	81	44	--	IS-11255 (Part-3); 2018
8	Exit velocity of flue gases (m/sec)	10.69	9.72	--	IS-11255 (Part-3); 2018
9	Flow rate (Nm^3/hr)	3,75,582	37,643	--	IS-11255 (Part-3); 2018
10	Suspended particulate matter Concentration ($mg/N m^3$)	25.4	25.7	<30	IS-11255 (Part-1); 2019

AUTHORISED SIGNATORY

STACK MONITORING KIT : MODEL NO: APM-160/Sl. No. 75-DTD-2016, Calibrated on 03-04-2021, Due on 02-04-2022
M/s. LATA ENVIROTECH SERVICES.,



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CERTIFIED COMPANY

TEST REPORT

REF.NO: LAWN/ZCL/STACK/007/2021

ANNEXURE - 1
Date: 02-11-2021

STACK MONITORING DATA

Name of the Industry & : M/s. ZUARI CEMENT LIMITED.,
Address : Krishna Nagar P.O, Yerraguntla, Kadapa (Dist),
Andhra Pradesh – 516 311.

S.No.	Parameters	1500 KVA D.G. Set	4x750 KVA D.G.Sets	LIMIT	PROTOCOL
1	Date of Sampling	Not Operation	Not Operation	--	---
2	Time of Monitoring			--	---
3	Stack diameter (m)			--	---
4	Stack cross sectional area (m ²)			--	---
5	Pollution Control Equipment			--	---
6	Ambient temperature (C)			--	---
7	Flue gas temperature (°C)			--	IS-11255 (Part-3); 2018
8	Exit velocity of flue gases (m/sec)			--	IS-11255 (Part-3); 2018
9	Flow rate (Nm ³ /hr)			--	IS-11255 (Part-3); 2018
10	Suspended particulate matter Concentration (mg/N m ³)			<115	IS-11255 (Part-1); 2019
11	Sulphur Dioxide (SO ₂)			--	IS-11255 (Part-2); 2019
12	Oxides of Nitrogen (NO _x)			--	IS-11255 (Part-7); 2017

AUTHORISED SIGNATORY

STACK MONITORING KIT : MODEL NO: APM-160/SI. No. 75-DTD-2016, Calibrated on 03-04-2021, Due on 02-04-2022
M/s. LATA ENVIROTECH SERVICES.,



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TEST REPORT

REF.NO: LAWN/ZCL/WW/011/2021

ANNEXURE - 4

Date: 02-11-2021

WASTE WATER ANALYSIS

Name of the Industry & : M/s. ZUARI CEMENT LIMITED.,
Address : Krishna Nagar P.O, Yerraguntla, Kadapa (Dist),
Andhra Pradesh – 516 311.

Date of Collection : 27-10-2021
Date of Analysis : 28-10-2021
PROTOCOL : A.P.H.A. 23rd Edition, 2017 & IS 3025

S.No.	Parameters	PROTOCOL	STP OUTLET	
			STP Outlet Water	GSR 422E (Inland surface water)
1	Colour (Hazen Units)	IS:3025 (Part-4)	<5	See Note - 1
2	Odour	IS:3025 (Part-5)	Agreeable	See Note - 1
3	pH	IS:3025 (Part-11)	7.36	5.5 – 9.0
4	Oil & Grease, mg/l	IS:3025 (Part-39)	<1.0	10
5	Total Suspended Solids, mg/l	IS:3025 (Part-17)	28	100
6	Total Dissolved Solids at 105 °C, mg/l	IS:3025 (Part-16)	1,395	2,100
7	Bio Chemical Oxygen Demand for (3 days at 27°C), mg/l	IS:3025 (Part-44)	10	30
8	Chemical Oxygen Demand, mg/l	IS:3025 (Part-58)	26	250
9	Chlorides as Cl, mg/l	IS:3025 (Part-32)	237	1,000
10	Fluorides as F, mg/l	4500 F-D APHA 22nd Edn 2012	0.39	2.0
11	Dissolved Phosphate as P, mg/l	IS:3025 (Part-31)	0.48	5.0
12	Percent Sodium	IS:2296-1982	30.50	----
13	Sulphide as S, mg/l	IS:3025 (Part-29)	<1.0	2.0
14	Boron as B, mg/l	IS:3025 (Part-57)	0.11	2.0
15	Residual Sodium Carbonate, mg/l	IS:11624	Nil	----
16	Sulphates as SO ₄ , mg/l	IS:3025 (Part-24)	190	1,000
17	Iron as Fe, mg/l	IS:3025 (Part-53)	0.18	3.0
18	Total Volatile Suspended Solids, mg/l	IS:3025 (Part-18)	5.42	----

Note: All the values except pH are expressed in mg/L.

AUTHORISED SIGNATORY



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TEST REPORT

REF.NO: LAWN/ZCL/NOISE/013/2021

ANNEXURE - 5

Date: 02-11-2021

NOISE LEVEL DATA

Name of the Industry & : M/s. ZUARI CEMENT LIMITED.,
Address : Krishna Nagar P.O, Yerraguntla, Kadapa (Dist),
Andhra Pradesh – 516 311.

S.No	Locations	Equivalent Noise Levels in dB(A)	
		Day Time	Night Time
1	Plant Boundary - East	64.20	59.30
2	Plant Boundary - West	63.90	58.40
3	Plant Boundary - North	65.10	60.10
4	Plant Boundary - South	62.40	57.50
5	Near Health Centre	58.60	53.20
6	Near New Guest House	61.70	56.80

- Note:
1. Noise levels are monitored on 27-10-2021.
 2. Instrument Make: Lutron SL-4001/Q-635621, Calibrated On 11-08-2021, Due On 10-08-2022.
 3. Day time is reckoned in between 6.0 am and 10.0 pm – Limit 75 dB (A).
 4. Night time is reckoned in between 10.0 pm and 6.0 am – Limit 70 dB (A).

AUTHORISED SIGNATORY

OIC



ZCL/ YA/ EM /2021/Dee 06

Date:19.12.2021

The Member Secretary
Andhra Pradesh Pollution Control Board,
D No:33-26-14 D/2, Near Sunrise Hospital,
Puspha Hotel Centre,
Chalamavari Street, Kasturibaipet,
Vijayawada-520010

Zuari Cement Limited
CIN: U26942AP2000PLC050415
Krishna Nagar, Yerraguntla,
District Kadapa,
Andhra Pradesh - 516311,
Tel: +91 85632 75107 / 08
Fax: +91 85632 75101 / 64
www.zuaricements.com

Dear Sir,

Please find enclosed the reports of Stack Emissions, Ambient Air Quality, Waste Water quality and Ambient Noise Quality data of Zuari Cement Plant –Yerraguntla for the month of Nov 2021.

Thanking you,

Yours faithfully
For Zuari Cement Ltd



V.Madhava Reddy

AGM-Environment

Encl: As above

cc :

The Environment Engineer,
Andhra Pradesh Pollution Control Board,
Regional Office, 2nd Floor,
D.No.1/2277, Rajiv Park Road,
A.P. Housing Board Colony,
Kadapa – 516003.

Nov 2021

I.Ambient Air Quality						
S.NO	Location	Parameter →	PM ₁₀ µg/m ³	PM _{2.5} µg/m ³	SO ₂ µg/m ³	NOX µg/m ³
		Limit	100	60	80	80
1.	Near Main Gate		56.1	22.7	11.5	21.6
2.	Near Store		47.6	16.8	6.9	17.5
3.	Near Mines Office		52.8	18.9	8.5	18.4
4.	Near Pumphouse		64.5	24.3	9.7	20.9

II.Stack Emissions in Line-11						
1.	Kiln+Rawmill-1 Baghouse		16.6			
2.	Calciner +Rawmill-2 Baghouse		18.9			
3.	Cooler ESP		17.2			
4.	Coalmill-1Baghouse-1		Not in operation			
5.	Coalmill-1Baghouse-2		Not in operation			
6.	Coal mill-2 Baghouse		19.5			
7.	Cement mill-1 Baghouse		Shutdown			
8.	Cement mill-2 Baghouse		8.4			
9.	Cement mill-3 Baghouse		9.8			
10.	DG Set 1500KV		Not in operation		75mg/Nm ³	
11.	DG Set 750 KV		Not in operation		75mg/Nm ³	

Stack Emissions in Line-2						
1.	Kiln+Rawmill+Cooler Baghouse		Shutdown			
2.	Coal mill -3 Baghouse		Shutdown			
3.	Cement Mill-4 Baghouse		Shutdown			
4.	Crusher-3 Bagfilter		22.6			

III.Water Analysis Reports		pH	BOD mg/Ltr	COD mg/Ltr	S.S mg/Ltr	Oil & Grease mg/Ltr
Limiting Standards at Outlet		5.5 -9.0	100	250	100	10
1.	STP –Treated Effluent	7.67	12	31	34	<1.0

IV.Ambient Noise levels		Day time	Night time	Day - Limit	Night - Limit
1.	Planrt Boundary -East	60.4	55.1	75dB	70dB
2.	Planrt Boundary -West	61.9	56.7		
3.	Planrt Boundary –North	63.3	58.2		
4.	Planrt Boundary –South	64.7	59.3		
5.	Near Health Centre	55.3	50.4		
6.	Near New Guest house	59.9	54.6		

Note: Line-1 Cooler ESP trippings: NIL



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TEST REPORT

REF.NO: LAWN/ZCL/AAQ/009/2021

ANNEXURE - 2

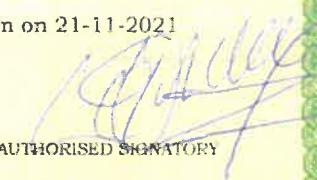
Date: 27-11-2021

AMBIENT AIR QUALITY DATA

Name of the Industry & : M/s. ZUARI CEMENT LIMITED.,
Address : Krishna Nagar P.O, Yerraguntla, YSR Kadapa (Dist),
Andhra Pradesh – 516 311.

Code	A-1	A-2	A-3	A-4	NAAQ Standards (24 hourly standard)	PROTOCOL/ TEST METHOD
Date	20-11-2021 to 21-11-2021	20-11-2021 to 21-11-2021	20-11-2021 to 21-11-2021	20-11-2021 to 21-11-2021		
Starting Time	01.00 pm	9.30 am	2.45 pm	10.30 am		
Ending Time	10.00 pm	9.30 am	11.45 pm	10.30 am		
Locations	Near Main Gate	Near Stores	Near Mines Office	Near Pump House		
PM ₁₀	56.1	47.6	52.8	64.5	100 ($\mu\text{g}/\text{m}^3$)	IS-5182 (Part-23); 2017 / Gravimetric Method
PM _{2.5}	22.7	16.8	18.9	24.3	60 ($\mu\text{g}/\text{m}^3$)	IS-5182 (Part-24); 2019 / Gravimetric Method
SO ₂	11.5	6.9	8.5	9.7	80 ($\mu\text{g}/\text{m}^3$)	IS-5182 (Part-2); 2018 / New West & Gaeke Method
NO ₂	21.6	17.5	18.4	20.9	80 ($\mu\text{g}/\text{m}^3$)	IS-5182 (Part-6); 2017 / JACOB & Hochheiser Method
CO	<1.0	<1.0	<1.0	<1.0	2.0(mg/m^3) (8 hrs)	IS-5182 (Part-10); 2019 GC Method

Note: The AAQM Monitoring started on 20-11-2021, 01.00 pm and was stopped at 10.45 pm on 21-11-2021 due to Rainfall. The Monitoring was resumed AT 07.30 AM ON 21-11-2021.


AUTHORISED SIGNATORY

- RESPIRABLE DUST SAMPLER MODEL/SL.NO. RDS 9000 / 090717, CALIBRATED ON 02-09-2021, DUE ON 01-09-2022
- RESPIRABLE DUST SAMPLER MODEL/SL.NO. RDS 9000 / 090718, CALIBRATED ON 02-09-2021, DUE ON 01-09-2022
- RESPIRABLE DUST SAMPLER MODEL/SL NO. RDS 9000 / 070706, CALIBRATED ON 19-05-2021, DUE ON 18-05-2022
- RESPIRABLE DUST SAMPLER MODEL/SL NO. RDS 9000 / 070707, CALIBRATED ON 19-05-2021, DUE ON 18-05-2022

- FINE PARTICULATE SAMPLER/APM 550 (SL.NO. 371-DTH-2011), CALIBRATED ON 16-02-2021, DUE ON 15-02-2022
- FINE PARTICULATE SAMPLER/APM 550 (SL.NO. 454-DTH-2011), CALIBRATED ON 16-02-2021, DUE ON 15-02-2022
- FINE PARTICULATE SAMPLER/APM 550 (SL.NO. 276-DTE-2010), CALIBRATED ON 16-08-2021, DUE ON 15-08-2022
- FINE PARTICULATE SAMPLER/APM 550 (SL.NO. 455-DTH-2010), CALIBRATED ON 12-08-2021, DUE ON 11-08-2022



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TEST REPORT

REF.NO: LAWN/ZCL/STACK/001/2021

ANNEXURE - 1

Date: 30-11-2021

STACK MONITORING DATA

Name of the Industry & : M/s. ZUARI CEMENT LIMITED.,
Address : Krishna Nagar P.O, Yerraguntla, YSR Kadapa (Dist),
Andhra Pradesh – 516 311.

S.No.	Parameters	Results		LIMIT	PROTOCOL
		Kiln + Raw Mill - 1	Calciner + Raw Mill - 2		
1	Date of Sampling	22-11-2021	22-11-2021	--	--
2	Time of Monitoring	12.00 pm	5.15 pm	--	--
3	Stack diameter (m)	4.25	2.98	--	--
4	Stack cross sectional area (m ²)	14.1790	6.971	--	--
5	Pollution Control Equipment	Bag House	Bag House	--	--
6	Ambient temperature (C)	32	28	--	--
7	Flue gas temperature (°C)	116	104	--	IS-11255 (Part-3); 2018
8	Exit velocity of flue gases (m/sec)	12.76	19.36	--	IS-11255 (Part-3); 2018
9	Flow rate (Nm ³ /hr)	4,45,795	3,43,172	--	IS-11255 (Part-3); 2018
10	Suspended particulate matter Concentration (mg/N m ³)	16.6	18.9	<30	IS-11255 (Part-1); 2019
11	PM Load based standard Kg/ton of clinker	0.0352	0.0308	0.125	CPCB Standard

AUTHORISED SIGNATORY

STACK MONITORING KIT : MODEL NO: APM-160/SI. NO. 75-DTD-2016, Calibrated on 03-04-2021, Due on 02-04-2022
M/s LATA ENVIROTECH SERVICES..

Head Office : "LAWN HOUSE", #184-C, Vengalrao Nagar, Hyderabad - 500 038 (T.S.) INDIA. Tel: 040-66730925, 66730926 Fax: 040-66730926

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E-mail : lawnenviro@yahoo.co.in, Website : www.lawnenviro.com



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TEST REPORT

REF.NO: LAWN/ZCL/STACK/002/2021

ANNEXURE - 1
Date: 30-11-2021

STACK MONITORING DATA

Name of the Industry & : M/s. ZUARI CEMENT LIMITED.,
Address : Krishna Nagar P.O, Yerraguntla, YSR Kadapa (Dist),
Andhra Pradesh – 516 311.

S.No.	Parameters	Cooler	Coal Mill - I	LIMIT	PROTOCOL
1	Date of Sampling	22-11-2021	Shut down	--	---
2	Time of Monitoring	2.40 pm		--	---
3	Stack diameter (m)	4.00		--	---
4	Stack cross sectional area (m ²)	12.56		--	---
5	Pollution Control Equipment	ESP		--	---
6	Ambient temperature (C)	34		--	---
7	Flue gas temperature (°C)	90		--	IS-11255 (Part-3); 2018
8	Exit velocity of flue gases (m/sec)	11.38		--	IS-11255 (Part-3); 2018
9	Flow rate (Nm ³ /hr)	3,77,511		--	IS-11255 (Part-3); 2018
10	Suspended particulate matter Concentration (mg/N m ³)	17.2		<30	IS-11255 (Part-1); 2019

AUTHORISED SIGNATORY

STACK MONITORING KIT : MODEL NO: VSS1/SI. No. 142-PTB-13, Calibrated on 03-04-2021, Due on 02-04-2022
M/s. VAYUBODHAN STACK SAMPLE



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TEST REPORT

REF.NO: LAWN/ZCL/STACK/003/2021

ANNEXURE - 1
Date: 30-11-2021

STACK MONITORING DATA

Name of the Industry & : M/s. ZUARI CEMENT LIMITED.,
Address : Krishna Nagar P.O, Yerraguntla, YSR Kadapa (Dist),
Andhra Pradesh – 516 311.

S.No.	Parameters	Coal Mill - I	Coal Mill - II	LIMIT	PROTOCOL
1	Date of Sampling	Shut down	21-11-2021	--	--
2	Time of Monitoring		7.15 pm	--	--
3	Stack diameter (m)		1.50	--	--
4	Stack cross sectional area (m ²)		1.766	--	--
5	Pollution Control Equipment		Bag House	--	--
6	Ambient temperature (C)		28	--	--
7	Flue gas temperature (°C)		89	--	IS-11255 (Part-3); 2018
8	Exit velocity of flue gases (m/sec)		10.13	--	IS-11255 (Part-3); 2018
9	Flow rate (Nm ³ /hr)		47,412	--	IS-11255 (Part-3); 2018
10	Suspended particulate matter Concentration (mg/N m ³)		19.5	<30	IS-11255 (Part-1); 2019



AUTHORISED SIGNATORY

STACK MONITORING KIT : MODEL NO: APM-160/SI. NO. 75-DID-2016, Calibrated on 03-04-2021, Due on 02-04-2022
M/s. LATA ENVIROTECH SERVICES.,



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TEST REPORT

REF.NO: LAWN/ZCL/STACK/008/2021

ANNEXURE - 1

Date: 30-11-2021

STACK MONITORING DATA

Name of the Industry & : M/s. ZUARI CEMENT LIMITED.,
Address : Krishna Nagar P.O, Yerraguntla, YSR Kadapa (Dist),
Andhra Pradesh – 516 311.

S.No.	Parameters	Cement Mill-I Bag House	LIMIT	PROTOCOL
1	Date of Sampling	Shut Down	--	--
2	Time of Monitoring		--	--
3	Stack diameter (m)		--	--
4	Stack cross sectional area (m ²)		--	--
5	Pollution Control Equipment		--	--
6	Ambient temperature (C)		--	--
7	Flue gas temperature (°C)		--	IS-11255 (Part-3); 2018
8	Exit velocity of flue gases (m/sec)		--	IS-11255 (Part-3); 2018
9	Flow rate (Nm ³ /hr)		--	IS-11255 (Part-3); 2018
10	Suspended particulate matter Concentration (mg/N m ³)		<30	IS-11255 (Part-1); 2019

AUTHORISED SIGNATORY

STACK MONITORING KIT : MODEL NO: APM-160/SI. No. 75-LTD-2016, Calibrated on 03-04-2021, Due on 02-04-2022
M/s. LATA ENVIROTECH SERVICES.



LAWN ENVIRO ASSOCIATES

[Engineers & Consultants in Pollution Control]

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& Laboratory Accredited by NABL

TEST REPORT

REF.NO: LAWN/ZCL/STACK/004/2021

ANNEXURE - 1

Date: 30-11-2021

STACK MONITORING DATA

Name of the Industry & : M/s. ZUARI CEMENT LIMITED.,
Address : Krishna Nagar P.O, Yerraguntla, YSR Kadapa (Dist),
Andhra Pradesh – 516 311.

S.No.	Parameters	Results		LIMIT	PROTOCOL
		Cement Mill - II	Cement Mill - III		
1	Date of Sampling	21-11-2021	21-11-2021	--	--
2	Time of Monitoring	12.00 pm	1.10 pm	--	--
3	Stack diameter (m)	1.12	1.12	--	--
4	Stack cross sectional area (m ²)	0.984	0.984	--	--
5	Pollution Control Equipment	Bag House	Bag House	--	--
6	Ambient temperature (C)	28	29	--	--
7	Flue gas temperature (°C)	97	98	--	IS-11255 (Part-3); 2018
8	Exit velocity of flue gases (m/sec)	13.8	15.4	--	IS-11255 (Part-3); 2018
9	Flow rate (Nm ³ /hr)	35,240	39,220	--	IS-11255 (Part-3); 2018
10	Suspended particulate matter Concentration (mg/N m ³)	8.4	9.8	<30	IS-11255 (Part-1); 2019


AUTHORIZED SIGNATORY

STACK MONITORING KIT : MODEL NO: APM-160/SI. No. 75-IDB-2016, Calibrated on 03-04-2021, Due on 02-04-2022
M/s. LATA ENVIROTECH SERVICES,



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& Laboratory Accredited by NABL

TEST REPORT

REF.NO: LAWN/ZCL/STACK/005/2021

ANNEXURE - 1
Date: 30-11-2021

STACK MONITORING DATA

Name of the Industry & : M/s. ZUARI CEMENT LIMITED.,
Address : Krishna Nagar P.O, Yerraguntla, YSR Kadapa (Dist),
Andhra Pradesh – 516 311.

S.No.	Parameters	Results		LIMIT	PROTOCOL
		Kiln + Raw Mill + Cooler	Coal Mill - III		
1	Date of Sampling	Shut down	Shut down	--	--
2	Time of Monitoring			--	--
3	Stack diameter (m)			--	--
4	Stack cross sectional area (m ²)			--	--
5	Pollution Control Equipment			--	--
6	Ambient temperature (C)			--	--
7	Flue gas temperature (°C)			--	IS-11255 (Part-3); 2018
8	Exit velocity of flue gases (m/sec)			--	IS-11255 (Part-3); 2018
9	Flow rate (Nm ³ /hr)			--	IS-11255 (Part-3); 2018
10	Suspended particulate matter Concentration (mg/N m ³)			<30	IS-11255 (Part-1); 2019
11	PM Load based standard Kg/ton of clinker			0.125	CPCB Standard



AUTHORISED SIGNATORIES

STACK MONITORING KIT : MODEL NO: APM-160/SI. No. 75-DTD-2016, Calibrated on 03-04-2021, Due on 02-04-2022
M/s. LATA ENVIROTECH SERVICES.,



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TEST REPORT

REF.NO: LAWN/ZCL/STACK/006/2021

ANNEXURE - 1

Date: 30-11-2021

STACK MONITORING DATA

Name of the Industry & : M/s. ZUARI CEMENT LIMITED.,
Address : Krishna Nagar P.O, Yerraguntla, YSR Kadapa (Dist),
Andhra Pradesh – 516 311.

S.No.	Parameters	Cement Mill - IV	Crusher-III	LIMIT	PROTOCOL
1	Date of Sampling	Shut down	21-11-2021	---	---
2	Time of Monitoring		10.30 am	--	---
3	Stack diameter (m)		1.20	--	---
4	Stack cross sectional area (m^2)		1.130	--	---
5	Pollution Control Equipment		Bag Filter	--	---
6	Ambient temperature (C)		29	--	---
7	Flue gas temperature (°C)		42	--	IS-11255 (Part-3); 2018
8	Exit velocity of flue gases (m/sec)		8.45	--	IS-11255 (Part-3); 2018
9	Flow rate (Nm ³ /hr)		32,106	--	IS-11255 (Part-3); 2018
10	Suspended particulate matter Concentration (mg/N m ³)		22.6	<30	IS-11255 (Part-1); 2019

AUTHORISED SIGNATORY

STACK MONITORING KIT : MODEL NO: APM-160/SI. No. 75-DTD-2016, Calibrated on 03-04-2021, Due on 02-04-2022
M/s. LATA ENVIROTECH SERVICES.



ISO 9001: 2008 & 46001
CERTIFIED COMPANY

LAWN ENVIRO ASSOCIATES

[Engineers & Consultants in Pollution Control]

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TEST REPORT

ANNEXURE - 1

Date: 30-11-2021

REF.NO: LAWN/ZCL/STACK/007/2021

STACK MONITORING DATA

Name of the Industry & Address : **M/s. ZUARI CEMENT LIMITED.,**
Krishna Nagar P.O, Yerraguntla, YSR Kadapa (Dist), Andhra Pradesh – 516 311.

S.No.	Parameters	1500 KVA D.G. Set	4x750 KVA D.G.Sets	LIMIT	PROTOCOL
1	Date of Sampling	Shut down	Shut down	--	---
2	Time of Monitoring			--	---
3	Stack diameter (m)			--	---
4	Stack cross sectional area (m ²)			--	---
5	Pollution Control Equipment			--	---
6	Ambient temperature (C)			--	---
7	Flue gas temperature (°C)			--	IS-11255 (Part-3); 2018
8	Exit velocity of flue gases (m/sec)			--	IS-11255 (Part-3); 2018
9	Flow rate (Nm ³ /hr)			--	IS-11255 (Part-3); 2018
10	Suspended particulate matter Concentration (mg/N m ³)			<115	IS-11255 (Part-1); 2019
11	Sulphur Dioxide (SO ₂)			--	IS-11255 (Part-2); 2019
12	Oxides of Nitrogen (NO _x)			--	IS-11255 (Part-7); 2017


AUTHORISED SIGNATORY

STACK MONITORING KIT : MODEL NO: APM-160/SI. No. 75-DTD-2016, Calibrated on 03-04-2021, Due on 02-04-2022
M/s. LATA ENVIROTECH SERVICES,



LAWN ENVIRO ASSOCIATES

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TEST REPORT

REF.NO: LAWN/ZCL/WW/011/2021

ANNEXURE - 4

Date: 27-11-2021

WASTE WATER ANALYSIS

Name of the Industry & : M/s. ZUARI CEMENT LIMITED.,
Address : Krishna Nagar P.O, Yerraguntla, YSR Kadapa (Dist),
Andhra Pradesh - 516 311.

Date of Collection : 22-11-2021
Date of Analysis : 23-11-2021
PROTOCOL : A.P.H.A. 23rd Edition, 2017 & IS 3025

S.No.	Parameters	PROTOCOL	STP OUTLET	
			STP Outlet Water	GSR 422E (Inland surface water)
1	Colour (Hazen Units)	IS:3025 (Part-4)	<5	See Note - 1
2	Odour	IS:3025 (Part-5)	Agreeable	See Note - 1
3	pH	IS:3025 (Part-11)	7.67	5.5 – 9.0
4	Oil & Grease, mg/l	IS:3025 (Part-39)	<1.0	10
5	Total Suspended Solids, mg/l	IS:3025 (Part-17)	34	100
6	Total Dissolved Solids at 105 °C, mg/l	IS:3025 (Part-16)	1,674	2,100
7	Bio Chemical Oxygen Demand for (3 days at 27°C), mg/l	IS:3025 (Part-44)	12	30
8	Chemical Oxygen Demand, mg/l	IS:3025 (Part-58)	31	250
9	Chlorides as Cl, mg/l	IS:3025 (Part-32)	284	1,000
10	Fluorides as F, mg/l	4500 F-D APHA 22 nd Edn 2012	0.46	2.0
11	Dissolved Phosphate as P, mg/l	IS:3025 (Part-31)	0.57	5.0
12	Percent Sodium	IS:2296-1982	36.60	----
13	Sulphide as S, mg/l	IS:3025 (Part-29)	<1.0	2.0
14	Boron as B, mg/l	IS:3025 (Part-57)	0.13	2.0
15	Residual Sodium Carbonate, mg/l	IS:11624	Nil	----
16	Sulphates as SO ₄ , mg/l	IS:3025 (Part-24)	228	1,000
17	Iron as Fe, mg/l	IS:3025 (Part-53)	0.24	3.0
18	Total Volatile Suspended Solids, mg/l	IS:3025 (Part-18)	6.50	----

AUTHORISED SIGNATORY





ISO 9001, 14001 & 45001
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TEST REPORT

REF.NO: LAWN/ZCL/NOISE/013/2021

ANNEXURE - 5

Date: 27-11-2021

NOISE LEVEL DATA

Name of the Industry & : M/s. ZUARI CEMENT LIMITED.,
Address : Krishna Nagar P.O, Yerraguntla, YSR Kadapa (Dist),
Andhra Pradesh – 516 311.

S.No	Locations	Equivalent Noise Levels in dB(A)	
		Day Time	Night Time
1	Plant Boundary - East	60.40	55.10
2	Plant Boundary - West	61.90	56.70
3	Plant Boundary - North	63.30	58.20
4	Plant Boundary - South	64.70	59.30
5	Near Health Centre	55.30	50.40
6	Near New Guest House	59.90	54.60

- Note:**
1. Noise levels are monitored on 18-11-2021.
 2. Instrument Make: Lutron SL-4001/Q-635621, Calibrated On 11-08-2021, Due On 10-08-2022.
 3. Day time is reckoned in between 6.0 am and 10.0 pm – Limit 75 dB (A).
 4. Night time is reckoned in between 10.0 pm and 6.0 am – Limit 70 dB (A).



AUTHORISED SIGNATORY

O/C



Zuari Cement
HEIDELBERGCEMENT Group

Zuari Cement Limited
CIN: U26942AP2000PLCO50415
Krishna Nagar, Yerraguntla,
District Kadapa,
Andhra Pradesh - 516311,
Tel: +91 85632 75107 / 08
Fax: +91 85632 75101 / 64
www.zuaricements.com

ZCL/ YA/ EM /2022/ *Janoy*

Date:09.01.2021

The Member Secretary
Andhra Pradesh Pollution Control Board,
D No:33-26-14 D/2, Near Sunrise Hospital,
Puspha Hotel Centre,
Chalamavari Street, Kasturibaipet,
Vijayawada-520010

Dear Sir,

Please find enclosed the reports of Stack Emissions, Ambient Air Quality, Waste Water quality and
Ambient Noise Quality data of Zuari Cement Plant –Yerraguntla for the month of Dec 2021.

Thanking you,

Yours faithfully
For Zuari Cement Ltd

V.Madhava Reddy
V.Madhava Reddy
AGM-Environment

Encl: As above

cc :

The Environment Engineer,
Andhra Pradesh Pollution Control Board,
Regional Office, 2nd Floor,
D.No.1/2277, Rajiv Park Road,
A.P. Housing Board Colony,
Kadapa – 516003.

Dec 2021

I.Ambient Air Quality						
S.NO	Location	Parameter →	PM ₁₀ µg/m ³	PM _{2.5} µg/m ³	SO ₂ µg/m ³	NOX µg/m ³
		Limit	100	60	80	80
1.	Near Main Gate		59.8	21.6	10.7	20.4
2.	Near Store		44.3	15.6	7.4	18.2
3.	Near Mines Office		49.4	19.7	9.2	20.1
4.	Near Pumphouse		55.6	22.2	8.6	19.3

II.Stack Emissions in Line-11						
1.	Kiln+Rawmill-1 Baghouse		16.9			
2.	Calciner +Rawmill-2 Baghouse		18.9			
3.	Cooler ESP		17.0			
4.	Coalmill-1Baghouse-1		15.7			
5.	Coalmill-1Baghouse-2		20.8			
6.	Coal mill-2 Baghouse		19.5			
7.	Cement mill-1 Baghouse		Shutdown			
8.	Cement mill-2 Baghouse		12.3			
9.	Cement mill-3 Baghouse		13.8			
10.	DG Set 1500KV			Not in operation	75mg/Nm ³	
11.	DG Set 750 KV			Not in operation	75mg/Nm ³	

Stack Emissions in Line-2						
1.	Kiln+Rawmill+Cooler Baghouse		10.2			
2.	Coal mill -3 Baghouse		14.8			
3.	Cement Mill-4 Baghouse		23.2			
4.	Crusher-3 Bagfilter		26.5			

III.Water Analysis Reports		pH	BOD mg/Ltr	COD mg/Ltr	S.S mg/Ltr	Oil & Grease mg/Ltr
Limiting Standards at Outlet		5.5 -9.0	100	250	100	10
1.	STP -Treated Effluent	7.48	11	28	31	<1.0

IV.Ambient Noise levels		Day time	Night time	Day - Limit	Night -Limit
1.	Planrt Boundary -East	58.4	53.2		
2.	Planrt Boundary -West	62.2	57.1		
3.	Planrt Boundary -North	61.1	56.9		
4.	Planrt Boundary -South	63.5	58.3		
5.	Near Health Centre	59.6	54.2		
6.	Near New Guest house	57.4	52.4		

Note: Line-1 Cooler ESP trippings: NIL



LAWN ENVIRO ASSOCIATES
Engineering & Consultants in Pollution Control

TEST REPORT

REF NO: LAWN/ZCL/AAQ/009/2021

ANNEXURE - 2
Date: 31-12-2021

AMBIENT AIR QUALITY DATA

Name of the Industry & : **M/s. ZUARI CEMENT LIM TED.,**
Address : Krishna Nagar P.O, Yerraguntla, YSR Kadapa (Dist),
Andhra Pradesh - 516 311

Code	A-1	A-2	A-3	A-4	NAAQ Standards (24 hourly standard)	PROTOCOL/ TEST METHOD
Date	21-12-2021 to 22-12-2021	21-12-2021 to 22-12-2021	21-12-2021 to 22-12-2021	21-12-2021 to 22-12-2021		
Starting Time	8.05 am	8.35 am	9.00 am	9.45 am		
Ending Time	8.05 am	8.35 am	9.00 am	9.45 am		
Locations	Near Main Gate	Near Stores	Near Mines Office	Near Pump House		
PM ₁₀	59.8	44.3	49.4	55.6	100 ($\mu\text{g}/\text{m}^3$)	IS-5182 (Part-23); 2017 / Gravimetric Method
PM _{2.5}	21.6	15.6	19.7	22.2	60 ($\mu\text{g}/\text{m}^3$)	IS-5182 (Part-24); 2019 / Gravimetric Method
SO ₂	10.7	7.4	9.2	8.6	80 ($\mu\text{g}/\text{m}^3$)	IS-5182 (Part-2); 2018 / New West & Gaeke Method
NO ₂	20.4	18.2	20.1	19.3	80 ($\mu\text{g}/\text{m}^3$)	IS-5182 (Part-6); 2017 / JACOB & Hochheiser Method
CO	<1.0	<1.0	<1.0	<1.0	2.0(mg/m^3) (8 hrs)	IS-5182 (Part-10); 2019 GC Method


AUTHORISED SIGNATORY

- RESPIRABLE DUST SAMPLER MODEL/SL.NO. RDS 9000 / 090717, CALIBRATED ON 02-09-2021, DUE ON 01-09-2022
- RESPIRABLE DUST SAMPLER MODEL/SL.NO. RDS 9000 / 090718, CALIBRATED ON 02-09-2021, DUE ON 01-09-2022
- RESPIRABLE DUST SAMPLER MODEL/SL.NO. RDS 9000 / 070706, CALIBRATED ON 19-05-2021, DUE ON 18-05-2022
- RESPIRABLE DUST SAMPLER MODEL/SL.NO. RDS 9000 / 070707, CALIBRATED ON 19-05-2021, DUE ON 18-05-2022

- FINE PARTICULATE SAMPLER/APM 550 (SL.NO. 371-DTF-2011), CALIBRATED ON 16-02-2021, DUE ON 15-02-2022
- FINE PARTICULATE SAMPLER/APM 550 (SL.NO. 454-DTII-2011), CALIBRATED ON 16-02-2021, DUE ON 15-02-2022
- FINE PARTICULATE SAMPLER/APM 550 (SL.NO. 276-DTE-2010), CALIBRATED ON 16-08-2021, DUE ON 15-08-2022
- FINE PARTICULATE SAMPLER/APM 550 (SL.NO. 455-DTH-2010). CALIBRATED ON 12-08-2021, DUE ON 11-08-2022



LAWN ENVIRO ASSOCIATES
[Engineering & Consultancy in Pollution Control]

TEST REPORT

ANNEXURE - 1
Date: 31-12-2021

REF.NO: LAWN/ZCL/STACK/001/2021

STACK MONITORING DATA

Name of the Industry & Address : **M/s. ZUARI CEMENT LIMITED.,**
: Krishna Nagar P.O, Yerraguntla, YSR Kadapa (Dist),
Andhra Pradesh - 516 311.

S.No.	Parameters	Results		LIMIT	PROTOCOL
		Kiln + Raw Mill - 1	Calciner + Raw Mill - 2		
1	Date of Sampling	21-12-2021	22-12-2021	--	--
2	Time of Monitoring	2.35 pm	9.25 pm	--	--
3	Stack diameter (m)	4.25	2.98	--	--
4	Stack cross sectional area (m ²)	14.1790	6.971	--	--
5	Pollution Control Equipment	Bag House	Bag House	--	--
6	Ambient temperature (C)	35	31	--	--
7	Flue gas temperature (oC)	120	102	--	IS-11255 (Part-3); 2018
8	Exit velocity of flue gases (m/sec)	12.49	20.73	--	IS-11255 (Part-3); 2018
9	Flow rate (Nm ³ /hr)	4,31,921	3,69,46	--	IS-11255 (Part-3); 2018
10	Suspended particulate matter Concentration (mg/N m ³)	16.9	18.9	<30	IS-11255 (Part-1); 2019
11	PM Load based standard Kg/ton of clinker	0.0419	0.0401	0.125	CPCB Standard

AUTHORISED SIGNATORY

STACK MONITORING KIT : MODEL NO: APM-160/Sl. No. 75-DTD-2016, Calibrated on 03-04-2021, Due on 02-04-2022
M/s. LATA ENVIROTECH SERVICES.,



LAWN ENVIRO ASSOCIATES
Engineers & Consultants in Pollution Control

TEST REPORT

REF.NO: LAWN/ZCL/STACK/002/2021

ANNEXURE - 1

Date: 31-12-2021

STACK MONITORING DATA

Name of the Industry & : **M/s. ZUARI CEMENT LTD.,**
Address : Krishna Nagar P.O, Yerraguntla, YSR Kadapa (Dist),
Andhra Pradesh – 516 311.

S.No.	Parameters	Cooler	Coal Mill - I	LIMIT	PROTOCOL
1	Date of Sampling	21-12-2021	21-12-2021	--	---
2	Time of Monitoring	4.40 pm	5.45 pm	--	---
3	Stack diameter (m)	4.00	1.00	--	---
4	Stack cross sectional area (m ²)	12.56	0.785	--	---
5	Pollution Control Equipment	ESP	Bag House-1	--	---
6	Ambient temperature (C)	36	33	--	---
7	Flue gas temperature (°C)	95	75	--	IS-11255 (Part-3); 2018
8	Exit velocity of flue gases (m/sec)	10.47	11.86	--	IS-11255 (Part-3); 2018
9	Flow rate (Nm ³ /hr)	3,42,142	25,618	--	IS-11255 (Part-3); 2018
10	Suspended particulate matter Concentration (mg/N m ³)	17.0	15.1	<30	IS-11255 (Part-1); 2019

AUTHORISED SIGNATORY

STACK MONITORING KIT : MODEL NO: VSS1/SI. No. 142-DTB-13, Calibrated on 03-04-2021, Due on 02-04-2022
M/s. VAYUBODHAN STACK SAMPLER



LAWN ENVIRO ASSOCIATES
[Engineers & Consultants in Pollution Control]

TEST REPORT

ANNEXURE - 1
Date: 31-12-2021

REF.NO: LAWN/ZCL/STACK/003/2021

STACK MONITORING I ATA

Name of the Industry & : **M/s. ZUARI CEMENT LIM TED.,**
Address : Krishna Nagar P.O, Yerraguntla, YSR Kadapa (Dist),
Andhra Pradesh – 516 311

S.No.	Parameters	Coal Mill - I	Coal Mill - II	LIMIT	PROTOCOL
1	Date of Sampling	21-12-2021	23- 2-2021	--	---
2	Time of Monitoring	07.45 pm	9.30 am	--	---
3	Stack diameter (m)	1.32	1.50	--	---
4	Stack cross sectional area (m ²)	1.368	.766	--	---
5	Pollution Control Equipment	Bag House - 2	Bag House	--	---
6	Ambient temperature (C)	34	30	--	---
7	Flue gas temperature (°C)	78	84	--	IS-11255 (Part-3); 2018
8	Exit velocity of flue gases (m/sec)	9.96	10.98	--	IS-11255 (Part-3); 2018
9	Flow rate (Nm ³ /hr)	37,151	51,054	--	IS-11255 (Part-3); 2018
10	Suspended particulate matter Concentration (mg/N m ³)	20.8	19.50	<30	IS-11255 (Part-1); 2019


AUTHORISED SIGNATORY

STACK MONITORING KIT : MODEL NO: APM-160/SI No 75-DTD-2016, Calibrated on 03-04-2021, Due on 02-04-2022
M/s. LATA ENVIROTECH SERVICES.,



LAWN ENVIRO ASSOCIATES
Engineering & Consultancy in Pollution Control

TEST REPORT

REF.NO: LAWN/ZCL/STACK/008/2021

ANNEXURE - 1
Date: 31-12-2021

STACK MONITORING DATA

Name of the Industry & : **M/s. ZUARI CEMENT LTD.,**
Address : Krishna Nagar P.O, Yerraguntla, YSR Kadapa (Dist),
Andhra Pradesh – 516 311.

S.No.	Parameters	Cement Mill-Bag House	LIMIT	PROTOCOL
1	Date of Sampling	Shut down	--	--
2	Time of Monitoring		--	--
3	Stack diameter (m)		--	--
4	Stack cross sectional area (m ²)		--	--
5	Pollution Control Equipment		--	--
6	Ambient temperature (C)		--	--
7	Flue gas temperature (°C)		--	IS-11255 (Part-3); 2018
8	Exit velocity of flue gases (m/sec)		--	IS-11255 (Part-3); 2018
9	Flow rate (Nm ³ /hr)		--	IS-11255 (Part-3); 2018
10	Suspended particulate matter Concentration (mg/N m ³)		<30	IS-11255 (Part-1); 2019

AUTHORISED SIGNATORY

STACK MONITORING KIT : MODEL NO: APM-160/SI. No. 75-DTD-2016, Calibrated on 03-04-2021, Due on: 02-04-2022
M/s. LATA ENVIROTECH SERVICES.,



LAWN ENVIRO ASSOCIATES
Engineers & Consultants in Pollution Control

TEST REPORT

REF.NO: LAWN/ZCL/STACK/004/2021

ANNEXURE - 1

Date: 31-12-2021

STACK MONITORING DATA

Name of the Industry & : M/s. ZUARI CEMENT LTD.,
Address : Krishna Nagar P.O, Yerraguntla, YSR Kadapa (Dist),
Andhra Pradesh – 516 311.

S.No.	Parameters	Results		LIMIT	PROTOCOL
		Cement Mill - II	Cement Mill - III		
1	Date of Sampling	22-12-2021	22-12-2021	--	---
2	Time of Monitoring	12.30 pm	11.00 am	--	---
3	Stack diameter (m)	1.12	1.12	--	---
4	Stack cross sectional area (m ²)	0.984	0.984	--	---
5	Pollution Control Equipment	Bag House	Bag House	--	---
6	Ambient temperature (C)	32	30	--	---
7	Flue gas temperature (°C)	85	81	--	IS-11255 (Part-3); 2018
8	Exit velocity of flue gases (m/sec)	12.92	14.95	--	IS-11255 (Part-3); 2018
9	Flow rate (Nm ³ /hr)	34,081	39,832	--	IS-11255 (Part-3); 2018
10	Suspended particulate matter Concentration (mg/N m ³)	12.3	13.8	<30	IS-11255 (Part-1); 2019

AUTHORISED SIGNATORY

STACK MONITORING KIT : MODEL NO: APM-160/SI. No. 75-DTD-2016, Calibrated on 03-04-2021, Due on 02-04-2022
M/s. LATA ENVIROTECH SERVICES.,



LAWN ENVIRO ASSOCIATES

(Engineering & Consultancy in Pollution Control)

TEST REPORT

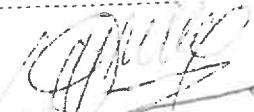
REF.NO: LAWN/ZCL/STACK/005/2021

ANNEXURE - 1
Date: 31-12-2021

STACK MONITORING DATA

Name of the Industry & : M/s. ZUARI CEMENT LIM TED.,
Address : Krishna Nagar P.O, Yerraguntla, YSR Kadapa (Dist),
Andhra Pradesh - 516 311.

S.No.	Parameters	Results		LIMIT	PROTOCOL
		Kiln + Raw Mill + Cooler	Coal Mill - III		
1	Date of Sampling	22-12-2021	23-12-2021	--	--
2	Time of Monitoring	4.45 pm	10.45 am	--	--
3	Stack diameter (m)	11.67	2.10	--	--
4	Stack cross sectional area (m ²)	106.908	3.61	--	--
5	Pollution Control Equipment	Bag House	Bag House	--	--
6	Ambient temperature (C)	31	34	--	--
7	Flue gas temperature (°C)	104	75	--	IS-11255 (Part-3); 2018
8	Exit velocity of flue gases (m/sec)	3.42	10.68	--	IS-11255 (Part-3); 2018
9	Flow rate (Nm ³ /hr)	9,29,070	1,01,500	--	IS-11255 (Part-3); 2018
10	Suspended particulate matter Concentration (mg/N m ³)	10.2	14.8	<30	IS-11255 (Part-1); 2019
11	PM Load based standard Kg/ton of clinker	0.0467	--	0.125	CPCB Standard


AUTHORISED SIGNATORY

STACK MONITORING KIT : MODEL NO: APM-160/SI. No. 75-LTD-2016, Calibrated on 03-04-2021, Due on 02-04-2022
M/s. LATA ENVIROTECH SERVICES ,



LAWN ENVIRO ASSOCIATES

Engineering & Consultancies in Pollution Control

TEST REPORT

REF.NO: LAWN/ZCL/STACK/006/2021

ANNEXURE - 1

Date: 31-12-2021

STACK MONITORING DATA

Name of the Industry & : M/s. ZUARI CEMENT LTD.,
Address : Krishna Nagar P.O, Yerraguntla, YSR Kadapa (Dist),
Andhra Pradesh - 516 311.

S.No.	Parameters	Cement Mill - IV	Crusher-III	LIMIT	PROTOCOL
1	Date of Sampling	22-12-2021	23-12-2021	--	---
2	Time of Monitoring	3.25 pm	2.30 pm	--	---
3	Stack diameter (m)	3.80	1.20	--	---
4	Stack cross sectional area (m ²)	11.335	1.30	--	---
5	Pollution Control Equipment	Bag House	Bag Filter	--	---
6	Ambient temperature (C)	33	31	--	---
7	Flue gas temperature (°C)	86	45	--	IS-11255 (Part-3); 2018
8	Exit velocity of flue gases (m/sec)	9.87	8.01	--	IS-11255 (Part-3); 2018
9	Flow rate (Nm ³ /hr)	2,98,829	27,302	--	IS-11255 (Part-3); 2018
10	Suspended particulate matter Concentration (mg/N m ³)	23.2	26.5	<30	IS-11255 (Part-1); 2019

AUTHORISED SIGNATORY

STACK MONITORING KIT : MODEL NO: APM-160/SI. No. 75-DTD-2016, Calibrated on 03-04-2021, Due on 02-04-2022
M/s. LATA ENVIROTECH SERVICES.,



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[Engineers & Consultants in Pollution Control]

TEST REPORT

REF.NO: LAWN/ZCL/STACK/007/2021

ANNEXURE - 1

Date: 31-12-2021

STACK MONITORING DATA

Name of the Industry & : M/s. ZUARI CEMENT LTD.,
 Address : Krishna Nagar P.O, Yerraguntla, YSR Kadapa (Dist),
 Andhra Pradesh - 516 311.

S.No.	Parameters	1500 KVA D.G. Set	4x750 KVA D.G Sets	LIMIT	PROTOCOL
1	Date of Sampling	Shut down	Shut down	--	--
2	Time of Monitoring			--	--
3	Stack diameter (m)			--	--
4	Stack cross sectional area (m ²)			--	--
5	Pollution Control Equipment			--	--
6	Ambient temperature (C)			--	--
7	Flue gas temperature (°C)			--	IS-11255 (Part-3); 2018
8	Exit velocity of flue gases (m/sec)			--	IS-11255 (Part-3); 2018
9	Flow rate (Nm ³ /hr)			--	IS-11255 (Part-3); 2018
10	Suspended particulate matter Concentration (mg/N m ³)			<115	IS-11255 (Part-1); 2019
11	Sulphur Dioxide (SO ₂)			--	IS-11255 (Part-2); 2019
12	Oxides of Nitrogen (NO _x)			--	IS-11255 (Part-7); 2017

AUTHORISED SIGNATORY

STACK MONITORING KIT : MODEL NO: APM-160/SI. No. 75-DTD-2016, Calibrated on 03-04-2021, Due on 02-04-2022
 M/s. LATA ENVIROTECH SERVICES.,



LAWN ENVIRO ASSOCIATES
 [Engineers & Consultants in Pollution Control]

TEST REPORT

REF.NO: LAWN/ZCL/WW/011/2021

ANNEXURE - 4
 Date: 31-12-2021

WASTE WATER ANALYSIS

Name of the Industry & : M/s. ZUARI CEMENT LIM TED.,
 Address : Krishna Nagar P.O, Yerraguntla, YSR Kadapa (Dist),
 Andhra Pradesh - 516 311.

Date of Collection : 24-12-2021
 Date of Analysis : 25-12-2021
 PROTOCOL : A.P.H.A. 23rd Edition, 2017 & IS 3: 25

S.No.	Parameters	PROTOCOL	STP OUTLET	
			STP Outlet Water	GSR 422E (Inland surface water)
1	Colour (Hazen Units)	IS:3025 (Part 4)	<5	See Note - 1
2	Odour	IS:3025 (Part 5)	Agreeable	See Note - 1
3	pH	IS:3025 (Part 11)	7.48	5.5 – 9.0
4	Oil & Grease, mg/l	IS:3025 (Part 39)	<1.0	10
5	Total Suspended Solids, mg/l	IS:3025 (Part 17)	31	100
6	Total Dissolved Solids at 105 °C, mg/l	IS:3025 (Part 16)	1,507	2,100
7	Bio Chemical Oxygen Demand for (3 days at 27°C), mg/l	IS:3025 (Part 44)	11	30
8	Chemical Oxygen Demand, mg/l	IS:3025 (Part 58)	28	250
9	Chlorides as Cl, mg/l	IS:3025 (Part 32)	256	1,000
10	Fluorides as F, mg/l	4500 F-D AF HA 22 nd Edn 2012	0.41	2.0
11	Dissolved Phosphate as P, mg/l	IS:3025 (Part 31)	0.51	5.0
12	Percent Sodium	IS:2296-19 Part 2	32.94	----
13	Sulphide as S, mg/l	IS:3025 (Part 29)	<1.0	2.0
14	Boron as B, mg/l	IS:3025 (Part 57)	0.11	2.0
15	Residual Sodium Carbonate, mg/l	IS:11624	Nil	----
16	Sulphates as SO ₄ , mg/l	IS:3025 (Part 24)	205	1,000
17	Iron as Fe, mg/l	IS:3025 (Part 53)	0.20	3.0
18	Total Volatile Suspended Solids, mg/l	IS:3025 (Part 18)	5.85	----

AUTHORISED SIGNATORY



LAWN ENVIRO ASSOCIATES

(Engineers & Consultants in Pollution Control)

TEST REPORT

REF.NO: LAWN/ZCL/NOISE/013/2021

ANNEXURE - 5

Date: 31-12-2021

NOISE LEVEL DATA

Name of the Industry & : M/s. ZUARI CEMENT LIMITED.,
Address : Krishna Nagar P.O, Yerraguntla, YSR Kadapa (Dist),
Andhra Pradesh - 516 311.

S.No	Locations	Equivalent Noise Levels in dB(A)	
		Day Time	Night Time
1	Plant Boundary - East	58.40	53.20
2	Plant Boundary - West	62.00	57.10
3	Plant Boundary - North	61.10	56.90
4	Plant Boundary - South	63.50	58.30
5	Near Health Centre	59.00	54.20
6	Near New Guest House	57.10	52.40

- Note:**
1. Noise levels are monitored on 22-12-2021.
 2. Instrument Make: Lutron SL-4001/Q-635621, Calibrated On 11-08-2021, Due On 10-08-2022.
 3. Day time is reckoned in between 6.0 am and 10.0 pm – Limit 75 dB (A).
 4. Night time is reckoned in between 10.0 pm and 6.0 am – Limit 70 dB (A).

AUTHORISED SIGNATORY

O/C



ZCL/ YA/ EM /2022/ *Debos*

Date: 19.02.2022

The Member Secretary
Andhra Pradesh Pollution Control Board,
D No:33-26-14 D/2, Near Sunrise Hospital,
Puspha Hotel Centre,
Chalamavari Street, Kasturbaipet,
Vijayawada-520010

Zuari Cement Limited
CIN: U26942AP2000PLC050415
Krishna Nagar, Yerraguntla,
District Kadapa,
Andhra Pradesh - 516311,
Tel: +91 85632 75107 / 08
Fax: +91 85632 75101 / 64
www.zuaricements.com

Dear Sir,

Please find enclosed the reports of Stack Emissions, Ambient Air Quality, Waste Water quality and Ambient Noise Quality data of Zuari Cement Plant –Yerraguntla for the month of Jan 2022.

Thanking you,

Yours faithfully
For Zuari Cement Ltd

V. Madhava Reddy
V. Madhava Reddy
AGM-Environment

Encl: As above

cc :

The Environment Engineer,
Andhra Pradesh Pollution Control Board,
Regional Office, 2nd Floor,
D.No.1/2277, Rajiv Park Road,
A.P. Housing Board Colony,
Kadapa – 516003.

Jan 2022

I.Ambient Air Quality

S.NO	Location	Parameter →	PM₁₀ µg/m ³	PM_{2.5} µg/m ³	SO₂ µg/m ³	NOX µg/m ³
		Limit	100	60	80	80
1.	Near Main Gate		63.4	24.1	11.5	22.9
2.	Near Store		47.5	18.2	6.9	16.4
3.	Near Mines Office		54.6	20.7	10.3	21.5
4.	Near Pumphouse					

II.Stack Emissions in Line-11

1.	Kiln+Rawmill-1 Baghouse	21.3	30mg/Nm ³
2.	Calciner +Rawmill-2 Baghouse	20.2	
3.	Cooler ESP	21.1	
4.	Coalmill-1Baghouse-1	14.7	
5.	Coalmill-1Baghouse-2	20.5	
6.	Coal mill-2 Baghouse	19.3	
7.	Cement mill-1 Baghouse	Shutdown	
8.	Cement mill-2 Baghouse	12.9	
9.	Cement mill-3 Baghouse	15.0	
10.	DG Set 1500KV	Not in operation	75mg/Nm ³
11.	DG Set 750 KV	Not in operation	75mg/Nm ³

Stack Emissions in Line-2

1.	Kiln+Rawmill+Cooler Baghouse	20.4	30mg/Nm ³
2.	Coal mill -3 Baghouse	13.9	
3.	Cement Mill-4 Baghouse	20.9	
4.	Crusher-3 Bagfilter	26.2	

III.Water Analysis Reports

	pH	BOD mg/Ltr	COD mg/Ltr	S.S mg/Ltr	Oil & Grease mg/Ltr
Limiting Standards at Outlet	5.5 -9.0	100	250	100	10
1. STP –Treated Effluent	7.69	10	25	28	<1.0

IV.Ambient Noise levels

		Day time	Night time	Day - Limit	Night -Limit
1.	Plant Boundary -East	60.9	55.1	75dB	70dB
2.	Plant Boundary -West	63.7	58.3		
3.	Plant Boundary –North	65.1	60.2		
4.	Plant Boundary –South	64.6	59.4		
5.	Near Health Centre	57.2	52.6		
6.	Near New Guest house	55.8	50.3		

Note: Line-1 Cooler ESP trippings: NIL



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LAWN ENVIRO ASSOCIATES

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& Laboratory Accredited by NABL

TEST REPORT

REF.NO: LAWN/ZCL/AAQ/009/2022

ANNEXURE - 2
Date: 04-02-2022

AMBIENT AIR QUALITY DATA

Name of the Industry & : M/s. ZUARI CEMENT LIMITED.,
Address : Krishna Nagar P.O, Yerraguntla, YSR Kadapa (Dist),
Andhra Pradesh – 516 311.

Code	A-1	A-2	A-3	A-4	NAAQ Standards (24 hourly standard)	PROTOCOL/ TEST METHOD
Date	26-01-2022 to 27-01-2022	26-01-2022 to 27-01-2022	26-01-2022 to 27-01-2022	26-01-2022 to 27-01-2022		
Starting Time	7.45 am	8.15 am	8.45 am	9.15 am		
Ending Time	7.45 am	8.15 am	8.45 am	9.15 am		
Locations	Near Main Gate	Near Stores	Near Mines Office	Near Pump House		
PM ₁₀	63.4	47.5	54.6	59.8	100 ($\mu\text{g}/\text{m}^3$)	IS-5182 (Part-23); 2017 / Gravimetric Method
PM _{2.5}	24.1	18.2	20.7	22.7	60 ($\mu\text{g}/\text{m}^3$)	IS-5182 (Part-24); 2019 / Gravimetric Method
SO ₂	11.5	6.9	10.3	9.4	80 ($\mu\text{g}/\text{m}^3$)	IS-5182 (Part-2); 2018 / New West & Gaeke Method
NO ₂	22.9	16.4	21.5	18.6	80 ($\mu\text{g}/\text{m}^3$)	IS-5182 (Part-6); 2017 / JACOB & Hochheiser Method
CO	<1.0	<1.0	<1.0	<1.0	2.0(mg/m^3) (8 hrs)	IS-5182 (Part-10); 2019 GC Method

AUTHORISED SIGNATORY

1. RESPIRABLE DUST SAMPLER MODEL/SL.NO. RDS 9000 / 090717, CALIBRATED ON 02-09-2021, DUE ON 01-09-2022
2. RESPIRABLE DUST SAMPLER MODEL/SL.NO. RDS 9000 / 090718, CALIBRATED ON 02-09-2021, DUE ON 01-09-2022
3. RESPIRABLE DUST SAMPLER MODEL/SL.NO. RDS 9000 / 070706, CALIBRATED ON 19-05-2021, DUE ON 18-05-2022
4. RESPIRABLE DUST SAMPLER MODEL/SL.NO. RDS 9000 / 070707, CALIBRATED ON 19-05-2021, DUE ON 18-05-2022

1. FINE PARTICULATE SAMPLER/APM 550 (SL.NO. 371-DTF-2011), CALIBRATED ON 16-02-2021, DUE ON 15-02-2022
2. FINE PARTICULATE SAMPLER/APM 550 (SL.NO. 454-DTH-2011), CALIBRATED ON 16-02-2021, DUE ON 15-02-2022
3. FINE PARTICULATE SAMPLER/APM 550 (SL.NO. 276-DTE-2010), CALIBRATED ON 16-08-2021, DUE ON 15-08-2022
4. FINE PARTICULATE SAMPLER/APM 550 (SL.NO. 455-DTH-2010), CALIBRATED ON 12-08-2021, DUE ON 11-08-2022



LAWN ENVIRO ASSOCIATES

(Engineering & Consultancy in Pollution Control)

TEST REPORT

REF.NO: LAWN/ZCL/STACK/001/2022

ANNEXURE - 1

Date: 04-02-2022

STACK MONITORING DATA

Name of the Industry & : M/s. ZUARI CEMENT LIMITED.,
Address : Krishna Nagar P.O. Yerraguntla, YSR Kadapa (Dist),
Andhra Pradesh - 516 311.

S.No.	Parameters	Results		LIMIT	PROTOCOL
		Kiln + Raw Mill - 1	Calciner + Raw Mill - 2		
1	Date of Sampling	12-01-2022	12-01-2022	--	---
2	Time of Monitoring	9.35 am	11.25 am	--	---
3	Stack diameter (m)	4.25	2.98	--	---
4	Stack cross sectional area (m ²)	11.1790	6.971	--	---
5	Pollution Control Equipment	Bag House	Bag House	--	---
6	Ambient temperature (C)	37	35	--	---
7	Flue gas temperature (°C)	116	96	--	IS-11255 (Part-3); 2018
8	Exit velocity of flue gases (m/sec)	11.80	18.96	--	IS-11255 (Part-3); 2018
9	Flow rate (Nm ³ /hr)	4,49,765	3,74,559	--	IS-11255 (Part-3); 2018
10	Suspended particulate matter Concentration (mg/N m ³)	21.3	20.2	<30	IS-11255 (Part-1); 2019
11	PM Load based standard Kg/ton of clinker	0.0519	0.0410	0.125	CPCB Standard


AUTHORISED SIGNATORY

STACK MONITORING KIT : MODEL NO: APM-166/SI No. 75 DTD 2016. Calibrated on 03-04-2021. Due on 02-04-2022
M/s LATA ENVROTECHI SEEVE PS



LAWN ENVIRO ASSOCIATES

Environmental Monitoring in Hyderabad, India

TEST REPORT

REF.NO: LAWN/ZCL/STACK/002/2022

ANNEXURE - 1
Date: 04-02-2022

STACK MONITORING DATA

Name of the Industry & : M/s. ZUARI CEMENT LIMITED.,
Address : Krishna Nagar P.O, Yerraguntla, YSR Kadapa (Dist),
Andhra Pradesh - 516 311.

S.No.	Parameters	Cooler	Coal Mill - I	LIMIT	PROTOCOL
1	Date of Sampling	12-01-2022	12-01-2022	--	---
2	Time of Monitoring	1.40 pm	3.00 pm	--	---
3	Stack diameter (m)	4.00	1.00	--	---
4	Stack cross sectional area (m ²)	12.56	0.785	--	---
5	Pollution Control Equipment	ESP	Bag House-1	--	---
6	Ambient temperature (C)	40	36	--	---
7	Flue gas temperature (C)	101	71	--	IS-11255 (Part-3); 2018
8	Exit velocity of flue gases (m/sec)	10.88	12.42	--	IS-11255 (Part-3); 2018
9	Flow rate (Nm ³ /hr)	3,82,079	29,665	--	IS-11255 (Part-3); 2018
10	Suspended particulate matter Concentration (mg/N m ³)	21.1	14.7	<30	IS-11255 (Part-1); 2019

AUTHORISED SIGNATORY

STACK MONITORING KIT : MODEL NO: VSS1/SL NO: 142-016-13 Certified on 03-04-2021, Due on 02-04-2022
M/s VAYUBUDHAN STACK : VMP10



LAWN ENVIRO ASSOCIATES

[Engineering & Consultancy in Pollution Control]

TEST REPORT

REF.NO: LAWN/ZCL/STACK/003/2022

ANNEXURE - 1

Date: 04-02-2022

STACK MONITORING DATA

Name of the Industry & : M/s. ZUARI CEMENT LIMITED.,
 Address : Krishna Nagar P.O, Yerraguntla, YSR Kadapa (Dist),
 Andhra Pradesh - 516 311.

S.No.	Parameters	Coal Mill - I	Coal Mill - II	LIMIT	PROTOCOL
1	Date of Sampling	12-01-2022	12-01-2022	--	--
2	Time of Monitoring	5.15 pm	6.30 pm	--	--
3	Stack diameter (m)	1.32	1.50	--	--
4	Stack cross sectional area (m ²)	1.368	1.766	--	--
5	Pollution Control Equipment	Bag House - 2	Bag House	--	--
6	Ambient temperature (C)	35	32	--	--
7	Flue gas temperature (°C)	75	80	--	IS-11255 (Part-3); 2018
8	Exit velocity of flue gases (m/sec)	10.31	11.48	--	IS-11255 (Part-3); 2018
9	Flow rate (Nm ³ /hr)	42,432	60,017	--	IS-11255 (Part-3); 2018
10	Suspended particulate matter Concentration (mg/N m ³)	20.5	19.3	<30	IS-11255 (Part-1); 2019


AUTHORISED SIGNATORY

STACK MONITORING KIT : MODEL NO: APM 160/SI No. 75 DTD 2010, Calibrated on 03-04-2021, Due on 02-04-2022
 M/s. LATA ENVIRECH SERVICES



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TEST REPORT

REF.NO: LAWN/ZCL/STACK/008/2022

ANNEXURE - 1
Date: 04-02-2022

STACK MONITORING DATA

Name of the Industry & : M/s. ZUARI CEMENT LIMITED.,
Address : Krishna Nagar P.O, Yerraguntla, YSR Kadapa (Dist),
Andhra Pradesh – 516 311.

S.No.	Parameters	Cement Mill- I Bag House	LIMIT	PROTOCOL
1	Date of Sampling	Shut down	--	--
2	Time of Monitoring		--	--
3	Stack diameter (m)		--	--
4	Stack cross sectional area (m ²)		--	--
5	Pollution Control Equipment		--	--
6	Ambient temperature (C)		--	--
7	Flue gas temperature (°C)		--	IS-11255 (Part-3); 2018
8	Exit velocity of flue gases (m/sec)		--	IS-11255 (Part-3); 2018
9	Flow rate (Nm ³ /hr)		--	IS-11255 (Part-3); 2018
10	Suspended particulate matter Concentration (mg/N m ³)		<30	IS-11255 (Part-1); 2019

AUTHORISED SIGNATORY

STACK MONITORING KIT : MODEL NO: APM-160/SI No. 75-DTD-2016, Calibrated on 03-04-2021, Due on 02-04-2022
M/s. LATA ENVIROTECH SERVICES.,

Head Office : "LAWN HOUSE", #184-C, Vengalrao Nagar, Hyderabad - 500 038. (T.S.) INDIA. Tel : 040-66730925, 66730926, Fax : 040-66730926

Branch Office : H.No.18/2, Ground Floor, Phase-1, Vuda Nagar, Rajiv Nagar Road, Kurmannapalem, Visakhapatnam - 530046. (A.P) Tel : +91-9030029925

E-mail : lawnenviro@yahoo.co.in, Website : www.lawnenviro.com



LAWN ENVIRO ASSOCIATES

[Engineers & Consultants in Pollution Control]

TEST REPORT

REF.NO: LAWN/ZCL/STACK/004/2022

ANNEXURE - 1

Date: 04-02-2022

STACK MONITORING DATA

Name of the Industry & Address : M/s. ZUARI CEMENT LIMITED., Krishna Nagar P.O, Yerraguntla, YSR Kadapa (Dist), Andhra Pradesh – 516 311.

S.No.	Parameters	Results		LIMIT	PROTOCOL
		Cement Mill - II	Cement Mill - III		
1	Date of Sampling	26-01-2022	25-01-2022	--	---
2	Time of Monitoring	4.30 pm	11.00 am	--	---
3	Stack diameter (m)	1.12	1.12	--	---
4	Stack cross sectional area (m ²)	0.984	0.984	--	---
5	Pollution Control Equipment	Bag House	Bag House	--	---
6	Ambient temperature (C)	37	34	--	---
7	Flue gas temperature (°C)	82	87	--	IS-11255 (Part-3); 2018
8	Exit velocity of flue gases (m/sec)	12.09	13.68	--	IS-11255 (Part-3); 2018
9	Flow rate (Nm ³ /hr)	35,129	39,134	--	IS-11255 (Part-3); 2018
10	Suspended particulate matter Concentration (mg/N m ³)	12.9	15.0	<30	IS-11255 (Part-1); 2019

AUTHORISED SIGNATORY

STACK MONITORING KIT : MODEL NO. APM 160/SI No. 75-L119-2016, Calibrated on 03-04-2021, Due on 02-04-2022
M/s. LATA ENVITECH SERVICES.



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[Engineers & Consultants in Pollution Control]

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& Laboratory Accredited by NABL

TEST REPORT

REF.NO: LAWN/ZCL/STACK/007/2022

ANNEXURE - 1
Date: 04-02-2022

STACK MONITORING DATA

Name of the Industry & : M/s. ZUARI CEMENT LIMITED.,
Address : Krishna Nagar P.O, Yerraguntla, YSR Kadapa (Dist),
Andhra Pradesh – 516 311.

S.No.	Parameters	1500 KVA D.G. Set	4x750 KVA D.G.Sets	LIMIT	PROTOCOL
1	Date of Sampling	Shut down	Shut down	--	---
2	Time of Monitoring			--	---
3	Stack diameter (m)			--	---
4	Stack cross sectional area (m ²)			--	---
5	Pollution Control Equipment			--	---
6	Ambient temperature (C)			--	---
7	Flue gas temperature (°C)			--	IS-11255 (Part-3); 2018
8	Exit velocity of flue gases (m/sec)			--	IS-11255 (Part-3); 2018
9	Flow rate (Nm ³ /hr)			--	IS-11255 (Part-3); 2018
10	Suspended particulate matter Concentration (mg/N m ³)			<115	IS-11255 (Part-1); 2019
11	Sulphur Dioxide (SO ₂)			--	IS-11255 (Part-2); 2019
12	Oxides of Nitrogen (NO _x)			--	IS-11255 (Part-7); 2017

AUTHORISED SIGNATORY

STACK MONITORING KIT : MODEL NO: APM-160/SI. No. 75-DTD-2016, Calibrated on 03-04-2021, Due on 02-04-2022
M/s. LATA ENVIROTECH SERVICES.,

Head Office : "LAWN HOUSE", #184-C, Vengalrao Nagar, Hyderabad - 500 038. (T.S.) INDIA. Tel : 040-66730925, 66730926, Fax : 040-66730926

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Engineering & Consultancy in Pollution Control

TEST REPORT

REF.NO: LAWN/ZCL/STACK/005/2022

ANNEXURE - 1

Date: 04-02-2022

STACK MONITORING DATA

Name of the Industry & : M/s. ZUARI CEMENT LIMITED.,
 Address : Krishna Nagar P.O, Yerraguntla, YSR Kadapa (Dist),
 Andhra Pradesh - 516 311.

S.No.	Parameters	Results		LIMIT	PROTOCOL
		Kiln + Raw Mill + Cooler	Coal Mill - III		
1	Date of Sampling	27-01-2022	26-01-2022	--	---
2	Time of Monitoring	8.30 am	10.45 am	--	---
3	Stack diameter (m)	11.67	2.10	--	---
4	Stack cross sectional area (m ²)	106.908	3.461	--	---
5	Pollution Control Equipment	Bag House	Bag House	--	---
6	Ambient temperature (C)	36	36		---
7	Flue gas temperature (°C)	112	79	--	IS-11255 (Part-3); 2018
8	Exit velocity of flue gases (m/sec)	3.78	10.24	--	IS-11255 (Part-3); 2018
9	Flow rate (Nm ³ /hr)	10,10,708	1,05,268	--	IS-11255 (Part-3); 2018
10	Suspended particulate matter Concentration (mg/N m ³)	20.4	13.9	<30	IS-11255 (Part-1); 2019
11	PM Load based standard Kg/ton of clinker	0.0860	--	0.125	CPCB Standard


AUTHORISED SIGNATORY

STACK MONITORING KIT : MODEL NO: AIM-160, SI No. 75-D/D 2016, Calibrated on 03-04-2021, Due on 02-04-2022
 M/s LATA ENVIROTECH SERVICES.



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TEST REPORT

REF.NO: LAWN/ZCL/STACK/006/2022

ANNEXURE - 1
Date: 04-02-2022

STACK MONITORING DATA

Name of the Industry & : **M/s. ZUARI CEMENT LIMITED.,**
 Address : Krishna Nagar P.O, Yerraguntla, YSR Kadapa (Dist),
 Andhra Pradesh - 516 311.

S.No.	Parameters	Cement Mill - IV	Crusher-III	LIMIT	PROTOCOL
1	Date of Sampling	26-01-2022	26-01-2022	--	---
2	Time of Monitoring	3.25 pm	2.35 pm	--	---
3	Stack diameter (m)	3.80	1.20	--	---
4	Stack cross sectional area (m ²)	11.335	1.130	--	---
5	Pollution Control Equipment	Bag House	Bag Filter	--	---
6	Ambient temperature (C)	37	34	--	---
7	Flue gas temperature (°C)	80	42	--	IS-11255 (Part-3); 2018
8	Exit velocity of flue gases (m/sec)	10.57	8.76	--	IS-11255 (Part-3); 2018
9	Flow rate (Nm ³ /hr)	3,54,643	32,872	--	IS-11255 (Part-3); 2018
10	Suspended particulate matter Concentration (mg/N m ³)	20.9	26.2	<30	IS-11255 (Part-1); 2019


AUTHORISED SIGNATORY

STACK MONITORING KIT . MODEL NO: APM 100/SI No: 75-DTID 2016, Calibrated on 03-04-2021, Due on 02-04-2022
M/s LATA ENVIROTECH SERVICES



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TEST REPORT

ANNEXURE - 4

Date: 04-02-2022

REF.NO: LAWN/ZCL/WW/011/2022

WASTE WATER ANALYSIS

Name of the Industry & : M/s. ZUARI CEMENT LIMITED.,
Address : Krishna Nagar P.O, Yerraguntla, YSR Kadapa (Dist),
Andhra Pradesh - 516 311.

Date of Collection : 27-01-2022
Date of Analysis : 28-01-2022
PROTOCOL : A.P.H.A. 23rd Edition, 2017 & IS 3025

S.No.	Parameters	PROTOCOL	STP OUTLET	
			STP Outlet Water	GSR 422E (Inland surface water)
1	Colour (Hazen Units)	IS:3025 (Part-4)	<5	See Note - 1
2	Odour	IS:3025 (Part-5)	Agreeable	See Note - 1
3	pH	IS:3025 (Part-11)	7.69	5.5 – 9.0
4	Oil & Grease, mg/l	IS:3025 (Part-39)	<1.0	10
5	Total Suspended Solids, mg/l	IS:3025 (Part-17)	28	100
6	Total Dissolved Solids at 105 °C, mg/l	IS:3025 (Part-16)	1,356	2,100
7	Bio Chemical Oxygen Demand for (3 days at 27°C), mg/l	IS:3025 (Part-44)	10	30
8	Chemical Oxygen Demand, mg/l	IS:3025 (Part-58)	25	250
9	Chlorides as Cl, mg/l	IS:3025 (Part-32)	230	1,000
10	Fluorides as F, mg/l	4500 F-D APHA 22 nd Edn 2012	0.36	2.0
11	Dissolved Phosphate as P, mg/l	IS:3025 (Part-31)	0.45	5.0
12	Percent Sodium	IS:2296-1982	29.64	----
13	Sulphide as S, mg/l	IS:3025 (Part-29)	<1.0	2.0
14	Boron as B, mg/l	IS:3025 (Part-57)	0.10	2.0
15	Residual Sodium Carbonate, mg/l	IS:11624	Nil	----
16	Sulphates as SO ₄ , mg/l	IS:3025 (Part-24)	185	1,000
17	Iron as Fe, mg/l	IS:3025 (Part-53)	0.14	3.0
18	Total Volatile Suspended Solids, mg/l	IS:3025 (Part-18)	5.26	----

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TEST REPORT

REF.NO: LAWN/ZCL/NOISE/013/2022

ANNEXURE - 5

Date: 04-02-2022

NOISE LEVEL DATA

Name of the Industry & : M/s. ZUARI CEMENT LIMITED.,
Address : Krishna Nagar P.O, Yerraguntla, YSR Kadapa (Dist),
Andhra Pradesh – 516 311.

S.No	Locations	Equivalent Noise Levels in dB(A)	
		Day Time	Night Time
1	Plant Boundary - East	60.90	55.10
2	Plant Boundary - West	63.70	58.30
3	Plant Boundary - North	65.10	60.20
4	Plant Boundary - South	64.60	59.40
5	Near Health Centre	57.20	52.60
6	Near New Guest House	55.80	50.30

- Note:**
1. Noise levels are monitored on 27-01-2022.
 2. Instrument Make: Lutron SL-4001/Q-635621, Calibrated On 11-08-2021, Due On 10-08-2022.
 3. Day time is reckoned in between 6.0 am and 10.0 pm – Limit 75 dB (A).
 4. Night time is reckoned in between 10.0 pm and 6.0 am – Limit 70 dB (A).



AUTHORISED SIGNATORY

Feb 2022

I.Ambient Air Quality						
S.NO	Location	Parameter →	PM₁₀ µg/m ³	PM_{2.5} µg/m ³	SO₂ µg/m ³	NOX µg/m ³
		Limit	100	60	80	80
1.	Near Main Gate		67.1	26.5	10.6	21.7
2.	Near Store		50.2	19.8	7.8	17.6
3.	Near Mines Office		58.4	21.9	8.6	20.4
4.	Near Pumphouse		61.9	24.5	9.1	19.8

II.Stack Emissions in Line-11						
1.	Kiln+Rawmill-1 Baghouse		17.8			
2.	Calciner +Rawmill-2 Baghouse		22.0			
3.	Cooler ESP		21.1			
4.	Coalmill-1Baghouse-1		14.6			
5.	Coalmill-1Baghouse-2		20.2			
6.	Coal mill-2 Baghouse		19.3			
7.	Cement mill-1 Baghouse		Shutdown			
8.	Cement mill-2 Baghouse		18.5			
9.	Cement mill-3 Baghouse		19.6			
10.	DG Set 1500KV		Not in operation		75mg/Nm ³	
11.	DG Set 750 KV		Not in operation		75mg/Nm ³	

Stack Emissions in Line-2						
1.	Kiln+Rawmill+Cooler Baghouse		20.2			
2.	Coal mill -3 Baghouse		21.4			
3.	Cement Mill-4 Baghouse		20.8			
4.	Crusher-3 Bagfilter		25.1			

III.Water Analysis Reports		pH	BOD mg/Ltr	COD mg/Ltr	S.S mg/Ltr	Oil & Grease mg/Ltr
Limiting Standards at Outlet		5.5 -9.0	100	250	100	10
1. STP –Treated Effluent		7.41	9	22	25	<1.0

IV.Ambient Noise levels		Day time	Night time	Day - Limit	Night -Limit
1.	Planrt Boundary -East	62.3	57.1	75dB	70dB
2.	Planrt Boundary -West	64.1	59.2		
3.	Planrt Boundary –North	66.7	61.9		
4.	Planrt Boundary –South	65.4	60.4		
5.	Near Health Centre	59.2	54.5		
6.	Near New Guest house	54.8	49.7		

Note: Line-1 Cooler ESP trippings: NIL



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TEST REPORT

REF.NO: LAWN/ZCL/AAQ/009/2022

ANNEXURE - 2

Date: 04-3-2022

AMBIENT AIR QUALITY DATA

Name of the Industry & : M/s. ZUARI CEMENT LIMITED.,
Address : Krishna Nagar P.O, Yerraguntla, YSR Kadapa (Dist),
Andhra Pradesh – 516 311.

Code	A-1	A-2	A-3	A-4	NAAQ Standards (24 hourly standard)	PROTOCOL/ TEST METHOD
Date	18-02-2022 to 19-02-2022	18-02-2022 to 19-02-2022	18-02-2022 to 19-02-2022	18-02-2022 to 19-02-2022		
Starting Time	8.00 am	8.30 am	9.00 am	9.45 am		
Ending Time	8.00 am	8.30 am	9.00 am	9.45 am		
Locations	Near Main Gate	Near Stores	Near Mines Office	Near Pump House		
PM ₁₀	67.1	50.2	58.4	61.9	100 ($\mu\text{g}/\text{m}^3$)	IS-5182 (Part-23); 2017 / Gravimetric Method
PM _{2.5}	26.5	19.8	21.9	24.5	60 ($\mu\text{g}/\text{m}^3$)	IS-5182 (Part-24); 2019 / Gravimetric Method
SO ₂	10.6	7.8	8.6	9.1	80 ($\mu\text{g}/\text{m}^3$)	IS-5182 (Part-2); 2018 / New West & Gaeke Method
NO ₂	21.7	17.6	20.4	19.8	80 ($\mu\text{g}/\text{m}^3$)	IS-5182 (Part-6); 2017 / JACOB & Hochheiser Method
CO	<1.0	<1.0	<1.0	<1.0	2.0(mg/m^3) (8 hrs)	IS-5182 (Part-10); 2019 GC Method

AUTHORISED SIGNATORY

- RESPIRABLE DUST SAMPLER MODEL/SL.NO. RDS 9000 / 090717, CALIBRATED ON 02-09-2021, DUE ON 01-09-2022
 - RESPIRABLE DUST SAMPLER MODEL/SL.NO. RDS 9000 / 090718, CALIBRATED ON 02-09-2021, DUE ON 01-09-2022
 - RESPIRABLE DUST SAMPLER MODEL/SL.NO. RDS 9000 / 070706, CALIBRATED ON 19-05-2021, DUE ON 18-05-2022
 - RESPIRABLE DUST SAMPLER MODEL/SL.NO. RDS 9000 / 070707, CALIBRATED ON 19-05-2021, DUE ON 18-05-2022
- FINE PARTICULATE SAMPLER/APM 550 (SL.NO. 371-DTF-2011), CALIBRATED ON 16-02-2021, DUE ON 15-02-2022
 - FINE PARTICULATE SAMPLER/APM 550 (SL.NO. 454-DTH-2011), CALIBRATED ON 16-02-2021, DUE ON 15-02-2022
 - FINE PARTICULATE SAMPLER/APM 550 (SL.NO. 276-DTE-2010), CALIBRATED ON 16-08-2021, DUE ON 15-08-2022
 - FINE PARTICULATE SAMPLER/APM 550 (SL.NO. 455-DTH-2010), CALIBRATED ON 12-08-2021, DUE ON 11-08-2022

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TEST REPORT

REF.NO: LAWN/ZCL/STACK/001/2022

ANNEXURE - 1

Date: 04-3-2022

STACK MONITORING DATA

Name of the Industry & : M/s. ZUARI CEMENT LIMITED.,
Address : Krishna Nagar P.O, Yerraguntla, YSR Kadapa (Dist),
Andhra Pradesh – 516 311.

S.No.	Parameters	Results		LIMIT	PROTOCOL
		Kiln + Raw Mill - 1	Calciner + Raw Mill - 2		
1	Date of Sampling	19-02-2022	19-02-2022	--	---
2	Time of Monitoring	9.25 am	3.10 pm	--	---
3	Stack diameter (m)	4.25	2.98	--	---
4	Stack cross sectional area (m ²)	14.1790	6.971	--	---
5	Pollution Control Equipment	Bag House	Bag House	--	---
6	Ambient temperature (C)	34	39	--	---
7	Flue gas temperature (°C)	126	88	--	IS-11255 (Part-3); 2018
8	Exit velocity of flue gases (m/sec)	12.03	16.11	--	IS-11255 (Part-3); 2018
9	Flow rate (Nm ³ /hr)	4,46,980	3,25,178	--	IS-11255 (Part-3); 2018
10	Suspended particulate matter Concentration (mg/N m ³)	17.8	22.0	<30	IS-11255 (Part-1); 2019
11	PM Load based standard Kg/ton of clinker	0.0394	0.0354	0.125	CPCB Standard

AUTHORISED SIGNATORY

STACK MONITORING KIT : MODEL NO: APM-160/SI. No. 75-DTD-2016, Calibrated on 03-04-2021, Due on 02-04-2022
M/s. LATA ENVIROTECH SERVICES.,



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TEST REPORT

REF.NO: LAWN/ZCL/STACK/002/2022

ANNEXURE - 1

Date: 04-3-2022

STACK MONITORING DATA

Name of the Industry & : **M/s. ZUARI CEMENT LIMITED.,**
Address : Krishna Nagar P.O, Yerraguntla, YSR Kadapa (Dist),
Andhra Pradesh – 516 311.

S.No.	Parameters	Cooler	Coal Mill - I	LIMIT	PROTOCOL
1	Date of Sampling	20-02-2022	19-02-2022	--	---
2	Time of Monitoring	9.00 am	8.30 am	--	---
3	Stack diameter (m)	4.00	1.00	--	---
4	Stack cross sectional area (m ²)	12.56	0.785	--	---
5	Pollution Control Equipment	ESP	Bag House-1	--	---
6	Ambient temperature (C)	38	35	--	---
7	Flue gas temperature (°C)	105	78	--	IS-11255 (Part-3); 2018
8	Exit velocity of flue gases (m/sec)	11.45	12.94	--	IS-11255 (Part-3); 2018
9	Flow rate (Nm ³ /hr)	3,98,432	30,287	--	IS-11255 (Part-3); 2018
10	Suspended particulate matter Concentration (mg/N m ³)	21.1	14.6	<30	IS-11255 (Part-1); 2019

AUTHORISED SIGNATORY

STACK MONITORING KIT : MODEL NO: VSS1/Sl. No. 142-DTB-13, Calibrated on 03-04-2021, Due on 02-04-2022
M/s. VAYUBODHAN STACK SAMPLER

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TEST REPORT

REF.NO: LAWN/ZCL/STACK/003/2022

ANNEXURE - 1

Date: 04-3-2022

STACK MONITORING DATA

Name of the Industry & : **M/s. ZUARI CEMENT LIMITED.,**
Address : Krishna Nagar P.O, Yerraguntla, YSR Kadapa (Dist),
Andhra Pradesh – 516 311.

S.No.	Parameters	Coal Mill - I	Coal Mill - II	LIMIT	PROTOCOL
1	Date of Sampling	18-02-2022	19-02-2022	--	---
2	Time of Monitoring	2.45 pm	2.10 pm	--	---
3	Stack diameter (m)	1.32	1.50	--	---
4	Stack cross sectional area (m ²)	1.368	1.766	--	---
5	Pollution Control Equipment	Bag House - 2	Bag House	--	---
6	Ambient temperature (C)	37	36	--	---
7	Flue gas temperature (°C)	79	83	--	IS-11255 (Part-3); 2018
8	Exit velocity of flue gases (m/sec)	10.25	12.29	--	IS-11255 (Part-3); 2018
9	Flow rate (Nm ³ /hr)	41,677	63,753	--	IS-11255 (Part-3); 2018
10	Suspended particulate matter Concentration (mg/N m ³)	20.2	19.3	<30	IS-11255 (Part-1); 2019



A handwritten signature in black ink, appearing to read "R. J. Mally".

AUTHORISED SIGNATORY

STACK MONITORING KIT : MODEL NO: APM-160/SI. No. 75-DTD-2016, Calibrated on 03-04-2021, Due on 02-04-2022
M/s. LATA ENVIROTECH SERVICES.,

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TEST REPORT

REF.NO: LAWN/ZCL/STACK/004/2022

ANNEXURE - 1
Date: 04-3-2022

STACK MONITORING DATA

Name of the Industry & : M/s. ZUARI CEMENT LIMITED.,
Address : Krishna Nagar P.O, Yerraguntla, YSR Kadapa (Dist),
Andhra Pradesh – 516 311.

S.No.	Parameters	Results		LIMIT	PROTOCOL
		Cement Mill - II	Cement Mill - III		
1	Date of Sampling	18-02-2022	18-02-2022	--	---
2	Time of Monitoring	10.00 am	11.20 am	--	---
3	Stack diameter (m)	1.12	1.12	--	---
4	Stack cross sectional area (m ²)	0.984	0.984	--	---
5	Pollution Control Equipment	Bag House	Bag House	--	---
6	Ambient temperature (C)	35	38	--	---
7	Flue gas temperature (°C)	77	85	--	IS-11255 (Part-3); 2018
8	Exit velocity of flue gases (m/sec)	11.35	12.91	--	IS-11255 (Part-3); 2018
9	Flow rate (Nm ³ /hr)	33,405	37,173	--	IS-11255 (Part-3); 2018
10	Suspended particulate matter Concentration (mg/N m ³)	18.5	19.6	<30	IS-11255 (Part-1); 2019

AUTHORISED SIGNATORY

STACK MONITORING KIT : MODEL NO: APM-160/Sl. No. 75-DTD-2016, Calibrated on 03-04-2021, Due on 02-04-2022
M/s. LATA ENVIROTECH SERVICES.,

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TEST REPORT

REF.NO: LAWN/ZCL/STACK/005/2022

ANNEXURE - 1

Date: 04-3-2022

STACK MONITORING DATA

Name of the Industry & : M/s. ZUARI CEMENT LIMITED.,
Address : Krishna Nagar P.O, Yerraguntla, YSR Kadapa (Dist),
Andhra Pradesh – 516 311.

S.No.	Parameters	Results		LIMIT	PROTOCOL
		Kiln + Raw Mill + Cooler	Coal Mill - III		
1	Date of Sampling	21-02-2022	20-02-2022	--	---
2	Time of Monitoring	10.00 am	10.45 am	--	---
3	Stack diameter (m)	11.67	2.10	--	---
4	Stack cross sectional area (m ²)	106.908	3.461	--	---
5	Pollution Control Equipment	Bag House	Bag House	--	---
6	Ambient temperature (C)	38	35		---
7	Flue gas temperature (°C)	118	74	--	IS-11255 (Part-3); 2018
8	Exit velocity of flue gases (m/sec)	3.50	11.82	--	IS-11255 (Part-3); 2018
9	Flow rate (Nm ³ /hr)	9,21,480	1,23,261	--	IS-11255 (Part-3); 2018
10	Suspended particulate matter Concentration (mg/N m ³)	20.2	21.4	<30	IS-11255 (Part-1); 2019
11	PM Load based standard Kg/ton of clinker	0.0818	--	0.125	CPCB Standard

AUTHORISED SIGNATORY

STACK MONITORING KIT : MODEL NO: APM-160/SI. No. 75-DTD-2016, Calibrated on 03-04-2021, Due on 02-04-2022
M/s. LATA ENVIROTECH SERVICES.,

Head Office : "LAWN HOUSE", #184-C, Vengalrao Nagar, Hyderabad - 500 038. (T.S.) INDIA. Tel : 040-66730925, 66730926, Fax : 040-66730926

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TEST REPORT

REF.NO: LAWN/ZCL/STACK/006/2022

ANNEXURE - 1

Date: 04-3-2022

STACK MONITORING DATA

Name of the Industry & : M/s. ZUARI CEMENT LIMITED.,
Address : Krishna Nagar P.O, Yerraguntla, YSR Kadapa (Dist),
Andhra Pradesh – 516 311.

S.No.	Parameters	Cement Mill - IV	Crusher-III	LIMIT	PROTOCOL
1	Date of Sampling	19-02-2022	21-02-2022	--	---
2	Time of Monitoring	11.45 am	3.15 pm	--	---
3	Stack diameter (m)	3.80	1.20	--	---
4	Stack cross sectional area (m ²)	11.335	1.130	--	---
5	Pollution Control Equipment	Bag House	Bag Filter	--	---
6	Ambient temperature (C)	35	37	--	---
7	Flue gas temperature (°C)	76	40	--	IS-11255 (Part-3); 2018
8	Exit velocity of flue gases (m/sec)	9.92	9.62	--	IS-11255 (Part-3); 2018
9	Flow rate (Nm ³ /hr)	3,36,649	36,330	--	IS-11255 (Part-3); 2018
10	Suspended particulate matter Concentration (mg/N m ³)	20.8	25.1	<30	IS-11255 (Part-1); 2019

AUTHORISED SIGNATORY

STACK MONITORING KIT : MODEL NO: APM-160/SI. No. 75-DTD-2016, Calibrated on 03-04-2021, Due on 02-04-2022
M/s. LATA ENVIROTECH SERVICES.,

Head Office : "LAWN HOUSE", #184-C, Vengalrao Nagar, Hyderabad - 500 038. (T.S.) INDIA. Tel : 040-66730925, 66730926, Fax : 040-66730926

Branch Office : H.No.18/2, Ground Floor, Phase-1, Vuda Nagar, Rajiv Nagar Road, Kurmannapalem, Visakhapatnam - 530046. (A.P) Tel : +91-9030029925

E-mail : lawnenviro@yahoo.co.in, Website : www.lawnenviro.com



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TEST REPORT

ANNEXURE - 1

Date: 04-3-2022

REF.NO: LAWN/ZCL/STACK/007/2022

STACK MONITORING DATA

Name of the Industry & : M/s. ZUARI CEMENT LIMITED.,
Address : Krishna Nagar P.O, Yerraguntla, YSR Kadapa (Dist),
Andhra Pradesh – 516 311.

S.No.	Parameters	1500 KVA D.G. Set	4x750 KVA D.G.Sets	LIMIT	PROTOCOL
1	Date of Sampling	Shut down	Shut down	--	--
2	Time of Monitoring			--	--
3	Stack diameter (m)			--	--
4	Stack cross sectional area (m ²)			--	--
5	Pollution Control Equipment			--	--
6	Ambient temperature (C)			--	--
7	Flue gas temperature (°C)			--	IS-11255 (Part-3); 2018
8	Exit velocity of flue gases (m/sec)			--	IS-11255 (Part-3); 2018
9	Flow rate (Nm ³ /hr)			--	IS-11255 (Part-3); 2018
10	Suspended particulate matter Concentration (mg/N m ³)			<115	IS-11255 (Part-1); 2019
11	Sulphur Dioxide (SO ₂)			--	IS-11255 (Part-2); 2019
12	Oxides of Nitrogen (NO _x)			--	IS-11255 (Part-7); 2017

AUTHORISED SIGNATORY

STACK MONITORING KIT : MODEL NO: APM-160/SL No. 75-DTD-2016, Calibrated on 03-04-2021, Due on 02-04-2022
M/s. LATA ENVIROTECH SERVICES.,



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TEST REPORT

REF.NO: LAWN/ZCL/STACK/008/2022

ANNEXURE - 1
Date: 04-3-2022

STACK MONITORING DATA

Name of the Industry & : M/s. ZUARI CEMENT LIMITED.,
Address : Krishna Nagar P.O, Yerraguntla, YSR Kadapa (Dist),
Andhra Pradesh – 516 311.

S.No.	Parameters	Cement Mill- I Bag House	LIMIT	PROTOCOL
1	Date of Sampling	Shut down	--	--
2	Time of Monitoring		--	--
3	Stack diameter (m)		--	--
4	Stack cross sectional area (m ²)		--	--
5	Pollution Control Equipment		--	--
6	Ambient temperature (C)		--	--
7	Flue gas temperature (°C)		--	IS-11255 (Part-3); 2018
8	Exit velocity of flue gases (m/sec)		--	IS-11255 (Part-3); 2018
9	Flow rate (Nm ³ /hr)		--	IS-11255 (Part-3); 2018
10	Suspended particulate matter Concentration (mg/N m ³)		<30	IS-11255 (Part-1); 2019

AUTHORISED SIGNATORY

STACK MONITORING KIT : MODEL NO: APM-160/SI. No. 75-DTD-2016, Calibrated on 03-04-2021, Due on 02-04-2022
M/s. LATA ENVIROTECH SERVICES.



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TEST REPORT

ANNEXURE - 4

Date: 04-3-2022

REF.NO: LAWN/ZCL/WW/011/2022

WASTE WATER ANALYSIS

Name of the Industry & : M/s. ZUARI CEMENT LIMITED.,
Address : Krishna Nagar P.O, Yerraguntla, YSR Kadapa (Dist),
Andhra Pradesh – 516 311.

Date of Collection : 18-02-2022
Date of Analysis : 19-02-2022
PROTOCOL : A.P.H.A. 23rd Edition, 2017 & IS 3025

S.No.	Parameters	PROTOCOL	STP OUTLET	
			STP Outlet Water	GSR 422E (Inland surface water)
1	Colour (Hazen Units)	IS:3025 (Part-4)	<5	See Note - 1
2	Odour	IS:3025 (Part-5)	Agreeable	See Note - 1
3	pH	IS:3025 (Part-11)	7.41	5.5 – 9.0
4	Oil & Grease, mg/l	IS:3025 (Part-39)	<1.0	10
5	Total Suspended Solids, mg/l	IS:3025 (Part-17)	25	100
6	Total Dissolved Solids at 105 °C, mg/l	IS:3025 (Part-16)	1,220	2,100
7	Bio Chemical Oxygen Demand for (3 days at 27°C), mg/l	IS:3025 (Part-44)	09	30
8	Chemical Oxygen Demand, mg/l	IS:3025 (Part-58)	22	250
9	Chlorides as Cl, mg/l	IS:3025 (Part-32)	267	1,000
10	Fluorides as F, mg/l	4500 F-D APHA 22 nd Edn 2012	0.49	2.0
11	Dissolved Phosphate as P, mg/l	IS:3025 (Part-31)	0.40	5.0
12	Percent Sodium	IS:2296-1982	26.67	---
13	Sulphide as S, mg/l	IS:3025 (Part-29)	<1.0	2.0
14	Boron as B, mg/l	IS:3025 (Part-57)	0.08	2.0
15	Residual Sodium Carbonate, mg/l	IS:11624	Nil	---
16	Sulphates as SO ₄ , mg/l	IS:3025 (Part-24)	167	1,000
17	Iron as Fe, mg/l	IS:3025 (Part-53)	0.17	3.0
18	Total Volatile Suspended Solids, mg/l	IS:3025 (Part-18)	4.73	---

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TEST REPORT

REF.NO: LAWN/ZCL/NOISE/013/2022

ANNEXURE - 5

Date: 04-3-2022

NOISE LEVEL DATA

Name of the Industry & : M/s. ZUARI CEMENT LIMITED.,
Address : Krishna Nagar P.O, Yerraguntla, YSR Kadapa (Dist),
Andhra Pradesh – 516 311.

S.No	Locations	Equivalent Noise Levels in dB(A)	
		Day Time	Night Time
1	Plant Boundary - East	62.30	57.10
2	Plant Boundary - West	64.10	59.20
3	Plant Boundary - North	66.70	61.90
4	Plant Boundary - South	65.40	60.40
5	Near Health Centre	59.20	54.50
6	Near New Guest House	54.80	49.70

- Note:**
1. Noise levels are monitored on 20-02-2022.
 2. Instrument Make: Lutron SL-4001/Q-635621, Calibrated On 11-08-2021, Due On 10-08-2022.
 3. Day time is reckoned in between 6.0 am and 10.0 pm – Limit 75 dB (A).
 4. Night time is reckoned in between 10.0 pm and 6.0 am – Limit 70 dB (A).



AUTHORISED SIGNATORY

O/C



Zuari Cement
HEIDELBERGCEMENT Group

ZCL/ YA/ EM /2022/ *Apr 03*
Date: 20.04.2022

The Member Secretary
Andhra Pradesh Pollution Control Board,
D No:33-26-14 D/2, Near Sunrise Hospital,
Puspha Hotel Centre,
Chalamavari Street, Kasturbaipet,
Vijayawada-520010

Zuari Cement Limited
CIN: U26942AP2000PLC050415
Krishna Nagar, Yerraguntla,
District Kadapa,
Andhra Pradesh - 516311,
Tel: +91 85632 75107 / 08
Fax: +91 85632 75101 / 64
www.zuaricements.com

Dear Sir,

Please find enclosed the reports of Stack Emissions, Ambient Air Quality, Waste Water quality and Ambient Noise Quality data of Zuari Cement Plant –Yerraguntla for the month of March 2022.

Thanking you,

Yours faithfully
For Zuari Cement Ltd

V. Madhava Reddy
AGM-Environment

Encl: As above

cc :

The Environment Engineer,
Andhra Pradesh Pollution Control Board,
Regional Office, 2nd Floor,
D.No. 1/2277, Rajiv Park Road,
A.P. Housing Board Colony,
Kadapa – 516003.

March 2022

I.Ambient Air Quality

S.NO	Location	Parameter →	PM ₁₀ µg/m ³	PM _{2.5} µg/m ³	SO ₂ µg/m ³	NOX µg/m ³
		Limit	100	60	80	80
1.	Near Main Gate		64.5	25.3	11.9	23.6
2.	Near Store		53.9	18.1	6.2	16.5
3.	Near Mines Office		56.2	20.4	9.5	18.9
4.	Near Pumphouse		59.2	22.7	10.3	21.6

II.Stack Emissions in Line-11

1.	Kiln+Rawmill-1 Baghouse	14.2	30mg/Nm ³
2.	Calciner +Rawmill-2 Baghouse	21.6	
3.	Cooler ESP	23.2	
4.	Coalmill-1Baghouse-1	15.7	
5.	Coalmill-1Baghouse-2	21.2	
6.	Coal mill-2 Baghouse	18.1	
7.	Cement mill-1 Baghouse	Shutdown	
8.	Cement mill-2 Baghouse	15.8	
9.	Cement mill-3 Baghouse	17.9	
10.	DG Set 1500KV	Not in operation	
11.	DG Set 750 KV	Not in operation	75mg/Nm ³

Stack Emissions in Line-2

1.	Kiln+Rawmill+Cooler Baghouse	17.5	30mg/Nm ³
2.	Coal mill -3 Baghouse	20.7	
3.	Cement Mill-4 Baghouse	18.6	
4.	Crusher-3 Bagfilter	24.8	

III.Water Analysis Reports

	pH	BOD mg/Ltr	COD mg/Ltr	S.S mg/Ltr	Oil & Grease mg/Ltr
Limiting Standards at Outlet	5.5 -9.0	100	250	100	10
1. STP –Treated Effluent	7.58	08	20	23	<1.0

IV.Ambient Noise levels

	Day time	Night time	Day - Limit	Night -Limit
1. Planrt Boundary -East	64.1	59.3	75dB	70dB
2. Planrt Boundary -West	62.9	57.6		
3. Planrt Boundary –North	65.3	60.1		
4. Planrt Boundary –South	63.2	58.7		
5. Near Health Centre	60.8	55.2		
6. Near New Guest house	56.7	51.9		

Note: Line-1 Cooler ESP trippings: NIL



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TEST REPORT

REF.NO: LAWN/ZCL/AAQ/009/2022

ANNEXURE - 2

Date: 26-3-2022

AMBIENT AIR QUALITY DATA

Name of the Industry & : M/s. ZUARI CEMENT LIMITED.,
Address : Krishna Nagar P.O, Yerraguntla, YSR Kadapa (Dist),
Andhra Pradesh – 516 311.

Code	A-1	A-2	A-3	A-4	NAAQ Standards (24 hourly standard)	PROTOCOL/ TEST METHOD
Date	17-03-2022 to 18-03-2022	17-03-2022 to 18-03-2022	17-03-2022 to 18-03-2022	17-03-2022 to 18-03-2022		
Starting Time	8.15 am	8.40 am	9.15 am	9.50 am		
Ending Time	8.15 am	8.40 am	9.15 am	9.50 am		
Locations	Near Main Gate	Near Stores	Near Mines Office	Near Pump House		
PM ₁₀	64.5	53.9	56.2	59.2	100 ($\mu\text{g}/\text{m}^3$)	IS-5182 (Part-23); 2017 / Gravimetric Method
PM _{2.5}	25.3	18.1	20.4	22.7	60 ($\mu\text{g}/\text{m}^3$)	IS-5182 (Part-24); 2019 / Gravimetric Method
SO ₂	11.9	6.2	9.5	10.3	80 ($\mu\text{g}/\text{m}^3$)	IS-5182 (Part-2); 2018 / New West & Gaeke Method
NO ₂	23.6	16.5	18.9	21.6	80 ($\mu\text{g}/\text{m}^3$)	IS-5182 (Part-6); 2017 / JACOB & Hochheiser Method
CO	<1.0	<1.0	<1.0	<1.0	2.0(mg/m^3) (8 hrs)	IS-5182 (Part-10); 2019 GC Method

AUTHORISED SIGNATORY

- RESPIRABLE DUST SAMPLER MODEL/SL.NO. RDS 9000 / 090717, CALIBRATED ON 02-09-2021, DUE ON 01-09-2022
- RESPIRABLE DUST SAMPLER MODEL/SL.NO. RDS 9000 / 090718, CALIBRATED ON 02-09-2021, DUE ON 01-09-2022
- RESPIRABLE DUST SAMPLER MODEL/SL.NO. RDS 9000 / 070706, CALIBRATED ON 19-05-2021, DUE ON 18-05-2022
- RESPIRABLE DUST SAMPLER MODEL/SL.NO. RDS 9000 / 070707, CALIBRATED ON 19-05-2021, DUE ON 18-05-2022

- FINE PARTICULATE SAMPLER/APM 550 (SL.NO. 371-DTF-2011), CALIBRATED ON 16-02-2021, DUE ON 15-02-2022
- FINE PARTICULATE SAMPLER/APM 550 (SL.NO. 454-DTH-2011), CALIBRATED ON 16-02-2021, DUE ON 15-02-2022
- FINE PARTICULATE SAMPLER/APM 550 (SL.NO. 276-DTE-2010), CALIBRATED ON 16-08-2021, DUE ON 15-08-2022
- FINE PARTICULATE SAMPLER/APM 550 (SL.NO. 455-DTH-2010), CALIBRATED ON 12-08-2021, DUE ON 11-08-2022

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TEST REPORT

REF.NO: LAWN/ZCL/STACK/001/2022

ANNEXURE - 1

Date: 06-4-2022

STACK MONITORING DATA

Name of the Industry & : M/s. ZUARI CEMENT LIMITED.,
Address : Krishna Nagar P.O, Yerraguntla, YSR Kadapa (Dist),
Andhra Pradesh – 516 311.

S.No.	Parameters	Results		LIMIT	PROTOCOL
		Kiln + Raw Mill - 1	Calciner + Raw Mill - 2		
1	Date of Sampling	29-03-2022	28-03-2022	--	---
2	Stack diameter (m)	4.25	2.98	--	---
3	Stack cross sectional area (m ²)	14.1790	6.971	--	---
4	Pollution Control Equipment	Bag House	Bag House	--	---
5	Ambient temperature (C)	39	40	--	---
6	Flue gas temperature (°C)	120	110	--	IS-11255 (Part-3); 2018
7	Exit velocity of flue gases (m/sec)	12.83	18.71	--	IS-11255 (Part-3); 2018
8	Flow rate (Nm ³ /hr)	4,84,243	3,56,398	--	IS-11255 (Part-3); 2018
9	Suspended particulate matter Concentration (mg/N m ³)	14.2	21.6	<30	IS-11255 (Part-1); 2019
10	PM Load based standard Kg/ton of clinker	0.0202	0.0226	0.125	CPCB Standard

AUTHORISED SIGNATORY

STACK MONITORING KIT : MODEL NO: APM-160/Sl. No. 75-DTD-2016, Calibrated on 03-04-2021, Due on 02-04-2022
M/s. LATA ENVIROTECH SERVICES.,



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TEST REPORT

REF.NO: LAWN/ZCL/STACK/002/2022

ANNEXURE - 1

Date: 06-4-2022

STACK MONITORING DATA

Name of the Industry & : M/s. ZUARI CEMENT LIMITED.,
Address : Krishna Nagar P.O, Yerraguntla, YSR Kadapa (Dist),
Andhra Pradesh – 516 311.

S.No.	Parameters	Cooler	Coal Mill - I	LIMIT	PROTOCOL
1	Date of Sampling	28-03-2022	28-03-2022	--	---
2	Stack diameter (m)	4.00	1.00	--	---
3	Stack cross sectional area (m ²)	12.56	0.785	--	---
4	Pollution Control Equipment	ESP	Bag House-1	--	---
5	Ambient temperature (C)	41	38	--	---
6	Flue gas temperature (°C)	205	81	--	IS-11255 (Part-3); 2018
7	Exit velocity of flue gases (m/sec)	12.60	11.21	--	IS-11255 (Part-3); 2018
8	Flow rate (Nm ³ /hr)	3,46,957	26,008	--	IS-11255 (Part-3); 2018
9	Suspended particulate matter Concentration (mg/N m ³)	23.2	15.7	<30	IS-11255 (Part-1); 2019

AUTHORISED SIGNATORY

STACK MONITORING KIT : MODEL NO: VSS1/SI. No. 142-DTB-13, Calibrated on 03-04-2021, Due on 02-04-2022
M/s. VAYUBODHAN STACK SAMPLER



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TEST REPORT

REF.NO: LAWN/ZCL/STACK/003/2022

ANNEXURE - 1

Date: 06-4-2022

STACK MONITORING DATA

Name of the Industry & : M/s. ZUARI CEMENT LIMITED.,
Address : Krishna Nagar P.O, Yerraguntla, YSR Kadapa (Dist),
Andhra Pradesh – 516 311.

S.No.	Parameters	Coal Mill - I	Coal Mill - II	LIMIT	PROTOCOL
1	Date of Sampling	28-03-2022	28-03-2022	--	---
2	Stack diameter (m)	1.32	1.50	--	---
3	Stack cross sectional area (m ²)	1.368	1.766	--	---
4	Pöllution Control Equipment	Bag House - 2	Bag House	--	---
5	Ambient temperature (C)	39	40	--	---
6	Flue gas temperature (°C)	62	60	--	IS-11255 (Part-3); 2018
7	Exit velocity of flue gases (m/sec)	12.04	13.49	--	IS-11255 (Part-3); 2018
8	Flow rate (Nm ³ /hr)	51,461	74,902	--	IS-11255 (Part-3); 2018
9	Suspended particulate matter Concentration (mg/N m ³)	21.2	18.1	<30	IS-11255 (Part-1); 2019

A handwritten signature in blue ink, appearing to read 'R. D. Mehta' or similar.

AUTHORISED SIGNATORY

STACK MONITORING KIT : MODEL NO: APM-160/SI. No. 75-DTD-2016, Calibrated on 03-04-2021, Due on 02-04-2022
M/s. LATA ENVIROTECH SERVICES.,



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TEST REPORT

REF.NO: LAWN/ZCL/STACK/008/2022

ANNEXURE - 1

Date: 06-4-2022

STACK MONITORING DATA

Name of the Industry & : M/s. ZUARI CEMENT LIMITED.,
 Address : Krishna Nagar P.O, Yerraguntla, YSR Kadapa (Dist),
 Andhra Pradesh – 516 311.

S.No.	Parameters	Cement Mill- I Bag House	LIMIT	PROTOCOL
1	Date of Sampling	Shut down	--	---
2	Time of Monitoring		--	---
3	Stack diameter (m)		--	---
4	Stack cross sectional area (m ²)		--	---
5	Pollution Control Equipment		--	---
6	Ambient temperature (C)		--	---
7	Flue gas temperature (°C)		--	IS-11255 (Part-3); 2018
8	Exit velocity of flue gases (m/sec)		--	IS-11255 (Part-3); 2018
9	Flow rate (Nm ³ /hr)		--	IS-11255 (Part-3); 2018
10	Suspended particulate matter Concentration (mg/N m ³)		<30	IS-11255 (Part-1); 2019

AUTHORISED SIGNATORY

STACK MONITORING KIT : MODEL NO: APM-160/SI. No. 75-DTD-2016, Calibrated on 03-04-2021, Due on 02-04-2022
 M/s. LATA ENVIROTECH SERVICES.,



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TEST REPORT

REF.NO: LAWN/ZCL/STACK/004/2022

ANNEXURE - 1

Date: 06-4-2022

STACK MONITORING DATA

Name of the Industry & : M/s. ZUARI CEMENT LIMITED.,
Address : Krishna Nagar P.O, Yerraguntla, YSR Kadapa (Dist),
Andhra Pradesh – 516 311.

S.No.	Parameters	Results		LIMIT	PROTOCOL
		Cement Mill - II	Cement Mill - III		
1	Date of Sampling	28-03-2022	28-03-2022	--	--
2	Stack diameter (m)	1.12	1.12	--	--
3	Stack cross sectional area (m ²)	0.984	0.984	--	--
4	Pollution Control Equipment	Bag House	Bag House	--	--
5	Ambient temperature (C)	38	39	--	--
6	Flue gas temperature (°C)	96	83	--	IS-11255 (Part-3); 2018
7	Exit velocity of flue gases (m/sec)	7.74	7.33	--	IS-11255 (Part-3); 2018
8	Flow rate (Nm ³ /hr)	21,602	21,221	--	IS-11255 (Part-3); 2018
9	Suspended particulate matter Concentration (mg/N m ³)	15.8	17.9	<30	IS-11255 (Part-1); 2019

AUTHORISED SIGNATORY

STACK MONITORING KIT : MODEL NO: APM-160/SI. No. 75-DTD-2016, Calibrated on 03-04-2021, Due on 02-04-2022
M/s. LATA ENVIROTECH SERVICES.,

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TEST REPORT

REF.NO: LAWN/ZCL/STACK/007/2022

ANNEXURE - 1

Date: 06-4-2022

STACK MONITORING DATA

Name of the Industry & : M/s. ZUARI CEMENT LIMITED.,
Address : Krishna Nagar P.O, Yerraguntla, YSR Kadapa (Dist),
Andhra Pradesh – 516 311.

S.No.	Parameters	1500 KVA D.G. Set	4x750 KVA D.G.Sets	LIMIT	PROTOCOL
1	Date of Sampling	Shut down	Shut down	--	--
2	Time of Monitoring			--	--
3	Stack diameter (m)			--	--
4	Stack cross sectional area (m ²)			--	--
5	Pollution Control Equipment			--	--
6	Ambient temperature (C)			--	--
7	Flue gas temperature (°C)			--	IS-11255 (Part-3); 2018
8	Exit velocity of flue gases (m/sec)			--	IS-11255 (Part-3); 2018
9	Flow rate (Nm ³ /hr)			--	IS-11255 (Part-3); 2018
10	Suspended particulate matter Concentration (mg/N m ³)			<115	IS-11255 (Part-1); 2019
11	Sulphur Dioxide (SO ₂)			--	IS-11255 (Part-2); 2019
12	Oxides of Nitrogen (NO _x)			--	IS-11255 (Part-7); 2017

AUTHORISED SIGNATORY

STACK MONITORING KIT : MODEL NO: APM-160/SI. No. 75-DTD-2016, Calibrated on 03-04-2021, Due on 02-04-2022
M/s. LATA ENVIROTECH SERVICES.,

Head Office : "LAWN HOUSE", #184-C, Vengalrao Nagar, Hyderabad - 500 038. (T.S.) INDIA. Tel : 040-66730925, 66730926, Fax : 040-66730926

Branch Office : D.No.31-58-103, MIG-71, Phase-7, Road No.4/4, Dwarakapuri Colony, Kurmanapalem, Vishakhapatnam-530046. Tel : 9701505182

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ISO 9001, 14001 & 45001
CERTIFIED COMPANY

LAWN ENVIRO ASSOCIATES

[Engineers & Consultants in Pollution Control]

Recognised by Ministry of Environment Forest & Climate Change (MoEF & CC), GOI, New Delhi
& Laboratory Accredited by NABL

TEST REPORT

REF.NO: LAWN/ZCL/STACK/005/2022

ANNEXURE - 1

Date: 06-4-2022

STACK MONITORING DATA

Name of the Industry & : **M/s. ZUARI CEMENT LIMITED.,**
Address : Krishna Nagar P.O, Yerraguntla, YSR Kadapa (Dist),
Andhra Pradesh – 516 311.

S.No.	Parameters	Results		LIMIT	PROTOCOL
		Kiln + Raw Mill + Cooler	Coal Mill - III		
1	Date of Sampling	29-03-2022	29-03-2022	--	---
2	Stack diameter (m)	11.67	2.10	--	---
3	Stack cross sectional area (m ²)	106.908	3.461	--	---
4	Pollution Control Equipment	Bag House	Bag House	--	---
5	Ambient temperature (C)	41	39		---
6	Flue gas temperature (°C)	116	66	--	IS-11255 (Part-3); 2018
7	Exit velocity of flue gases (m/sec)	3.42	10.33	--	IS-11255 (Part-3); 2018
8	Flow rate (Nm ³ /hr)	9,04,802	1,10,399	--	IS-11255 (Part-3); 2018
9	Suspended particulate matter Concentration (mg/N m ³)	17.5	20.7	<30	IS-11255 (Part-1); 2019
10	PM Load based standard Kg/ton of clinker	0.0427	----	0.125	CPCB Standard

AUTHORISED SIGNATORY

STACK MONITORING KIT : MODEL NO: APM-160/SI. No. 75-DTD-2016, Calibrated on 03-04-2021, Due on 02-04-2022
M/s. LATA ENVIROTECH SERVICES.,



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TEST REPORT

REF.NO: LAWN/ZCL/STACK/006/2022

ANNEXURE - 1

Date: 06-4-2022

STACK MONITORING DATA

Name of the Industry & : M/s. ZUARI CEMENT LIMITED.,
Address : Krishna Nagar P.O, Yerraguntla, YSR Kadapa (Dist),
Andhra Pradesh – 516 311.

S.No.	Parameters	Cement Mill - IV	Crusher-III	LIMIT	PROTOCOL
1	Date of Sampling	28-03-2022	29-03-2022	--	---
2	Stack diameter (m)	3.80	1.20	--	---
3	Stack cross sectional area (m^2)	11.335	1.130	--	---
4	Pollution Control Equipment	Bag House	Bag Filter	--	---
5	Ambient temperature (C)	37	39	--	---
6	Flue gas temperature ($^{\circ}C$)	89	43	--	IS-11255 (Part-3); 2018
7	Exit velocity of flue gases (m/sec)	8.63	9.47	--	IS-11255 (Part-3); 2018
8	Flow rate (Nm ³ /hr)	2,82,582	35,415	--	IS-11255 (Part-3); 2018
9	Suspended particulate matter Concentration (mg/N m ³)	18.6	24.8	<30	IS-11255 (Part-1); 2019



AUTHORISED SIGNATORY

STACK MONITORING KIT : MODEL NO: APM-160/SI. No. 75-DTD-2016, Calibrated on 03-04-2021, Due on 02-04-2022
M/s. LATA ENVIROTECH SERVICES.,

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TEST REPORT

REF.NO: LAWN/ZCL/WW/011/2022

ANNEXURE - 4

Date: 26-3-2022

WASTE WATER ANALYSIS

Name of the Industry & : **M/s. ZUARI CEMENT LIMITED.,**
Address : Krishna Nagar P.O, Yerraguntla, YSR Kadapa (Dist),
Andhra Pradesh – 516 311.

Date of Collection : 19-03-2022
Date of Analysis : 21-03-2022
PROTOCOL : A.P.H.A. 23rd Edition, 2017 & IS 3025

S.No.	Parameters	PROTOCOL	STP OUTLET	
			STP Outlet Water	GSR 422E (Inland surface water)
1	Colour (Hazen Units)	IS:3025 (Part-4)	<5	See Note - 1
2	Odour	IS:3025 (Part-5)	Agreeable	See Note - 1
3	pH	IS:3025 (Part-11)	7.58	5.5 – 9.0
4	Oil & Grease, mg/l	IS:3025 (Part-39)	<1.0	10
5	Total Suspended Solids, mg/l	IS:3025 (Part-17)	23	100
6	Total Dissolved Solids at 105 °C, mg/l	IS:3025 (Part-16)	1,098	2,100
7	Bio Chemical Oxygen Demand for (3 days at 27°C), mg/l	IS:3025 (Part-44)	08	30
8	Chemical Oxygen Demand, mg/l	IS:3025 (Part-58)	20	250
9	Chlorides as Cl, mg/l	IS:3025 (Part-32)	240	1,000
10	Fluorides as F, mg/l	4500 F-D APHA 22 nd Edn 2012	0.56	2.0
11	Dissolved Phosphate as P, mg/l	IS:3025 (Part-31)	0.36	5.0
12	Percent Sodium	IS:2296-1982	24.01	----
13	Sulphide as S, mg/l	IS:3025 (Part-29)	<1.0	2.0
14	Boron as B, mg/l	IS:3025 (Part-57)	0.07	2.0
15	Residual Sodium Carbonate, mg/l	IS:11624	Nil	----
16	Sulphates as SO ₄ , mg/l	IS:3025 (Part-24)	150	1,000
17	Iron as Fe, mg/l	IS:3025 (Part-53)	0.14	3.0
18	Total Volatile Suspended Solids, mg/l	IS:3025 (Part-18)	4.25	----



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TEST REPORT

REF.NO: LAWN/ZCL/NOISE/013/2022

ANNEXURE - 5

Date: 26-3-2022

NOISE LEVEL DATA

Name of the Industry & : M/s. ZUARI CEMENT LIMITED.,
Address : Krishna Nagar P.O, Yerraguntla, YSR Kadapa (Dist),
Andhra Pradesh – 516 311.

S.No	Locations	Equivalent Noise Levels in dB(A)	
		Day Time	Night Time
1	Plant Boundary - East	64.10	59.30
2	Plant Boundary - West	62.90	57.60
3	Plant Boundary - North	65.30	60.10
4	Plant Boundary - South	63.20	58.70
5	Near Health Centre	60.80	55.20
6	Near New Guest House	56.70	51.90

- Note:**
1. Noise levels are monitored on 18-03-2022.
 2. Instrument Make: Lutron SL-4001/Q-635621, Calibrated On 11-08-2021, Due On 10-08-2022.
 3. Day time is reckoned in between 6.0 am and 10.0 pm – Limit 75 dB (A).
 4. Night time is reckoned in between 10.0 pm and 6.0 am – Limit 70 dB (A).



AUTHORISED SIGNATORY

O/C



ZCL/ YA/ EM /2022/ Maro3
Date:19.03.2022

The Member Secretary
Andhra Pradesh Pollution Control Board,
D No:33-26-14 D/2, Near Sunrise Hospital,
Puspha Hotel Centre,
Chalamavari Street, Kasturibaipet,
Vijayawada-520010

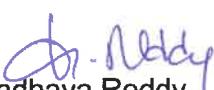
Zuari Cement Limited
CIN: U26942AP2000PLC050415
Krishna Nagar, Yerraguntla,
District Kadapa,
Andhra Pradesh - 516311,
Tel: +91 85632 75107 / 08
Fax: +91 85632 75101 / 64
www.zuaricements.com

Dear Sir,

Please find enclosed the reports of Stack Emissions, Ambient Air Quality, Waste Water quality and Ambient Noise Quality data of Zuari Cement Plant –Yerraguntla for the month of Feb 2022.

Thanking you,

Yours faithfully
For Zuari Cement Ltd


V.Madhava Reddy

AGM-Environment

Encl: As above

cc :

The Environment Engineer,
Andhra Pradesh Pollution Control Board,
Regional Office, 2nd Floor,
D.No.1/2277, Rajiv Park Road,
A.P. Housing Board Colony,
Kadapa – 516003.

CORPORATE RESPONSIBILITY FOR ENVIRONMENTAL PROTECTION (CREP)

Zuari Cement Ltd –Yerraguntla

- 1. Cement plants which are not complying* with notified standards shall do the following to meet the standards. Augmentation of existing Air pollution control devices- by July 2003. Replacement of existing air pollution control devices- by July 2004. (Non complying units shall give bank guarantee to respective SPCBs)**

Current status: Not applicable to our industry as we are complying the standards.

Action plan: Nil.

- 2. Cement plants located in critically polluted or urban areas (including 5 km distance outside urban boundary) will meet 100 mg/Nm³ limit of particulate matter by December, 2004 and continue working to reduce the emission of particulate matter to 50 mg/Nm³.**

Action plan: we are not exceeding the limit prescribed by CPCB /APPCB

- 3. The new cement kilns to be accorded NOC/Environmental clearance w. e. f. 01.04.2003 will meet the limit of 50 mg/Nm³ for particulate matter emissions.**

Our Line-I&II are meeting the standards.

- 4. CPCB will evolve load based standards by Dec. 2003.**

Current status: Our Line-I&II are meeting the standards.

- 5. CPCB & NCBM will evolve SO₂ and NO_x emission standards by June 2004.**

We are are meeting the standards and installed online emission monitoring system at Line-I & II for PM, SO₂ & NO_x measurement.

Also installed SNCR system for NOX emission control

- 6. The Cement industries will Control fugitive emissions from all the raw material and products storage and transfer points by Dec. 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 shall submit its recommendations within three months.**

To control the fugitive emissions we have provided closed sheds for raw material storage and regular water spraying on belts also all our internal roads are concreted.

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.

Current status: Presently we are using coal, RDF, Tyre chips, biomass and pharma wastes fuel in kiln.

- 8. After performance evaluation of various types of continuous monitoring equipment and feed back from industries and equipment manufacturer's, NTF will decide feasible unit-operations / sections for installation of continuous monitoring equipment. The industry will install the continuous monitoring systems (CMS) by December 2003**

Current status: We have installed 10 numbers of continuous monitoring equipment at all major stacks.

Data is connected to APPCB and CPCB, website.

9. Tripping in kiln ESP to be minimized by July 2003 as per the recommendation of NTF.

Current status: We have replaced ESP's by Baghouse in Line-1 Kiln, calciner, Cement mill-2&3 and there is no trappings found in Baghouse.

10. Industries will submit the target date to enhance the utilization of waste material by April 2003.

We are using maximum fly ash to produce PPC cement.

2021-22 Fly ash Consumption: 236431MT

11. NCBM will carry out feasibility study on hazardous waste utilization in cement kiln by December 2003.

Present we are using RDF, Tyre chips, biomass and Pharma waste as alternative fuel.

12. Cement industry will carry out feasibility study and submit target dates to CPCB for Co-generation of power by July 2003.

Current status: WHRB proposal under progress.

Environmental Expenditure-2021-22

NO	Details	Capital cost-Rs.	Recurring Cost-Rs.
1	Air pollution control Equipments	755328628	31165000
2	RO plants	2271000	
3	Environmental monitoring	13714000	
4	Cover sheds	1157773624	
5	Roads Concrete	26745172	
6	Sewage Treatment Plant	500000	
7	Alternative Fuel handling System	168003711	
8	SNCR System	24712000	
9	Online Monitoring Systems (CEMS/CAAQMS)	49209700	1780000
10	Greenbelt	3196000	