



ECL/ BIHAR/ESR/MOEF/FORM-V/R-6

DATED- 25.06.2017

To,  
The Chairman,  
Bihar State Pollution Control Board,  
Parivesh Bhavan, N.S.B.-2,  
Patliputra Industrial Area, Patliputra,  
Patna, Bihar – 800010

**Sub.** : Environmental Statement Report ( FORM-V) of M/s. ECO CEMENTS LTD for the period of April 2016 to March 2017.

**Ref** : Consent to operate letter No. PT2-1048/04 T. 15842 & P/T 2-26/12-T.  
15843, DATED -23/09/2013

**Dear Sir,**

We are submitting herewith the yearly Environmental Statement Report of **Eco Cements Limited**, Plot No. 1644, Bheriya More, Kulharia, Durgauti, Bhabua, Bihar, Pin code- 821105 for the period of April 2016 to March, 2017

Kindly acknowledge the receipt and oblige.

Thanking you.

Yours Faithfully,

For Eco Cements Ltd.

**ECO CEMENTS LTD**

Authorised Signatory / Director

(AUTHO. SIGN.)

**Copy to.**

1. Ministry of Environment and Forests,  
BANGLOW NO. A-2, SHYAMLI CALONY,  
RANCHI-834002, JHARKHAND  
PH. 0651-2410007, 2410002
2. The Chairman, Central Pollution Control Board,  
Parivesh Bhawan, CBD-cum-Office Complex,  
East Arjun Nagar, Delhi - 110 032

**ECO CEMENTS LTD**

Corp. Off.: 72, Jawahar Nagar Extn., Bhelupur, Varansi, U.P.- 221010, PH.- 0542-2277704, 2277074  
Factory: Plot No. 1644, Bheriya Road, Kulharia, Durgauti, Bhabhua, Bihar

ECL/ BIHAR/ESR/MOEF/FORM-V/R-6

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PH. 0651-2410007, 2410002

**ECO CEMENTS LTD**

Corp. Off.: 72, Jawahar Nagar Extn., Bhelupur, Varansi, U.P.- 221010, PH.- 0542-2277704, 2277074  
Factory: Plot No. 1644, Bheriya Road, Kulharia, Durgauti, Bhabhua, Bihar

Ambient Air Quality Monitoring Report (All Values in $\mu\text{g}/\text{m}^3$ )													
Year: 2016 - 2017 (APRIL 2016 TO MARCH 2017.)													
S. No.	Location	Near Main Gate			Near CCR			Near Canteen			Near Gypsum & Clinker Storage		
	Month	PM <sub>10</sub>	SO <sub>2</sub>	NO <sub>2</sub>	PM <sub>10</sub>	SO <sub>2</sub>	NO <sub>2</sub>	PM <sub>10</sub>	SO <sub>2</sub>	NO <sub>2</sub>	PM <sub>10</sub>	SO <sub>2</sub>	NO <sub>2</sub>
1	Apr-16	87.3	16.5	22.8	93.7	17.2	24.3	89.7	20.6	29.2	81.1	29.8	44.7
2	May-16	91.3	19.8	29.1	87.5	23.7	35.0	79.1	17.9	33.5	85.1	18.6	27.4
3	Jun-16	98.7	22.8	35.0	92.2	27.2	42.0	77.9	10.7	25.1	84.3	21.0	32.9
4	Jul-16	96.2	22.2	26.2	94.9	28.1	31.5	90.8	21.8	24.6	82.1	11.3	18.8
5	Aug-16	85.1	23.9	35.7	96.5	13.8	19.4	94.6	16.5	23.3	87.5	13.2	18.3
6	Sep-16	89.0	15.9	23.3	93.6	17.4	19.7	92.2	19.0	28.0	106.4	18.2	28.0
7	Oct-16	98.9	13.8	19.4	99.1	17.8	21.0	83.4	14.3	26.8	90.6	22.4	25.2
8	Nov-16	98.8	13.2	18.7	106.1	11.0	15.5	93.6	19.1	28.6	96.2	10.5	14.6
9	Dec-16	91.4	17.8	21.5	89.0	16.5	18.4	83.0	10.5	17.5	78.7	19.1	28.6
10	Jan-17	92.0	21.6	35.1	86.0	14.9	21.1	81.4	12.2	16.5	92.3	15.0	13.5
11	Feb-17	97.6	28.8	51.0	93.4	19.9	30.6	94.5	16.3	24.0	96.1	22.9	29.2
12	Mar-17	94.2	25.2	38.0	89.7	17.4	25.9	88.0	14.3	20.2	94.3	18.9	31.1
Average		93.38	20.13	29.65	93.48	18.74	25.37	87.35	16.10	24.78	89.56	18.41	26.03

**ECO CEMENTS LTD**  
 Authorised Signatory / Director

**Stack Emission Level Monitoring Report for the period APRIL 2016 TO MARCH 2017**  
All Values in mg/m<sup>3</sup>

Sr. No.	Month & Year	Particulate Matter Emission ( mg/Nm <sup>3</sup> )						Standard Limit of Particulate Matter Emission
		Stack Attached with Bag House of Cement Mill	Stack Attached with Bag House of flyash unloader	Stack Attached with Bag House of Clinker & gypsum unloader	Stack Attached with Bag House of gypsum & clinker feeding	Stack Attached with DG 500 KVA	Stack Attached with DG 125 KVA	
1	Apr-16	44.3	42.8	38.4	33.8	44.3	37.1	50 mg/Nm <sup>3</sup>
2	May-16	40.2	45.0	42.6	39.4	37.4	30.4	
3	Jun-16	42.1	47.1	39.7	42.8	39.2	32.6	
4	Jul-16	48.7	43.8	43.8	36.4	49.8	43.4	
5	Aug-16	41.8	46.2	40.8	40.1	43.6	38.9	
6	Sep-16	42.8	44.7	44.6	34.8	38.4	33.8	
7	Oct-16	46.9	41.8	34.6	46.1	41.8	36.4	
8	Nov-16	43.1	48.6	46.4	44.8	47.6	39.7	
9	Dec-16	45.0	42.0	42.7	39.7	40.2	31.8	
10	Jan-17	42.3	44.6	39.4	37.1	44.8	37.8	
11	Feb-17	41.9	38.4	43.7	40.8	42.1	46.2	
12	Mar-17	44.2	35.0	37.3	36.4	48.4	43.7	
<b>Average Values</b>		<b>43.61</b>	<b>43.33</b>	<b>41.17</b>	<b>39.35</b>	<b>43.13</b>	<b>37.65</b>	


**ECO CEMENTS LTD**

Authorised Signatory / Director

Ambient Noise level Monitoring Report From APRIL 2016 TO MARCH 2017 dB(A) TIME WEIGHTED AVERAGE ( TWA) OF NOISE LEVEL IN dB(A)							
S. No.	Location ---->	Plant boundary near Main gate	Plant boundary near CCR	Plant boundary near Canteen	Plant boundary near Gypsum storage	Plant boundary near clinker storage	Prescribed Standard Limit ( dB(A)
1	Apr-16	68.2	72.6	66.8	69.4	63.2	75dB(A) in day & 70 dB(A) in night
2	May-16	70.4	73.6	69.7	65.0	64.6	
3	Jun-16	71.2	70.8	67.1	68.2	66.7	
4	Jul-16	67.8	69.7	64.3	66.2	66.8	
5	Aug-16	69.4	70.2	66.4	63.8	64.7	
6	Sep-16	70.2	72.9	69.7	67.4	66.2	
7	Oct-16	71.3	73.4	68.2	69.7	70.1	
8	Nov-16	69.1	70.8	65.0	66.2	67.3	
9	Dec-16	70.6	72.6	67.1	68.4	69.1	
10	Jan-17	72.6	70.1	69.7	66.8	65.0	
11	Feb-17	70.9	69.7	66.2	64.9	68.4	
12	Mar-17	73.6	71.2	70.6	67.8	69.7	
Average Values		70.4	71.5	67.6	67.0	66.8	

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 Authorised Signatory / Director

Fugitive Dust Emission Level Monitoring Report for the period APRIL 2016 TO MARCH 2017						
Concentration of Total Dust (All Values in mg/m <sup>3</sup> )						
Sl.No.	Month	Mill Section Ground Floor	Mill Section 1st Floor	Mill Section 2nd Floor	South Side of Mill Section	North side of Mill Section
1	Apr-16	7.28	7.55	3.84	5.46	5.84
2	May-16	8.91	8.59	6.44	6.89	4.53
3	Jun-16	8.24	8.12	6.19	7.26	6.48
4	Jul-16	7.84	6.89	6.64	5.68	5.42
5	Aug-16	9.64	8.72	9.10	7.89	8.18
6	Sep-16	7.69	7.12	6.92	6.10	5.78
7	Oct-16	8.22	7.79	6.48	6.51	5.86
8	Nov-16	8.31	7.85	6.40	6.68	5.45
9	Dec-16	7.91	7.32	6.68	6.10	5.52
10	Jan-17	6.17	5.84	4.89	6.28	7.14
11	Feb-17	5.61	4.83	3.84	4.15	5.83
12	Mar-17	7.81	5.44	3.89	2.94	6.44
<b>Average</b>		<b>7.8</b>	<b>7.2</b>	<b>5.9</b>	<b>6.0</b>	<b>6.0</b>

**ECO CEMENTS LTD**  
  
 Authorised Signatory / Director

## ENVIRONMENTAL STATEMENTS

### FORM-V

(See Rule-14)

The Ministry of Environment & Forest its vide its notification dated 13<sup>th</sup> March,1992 directed all industries which need to have consent under Water (Prevention & Control of Pollution) Act,1974 and Air (Prevention & Control of Pollution) Act,1981 to file the environmental statement under Environmental Protection Act.1986 every year. This is to be filed for the period ending of March by September every year The format for the same is as follows:-

### PART—A

1	Name and address of the Owner / Occupier of the Industry operation or process	Eco Cements Limited, Plot No. 1644, Bheriya More, Kulharia, Durgauti, Bhabua, Bihar, Pin code- 821105
2	Industry Category Primary (S.T.C. Code) Secondary (S.T.C. Code)	Red Category
3	Production Capacity Cement : D. G. Set	1.0 MTPA 500 KVA&125 KVA
4	Year of Establishment	2012
5	Date of the last Environmental Statement submitted.	20.06.2016

**ECO CEMENTS LTD**  
Authorised Signatory / Director

**PART—B**

**WATER AND RAW MATERIAL CONSUMPTION**

**(I) WATER CONSUMPTION:**

Process	N.A. (As plant is based on dry process technology)
Cooling and Dust Suppression	309.89 KL
Domestic	1332.00KL

Name of Product	Process water consumption per unit of product Output	
	During Previous Financial Year( 2015-16)	During Current Financial Year( 2016-17)
PPC Cement	.00119 KL/ MT OF CEMENT PRODUCTION	.00119 KL/ MT OF CEMENT PRODUCTION

**(II) RAW MATERIAL CONSUMPTION: (CEMENT PLANT)**

Name of Raw Material	Name or Product	Consumption of Raw Material per unit of Output ( Cement)	
		During Previous Financial year( 15-16)	During Current Financial year (16-17)
Clinker	PPC Cement	0.784	0.741
Gypsum		0.043	0.036
Fly Ash		0.174	0.252

**RAW MATERIAL CONSUMPTION: (D.G. SET)**

Name of Raw Material	Name of Product	Consumption of Raw Material per unit of Output( Cement)	
		During Previous Financial Year 15-16	During Current Financial Year 16-17
Fuel/ Diesel	Power	0.685	0.299

**(III) POWER CONSUMPTION (KWH/T OF CEMENT):**

During Previous Financial Year:	During Current Financial Year
43.68KWH T	41.71KWH/T

**(IV) TOTAL CEMENT PRODUCTION (MT):**

During Previous Financial Year (2015-2016)	During Current Financial Year (2016-2017)
117599.945 MT	260414.338

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**PART-C**

**DISCHARGED TO ENVIRONMENTAL / UNIT OF OUTPUT**

Pollutants	Quantity of Pollutants Discharged ( Mass/Day)	Concentration of Pollutants in Discharges ( Mass/day)	Percentage of variation from prescribed standards with reasons
(a)	Water	As the plant is being operated on dry process technology, no liquid effluent is generated from the plant, Waste water generated from office toilet and mess is disposed-off in a soak pit via septic tank	
(b)	Air	Please refer Annexures - I, II & III	

**PART--D**

**HAZARDOUS WASTE**

(As specified under Hazardous Waste (Management, Handling and Transboundary Movement) Rules, 2008)

Hazardous Waste	Total Quantity ( Ltrs)	
	During Previous Financial Year (April 2015- March 2016)	During Current Financial Year (April 2016-March 2017)
	We are having common authorization for Hazardous Waste Management & Handling for Clinker Grinding Unit (Cement 1.0 MTPA & 125 KVA & 500 KVA D. G. Set)	
a) From Process, Cement manufacturing (Grinding) is based on "Dry Process" No Hazardous waste is generated from the process except used oil which is drained from Machinery / Equipments	Total Quantity Generated in 2015-16: 245Ltrs Old Stock : 620Ltrs Sale out : NIL Ltrs Balance : 865Ltrs	Total Quantity Generated in 2016-17: 110Ltrs Old Stock : 865Ltrs Sale out : NIL Ltrs Balance : 975Ltrs
(b) From Pollution Control Facilities	N.A	N.A

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**PART — E**  
**SOLID WASTE**

		Total Quantity	
		During Previous Financial Year	During Current Financial Year
(a)	From Process	Nil	Nil
(b)	From Pollution Control Facility	Dust collected in the Bag Houses and Bag Filters is recycled/reused in process.	
(c)	1) Quantity rejected or re-utilized	100%	100%
	2) Sold	Nil	Nil
	3) Disposed	Nil	Nil

**PART — F**

Please specify the characterization (in terms of composition and quantum) of hazardous as well as solid wastes and indicate disposal practice adopted for both the categories of wastes:

**Hazardous Wastes**

Cement manufacturing is based on "Dry Process". No Hazardous waste is generated from the process except used oil which is drained from machineries /equipments. Used oil is sold to the authorized recyclers/self-used for lubrication.

Solid Wastes: - N.A.

**PART — G**

**IMPACT OF THE POLLUTION CONTROL MEASURES ON CONSERVATION OF NATURAL RESOURCES AND CONSEQUENTLY ON THE COST OF PRODUCTION**

Clinker grinding unit is being operated on dry process technology, which is cost effective and environmentally clean technology. The stack emissions from the plant are controlled by equipment like bag houses and bag filters installed at various material transfer points to clean the process and arrest the fugitive emissions. The particulate matter collected in the pollution control equipment is recycled / reused in process and neutralizing the cost of operation of pollution control equipments and hence no cost impact on the production cost.

**ECO CEMENTS LTD**  
  
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**PART—H**

**ADDITIONAL MEASURES / INVESTMENTS PROPOSAL FOR ENVIRONMENT  
PROTECTION INCLUDING ABATEMENT OF POLLUTION**

Green belt development and tree plantation is our ongoing process. Every year we are doing new tree plantation to increase the bio-diversity of the area. Up to March, 2017, we have covered 3.08 hectare, around 5950 trees with the survival rate of 92.66% , this is around 33.12 % green area of the total plant area (9.3 hect.). Additional to this we have planted 1500 tree saplings at Nearbyschools, outside plant area, both side of Bheria road to enhance the greenery and prosperity of the area.

**PART—I**

**ANY OTHER PARTICULARS FOR IMPROVING THE QUALITY OF  
ENVIRONMENT.**

1. We have full-fledged Environment Department with three separate cells, one for monitoring, one for maintenance of pollution control equipment and one for green belt development.
2. Monitoring of stack emission, ambient air quality & ambient noise and water quality is being monitored regularly.
3. Maintenance department is doing regular checking and scheduled maintenance of all the pollution control devices.
4. Civil and Personal & Administration departments taking care for of House- keeping.
5. Horticulture section is taking care of tree plantation and green belt development. Every year we are growing new tree plantation.

On support of above, we are enclosing herewith following Annexure:-

**Annexure-I** : Ambient Air Quality Monitoring Report for the year 2016-17

**Annexure-II** : Stack Emission Level Monitoring Report for the year 2016-17

**Annexure-III** : Ambient Noise level Monitoring Report for the year 2016-17

**ECO CEMENTS LTD**

Authorised Signatory / Director

**Annexure-1****Ambient Air Quality Monitoring Report for the year 2016-17**

Ambient Air Quality Monitoring Report (All Values in $\mu\text{g}/\text{m}^3$ )													
Year: 2016 - 2017( APRIL 2016 TO MARCH 2017.)													
S. No	Location	Near Main Gate			Near CCR			Near Canteen			Near Gypsum & Clinker Storage		
	Month	PM <sub>10</sub>	SO <sub>2</sub>	NO <sub>2</sub>	PM <sub>10</sub>	SO <sub>2</sub>	NO <sub>2</sub>	PM <sub>10</sub>	SO <sub>2</sub>	NO <sub>2</sub>	PM <sub>10</sub>	SO <sub>2</sub>	NO <sub>2</sub>
1	Apr-16	87.3	16.5	22.8	93.7	17.2	24.3	89.7	20.6	29.2	81.1	29.8	44.7
2	May-16	91.3	19.8	29.1	87.5	23.7	35.0	79.1	17.9	33.5	85.1	18.6	27.4
3	Jun-16	98.7	22.8	35.0	92.2	27.2	42.0	77.9	10.7	25.1	84.3	21.0	32.9
4	Jul-16	96.2	22.2	26.2	94.9	28.1	31.5	90.8	21.8	24.6	82.1	11.3	18.8
5	Aug-16	85.1	23.9	35.7	96.5	13.8	19.4	94.6	16.5	23.3	87.5	13.2	18.3
6	Sep-16	89.0	15.9	23.3	93.6	17.4	19.7	92.2	19.0	28.0	106.4	18.2	28.0
7	Oct-16	98.9	13.8	19.4	99.1	17.8	21.0	83.4	14.3	26.8	90.6	22.4	25.2
8	Nov-16	98.8	13.2	18.7	106.1	11.0	15.5	93.6	19.1	28.6	96.2	10.5	14.6
9	Dec-16	91.4	17.8	21.5	89.0	16.5	18.4	83.0	10.5	17.5	78.7	19.1	28.6
10	Jan-17	92.0	21.6	35.1	86.0	14.9	21.1	81.4	12.2	16.5	92.3	15.0	13.5
11	Feb-17	97.6	28.8	51.0	93.4	19.9	30.6	94.5	16.3	24.0	96.1	22.9	29.2
12	Mar-17	94.2	25.2	38.0	89.7	17.4	25.9	88.0	14.3	20.2	94.3	18.9	31.1
Average		93.3	20.1	29.6	93.4	18.7	25.3	87.3	16.1	24.7	89.5	18.4	26.0
		8	3	5	8	4	7	5	0	8	6	1	3

**ECO CEMENTS LTD**

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## Annexure-II

### Stack Emission Level Monitoring Report for the period APRIL 2016 TO MARCH 2017

Stack Emission Level Monitoring Report for the period APRIL 2016 TO MARCH 2017								
All Values in mg/m <sup>3</sup>								
Sr. No.	Month & Year	Particulate Matter Emission ( mg/Nm <sup>3</sup> )						Standard Limit of Particulate Matter Emission
		Stack Attached with Bag House of Cement Mill	Stack Attached with Bag House of flyash unloader	Stack Attached with Bag House of Clinker & gypsum unloader	Stack Attached with Bag House of gypsum & clinker feeding	Stack Attached with DG 500 KVA	Stack Attached with DG 125 KVA	
1	Apr-16	44.3	42.8	38.4	33.8	44.3	37.1	50 mg/Nm <sup>3</sup>
2	May-16	40.2	45.0	42.6	39.4	37.4	30.4	
3	Jun-16	42.1	47.1	39.7	42.8	39.2	32.6	
4	Jul-16	48.7	43.8	43.8	36.4	49.8	43.4	
5	Aug-16	41.8	46.2	40.8	40.1	43.6	38.9	
6	Sep-16	42.8	44.7	44.6	34.8	38.4	33.8	
7	Oct-16	46.9	41.8	34.6	46.1	41.8	36.4	
8	Nov-16	43.1	48.6	46.4	44.8	47.6	39.7	
9	Dec-16	45.0	42.0	42.7	39.7	40.2	31.8	
10	Jan-17	42.3	44.6	39.4	37.1	44.8	37.8	
11	Feb-17	41.9	38.4	43.7	40.8	42.1	46.2	
12	Mar-17	44.2	35.0	37.3	36.4	48.4	43.7	
Average Values		43.61	43.33	41.17	39.35	43.13	37.65	

**ECO CEMENTS LTD**

Authorised Signatory / Director

### Annexure-III

### Ambient Noise level Monitoring Report for the year 2016-17 (dB(A))

TIME WEIGHTED AVERAGE (TWA) OF NOISE LEVEL IN dB(A)

Ambient Noise level Monitoring Report From APRIL 2016 TO MARCH 2017 dB(A) TIME WEIGHTED AVERAGE ( TWA) OF NOISE LEVEL IN dB(A)							
S. No.	Location ---->	Plant boundary near Main gate	Plant boundary near CCR	Plant boundary near Canteen	Plant boundary near Gypsum storage	Plant boundary near clinker storage	Prescribed Standard Limit ( dB(A))
1	Apr-16	68.2	72.6	66.8	69.4	63.2	75dB(A) in day & 70 dB(A) in night
2	May-16	70.4	73.6	69.7	65.0	64.6	
3	Jun-16	71.2	70.8	67.1	68.2	66.7	
4	Jul-16	67.8	69.7	64.3	66.2	66.8	
5	Aug-16	69.4	70.2	66.4	63.8	64.7	
6	Sep-16	70.2	72.9	69.7	67.4	66.2	
7	Oct-16	71.3	73.4	68.2	69.7	70.1	
8	Nov-16	69.1	70.8	65.0	66.2	67.3	
9	Dec-16	70.6	72.6	67.1	68.4	69.1	
10	Jan-17	72.6	70.1	69.7	66.8	65.0	
11	Feb-17	70.9	69.7	66.2	64.9	68.4	
12	Mar-17	73.6	71.2	70.6	67.8	69.7	
Average Values		70.4	71.5	67.6	67.0	66.8	

\* Day time reckoned from 06 00AM to 10:00 PM

\*\* Night time reckoned from 10: PM to 06:00 AM

ECO CEMENTS LTD  
Authorised Signatory / Director

Regd. Office :  
6D Extn. ; (Chatterjee Lane)  
Gardanibagh  
PATNA - 800 001 (Bihar)



Laboratory Address :-  
01<sup>st</sup> Floor, Rajhans Niketan,  
Near Canal, Rukunpura,  
Bailey Road,  
Patna - 800 014 (Bihar)



# SHIVA TEST HOUSE

Tel. : 0612 - 2247538/ 2240752 ; TeleFax : 0612 - 2590705  
E.mail. : sthpatna1@yahoo.co.in



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RECOGNISED AS ENVIRONMENTAL LABORATORY BY CENTRAL GOVT. UNDER ENVIRONMENT ( PROTECTION ) ACT 1986 (VALID UPTO MAR. 2018),  
BY DEPTT. OF INDUSTRY, FORESTS & ENVIRONMENT, GOVT. OF BIHAR AND BIHAR STATE POLLUTION CONTROL BOARD

## TEST REPORT

Ref.No. ECL/TR/16-17/117(g) Dt: 17.05.2016 Your PO No. ECO/BHR/SHIVA TEST HOUSE /V.O./RS/2016 Dt: 19.04.2016

[a]	Name and address of the Customer	ECO Cement Ltd. Vill.: Mahmoodganj At : Kulharia Durgawati Dist.: Bhabua (Kaimur)				
[b]	Report to be submitted to	Director				
[c]	Details of Sample	Monitoring of Ambient Air Quality				
[d]	Sample Collected by	SHIVA TEST HOUSE on 11/12.04.16				
[e]	No. & Type of Container	Filter Paper ; Glass Impinger				
[f]	Items required to be tested	As per request				
[g]	Whether any specific Method of Test has been suggested by the party	No				
[h]	Date of receiving the sample	12.04.16				
Parameters	Method of Test	Sampling Station				Limit as NAAQS Nov. '2009
		Near Main Gate	Near CCR	Near Canteen	Near Gypsum & Clinker Storage Area	
1. Particulate Matter (PM <sub>10</sub> ) $\mu\text{g}/\text{m}^3$	IS 5162 Part-23	94.4	100.5	88.9	75.9	100 $\mu\text{g}/\text{m}^3$
		87.3	93.3	96.0	103.1	
		80.2	87.2	84.3	64.3	
2. Particulate Matter (PM <sub>2.5</sub> ) $\mu\text{g}/\text{m}^3$	IS 5162 Part-23	58.4	60.5	52.5	43.9	60 $\mu\text{g}/\text{m}^3$
		54.0	56.2	56.7	59.5	
		49.6	52.4	49.7	37.2	
3. Sulphur Dioxide as SO <sub>2</sub> $\mu\text{g}/\text{m}^3$	IS 5162 Part-23	15.7	17.9	18.7	29.5	80 $\mu\text{g}/\text{m}^3$
		17.4	19.1	19.4	32.4	
		19.6	21.1	20.8	35.3	
		18.5	16.7	22.7	34.4	
		14.6	14.9	23.9	24.6	
		12.9	13.7	18.1	22.6	
4. Nitrogen Dioxide as NO <sub>2</sub> $\mu\text{g}/\text{m}^3$	IS 5162 Part-23	22.9	24.9	30.2	44.0	80 $\mu\text{g}/\text{m}^3$
		23.8	25.5	31.1	45.7	
		26.8	26.5	32.3	48.0	
		22.4	25.3	27.9	44.8	
		21.8	22.3	27.2	43.8	
		19.2	21.3	26.5	41.7	
24 Hrs. Average Value						
	PM <sub>10</sub>	87.3	93.7	89.7	81.1	
	PM <sub>2.5</sub>	54.0	56.4	52.9	46.8	
	SO <sub>2</sub>	16.5	17.2	20.6	29.8	
	*NO <sub>2</sub>	22.8	24.3	29.2	44.7	

Authorized Signatory  
Quality Manager / Dy. Quality Manager

- This report applies only to the samples submitted.
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- Test Report endorsement on the test report is not valid.
- Test Report may not be used for any other purpose without written permission of the Laboratory.

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# SHIVA TEST HOUSE

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E.mail: sthpatna1@yahoo.co.in

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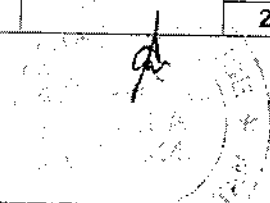
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BY DEPTT. OF INDUSTRY, FORESTS & ENVIRONMENT, GOVT. OF BIHAR AND BIHAR STATE POLLUTION CONTROL BOARD

## TEST REPORT

Ref.No. ECL/TR/16-17/148(g) Dt: 31.05.2016 Your PO No. ECO/BHR/SHIVA TEST HOUSE /W.O./RS/2016 Dt: 19.04.2016

[a]	Name and address of the Customer	ECO Cement Ltd. Vill.: Mahmoodganj At : Kulharia Durgawati Dist.: Bhabua (Kaimur)				
[b]	Report to be submitted to	Director				
[c]	Details of Sample	Monitoring of Ambient Air Quality				
[d]	Sample Collected by	SHIVA TEST HOUSE on 09/10.05.16				
[e]	No. & Type of Container	Filter Paper ; Glass Impinger				
[f]	Items required to be tested	As per request				
[g]	Whether any specific Method of Test has been suggested by the party	No				
[h]	Date of receiving the sample	10.05.16				
Parameters	Method of Test	Sampling Station				Limit as NAAQS Nov.'2009
		Near Main Gate	Near CCR	Near Canteen	Near Gypsum & Clinker Storage Area	
1. Particulate Matter (PM <sub>10</sub> ), µg / m <sup>3</sup>	IS 5182 (Part-23)	98.0	86.7	74.0	92.0	100 µg / m <sup>3</sup>
		91.0	93.6	100.6	85.1	
		85.0	82.2	62.7	78.2	
2. Particulate Matter (PM <sub>2.5</sub> ), µg / m <sup>3</sup>	CPCB	59.0	51.2	42.8	56.9	60 µg / m <sup>3</sup>
		54.8	55.2	58.0	52.7	
		51.1	48.5	36.2	48.4	
3. Sulphur Dioxide as SO <sub>2</sub> , µg / m <sup>3</sup>	IS 5182 (Part-2)	20.6	21.5	17.7	17.8	80 µg / m <sup>3</sup>
		22.0	22.4	19.5	19.7	
		24.2	23.9	21.2	22.2	
		19.3	26.1	20.6	21.0	
		17.1	27.5	14.8	16.5	
4. Nitrogen Dioxide as NO <sub>2</sub> , µg / m <sup>3</sup>	IS 5182 (Part-6)	15.7	20.8	13.6	14.6	80 µg / m <sup>3</sup>
		29.9	36.2	33.0	27.4	
		30.6	37.3	34.3	28.6	
		31.8	38.7	36.0	32.1	
		30.3	33.5	33.6	26.9	
24 Hrs' Average Value		26.7	32.6	32.8	26.2	
		25.6	31.8	31.3	23.0	
	PM <sub>10</sub>	91.3	87.5	79.1	85.1	
	PM <sub>2.5</sub>	54.9	51.6	45.7	52.7	
	SO <sub>2</sub>	19.8	23.7	17.9	18.6	
	NO <sub>2</sub>	29.1	35.0	33.5	27.4	



*[Signature]*  
Authorized Signatory  
Quality Manager / Dy. Quality Manager

- This report applies only to sample tested as above
- Total Liability of our Laboratory, is limited to invoiced amount.
- Test Report endorsed only the tests and not the product certificate
- Test Report can not be reproduced without our prior written permission of the Laboratory

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## TEST REPORT

Ref.No. ECL/TR/16-17/210(g) Dt: 02.07.2016 Your PO No. ECO/BHR/SHIVA TEST HOUSE IV.O./RS/2016 Dt: 19.04.2016

[a]	Name and address of the Customer	ECO Cement Ltd. Vill.: Mahmoodganj At : Kulharia Durgawati Dist.: Bhabua (Kaimur)				
[b]	Report to be submitted to	Director				
[c]	Details of Sample	Monitoring of Ambient Air Quality				
[d]	Sample Collected by	SHIVA TEST HOUSE on 14/15.06.16				
[e]	No. & Type of Container	Filter Paper ; Glass Impinger				
[f]	Items required to be tested	As per request				
[g]	Whether any specific Method of Test has been suggested by the party	No				
[h]	Date of receiving the sample	15.06.16				
Parameters	Method of Test	Sampling Station				Limit as NAAQS Nov. 2009
		Near Main Gate	Near CCR	Near Canteen	Near Gypsum & Clinker Storage Area	
1. Particulate Matter (PM <sub>10</sub> ), µg / m <sup>3</sup>	IS 5182 (Part-23)	96.4	104.6	72.9	94.7	100 µg / m <sup>3</sup>
		116.2	91.6	99.0	82.4	
		83.5	80.3	61.8	75.7	
2. Particulate Matter (PM <sub>2.5</sub> ), µg / m <sup>3</sup>	CPCB	69.3	62.4	43.5	56.3	60 µg / m <sup>3</sup>
		53.9	54.0	59.1	49.7	
		50.2	47.4	36.7	45.2	
3. Sulphur Dioxide as SO <sub>2</sub> , µg / m <sup>3</sup>	IS 5182 (Part-2)	23.7	24.8	10.6	20.1	80 µg / m <sup>3</sup>
		25.3	25.7	11.7	22.2	
		27.9	27.5	12.7	25.1	
		22.1	30.0	12.4	23.7	
		19.7	31.7	8.9	18.6	
4. Nitrogen Dioxide as NO <sub>2</sub> , µg / m <sup>3</sup>	IS 5182 (Part-6)	18.1	23.9	8.1	16.5	80 µg / m <sup>3</sup>
		35.9	43.5	24.8	32.9	
		36.7	44.8	25.7	34.3	
		38.1	46.5	27.0	38.5	
		36.4	40.2	25.2	32.3	
24 Hrs. Average Value		32.1	39.1	24.6	31.4	
		30.7	38.1	23.5	27.6	
	PM <sub>10</sub>	98.7	92.2	77.9	84.3	
	PM <sub>2.5</sub>	57.8	54.6	46.4	50.4	
	SO <sub>2</sub>	22.8	27.2	10.7	21.0	
	NO <sub>2</sub>	35.0	42.0	25.1	32.9	

02/07/16  
Authorized Signatory  
Quality Manager / Dy. Quality Manager

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PATNA – 800 001 (Bihar)



Laboratory Address :-  
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# SHIVA TEST HOUSE

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## TEST REPORT

Ref.No. ECL/TR/16-17/270(g) Dt. 01.08.2016 Your PO No. ECO/BHR/SHIVA TEST HOUSE/W.O./RS/2016 Dt. 19.04.2016

[a] Name and address of the Customer	ECO Cement Ltd. Vill.: Mahmoodganj At : Kulharia Durgawati Dist.: Bhabua (Kaimur)					
[b] Report to be submitted to	Director					
[c] Details of Sample	Monitoring of Ambient Air Quality					
[d] Sample Collected by	SHIVA TEST HOUSE on 17/18.07.16					
[e] No. & Type of Container	Filter Paper ; Glass Impinger					
[f] Items required to be tested	As per request					
[g] Whether any specific Method of Test has been suggested by the party	No "					
[h] Date of receiving the sample	18.07.16					
Parameters	Method of Test	Sampling Station				Limit as NAAQS Nov. 2009
		Near Main Gate	Near CCR	Near Canteen	Near Gypsum & Clinker Storage Area	
1. Particulate Matter (PM <sub>10</sub> ) µg / m <sup>3</sup> -	IS 5182 Part-23)	81.4	107.7	102.1	76.9	100 µg / m <sup>3</sup>
		113.3	94.3	88.8	104.4	
		94.0	82.8	81.6	65.1	
2. Particulate Matter (PM <sub>2.5</sub> ) µg / m <sup>3</sup> -	IS 5182	48.9	64.3	60.7	45.8	60 µg / m <sup>3</sup>
		52.5	55.6	53.6	62.3	
		67.6	48.8	48.7	38.7	
3. Sulphur Dioxide as SO <sub>2</sub> µg / m <sup>3</sup> -	IS 5182 Part-2	23.1	25.5	20.8	11.2	80 µg / m <sup>3</sup>
		24.7	26.5	23.0	12.3	
		27.2	28.3	25.9	13.4	
		21.6	30.9	24.5	13.1	
		19.2	32.6	19.3	9.4	
4. Nitrogen Dioxide as NO <sub>2</sub> µg / m <sup>3</sup> -	IS 5182 Part-2	17.6	24.6	17.0	8.6	80 µg / m <sup>3</sup>
		26.9	32.6	24.7	18.6	
		27.5	33.6	25.7	19.3	
		28.6	34.9	28.9	20.2	
		27.3	30.1	24.2	18.9	
24 Hrs. Average Value		24.0	29.4	23.6	18.5	
		23.0	28.6	20.7	17.6	
PM <sub>10</sub>		96.2	94.9	90.8	82.1	
PM <sub>2.5</sub>		56.3	56.2	54.3	48.9	
SO <sub>2</sub>		22.2	28.1	21.8	11.3	
*NO <sub>2</sub>		26.2	31.5	24.6	18.8	

2.

*[Signature]*  
01/08/16  
Authorized Signatory  
Quality Manager / Dy. Quality Manager

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2. Total Liability of our Laboratory is limited to the amount paid.
3. Test Report endorsed by the client is valid.
4. Test Report can't be re-issued without written permission of the Laboratory.

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Gardanibagh  
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## TEST REPORT

Ref.No. ECL/IR/16-17/310(g) Dt: 02.09.2016 Your PO No. ECO/BIHAR/SHIVA TEST HOUSE W.O./RS/2016 Dt: 19.04.2016

[a]	Name and address of the Customer	ECO Cement Ltd. Vill.: Mahmoodganj At : Kulharia Durgawati Dist.: Bhabua (Kaimur)				
[b]	Report to be submitted to	Director				
[c]	Details of Sample	Monitoring of Ambient Air Quality				
[d]	Sample Collected by	SHIVA TEST HOUSE on 12/13.08.16				
[e]	No. & Type of Container	Filter Paper ; Glass Impinger				
[f]	Items required to be tested	As per request				
[g]	Whether any specific Method of Test has been suggested by the party	No				
[h]	Date of receiving the sample	13.08.16				
Parameters	Method of Test	Sampling Station				Limit as NAAQS Nov. '2009
		Near Main Gate	Near CCR	Near Canteen	Near Gypsum & Clinker Storage Area	
1. Particulate Matter (PM <sub>10</sub> ), µg / m <sup>3</sup>	IS 5182 (Part-23)	92.0	103.6	93.7	81.9	100 µg / m <sup>3</sup>
		85.1	96.1	101.2	111.2	
		78.2	89.8	88.8	69.3	
2. Particulate Matter (PM <sub>2.5</sub> ), µg / m <sup>3</sup>	CPCB	56.9	62.3	55.3	47.3	60 µg / m <sup>3</sup>
		52.7	57.9	59.7	64.2	
		48.4	53.9	52.4	40.0	
3. Sulphur Dioxide as SO <sub>2</sub> , µg / m <sup>3</sup>	IS 5182 (Part-2)	23.6	14.4	15.0	12.6	80 µg / m <sup>3</sup>
		26.0	15.3	15.6	13.9	
		28.3	16.8	16.6	15.7	
		27.5	13.4	18.1	14.8	
		19.7	11.9	19.2	11.7	
4. Nitrogen Dioxide as NO <sub>2</sub> , µg / m <sup>3</sup>	IS 5182 (Part-6)	18.1	10.9	14.4	10.3	80 µg / m <sup>3</sup>
		35.2	19.9	24.1	18.3	
		36.5	20.4	24.9	19.1	
		38.4	21.2	25.8	21.4	
		35.8	20.2	22.3	18.0	
24 Hrs. Average Value						
	PM <sub>10</sub>	85.1	96.5	94.6	87.5	
	PM <sub>2.5</sub>	52.7	58.0	55.8	50.5	
	SO <sub>2</sub>	23.9	13.8	16.5	13.2	
	NO <sub>2</sub>	35.7	19.4	23.3	18.3	

*[Signature]*  
02/09/16  
Authorized Signatory  
Quality Manager / Dy. Quality Manager

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## TEST REPORT

Ref.No. ECL/TR/16-17/366(g) Dt : 08.10.2016 Your PO No. ECO/BHR/SHIVA TEST HOUSE /W.O./RS/2016 Dt : 19.04.2016

[a]	Name and address of the Customer	ECO Cement Ltd. Vill.: Mahmoodganj At : Kulharia Durgawati Dist.: Bhabua (Kaimur)				
[b]	Report to be submitted to	Director				
[c]	Details of Sample	Monitoring of Ambient Air Quality				
[d]	Sample Collected by	SHIVA TEST HOUSE on 23/24.09.16				
[e]	No. & Type of Container	Filter Paper ; Glass Impinger				
[f]	Items required to be tested	As per request				
[g]	Whether any specific Method of Test has been suggested by the party	No				
[h]	Date of receiving the sample	24.09.16				
Parameters	Method of Test	Sampling Station				Limit as NAAQS Nov. '2009
		Near Main Gate	Near CCR	Near Canteen	Near Gypsum & Clinker Storage Area	
1. Particulate Matter (PM <sub>10</sub> ), µg / m <sup>3</sup>	IS 5182 (Part-23)	95.6	105.1	91.3	103.9	100 µg / m <sup>3</sup>
		88.7	91.4	98.7	125.3	
		82.9	84.1	86.6	90.0	
2. Particulate Matter (PM <sub>2.5</sub> ), µg / m <sup>3</sup>	CPCB	57.5	62.5	53.9	74.7	60 µg / m <sup>3</sup>
		53.4	55.2	58.2	58.1	
		49.8	50.2	51.1	54.1	
3. Sulphur Dioxide as SO <sub>2</sub> , µg / m <sup>3</sup>	IS 5182 (Part-2)	16.5	16.6	17.2	19.0	80 µg / m <sup>3</sup>
		17.6	18.4	17.9	20.3	
		19.4	20.7	19.1	22.3	
		15.4	19.6	20.9	17.7	
		13.7	15.4	22.0	15.7	
4. Nitrogen Dioxide as NO <sub>2</sub> , µg / m <sup>3</sup>	IS 5182, Part-B	23.9	19.8	29.0	28.7	80 µg / m <sup>3</sup>
		24.5	20.6	29.8	29.4	
		25.4	23.1	31.0	30.5	
		24.2	19.4	26.8	29.1	
		21.4	18.9	26.1	25.6	
		20.4	16.6	25.4	24.5	
24 Hrs. Average Value						
	PM <sub>10</sub>	89.0	93.6	92.2	106.4	
	PM <sub>2.5</sub>	53.6	56.0	54.4	62.3	
	SO <sub>2</sub>	15.9	17.4	19.0	18.2	
	*NO <sub>2</sub>	23.3	19.7	28.0	28.0	

*[Signature]*  
08/10/16  
Authorized Signatory  
Quality Manager / Dy. Quality Manager

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BY DEPTT. OF INDUSTRY, FORESTS & ENVIRONMENT, GOVT. OF BIHAR AND BIHAR STATE POLLUTION CONTROL BOARD

## TEST REPORT

Ref.No. ECL/IR/16-17/411(g) Dt: 31.10.2016 Your PO No. ECO/BHR/SHIVA TEST HOUSE M.O./RS/2016 Dt: 19.04.2016

[a] Name and address of the Customer	ECO Cement Ltd. Vill.: Mahmoodganj At : Kulharia Durgawati Dist.: Bhabua (Kaimur)
[b] Report to be submitted to	Director
[c] Details of Sample	Monitoring of Ambient Air Quality
[d] Sample Collected by	SHIVA TEST HOUSE on 17/18.10.16
[e] No. & Type of Container	Filter Paper ; Glass Impinger
[f] Items required to be tested	As per request
[g] Whether any specific Method of Test has been suggested by the party	No
[h] Date of receiving the sample	18.10.16

Parameters	Method of Test	Sampling Station				Limit as NAAQS Nov. 2009
		Near Main Gate	Near CCR	Near Canteen	Near Gypsum & Clinker Storage Area	
1. Particulate Matter (PM <sub>10</sub> ), µg / m <sup>3</sup>	IS 5182 (Part-23)	106.2	83.8	78.0	102.8	100 µg / m <sup>3</sup>
		98.5	116.7	106.0	90.0	
		92.0	96.8	66.1	78.9	
2. Particulate Matter (PM <sub>2.5</sub> ), µg / m <sup>3</sup>	CPCB	63.9	50.4	45.1	61.3	60 µg / m <sup>3</sup>
		59.4	54.1	61.2	53.1	
		55.3	69.6	38.2	46.6	
3. Sulphur Dioxide as SO <sub>2</sub> , µg / m <sup>3</sup>	IS 5182 (Part-2)	14.4	18.5	14.2	20.4	80 µg / m <sup>3</sup>
		15.3	19.7	15.6	21.2	
		16.8	21.7	17.0	22.6	
		13.4	17.3	16.5	24.7	
		11.9	15.3	11.8	26.1	
4. Nitrogen Dioxide as NO <sub>2</sub> , µg / m <sup>3</sup>	IS 5182 (Part-6)	10.9	14.1	10.9	19.7	80 µg / m <sup>3</sup>
		19.9	21.5	26.4	26.1	
		20.4	22.0	27.4	26.9	
		21.2	22.9	28.8	27.9	
		20.2	21.8	26.9	24.1	
24 Hrs, Average Value		17.8	19.2	26.3	23.5	
		17.0	18.4	25.0	22.9	
PM <sub>10</sub>		98.9	99.1	83.4	90.6	
PM <sub>2.5</sub>		59.5	58.0	48.1	53.7	
SO <sub>2</sub>		13.8	17.8	14.3	22.4	
NO <sub>2</sub>		19.4	21.0	26.8	25.2	

*[Signature]*  
21/10/16

Authorized Signatory  
Quality Manager / Dr. Quality Manager

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Laboratory Address :-  
01<sup>st</sup> Floor, Rajhans Niketan,  
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# SHIVA TEST HOUSE

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E.mail: sthpatna1@yahoo.co.in



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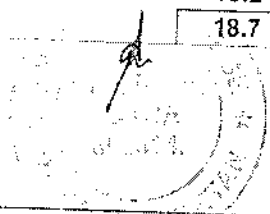
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## TEST REPORT

Ref.No. ECL/TR/16-17/518(g) Dt: 05.12.2016 Your PO No. ECO/BHR/SHIVA TEST HOUSE W.O./RS/2016 Dt: 19.04.2016

[a] Name and address of the Customer	ECO Cement Ltd. Vill.: Mahmoodganj At : Kulharia Durgawati Dist.: Bhabua (Kaimur)
[b] Report to be submitted to	Director
[c] Details of Sample	Monitoring of Ambient Air Quality
[d] Sample Collected by	SHIVA TEST HOUSE on 11/12.11.16
[e] No. & Type of Container	Filter Paper ; Glass Impinger
[f] Items required to be tested	As per request
[g] Whether any specific Method of Test has been suggested by the party	No
[h] Date of receiving the sample	12.11.16

Parameters	Method of Test	Sampling Station				Limit as NAAQS Nov. 2009
		Near Main Gate	Near CCR	Near Canteen	Near Gypsum & Clinker Storage Area	
1. Particulate Matter (PM <sub>10</sub> ), µg / m <sup>3</sup>	IS 5182 (Part-23)	103.0	113.9	101.2	90.1	100 µg / m <sup>3</sup>
		109.3	105.7	93.6	122.3	
		84.0	98.7	86.0	76.3	
2. Particulate Matter (PM <sub>2.5</sub> ), µg / m <sup>3</sup>	CPCB	61.2	68.5	62.6	52.0	60 µg / m <sup>3</sup>
		64.9	63.7	57.9	70.6	
		49.9	59.3	53.2	44.1	
3. Sulphur Dioxide as SO <sub>2</sub> , µg / m <sup>3</sup>	IS 5182 (Part-2)	12.0	11.5	18.9	10.1	80 µg / m <sup>3</sup>
		12.4	12.2	20.8	11.1	
		13.3	13.5	22.6	12.6	
		14.5	10.7	22.0	11.9	
		15.3	9.5	15.8	9.3	
4. Nitrogen Dioxide as NO <sub>2</sub> , µg / m <sup>3</sup>	IS 5182 (Part-6)	11.6	8.8	14.5	8.3	80 µg / m <sup>3</sup>
		19.3	15.9	28.2	14.6	
		19.9	16.3	29.2	15.2	
		20.7	16.9	30.7	17.1	
		17.9	16.2	28.7	14.4	
24 Hrs. Average Value		17.4	14.2	28.0	14.0	
		16.9	13.6	26.7	12.3	
PM <sub>10</sub>		98.8	106.1	93.6	96.2	
PM <sub>2.5</sub>		58.7	63.9	57.9	55.5	
SO <sub>2</sub>		13.2	11.0	19.1	10.5	
NO <sub>2</sub>		18.7	15.5	28.6	14.6	



*[Signature]*  
05/12/16  
Authorized Signatory  
Quality Manager / Dy. Quality Manager

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## TEST REPORT

Ref.No. ECI/TR/16-17/617(g) Dt : 30.12.2016 Your PO No. ECO/BIHAR/SHIVA TEST HOUSE A/O/RS/2016 Dt : 19.04.2016

[a]	Name and address of the Customer	ECO Cement Ltd. Vill.: Mahmoodganj At : Kulharia Durgawati Dist.: Bhabua (Kaimur)
[b]	Report to be submitted to	Director
[c]	Details of Sample	Monitoring of Ambient Air Quality
[d]	Sample Collected by	SHIVA TEST HOUSE on 15/16.12.16
[e]	No. & Type of Container	Filter Paper ; Glass Impinger
[f]	Items required to be tested	As per request
[g]	Whether any specific Method of Test has been suggested by the party	No
[h]	Date of receiving the sample	16.12.16

Parameters	Method of Test	Sampling Station				Limits NAAQS Nov. '2009
		Near Main Gate	Near CCR	Near Canteen	Near Gypsum & Clinker Storage Area	
1. Particulate Matter (PM <sub>10</sub> ). µg / m <sup>3</sup>	IS 5182 (Part-23)	95.3	75.3	82.2	85.1	100 µg / m <sup>3</sup>
		101.1	104.8	88.8	78.7	
		77.7	87.0	77.9	72.3	
2. Particulate Matter (PM <sub>2.5</sub> ). µg / m <sup>3</sup>	CPCB	56.6	45.2	48.5	52.7	60 µg / m <sup>3</sup>
		60.0	48.6	52.4	48.7	
		46.2	62.5	46.0	44.7	
3. Sulphur Dioxide as SO <sub>2</sub> . µg / m <sup>3</sup>	IS 5182 (Part-2)	18.5	15.0	9.6	18.9	80 µg / m <sup>3</sup>
		19.7	15.6	10.0	20.8	
		21.7	16.6	10.6	22.6	
		17.3	18.1	11.6	22.0	
		15.3	19.2	12.3	15.8	
4. Nitrogen Dioxide as NO <sub>2</sub> . µg / m <sup>3</sup>	IS 5182 (Part-6)	14.1	14.4	9.2	14.5	80 µg / m <sup>3</sup>
		22.2	18.8	18.1	28.2	
		22.9	19.3	18.6	29.2	
		23.8	20.0	19.4	30.7	
		20.5	19.1	16.7	28.7	
24 Hrs. Average Value		20.0	16.8	16.3	28.0	
		19.5	16.1	15.9	26.7	
PM <sub>10</sub>		91.4	89.0	83.0	78.7	
PM <sub>2.5</sub>		54.3	52.1	49.0	48.7	
SO <sub>2</sub>		17.8	16.5	10.5	19.1	
NO <sub>2</sub>		21.5	18.4	17.5	28.6	

*[Signature]*  
30/12/16  
Authorized Signatory  
Quality Manager - Dr. Quality Manager

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## TEST REPORT

Ref.No. ECL/TR/16-17/705(g) Dt : 27.01.2017 Your PO No. ECO/BHR/SHIVA TEST HOUSE /W.O./RS/2016 Dt : 19.04.2016

[a] Name and address of the Customer	ECO Cement Ltd. Vill.: Mahmoodganj At : Kulharia Durgawati Dist.: Bhabua (Kaimur)					
[b] Report to be submitted to	Director					
[c] Details of Sample	Monitoring of Ambient Air Quality					
[d] Sample Collected by	SHIVA TEST HOUSE on 19/20.01.17					
[e] No. & Type of Container	Filter Paper ; Glass Impinger					
[f] Items required to be tested	As per request					
[g] Whether any specific Method of Test has been suggested by the party	No					
[h] Date of receiving the sample	20.01.17					
Parameters	Method of Test	Sampling Station				Limit as NAAQS Nov. '2009
		Near Main Gate	Near CCR	Near Canteen	Near Gypsum & Clinker Storage Area	
1. Particulate Matter (PM <sub>10</sub> ), µg / m <sup>3</sup>	IS 5182 (Part-23)	106.4	89.7	88.1	99.1	100 µg / m <sup>3</sup>
		78.3	95.1	81.4	92.0	
		91.4	73.1	74.9	85.9	
2. Particulate Matter (PM <sub>2.5</sub> ), µg / m <sup>3</sup>	CPCB	63.6	54.2	51.2	57.6	60 µg / m <sup>3</sup>
		49.7	56.1	48.6	61.2	
		51.6	48.4	49.4	55.0	
3. Sulphur Dioxide as SO <sub>2</sub> , µg / m <sup>3</sup>	IS 5182 (Part-2)	21.3	13.6	11.4	12.8	80 µg / m <sup>3</sup>
		23.5	14.1	12.6	16.2	
		25.6	15.0	14.2	14.6	
		24.9	16.4	13.4	18.4	
		17.8	17.3	10.6	15.0	
4. Nitrogen Dioxide as NO <sub>2</sub> , µg / m <sup>3</sup>	IS 5182 (Part-6)	31.9	21.8	16.5	13.9	80 µg / m <sup>3</sup>
		33.1	22.5	17.2	14.2	
		44.6	23.4	19.4	14.7	
		38.4	20.2	16.2	14.1	
		32.7	19.7	15.8	12.4	
24 Hrs. Average Value						
PM <sub>10</sub>		92.0	86.0	81.4	92.3	
PM <sub>2.5</sub>		55.0	52.9	49.7	57.9	
SO <sub>2</sub>		21.6	14.9	12.2	15.0	
NO <sub>2</sub>		35.1	21.1	16.5	13.5	



*[Signature]*

Authorized Signatory

Quality Manager / Dy. Quality Manager

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## TEST REPORT

Ref.No. ECL/TR/16-17/756(g) Dt : 17.02.2017 Your PO No. ECO/BHR/SHIVA TEST HOUSE /W.O./RS/2016 Dt : 19.04.2016						
[a]	Name and address of the Customer	ECO Cement Ltd. Vill.: Mahmoodganj At : Kulharia Durgawati Dist.: Bhabua (Kaimur)				
[b]	Report to be submitted to	Director				
[c]	Details of Sample	Monitoring of Ambient Air Quality				
[d]	Sample Collected by	SHIVA TEST HOUSE on 11/12.02.17				
[e]	No. & Type of Container	Filter Paper ; Glass Impinger				
[f]	Items required to be tested	As per request				
[g]	Whether any specific Method of Test has been suggested by the party	No				
[h]	Date of receiving the sample	12.02.17				
Parameters	Method of Test	Sampling Station				Limit as NAAQS Nov.'2009
		Near Main Gate	Near CCR	Near Canteen	Near Gypsum & Clinker Storage Area	
1. Particulate Matter (PM <sub>10</sub> ), µg / m <sup>3</sup>	IS 5182 (Part-23)	110.2	104.0	102.2	94.7	100 µg / m <sup>3</sup>
		95.0	91.3	94.4	90.8	
		87.7	84.8	86.8	102.7	
2. Particulate Matter (PM <sub>2.5</sub> ), µg / m <sup>3</sup>	CPCB	62.7	60.4	59.4	64.6	60 µg / m <sup>3</sup>
		58.4	56.2	56.4	57.7	
		52.0	51.7	51.4	55.0	
3. Sulphur Dioxide as SO <sub>2</sub> , µg / m <sup>3</sup>	IS 5182 (Part-2)	28.5	18.1	15.2	24.8	80 µg / m <sup>3</sup>
		31.3	18.8	16.8	21.5	
		34.1	20.0	18.9	23.9	
		33.2	21.9	17.9	18.9	
		23.8	23.1	14.1	27.1	
4. Nitrogen Dioxide as NO <sub>2</sub> , µg / m <sup>3</sup>	IS 5182 (Part-6)	46.2	31.7	24.0	33.0	80 µg / m <sup>3</sup>
		47.9	32.6	25.0	38.5	
		64.7	33.9	28.1	31.3	
		55.7	29.3	23.6	28.5	
		47.4	28.5	22.9	23.3	
24 Hrs. Average Value		43.8	27.8	20.2	20.5	
PM <sub>10</sub>		97.6	93.4	94.5	96.1	
PM <sub>2.5</sub>		57.7	56.1	55.7	59.1	
SO <sub>2</sub>		28.8	19.9	16.3	22.9	
NO <sub>2</sub>		51.0	30.6	24.0	29.2	



*[Signature]*

Authorized Signatory  
Quality Manager / Dy. Quality Manager

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## TEST REPORT

Ref.No. ECI/TR/16-17/829(g) Dt : 22.03.2017 Your PO No. ECO/BHR/SHIVA TEST HOUSE /W.O./RS/2016 Dt : 19.04.2016

[a] Name and address of the Customer	ECO Cement Ltd. Vill.: Mahmoodganj At : Kulharia Durgawati Dist.: Bhabua (Kaimur)
[b] Report to be submitted to	Director
[c] Details of Sample	Monitoring of Ambient Air Quality
[d] Sample Collected by	SHIVA TEST HOUSE on 03/04.03.17
[e] No. & Type of Container	Filter Paper ; Glass Impinger
[f] Items required to be tested	As per request
[g] Whether any specific Method of Test has been suggested by the party	No
[h] Date of receiving the sample	04.03.17

Parameters	Method of Test	Sampling Station				Limit as NAAQS Nov. '2009
		Near Main Gate	Near CCR	Near Canteen	Near Gypsum & Clinker Storage Area	
1. Particulate Matter (PM <sub>10</sub> ), µg / m <sup>3</sup>	IS 5182 (Part-23)	108.3	96.8	95.1	106.7	100 µg / m <sup>3</sup>
		86.7	93.2	87.9	93.6	
		87.6	79.0	80.8	82.6	
2. Particulate Matter (PM <sub>2.5</sub> ), µg / m <sup>3</sup>	CPCB	63.4	51.6	55.3	61.2	60 µg / m <sup>3</sup>
		57.9	55.0	52.5	56.4	
		53.8	56.2	50.4	50.8	
3. Sulphur Dioxide as SO <sub>2</sub> , µg / m <sup>3</sup>	IS 5182 (Part-2)	24.9	15.8	13.3	18.8	80 µg / m <sup>3</sup>
		27.4	16.4	14.7	18.9	
		29.8	17.5	16.6	19.3	
		29.1	19.2	15.7	18.6	
		20.8	20.2	12.3	21.1	
4. Nitrogen Dioxide as NO <sub>2</sub> , µg / m <sup>3</sup>	IS 5182 (Part-6)	19.1	15.3	13.1	17.0	80 µg / m <sup>3</sup>
		39.0	26.8	20.3	38.4	
		40.5	27.6	21.1	42.6	
		41.6	28.6	23.7	23.0	
		43.2	24.7	19.9	31.0	
24 Hrs. Average Value		38.4	24.1	19.4	26.8	
		25.2	23.5	17.0	25.0	
PM <sub>10</sub>		94.2	89.7	88.0	94.3	
PM <sub>2.5</sub>		58.4	54.3	52.7	56.1	
SO <sub>2</sub>		25.2	17.4	14.3	18.9	
NO <sub>2</sub>		38.0	25.9	20.2	31.1	



*[Signature]*  
Authorized Signatory

Quality Manager / Dy. Quality Manager

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## TEST REPORT

Ref.No. ECL/TR/16-17/117(i) Dt : 17.05.2016 Your PO No. ECO/BHR/SHIVA TEST HOUSE W.O./RS/2016 Dt : 19.04.2016	
[a] Name and address of the Customer	ECO Cement Ltd. Vill.: Mahmoodganj At : Kulharia Durgawati Dist.: Bhabua (Kaimur)
[b] Report to be submitted to	Director
[c] Details of Sample	Monitoring of Ambient Noise Level
[d] Monitored by	SHIVA TEST HOUSE on 11.04.16
[f] Whether any specific Method of Test has been suggested by the party	No
<b>Sampling Location</b>	<b>Time Weighted Average (TWA) of Day Time Noise Level in dB(A)</b>
1. Near Main Gate	68.2
2. Near CCR	72.6
3. Near Canteen	66.8
4. Near Gypsum Storage Area	69.4
5. Near Clinker Storage Area	63.2
N.B.:	The Ambient Air Quality Standards in respect of Noise as per Noise Pollution (Regulation and Control ) Rules 2000 for Industrial area is 75.0 dB(A), for Commercial area is 65.0 dB(A), for Residential area is 55.0 dB(A) & for Silence Zone is 50.0 dB(A) in daytime i.e. 6.00 am to 9.0 p.m. As per Rule 7(1&2) the authority shall take action against violator if the noise level exceed the ambient noise standards by 10 dB(A) or more against any area/zone.

*Handwritten signature*  
15/5/16

Authorized Signatory  
Manager

1. This report applies only to sample received as per the
2. Total Liability of our Laboratory is limited to the amount of the fee.
3. Test Report and used for the legal and other purposes only.
4. Test Report is not valid if the test is not performed in accordance with the test method.

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PATNA – 800 001 (Bihar)



Laboratory Address :-  
01<sup>st</sup> Floor, Rajhans Niketan,  
Near Canal, Rukunpura,  
Bailey Road,  
Patna – 800 014 (Bihar)



# SHIVA TEST HOUSE

Tel. : 0612 – 2247538/ 2240752 ; TeleFax : 0612 - 2590705  
E.mail.: sthpatna1@yahoo.co.in



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## TEST REPORT

Ref.No. ECL/TR/16-17/148(i) Dt: 31.05.2016 Your PO No. ECO/BHR/SHIVA TEST HOUSE M.O./RS/2016 Dt: 19.04.2016	
[a] Name and address of the Customer	ECO Cement Ltd. Vill.: Mahmoodganj At : Kulharia Durgawati Dist.: Bhabua (Kaimur)
[b] Report to be submitted to	Director
[c] Details of Sample	Monitoring of Ambient Noise Level
[d] Monitored by	SHIVA TEST HOUSE on 09.05.16
[f] Whether any specific Method of Test has been suggested by the party	No
<b>Sampling Location</b>	<b>Time Weighted Average (TWA) of Day Time Noise Level in dB(A)</b>
1. Near Main Gate	70.4
2. Near CCR	73.6
3. Near Canteen	69.7
4. Near Gypsum Storage Area	65.0
5. Near Clinker Storage Area	64.6
N.B.:	The Ambient Air Quality Standards in respect of Noise as per Noise Pollution (Regulation and Control ) Rules 2000 for Industrial area is 75.0 dB(A) for Commercial area is 65.0 dB(A), for Residential area is 55.0 dB(A) & for Silence Zone is 50.0 dB(A) in daytime i.e. 8.00 am to 9.0 p.m. As per Rule 7(1&2) the authority shall take action against violator if the noise level exceed the ambient noise standards by 10 dB(A) or more against any area/zone.

*[Signature]*  
31/5/16

✓ Authorized Signatory  
Quality Manager / Dy. Quality Manager

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## TEST REPORT

Ref.No. ECL/TR/16-17/210(i) Dt: 02.07.2016 Your PO No. ECO/BHR/SHIVA TEST HOUSE AY.O./RS/2016 Dt: 19.04.2016	
[a] Name and address of the Customer	ECO Cement Ltd. Vill.: Mahmoodganj At : Kulharia Durgawati Dist.: Bhabua (Kaimur)
[b] Report to be submitted to	Director
[c] Details of Sample	Monitoring of Ambient Noise Level
[d] Monitored by	SHIVA TEST HOUSE on 14.06.16
[f] Whether any specific Method of Test has been suggested by the party	No
<b>Sampling Location</b>	<b>Time Weighted Average (TWA) of Day Time Noise Level in dB(A)</b>
1. Near Main Gate	71.2
2. Near CCR	70.8
3. Near Canteen	67.1
4. Near Gypsum Storage Area	68.2
5. Near Clinker Storage Area	66.7
N.B.:	The Ambient Air Quality Standards in respect of Noise as per Noise Pollution (Regulation and Control ) Rules 2000 for Industrial area is 75.0 dB(A); for Commercial area is 65.0 dB(A), for Residential area is 55.0 dB(A) & for Silence Zone is 50.0 dB(A) in daytime i.e. 6.00 am to 9.0 p.m. As per Rule 7(1&2) the authority shall take action against violator if the noise level exceed the ambient noise standards by 10 dB(A) or more against any area/zone.

g

*[Signature]*  
02/7/16

Authorized Signatory  
Quality Manager / Dy. Quality Manager

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## TEST REPORT

Ref.No. ECL/TR/16-17/270(i) Dt: 01.08.2016 Your PO No. ECO/BHR/SHIVA TEST HOUSE/W.O./RS/2016 Dt: 19.04.2016	
[a] Name and address of the Customer	ECO Cement Ltd. Vill.: Mahmoodganj At : Kulharia Durgawati Dist.: Bhabua (Kaimur)
[b] Report to be submitted to	Director
[c] Details of Sample	Monitoring of Ambient Noise Level
[d] Monitored by	SHIVA TEST HOUSE on 17.07.16
[f] Whether any specific Method of Test has been suggested by the party	No
<b>Sampling Location</b>	<b>Time Weighted Average (TWA) of Day Time Noise Level in dB(A)</b>
1. Near Main Gate	67.8
2. Near CCR	69.7
3. Near Canteen	64.3
4. Near Gypsum Storage Area	66.2
5. Near Clinker Storage Area	66.8
N.B.:	The Ambient Air Quality Standards in respect of Noise as per Noise Pollution (Regulation and Control) Rules 2000 for Industrial area is 75.0 dB(A), for Commercial area is 65.0 dB(A), for Residential area is 55.0 dB(A) & for Silence Zone is 50.0 dB(A) in daytime i.e. 6.00 am to 9.0 p.m. As per Rule 7(1&2) the authority shall take action against violator if the noise level exceed the ambient noise standards by 10 dB(A) or more against any area/zone.



*[Signature]*  
01/8/16  
Authorized Signatory  
Quality Manager / Dy. Quality Manager

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## TEST REPORT

Ref.No. ECI/TR/16-17/310(i) Dt : 02.09.2016 Your PO No. ECO/BIH/SHIVA TEST HOUSE W/O/RS/2016 Dt : 19.04.2016	
[a] Name and address of the Customer	ECO Cement Ltd. Vill.: Mahmoodganj At : Kulharia Durgawati Dist.: Bhabua (Kaimur)
[b] Report to be submitted to	Director
[c] Details of Sample	Monitoring of Ambient Noise Level
[d] Monitored by	SHIVA TEST HOUSE on 12.08.16
[f] Whether any specific Method of Test has been suggested by the party	No
Sampling Location	Time Weighted Average (TWA) of Day Time Noise Level in dB(A)
1. Near Main Gate	69.4
2. Near CCR	70.2
3. Near Canteen	66.4
4. Near Gypsum Storage Area	63.8
5. Near Clinker Storage Area	64.7
N.B.:	The Ambient Air Quality Standards in respect of Noise as per Noise Pollution (Regulation and Control ) Rules 2000 for Industrial area is 75.0 dB(A), for Commercial area is 65.0 dB(A), for Residential area is 55.0 dB(A) & for Silence Zone is 50.0 dB(A) in daytime i.e. 6.00 am to 9.0 p.m. As per Rule 7(1&2) the authority shall take action against violator if the noise level exceed the ambient noise standards by 10 dB(A) or more against any area/zone.



*[Signature]*  
02/09/16  
Authorized Signatory  
Quality Manager / Dy. Quality Manager

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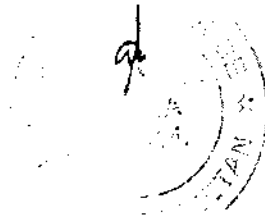


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## TEST REPORT

Ref.No. ECL/TR/16-17/366(i) Dt : 08.10.2016 Your PO No. ECO/BHR/SHIVA TEST HOUSE W.O./RS/2016 Dt : 19.04.2016	
[a] Name and address of the Customer	ECO Cement Ltd. Vill.: Mahmoodganj At : Kulharia Durgawati Dist.: Bhabua (Kaimur)
[b] Report to be submitted to	Director
[c] Details of Sample	Monitoring of Ambient Noise Level
[d] Monitored by	SHIVA TEST HOUSE on 23.09.16
[f] Whether any specific Method of Test has been suggested by the party	No
Sampling Location	Time Weighted Average (TWA) of Day Time Noise Level in dB(A)
1. Near Main Gate	70.2
2. Near CCR	72.9
3. Near Canteen	69.7
4. Near Gypsum Storage Area	67.4
5. Near Clinker Storage Area	66.2
N.B.:	The Ambient Air Quality Standards in respect of Noise as per Noise Pollution (Regulation and Control ) Rules 2000 for Industrial area is 75.0 dB(A), for Commercial area is 65.0 dB(A), for Residential area is 55.0 dB(A) & for Silence Zone is 50.0 dB(A) in daytime i.e. 6.00 am to 9.0 p.m. As per Rule 7(1&2) the authority shall take action against violator if the noise level exceed the ambient noise standards by 10 dB(A) or more against any area/zone.



*Handwritten Signature*  
08/10/16  
Authorized Signatory  
Quality Manager / Dy. Quality Manager

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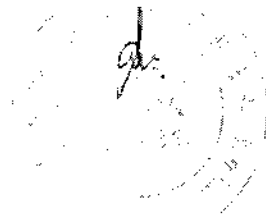


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## TEST REPORT

Ref.No. ECL/TR/16-17/411(G) Dt : 31.10.2016 Your PO No. ECO/BHR/SHIVA TEST HOUSE/W.O./RS/2016 Dt : 19.04.2016	
[a] Name and address of the Customer	ECO Cement Ltd. Vill.: Mahmoodganj At : Kulharia Durgawati Dist.: Bhabua (Kaimur)
[b] Report to be submitted to	Director
[c] Details of Sample	Monitoring of Ambient Noise Level
[d] Monitored by	SHIVA TEST HOUSE on 17.10.16
[e] Whether any specific Method of Test has been suggested by the party	No
Sampling Location	Time Weighted Average (TWA) of Day Time Noise Level in dB(A)
1. Near Main Gate	71.3
2. Near CCR	73.4
3. Near Canteen	68.2
4. Near Gypsum Storage Area	69.7
5. Near Clinker Storage Area	70.1
<p>N.B. The Ambient Air Quality Standards in respect of Noise as per Noise Pollution (Regulation and Control) Rules 2000 for Industrial area is 75.0 dB(A), for Commercial area is 65.0 dB(A), for Residential area is 55.0 dB(A) &amp; for Silence Zone is 50.0 dB(A) in daytime i.e. 6.00 am to 9.0 p.m. As per Rule 7(1&amp;2) the authority shall take action against violator if the noise level exceed the ambient noise standards by 10 dB(A) or more against any area/zone</p>	



*[Signature]*  
31/10/16  
Authorized Signatory  
Quality Manager / Dr. Quality Manager

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# SHIVA TEST HOUSE

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## TEST REPORT

Ref.No. ECL/TR/16-17/518(i) Dt: 05.12.2016 Your PO No. ECO/BHR/SHIVA TEST HOUSE/W.O./RS/2016 Dt: 19.04.2016

[a] Name and address of the Customer	ECO Cement Ltd. Vill.: Mahmoodganj At : Kulharia Durgawati Dist.: Bhabua (Kaimur)
[b] Report to be submitted to	Director
[c] Details of Sample	Monitoring of Ambient Noise Level
[d] Monitored by	SHIVA TEST HOUSE on 11.11.16
[f] Whether any specific Method of Test has been suggested by the party	No
Sampling Location	Time Weighted Average (TWA) of Day Time Noise Level in dB(A)
1. Near Main Gate	69.1
2. Near CCR	70.8
3. Near Canteen	65.0
4. Near Gypsum Storage Area	66.2
5. Near Clinker Storage Area	67.3
N.B.:	The Ambient Air Quality Standards in respect of Noise as per Noise Pollution (Regulation and Control ) Rules-2000 for Industrial area is 75.0 dB(A), for Commercial area is 65.0 dB(A), for Residential area is 55.0 dB(A) & for Silence Zone is 50.0 dB(A) in daytime i.e. 6.00 am to 9.0 p.m. As per Rule 7(1&2) the authority shall take action against violator if the noise level exceed the ambient noise standards by 10 dB(A) or more against any area/zone.

*d*

*[Signature]*  
05/12/16  
Authorized Signatory  
Quality Manager / Dy. Quality Manager

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## TEST REPORT

Ref.No. ECL/TR/16-17/617(i) Dt: 30.12.2016 Your PO No. ECO/BHRSHIVA TEST HOUSE/W.O./RS/2016 Dt: 19.04.2016	
[a] Name and address of the Customer	ECO Cement Ltd. Vill.: Mahmoodganj At : Kulharia Durgawati Dist.: Bhabua (Kaimur)
[b] Report to be submitted to	Director
[c] Details of Sample	Monitoring of Ambient Noise Level
[d] Monitored by	SHIVA TEST HOUSE on 15.12.16
[f] Whether any specific Method of Test has been suggested by the party	No
<b>Sampling Location</b>	<b>Time Weighted Average (TWA) of Day Time Noise Level in dB(A)</b>
1. Near Main Gate	70.6
2. Near CCR	72.6
3. Near Canteen	67.1
4. Near Gypsum Storage Area	68.4
5. Near Clinker Storage Area	69.1
N.B.:	The Ambient Air Quality Standards in respect of Noise as per Noise Pollution (Regulation and Control ) Rules 2000 for Industrial area is 75.0 dB(A) for Commercial area is 65.0 dB(A), for Residential area is 55.0 dB(A) & for Silence Zone is 50.0 dB(A) in daytime i.e. 6.00 am to 9.0 p.m. As per Rule 7(1&2) the authority shall take action against violator if the noise level exceeds the ambient noise standards by 10 dB(A) or more against any area/zone.

*st*

*[Signature]*  
30/12/16  
Authorized Signatory  
Quality Manager / Dy. Quality Manager

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## TEST REPORT

Ref.No. ECL/TR/16-17/705(i) Dt : 27.01.2017 Your PO No. ECO/BHR/SHIVA TEST HOUSE /W.O./RS/2016 Dt : 19.04.2016	
[a] Name and address of the Customer	ECO Cement Ltd. Vill.: Mahmoodganj At : Kulharia Durgawati Dist.: Bhabua (Kaimur)
[b] Report to be submitted to	Director
[c] Details of Sample	Monitoring of Ambient Noise Level
[d] Monitored by	SHIVA TEST HOUSE on 19.01.17
[f] Whether any specific Method of Test has been suggested by the party	No
<b>Sampling Location</b>	<b>Time Weighted Average (TWA) of Day Time Noise Level in dB(A)</b>
1. Near Main Gate	72.6
2. Near CCR	70.1
3. Near Canteen	69.7
4. Near Gypsum Storage Area	66.8
5. Near Clinker Storage Area	65.0
N.B.:	The Ambient Air Quality Standards in respect of Noise as per Noise Pollution (Regulation and Control ) Rules 2000 for Industrial area is 75.0 dB(A), for Commercial area is 65.0 dB(A), for Residential area is 55.0 dB(A) & for Silence Zone is 50.0 dB(A) in daytime i.e. 6.00 am to 9.0 p.m. As per Rule 7(1&2) the authority shall take action against violator if the noise level exceed the ambient noise standards by 10 dB(A) or more against any area/zone.



Authorized Signatory  
Quality Manager / Dy. Quality Manager

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## TEST REPORT

Ref.No. <i>ECL/TR/16-17/756(i)</i> Dt : <i>17.02.2017</i> Your PO No. <i>ECO/BHR/SHIVA TEST HOUSE /W.O./RS/2016</i> Dt : <i>19.04.2016</i>	
[a] Name and address of the Customer	<b>ECO Cement Ltd.</b> <b>Vill.: Mahmoodganj</b> <b>At : Kulharia</b> <b>Durgawati</b> <b>Dist.: Bhabua (Kaimur)</b>
[b] Report to be submitted to	<i>Director</i>
[c] Details of Sample	<i>Monitoring of Ambient Noise Level</i>
[d] Monitored by	SHIVA TEST HOUSE on <i>11.02.17</i>
[f] Whether any specific Method of Test has been suggested by the party	No
<b>Sampling Location</b>	<b>Time Weighted Average (TWA) of Day Time Noise Level in dB(A)</b>
1. Near Main Gate	<b>70.9</b>
2. Near CCR	<b>69.7</b>
3. Near Canteen	<b>66.2</b>
4. Near Gypsum Storage Area	<b>64.9</b>
5. Near Clinker Storage Area	<b>68.4</b>
N.B.:	<i>The Ambient Air Quality Standards in respect of Noise as per Noise Pollution (Regulation and Control ) Rules 2000 for Industrial area is 75.0 dB(A), for Commercial area is 65.0 dB(A), for Residential area is 55.0 dB(A) &amp; for Silence Zone is 50.0 dB(A) in daytime i.e. 6.00 am to 9.0 p.m. As per Rule 7(1&amp;2) the authority shall take action against violator if the noise level exceed the ambient noise standards by 10 dB(A) or more against any area/zone.</i>



*[Signature]*

Authorized Signatory  
Quality Manager / Dy. Quality Manager

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Laboratory Address :-  
01<sup>st</sup> FLOOR, RAJHANS NIKETAN,  
NEAR CANAL, RUKUNPURA,  
BAILEY ROAD,  
PATNA – 800 014 (BIHAR)



# SHIVA TEST HOUSE

Tel. : 0612 – 2247538/ 2240752 ; TeleFax : 0612 - 2590705  
E.mail.: sthpatna1@yahoo.co.in



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BY DEPTT. OF INDUSTRY, FORESTS & ENVIRONMENT, GOVT. OF BIHAR AND BIHAR STATE POLLUTION CONTROL BOARD

## TEST REPORT

Ref.No. <i>ECL/TR/16-17/829(i)</i> Dt : <i>22.03.2017</i> Your PO No. <i>ECO/BHR/SHIVA TEST HOUSE /W.O./RS/2016</i> Dt : <i>19.04.2016</i>	
[a] Name and address of the Customer	ECO Cement Ltd. Vill.: Mahmoodganj At : Kulharia Durgawati Dist.: Bhabua (Kaimur)
[b] Report to be submitted to	Director
[c] Details of Sample	Monitoring of Ambient Noise Level
[d] Monitored by	SHIVA TEST HOUSE on 03.03.17
[f] Whether any specific Method of Test has been suggested by the party	No
<b>Sampling Location</b>	<b>Time Weighted Average (TWA) of Day Time Noise Level in dB(A)</b>
1. Near Main Gate	73.6
2. Near CCR	71.2
3. Near Canteen	70.6
4. Near Gypsum Storage Area	67.8
5. Near Clinker Storage Area	69.7
N.B.:	The Ambient Air Quality Standards in respect of Noise as per Noise Pollution (Regulation and Control ) Rules 2000 for Industrial area is 75.0 dB(A), for Commercial area is 65.0 dB(A), for Residential area is 55.0 dB(A) & for Silence Zone is 50.0 dB(A) in daytime i.e. 6.00 am to 9.0 p.m. As per Rule 7(1&2) the authority shall take action against violator if the noise level exceed the ambient noise standards by 10 dB(A) or more against any area/zone.



  
Authorized Signatory  
Quality Manager / Dy. Quality Manager

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# SHIVA TEST HOUSE

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E.mail.: sthpatna1@yahoo.co.in



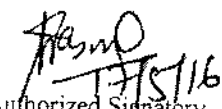
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## TEST REPORT

Ref.No. ECL/TR/16-17/117(h) Dt : 17.05.2016 Your PO No. ECO/BHR/SHIVA TEST HOUSE/W.O./RS/2016 Dt : 19.04.2016					
[a]	Name and address of the Customer		ECO Cement Ltd. Vill.: Mahmoodganj At : Kuhlaria Durgawati Dist.: Bhabua (Kaimur)		
[b]	Report to be submitted to		Director		
[c]	Details of Sample		Monitoring of Fugitive Emissions in Work Zone Area		
[d]	Monitored by		SHIVA TEST HOUSE on 11.04.16		
[e]	No. and Type of Container		Filter Paper		
[f]	Items required to be tested		As per request		
[g]	Whether any specific Method of Test has been suggested by the party		No		
[h]	Date of receiving the sample		12.04.16		
S. N.	Sampling Point	Concentration of Total Dust	Permissible TWA Conc <sup>n</sup> *	Concentration of Respirable Dust	Permissible TWA Conc <sup>n</sup> *
		(mg/M <sup>3</sup> )	(mg/M <sup>3</sup> )	(mg/M <sup>3</sup> )	(mg/M <sup>3</sup> )
1	Mill Section Ground Floor	7.28	10.00	2.91	5.00
2	Mill Section 01 <sup>st</sup> Floor	7.55	10.00	2.33	5.00
3	Mill Section 02 <sup>nd</sup> Floor	3.84	10.00	1.85	5.00
4	South side of Mill Section	5.46	10.00	2.15	5.00
5	North side of Mill Section	5.84	10.00	2.43	5.00

\*Permissible Time Weighted Average (TWA Conc<sup>n</sup>) based on Silica Content as per Factories Act'1948 Second Schedule

  
Authorized Signatory  
Quality Manager / Dy. Quality Manager

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3. Test Report endorsed only to the testee and to the product beneficiaries
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Bailey Road,  
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# SHIVA TEST HOUSE

Tel. : 0612 – 2247538/ 2240752 ; TeleFax : 0612 - 2590705  
E.mail.: sthpatna1@yahoo.co.in

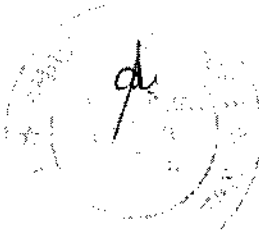


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## TEST REPORT

Ref.No. <i>ECL/TR/16-17/148(h)</i> Dt : <i>31.05.2016</i> Your PO No. <i>ECO/BHR/SHIVA TEST HOUSE /W.O./RS/2016</i> Dt : <i>19.04.2016</i>					
[a]	Name and address of the Customer		ECO Cement Ltd. Vill.: Mahmoodganj At : Kulharia Durgawati Dist.: Bhabua (Kaimur)		
[b]	Report to be submitted to		Director		
[c]	Details of Sample		Monitoring of Fugitive Emissions in Work Zone Area		
[d]	Monitored by		SHIVA TEST HOUSE on 09.05.16		
[e]	No. and Type of Container		Filter Paper		
[f]	Items required to be tested		As per request		
[g]	Whether any specific Method of Test has been suggested by the party		No		
[h]	Date of receiving the sample		10.05.16		
S. N.	Sampling Point	Concentration of Total Dust	Permissible T W A Conc <sup>n</sup> *	Concentration of Respirable Dust	Permissible T W A Conc <sup>n</sup> *
		(mg/M <sup>3</sup> )	(mg/M <sup>3</sup> )	(mg/M <sup>3</sup> )	(mg/M <sup>3</sup> )
1	Mill Section Ground Floor	8.91	10.00	3.35	5.00
2	Mill Section 01 <sup>st</sup> Floor	8.59	10.00	4.19	5.00
3	Mill Section 02 <sup>nd</sup> Floor	6.44	10.00	3.18	5.00
4	South side of Mill Section	6.89	10.00	3.55	5.00
5	North side of Mill Section	4.53	10.00	2.67	5.00
*Permissible Time Weighted Average (T W A) Conc <sup>n</sup> based on Silica Content as per Factories Act 1948 Second Schedule					



*AG 31/5/16*  
Authorized Signatory  
Quality Manager / Dy. Quality Manager

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# SHIVA TEST HOUSE

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E.mail.: shipatna1@yahoo.co.in



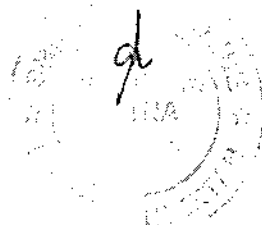
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## TEST REPORT

Ref.No. ECL/TR/16-17/210(h) Dt : 02.07.2016 Your PO No. ECO/BHR/SHIVA TEST HOUSE/W.O./RS/2016 Dt : 19.04.2016					
[a]	Name and address of the Customer		ECO Cement Ltd. Vill.: Mahmoodganj At : Kulharia Durgawati Dist.: Bhabua (Kaimur)		
[b]	Report to be submitted to		Director		
[c]	Details of Sample		Monitoring of Fugitive Emissions in Work Zone Area		
[d]	Monitored by		SHIVA TEST HOUSE on 14.06.16		
[e]	No. and Type of Container		Filter Paper		
[f]	Items required to be tested		As per request		
[g]	Whether any specific Method of Test has been suggested by the party		No		
[h]	Date of receiving the sample		15.06.16		
S. N.	Sampling Point	Concentration of Total Dust	Permissible TWA Conc <sup>n</sup> *	Concentration of Respirable Dust	Permissible TWA Conc <sup>n</sup> *
		(mg/M <sup>3</sup> )	(mg/M <sup>3</sup> )	(mg/M <sup>3</sup> )	(mg/M <sup>3</sup> )
1	Mill Section Ground Floor	8.24	10.00	3.29	5.00
2	Mill Section 01 <sup>st</sup> Floor	8.12	10.00	3.10	5.00
3	Mill Section 02 <sup>nd</sup> Floor	6.19	10.00	2.87	5.00
4	South side of Mill Section	7.26	10.00	2.98	5.00
5	North side of Mill Section	6.48	10.00	2.70	5.00

\*Permissible Time Weighted Average (TWA) Conc<sup>n</sup> based on Silica Content as per Factories Act 1948 Second Schedule



*[Signature]*  
02/7/16  
Authorized Signatory  
Quality Manager / Dy. Quality Manager

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01<sup>st</sup> Floor, Rajhans Niketan,  
Near Canal, Rukunpura,  
Bailey Road,  
Patna - 800 014 (Bihar)



# SHIVA TEST HOUSE

Tel. : 0612 - 2247538/ 2240752 ; TeleFax : 0612 - 2590705  
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## TEST REPORT

Ref.No. ECL/TR/16-17/270(h) Dt : 01.08.2016 Your PO No. ECO/BHR/SHIVA TEST HOUSE/W.O./RS/2016 Dt : 19.04.2016					
[a]	Name and address of the Customer		ECO Cement Ltd. Vill.: Mahmoodganj At : Kulharia Durgawati Dist.: Bhabua (Kaimur)		
[b]	Report to be submitted to		Director		
[c]	Details of Sample		Monitoring of Fugitive Emissions in Work Zone Area		
[d]	Monitored by		SHIVA TEST HOUSE on 17.07.16		
[e]	No. and Type of Container		Filter Paper		
[f]	Items required to be tested		As per request		
[g]	Whether any specific Method of Test has been suggested by the party		No		
[h]	Date of receiving the sample		18.07.16		
S. N.	Sampling Point	Concentration of Total Dust	Permissible TWA Conc <sup>n</sup> *	Concentration of Respirable Dust	Permissible TWA Conc <sup>n</sup> *
		(mg/M <sup>3</sup> )	(mg/M <sup>3</sup> )	(mg/M <sup>3</sup> )	(mg/M <sup>3</sup> )
1	Mill Section Ground Floor	7.84	10.00	4.12	5.00
2	Mill Section 01 <sup>st</sup> Floor	6.89	10.00	3.97	5.00
3	Mill Section 02 <sup>nd</sup> Floor	6.64	10.00	3.66	5.00
4	South side of Mill Section	5.68	10.00	2.84	5.00
5	North side of Mill Section	5.42	10.00	3.10	5.00

\*Permissible Time Weighted Average (TWA Conc<sup>n</sup>) based on Silica Content as per Factories Act'1948 Second Schedule



*Handwritten Signature*  
01/08/16  
Authorized Signatory  
Quality Manager / Dy. Quality Manager

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# SHIVA TEST HOUSE

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## TEST REPORT

Ref.No. ECL/TR/16-17/310(h) Dt : 02.09.2016 Your PO No. ECO/BHR/SHIVA TEST HOUSE/W.O./RS/2016 Dt : 19.04.2016

[a]	Name and address of the Customer	ECO Cement Ltd. Vill.: Mahmoodganj At : Kulharia Durgawati Dist.: Bhabua (Kaimur)			
[b]	Report to be submitted to	Director			
[c]	Details of Sample	Monitoring of Fugitive Emissions in Work Zone Area			
[d]	Monitored by	SHIVA TEST HOUSE on 12.08.16			
[e]	No. and Type of Container	Filter Paper			
[f]	Items required to be tested	As per request			
[g]	Whether any specific Method of Test has been suggested by the party	No "			
[h]	Date of receiving the sample	13.08.16			
S. N.	Sampling Point	Concentration of Total Dust	Permissible T W A Conc <sup>n</sup> *	Concentration of Respirable Dust	Permissible T W A Conc <sup>n</sup> *
		(mg/M <sup>3</sup> )	(mg/M <sup>3</sup> )	(mg/M <sup>3</sup> )	(mg/M <sup>3</sup> )
1	Mill Section Ground Floor	9.64	10.00	4.62	5.00
2	Mill Section 01 <sup>st</sup> Floor	8.72	10.00	4.27	5.00
3	Mill Section 02 <sup>nd</sup> Floor	9.10	10.00	4.19	5.00
4	South side of Mill Section	7.89	10.00	3.66	5.00
5	North side of Mill Section	8.18	10.00	3.85	5.00

\*Permissible Time Weighted Average (T W A) Conc<sup>n</sup> based on Silica Content as per Factories Act'1948 Second Schedule



*[Signature]*  
02/09/16  
Authorized Signatory  
Quality Manager / Dy. Quality Manager

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# SHIVA TEST HOUSE

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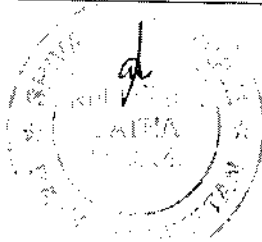
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## TEST REPORT

Ref.No. ECL/TR/16-17/366(h) Dt : 08.10.2016 Your PO No. ECO/BHR/SHIVA TEST HOUSE /W.O./RS/2016 Dt : 19.04.2016

[a]	Name and address of the Customer	ECO Cement Ltd. Vill.: Mahmoodganj At : Kulharia Durgawati Dist.: Bhabua (Kaimur)			
[b]	Report to be submitted to	Director			
[c]	Details of Sample	Monitoring of Fugitive Emissions in Work Zone Area			
[d]	Monitored by	SHIVA TEST HOUSE on 23.09.16			
[e]	No. and Type of Container	Filter Paper			
[f]	Items required to be tested	As per request			
[g]	Whether any specific Method of Test has been suggested by the party	No			
[h]	Date of receiving the sample	24.09.16			
S. N.	Sampling Point	Concentration of Total Dust	Permissible TWA Conc <sup>n</sup> *	Concentration of Respirable Dust	Permissible TWA Conc <sup>n</sup> *
		(mg/M <sup>3</sup> )	(mg/M <sup>3</sup> )	(mg/M <sup>3</sup> )	(mg/M <sup>3</sup> )
1	Mill Section Ground Floor	7.69	10.00	3.87	5.00
2	Mill Section 01 <sup>st</sup> Floor	7.12	10.00	3.65	5.00
3	Mill Section 02 <sup>nd</sup> Floor	6.92	10.00	3.18	5.00
4	South side of Mill Section	6.10	10.00	2.66	5.00
5	North side of Mill Section	5.78	10.00	2.42	5.00

\*Permissible Time Weighted Average (TWA) Conc<sup>n</sup> based on Silica Content as per Factories Act 1948 Second Schedule



*Hasnand*  
08/10/16  
Authorized Signatory  
Quality Manager / Dy. Quality Manager

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# SHIVA TEST HOUSE

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## TEST REPORT

Ref No. ECL/TR/16-17/411(D) Dt: 31.10.2016 Your PO No. ECO/BHR/SHIVA TEST HOUSE/W.O./RS/2016 Dt: 19.04.2016

[a]	Name and address of the Customer	ECO Cement Ltd. Vill.: Mahmoodganj At : Kulharia Durgawati Dist.: Bhabua (Kaimur)			
[b]	Report to be submitted to	Director			
[c]	Details of Sample	Monitoring of Fugitive Emissions in Work Zone Area			
[d]	Monitored by	SHIVA TEST HOUSE on 17.10.16			
[e]	No. and Type of Container	Filter Paper			
[f]	Items required to be tested	As per request			
[g]	Whether any specific Method of Test has been suggested by the party	No			
[h]	Date of receiving the sample	18.10.16			

S. N.	Sampling Point	Concentration of Total Dust (mg/M <sup>3</sup> )	Permissible TWA Conc <sup>o</sup> * (mg/M <sup>3</sup> )	Concentration of Respirable Dust (mg/M <sup>3</sup> )	Permissible TWA Conc <sup>o</sup> * (mg/M <sup>3</sup> )
1	Mill Section Ground Floor	3.22	10.00	3.54	5.00
2	Mill Section 01 <sup>st</sup> Floor	7.79	10.00	3.36	5.00
3	Mill Section 02 <sup>nd</sup> Floor	6.48	10.00	3.12	5.00
4	South side of Mill Section	6.51	10.00	2.92	5.00
5	North side of Mill Section	5.86	10.00	2.89	5.00

\*Permissible Time Weighted Average (TWA) Conc based on Silica Content as per Factories Act 1948 Second Schedule



*[Signature]*  
31/10/16  
Authorized Signatory  
Quality Manager / Dy. Quality Manager

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## TEST REPORT

Ref.No. ECL/TR/16-17/518(i) Dt : 05.12.2016 Your PO No. ECO/BHR/SHIVA TEST HOUSE/W.O./RS/2016 Dt : 19.04.2016					
[a]	Name and address of the Customer		ECO Cement Ltd. Vill.: Mahmoodganj At : Kulharia Durgawati Dist.: Bhabua (Kaimur)		
[b]	Report to be submitted to		Director		
[c]	Details of Sample		Monitoring of Fugitive Emissions in Work Zone Area		
[d]	Monitored by		SHIVA TEST HOUSE on 11.11.16		
[e]	No. and Type of Container		Filter Paper		
[f]	Items required to be tested		As per request		
[g]	Whether any specific Method of Test has been suggested by the party		No		
[h]	Date of receiving the sample		12.11.16		
S. N.	Sampling Point	Concentration of Total Dust	Permissible TWA Conc <sup>n</sup> *	Concentration of Respirable Dust	Permissible TWA Conc <sup>n</sup> *
		(mg/M <sup>3</sup> )	(mg/M <sup>3</sup> )	(mg/M <sup>3</sup> )	(mg/M <sup>3</sup> )
1	Mill Section Ground Floor	8.31	10.00	3.72	5.00
2	Mill Section 01 <sup>st</sup> Floor	7.85	10.00	3.57	5.00
3	Mill Section 02 <sup>nd</sup> Floor	6.40	10.00	3.10	5.00
4	South side of Mill Section	6.68	10.00	3.26	5.00
5	North side of Mill Section	5.45	10.00	2.97	5.00

\*Permissible Time Weighted Average (TWA) Conc<sup>n</sup> based on Silica Content as per Factories Act 1948 Second Schedule



*[Signature]*  
05/12/16  
Authorized Signatory  
Quality Manager / Dy. Quality Manager

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Laboratory Address :-  
01<sup>st</sup> Floor, Rajhans Niketan,  
Near Canal, Rukunpura,  
Bailey Road,  
Patna – 800 014 (Bihar)



# SHIVA TEST HOUSE

Tel. : 0612 – 2247538/ 2240752 ; TeleFax : 0612 - 2590705  
E.mail. : sthpatna1@yahoo.co.in



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## TEST REPORT

Ref.No. ECL/TR/16-17/617(h) Dt : 30.12.2016 Your PO No. ECO/BHR/SHIVA TEST HOUSE M.O./RS/2016 Dt : 19.04.2016

[a]	Name and address of the Customer	ECO Cement Ltd. Vill.: Mahmoodganj At : Kulharia Durgawati Dist.: Bhabua (Kaimur)
[b]	Report to be submitted to	Director
[c]	Details of Sample	Monitoring of Fugitive Emissions in Work Zone Area
[d]	Monitored by	SHIVA TEST HOUSE on 15.12.16
[e]	No. and Type of Container	Filter Paper
[f]	Items required to be tested	As per request
[g]	Whether any specific Method of Test has been suggested by the party	No
[h]	Date of receiving the sample	16.12.16

S. N.	Sampling Point	Concentration of Total Dust	Permissible TWA Conc <sup>o</sup> *	Concentration of Respirable Dust	Permissible TWA Conc <sup>o</sup> *
		(mg/M <sup>3</sup> )	(mg/M <sup>3</sup> )	(mg/M <sup>3</sup> )	(mg/M <sup>3</sup> )
1	Mill Section Ground Floor	7.91	10.00	3.87	5.00
2	Mill Section 01 <sup>st</sup> Floor	7.32	10.00	3.71	5.00
3	Mill Section 02 <sup>nd</sup> Floor	6.68	10.00	3.38	5.00
4	South side of Mill Section	6.10	10.00	2.96	5.00
5	North side of Mill Section	5.52	10.00	2.92	5.00

\*Permissible Time Weighted Average (TWA) Conc<sup>o</sup> based on Silica Content as per Factories Act 1948 Second Schedule

*Handwritten signature/initials*

*Handwritten signature*  
30/1/16  
Authorized Signatory  
Quality Manager / Dy. Quality Manager

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## TEST REPORT

Ref.No. ECL/TR/16-17/705(h) Dt : 27.01.2017 Your PO No. ECO/BHR/SHIVA TEST HOUSE /N.O./RS/2016 Dt : 19.04.2016					
[a]	Name and address of the Customer		ECO Cement Ltd. Vill.: Mahmoodganj At : Kulharia Durgawati Dist.: Bhabua (Kaimur)		
[b]	Report to be submitted to		Director		
[c]	Details of Sample		Monitoring of Fugitive Emissions in Work Zone Area		
[d]	Monitored by		SHIVA TEST HOUSE on 19.01.17		
[e]	No. and Type of Container		Filter Paper		
[f]	Items required to be tested		As per request		
[g]	Whether any specific Method of Test has been suggested by the party		No		
[h]	Date of receiving the sample		20.01.17		
S. N.	Sampling Point	Concentration of Total Dust	Permissible T W A Conc <sup>n</sup> *	Concentration of Respirable Dust	Permissible T W A Conc <sup>n</sup> *
		(mg/M <sup>3</sup> )	(mg/M <sup>3</sup> )	(mg/M <sup>3</sup> )	(mg/M <sup>3</sup> )
1	Mill Section Ground Floor	6.17	10.00	4.11	5.00
2	Mill Section 01 <sup>st</sup> Floor	5.84	10.00	3.92	5.00
3	Mill Section 02 <sup>nd</sup> Floor	4.89	10.00	3.66	5.00
4	South side of Mill Section	6.28	10.00	4.38	5.00
5	North side of Mill Section	7.14	10.00	4.66	5.00

\*Permissible Time Weighted Average (T W A) Conc<sup>n</sup> based on Silica Content as per Factories Act'1948 Second Schedule



*[Handwritten Signature]*

Authorized Signatory  
Quality Manager / Dy. Quality Manager

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## TEST REPORT

Ref.No. ECI/TR/16-17/756(h) Dt : 17.02.2017 Your PO No. ECO/BHR/SHIVA TEST HOUSE /W.O./R5/2016 Dt : 19.04.2016

[a]	Name and address of the Customer	ECO Cement Ltd. Vill.: Mahmoodganj At : Kulharia Durgawati Dist.: Bhabua (Kaimur)			
[b]	Report to be submitted to	Director			
[c]	Details of Sample	Monitoring of Fugitive Emissions in Work Zone Area			
[d]	Monitored by	SHIVA TEST HOUSE on 11.02.17			
[e]	No. and Type of Container	Filter Paper			
[f]	Items required to be tested	As per request			
[g]	Whether any specific Method of Test has been suggested by the party	No			
[h]	Date of receiving the sample	12.02.17			

S. N.	Sampling Point	Concentration of Total Dust	Permissible T W A Conc <sup>n</sup> *	Concentration of Respirable Dust	Permissible T W A Conc <sup>n</sup> *
		(mg/M <sup>3</sup> )	(mg/M <sup>3</sup> )	(mg/M <sup>3</sup> )	(mg/M <sup>3</sup> )
1	Mill Section Ground Floor	5.61	10.00	2.54	5.00
2	Mill Section 01 <sup>st</sup> Floor	4.83	10.00	2.16	5.00
3	Mill Section 02 <sup>nd</sup> Floor	3.84	10.00	1.83	5.00
4	South side of Mill Section	4.15	10.00	1.96	5.00
5	North side of Mill Section	5.83	10.00	2.40	5.00

\*Permissible Time Weighted Average (T W A) Conc<sup>n</sup> based on Silica Content as per Factories Act'1948 Second Schedule



  
Authorized Signatory

Quality Manager / Dy. Quality Manager

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## TEST REPORT

Ref.No. ECL/TR/16-17/829(Ir) Dt : 22.03.2017 Your PO No. ECO/BHR/SHIVA TEST HOUSE /W.O./RS/2016 Dt : 19.04.2016					
[a]	Name and address of the Customer		ECO Cement Ltd. Vill.: Mahmoodganj At : Kuhlaria Durgawati Dist.: Bhabua (Kaimur)		
[b]	Report to be submitted to		Director		
[c]	Details of Sample		Monitoring of Fugitive Emissions in Work Zone Area		
[d]	Monitored by		SHIVA TEST HOUSE on 03.03.17		
[e]	No. and Type of Container		Filter Paper		
[f]	Items required to be tested		As per request		
[g]	Whether any specific Method of Test has been suggested by the party		No		
[h]	Date of receiving the sample		04.03.17		
S. N.	Sampling Point	Concentration of Total Dust	Permissible T W A Conc <sup>n</sup> *	Concentration of Respirable Dust	Permissible T W A Conc <sup>n</sup> *
		(mg/M <sup>3</sup> )	(mg/M <sup>3</sup> )	(mg/M <sup>3</sup> )	(mg/M <sup>3</sup> )
1	Mill Section Ground Floor	7.81	10.00	3.10	5.00
2	Mill Section 01 <sup>st</sup> Floor	5.44	10.00	2.52	5.00
3	Mill Section 02 <sup>nd</sup> Floor	3.89	10.00	1.72	5.00
4	South side of Mill Section	2.94	10.00	1.36	5.00
5	North side of Mill Section	6.44	10.00	2.94	5.00

\*Permissible Time Weighted Average (T W A) Conc<sup>n</sup>. based on Silica Content as per Factories Act'1948 Second Schedule



  
Authorized Signatory  
Quality Manager / Dy. Quality Manager

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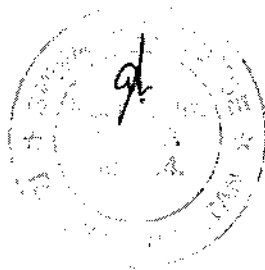


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## TEST REPORT

Ref.No. ECL/TR/16-17/117(f) Dt : 17.05.2016 Your PO No. ECO/BHR/SHIVA TEST HOUSE/W.O./RS/2016 Dt : 19.04.2016				
[a]	Name and address of the Customer	ECO Cement Ltd. Vill.: Mahmoodganj At : Kulharia Durgawati Dist.: Bhabua (Kaimur)		
[b]	Report to be submitted to	Director		
[c]	Details of Sample	Monitoring of Stack Emission		
[d]	Sample Collected by	SHIVA TEST HOUSE on 11.04.16		
[e]	No. & Type of Container	Thimble & Glass Impinger		
[f]	Items required to be tested	As per request		
[g]	Whether any specific Method of Test has been suggested by the party	No		
[h]	Date of receiving the sample	12.04.16		
Parameters		Method of Test	Results	
1.	Stack Connected to		Bag House attached with Cement Mill	
2.	Height of Stack (as reported)		33 m.	
3.	Dia of Stack at Top (as reported)		1.2 m.	
4.	Draft		ID Fan	
5.	Material of Construction		M.S.	
6.	Ambient Temperature, °C		38.0	
7.	Flue Gas Temperature, °C		52.0	
8.	Velocity, m/sec.		IS 11255 (Part-3)	9.4
9.	Volumetric Flow Rate, NM <sup>3</sup> /hr.			35074.8
10.	Sampling Point			21 m.
		Concentration (mg / NM <sup>3</sup> )	Limit as per E (P) Rules	
11.	Particulate Matter (P.M.)	IS 11255 (Part-1)	44.3	50.0 mg / NM <sup>3</sup>
12.	Sulphur Dioxide (SO <sub>2</sub> )	IS 11255 (Part-2)	Not Detectable	Not Specified
13.	Oxides of Nitrogen (NO <sub>2</sub> )	IS 11255 (Part-7)	18.4	Not Specified



*[Signature]*  
17/5/16  
Authorized Signatory  
Quality Manager / Dy. Quality Manager

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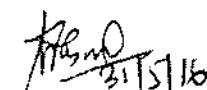


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## TEST REPORT

Ref.No. <i>ECL/TR/16-17/148(f)</i> Dt: <i>31.05.2016</i> Your PO No. <i>ECO/BHR/SHIVA TEST HOUSE/W.O./RS2016</i> Dt: <i>19.04.2016</i>				
[a] Name and address of the Customer	ECO Cement Ltd. Vill.: Mahmoodganj At : Kulharia Durgawati Dist.: Bhabua (Kaimur)			
[b] Report to be submitted to	Director			
[c] Details of Sample	Monitoring of Stack Emission			
[d] Sample Collected by	SHIVA TEST HOUSE on 09.05.16			
[e] No. & Type of Container	Thimble & Glass Impinger			
[f] Items required to be tested	As per request			
[g] Whether any specific Method of Test has been suggested by the party	No			
[h] Date of receiving the sample	10.05.16			
Parameters	Method of Test	Results		
1. Stack Connected to		Bag House attached with Cement Mill		
2. Height of Stack (as reported)		33 m.		
3. Dia of Stack at Top (as reported)		1.2 m.		
4. Draft		ID Fan		
5. Material of Construction		M.S.		
6. Ambient Temperature, °C		37.0		
7. Flue Gas Temperature, °C		55.0		
8. Velocity, m/sec.		IS 11255 (Part-3)	7.1	
9. Volumetric Flow Rate, NM <sup>3</sup> /hr.			26250.4	
10. Sampling Point			21 m.	
		Concentration (mg / NM <sup>3</sup> )	Limit as per E (P) Rules	
11. Particulate Matter (P.M.)	IS 11255 (Part-1)	40.2	50.0 mg / NM <sup>3</sup>	
12. Sulphur Dioxide (SO <sub>2</sub> )	IS 11255 (Part-2)	Not Detectable	Not Specified	
13. Oxides of Nitrogen (NO <sub>2</sub> )	IS 11255 (Part-7)	13.1	Not Specified	

  
31/5/16  
Authorized Signatory  
Quality Manager Dy. Quality Manager

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## TEST REPORT

Ref.No. <i>ECL/TR/16-17/148(e)</i> Dt : <i>31.05.2016</i> Your PO No. <i>ECO/BHR/SHIVA TEST HOUSE/W.O./RS/2016</i> Dt : <i>19.04.2016</i>			
[a]	Name and address of the Customer	ECO Cement Ltd. Vill.: Mahmoodganj At : Kulharia Durgawati Dist.: Bhabua (Kaimur)	
[b]	Report to be submitted to	Director	
[c]	Details of Sample	Monitoring of Stack Emission	
[d]	Sample Collected by	SHIVA TEST HOUSE on <i>09.05.16</i>	
[e]	No. & Type of Container	Thimble & Glass Impinger	
[f]	Items required to be tested	As per request	
[g]	Whether any specific Method of Test has been suggested by the party	No	
[h]	Date of receiving the sample	<i>10.05.16</i>	
	<b>Parameters</b>	<b>Method of Test</b>	<b>Results</b>
1.	Stack Connected to		Bag House of flyash unloader
2.	Height of Stack (as reported)		30 m.
3.	Dia of Stack at Top (as reported)		1.05 m.
4.	Draft		ID Fan
5.	Material of Construction		M.S.
6.	Ambient Temperature, °C		37.0
7.	Flue Gas Temperature, °C		57.0
8.	Velocity, m/sec.	IS 11255 (Part-3)	9.8
9.	Volumetric Flow Rate, NM <sup>3</sup> /hr.		27572.7
10.	Sampling Point		14 m.
			<b>Concentration ( mg / NM<sup>3</sup> )</b>
			<b>Limit as per E (P) Rules</b>
11.	Particulate Matter (P.M.)	IS 11255 (Part-1)	<b>45.0</b> 50.0 mg / NM <sup>3</sup>
12.	Sulphur Dioxide (SO <sub>2</sub> )	IS 11255 (Part-2)	<b>Not Detectable</b> Not Specified
13.	Oxides of Nitrogen (NO <sub>2</sub> )	IS 11255 (Part-7)	<b>12.6</b> Not Specified

*Handwritten Signature*  
*31/5/16*  
Authorized Signatory  
Quality Manager / Dy. Quality Manager

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## TEST REPORT

Ref.No. ECL/TR/16-17/210(f) Dt : 02.07.2016 Your PO No. ECO/BHR/SHIVA TEST HOUSE W.O./RS/2016 Dt : 19.04.2016

[a]	Name and address of the Customer	ECO Cement Ltd. Vill.: Mahmoodganj At : Kulharia Durgawati Dist.: Bhabua (Kaimur)		
[b]	Report to be submitted to	Director		
[c]	Details of Sample	Monitoring of Stack Emission		
[d]	Sample Collected by	SHIVA TEST HOUSE on 14.06.16		
[e]	No. & Type of Container	Thimble & Glass Impinger		
[f]	Items required to be tested	As per request		
[g]	Whether any specific Method of Test has been suggested by the party	No		
[h]	Date of receiving the sample	15.06.16		
Parameters		Method of Test	Results	
1.	Stack Connected to		Bag House attached with Cement Mill	
2.	Height of Stack (as reported)		33 m.	
3.	Dia of Stack at Top (as reported)		1.2 m.	
4.	Draft		ID Fan	
5.	Material of Construction		M.S.	
6.	Ambient Temperature, °C		40.0	
7.	Flue Gas Temperature, °C		60.0	
8.	Velocity, m/sec.	IS 11255 (Part-3)	8.3	
9.	Volumetric Flow Rate, NM <sup>3</sup> /hr.		30226.3	
10.	Sampling Point		21 m.	
			Concentration ( mg / NM <sup>3</sup> )	
			Limit as per E (P) Rules	
11.	Particulate Matter (P.M.)	IS 11255 (Part-1)	42.1	50.0 mg / NM <sup>3</sup>
12.	Sulphur Dioxide (SO <sub>2</sub> )	IS 11255 (Part-2)	Not Detectable	Not Specified
13.	Oxides of Nitrogen (NO <sub>2</sub> )	IS 11255 (Part-7)	16.2	Not Specified

*Hasn*  
02/07/16  
Authorized Signatory  
Quality Manager / Dy. Quality Manager

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01<sup>st</sup> Floor, Rajhans Niketan,  
Near Canal, Rukunpura,  
Bailey Road,  
Patna – 800 014 (Bihar)



# SHIVA TEST HOUSE

Tel. : 0612 – 2247538/ 2240752 ; TeleFax : 0612 - 2590705  
E.mail.: sthpatna1@yahoo.co.in

JAS ANZ

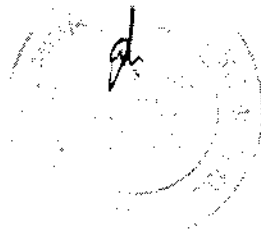


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## TEST REPORT

Ref.No. ECL/TR/16-17/270(f) Dt : 01.08.2016 Your PO No. ECO/BHR/SHIVA TEST HOUSE/W.O./RS/2016 Dt : 19.04.2016			
[a] Name and address of the Customer	ECO Cement Ltd. Vill.: Mahmoodganj At : Kulharia Durgawati Dist.: Bhabua (Kaimur)		
[b] Report to be submitted to	Director		
[c] Details of Sample	Monitoring of Stack Emission		
[d] Sample Collected by	SHIVA TEST HOUSE on 17.07.16		
[e] No. & Type of Container	Thimble & Glass Impinger		
[f] Items required to be tested	As per request		
[g] Whether any specific Method of Test has been suggested by the party	No		
[h] Date of receiving the sample	18.07.16		
<b>Parameters</b>	<b>Method of Test</b>	<b>Results</b>	
1. Stack Connected to		Bag House attached with Cement Mill	
2. Height of Stack (as reported)		33 m.	
3. Dia of Stack at Top (as reported)		1.2 m.	
4. Draft		ID Fan	
5. Material of Construction		M.S.	
6. Ambient Temperature, °C		39.0	
7. Flue Gas Temperature, °C		54.0	
8. Velocity, m/sec.		IS 11255 (Part-3)	10.8
9. Volumetric Flow Rate, NM <sup>3</sup> /hr.			40052.3
10. Sampling Point			21 m.
		<b>Concentration (mg / NM<sup>3</sup>)</b>	<b>Limit as per E (P) Rules</b>
11. Particulate Matter (P.M.)	IS 11255 (Part-1)	48.7	50.0 mg / NM <sup>3</sup>
12. Sulphur Dioxide (SO <sub>2</sub> )	IS 11255 (Part-2)	Not Detectable	Not Specified
13. Oxides of Nitrogen (NO <sub>2</sub> )	IS 11255 (Part-7)	22.8	Not Specified



*[Signature]*  
01/08/16  
Authorized Signatory  
Quality Manager / Dy. Quality Manager

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## TEST REPORT

Ref.No. ECL/TR/16-17/310(f) Dt : 02.09.2016 Your PO No. ECO/BHR/SHIVA TEST HOUSE /W.O./RS/2016 Dt : 19.04.2016			
[a]	Name and address of the Customer	ECO Cement Ltd. Vill.: Mahmoodganj At : Kulharia Durgawati Dist.: Bhabua (Kaimur)	
[b]	Report to be submitted to	Director	
[c]	Details of Sample	Monitoring of Stack Emission	
[d]	Sample Collected by	SHIVA TEST HOUSE on 12.08.16	
[e]	No. & Type of Container	Thimble & Glass Impinger	
[f]	Items required to be tested	As per request	
[g]	Whether any specific Method of Test has been suggested by the party	No	
[h]	Date of receiving the sample	13.08.16	
	<b>Parameters</b>	<b>Method of Test</b>	<b>Results</b>
	1. Stack Connected to		Bag House attached with Cement Mill
	2. Height of Stack (as reported)		33 m.
	3. Dia of Stack at Top (as reported)		1.2 m.
	4. Draft		ID Fan
	5. Material of Construction		M.S.
	6. Ambient Temperature, °C		42.0
	7. Flue Gas Temperature, °C		51.0
	8. Velocity, m/sec.	IS 11255 (Part-3)	7.7
	9. Volumetric Flow Rate, NM <sup>3</sup> /hr.		28820.2
	10. Sampling Point		21 m.
			<b>Concentration (mg / NM<sup>3</sup>)</b>
			<b>Limit as per E (P) Rules</b>
	11. Particulate Matter (P.M.)	IS 11255 (Part-1)	41.8
	12. Sulphur Dioxide (SO <sub>2</sub> )	IS 11255 (Part-2)	Not Detectable
	13. Oxides of Nitrogen (NO <sub>2</sub> )	IS 11255 (Part-7)	17.2
			Not Specified
			Not Specified

02/09/16  
Authorized Signatory  
Quality Manager / Dy. Quality Manager

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# SHIVA TEST HOUSE

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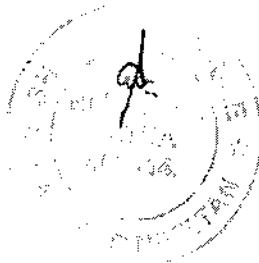
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## TEST REPORT

Ref.No. ECL/TR/16-17/366(f) Dt: 08.10.2016 Your PO No. ECO/BHR/SHIVA TEST HOUSE/W.O./RS/2016 Dt: 19.04.2016

[a] Name and address of the Customer	ECO Cement Ltd. Vill.: Mahmoodganj At : Kulharia Durgawati Dist.: Bhabua (Kaimur)		
[b] Report to be submitted to	Director		
[c] Details of Sample	Monitoring of Stack Emission		
[d] Sample Collected by	SHIVA TEST HOUSE on 23.09.16		
[e] No. & Type of Container	Thimble & Glass Impinger		
[f] Items required to be tested	As per request		
[g] Whether any specific Method of Test has been suggested by the party	No		
[h] Date of receiving the sample	24.09.16		
Parameters	Method of Test	Results	
1. Stack Connected to		Bag House attached with Cement Mill	
2. Height of Stack (as reported)		33 m.	
3. Dia of Stack at Top (as reported)		1.2 m.	
4. Draft		ID Fan	
5. Material of Construction		M.S.	
6. Ambient Temperature, °C		36.0	
7. Flue Gas Temperature, °C		59.0	
8. Velocity, m/sec.	IS 11255 (Part-3)	9.6	
9. Volumetric Flow Rate, NM <sup>3</sup> /hr.		35065.8	
10. Sampling Point		21 m.	
		Concentration ( mg / NM <sup>3</sup> )	Limit as per E (P) Rules
11. Particulate Matter (P.M.)	IS 11255 (Part-1)	42.8	50.0 mg / NM <sup>3</sup>
12. Sulphur Dioxide (SO <sub>2</sub> )	IS 11255 (Part-2)	Not Detectable	Not Specified
13. Oxides of Nitrogen (NO <sub>2</sub> )	IS 11255 (Part-7)	15.0	Not Specified



*[Signature]*  
08/10/16  
Authorized Signatory  
Quality Manager / Dy. Quality Manager

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## TEST REPORT

Ref.No. ECL/TR/16-17/411(f) Dt : 31.10.2016 Your PO No. ECO/BHR/SHIVA TEST HOUSE/W.O./RS/2016 Dt : 19.04.2016

[a] Name and address of the Customer	ECO Cement Ltd. Vill.: Mahmoodganj At : Kulharia Durgawati Dist.: Bhabua (Kaimur)
[b] Report to be submitted to	Director
[c] Details of Sample	Monitoring of Stack Emission
[d] Sample Collected by	SHIVA TEST HOUSE on 17.10.16
[e] No. & Type of Container	Thimble & Glass Impinger
[f] Items required to be tested	As per request
[g] Whether any specific Method of Test has been suggested by the party	No
[h] Date of receiving the sample	18.10.16

Parameters	Method of Test	Results	
1. Stack Connected to		Bag House attached with Cement Mill	
2. Height of Stack (as reported)		33 m.	
3. Dia of Stack at Top (as reported)		1.2 m.	
4. Draft		ID Fan	
5. Material of Construction		M.S.	
6. Ambient Temperature, °C		32.0	
7. Flue Gas Temperature, °C		56.0	
8. Velocity, m/sec.	IS 11255 (Part-3)	10.2	
9. Volumetric Flow Rate, NM <sup>3</sup> /hr.		37597.2	
10. Sampling Point		21 m.	
		Concentration (mg / NM <sup>3</sup> )	
		Limit as per E (P) Rules	
11. Particulate Matter (P.M.)	IS 11255 (Part-1)	46.9	50.0 mg / NM <sup>3</sup>
12. Sulphur Dioxide (SO <sub>2</sub> )	IS 11255 (Part-2)	Not Detectable	Not Specified
13. Oxides of Nitrogen (NO <sub>2</sub> )	IS 11255 (Part-7)	12.2	Not Specified

  
31/10/16  
Authorized Signatory  
Quality Manager / Dy. Quality Manager

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## TEST REPORT

Ref.No. ECL/TR/16-17/518(f) Dt: 05.12.2016 Your PO No. ECO/BHR/SHIVA TEST HOUSE W.O./RS/2016 Dt: 19.04.2016			
[a]	Name and address of the Customer	ECO Cement Ltd. Vill.: Mahmoodganj At : Kulharia Durgawati Dist.: Bhabua (Kaimur)	
[b]	Report to be submitted to	Director	
[c]	Details of Sample	Monitoring of Stack Emission	
[d]	Sample Collected by	SHIVA TEST HOUSE on 11.11.16	
[e]	No. & Type of Container	Thimble & Glass Impinger	
[f]	Items required to be tested	As per request	
[g]	Whether any specific Method of Test has been suggested by the party	No	
[h]	Date of receiving the sample	12.11.16	
	<b>Parameters</b>	<b>Method of Test</b>	<b>Results</b>
1.	Stack Connected to		Bag House attached with Cement Mill
2.	Height of Stack (as reported)		33 m.
3.	Dia of Stack at Top (as reported)		1.2 m.
4.	Draft		ID Fan
5.	Material of Construction		M.S.
6.	Ambient Temperature, °C		24.0
7.	Flue Gas Temperature, °C		48.0
8.	Velocity, m/sec.	IS 11255 (Part-3)	8.7
9.	Volumetric Flow Rate, NM <sup>3</sup> /hr.		32867.4
10.	Sampling Point		21 m.
			<b>Concentration (mg / NM<sup>3</sup>)</b>
			<b>Limit as per E (P) Rules</b>
11.	Particulate Matter (P.M.)	IS 11255 (Part-1)	43.1
12.	Sulphur Dioxide (SO <sub>2</sub> )	IS 11255 (Part-2)	Not Detectable
13.	Oxides of Nitrogen (NO <sub>2</sub> )	IS 11255 (Part-7)	16.8
			50.0 mg / NM <sup>3</sup>
			Not Specified
			Not Specified

  
05/12/16  
Authorized Signatory  
Quality Manager / Dy. Quality Manager

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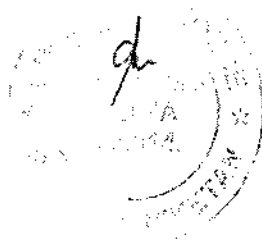


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## TEST REPORT

Ref.No. ECL/TR/16-17/617(f) Dt : 30.12.2016 Your PO No. ECO/BHR/SHIVA TEST HOUSE/W.O./RS/2016 Dt : 19.04.2016			
[a]	Name and address of the Customer	ECO Cement Ltd. Vill.: Mahmoodganj At : Kulharia Durgawati Dist.: Bhabua (Kaimur)	
[b]	Report to be submitted to	Director	
[c]	Details of Sample	Monitoring of Stack Emission	
[d]	Sample Collected by	SHIVA TEST HOUSE on 15.12.16	
[e]	No. & Type of Container	Thimble & Glass Impinger	
[f]	Items required to be tested	As per request	
[g]	Whether any specific Method of Test has been suggested by the party	No	
[h]	Date of receiving the sample	16.12.16	
	<b>Parameters</b>	<b>Method of Test</b>	<b>Results</b>
	1. Stack Connected to		Bag House attached with Cement Mill
	2. Height of Stack (as reported)		33 m.
	3. Dia of Stack at Top (as reported)		1.2 m.
	4. Draft		ID Fan
	5. Material of Construction		M.S.
	6. Ambient Temperature, °C		20.0
	7. Flue Gas Temperature, °C		52.0
	8. Velocity, m/sec.	IS 11255 (Part-3)	9.8
	9. Volumetric Flow Rate. NM <sup>3</sup> /hr.		36567.4
	10. Sampling Point		21 m.
			<b>Concentration ( mg / NM<sup>3</sup> )</b>
			<b>Limit as per E (P) Rules</b>
	11. Particulate Matter (P.M.)	IS 11255 (Part-1)	45.0
	12. Sulphur Dioxide (SO <sub>2</sub> )	IS 11255 (Part-2)	Not Detectable
	13. Oxides of Nitrogen (NO <sub>2</sub> )	IS 11255 (Part-7)	20.4
			Not Specified



*[Signature]*  
29/12/16  
Authorized Signatory  
Quality Manager - Dr. Quality Manager

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## TEST REPORT

Ref.No. ECL/TR/16-17/705(f) Dt : 27.01.2017 Your PO No. ECO/BHR/SHIVA TEST HOUSE /W.O./RS/2016 Dt : 19.04.2016			
[a]	Name and address of the Customer	ECO Cement Ltd. Vill.: Mahmoodganj At : Kulharia Durgawati Dist.: Bhabua (Kaimur)	
[b]	Report to be submitted to	Director	
[c]	Details of Sample	Monitoring of Stack Emission	
[d]	Sample Collected by	SHIVA TEST HOUSE on 19.01.17	
[e]	No. & Type of Container	Thimble & Glass Impinger	
[f]	Items required to be tested	As per request	
[g]	Whether any specific Method of Test has been suggested by the party	No	
[h]	Date of receiving the sample	20.01.17	
<b>Parameters</b>		<b>Method of Test</b>	<b>Results</b>
1.	Stack Connected to		Bag House attached with Cement Mill
2.	Height of Stack (as reported)		33 m.
3.	Dia of Stack at Top (as reported)		1.2 m.
4.	Draft		ID Fan
5.	Material of Construction		M.S.
6.	Ambient Temperature, °C		18.0
7.	Flue Gas Temperature, °C		55.0
8.	Velocity, m/sec.	IS 11255 (Part-3)	8.4
9.	Volumetric Flow Rate, NM <sup>3</sup> /hr.		31057.0
10.	Sampling Point		21 m.
		<b>Concentration (mg / NM<sup>3</sup>)</b>	<b>Limit as per E (P) Rules</b>
11.	Particulate Matter (P.M.)	IS 11255 (Part-1)	42.3 50.0 mg / NM <sup>3</sup>
12.	Sulphur Dioxide (SO <sub>2</sub> )	IS 11255 (Part-2)	Not Detectable Not Specified
13.	Oxides of Nitrogen (NO <sub>2</sub> )	IS 11255 (Part-7)	16.6 Not Specified



Authorized Signatory

Quality Manager / Dy. Quality Manager

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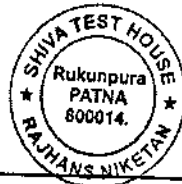


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## TEST REPORT

Ref.No. ECL/TR/16-17/756(f) Dt : 17.02.2017 Your PO No. ECO/BHR/SHIVA TEST HOUSE /W.O./RS/2016 Dt : 19.04.2016				
[a]	Name and address of the Customer	ECO Cement Ltd. Vill.: Mahmoodganj At : Kulharia Durgawati Dist.: Bhabua (Kaimur)		
[b]	Report to be submitted to	Director		
[c]	Details of Sample	Monitoring of Stack Emission		
[d]	Sample Collected by	SHIVA TEST HOUSE on 11.02.17		
[e]	No. & Type of Container	Thimble & Glass Impinger		
[f]	Items required to be tested	As per request		
[g]	Whether any specific Method of Test has been suggested by the party	No		
[h]	Date of receiving the sample	12.02.17		
<b>Parameters</b>		<b>Method of Test</b>	<b>Results</b>	
1.	Stack Connected to		Bag House attached with Cement Mill	
2.	Height of Stack (as reported)		33 m.	
3.	Dia of Stack at Top (as reported)		1.2 m.	
4.	Draft		ID Fan	
5.	Material of Construction		M.S.	
6.	Ambient Temperature, °C		24.0	
7.	Flue Gas Temperature, °C		50.0	
8.	Velocity, m/sec.		IS 11255 (Part-3)	7.8
9.	Volumetric Flow Rate, NM <sup>3</sup> /hr.			29285.0
10.	Sampling Point			21 m.
		<b>Concentration (mg / NM<sup>3</sup>)</b>	<b>Limit as per E (P) Rules</b>	
11.	Particulate Matter (P.M.)	IS 11255 (Part-1)	41.9	50.0 mg / NM <sup>3</sup>
12.	Sulphur Dioxide (SO <sub>2</sub> )	IS 11255 (Part-2)	Not Detectable	Not Specified
13.	Oxides of Nitrogen (NO <sub>2</sub> )	IS 11255 (Part-7)	14.6	Not Specified



*[Signature]*

Authorized Signatory  
Quality Manager / Dy. Quality Manager

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## TEST REPORT

Ref.No. ECL/TR/16-17/829(f) Dt : 22.03.2017 Your PO No. ECO/BHR/SHIVA TEST HOUSE /W.O./RS/2016 Dt : 19.04.2016				
[a]	Name and address of the Customer	ECO Cement Ltd. Vill.: Mahmoodganj At : Kulharia Durgawati Dist.: Bhabua (Kaimur)		
[b]	Report to be submitted to	Director		
[c]	Details of Sample	Monitoring of Stack Emission		
[d]	Sample Collected by	SHIVA TEST HOUSE on 03.03.17		
[e]	No. & Type of Container	Thimble & Glass Impinger		
[f]	Items required to be tested	As per request		
[g]	Whether any specific Method of Test has been suggested by the party	No		
[h]	Date of receiving the sample	04.03.17		
<b>Parameters</b>		<b>Method of Test</b>	<b>Results</b>	
1.	Stack Connected to		Bag House attached with Cement Mill	
2.	Height of Stack (as reported)		33 m.	
3.	Dia of Stack at Top (as reported)		1.2 m.	
4.	Draft		ID Fan	
5.	Material of Construction		M.S.	
6.	Ambient Temperature, °C		30.0	
7.	Flue Gas Temperature, °C		48.0	
8.	Velocity, m/sec.	IS 11255 (Part-3)	9.1	
9.	Volumetric Flow Rate, NM <sup>3</sup> /hr.		34379.0	
10.	Sampling Point		21 m.	
		<b>Concentration ( mg / NM<sup>3</sup> )</b>	<b>Limit as per E (P) Rules</b>	
11.	Particulate Matter (P.M.)	IS 11255 (Part-1)	44.2	50.0 mg / NM <sup>3</sup>
12.	Sulphur Dioxide (SO <sub>2</sub> )	IS 11255 (Part-2)	Not Detectable	Not Specified
13.	Oxides of Nitrogen (NO <sub>2</sub> )	IS 11255 (Part-7)	13.1	Not Specified



  
Authorized Signatory  
Quality Manager / Dy. Quality Manager

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# SHIVA TEST HOUSE

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## TEST REPORT

Ref.No. ECL/TR/16-17/117(e) Dt : 17.05.2016 Your PO No. ECO/BHR/SHIVA TEST HOUSE/W.O./RS/2016 Dt : 19.04.2016			
[a]	Name and address of the Customer	ECO Cement Ltd. Vill.: Mahmoodganj At : Kulharia Durgawati Dist.: Bhabua (Kaimur)	
[b]	Report to be submitted to	Director	
[c]	Details of Sample	Monitoring of Stack Emission	
[d]	Sample Collected by	SHIVA TEST HOUSE on 11.04.16	
[e]	No. & Type of Container	Thimble & Glass Impinger	
[f]	Items required to be tested	As per request	
[g]	Whether any specific Method of Test has been suggested by the party	No	
[h]	Date of receiving the sample	12.04.16	
	<b>Parameters</b>	<b>Method of Test</b>	<b>Results</b>
1.	Stack Connected to		Bag House of flyash unloader
2.	Height of Stack (as reported)		30 m.
3.	Dia of Stack at Top (as reported)		1.05 m.
4.	Draft		ID Fan
5.	Material of Construction		M.S.
6.	Ambient Temperature, °C		33.0
7.	Flue Gas Temperature, °C		53.0
8.	Velocity, m/sec.	IS 11255 (Part-3)	7.7
9.	Volumetric Flow Rate, NM <sup>3</sup> /hr.		21930.1
10.	Sampling Point		14 m.
			<b>Concentration (mg / NM<sup>3</sup>)</b>
11.	Particulate Matter (P.M.)	IS 11255 (Part-1)	<b>42.8</b>
12.	Sulphur Dioxide (SO <sub>2</sub> )	IS 11255 (Part-2)	<b>Not Detectable</b>
13.	Oxides of Nitrogen (NO <sub>2</sub> )	IS 11255 (Part-7)	<b>16.4</b>
			<b>Limit as per E (P) Rules</b>
			50.0 mg / NM <sup>3</sup>
			Not Specified
			Not Specified



*[Signature]*  
13/5/16  
Authorized Signatory  
Quality Manager / Dy. Quality Manager

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2. The test results are valid only for the purpose stated above.  
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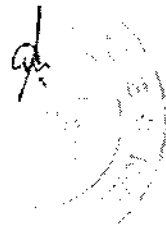


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## TEST REPORT

Ref.No. ECL/TR/16-17/210(e) Dt: 02.07.2016 Your PO No. ECO/BHR/SHIVA TEST HOUSE AV.O./RS/2016 Dt: 19.04.2016				
[a]	Name and address of the Customer	ECO Cement Ltd. Vill.: Mahmoodganj At : Kulharia Durgawati Dist.: Bhabua (Kaimur)		
[b]	Report to be submitted to	Director		
[c]	Details of Sample	Monitoring of Stack Emission		
[d]	Sample Collected by	SHIVA TEST HOUSE on 14.06.16		
[e]	No. & Type of Container	Thimble & Glass Impinger		
[f]	Items required to be tested	As per request		
[g]	Whether any specific Method of Test has been suggested by the party	No		
[h]	Date of receiving the sample	15.06.16		
	<b>Parameters</b>	<b>Method of Test</b>	<b>Results</b>	
1.	Stack Connected to	"	Bag House of flyash unloader	
2.	Height of Stack (as reported)		30 m.	
3.	Dia of Stack at Top (as reported)		1.05 m.	
4.	Draft		ID Fan	
5.	Material of Construction		M.S.	
6.	Ambient Temperature, °C		41.0	
7.	Flue Gas Temperature, °C		60.0	
8.	Velocity, m/sec.		IS 11255 (Part-3)	10.2
9.	Volumetric Flow Rate, NM <sup>3</sup> /hr.			28439.6
10.	Sampling Point			14 m.
			<b>Concentration (mg / NM<sup>3</sup>)</b>	
			<b>Limit as per E (P) Rules</b>	
11.	Particulate Matter (P.M.)	IS 11255 (Part-1)	47.1	50.0 mg / NM <sup>3</sup>
12.	Sulphur Dioxide (SO <sub>2</sub> )	IS 11255 (Part-2)	Not Detectable	Not Specified
13.	Oxides of Nitrogen (NO <sub>x</sub> )	IS 11255 (Part-7)	10.2	Not Specified



*[Signature]*  
02/7/16  
Authorized Signatory  
Quality Manager / Dy. Quality Manager

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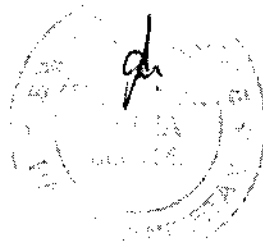


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## TEST REPORT

Ref.No. ECL/TR/16-17/270(e) Dt : 01.08.2016 Your PO No. ECO/BHR/SHIVA TEST HOUSE W.O./RS/2016 Dt : 19.04.2016			
[a]	Name and address of the Customer	ECO Cement Ltd. Vill.: Mahmoodganj At : Kulharia Durgawati Dist.: Bhabua (Kaimur)	
[b]	Report to be submitted to	Director	
[c]	Details of Sample	Monitoring of Stack Emission	
[d]	Sample Collected by	SHIVA TEST HOUSE on 17.07.16	
[e]	No. & Type of Container	Thimble & Glass Impinger	
[f]	Items required to be tested	As per request	
[g]	Whether any specific Method of Test has been suggested by the party	No	
[h]	Date of receiving the sample	18.07.16	
	<b>Parameters</b>	<b>Method of Test</b>	<b>Results</b>
1.	Stack Connected to		Bag House of flyash unloader
2.	Height of Stack (as reported)		30 m.
3.	Dia of Stack at Top (as reported)		1.05 m.
4.	Draft		ID Fan
5.	Material of Construction		M.S.
6.	Ambient Temperature, °C		38.0
7.	Flue Gas Temperature, °C		56.0
8.	Velocity, m/sec.	IS 11255 (Part-3)	8.4
9.	Volumetric Flow Rate, NM <sup>3</sup> /hr.		23705.6
10.	Sampling Point		14 m.
			<b>Concentration (mg / NM<sup>3</sup>)</b>
			<b>Limit as per E (P) Rules</b>
11.	Particulate Matter (P.M.)	IS 11255 (Part-1)	43.8
12.	Sulphur Dioxide (SO <sub>2</sub> )	IS 11255 (Part-2)	Not Detectable
13.	Oxides of Nitrogen (NO <sub>2</sub> )	IS 11255 (Part-7)	15.0



*[Signature]*  
01/08/16  
Authorized Signatory  
Quality Manager D. Quality Manager

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## TEST REPORT

Ref.No. ECL/TR/16-17/310(e) Dt. 02.09.2016 Your PO No. ECO/BHR/SHIVA TEST HOUSE W.O./RS/2016 Dt. 19.04.2016				
[a]	Name and address of the Customer	ECO Cement Ltd. Vill.: Mahmoodganj At : Kulharia Durgawati Dist.: Bhabua (Kaimur)		
[b]	Report to be submitted to	Director		
[c]	Details of Sample	Monitoring of Stack Emission		
[d]	Sample Collected by	SHIVA TEST HOUSE on 12.08.16		
[e]	No. & Type of Container	Thimble & Glass Impinger		
[f]	Items required to be tested	As per request		
[g]	Whether any specific Method of Test has been suggested by the party	No		
[h]	Date of receiving the sample	13.08.16		
	<b>Parameters</b>	<b>Method of Test</b>	<b>Results</b>	
1.	Stack Connected to	"	Bag House of flyash unloader	
2.	Height of Stack (as reported)		30 m.	
3.	Dia of Stack at Top (as reported)		1.05 m.	
4.	Draft		ID Fan	
5.	Material of Construction		M.S.	
6.	Ambient Temperature, °C		35.0	
7.	Flue Gas Temperature, °C		52.0	
8.	Velocity, m/sec.	IS 11255 (Part-3)	6.9	
9.	Volumetric Flow Rate, NM <sup>3</sup> /hr.		19712.1	
10.	Sampling Point		14 m.	
			<b>Concentration ( mg / NM<sup>3</sup> )</b>	
			<b>Limit as per E (P) Rules</b>	
11.	Particulate Matter (P.M.)	IS 11255 (Part-1)	46.2	50.0 mg / NM <sup>3</sup>
12.	Sulphur Dioxide (SO <sub>2</sub> )	IS 11255 (Part-2)	Not Detectable	Not Specified
13.	Oxides of Nitrogen (NO <sub>2</sub> )	IS 11255 (Part-7)	20.4	Not Specified

*(Faint handwritten notes and signatures)*

*(Signature)*  
02/09/16  
Authorized Signatory  
Quality Manager / Dy. Quality Manager

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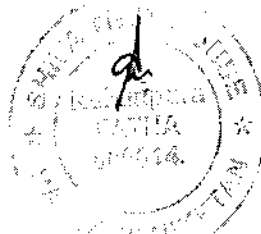


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## TEST REPORT

Ref.No. ECL/TR/16-17/366(e) Dt : 08.10.2016 Your PO No. ECO/BHR/SHIVA TEST HOUSE W.O./RS/2016 Dt : 19.04.2016				
[a]	Name and address of the Customer	ECO Cement Ltd. Vill.: Mahmoodganj At : Kulharia Durgawati Dist.: Bhabua (Kaimur)		
[b]	Report to be submitted to	Director		
[c]	Details of Sample	Monitoring of Stack Emission		
[d]	Sample Collected by	SHIVA TEST HOUSE on 23.09.16		
[e]	No. & Type of Container	Thimble & Glass Impinger		
[f]	Items required to be tested	As per request		
[g]	Whether any specific Method of Test has been suggested by the party	No		
[h]	Date of receiving the sample	24.09.16		
	<b>Parameters</b>	<b>Method of Test</b>	<b>Results</b>	
1.	Stack Connected to		Bag House of flyash unloader	
2.	Height of Stack (as reported)		30 m.	
3.	Dia of Stack at Top (as reported)		1.05 m.	
4.	Draft		ID Fan	
5.	Material of Construction		M.S.	
6.	Ambient Temperature, °C		32.0	
7.	Flue Gas Temperature, °C		55.0	
8.	Velocity, m/sec.	IS 11255 (Part-3)	7.8	
9.	Volumetric Flow Rate, NM <sup>3</sup> /hr.		22079.4	
10.	Sampling Point		14 m.	
			<b>Concentration (mg / NM<sup>3</sup>)</b>	
			<b>Limit as per E (P) Rules</b>	
11.	Particulate Matter (P.M.)	IS 11255 (Part-1)	44.7	50.0 mg / NM <sup>3</sup>
12.	Sulphur Dioxide (SO <sub>2</sub> )	IS 11255 (Part-2)	Not Detectable	Not Specified
13.	Oxides of Nitrogen (NO <sub>2</sub> )	IS 11255 (Part-7)	11.2	Not Specified



*Handwritten Signature*  
08/10/16  
Authorized Signatory  
Quality Manager / Dy. Quality Manager

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## TEST REPORT

Ref.No. ECL/TR/16-17/411(e) Dt: 31.10.2016 Your PO No. ECO/BHR/SHIVA TEST HOUSE/B.O./RS/2016 Dt: 19.04.2016			
[a]	Name and address of the Customer	ECO Cement Ltd. Vill.: Mahmoodganj At : Kulharia Durgawati Dist.: Bhabua (Kaimur)	
[b]	Report to be submitted to	Director	
[c]	Details of Sample	Monitoring of Stack Emission	
[d]	Sample Collected by	SHIVA TEST HOUSE on 17.10.16	
[e]	No. & Type of Container	Thimble & Glass Impinger	
[f]	Items required to be tested	As per request	
[g]	Whether any specific Method of Test has been suggested by the party	No	
[h]	Date of receiving the sample	18.10.16	
	<b>Parameters</b>	<b>Method of Test</b>	<b>Results</b>
1.	Stack Connected to		Bag House of flyash unloader
2.	Height of Stack (as reported)		30 m.
3.	Dia of Stack at Top (as reported)		1.05 m.
4.	Draft		ID Fan
5.	Material of Construction		M.S.
6.	Ambient Temperature, °C		30.0
7.	Flue Gas Temperature, °C		51.0
8.	Velocity, m/sec.	IS 11255 (Part-3)	6.2
9.	Volumetric Flow Rate, NM <sup>3</sup> /hr.		17767.0
10.	Sampling Point		14 m.
			<b>Concentration ( mg / NM<sup>3</sup> )</b>
11.	Particulate Matter (P.M.)	IS 11255 (Part-1)	<b>41.8</b>
12.	Sulphur Dioxide (SO <sub>2</sub> )	IS 11255 (Part-2)	<b>Not Detectable</b>
13.	Oxides of Nitrogen (NO <sub>2</sub> )	IS 11255 (Part-7)	<b>14.6</b>
			<b>Limit as per E (P) Rules</b>
			50.0 mg / NM <sup>3</sup>
			Not Specified
			Not Specified



*[Signature]*  
 31/10/16  
 Authorized Signatory  
 Quality Manager / Dy. Quality Manager

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## TEST REPORT

Ref.No. ECL/TR/16-17/518(e) Dt : 05.12.2016 Your PO No. ECO/BHR/SHIVA TEST HOUSE W.O./RS/2016 Dt : 19.04.2016

[a] Name and address of the Customer	ECO Cement Ltd. Vill.: Mahmoodganj At : Kulharia Durgawati Dist.: Bhabua (Kaimur)
[b] Report to be submitted to	Director
[c] Details of Sample	Monitoring of Stack Emission
[d] Sample Collected by	SHIVA TEST HOUSE on 11.11.16
[e] No. & Type of Container	Thimble & Glass Impinger
[f] Items required to be tested	As per request
[g] Whether any specific Method of Test has been suggested by the party	No
[h] Date of receiving the sample	12.11.16

Parameters	Method of Test	Results	
1. Stack Connected to	IS 11255 (Part-3)	Bag House of flyash unloader	
2. Height of Stack (as reported)		30 m.	
3. Dia of Stack at Top (as reported)		1.05 m.	
4. Draft		ID Fan	
5. Material of Construction		M.S.	
6. Ambient Temperature, °C		26.0	
7. Flue Gas Temperature, °C		56.0	
8. Velocity, m/sec.		9.6	
9. Volumetric Flow Rate, NM <sup>3</sup> /hr.		27092.1	
10. Sampling Point		14 m.	
	Concentration (mg / NM <sup>3</sup> )	Limit as per E (P) Rules	
11. Particulate Matter (P.M.)	IS 11255 (Part-1)	48.6	50.0 mg / NM <sup>3</sup>
12. Sulphur Dioxide (SO <sub>2</sub> )	IS 11255 (Part-2)	Not Detectable	Not Specified
13. Oxides of Nitrogen (NO <sub>2</sub> )	IS 11255 (Part-7)	26.4	Not Specified



*[Signature]*  
05/12/16

Authorized Signatory  
Quality Manager / Dy. Quality Manager

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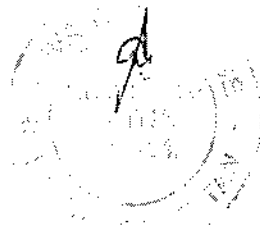


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## TEST REPORT

Ref.No. ECL/TR/16-17/617(e) Dt : 30.12.2016 Your PO No. ECO/BHR/SHIVA TEST HOUSE W.O./RS/2016 Dt : 19.04.2016			
[a]	Name and address of the Customer	ECO Cement Ltd. Vill.: Mahmoodganj At : Kulharia Durgawati Dist.: Bhabua (Kaimur)	
[b]	Report to be submitted to	Director	
[c]	Details of Sample	Monitoring of Stack Emission	
[d]	Sample Collected by	SHIVA TEST HOUSE on 15.12.16	
[e]	No. & Type of Container	Thimble & Glass Impinger	
[f]	Items required to be tested	As per request	
[g]	Whether any specific Method of Test has been suggested by the party	No	
[h]	Date of receiving the sample	16.12.16	
	<b>Parameters</b>	<b>Method of Test</b>	<b>Results</b>
	1. Stack Connected to		Bag House of flyash unloader
	2. Height of Stack (as reported)		30 m.
	3. Dia of Stack at Top (as reported)		1.05 m.
	4. Draft		ID Fan
	5. Material of Construction		M.S.
	6. Ambient Temperature, °C		20.0
	7. Flue Gas Temperature, °C		50.0
	8. Velocity, m/sec.	IS 11255 (Part-3)	7.4
	9. Volumetric Flow Rate, NM <sup>3</sup> /hr.		21271.4
	10. Sampling Point		14 m.
			<b>Concentration (mg / NM<sup>3</sup>)</b>
			<b>Limit as per E (P) Rules</b>
	11. Particulate Matter (P.M.)	IS 11255 (Part-1)	42.0
	12. Sulphur Dioxide (SO <sub>2</sub> )	IS 11255 (Part-2)	Not Detectable
	13. Oxides of Nitrogen (NO <sub>2</sub> )	IS 11255 (Part-7)	13.8
			50.0 mg / NM <sup>3</sup>
			Not Specified
			Not Specified



*Handwritten Signature*  
30/12/16  
Authorized Signatory  
Quality Manager / Dr. Quality Manager

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Laboratory Address :-  
 01<sup>ST</sup> FLOOR, RAJHANS NIKETAN,  
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 BAILEY ROAD,  
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# SHIVA TEST HOUSE

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## TEST REPORT

Ref.No. <i>ECL/TR/16-17/705(e)</i> Dt : <i>27.01.2017</i> Your PO No. <i>ECO/BHR/SHIVA TEST HOUSE /W.O./RS/2016</i> Dt : <i>19.04.2016</i>			
[a]	Name and address of the Customer	ECO Cement Ltd. Vill.: Mahmoodganj At : Kulharia Durgawati Dist.: Bhabua (Kaimur)	
[b]	Report to be submitted to	Director	
[c]	Details of Sample	Monitoring of Stack Emission	
[d]	Sample Collected by	SHIVA TEST HOUSE on 19.01.17	
[e]	No. & Type of Container	Thimble & Glass Impinger	
[f]	Items required to be tested	As per request	
[g]	Whether any specific Method of Test has been suggested by the party	No	
[h]	Date of receiving the sample	20.01.17	
	<b>Parameters</b>	<b>Method of Test</b>	<b>Results</b>
	1. Stack Connected to		Bag House of flyash unloader
	2. Height of Stack (as reported)		30 m.
	3. Dia of Stack at Top (as reported)		1.05 m.
	4. Draft		ID Fan
	5. Material of Construction		M.S.
	6. Ambient Temperature, °C		18.0
	7. Flue Gas Temperature, °C		53.0
	8. Velocity, m/sec.	IS 11255 (Part-3)	8.6
	9. Volumetric Flow Rate, NM <sup>3</sup> /hr.		24493.0
	10. Sampling Point		14 m.
			<b>Concentration (mg / NM<sup>3</sup>)</b>
			<b>Limit as per E (P) Rules</b>
	11. Particulate Matter (P.M.)	IS 11255 (Part-1)	44.6
	12. Sulphur Dioxide (SO <sub>2</sub> )	IS 11255 (Part-2)	Not Detectable
	13. Oxides of Nitrogen (NO <sub>2</sub> )	IS 11255 (Part-7)	11.2
			Not Specified
			Not Specified



*[Signature]*

Authorized Signatory

Quality Manager / Dy. Quality Manager

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## TEST REPORT

Ref.No. <i>ECL/TR/16-17/756(e)</i> Dt : <b>17.02.2017</b> Your PO No. <i>ECO/BHR/SHIVA TEST HOUSE /W.O./RS/2016</i> Dt : <b>19.04.2016</b>			
[a]	Name and address of the Customer	ECO Cement Ltd. Vill.: Mahmoodganj At : Kulharia Durgawati Dist.: Bhabua (Kaimur)	
[b]	Report to be submitted to	Director	
[c]	Details of Sample	Monitoring of Stack Emission	
[d]	Sample Collected by	SHIVA TEST HOUSE on 11.02.17	
[e]	No. & Type of Container	Thimble & Glass Impinger	
[f]	Items required to be tested	As per request	
[g]	Whether any specific Method of Test has been suggested by the party	No	
[h]	Date of receiving the sample	12.02.17	
	<b>Parameters</b>	<b>Method of Test</b>	<b>Results</b>
	1. Stack Connected to		Bag House of flyash unloader
	2. Height of Stack (as reported)		30 m.
	3. Dia of Stack at Top (as reported)		1.05 m.
	4. Draft		ID Fan
	5. Material of Construction		M.S.
	6. Ambient Temperature, °C		24.0
	7. Flue Gas Temperature, °C		51.0
	8. Velocity, m/sec.	IS 11255 (Part-3)	6.9
	9. Volumetric Flow Rate, NM <sup>3</sup> /hr.		19773.0
	10. Sampling Point		14 m.
			<b>Concentration (mg / NM<sup>3</sup>)</b>
			<b>Limit as per E (P) Rules</b>
	11. Particulate Matter (P.M.)	IS 11255 (Part-1)	<b>38.4</b> 50.0 mg / NM <sup>3</sup>
	12. Sulphur Dioxide (SO <sub>2</sub> )	IS 11255 (Part-2)	<b>Not Detectable</b> Not Specified
	13. Oxides of Nitrogen (NO <sub>2</sub> )	IS 11255 (Part-7)	<b>10.8</b> Not Specified



*[Signature]*

Authorized Signatory  
Quality Manager / Dy. Quality Manager

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## TEST REPORT

Ref.No. ECL/TR/16-17/829(e) Dt : 22.03.2017 Your PO No. ECO/BHR/SHIVA TEST HOUSE /W.O./RS/2016 Dt : 19.04.2016

[a] Name and address of the Customer	ECO Cement Ltd. Vill.: Mahmoodganj At : Kulharia Durgawati Dist.: Bhabua (Kaimur)			
[b] Report to be submitted to	Director			
[c] Details of Sample	Monitoring of Stack Emission			
[d] Sample Collected by	SHIVA TEST HOUSE on 03.03.17			
[e] No. & Type of Container	Thimble & Glass Impinger			
[f] Items required to be tested	As per request			
[g] Whether any specific Method of Test has been suggested by the party	No			
[h] Date of receiving the sample	04.03.17			
Parameters	Method of Test	Results		
1. Stack Connected to		Bag House of flyash unloader		
2. Height of Stack (as reported)		30 m.		
3. Dia of Stack at Top (as reported)		1.05 m.		
4. Draft		ID Fan		
5. Material of Construction		M.S.		
6. Ambient Temperature, °C		30.0		
7. Flue Gas Temperature, °C		49.0		
8. Velocity, m/sec.		IS 11255 (Part-3)	6.6	
9. Volumetric Flow Rate, NM <sup>3</sup> /hr.			19031.0	
10. Sampling Point			14 m.	
		Concentration (mg / NM <sup>3</sup> )	Limit as per E (P) Rules	
11. Particulate Matter (P.M.)	IS 11255 (Part-1)	35.0	50.0 mg / NM <sup>3</sup>	
12. Sulphur Dioxide (SO <sub>2</sub> )	IS 11255 (Part-2)	Not Detectable	Not Specified	
13. Oxides of Nitrogen (NO <sub>2</sub> )	IS 11255 (Part-7)	12.8	Not Specified	



*[Signature]*

Authorized Signatory  
Quality Manager / Dy. Quality Manager

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## TEST REPORT

Ref.No. ECL/TR/16-17/117(c) Dt: 17.05.2016 Your PO No. ECO/BHR/SHIVA TEST HOUSE/W.O./RS/2016 Dt: 19.04.2016

[a] Name and address of the Customer	ECO Cement Ltd. Vill.: Mahmoodganj At : Kulharia Durgawati Dist.: Bhabua (Kaimur)
[b] Report to be submitted to	Director
[c] Details of Sample	Monitoring of Stack Emission
[d] Sample Collected by	SHIVA TEST HOUSE on 11.04.16
[e] No. & Type of Container	Thimble & Glass Impinger
[f] Items required to be tested	As per request
[g] Whether any specific Method of Test has been suggested by the party	No
[h] Date of receiving the sample	12.04.16

Parameters	Method of Test	Results	
1. Stack Connected to		Bag House of Clinker & gypsum unloader Section	
2. Height of Stack (as reported)		30 m.	
3. Dia of Stack at Top (as reported)		0.75 m.	
4. Draft		ID Fan	
5. Material of Construction		M.S.	
6. Ambient Temperature, °C		33.0	
7. Flue Gas Temperature, °C		48.0	
8. Velocity, m/sec.	IS 11255 (Part-3)	5.6	
9. Volumetric Flow Rate, NM <sup>3</sup> /hr.		8264.1	
10. Sampling Point		11 m.	
		Concentration (mg / NM <sup>3</sup> )	Limit as per E (P) Rules
11. Particulate Matter (P.M.)	IS 11255 (Part-1)	38.4	50.0 mg / NM <sup>3</sup>
12. Sulphur Dioxide (SO <sub>2</sub> )	IS 11255 (Part-2)	Not Detectable	Not Specified
13. Oxides of Nitrogen (NO <sub>2</sub> )	IS 11255 (Part-7)	14.8	Not Specified

*[Signature]*  
17/5/16

Authorized Signatory  
Quality Manager / D. Quality Manager

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## TEST REPORT

Ref.No. ECL/TR/16-17/148(c) Dt: 31.05.2016 Your PO No. ECO/BHR/SHIVA TEST HOUSE W.O./RS/2016 Dt: 19.04.2016				
[a]	Name and address of the Customer	ECO Cement Ltd. Vill.: Mahmoodganj At : Kulharia Durgawati Dist.: Bhabua (Kaimur)		
[b]	Report to be submitted to	Director		
[c]	Details of Sample	Monitoring of Stack Emission		
[d]	Sample Collected by	SHIVA TEST HOUSE on 09.05.16		
[e]	No. & Type of Container	Thimble & Glass Impinger		
[f]	Items required to be tested	As per request		
[g]	Whether any specific Method of Test has been suggested by the party	No		
[h]	Date of receiving the sample	10.05.16		
	<b>Parameters</b>	<b>Method of Test</b>	<b>Results</b>	
1.	Stack Connected to		Bag House of Clinker & gypsum unloader Section	
2.	Height of Stack (as reported)		30 m.	
3.	Dia of Stack at Top (as reported)		0.75 m.	
4.	Draft		ID Fan	
5.	Material of Construction		M.S.	
6.	Ambient Temperature, °C		37.0	
7.	Flue Gas Temperature, °C		51.0	
8.	Velocity, m/sec.	IS 11255 (Part-3)	7.2	
9.	Volumetric Flow Rate, NM <sup>3</sup> /hr.		10526.9	
10.	Sampling Point		11 m.	
			<b>Concentration (mg / NM<sup>3</sup>)</b>	
			<b>Limit as per E (P) Rules</b>	
11.	Particulate Matter (P.M.)	IS 11255 (Part-1)	42.6	50.0 mg / NM <sup>3</sup>
12.	Sulphur Dioxide (SO <sub>2</sub> )	IS 11255 (Part-2)	Not Detectable	Not Specified
13.	Oxides of Nitrogen (NO <sub>2</sub> )	IS 11255 (Part-7)	16.4	Not Specified



*[Signature]*  
31/5/16  
Authorized Signatory  
Quality Manager / Dy. Quality Manager

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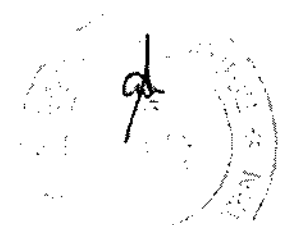


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## TEST REPORT

Ref.No. <i>ECL/TR/16-17/210(c)</i> Dt: <i>02.07.2016</i> Your PO No. <i>ECO/BHR/SHIVA TEST HOUSE W.O./RS/2016</i> Dt: <i>19.04.2016</i>			
[a]	Name and address of the Customer	ECO Cement Ltd. Vill.: Mahmoodganj At : Kulharia Durgawati Dist: Bhabua (Kaimur)	
[b]	Report to be submitted to	Director	
[c]	Details of Sample	Monitoring of Stack Emission	
[d]	Sample Collected by	SHIVA TEST HOUSE on 14.06.16	
[e]	No. & Type of Container	Thimble & Glass Impinger	
[f]	Items required to be tested	As per request	
[g]	Whether any specific Method of Test has been suggested by the party	No "	
[h]	Date of receiving the sample	15.06.16	
Parameters		Method of Test	Results
1.	Stack Connected to		Bag House of Clinker & gypsum unloader Section
2.	Height of Stack (as reported)		30 m.
3.	Dia of Stack at Top (as reported)		0.75 m.
4.	Draft		ID Fan
5.	Material of Construction		M.S.
6.	Ambient Temperature, °C		41.0
7.	Flue Gas Temperature, °C		57.0
8.	Velocity, m/sec.	IS 11255 (Part-3)	6.4
9.	Volumetric Flow Rate, NM <sup>3</sup> /hr.		9187.1
10.	Sampling Point		11 m.
			Concentration (mg / NM <sup>3</sup> )
11.	Particulate Matter (P.M.)	IS 11255 (Part-1)	39.7
12.	Sulphur Dioxide (SO <sub>2</sub> )	IS 11255 (Part-2)	Not Detectable
13.	Oxides of Nitrogen (NO <sub>2</sub> )	IS 11255 (Part-7)	11.3
			Limit as per E (P) Rules
			50.0 mg / NM <sup>3</sup>
			Not Specified
			Not Specified



*[Signature]*  
02/07/16  
Authorized Signatory  
Quality Manager / Dy. Quality Manager

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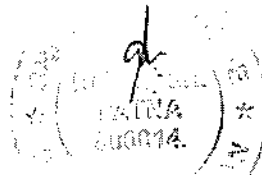


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## TEST REPORT

Ref.No. ECL/IR/16-17/270(c) Dt: 01.08.2016 Your PO No. ECO/BHR/SHIVA TEST HOUSE W.O./RS/2016 Dt: 19.04.2016				
[a]	Name and address of the Customer	ECO Cement Ltd. Vill.: Mahmoodganj At : Kulharia Durgawati Dist.: Bhabua (Kaimur)		
[b]	Report to be submitted to	Director		
[c]	Details of Sample	Monitoring of Stack Emission		
[d]	Sample Collected by	SHIVA TEST HOUSE on 17.07.16		
[e]	No. & Type of Container	Thimble & Glass Impinger		
[f]	Items required to be tested	As per request		
[g]	Whether any specific Method of Test has been suggested by the party	No		
[h]	Date of receiving the sample	18.07.16		
Parameters		Method of Test	Results	
1.	Stack Connected to		Bag House of Clinker & gypsum unloader Section	
2.	Height of Stack (as reported)		30 m.	
3.	Dia of Stack at Top (as reported)		0.75 m.	
4.	Draft		ID Fan	
5.	Material of Construction		M.S.	
6.	Ambient Temperature, °C		38.0	
7.	Flue Gas Temperature, °C		55.0	
8.	Velocity, m/sec.		IS 11255 (Part-3)	8.1
9.	Volumetric Flow Rate, NM <sup>3</sup> /hr.			11698.3
10.	Sampling Point			11 m.
		Concentration ( mg / NM <sup>3</sup> )	Limit as per E (P) Rules	
11.	Particulate Matter (P.M.)	IS 11255 (Part-1)	43.8 50.0 mg / NM <sup>3</sup>	
12.	Sulphur Dioxide (SO <sub>2</sub> )	IS 11255 (Part-2)	Not Detectable Not Specified	
13.	Oxides of Nitrogen (NO <sub>2</sub> )	IS 11255 (Part-7)	18.2 Not Specified	



*[Signature]*  
01/08/16  
Authorized Signatory  
Quality Manager / Dy. Quality Manager

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## TEST REPORT

Ref.No. ECI/TR/16-17/310(c) Dt : 02.09.2016 Your PO No. ECO/BHR/SHIVA TEST HOUSE /W.O./RS/2016 Dt : 19.04.2016				
[a]	Name and address of the Customer	ECO Cement Ltd. Vill.: Mahmoodganj At : Kulharia Durgawati Dist.: Bhabua (Kaimur)		
[b]	Report to be submitted to	Director		
[c]	Details of Sample	Monitoring of Stack Emission		
[d]	Sample Collected by	SHIVA TEST HOUSE on 12.08.16		
[e]	No. & Type of Container	Thimble & Glass Impinger		
[f]	Items required to be tested	As per request		
[g]	Whether any specific Method of Test has been suggested by the party	No		
[h]	Date of receiving the sample	13.08.16		
	<b>Parameters</b>	<b>Method of Test</b>	<b>Results</b>	
1.	Stack Connected to		Bag House of Clinker & gypsum unloader Section	
2.	Height of Stack (as reported)		30 m.	
3.	Dia of Stack at Top (as reported)		0.75 m.	
4.	Draft		ID Fan	
5.	Material of Construction		M.S.	
6.	Ambient Temperature, °C		35.0	
7.	Flue Gas Temperature, °C		53.0	
8.	Velocity, m/sec.	IS 11255 (Part-3)	5.1	
9.	Volumetric Flow Rate, NM <sup>3</sup> /hr.		7410.8	
10.	Sampling Point		11 m.	
			<b>Concentration ( mg / NM<sup>3</sup> )</b>	
			<b>Limit as per E (P) Rules</b>	
11.	Particulate Matter (P.M.)	IS 11255 (Part-1)	40.8	50.0 mg / NM <sup>3</sup>
12.	Sulphur Dioxide (SO <sub>2</sub> )	IS 11255 (Part-2)	Not Detectable	Not Specified
13.	Oxides of Nitrogen (NO <sub>2</sub> )	IS 11255 (Part-7)	15.0	Not Specified



*[Signature]*  
02/09/16  
Authorized Signatory  
Quality Manager / Dy. Quality Manager

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# SHIVA TEST HOUSE

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## TEST REPORT

Ref.No. ECL/TR/16-17/366(c) Dt : 08.10.2016 Your PO No. ECO/BHR/SHIVA TEST HOUSE /W.O./RS/2016 Dt : 19.04.2016				
[a]	Name and address of the Customer	ECO Cement Ltd. Vill.: Mahmoodganj At : Kulharia Durgawati Dist.: Bhabua (Kaimur)		
[b]	Report to be submitted to	Director		
[c]	Details of Sample	Monitoring of Stack Emission		
[d]	Sample Collected by	SHIVA TEST HOUSE on 23.09.16		
[e]	No. & Type of Container	Thimble & Glass Impinger		
[f]	Items required to be tested	As per request		
[g]	Whether any specific Method of Test has been suggested by the party	No		
[h]	Date of receiving the sample	24.09.16		
	<b>Parameters</b>	<b>Method of Test</b>	<b>Results</b>	
1.	Stack Connected to		Bag House of Clinker & gypsum unloader Section	
2.	Height of Stack (as reported)		30 m.	
3.	Dia of Stack at Top (as reported)		0.75 m.	
4.	Draft		ID Fan	
5.	Material of Construction		M.S.	
6.	Ambient Temperature, °C		32.0	
7.	Flue Gas Temperature, °C		50.0	
8.	Velocity, m/sec.	S 11255 (Part-3)	6.8	
9.	Volumetric Flow Rate, NM <sup>3</sup> /hr.		9972.8	
10.	Sampling Point		11 m.	
			<b>Concentration (mg / NM<sup>3</sup>)</b>	
			<b>Limit as per E (P) Rules</b>	
11.	Particulate Matter (P.M.)	S 11255 (Part-1)	44.6	50.0 mg / NM <sup>3</sup>
12.	Sulphur Dioxide (SO <sub>2</sub> )	S 11255 (Part-2)	Not Detectable	Not Specified
13.	Oxides of Nitrogen (NO <sub>x</sub> )	S 11255 (Part-7)	12.6	Not Specified

08/10/16  
Authorized Signatory  
Quality Manager / Dy. Quality Manager

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## TEST REPORT

Ref.No. *ECL/TR/16-17/411(c)* Dt: *31.10.2016* Your PO No. *ECO/BHR/SHIVA TEST HOUSE/A.O./RS/2016* Dt: *19.04.2016*

[a] Name and address of the Customer	ECO Cement Ltd. Vill.: Mahmoodganj At : Kulharia Durgawati Dist.: Bhabua (Kaimur)
[b] Report to be submitted to	Director
[c] Details of Sample	Monitoring of Stack Emission
[d] Sample Collected by	SHIVA TEST HOUSE on 17.10.16
[e] No. & Type of Container	Thimble & Glass Impinger
[f] Items required to be tested	As per request
[g] Whether any specific Method of Test has been suggested by the party	No
[h] Date of receiving the sample	18.10.16

Parameters	Method of Test	Results
1. Stack Connected to		Bag House of Clinker & gypsum unloader Section
2. Height of Stack (as reported)		30 m.
3. Dia of Stack at Top (as reported)		0.75 m.
4. Draft		ID Fan
5. Material of Construction		M.S.
6. Ambient Temperature, °C		30.0
7. Flue Gas Temperature, °C		52.0
8. Velocity, m/sec.	IS 11255 (Part-3)	6.2
9. Volumetric Flow Rate, NM <sup>3</sup> /hr.		9036.9
10. Sampling Point		11 m.
		Concentration (mg / NM <sup>3</sup> )
11. Particulate Matter (P.M.)	IS 11255 (Part-1)	34.6
12. Sulphur Dioxide (SO <sub>2</sub> )	IS 11255 (Part-2)	Not Detectable
13. Oxides of Nitrogen (NO <sub>2</sub> )	IS 11255 (Part-7)	10.2
		Limit as per E (P) Rules
		50.0 mg / NM <sup>3</sup>
		Not Specified
		Not Specified



*[Signature]*  
21/10/16  
Authorized Signatory  
Quality Manager / Dy. Quality Manager

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## TEST REPORT

Ref.No. ECL/TR/16-17/518(c) Dt : 05.12.2016 Your PO No. ECO/BHR/SHIVA TEST HOUSE/W.O./RS/2016 Dt : 19.04.2016

[a] Name and address of the Customer	ECO Cement Ltd. Vill.: Mahmoodganj At : Kulharia Durgawati Dist.: Bhabua (Kaimur)
[b] Report to be submitted to	Director
[c] Details of Sample	Monitoring of Stack Emission
[d] Sample Collected by	SHIVA TEST HOUSE on 11.11.16
[e] No. & Type of Container	Thimble & Glass Impinger
[f] Items required to be tested	As per request
[g] Whether any specific Method of Test has been suggested by the party	No
[h] Date of receiving the sample	12.11.16

Parameters	Method of Test	Results	
1. Stack Connected to		Bag House of Clinker & gypsum unloader Section	
2. Height of Stack (as reported)		30 m.	
3. Dia of Stack at Top (as reported)		0.75 m.	
4. Draft		ID Fan	
5. Material of Construction		M.S.	
6. Ambient Temperature, °C		26.0	
7. Flue Gas Temperature, °C		46.0	
8. Velocity, m/sec.	IS 11255 (Part-3)	7.7	
9. Volumetric Flow Rate, NM <sup>3</sup> /hr.		11434.3	
10. Sampling Point		11 m.	
		Concentration (mg / NM <sup>3</sup> )	Limit as per E (P) Rules
11. Particulate Matter (P.M.)	IS 11255 (Part-1)	46.4	50.0 mg / NM <sup>3</sup>
12. Sulphur Dioxide (SO <sub>2</sub> )	IS 11255 (Part-2)	Not Detectable	Not Specified
13. Oxides of Nitrogen (NO <sub>2</sub> )	IS 11255 (Part-7)	14.1	Not Specified

*[Signature]*  
05/12/16  
Authorized Signatory

Quality Manager / Dy. Quality Manager

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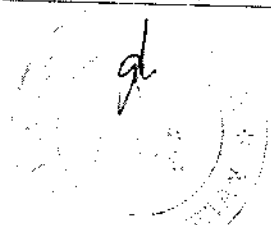


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## TEST REPORT

Ref.No. <i>ECL/TR/16-17/617(c)</i> Dt : <i>30.12.2016</i> Your PO No. <i>ECO/BHR/SHIVA TEST HOUSE AY.O./RS/2016</i> Dt : <i>19.04.2016</i>			
[a]	Name and address of the Customer	ECO Cement Ltd. Vill.: Mahmoodganj At : Kulharia Durgawati Dist.: Bhabua (Kaimur)	
[b]	Report to be submitted to	Director	
[c]	Details of Sample	Monitoring of Stack Emission	
[d]	Sample Collected by	SHIVA TEST HOUSE on 15.12.16	
[e]	No. & Type of Container	Thimble & Glass Impinger	
[f]	Items required to be tested	As per request	
[g]	Whether any specific Method of Test has been suggested by the party	No	
[h]	Date of receiving the sample	16.12.16	
Parameters		Method of Test	Results
1.	Stack Connected to		Bag House of Clinker & gypsum unloader Section
2.	Height of Stack (as reported)		30 m.
3.	Dia of Stack at Top (as reported)		0.75 m.
4.	Draft		ID Fan
5.	Material of Construction		M.S.
6.	Ambient Temperature, °C		20.0
7.	Flue Gas Temperature, °C		42.0
8.	Velocity, m/sec.	IS 11255 (Part-3)	7.1
9.	Volumetric Flow Rate, NM <sup>3</sup> /hr.		10677.2
10.	Sampling Point		11 m.
			Concentration (mg / NM <sup>3</sup> )
			Limit as per E (P) Rules
11.	Particulate Matter (P.M.)	IS 11255 (Part-1)	42.7
12.	Sulphur Dioxide (SO <sub>2</sub> )	IS 11255 (Part-2)	Not Detectable
13.	Oxides of Nitrogen (NO <sub>2</sub> )	IS 11255 (Part-7)	17.8
			Not Specified
			Not Specified



*[Signature]*  
30/12/16  
Authorized Signatory  
Quality Manager, Dy. Quality Manager

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## TEST REPORT

Ref.No. <i>ECL/TR/16-17/705(c)</i> Dt : <i>27.01.2017</i> Your PO No. <i>ECO/BHR/SHIVA TEST HOUSE /W.O./RS/2016</i> Dt : <i>19.04.2016</i>			
[a]	Name and address of the Customer	ECO Cement Ltd. Vill.: Mahmoodganj At : Kulharia Durgawati Dist.: Bhabua (Kaimur)	
[b]	Report to be submitted to	Director	
[c]	Details of Sample	Monitoring of Stack Emission	
[d]	Sample Collected by	SHIVA TEST HOUSE on 19.01.17	
[e]	No. & Type of Container	Thimble & Glass Impinger	
[f]	Items required to be tested	As per request	
[g]	Whether any specific Method of Test has been suggested by the party	No	
[h]	Date of receiving the sample	20.01.17	
	<b>Parameters</b>	<b>Method of Test</b>	<b>Results</b>
1.	Stack Connected to		Bag House of Clinker & gypsum unloader Section
2.	Height of Stack (as reported)		30 m.
3.	Dia of Stack at Top (as reported)		0.75 m.
4.	Draft		ID Fan
5.	Material of Construction		M.S.
6.	Ambient Temperature, °C		18.0
7.	Flue Gas Temperature, °C		45.0
8.	Velocity, m/sec.	IS 11255 (Part-3)	6.6
9.	Volumetric Flow Rate, NM <sup>3</sup> /hr.		9831.7
10.	Sampling Point		11 m.
			<b>Concentration (mg / NM<sup>3</sup>)</b>
			<b>Limit as per E (P) Rules</b>
11.	Particulate Matter (P.M.)	IS 11255 (Part-1)	39.4
12.	Sulphur Dioxide (SO <sub>2</sub> )	IS 11255 (Part-2)	Not Detectable
13.	Oxides of Nitrogen (NO <sub>2</sub> )	IS 11255 (Part-7)	15.0
			50.0 mg / NM <sup>3</sup>
			Not Specified
			Not Specified



*[Signature]*  
Authorized Signatory  
Quality Manager / Dy. Quality Manager

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## TEST REPORT

Ref.No. <i>ECL/TR/16-17/756(c)</i> Dt : <b>17.02.2017</b> Your PO No. <i>ECO/BHR/SHIVA TEST HOUSE /W.O./RS/2016</i> Dt : <b>19.04.2016</b>			
[a]	Name and address of the Customer	ECO Cement Ltd. Vill.: Mahmoodganj At : Kulharia Durgawati Dist.: Bhabua (Kaimur)	
[b]	Report to be submitted to	Director	
[c]	Details of Sample	Monitoring of Stack Emission	
[d]	Sample Collected by	SHIVA TEST HOUSE on 11.02.17	
[e]	No. & Type of Container	Thimble & Glass Impinger	
[f]	Items required to be tested	As per request	
[g]	Whether any specific Method of Test has been suggested by the party	No	
[h]	Date of receiving the sample	12.02.17	
	<b>Parameters</b>	<b>Method of Test</b>	<b>Results</b>
1.	Stack Connected to		Bag House of Clinker & gypsum unloader Section
2.	Height of Stack (as reported)		30 m.
3.	Dia of Stack at Top (as reported)		0.75 m.
4.	Draft		ID Fan
5.	Material of Construction		M.S.
6.	Ambient Temperature, °C		24.0
7.	Flue Gas Temperature, °C		46.0
8.	Velocity, m/sec.	IS 11255 (Part-3)	8.6
9.	Volumetric Flow Rate, NM <sup>3</sup> /hr.		12771.0
10.	Sampling Point		11 m.
			<b>Concentration (mg / NM<sup>3</sup>)</b>
			<b>Limit as per E (P) Rules</b>
11.	Particulate Matter (P.M.)	IS 11255 (Part-1)	<b>43.7</b> 50.0 mg / NM <sup>3</sup>
12.	Sulphur Dioxide (SO <sub>2</sub> )	IS 11255 (Part-2)	<b>Not Detectable</b> Not Specified
13.	Oxides of Nitrogen (NO <sub>2</sub> )	IS 11255 (Part-7)	<b>12.0</b> Not Specified



Authorized Signatory  
Quality Manager / Dy. Quality Manager

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## TEST REPORT

Ref.No. ECL/TR/16-17/829(c) Dt : 22.03.2017 Your PO No. ECO/BHR/SHIVA TEST HOUSE /W.O./RS/2016 Dt : 19.04.2016				
[a] Name and address of the Customer	ECO Cement Ltd. Vill.: Mahmoodganj At : Kulharia Durgawati Dist.: Bhabua (Kaimur)			
[b] Report to be submitted to	Director			
[c] Details of Sample	Monitoring of Stack Emission			
[d] Sample Collected by	SHIVA TEST HOUSE on 03.03.17			
[e] No. & Type of Container	Thimble & Glass Impinger			
[f] Items required to be tested	As per request			
[g] Whether any specific Method of Test has been suggested by the party	No			
[h] Date of receiving the sample	04.03.17			
<b>Parameters</b>	<b>Method of Test</b>	<b>Results</b>		
1. Stack Connected to		Bag House of Clinker & gypsum unloader Section		
2. Height of Stack (as reported)		30 m.		
3. Dia of Stack at Top (as reported)		0.75 m.		
4. Draft		ID Fan		
5. Material of Construction		M.S.		
6. Ambient Temperature, °C		30.0		
7. Flue Gas Temperature, °C		49.0		
8. Velocity, m/sec.		IS 11255 (Part-3)	6.1	
9. Volumetric Flow Rate, NM <sup>3</sup> /hr.			8973.9	
10. Sampling Point			11 m.	
		<b>Concentration (mg / NM<sup>3</sup>)</b>	<b>Limit as per E (P) Rules</b>	
11. Particulate Matter (P.M.)	IS 11255 (Part-1)	37.3	50.0 mg / NM <sup>3</sup>	
12. Sulphur Dioxide (SO <sub>2</sub> )	IS 11255 (Part-2)	Not Detectable	Not Specified	
13. Oxides of Nitrogen (NO <sub>2</sub> )	IS 11255 (Part-7)	11.4	Not Specified	



*[Signature]*  
Authorized Signatory  
Quality Manager / Dy. Quality Manager

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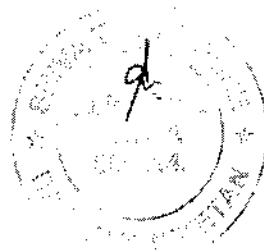


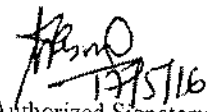
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## TEST REPORT

Ref.No. ECL/TR/16-17/117(d) Dt : 17.05.2016 Your PO No. ECO/BHR/SHIVA TEST HOUSE /W.O./RS/2016 Dt : 19.04.2016				
[a]	Name and address of the Customer	ECO Cement Ltd. Vill.: Mahmoodganj At : Kulharia Durgawati Dist.: Bhabua (Kaimur)		
[b]	Report to be submitted to	Director		
[c]	Details of Sample	Monitoring of Stack Emission		
[d]	Sample Collected by	SHIVA TEST HOUSE on 11.04.16		
[e]	No. & Type of Container	Thimble & Glass Impinger		
[f]	Items required to be tested	As per request		
[g]	Whether any specific Method of Test has been suggested by the party	No		
[h]	Date of receiving the sample	12.04.16		
	<b>Parameters</b>	<b>Method of Test</b>	<b>Results</b>	
1.	Stack Connected to		Bag House of gypsum & clinker feeding Section	
2.	Height of Stack (as reported)		30 m.	
3.	Dia of Stack at Top (as reported)		0.6 m.	
4.	Draft		ID Fan	
5.	Material of Construction		M.S.	
6.	Ambient Temperature, °C		33.0	
7.	Flue Gas Temperature, °C		51.0	
8.	Velocity, m/sec.		IS 11255 (Part-3)	6.4
9.	Volumetric Flow Rate, NM <sup>3</sup> /hr.			5988.6
10.	Sampling Point			9 m.
			<b>Concentration ( mg / NM<sup>3</sup> )</b>	
11.	Particulate Matter (P.M.)	IS 11255 (Part-1)	<b>33.8</b>	
12.	Sulphur Dioxide (SO <sub>2</sub> )	IS 11255 (Part-2)	<b>Not Detectable</b>	
13.	Oxides of Nitrogen (NO <sub>2</sub> )	IS 11255 (Part-7)	<b>14.6</b>	
			<b>Limit as per E (P) Rules</b>	
			50.0 mg / NM <sup>3</sup>	
			Not Specified	
			Not Specified	



  
Authorized Signatory  
Quality Manager / Dy. Quality Manager

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01<sup>st</sup> Floor, Rajhans Niketan,  
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Bailey Road,  
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# SHIVA TEST HOUSE

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## TEST REPORT

Ref.No. ECL/TR/16-17/148(d) Dt : 31.05.2016 Your PO No. ECO/BHR/SHIVA TEST HOUSE/W.O./RS/2016 Dt : 19.04.2016				
[a]	Name and address of the Customer	ECO Cement Ltd. Vill.: Mahmoodganj At : Kulharia Durgawati Dist.: Bhabua (Kaimur)		
[b]	Report to be submitted to	Director		
[c]	Details of Sample	Monitoring of Stack Emission		
[d]	Sample Collected by	SHIVA TEST HOUSE on 09.05.16		
[e]	No. & Type of Container	Thimble & Glass Impinger		
[f]	Items required to be tested	As per request		
[g]	Whether any specific Method of Test has been suggested by the party	No		
[h]	Date of receiving the sample	10.05.16		
Parameters		Method of Test	Results	
1.	Stack Connected to		Bag House of gypsum & clinker feeding Section	
2.	Height of Stack (as reported)		30 m.	
3.	Dia of Stack at Top (as reported)		0.6 m.	
4.	Draft		ID Fan	
5.	Material of Construction		M.S.	
6.	Ambient Temperature, °C		37.0	
7.	Flue Gas Temperature, °C		47.0	
8.	Velocity, m/sec.		IS 11255 (Part-3)	7.6
9.	Volumetric Flow Rate, NM <sup>3</sup> /hr.			7200.4
10.	Sampling Point			9 m.
			Concentration ( mg / NM <sup>3</sup> )	
11.	Particulate Matter (P.M.)	IS 11255 (Part-1)	39.4	
12.	Sulphur Dioxide (SO <sub>2</sub> )	IS 11255 (Part-2)	Not Detectable	
13.	Oxides of Nitrogen (NO <sub>2</sub> )	IS 11255 (Part-7)	10.2	
			Limit as per E (P) Rules	
			50.0 mg / NM <sup>3</sup>	
			Not Specified	
			Not Specified	

31/5/16  
Authorized Signatory  
Quality Manager / Dy. Quality Manager

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# SHIVA TEST HOUSE

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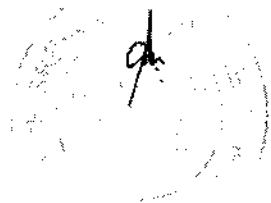


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## TEST REPORT

Ref.No. ECL/TR/16-17/210(d) Dt : 02.07.2016 Your PO No. ECO/BHR/SHIVA TEST HOUSE /W.O./RS/2016 Dt : 19.04.2016				
[a]	Name and address of the Customer	ECO Cement Ltd. Vill.: Mahmoodganj At : Kulharia Durgawati Dist.: Bhabua (Kaimur)		
[b]	Report to be submitted to	Director		
[c]	Details of Sample	Monitoring of Stack Emission		
[d]	Sample Collected by	SHIVA TEST HOUSE on 14.06.16		
[e]	No. & Type of Container	Thimble & Glass Impinger		
[f]	Items required to be tested	As per request		
[g]	Whether any specific Method of Test has been suggested by the party	No		
[h]	Date of receiving the sample	15.06.16		
Parameters		Method of Test	Results	
1.	Stack Connected to		Bag House of gypsum & clinker feeding Section	
2.	Height of Stack (as reported)		30 m.	
3.	Dia of Stack at Top (as reported)		0.6 m.	
4.	Draft		ID Fan	
5.	Material of Construction		M.S.	
6.	Ambient Temperature, °C		41.0	
7.	Flue Gas Temperature, °C		53.0	
8.	Velocity, m/sec.		IS 11255 (Part-3)	8.3
9.	Volumetric Flow Rate, NM <sup>3</sup> /hr.			7718.8
10.	Sampling Point			9 m.
		Concentration (mg / NM <sup>3</sup> )	Limit as per E (P) Rules	
11.	Particulate Matter (P.M.)	IS 11255 (Part-1)	42.8 50.0 mg / NM <sup>3</sup>	
12.	Sulphur Dioxide (SO <sub>2</sub> )	IS 11255 (Part-2)	Not Detectable Not Specified	
13.	Oxides of Nitrogen (NO <sub>2</sub> )	IS 11255 (Part-7)	16.4 Not Specified	



*[Signature]*  
04/7/16  
Authorized Signatory  
Quality Manager / Dy. Quality Manager

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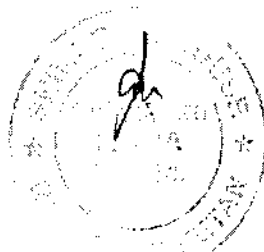


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## TEST REPORT

Ref.No. ECL/TR/16-17/270(d) Dt : 01.08.2016 Your PO No. ECO/BHR/SHIVA TEST HOUSE/W.O./RS/2016 Dt : 19.04.2016			
[a] Name and address of the Customer	ECO Cement Ltd. Vill.: Mahmoodganj At : Kulharia Durgawati Dist.: Bhabua (Kaimur)		
[b] Report to be submitted to	Director		
[c] Details of Sample	Monitoring of Stack Emission		
[d] Sample Collected by	SHIVA TEST HOUSE on 17.07.16		
[e] No. & Type of Container	Thimble & Glass Impinger		
[f] Items required to be tested	As per request		
[g] Whether any specific Method of Test has been suggested by the party	No		
[h] Date of receiving the sample	18.07.16		
Parameters	Method of Test	Results	
1. Stack Connected to		Bag House of gypsum & clinker feeding Section	
2. Height of Stack (as reported)		30 m.	
3. Dia of Stack at Top (as reported)		0.6 m.	
4. Draft		ID Fan	
5. Material of Construction		M.S.	
6. Ambient Temperature, °C		38.0	
7. Flue Gas Temperature, °C		52.0	
8. Velocity, m/sec.	IS 11255 (Part-3)	6.8	
9. Volumetric Flow Rate, NM <sup>3</sup> /hr.		6343.3	
10. Sampling Point		9 m.	
		Concentration (mg / NM <sup>3</sup> )	
		Limit as per E (P) Rules	
11. Particulate Matter (P.M.)	IS 11255 (Part-1)	36.4	50.0 mg / NM <sup>3</sup>
12. Sulphur Dioxide (SO <sub>2</sub> )	IS 11255 (Part-2)	Not Detectable	Not Specified
13. Oxides of Nitrogen (NO <sub>2</sub> )	IS 11255 (Part-7)	12.7	Not Specified



*Hasnand*  
01/08/16  
Authorized Signatory  
Quality Manager / Dy. Quality Manager

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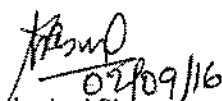


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## TEST REPORT

Ref.No. ECL/TR/16-17/310(d) Dt: 02.09.2016 Your PO No. ECO/BHR/SHIVA TEST HOUSE/W.O./RS/2016 Dt: 19.04.2016					
[a]	Name and address of the Customer	ECO Cement Ltd. Vill.: Mahmoodganj At : Kulharia Durgawati Dist.: Bhabua (Kaimur)			
[b]	Report to be submitted to	Director			
[c]	Details of Sample	Monitoring of Stack Emission			
[d]	Sample Collected by	SHIVA TEST HOUSE on 12.08.16			
[e]	No. & Type of Container	Thimble & Glass Impinger			
[f]	Items required to be tested	As per request			
[g]	Whether any specific Method of Test has been suggested by the party	No			
[h]	Date of receiving the sample	13.08.16			
Parameters		Method of Test		Results	
1.	Stack Connected to			Bag House of gypsum & clinker feeding Section	
2.	Height of Stack (as reported)			30 m.	
3.	Dia of Stack at Top (as reported)			0.6 m.	
4.	Draft			ID Fan	
5.	Material of Construction			M.S.	
6.	Ambient Temperature °C			35.0	
7.	Flue Gas Temperature °C			50.0	
8.	Velocity, m/sec.	IS 11255 (Part-3)		7.7	
9.	Volumetric Flow Rate (m <sup>3</sup> /hr)			7227.4	
10.	Sampling Point			9 m.	
				Concentration (mg / NM <sup>3</sup> )	Limit as per E (P) Rules
11.	Particulate Matter (PM <sub>10</sub> )	IS 11255 (Part-1)		40.1	50.0 mg / NM <sup>3</sup>
12.	Sulphur Dioxide (SO <sub>2</sub> )	IS 11255 (Part-2)		Not Detectable	Not Specified
13.	Oxides of Nitrogen (NO <sub>x</sub> )	S 11255 (Part-7)		18.1	Not Specified

  
02/09/16  
Authorized Signatory  
Quality Manager / Dy. Quality Manager

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## TEST REPORT

Ref.No. ECL/TR/16-17/366(d) Dt : 08.10.2016 Your PO No. ECO/BHR/SHIVA TEST HOUSE /W.O./RS/2016 Dt : 19.04.2016				
[a]	Name and address of the Customer	ECO Cement Ltd. Vill.: Mahmoodganj At : Kulharia Durgawati Dist.: Bhabua (Kaimur)		
[b]	Report to be submitted to	Director		
[c]	Details of Sample	Monitoring of Stack Emission		
[d]	Sample Collected by	SHIVA TEST HOUSE on 23.09.16		
[e]	No. & Type of Container	Thimble & Glass Impinger		
[f]	Items required to be tested	As per request		
[g]	Whether any specific Method of Test has been suggested by the party	No		
[h]	Date of receiving the sample	24.09.16		
	<b>Parameters</b>	<b>Method of Test</b>	<b>Results</b>	
1.	Stack Connected to		Bag House of gypsum & clinker feeding Section	
2.	Height of Stack (as reported)		30 m.	
3.	Dia of Stack at Top (as reported)		0.6 m.	
4.	Draft		ID Fan	
5.	Material of Construction		M.S.	
6.	Ambient Temperature, °C		32.0	
7.	Flue Gas Temperature, °C		54.0	
8.	Velocity, m/sec.	IS 11255 (Part-3)	6.1	
9.	Volumetric Flow Rate, NM <sup>3</sup> /hr.		5655.5	
10.	Sampling Point		9 m.	
			<b>Concentration (mg / NM<sup>3</sup>)</b>	
			<b>Limit as per E (P) Rules</b>	
11.	Particulate Matter (P.M.)	IS 11255 (Part-1)	34.8	50.0 mg / NM <sup>3</sup>
12.	Sulphur Dioxide (SO <sub>2</sub> )	IS 11255 (Part-2)	Not Detectable	Not Specified
13.	Oxides of Nitrogen (NO <sub>x</sub> )	IS 11255 (Part-7)	15.0	Not Specified



*[Signature]*  
08/10/16  
Authorized Signatory  
Quality Manager / Dy. Quality Manager

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2. The user of this report should be aware of the limitations of the test.  
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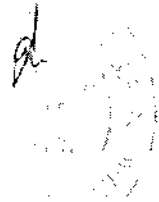
## TEST REPORT

Ref.No. *ECL/TR/16-17/111(d)* Dt: *31.10.2016* Your PO No. *ECO/BHR/SHIVA TEST HOUSE/W.O./RS/2016* Dt: *19.04.2016*

[a] Name and address of the Customer	ECO Cement Ltd. Vill.: Mahmoodganj At : Kulharia Durgawati Dist.: Bhabua (Kaimur)
[b] Report to be submitted to	Director
[c] Details of Sample	Monitoring of Stack Emission
[d] Sample Collected by	SHIVA TEST HOUSE on 17.10.16
[e] No. & Type of Container	Thimble & Glass Impinger
[f] Items required to be tested	As per request
[g] Whether any specific Method of Test has been suggested by the party	No
[h] Date of receiving the sample	18.10.16

Parameters	Method of Test	Results
1. Stack Connected to	IS 11255 (Part-3)	Bag House of gypsum & clinker feeding Section
2. Height of Stack (as reported)		30 m.
3. Dia of Stack at Top (as reported)		0.6 m.
4. Draft		ID Fan
5. Material of Construction		M.S.
6. Ambient Temperature, °C		30.0
7. Flue Gas Temperature, °C		56.0
8. Velocity, m/sec.		9.3
9. Volumetric Flow Rate, NM <sup>3</sup> /hr.		8569.9
10. Sampling Point		9 m
		Concentration (mg / NM <sup>3</sup> )
11. Particulate Matter (P.M.)	IS 11255 (Part-1)	46.1
12. Sulphur Dioxide (SO <sub>2</sub> )	IS 11255 (Part-2)	Not Detectable
13. Oxides of Nitrogen (NO <sub>2</sub> )	IS 11255 (Part-7)	20.4

Limit as per E (P) Rules  
50.0 mg / NM<sup>3</sup>  
Not Specified  
Not Specified



*[Signature]*  
31/10/16  
Authorized Signatory  
Quality Manager: D. [Signature]

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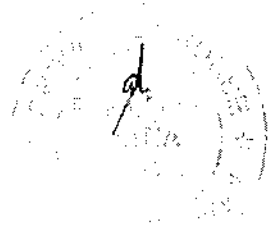
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## TEST REPORT

Ref.No. ECL/IR/16-17/518(d) Dt: 05.12.2016 Your PO No. ECO/BIH/SHIVA TEST HOUSE/W.O./RS/2016 Dt: 19.04.2016	
[a] Name and address of the Customer	ECO Cement Ltd. Vill.: Mahmoodganj At : Kulharia Durgawati Dist.: Bhabua (Kaimur)
[b] Report to be submitted to	Director
[c] Details of Sample	Monitoring of Stack Emission
[d] Sample Collected by	SHIVA TEST HOUSE on 11.11.16
[e] No. & Type of Container	Thimble & Glass Impinger
[f] Items required to be tested	As per request
[g] Whether any specific Method of Test has been suggested by the party	No
[h] Date of receiving the sample	12.11.16

Parameters	Method of Test	Results	
1. Stack Connected to		Bag House of gypsum & clinker feeding Section	
2. Height of Stack (as reported)		30 m.	
3. Dia of Stack at Top (as reported)		0.6 m.	
4. Draft		ID Fan	
5. Material of Construction		M.S.	
6. Ambient Temperature, °C		26.0	
7. Flue Gas Temperature, °C		52.0	
8. Velocity, m/sec.	IS 11255 (Part-3)	8.7	
9. Volumetric Flow Rate, NM <sup>3</sup> /hr.		8115.7	
10. Sampling Point		9 m.	
		Concentration ( mg / NM <sup>3</sup> )	Limit as per E (P) Rules
11. Particulate Matter (P.M.)	IS 11255 (Part-1)	44.8	50.0 mg / NM <sup>3</sup>
12. Sulphur Dioxide (SO <sub>2</sub> )	IS 11255 (Part-2)	Not Detectable	Not Specified
13. Oxides of Nitrogen (NO <sub>2</sub> )	IS 11255 (Part-7)	16.2	Not Specified



*[Signature]*  
05/12/16  
Authorized Signatory  
Quality Manager / Dy. Quality Manager

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## TEST REPORT

Ref.No. *ECL/TR/16-17/617(d)* Dt : *30.12.2016* Your PO No. *ECO/BHR/SHIVA TEST HOUSE/W.O./RS/2016* Dt : *19.04.2016*

[a] Name and address of the Customer	ECO Cement Ltd. Vill.: Mahmoodganj At : Kulharia Durgawati Dist.: Bhabua (Kaimur)
[b] Report to be submitted to	Director
[c] Details of Sample	Monitoring of Stack Emission
[d] Sample Collected by	SHIVA TEST HOUSE on 15.12.16
[e] No. & Type of Container	Thimble & Glass Impinger
[f] Items required to be tested	As per request
[g] Whether any specific Method of Test has been suggested by the party	No
[h] Date of receiving the sample	16.12.16

Parameters	Method of Test	Results
1. Stack Connected to		Bag House of gypsum & clinker feeding Section
2. Height of Stack (as reported)		30 m.
3. Dia of Stack at Top (as reported)		0.6 m.
4. Draft		ID Fan
5. Material of Construction		M.S.
6. Ambient Temperature, °C		20.0
7. Flue Gas Temperature, °C		48.0
8. Velocity, m/sec.	IS 11255 (Part-3)	6.2
9. Volumetric Flow Rate, NM <sup>3</sup> /hr.		5855.7
10. Sampling Point		9 m.
		Concentration (mg / NM <sup>3</sup> )
11. Particulate Matter (P.M.)	IS 11255 (Part-1)	39.7
12. Sulphur Dioxide (SO <sub>2</sub> )	IS 11255 (Part-2)	Not Detectable
13. Oxides of Nitrogen (NO <sub>2</sub> )	IS 11255 (Part-7)	11.8
		Limit as per E (P) Rules
		50.0 mg / NM <sup>3</sup>
		Not Specified
		Not Specified

*Heino*  
*30/12/16*  
Authorized Signatory  
Quality Manager Dy. Quality Manager

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Laboratory Address :-  
01<sup>ST</sup> FLOOR, RAJHANS NIKETAN,  
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BAILEY ROAD,  
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# SHIVA TEST HOUSE

Tel.: 0612 - 2247538/ 2240752 ; TeleFax : 0612 - 2590705  
E.mail.: [sthpatna1@yahoo.co.in](mailto:sthpatna1@yahoo.co.in)

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## TEST REPORT

Ref.No. <i>ECL/TR/16-17/705(d)</i> Dt : <i>27.01.2017</i> Your PO No. <i>ECO/BHR/SHIVA TEST HOUSE /W.O./RS/2016</i> Dt : <i>19.04.2016</i>			
[a]	Name and address of the Customer	ECO Cement Ltd. Vill.: Mahmoodganj At : Kulharia Durgawati Dist.: Bhabua (Kaimur)	
[b]	Report to be submitted to	Director	
[c]	Details of Sample	Monitoring of Stack Emission	
[d]	Sample Collected by	SHIVA TEST HOUSE on 19.01.17	
[e]	No. & Type of Container	Thimble & Glass Impinger	
[f]	Items required to be tested	As per request	
[g]	Whether any specific Method of Test has been suggested by the party	No	
[h]	Date of receiving the sample	20.01.17	
	<b>Parameters</b>	<b>Method of Test</b>	<b>Results</b>
1.	Stack Connected to		Bag House of gypsum & clinker feeding Section
2.	Height of Stack (as reported)		30 m.
3.	Dia of Stack at Top (as reported)		0.6 m.
4.	Draft		ID Fan
5.	Material of Construction		M.S.
6.	Ambient Temperature, °C		18.0
7.	Flue Gas Temperature, °C		46.0
8.	Velocity, m/sec.	IS 11255 (Part-3)	5.8
9.	Volumetric Flow Rate, NM <sup>3</sup> /hr.		5512.2
10.	Sampling Point		9 m.
			<b>Concentration ( mg / NM<sup>3</sup> )</b>
			<b>Limit as per E (P) Rules</b>
11.	Particulate Matter (P.M.)	IS 11255 (Part-1)	37.1
12.	Sulphur Dioxide (SO <sub>2</sub> )	IS 11255 (Part-2)	Not Detectable
13.	Oxides of Nitrogen (NO <sub>2</sub> )	IS 11255 (Part-7)	10.4
			Not Specified
			Not Specified



*[Signature]*  
Authorized Signatory  
Quality Manager / Dy. Quality Manager

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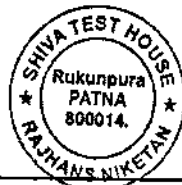


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## TEST REPORT

Ref.No. <i>ECL/TR/16-17/756(d)</i> Dt : <i>17.02.2017</i> Your PO No. <i>ECO/BHR/SHIVA TEST HOUSE /W.O./RS/2016</i> Dt : <i>19.04.2016</i>			
[a]	Name and address of the Customer	ECO Cement Ltd. Vill.: Mahmoodganj At : Kulharia Durgawati Dist.: Bhabua (Kaimur)	
[b]	Report to be submitted to	Director	
[c]	Details of Sample	Monitoring of Stack Emission	
[d]	Sample Collected by	SHIVA TEST HOUSE on 11.02.17	
[e]	No. & Type of Container	Thimble & Glass Impinger	
[f]	Items required to be tested	As per request	
[g]	Whether any specific Method of Test has been suggested by the party	No	
[h]	Date of receiving the sample	12.02.17	
	<b>Parameters</b>	<b>Method of Test</b>	<b>Results</b>
	1. Stack Connected to		Bag House of gypsum & clinker feeding Section
	2. Height of Stack (as reported)		30 m.
	3. Dia of Stack at Top (as reported)		0.6 m.
	4. Draft		ID Fan
	5. Material of Construction		M.S.
	6. Ambient Temperature, °C		24.0
	7. Flue Gas Temperature, °C		49.0
	8. Velocity, m/sec.	IS 11255 (Part-3)	7.4
	9. Volumetric Flow Rate, NM <sup>3</sup> /hr.		6967.3
	10. Sampling Point		9 m.
			<b>Concentration (mg / NM<sup>3</sup>)</b>
			<b>Limit as per E (P) Rules</b>
	11. Particulate Matter (P.M.)	IS 11255 (Part-1)	40.8
	12. Sulphur Dioxide (SO <sub>2</sub> )	IS 11255 (Part-2)	Not Detectable
	13. Oxides of Nitrogen (NO <sub>2</sub> )	IS 11255 (Part-7)	12.6
			50.0 mg / NM <sup>3</sup>
			Not Specified
			Not Specified



*[Signature]*  
Authorized Signatory  
Quality Manager / Dy. Quality Manager

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## TEST REPORT

Ref.No. ECL/TR/16-17/829(d) Dt: 22.03.2017 Your PO No. ECO/BHR/SHIVA TEST HOUSE /W.O./RS/2016 Dt : 19.04.2016			
[a]	Name and address of the Customer	ECO Cement Ltd. Vill.: Mahmoodganj At : Kulharia Durgawati Dist.: Bhabua (Kaimur)	
[b]	Report to be submitted to	Director	
[c]	Details of Sample	Monitoring of Stack Emission	
[d]	Sample Collected by	SHIVA TEST HOUSE on 03.03.17	
[e]	No. & Type of Container	Thimble & Glass Impinger	
[f]	Items required to be tested	As per request	
[g]	Whether any specific Method of Test has been suggested by the party	No	
[h]	Date of receiving the sample	04.03.17	
<b>Parameters</b>		<b>Method of Test</b>	<b>Results</b>
1.	Stack Connected to	IS 11255 (Part-3)	Bag House of gypsum & clinker feeding Section
2.	Height of Stack (as reported)		30 m.
3.	Dia of Stack at Top (as reported)		0.6 m.
4.	Draft		ID Fan
5.	Material of Construction		M.S.
6.	Ambient Temperature, °C		30.0
7.	Flue Gas Temperature, °C		45.0
8.	Velocity, m/sec.		6.8
9.	Volumetric Flow Rate, NM <sup>3</sup> /hr.		6483.0
10.	Sampling Point		9 m.
		<b>Concentration ( mg / NM<sup>3</sup> )</b>	<b>Limit as per E (P) Rules</b>
11.	Particulate Matter (P.M.)	IS 11255 (Part-1) 36.4	50.0 mg / NM <sup>3</sup>
12.	Sulphur Dioxide (SO <sub>2</sub> )	IS 11255 (Part-2) Not Detectable	Not Specified
13.	Oxides of Nitrogen (NO <sub>2</sub> )	IS 11255 (Part-7) 14.8	Not Specified



*[Signature]*  
Authorized Signatory  
Quality Manager / Dy. Quality Manager

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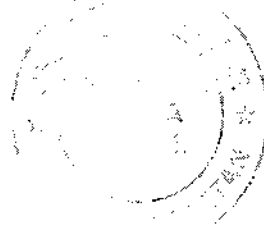
## TEST REPORT

Ref.No. ECL/TR/16-17/117(b) Dt : 17.05.2016 Your PO No. ECO/BHR/SHIVA TEST HOUSE AV.O./RS/2016 Dt : 19.04.2016

[a] Name and address of the Customer	ECO Cement Ltd. Vill.: Mahmoodganj At : Kulharia Durgawati Dist.: Bhabua (Kaimur)
[b] Report to be submitted to	Director
[c] Details of Sample	Monitoring of Stack Emission of 500 KVA DG Set
[d] Sample Collected by	SHIVA TEST HOUSE on 11.04.16
[e] No. & Type of Container	Thimble & Glass Impinger
[f] Items required to be tested	As per request
[g] Whether any specific Method of Test has been suggested by the party	No
[h] Date of receiving the sample	12.04.16

Parameters	Method of Test	Results		
1. Stack Connected to		500 KVA DG Set		
2. Height of Stack (as reported)		3.0 m.		
3. Dia of Stack at Top (as reported)		0.2 m.		
4. Draft		Natural		
5. Material of Construction		M.S.		
6. Ambient Temperature, °C		33.0		
7. Flue Gas Temperature, °C		171.0		
8. Velocity, m/sec.		IS 11255 (Part-3)	8.4	
9. Volumetric Flow Rate, NM <sup>3</sup> /hr.			637.3	
10. Sampling Point			Top of Exhaust	
		Concentration ( mg / NM <sup>3</sup> )	Limit as per E (P) Rules	
11. Particulate Matter (P.M.)	IS 11255 (Part-1)	44.3	75.0 mg / NM <sup>3</sup>	
12. Sulphur Dioxide (SO <sub>2</sub> )	IS 11255 (Part-2)	68.4	Not Specified	
13. Oxides of Nitrogen (NO <sub>2</sub> )	IS 11255 (Part-7)	192.6	710.0 mg / NM <sup>3</sup>	

**N.B.:** There is no provision of Sampling Porthole as per CPCB guidelines in the DG Set Exhaust



*[Signature]*  
17/5/16  
Authorized Signatory  
Quality Manager / Dy. Quality Manager

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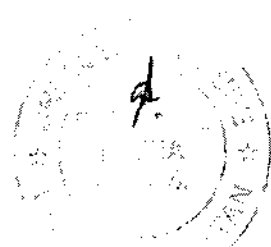


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## TEST REPORT

Ref.No. ECL/TR/16-17/148(b) Dt: 31.05.2016 Your PO No. ECO/BHR/SHIVA TEST HOUSE /V.O./RS/2016 Dt: 19.04.2016				
[a]	Name and address of the Customer	ECO Cement Ltd. Vill.: Mahmoodganj At : Kulharia Durgawati Dist.: Bhabua (Kaimur)		
[b]	Report to be submitted to	Director		
[c]	Details of Sample	Monitoring of Stack Emission of 500 KVA DG Set		
[d]	Sample Collected by	SHIVA TEST HOUSE on 09.05.16		
[e]	No. & Type of Container	Thimble & Glass Impinger		
[f]	Items required to be tested	As per request		
[g]	Whether any specific Method of Test has been suggested by the party	No		
[h]	Date of receiving the sample	10.05.16		
	<b>Parameters</b>	<b>Method of Test</b>	<b>Results</b>	
1.	Stack Connected to		500 KVA DG Set	
2.	Height of Stack (as reported)		3.0 m.	
3.	Dia of Stack at Top (as reported)		0.2 m.	
4.	Draft		Natural	
5.	Material of Construction		M.S.	
6.	Ambient Temperature, °C		37.0	
7.	Flue Gas Temperature, °C		174.0	
8.	Velocity, m/sec.	IS 11255 (Part-3)	6.1	
9.	Volumetric Flow Rate, NM <sup>3</sup> /hr.		459.7	
10.	Sampling Point		Top of Exhaust	
			<b>Concentration (mg / NM<sup>3</sup>)</b>	
			<b>Limit as per E (P) Rules</b>	
11.	Particulate Matter (P.M.)	IS 11255 (Part-1)	37.4	75.0 mg / NM <sup>3</sup>
12.	Sulphur Dioxide (SO <sub>2</sub> )	IS 11255 (Part-2)	71.6	Not Specified
13.	Oxides of Nitrogen (NO <sub>2</sub> )	IS 11255 (Part-7)	164.6	710.0 mg / NM <sup>3</sup>
<b>N.B.:</b>	There is no provision of Sampling Porthole as per CPCB guidelines in the DG Set Exhaust			



*[Signature]*  
31/5/16  
Authorized Signatory  
Quality Manager / Dy. Quality Manager

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## TEST REPORT

Ref.No. ECL/TR/16-17/210(b) Dt: 02.07.2016 Your PO No. ECO/BHR/SHIVA TEST HOUSE /W.O./RS/2016 Dt: 19.04.2016			
[a]	Name and address of the Customer	ECO Cement Ltd. Vill.: Mahmoodganj At : Kulharia Durgawati Dist.: Bhabua (Kaimur)	
[b]	Report to be submitted to	Director	
[c]	Details of Sample	Monitoring of Stack Emission of 500 KVA DG Set	
[d]	Sample Collected by	SHIVA TEST HOUSE on 14.06.16	
[e]	No. & Type of Container	Thimble & Glass Impinger	
[f]	Items required to be tested	As per request	
[g]	Whether any specific Method of Test has been suggested by the party	No	
[h]	Date of receiving the sample	15.06.16	
	<b>Parameters</b>	<b>Method of Test</b>	<b>Results</b>
	1. Stack Connected to		500 KVA DG Set
	2. Height of Stack (as reported)		3.0 m.
	3. Dia of Stack at Top (as reported)		0.2 m.
	4. Draft		Natural
	5. Material of Construction		M.S.
	6. Ambient Temperature, °C		41.0
	7. Flue Gas Temperature, °C		169.0
	8. Velocity, m/sec.	IS 11255 (Part-3)	7.7
	9. Volumetric Flow Rate, NM <sup>3</sup> /hr.		586.8
	10. Sampling Point		Top of Exhaust
			<b>Concentration (mg / NM<sup>3</sup>)</b>
			<b>Limit as per E (P) Rules</b>
	11. Particulate Matter (P.M.)	IS 11255 (Part-1)	39.2
	12. Sulphur Dioxide (SO <sub>2</sub> )	IS 11255 (Part-2)	66.7
	13. Oxides of Nitrogen (NO <sub>2</sub> )	IS 11255 (Part-7)	177.2
			75.0 mg / NM <sup>3</sup>
			Not Specified
			710.0 mg / NM <sup>3</sup>
<b>N.B.:</b>	There is no provision of Sampling Points as per CPOB guidelines in the DG Set Exhaust		

*[Signature]*  
02/07/16  
Authorized Signatory  
Quality Manager / Dy. Quality Manager

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## TEST REPORT

Ref.No. ECL/TR/16-17/270(b) Dt: 01.08.2016 Your PO No. ECO/BHR/SHIVA TEST HOUSE W.O./RS/2016 Dt: 19.04.2016			
[a]	Name and address of the Customer	ECO Cement Ltd. Vill.: Mahmoodganj At : Kulharia Durgawati Dist.: Bhabua (Kaimur)	
[b]	Report to be submitted to	Director	
[c]	Details of Sample	Monitoring of Stack Emission of 500 KVA DG Set	
[d]	Sample Collected by	SHIVA TEST HOUSE on 17.07.16	
[e]	No. & Type of Container	Thimble & Glass Impinger	
[f]	Items required to be tested	As per request	
[g]	Whether any specific Method of Test has been suggested by the party	No	
[h]	Date of receiving the sample	18.07.16	
	<b>Parameters</b>	<b>Method of Test</b>	<b>Results</b>
	1. Stack Connected to		500 KVA DG Set
	2. Height of Stack (as reported)		3.0 m.
	3. Dia of Stack at Top (as reported)		0.2 m.
	4. Draft		Natural
	5. Material of Construction		M.S.
	6. Ambient Temperature, °C		38.0
	7. Flue Gas Temperature, °C		166.0
	8. Velocity, m/sec.	IS 11255 (Part-3)	9.8
	9. Volumetric Flow Rate, NM <sup>3</sup> /hr.		752.0
	10. Sampling Point		Top of Exhaust
			<b>Concentration ( mg / NM<sup>3</sup> )</b>
			<b>Limit as per E (P) Rules</b>
	11. Particulate Matter (P.M.)	IS 11255 (Part-1)	49.8
	12. Sulphur Dioxide (SO <sub>2</sub> )	IS 11255 (Part-2)	68.2
	13. Oxides of Nitrogen (NO <sub>2</sub> )	IS 11255 (Part-7)	210.8
			75.0 mg / NM <sup>3</sup>
			Not Specified
			710.0 mg / NM <sup>3</sup>
<b>N.B.:</b>	There is no provision of Sampling Porthole as per CPCB guidelines in the DG Set Exhaust		



*[Signature]*  
01/08/16  
Authorized Signatory  
Quality Manager / Dy. Quality Manager

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Bailey Road,  
Patna – 800 014 (Bihar)



# SHIVA TEST HOUSE

Tel. : 0612 – 2247538/ 2240752 ; TeleFax : 0612 - 2590705  
E.mail.: sthpatna1@yahoo.co.in



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RECOGNISED AS ENVIRONMENTAL LABORATORY BY CENTRAL GOVT. UNDER ENVIRONMENT (PROTECTION) ACT 1986 (VALID UPTO MAR. 2018),  
BY DEPT. OF INDUSTRY, FORESTS & ENVIRONMENT, GOVT. OF BIHAR AND BIHAR STATE POLLUTION CONTROL BOARD

## TEST REPORT

Ref.No. ECL/TR/16-17/310(b) Dt : 02.09.2016 Your PO No. ECO/BHR/SHIVA TEST HOUSE W.O./RS/2016 Dt : 19.04.2016				
[a] Name and address of the Customer	ECO Cement Ltd. Vill.:Mahmoodganj At : Kulharia Durgawati Dist.: Bhabua (Kaimur)			
[b] Report to be submitted to	Director			
[c] Details of Sample	Monitoring of Stack Emission of 500 KVA DG Set			
[d] Sample Collected by	SHIVA TEST HOUSE on 12.08.16			
[e] No. & Type of Container	Thimble & Glass Impinger			
[f] Items required to be tested	As per request			
[g] Whether any specific Method of Test has been suggested by the party	No			
[h] Date of receiving the sample	13.08.16			
<b>Parameters</b>	<b>Method of Test</b>	<b>Results</b>		
1. Stack Connected to		500 KVA DG Set		
2. Height of Stack (as reported)		3.0 m.		
3. Dia of Stack at Top (as reported)		0.2 m.		
4. Draft		Natural		
5. Material of Construction		M.S.		
6. Ambient Temperature, °C		35.0		
7. Flue Gas Temperature, °C		164.0		
8. Velocity, m/sec.		IS 11255 (Part-3)	8.2	
9. Volumetric Flow Rate, NM <sup>3</sup> /hr.			632.1	
10. Sampling Point			Top of Exhaust	
		<b>Concentration (mg / NM<sup>3</sup>)</b>	<b>Limit as per E (P) Rules</b>	
11. Particulate Matter (P.M.)	IS 11255 (Part-1)	<b>43.6</b>	75.0 mg / NM <sup>3</sup>	
12. Sulphur Dioxide (SO <sub>2</sub> )	IS 11255 (Part-2)	<b>74.6</b>	Not Specified	
13. Oxides of Nitrogen (NO <sub>2</sub> )	IS 11255 (Part-7)	<b>187.9</b>	710.0 mg / NM <sup>3</sup>	
<b>N.B.:</b>	There is no provision of Sampling Porthole as per CPCB guidelines in the DG Set Exhaust			



*[Signature]*  
02/09/16  
Authorized Signatory  
Quality Manager / Dy. Quality Manager

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## TEST REPORT

Ref.No. ECL/TR/16-17/366(b) Dt: 08.10.2016 Your PO No. ECO/BIH/SHIVA TEST HOUSE/W.O./RS2016 Dt: 19.04.2016			
[a]	Name and address of the Customer	ECO Cement Ltd. Vill.: Mahmoodganj At : Kulharia Durgawati Dist.: Bhabua (Kaimur)	
[b]	Report to be submitted to	Director	
[c]	Details of Sample	Monitoring of Stack Emission of 500 KVA DG Set	
[d]	Sample Collected by	SHIVA TEST HOUSE on 23.09.16	
[e]	No. & Type of Container	Thimble & Glass Impinger	
[f]	Items required to be tested	As per request	
[g]	Whether any specific Method of Test has been suggested by the party	No "	
[h]	Date of receiving the sample	24.09.16	
	<b>Parameters</b>	<b>Method of Test</b>	<b>Results</b>
1.	Stack Connected to		500 KVA DG Set
2.	Height of Stack (as reported)		3.0 m.
3.	Dia of Stack at Top (as reported)		0.2 m.
4.	Draft		Natural
5.	Material of Construction		M.S.
6.	Ambient Temperature, °C		32.0
7.	Flue Gas Temperature, °C		157.0
8.	Velocity, m/sec.	IS 11255 (Part-3)	6.6
9.	Volumetric Flow Rate, NM <sup>3</sup> /hr.		517.0
10.	Sampling Point		Top of Exhaust
			<b>Concentration ( mg / NM<sup>3</sup> )</b>
			<b>Limit as per E (P) Rules</b>
11.	Particulate Matter (P.M.)	IS 11255 (Part-1)	38.4
12.	Sulphur Dioxide (SO <sub>2</sub> )	IS 11255 (Part-2)	67.4
13.	Oxides of Nitrogen (NO <sub>2</sub> )	IS 11255 (Part-7)	171.6
			75.0 mg / NM <sup>3</sup>
			Not Specified
			710.0 mg / NM <sup>3</sup>
<b>N.B.:</b>	There is no provision of Sampling Porthole as per CPCB guidelines in the DG Set Exhaust		



*Handwritten Signature*  
08/10/16  
Authorized Signatory  
Quality Manager / Dy. Quality Manager

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## TEST REPORT

Ref.No. ECL/TR/16-17/411(b) Dt : 31.10.2016 Your PO No. ECO/BIH/SHIVA TEST HOUSE W.O./RS2016 Dt : 19.04.2016

[a] Name and address of the Customer	ECO Cement Ltd. Vill.: Mahmoodganj At : Kulharia Durgawati Dist.: Bhabua (Kaimur)
[b] Report to be submitted to	Director
[c] Details of Sample	Monitoring of Stack Emission of 500 KVA DG Set
[d] Sample Collected by	SHIVA TEST HOUSE on 17.10.16
[e] No. & Type of Container	Thimble & Glass Impinger
[f] Items required to be tested	As per request
[g] Whether any specific Method of Test has been suggested by the party	No
[h] Date of receiving the sample	18.10.16

Parameters	Method of Test	Results	
1. Stack Connected to	IS 11255 (Part-3)	500 KVA DG Set	
2. Height of Stack (as reported)		3.0 m.	
3. Dia of Stack at Top (as reported)		0.2 m.	
4. Draft		Natural	
5. Material of Construction		M.S.	
6. Ambient Temperature, °C		30.0	
7. Flue Gas Temperature, °C		161.0	
8. Velocity, m/sec.		7.2	
9. Volumetric Flow Rate, NM <sup>3</sup> /hr.		558.8	
10. Sampling Point		Top of Exhaust	
	Concentration (mg / NM <sup>3</sup> )	Limit as per E (P) Rules	
11. Particulate Matter (P.M.)	IS 11255 (Part-1)	41.8	75.0 mg / NM <sup>3</sup>
12. Sulphur Dioxide (SO <sub>2</sub> )	IS 11255 (Part-2)	62.1	Not Specified
13. Oxides of Nitrogen (NO <sub>2</sub> )	IS 11255 (Part-7)	176.3	710.0 mg / NM <sup>3</sup>

**N.B.:** There is no provision of Sampling Porthole as per CPCB guidelines in the DG Set Exhaust

*Handwritten Signature*  
31/10/16

Authorized Signatory  
Quality Manager / Dy. Quality Manager

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## TEST REPORT

Ref.No. *ECL/TR/16-17/518(b)* Dt: *05.12.2016* Your PO No. *ECO/BIHAR/SHIVA TEST HOUSE W.O./RS/2016* Dt: *19.04.2016*

[a] Name and address of the Customer	ECO Cement Ltd. Vill.: Mahmoodganj At : Kulharia Durgawati Dist.: Bhabua (Kaimur)
[b] Report to be submitted to	Director
[c] Details of Sample	Monitoring of Stack Emission of 500 KVA DG Set
[d] Sample Collected by	SHIVA TEST HOUSE on 11.11.16
[e] No. & Type of Container	Thimble & Glass Impinger
[f] Items required to be tested	As per request
[g] Whether any specific Method of Test has been suggested by the party	No
[h] Date of receiving the sample	12.11.16

Parameters	Method of Test	Results	
1. Stack Connected to	IS 11255 (Part-3)	500 KVA DG Set	
2. Height of Stack (as reported)		3.0 m.	
3. Dia of Stack at Top (as reported)		0.2 m.	
4. Draft		Natural	
5. Material of Construction		M.S.	
6. Ambient Temperature, °C		26.0	
7. Flue Gas Temperature, °C		155.0	
8. Velocity, m/sec.		9.8	
9. Volumetric Flow Rate, NM <sup>3</sup> /hr.		771.3	
10. Sampling Point		Top of Exhaust	
	Concentration ( mg / NM <sup>3</sup> )	Limit as per E (P) Rules	
11. Particulate Matter (P.M.)	IS 11255 (Part-1)	47.6	75.0 mg / NM <sup>3</sup>
12. Sulphur Dioxide (SO <sub>2</sub> )	IS 11255 (Part-2)	69.3	Not Specified
13. Oxides of Nitrogen (NO <sub>2</sub> )	IS 11255 (Part-7)	194.8	710.0 mg / NM <sup>3</sup>

**N.B.:** There is no provision of Sampling Porthole as per CPCB guidelines in the DG Set Exhaust



*[Signature]*  
05/12/16  
Authorized Signatory  
Quality Manager / Dr. Quality Manager

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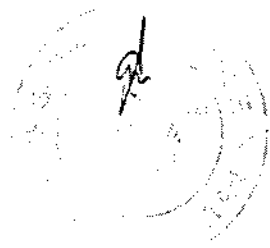
## TEST REPORT

Ref.No. ECL/TR/16-17/617(b) Dt : 30.12.2016 Your PO No. ECO/BHR/SHIVA TEST HOUSE/W.O./RS/2016 Dt : 19.04.2016

[a] Name and address of the Customer	ECO Cement Ltd. Vill.: Mahmoodganj At : Kulharia Durgawati Dist.: Bhabua (Kaimur)
[b] Report to be submitted to	Director
[c] Details of Sample	Monitoring of Stack Emission of 500 KVA DG Set
[d] Sample Collected by	SHIVA TEST HOUSE on 15.12.16
[e] No. & Type of Container	Thimble & Glass Impinger
[f] Items required to be tested	As per request
[g] Whether any specific Method of Test has been suggested by the party	No
[h] Date of receiving the sample	16.12.16

Parameters	Method of Test	Results	
1. Stack Connected to	IS 11255 (Part-3)	500 KVA DG Set	
2. Height of Stack (as reported)		3.0 m.	
3. Dia of Stack at Top (as reported)		0.2 m.	
4. Draft		Natural	
5. Material of Construction		M.S.	
6. Ambient Temperature, °C		20.0	
7. Flue Gas Temperature, °C		159.0	
8. Velocity, m/sec.		6.8	
9. Volumetric Flow Rate, NM <sup>3</sup> /hr.		530.2	
10. Sampling Point		Top of Exhaust	
		Concentration (mg / NM <sup>3</sup> )	Limit as per E (P) Rules
11. Particulate Matter (P.M.)	IS 11255 (Part-1)	40.2	75.0 mg / NM <sup>3</sup>
12. Sulphur Dioxide (SO <sub>2</sub> )	IS 11255 (Part-2)	72.4	Not Specified
13. Oxides of Nitrogen (NO <sub>2</sub> )	IS 11255 (Part-7)	166.4	710.0 mg / NM <sup>3</sup>

**N.B.:** There is no provision of Sampling Porthole as per CPCB guidelines in the DG Set Exhaust



*[Signature]*  
30/12/16  
Authorized Signatory  
Quality Manager / Dy. Quality Manager

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## TEST REPORT

Ref.No. ECL/TR/16-17/705(b) Dt : 27.01.2017 Your PO No. ECO/BHR/SHIVA TEST HOUSE /W.O./RS/2016 Dt : 19.04.2016				
[a]	Name and address of the Customer	ECO Cement Ltd. Vill.: Mahmoodganj At : Kulharia Durgawati Dist.: Bhabua (Kaimur)		
[b]	Report to be submitted to	Director		
[c]	Details of Sample	Monitoring of Stack Emission of 500 KVA DG Set		
[d]	Sample Collected by	SHIVA TEST HOUSE on 19.01.17		
[e]	No. & Type of Container	Thimble & Glass Impinger		
[f]	Items required to be tested	As per request		
[g]	Whether any specific Method of Test has been suggested by the party	No		
[h]	Date of receiving the sample	20.01.17		
<b>Parameters</b>		<b>Method of Test</b>	<b>Results</b>	
1.	Stack Connected to		500 KVA DG Set	
2.	Height of Stack (as reported)		3.0 m.	
3.	Dia of Stack at Top (as reported)		0.2 m.	
4.	Draft		Natural	
5.	Material of Construction		M.S.	
6.	Ambient Temperature, °C		18.0	
7.	Flue Gas Temperature, °C		184.0	
8.	Velocity, m/sec.	IS 11255 (Part-3)	9.4	
9.	Volumetric Flow Rate, NM <sup>3</sup> /hr.		692.8	
10.	Sampling Point		Top of Exhaust	
		<b>Concentration (mg / NM<sup>3</sup>)</b>	<b>Limit as per E (P) Rules</b>	
11.	Particulate Matter (P.M.)	IS 11255 (Part-1)	44.8	75.0 mg / NM <sup>3</sup>
12.	Sulphur Dioxide (SO <sub>2</sub> )	IS 11255 (Part-2)	76.8	Not Specified
13.	Oxides of Nitrogen (NO <sub>2</sub> )	IS 11255 (Part-7)	210.6	710.0 mg / NM <sup>3</sup>
<b>N.B.:</b> There is no provision of Sampling Porthole as per CPCB guidelines in the DG Set Exhaust				



*[Signature]*

Authorized Signatory  
Quality Manager / Dy. Quality Manager

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## TEST REPORT

Ref.No. <i>ECL/TR/16-17/756(b)</i> Dt : <i>17.02.2017</i> Your PO No. <i>ECO/BHR/SHIVA TEST HOUSE /W.O./RS/2016</i> Dt : <i>19.04.2016</i>			
[a]	Name and address of the Customer	ECO Cement Ltd. Vill.: Mahmoodganj At : Kulharia Durgawati Dist.: Bhabua (Kaimur)	
[b]	Report to be submitted to	Director	
[c]	Details of Sample	Monitoring of Stack Emission of 500 KVA DG Set	
[d]	Sample Collected by	SHIVA TEST HOUSE on 11.02.17	
[e]	No. & Type of Container	Thimble & Glass Impinger	
[f]	Items required to be tested	As per request	
[g]	Whether any specific Method of Test has been suggested by the party	No	
[h]	Date of receiving the sample	12.02.17	
	<b>Parameters</b>	<b>Method of Test</b>	<b>Results</b>
	1. Stack Connected to		500 KVA DG Set
	2. Height of Stack (as reported)		3.0 m.
	3. Dia of Stack at Top (as reported)		0.2 m.
	4. Draft		Natural
	5. Material of Construction		M.S.
	6. Ambient Temperature, °C		24.0
	7. Flue Gas Temperature, °C		177.0
	8. Velocity, m/sec.	IS 11255 (Part-3)	8.6
	9. Volumetric Flow Rate, NM <sup>3</sup> /hr.		643.7
	10. Sampling Point		Top of Exhaust
			<b>Concentration ( mg / NM<sup>3</sup> )</b>
			<b>Limit as per E (P) Rules</b>
	11. Particulate Matter (P.M.)	IS 11255 (Part-1)	42.1
	12. Sulphur Dioxide (SO <sub>2</sub> )	IS 11255 (Part-2)	70.8
	13. Oxides of Nitrogen (NO <sub>2</sub> )	IS 11255 (Part-7)	186.3
			75.0 mg / NM <sup>3</sup>
			Not Specified
			710.0 mg / NM <sup>3</sup>
<b>N.B.:</b>	There is no provision of Sampling Porthole as per CPCB guidelines in the DG Set Exhaust		



*[Signature]*  
Authorized Signatory  
Quality Manager / Dy. Quality Manager

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## TEST REPORT

Ref.No. ECL/TR/16-17/829(b) Dt : 22.03.2017 Your PO No. ECO/BHR/SHIVA TEST HOUSE /W.O./RS/2016 Dt : 19.04.2016

[a] Name and address of the Customer	ECO Cement Ltd. Vill.: Mahmoodganj At : Kulharia Durgawati Dist.: Bhabua (Kaimur)		
[b] Report to be submitted to	Director		
[c] Details of Sample	Monitoring of Stack Emission of 500 KVA DG Set		
[d] Sample Collected by	SHIVA TEST HOUSE on 03.03.17		
[e] No. & Type of Container	Thimble & Glass Impinger		
[f] Items required to be tested	As per request		
[g] Whether any specific Method of Test has been suggested by the party	No		
[h] Date of receiving the sample	04.03.17		
Parameters	Method of Test	Results	
1. Stack Connected to	IS 11255 (Part-3)	500 KVA DG Set	
2. Height of Stack (as reported)		3.0 m.	
3. Dia of Stack at Top (as reported)		0.2 m.	
4. Draft		Natural	
5. Material of Construction		M.S.	
6. Ambient Temperature, °C		30.0	
7. Flue Gas Temperature, °C		190.0	
8. Velocity, m/sec.		9.2	
9. Volumetric Flow Rate, NM <sup>3</sup> /hr.		669.3	
10. Sampling Point		Top of Exhaust	
		Concentration (mg / NM <sup>3</sup> )	Limit as per E (P) Rules
11. Particulate Matter (P.M.)	IS 11255 (Part-1)	48.4	75.0 mg / NM <sup>3</sup>
12. Sulphur Dioxide (SO <sub>2</sub> )	IS 11255 (Part-2)	73.6	Not Specified
13. Oxides of Nitrogen (NO <sub>2</sub> )	IS 11255 (Part-7)	192.6	710.0 mg / NM <sup>3</sup>
<b>N.B.:</b>	There is no provision of Sampling Porthole as per CPCB guidelines in the DG Set Exhaust		



*[Signature]*

Authorized Signatory  
Quality Manager / Dy. Quality Manager

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# SHIVA TEST HOUSE

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E.mail. : sthpatna1@yahoo.co.in



ISO 18001:2007  
OHSAS Certified

RECOGNISED AS ENVIRONMENTAL LABORATORY BY CENTRAL GOVT. UNDER ENVIRONMENT (PROTECTION) ACT 1986 (VALID UPTO MAR. 2018),  
BY DEPTT. OF INDUSTRY, FORESTS & ENVIRONMENT, GOVT. OF BIHAR AND BIHAR STATE POLLUTION CONTROL BOARD

## TEST REPORT

Ref.No. ECL/TR/16-17/117(a) Dt : 17.05.2016 Your PO No. ECO/BHR/SHIVA TEST HOUSE AV.O./RS/2016 Dt : 19.04.2016			
[a]	Name and address of the Customer	ECO Cement Ltd. Vill.: Mahmoodganj At : Kulharia Durgawati Dist.: Bhabua (Kaimur)	
[b]	Report to be submitted to	Director	
[c]	Details of Sample	Monitoring of Stack Emission of 125 KVA DG Set	
[d]	Sample Collected by	SHIVA TEST HOUSE on 11.04.16	
[e]	No. & Type of Container	Thimble & Glass Impinger	
[f]	Items required to be tested	As per request	
[g]	Whether any specific Method of Test has been suggested by the party	No	
[h]	Date of receiving the sample	12.04.16	
	<b>Parameters</b>	<b>Method of Test</b>	<b>Results</b>
	1. Stack Connected to		125 KVA DG Set
	2. Height of Stack (as reported)		2.1 m.
	3. Dia of Stack at Top (as reported)		0.13 m.
	4. Draft		Natural
	5. Material of Construction		M.S.
	6. Ambient Temperature, °C		33.0
	7. Flue Gas Temperature, °C		161.0
	8. Velocity, m/sec.	IS 11255 (Part-3)	7.1
	9. Volumetric Flow Rate, NM <sup>3</sup> /hr.		232.83
	10. Sampling Point		Top of Exhaust
			Concentration (mg / NM <sup>3</sup> )
			Limit as per E (P) Rules
	11. Particulate Matter (P.M.)	IS 11255 (Part-1)	37.1
	12. Sulphur Dioxide (SO <sub>2</sub> )	IS 11255 (Part-2)	61.4
	13. Oxides of Nitrogen (NO <sub>2</sub> )	IS 11255 (Part-7)	156.2
			710.0 mg / NM <sup>3</sup>
<b>N.B.:</b>	There is no provision of Sampling Porthole as per CPCB guidelines in the DG Set Exhaust		



*(Signature)*  
17/5/16  
Authorized Signatory  
Quality Manager / Dy. Quality Manager

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01<sup>st</sup> Floor, Rajhans Niketan,  
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## TEST REPORT

Ref.No. ECL/TR/16-17/148(a) Dt: 31.05.2016 Your PO No. ECO/BHR/SHIVA TEST HOUSE/W.O./RS/2016 Dt: 19.04.2016			
[a]	Name and address of the Customer	ECO Cement Ltd. Vill.: Mahmoodganj At : Kulharia Durgawati Dist.: Bhabua (Kaimur)	
[b]	Report to be submitted to	Director	
[c]	Details of Sample	Monitoring of Stack Emission of 125 KVA DG Set	
[d]	Sample Collected by	SHIVA TEST HOUSE on 09.05.16	
[e]	No. & Type of Container	Thimble & Glass Impinger	
[f]	Items required to be tested	As per request	
[g]	Whether any specific Method of Test has been suggested by the party	No	
[h]	Date of receiving the sample	10.05.16	
	<b>Parameters</b>	<b>Method of Test</b>	<b>Results</b>
1.	Stack Connected to		125 KVA DG Set
2.	Height of Stack (as reported)		2.1 m.
3.	Dia of Stack at Top (as reported)		0.13 m.
4.	Draft		Natural
5.	Material of Construction		M.S.
6.	Ambient Temperature, °C		37.0
7.	Flue Gas Temperature, °C		154.0
8.	Velocity, m/sec.	IS 11255 (Part-3)	6.5
9.	Volumetric Flow Rate, NM <sup>3</sup> /hr.		216.7
10.	Sampling Point		Top of Exhaust
		<b>Concentration (mg / NM<sup>3</sup>)</b>	<b>Limit as per E (P) Rules</b>
11.	Particulate Matter (P.M.)	IS 11255 (Part-1)	30.4 / 75.0 mg / NM <sup>3</sup>
12.	Sulphur Dioxide (SO <sub>2</sub> )	IS 11255 (Part-2)	62.6 / Not Specified
13.	Oxides of Nitrogen (NO <sub>2</sub> )	IS 11255 (Part-7)	151.4 / 710.0 mg / NM <sup>3</sup>
<b>N.B.:</b> There is no provision of Sampling Porthole as per CPCB guidelines in the DG Set Exhaust			

d

*[Signature]*  
31/5/16  
Authorized Signatory  
Quality Manager / Dy. Quality Manager

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## TEST REPORT

Ref.No. ECL/TR/16-17/210(a) Dt : 02.07.2016 Your PO No. ECO/BHR/SHIVA TEST HOUSE A/O./RS/2016 Dt : 19.04.2016			
[a]	Name and address of the Customer	ECO Cement Ltd. Vill.: Mahmoodganj At : Kulharia Durgawati Dist.: Bhabua (Kaimur)	
[b]	Report to be submitted to	Director	
[c]	Details of Sample	Monitoring of Stack Emission of 125 KVA DG Set	
[d]	Sample Collected by	SHIVA TEST HOUSE on 14.06.16	
[e]	No. & Type of Container	Thimble & Glass Impinger	
[f]	Items required to be tested	As per request	
[g]	Whether any specific Method of Test has been suggested by the party	No	
[h]	Date of receiving the sample	15.06.16	
	<b>Parameters</b>	<b>Method of Test</b>	<b>Results</b>
	1. Stack Connected to		125 KVA DG Set
	2. Height of Stack (as reported)		2.1 m.
	3. Dia of Stack at Top (as reported)		0.13 m.
	4. Draft		Natural
	5. Material of Construction		M.S.
	6. Ambient Temperature, °C		41.0
	7. Flue Gas Temperature, °C		158.0
	8. Velocity, m/sec.	IS 11255 (Part-3)	8.4
	9. Volumetric Flow Rate, NM <sup>3</sup> /hr.		277.4
	10. Sampling Point		Top of Exhaust
		<b>Concentration ( mg / NM<sup>3</sup> )</b>	<b>Limit as per E (P) Rules</b>
	11. Particulate Matter (P.M.)	IS 11255 (Part-1)	32.6 / 75.0 mg / NM <sup>3</sup>
	12. Sulphur Dioxide (SO <sub>2</sub> )	IS 11255 (Part-2)	58.7 / Not Specified
	13. Oxides of Nitrogen (NO <sub>2</sub> )	IS 11255 (Part-7)	177.8 / 710.0 mg / NM <sup>3</sup>
<b>N.B.:</b> There is no provision of Sampling Point as per CPCB guidelines in the DG Set Exhaust			

  
02/07/16  
Authorized Signatory  
Quality Manager / Dy. Quality Manager

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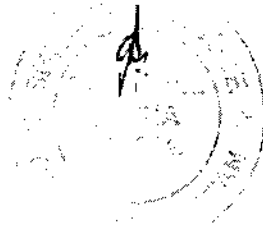


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## TEST REPORT

Ref.No. ECL/TR/16-17/270(a) Dt : 01.08.2016 Your PO No. ECO/BHR/SHIVA TEST HOUSE/W.O./RS/2016 Dt : 19.04.2016				
[a]	Name and address of the Customer	ECO Cement Ltd. Vill.: Mahmoodganj At : Kulharia Durgawati Dist.: Bhabua (Kaimur)		
[b]	Report to be submitted to	Director		
[c]	Details of Sample	Monitoring of Stack Emission of 125 KVA DG Set		
[d]	Sample Collected by	SHIVA TEST HOUSE on 17.07.16		
[e]	No. & Type of Container	Thimble & Glass Impinger		
[f]	Items required to be tested	As per request		
[g]	Whether any specific Method of Test has been suggested by the party	No		
[h]	Date of receiving the sample	18.07.16		
	<b>Parameters</b>	<b>Method of Test</b>	<b>Results</b>	
1.	Stack Connected to	"	125 KVA DG Set	
2.	Height of Stack (as reported)	"	2.1 m.	
3.	Dia of Stack at Top (as reported)	"	0.13 m.	
4.	Draft	"	Natural	
5.	Material of Construction	"	M.S.	
6.	Ambient Temperature, °C	"	38.0	
7.	Flue Gas Temperature, °C	"	162.0	
8.	Velocity, m/sec.	IS 11255 (Part-3)	9.1	
9.	Volumetric Flow Rate, NM <sup>3</sup> /hr.	"	297.7	
10.	Sampling Point	"	Top of Exhaust	
			Concentration (mg / NM <sup>3</sup> )	
			Limit as per E (P) Rules	
11.	Particulate Matter (P.M.)	IS 11255 (Part-1)	43.4	75.0 mg / NM <sup>3</sup>
12.	Sulphur Dioxide (SO <sub>2</sub> )	IS 11255 (Part-2)	60.7	Not Specified
13.	Oxides of Nitrogen (NO <sub>2</sub> )	IS 11255 (Part-7)	184.6	710.0 mg / NM <sup>3</sup>
<b>N.B.:</b> There is no provision of Sampling Porthole as per CPCB guidelines in the DG Set Exhaust				



*Hasn*  
02/08/16  
Authorized Signatory  
Quality Manager / Dy. Quality Manager

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## TEST REPORT

Ref.No. ECI/TR/16-17/310(a) Dt : 02.09.2016 Your PO No. ECO/BHR/SHIVA TEST HOUSE W.O./RS/2016 Dt : 19.04.2016			
[a]	Name and address of the Customer	ECO Cement Ltd. Vill.: Mahmoodganj At : Kulharia Durgawati Dist.: Bhabua (Kaimur)	
[b]	Report to be submitted to	Director	
[c]	Details of Sample	Monitoring of Stack Emission of 125 KVA DG Set	
[d]	Sample Collected by	SHIVA TEST HOUSE on 12.08.16	
[e]	No. & Type of Container	Thimble & Glass Impinger	
[f]	Items required to be tested	As per request	
[g]	Whether any specific Method of Test has been suggested by the party	No	
[h]	Date of receiving the sample	13.08.16	
	<b>Parameters</b>	<b>Method of Test</b>	<b>Results</b>
	1. Stack Connected to		125 KVA DG Set
	2. Height of Stack (as reported)		2.1 m.
	3. Dia of Stack at Top (as reported)		0.13 m.
	4. Draft		Natural
	5. Material of Construction		M.S.
	6. Ambient Temperature, °C		35.0
	7. Flue Gas Temperature, °C		156.0
	8. Velocity, m/sec.	IS 11255 (Part-3)	7.8
	9. Volumetric Flow Rate, NM <sup>3</sup> /hr.		258.8
	10. Sampling Point		Top of Exhaust
			Concentration (mg / NM <sup>3</sup> )
			Limit as per E (P) Rules
	11. Particulate Matter (P.M.)	IS 11255 (Part-1)	38.9
	12. Sulphur Dioxide (SO <sub>2</sub> )	IS 11255 (Part-2)	63.6
	13. Oxides of Nitrogen (NO <sub>2</sub> )	IS 11255 (Part-7)	161.7
			75.0 mg / NM <sup>3</sup>
			Not Specified
			710.0 mg / NM <sup>3</sup>
<b>N.B.:</b>	There is no provision of Sampling Porthole as per CPCB guidelines in the DG Set Exhaust		

02/09/16  
Authorized Signatory  
Quality Manager / Dy. Quality Manager

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## TEST REPORT

Ref.No. ECL/TR/16-17/366(a) Dt : 08.10.2016 Your PO No. ECO/BHR/SHIVA TEST HOUSE W.O./RS/2016 Dt : 19.04.2016			
[a]	Name and address of the Customer	ECO Cement Ltd. Vill.: Mahmoodganj At : Kulharia Durgawati Dist.: Bhabua (Kaimur)	
[b]	Report to be submitted to	Director	
[c]	Details of Sample	Monitoring of Stack Emission of 125 KVA DG Set	
[d]	Sample Collected by	SHIVA TEST HOUSE on 23.09.16	
[e]	No. & Type of Container	Thimble & Glass Impinger	
[f]	Items required to be tested	As per request	
[g]	Whether any specific Method of Test has been suggested by the party	No	
[h]	Date of receiving the sample	24.09.16	
	<b>Parameters</b>	<b>Method of Test</b>	<b>Results</b>
	1. Stack Connected to		125 KVA DG Set
	2. Height of Stack (as reported)		2.1 m.
	3. Dia of Stack at Top (as reported)		0.13 m.
	4. Draft		Natural
	5. Material of Construction		M.S.
	6. Ambient Temperature, °C		32.0
	7. Flue Gas Temperature, °C		152.0
	8. Velocity, m/sec.	IS 11255 (Part-3)	6.1
	9. Volumetric Flow Rate, NM <sup>3</sup> /hr.		204.3
	10. Sampling Point		Top of Exhaust
		<b>Concentration (mg / NM<sup>3</sup>)</b>	<b>Limit as per E (P) Rules</b>
	11. Particulate Matter (P.M.)	IS 11255 Part-1)	33.8 75.0 mg / NM <sup>3</sup>
	12. Sulphur Dioxide (SO <sub>2</sub> )	IS 11255 Part-2)	57.6 Not Specified
	13. Oxides of Nitrogen (NO <sub>2</sub> )	IS 11255 Part-3)	148.6 710.0 mg / NM <sup>3</sup>
<b>N.B.:</b>	There is no provision of Sampling Points as per CPCB guidelines in the DG Set Exhaust		

*[Signature]*  
08/10/16  
Authorized Signatory  
Quality Manager / Dy. Quality Manager

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## TEST REPORT

Ref.No. ECL/TR/16-17/411(a) Dt: 31.10.2016 Your PO No. ECO/BIH/SHIVA TEST HOUSE/W.O./RS/2016 Dt: 19.04.2016

[a]	Name and address of the Customer	ECO Cement Ltd. Vill.: Mahmoodganj At : Kulharia Durgawati Dist.: Bhabua (Kaimur)
[b]	Report to be submitted to	Director
[c]	Details of Sample	Monitoring of Stack Emission of 125 KVA DG Set
[d]	Sample Collected by	SHIVA TEST HOUSE on 17.10.16
[e]	No. & Type of Container	Thimble & Glass Impinger
[f]	Items required to be tested	As per request
[g]	Whether any specific Method of Test has been suggested by the party	No
[h]	Date of receiving the sample	18.10.16

Parameters	Method of Test	Results	
1. Stack Connected to		125 KVA DG Set	
2. Height of Stack (as reported)		2.1 m.	
3. Dia of Stack at Top (as reported)		0.13 m.	
4. Draft		Natural	
5. Material of Construction		M.S.	
6. Ambient Temperature, °C		30.0	
7. Flue Gas Temperature, °C		155.0	
8. Velocity, m/sec.	IS 11255 (Part-3)	5.8	
9. Volumetric Flow Rate, NM <sup>3</sup> /hr.		192.9	
10. Sampling Point		Top of Exhaust	
		Concentration (mg / NM <sup>3</sup> )	Limit as per E (P) Rules
11. Particulate Matter (P.M.)	IS 11255 (Part-1)	36.4	75.0 mg / NM <sup>3</sup>
12. Sulphur Dioxide (SO <sub>2</sub> )	IS 11255 (Part-2)	54.2	Not Specified
13. Oxides of Nitrogen (NO <sub>2</sub> )	IS 11255 (Part-7)	152.6	710.0 mg / NM <sup>3</sup>

**N.B.:** There is no provision of Sampling Porthole as per CPCB guidelines in the DG Set Exhaust

31/10/16  
Authorized Signatory  
Quality Manager / D. Quality Manager

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## TEST REPORT

Ref.No. ECL/TR/16-17/518(a) Dt : 05.12.2016 Your PO No. ECO/BHR/SHIVA TEST HOUSE W.O./RS/2016 Dt : 19.04.2016			
[a]	Name and address of the Customer	ECO Cement Ltd. Vill.: Mahmoodganj At : Kulharia Durgawati Dist.: Bhabua (Kaimur)	
[b]	Report to be submitted to	Director	
[c]	Details of Sample	Monitoring of Stack Emission of 125 KVA DG Set	
[d]	Sample Collected by	SHIVA TEST HOUSE on 11.11.16	
[e]	No. & Type of Container	Thimble & Glass Impinger	
[f]	Items required to be tested	As per request	
[g]	Whether any specific Method of Test has been suggested by the party	No	
[h]	Date of receiving the sample	12.11.16	
	<b>Parameters</b>	<b>Method of Test</b>	<b>Results</b>
1.	Stack Connected to		125 KVA DG Set
2.	Height of Stack (as reported)		2.1 m.
3.	Dia of Stack at Top (as reported)		0.13 m.
4.	Draft		Natural
5.	Material of Construction		M.S.
6.	Ambient Temperature, °C		26.0
7.	Flue Gas Temperature, °C		148.0
8.	Velocity, m/sec.	IS 11255 (Part-3)	7.4
9.	Volumetric Flow Rate, NM <sup>3</sup> /hr.		250.2
10.	Sampling Point		Top of Exhaust
			Concentration ( mg / NM <sup>3</sup> )
			Limit as per E (P) Rules
11.	Particulate Matter (P.M.)	IS 11255 (Part-1)	39.7
12.	Sulphur Dioxide (SO <sub>2</sub> )	IS 11255 (Part-2)	62.4
13.	Oxides of Nitrogen (NO <sub>2</sub> )	IS 11255 (Part-7)	160.4
			710.0 mg / NM <sup>3</sup>
<b>N.B.:</b> There is no provision of Sampling Porthole as per CPCB guidelines in the DG Set Exhaust			

*[Signature]*  
05/12/16

Authorized Signatory  
Quality Manager / Dy. Quality Manager

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Patna – 800 014 (Bihar)



# SHIVA TEST HOUSE

Tel. : 0612 – 2247538/ 2240752 ; TeleFax : 0612 - 2590705  
E.mail : sthpatna1@yahoo.co.in

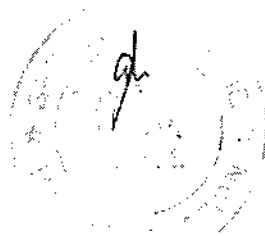


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BY DEPTT. OF INDUSTRY, FORESTS & ENVIRONMENT, GOVT. OF BIHAR AND BIHAR STATE POLLUTION CONTROL BOARD

## TEST REPORT

Ref.No. ECL/TR/16-17/617(a) Dt : 30.12.2016 Your PO No. ECO/BHR/SHIVA TEST HOUSE/W.O./RS/2016 Dt : 19.04.2016			
[a]	Name and address of the Customer	ECO Cement Ltd. Vill.: Mahmoodganj At : Kulharia Durgawati Dist.: Bhabua (Kaimur)	
[b]	Report to be submitted to	Director	
[c]	Details of Sample	Monitoring of Stack Emission of 125 KVA DG Set	
[d]	Sample Collected by	SHIVA TEST HOUSE on 15.12.16	
[e]	No. & Type of Container	Thimble & Glass Impinger	
[f]	Items required to be tested	As per request	
[g]	Whether any specific Method of Test has been suggested by the party	No	
[h]	Date of receiving the sample	16.12.16	
	<b>Parameters</b>	<b>Method of Test</b>	<b>Results</b>
1.	Stack Connected to		125 KVA DG Set
2.	Height of Stack (as reported)		2.1 m.
3.	Dia of Stack at Top (as reported)		0.13 m.
4.	Draft		Natural
5.	Material of Construction		M.S.
6.	Ambient Temperature, °C		20.0
7.	Flue Gas Temperature, °C		153.0
8.	Velocity, m/sec.	IS 11255 (Part-3)	6.2
9.	Volumetric Flow Rate, NM <sup>3</sup> /hr.		207.1
10.	Sampling Point		Top of Exhaust
			Concentration ( mg / NM <sup>3</sup> )
			Limit as per E (P) Rules
11.	Particulate Matter (P.M.)	IS 11255 (Part-1)	31.8
12.	Sulphur Dioxide (SO <sub>2</sub> )	IS 11255 (Part-2)	64.4
13.	Oxides of Nitrogen (NO <sub>2</sub> )	IS 11255 (Part-7)	164.7
			75.0 mg / NM <sup>3</sup>
			Not Specified
			710.0 mg / NM <sup>3</sup>
<b>N.B.:</b>	There is no provision of Sampling Porthole as per CPCB guidelines in the DG Set Exhaust		



*Hasim*  
30/12/16  
Authorized Signatory  
Quality Manager / Dy. Quality Manager

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## TEST REPORT

Ref.No. <i>ECL/TR/16-17/705(a)</i> Dt : <i>27.01.2017</i> Your PO No. <i>ECO/BHR/SHIVA TEST HOUSE /M.O./RS/2016</i> Dt : <i>19.04.2016</i>			
[a] Name and address of the Customer	ECO Cement Ltd. Vill.: Mahmoodganj At : Kulharia Durgawati Dist.: Bhabua (Kaimur)		
[b] Report to be submitted to	Director		
[c] Details of Sample	Monitoring of Stack Emission of 125 KVA DG Set		
[d] Sample Collected by	SHIVA TEST HOUSE on 19.01.17		
[e] No. & Type of Container	Thimble & Glass Impinger		
[f] Items required to be tested	As per request		
[g] Whether any specific Method of Test has been suggested by the party	No		
[h] Date of receiving the sample	20.01.17		
	<b>Parameters</b>	<b>Method of Test</b>	<b>Results</b>
1.	Stack Connected to		125 KVA DG Set
2.	Height of Stack (as reported)		2.1 m.
3.	Dia of Stack at Top (as reported)		0.13 m.
4.	Draft		Natural
5.	Material of Construction		M.S.
6.	Ambient Temperature, °C		18.0
7.	Flue Gas Temperature, °C		176.0
8.	Velocity, m/sec.	IS 11255 (Part-3)	7.6
9.	Volumetric Flow Rate, NM <sup>3</sup> /hr.		240.9
10.	Sampling Point		Top of Exhaust
			<b>Concentration (mg / NM<sup>3</sup>)</b>
			<b>Limit as per E (P) Rules</b>
11.	Particulate Matter (P.M.)	IS 11255 (Part-1)	<b>37.8</b> 75.0 mg / NM <sup>3</sup>
12.	Sulphur Dioxide (SO <sub>2</sub> )	IS 11255 (Part-2)	<b>70.3</b> Not Specified
13.	Oxides of Nitrogen (NO <sub>2</sub> )	IS 11255 (Part-7)	<b>182.7</b> 710.0 mg / NM <sup>3</sup>
<b>N.B.:</b> There is no provision of Sampling Porthole as per CPCB guidelines in the DG Set Exhaust			



*[Signature]*

Authorized Signatory  
Quality Manager / Dy. Quality Manager

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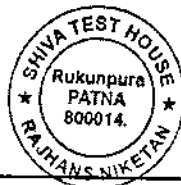


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## TEST REPORT

Ref.No. <i>ECL/TR/16-17/756(a)</i> Dt : <b>17.02.2017</b> Your PO No. <i>ECO/BHR/SHIVA TEST HOUSE /W.O./RS/2016</i> Dt : <b>19.04.2016</b>			
[a]	Name and address of the Customer	ECO Cement Ltd. Vill.: Mahmoodganj At : Kulharia Durgawati Dist.: Bhabua (Kaimur)	
[b]	Report to be submitted to	Director	
[c]	Details of Sample	Monitoring of Stack Emission of 125 KVA DG Set	
[d]	Sample Collected by	SHIVA TEST HOUSE on 11.02.17	
[e]	No. & Type of Container	Thimble & Glass Impinger	
[f]	Items required to be tested	As per request	
[g]	Whether any specific Method of Test has been suggested by the party	No	
[h]	Date of receiving the sample	12.02.17	
	<b>Parameters</b>	<b>Method of Test</b>	<b>Results</b>
	1. Stack Connected to		125 KVA DG Set
	2. Height of Stack (as reported)		2.1 m.
	3. Dia of Stack at Top (as reported)		0.13 m.
	4. Draft		Natural
	5. Material of Construction		M.S.
	6. Ambient Temperature, °C		24.0
	7. Flue Gas Temperature, °C		169.0
	8. Velocity, m/sec.	IS 11255 (Part-3)	9.2
	9. Volumetric Flow Rate, NM <sup>3</sup> /hr.		296.2
	10. Sampling Point		Top of Exhaust
			<b>Concentration (mg / NM<sup>3</sup>)</b>
			<b>Limit as per E (P) Rules</b>
	11. Particulate Matter (P.M.)	IS 11255 (Part-1)	<b>46.2</b> 75.0 mg / NM <sup>3</sup>
	12. Sulphur Dioxide (SO <sub>2</sub> )	IS 11255 (Part-2)	<b>66.0</b> Not Specified
	13. Oxides of Nitrogen (NO <sub>2</sub> )	IS 11255 (Part-7)	<b>170.3</b> 710.0 mg / NM <sup>3</sup>
<b>N.B.:</b> There is no provision of Sampling Porthole as per CPCB guidelines in the DG Set Exhaust			



*[Signature]*

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Quality Manager / Dy. Quality Manager

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## TEST REPORT

Ref.No. <i>ECL/TR/16-17/829(a)</i> Dt : <i>22.03.2017</i> Your PO No. <i>ECO/BHR/SHIVA TEST HOUSE /N.O./RS/2016</i> Dt : <i>19.04.2016</i>			
[a]	Name and address of the Customer	ECO Cement Ltd. Vill.: Mahmoodganj At : Kulharia Durgawati Dist.: Bhabua (Kaimur)	
[b]	Report to be submitted to	Director	
[c]	Details of Sample	Monitoring of Stack Emission of 125 KVA DG Set	
[d]	Sample Collected by	SHIVA TEST HOUSE on 03.03.17	
[e]	No. & Type of Container	Thimble & Glass Impinger	
[f]	Items required to be tested	As per request	
[g]	Whether any specific Method of Test has been suggested by the party	No	
[h]	Date of receiving the sample	04.03.17	
	<b>Parameters</b>	<b>Method of Test</b>	<b>Results</b>
	1. Stack Connected to		125 KVA DG Set
	2. Height of Stack (as reported)		2.1 m.
	3. Dia of Stack at Top (as reported)		0.13 m.
	4. Draft		Natural
	5. Material of Construction		M.S.
	6. Ambient Temperature, °C		30.0
	7. Flue Gas Temperature, °C		181.0
	8. Velocity, m/sec.	IS 11255 (Part-3)	8.1
	9. Volumetric Flow Rate, NM <sup>3</sup> /hr.		253.9
	10. Sampling Point		Top of Exhaust
			<b>Concentration (mg / NM<sup>3</sup>)</b>
			<b>Limit as per E (P) Rules</b>
	11. Particulate Matter (P.M.)	IS 11255 (Part-1)	<b>43.7</b> 75.0 mg / NM <sup>3</sup>
	12. Sulphur Dioxide (SO <sub>2</sub> )	IS 11255 (Part-2)	<b>62.6</b> Not Specified
	13. Oxides of Nitrogen (NO <sub>2</sub> )	IS 11255 (Part-7)	<b>187.9</b> 710.0 mg / NM <sup>3</sup>
<b>N.B.:</b>	There is no provision of Sampling Porthole as per CPCB guidelines in the DG Set Exhaust		



*[Signature]*

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Quality Manager / Dy. Quality Manager

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