



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

DATED 25.06.2017

Dear Sir,

We are sending herewith below mentioned reports as per the consent to operate letter No. PT2-1048/04 T. 15842 & P/T 2-26/12-T. 15843, DATED -23/09/2013

1. **Environmental Monitoring Results of M/s. Eco Cements Limited, Bhabhua for the period of OCT 2016 TO MARCH 2017**
2. **Status of Environmental Compliance of M/s. Eco Cements Limited, Bhabhua for the period of OCT 2016 TO MARCH 2017**
3. **Environmental Statement Report ( FORM-V) of M/s. ECO CEMENTS LTD for the period of APRIL 2016 TO MARCH 2017**
4. **Status of Environmental Compliance of CTO of M/s. Eco Cements Limited, Bhabhua for the period of OCT 2016 TO MARCH 2017**

Kindly acknowledge the receipt and oblige.

Thanking you in anticipation,  
**For Eco Cements Limited**

Authorized Sign

Copy to.

1. **Ministry of Environment and Forests,  
BANGLOW NO. A-2, SHYAMLI CALONY,  
RANCHI-834002, JHARKHAND  
PH. 0651-2410007, 2410002**
1. **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



To,  
The Chairman,  
Central Pollution Control Board,  
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Patliputra Industrial Area, Patliputra,  
Patna, Bihar – 800010

DATED 25.06.2017

Our Ref : ECO/BIHAR/EMR/25062017/10

Sub : Environmental Monitoring Results of M/s. Eco Cements Limited, Bhabhua for the period of OCT 2016 TO MARCH 2017

Dear Sir,

This refers to above mentioned subject. In this matter, please find attached Environmental Monitoring results of Ambient Air Quality, Stack Emission and Fugitive Emission of M/s. Eco Cements Limited, Bhabhua for the period of OCT 2016 TO MARCH 2017

Kindly acknowledge the receipt and oblige.

Thanking you in anticipation,  
For Eco Cements Limited

**ECO CEMENTS LTD**

Rajiv Saini  
Authorized Signatory / Director  
Authorized Sign

Encl.

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**Ambient Air Quality Monitoring Report (All Values in  $\mu\text{g}/\text{m}^3$ )**


Year: 2016 - 2017( OCT 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	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
2	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
3	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
4	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
5	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
6	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		<b>95.48</b>	<b>20.1</b>	<b>30.62</b>	<b>93.88</b>	<b>16.25</b>	<b>22.08</b>	<b>87.32</b>	<b>14.45</b>	<b>22.27</b>	<b>91.37</b>	<b>18.13</b>	<b>23.7</b>

**ECO CEMENTS LTD**  
  
 Authorised Signatory / Director

**Stack Emission Level Monitoring Report for the period OCT 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	Oct-16	46.9	41.8	34.6	46.1	41.8	36.4	50 mg/Nm <sup>3</sup>
2	Nov-16	43.1	48.6	46.4	44.8	47.6	39.7	
3	Dec-16	45.0	42.0	42.7	39.7	40.2	31.8	
4	Jan-17	42.3	44.6	39.4	37.1	44.8	37.8	
5	Feb-17	41.9	38.4	43.7	40.8	42.1	46.2	
6	Mar-17	44.2	35.0	37.3	36.4	48.4	43.7	
<b>Average Values</b>		<b>43.9</b>	<b>41.7</b>	<b>40.7</b>	<b>40.8</b>	<b>44.2</b>	<b>39.3</b>	

**ECO CEMENTS LTD**  
  
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Ambient Noise level Monitoring Report From OCT 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	Oct-16	71.3	73.4	68.2	69.7	70.1	75dB(A) in day & 70 dB(A) in night
2	Nov-16	69.1	70.8	65.0	66.2	67.3	
3	Dec-16	70.6	72.6	67.1	68.4	69.1	
4	Jan-17	72.6	70.1	69.7	66.8	65.0	
5	Feb-17	70.9	69.7	66.2	64.9	68.4	
6	Mar-17	73.6	71.2	70.6	67.8	69.7	
Average Values		71.4	71.3	67.8	67.3	68.3	

**ECO CEMENTS LTD**  
  
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Fugitive Dust Emission Level Monitoring Report for the period OCT 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	Oct-16	8.22	7.79	6.48	6.51	5.86
2	Nov-16	8.31	7.85	6.40	6.68	5.45
3	Dec-16	7.91	7.32	6.68	6.10	5.52
4	Jan-17	6.17	5.84	4.89	6.28	7.14
5	Feb-17	5.61	4.83	3.84	4.15	5.83
6	Mar-17	7.81	5.44	3.89	2.94	6.44
<b>Average</b>		7.34	6.51	5.36	5.44	6.04

**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



ISO 18001:2007  
OHSAS Certified

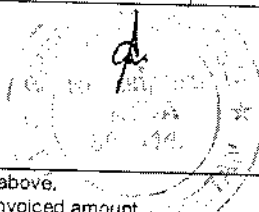
RECOGNISED AS ENVIRONMENTAL LABORATORY BY CENTRAL GOVT. UNDER ENVIRONMENT ( PROTECTION ) ACT 1986 (VALID UPTO MAR. 2018),  
BY DEPTT. OF INDUSTRY, FORESTS & ENVIRONMENT, GOVT. OF BIHAR AND BIHAR STATE POLLUTION CONTROL BOARD

## TEST REPORT

Ref.No. ECL/IR/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 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	
		98.9	99.1	83.4	90.6	
		59.5	58.0	48.1	53.7	
		13.8	17.8	14.3	22.4	
		19.4	21.0	26.8	25.2	



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

- This report applies only to sample tested as above.
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- Test Report endorsed only the tests and not the product certificate.
- Test Report can not be reproduced partially or full for legal/court purpose without written permission of the Laboratory.

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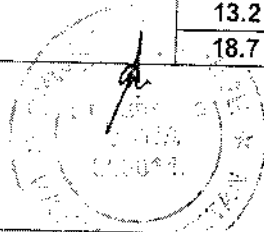
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## TEST REPORT

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	81.2	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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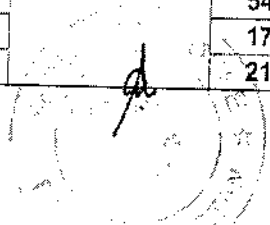
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## TEST REPORT

Ref.No. ECL/IR/16-17/617(g) Dt : 30.12.2016 Your PO No. ECO/BHR/SHIVA TEST HOUSE A.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 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				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)	95.3	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)	22.2	18.8	18.1	28.2	80 µg / m <sup>3</sup>
		22.9	19.3	18.6	29.2	
		23.8	20.0	19.4	30.7	
		20.5	19.1	16.7	28.7	
		20.0	16.8	16.3	28.0	
24 Hrs. Average Value		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 / Dy. Quality Manager

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

Tel. : 0612 - 2247538/ 2240752 ; TeleFax : 0612 - 2590705  
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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		30.2	19.2	13.9	11.9	
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	



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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. <i>ECL/TR/16-17/829(g)</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 Air Quality				
[d]	Sample Collected by	SHIVA TEST HOUSE on <i>03/04.03.17</i>				
[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	<i>04.03.17</i>				
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)	39.0	26.8	20.3	38.4	80 µg / m <sup>3</sup>
		40.5	27.6	21.1	42.6	
		41.6	28.6	23.7	23.0	
		43.2	24.7	19.9	31.0	
		38.4	24.1	19.4	26.8	
24 Hrs. Average Value						
	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/16-17/411(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
[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	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
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]*  
31/10/16  
Authorized Signatory  
Quality Manager / Dy. Quality Manager

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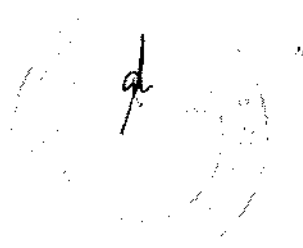


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## TEST REPORT

Ref.No. ECI/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
<b>Sampling Location</b>	<b>Time Weighted Average (TWA) of Day Time Noise Level in dB(A)</b>
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.



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

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## TEST REPORT

RefNo. ECL/TR/16-17/617(i) 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 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 exceed the ambient noise standards by 10 dB(A) or more against any area/zone.

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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.



  
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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	<b>SHIVA TEST HOUSE on 11.02.17</b>
[f] Whether any specific Method of Test has been suggested by the party	<b>No</b>
<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>



Authorized Signatory

Quality Manager / Dy. Quality Manager

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01<sup>st</sup> FLOOR, RAJHANS NIKETAN,  
NEAR CANAL, RUKUNPURA,  
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# SHIVA TEST HOUSE

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E.mail.: [sthsatna1@yahoo.co.in](mailto:sthsatna1@yahoo.co.in)

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## TEST REPORT

Ref.No. ECL/TR/16-17/829(i) 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 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.



*[Handwritten Signature]*

Authorized Signatory  
Quality Manager / Dy. Quality Manager

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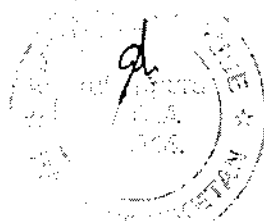
## TEST REPORT

Ref.No. ECL/TR/16-17/411(h) 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	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	8.22	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<sup>n</sup> 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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# SHIVA TEST HOUSE

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JAS ANZ

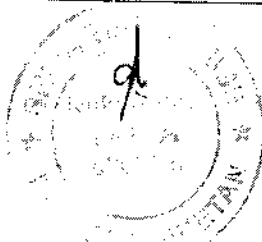


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## TEST REPORT

Ref.No. <i>ECL/TR/16-17/518(I)</i> Dt: <i>05.12.2016</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 : Kūlharia 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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# SHIVA TEST HOUSE

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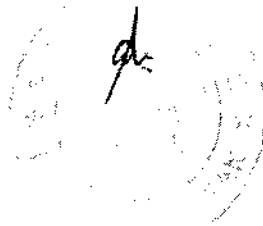
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## TEST REPORT

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 T W A Conc <sup>e</sup> *	Concentration of Respirable Dust	Permissible T W A Conc <sup>e</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 (T W A) Conc<sup>e</sup> based on Silica Content as per Factories Act'1948 Second Schedule



*[Signature]*  
30/1/2016  
Authorized Signatory  
Quality Manager / Dy. Quality Manager

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BAILEY ROAD,  
PATNA – 800 014 (BIHAR)



# SHIVA TEST HOUSE

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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 /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 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



  
Authorized Signatory  
Quality Manager / Dy. Quality Manager

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# SHIVA TEST HOUSE

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## TEST REPORT

Ref.No. ECL/TR/16-17/756(h) 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 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



*[Signature]*

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## TEST REPORT

Ref.No. ECL/TR/16-17/829(h) 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 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 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	7.81	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 (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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## 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		
<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		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.
		<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)	46.9 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	



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

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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

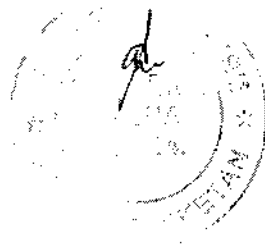


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BY DEPTT. OF INDUSTRY, FORESTS & ENVIRONMENT, GOVT. OF BIHAR AND BIHAR STATE POLLUTION CONTROL BOARD

## TEST REPORT

Ref.No. ECI/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 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)	16.8 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(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.
		Concentration ( mg / NM <sup>3</sup> )	Limit as per E (P) Rules	
11.	Particulate Matter (P.M.)	IS 11255 (Part-1)	45.0 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)	20.4 Not Specified	



*[Signature]*  
28/12/16  
Authorized Signatory  
Quality Manager / Dy. 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
	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)	16.6
			Not Specified



*[Signature]*

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Quality Manager / Dy. Quality Manager

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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
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)	14.6
			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. <i>ECL/TR/16-17/829(f)</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 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
	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)	13.1



*[Signature]*

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 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 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>	<b>Limit as per E (P) Rules</b>
	11. Particulate Matter (P.M.)	IS 11255 (Part-1) 41.8	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) 14.6	Not Specified



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

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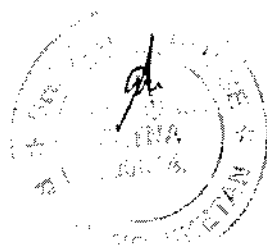
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## TEST REPORT

Ref.No. ECL/TR/16-17/518(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		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.		IS 11255 (Part-3)	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 / Quality Manager

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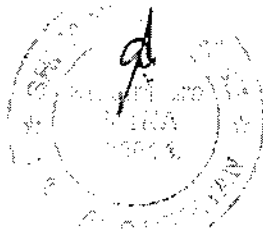


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## TEST REPORT

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			
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		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.	
		Concentration (mg / NM <sup>3</sup> )	Limit as per E (P) Rules	
11. Particulate Matter (P.M.)	IS 11255 (Part-1)	42.0	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)	13.8	Not Specified	



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

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## TEST REPORT

Ref.No. ECL/TR/16-17/705(e) 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 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	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



*[Signature]*

Authorized Signatory

Quality Manager / Dy. Quality Manager

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# SHIVA TEST HOUSE

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## TEST REPORT

Ref.No. ECL/TR/16-17/756(e) 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 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)	38.4
	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)	10.8



*[Signature]*

Authorized Signatory  
Quality Manager / Dy. Quality Manager

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## TEST REPORT

Ref.No. ECI/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		
<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		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.
		<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)	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. <i>ECL/TR/16-17/411(c)</i> Dt : <i>31.10.2016</i> Your PO No. <i>ECO/BHR/SHIVA TEST HOUSE AV.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 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> )	Limit as per E (P) Rules	
11. Particulate Matter (P.M.)	IS 11255 (Part-1)	34.6	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)	10.2	Not Specified	

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

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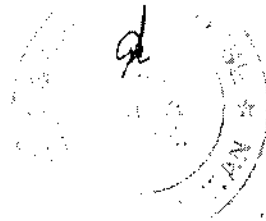


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## TEST REPORT

Ref.No. <i>ECL/TR/16-17/518(c)</i> Dt: <i>05.12.2016</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 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> )	
11.	Particulate Matter (P.M.)	IS 11255 (Part-1)	46.4	Limit as per E (P) Rules
12.	Sulphur Dioxide (SO <sub>2</sub> )	IS 11255 (Part-2)	Not Detectable	50.0 mg / NM <sup>3</sup>
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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## TEST REPORT

Ref.No. ECL/TR/16-17/617(c) 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	IS 11255 (Part-3)	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.		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	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)	17.8	Not Specified



*[Signature]*  
30/04/16  
Authorized Signatory  
Quality Manager

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## TEST REPORT

Ref.No. ECL/TR/16-17/705(c) 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 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	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]*

Authorized Signatory

Quality Manager / Dy. Quality Manager

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## TEST REPORT

Ref.No. ECL/TR/16-17/756(c) 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 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)	43.7	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)	12.0	Not Specified



*[Signature]*

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
	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)	11.4
			Not Specified
			Not Specified



*[Signature]*

Authorized Signatory

Quality Manager / Dy. 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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## 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 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 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.	IS 11255 (Part-3)	9.3	
9. Volumetric Flow Rate, M <sup>3</sup> /hr		8569.9	
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)	46.1	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)	20.4	Not Specified

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

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## TEST REPORT

Ref.No. ECL/IR/16-17/518(d) 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 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  
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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> )	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)	Not Detectable
13.	Oxides of Nitrogen (NO <sub>2</sub> )	IS 11255 (Part-7)	11.8
			Not Specified



*[Signature]*  
30/12/16  
Authorized Signatory  
Quality Manager D: Quality Manager

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## TEST REPORT

Ref.No. ECL/TR/16-17/705(a) 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 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
			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/IR/16-17/756(d)</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 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)	<b>40.8</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	



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

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## TEST REPORT

Ref.No. <i>ECL/TR/16-17/829(d)</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	<b>ECO Cement Ltd.</b> Vill.: <b>Mahmoodganj</b> At : <b>Kulharia</b> Durgawati Dist.: <b>Bhabua (Kaimur)</b>		
[b] Report to be submitted to	<i>Director</i>		
[c] Details of Sample	<i>Monitoring of Stack Emission</i>		
[d] Sample Collected by	<b>SHIVA TEST HOUSE on 03.03.17</b>		
[e] No. & Type of Container	<i>Thimble &amp; Glass Impinger</i>		
[f] Items required to be tested	<i>As per request</i>		
[g] Whether any specific Method of Test has been suggested by the party	<i>No</i>		
[h] Date of receiving the sample	<i>04.03.17</i>		
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		30.0	
7. Flue Gas Temperature, °C		45.0	
8. Velocity, m/sec.		IS 11255 (Part-3)	6.8
9. Volumetric Flow Rate, NM <sup>3</sup> /hr.			6483.0
10. Sampling Point			9 m.
		<i>Concentration (mg / NM<sup>3</sup>)</i>	<i>Limit as per E (P) Rules</i>
11. Particulate Matter (P.M.)	IS 11255 (Part-1)	<b>36.4</b>	<i>50.0 mg / NM<sup>3</sup></i>
12. Sulphur Dioxide (SO <sub>2</sub> )	IS 11255 (Part-2)	<b>Not Detectable</b>	<i>Not Specified</i>
13. Oxides of Nitrogen (NO <sub>2</sub> )	IS 11255 (Part-7)	<b>14.8</b>	<i>Not Specified</i>



*[Signature]*

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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/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 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		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		IS 11255 (Part-3)	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 (PM <sub>10</sub> )	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>x</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

*[Signature]*  
 31/10/16

Authorized Signatory  
 Quality Manager / Dy. Quality Manager

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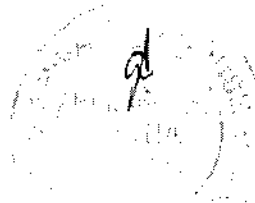


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## TEST REPORT

Ref.No. ECL/TR/16-17/518(b) 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 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		
<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		26.0	
7.	Flue Gas Temperature, °C		155.0	
8.	Velocity, m/sec.		IS 11255 (Part-3)	9.8
9.	Volumetric Flow Rate, NM <sup>3</sup> /hr.			771.3
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)	47.6	
12.	Sulphur Dioxide (SO <sub>2</sub> )	IS 11255 (Part-2)	69.3	
13.	Oxides of Nitrogen (NO <sub>2</sub> )	IS 11255 (Part-7)	194.8	
			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]*  
05/12/16  
Authorized Signatory  
Quality Manager / Dy. Quality Manager

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01<sup>st</sup> Floor, Rajhans Niketan,  
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Patna – 800 014 (Bihar)



# SHIVA TEST HOUSE

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

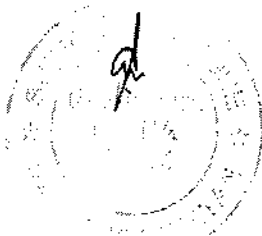


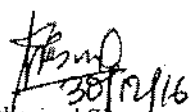
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## TEST REPORT

Ref.No. ECI/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	
	<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		20.0
	7. Flue Gas Temperature, °C		159.0
	8. Velocity, m/sec.	IS 11255 (Part-3)	6.8
	9. Volumetric Flow Rate, NM <sup>3</sup> /hr.		530.2
	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)	40.2
	12. Sulphur Dioxide (SO <sub>2</sub> )	IS 11255 (Part-2)	72.4
	13. Oxides of Nitrogen (NO <sub>2</sub> )	IS 11255 (Part-7)	166.4
			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		



  
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
	12. Sulphur Dioxide (SO <sub>2</sub> )	IS 11255 (Part-2)	76.8
	13. Oxides of Nitrogen (NO <sub>2</sub> )	IS 11255 (Part-7)	210.6
			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		



*[Signature]*  
Authorized Signatory

Quality Manager / Dy. Quality Manager

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## TEST REPORT

Ref.No. ECL/TR/16-17/756(b) 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 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	"	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.	IS 11255 (Part-3)	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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## TEST REPORT

Ref.No. ECL/TR/16-17/A11(a) 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 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	
	<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		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
			<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
	12. Sulphur Dioxide (SO <sub>2</sub> )	IS 11255 (Part-2)	54.2
	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



*[Signature]*  
31/10/16  
Authorized Signatory  
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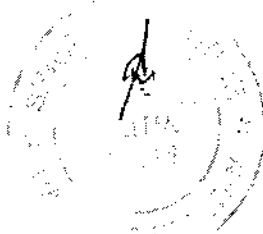


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## TEST REPORT

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	IS 11255 (Part-3)	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.		7.4
9.	Volumetric Flow Rate, NM <sup>3</sup> /hr.		250.2
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.)	39.7	75.0 mg / NM <sup>3</sup>
12.	Sulphur Dioxide (SO <sub>2</sub> )	62.4	Not Specified
13.	Oxides of Nitrogen (NO <sub>2</sub> )	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]*  
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Quality Manager / Dy. Quality Manager

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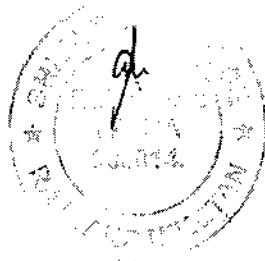


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## TEST REPORT

Ref.No. <i>ECL/TR/16-17/617(a)</i> Dt : <i>30.12.2016</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 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
			<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)	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		



*Hasma*  
*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 : <b>27.01.2017</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 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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Laboratory Address :-  
01<sup>st</sup> FLOOR, RAJHANS NIKETAN,  
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PATNA – 800 014 (BIHAR)



# SHIVA TEST HOUSE

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



ISO 18001:2007  
OHSAS Certified

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

## 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	IS 11255 (Part-3)	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.		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)	46.2	75.0 mg / NM <sup>3</sup>
	12. Sulphur Dioxide (SO <sub>2</sub> )	IS 11255 (Part-2)	66.0	Not Specified
	13. Oxides of Nitrogen (NO <sub>2</sub> )	IS 11255 (Part-7)	170.3	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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MAS ABZ



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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 /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 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)	43.7
12.	Sulphur Dioxide (SO <sub>2</sub> )	IS 11255 (Part-2)	62.6
13.	Oxides of Nitrogen (NO <sub>2</sub> )	IS 11255 (Part-7)	187.9
<b>N.B.:</b> There is no provision of Sampling Porthole as per CPCB guidelines in the DG Set Exhaust			



Authorized Signatory  
Quality Manager / Dy. Quality Manager

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