



ANDERSON ENGINEERING CONSULTANTS, INC.

10205 ROCKWOOD ROAD – LITTLE ROCK, ARKANSAS 72204

PHONE (501) 455-4545 FAX (501) 455-4552

August 12, 2013
Job No. 13767
tim@antiquebrickinc.com

Mr. Tim Gartman, P.E.
Antique Brick, Inc.
1609 East 9th Street
Little Rock, Arkansas 72202

Re: Block Testing
Little Rock, Arkansas

Dear Mr. Gartman:

This letter is furnished in response to your request for our services to perform testing on concrete masonry units.

SCOPE

On August 8, 2013, samples of 12” smooth face light weight blocks were delivered to our laboratory for testing.

ASSIGNMENT OF TESTS

<u>Sample #</u>	<u>Quantity</u>	<u>TEST</u>
LR-4	3 each	Compressive Strength and Physical Properties.
LR-4	3 each	Percent Moisture and Water Absorption

TEST PROCEDURES

ASTM C 90 Standard Specification for Loadbearing Concrete Masonry Units.

ASTM D 140 Sampling and Testing Concrete Masonry Units.



Mr. Tim Gartman, P.E.
Antique Brick, Inc.
Page 2, August 12, 2013

TEST RESULTS

12" Blocks

The average compressive strength (net area) for the units tested is 2,813 psi, ASTM C 90 allows a minimum compressive strength of 1900 psi for the three unit average.

The average oven dry unit weight of the units tested is 99.9 pcf which places them in the light weight unit classification (Less than 105 pcf).

The average absorption rate for the units tested is 14.79 pcf, ASTM C 90 specifies a maximum allowable absorption value of 18.0 pcf for light weight units.

The individual test results are given on the attached Plate 1.

CONCLUSIONS

The masonry units tested meet or exceed the minimum specifications of ASTM C 90.

It has been our pleasure to have provided this assistance to you and we are always available should you need further services.

Very truly yours,
ANDERSON ENGINEERING CONSULTANTS, INC.

A handwritten signature in blue ink that reads "Myles D. Graham".

Myles D. Graham, S.E.T.
Laboratory Manager

MDG/ mdg
13676-ltr.5

Attachments: Plate 1

PROJECT : ANTIQUE BRICK AND BLOCK

JOB NO. : 13767

LOCATION : LITTLE ROCK, ARKANSAS

REPORT DATE : 08/12/13

SAMPLE NUMBER: LR-12-4

DATE RECEIVED: 08/08/13

SAMPLE DESCRIPTION : 12" SMOOTH FACE BLOCKS

PAGE NO.: 1 of 1

PHYSICAL PROPERTIES OF BLOCKS - ASTM C 140

L = LENGTH OF FACE (INCHES)
W = AVERAGE WIDTH (INCHES)
H = AVERAGE HEIGHT (INCHES)

FST= FACE SHELL THICKNESS (INCHES)
WT= WEB THICKNESS (INCHES)
EWT= EQUIVALENT WEB THICKNESS

BLOCK NO.	L (INCHES)	W (INCHES)	H (INCHES)	FST (INCHES)	WT (INCHES)	EWT (INCH/LF)	DENSITY (PCF)
LR-12-4A	15.500	11.500	7.750	1.250	1.000	6.261	100.06
LR-12-4B	15.500	11.583	7.500	1.313	1.063	6.255	99.89
<u>LR-12-4C</u>	<u>15.500</u>	<u>11.583</u>	<u>7.583</u>	<u>1.313</u>	<u>1.000</u>	<u>6.428</u>	<u>99.87</u>
AVG.	15.500	11.555	7.611	1.292	1.021	6.315	99.94

ABSORPTION - ASTM C 140

W1 = INITIAL WEIGHT OF BLOCK (GRAMS)
W2 = WEIGHT OF BLOCK SUSPENDED IN WATER (GRAMS)
W3 = SATURATED SURFACE DRY WEIGHT (GRAMS)
W4 = DRY WEIGHT OF BLOCK (GRAMS)

A = ABSORPTION (PCF)
A1 = ABSORPTION (PERCENT)
MC = MOISTURE CONTENT (PERCENT OF TOTAL ABSORPTION)

BLOCK NO.	W1 (GRAMS)	W2 (GRAMS)	W3 (GRAMS)	W4 (GRAMS)	A (PCF)	A1 (%)	MC (%)
LR-12-4D	21,295	10,365	22,685	19,755	14.84	14.83	52.56
LR-12-4E	21,420	10,200	22,110	19,065	15.95	15.97	77.34
<u>LR-12-4F</u>	<u>20,980</u>	<u>10,120</u>	<u>22,495</u>	<u>19,805</u>	<u>13.56</u>	<u>13.58</u>	<u>43.68</u>
AVG.	21,230	10,230	22,430	19,540	14.79	14.80	57.86

COMPRESSIVE STRENGTH - ASTM C 140

ML = MAXIMUM LOAD (LBS.)
D = DENSITY (PCF)
NV = NET VOLUME (CU.FT.)
GV = GROSS VOLUME (CU.FT.)

GA = GROSS AREA (SQ. IN.)
NA = NET AREA (SQ.IN.)
GCS = GROSS COMPRESSIVE STRENGTH (PSI)
NCS = NET COMPRESSIVE STRENGTH (PSI)

BLOCK NO.	ML (LBS.)	GA (SQ. IN.)	NA (SQ. IN.)	GROSS COMPRESSIVE STRENGTH (PSI)	NET COMPRESSIVE STRENGTH (PSI)
LR-12-4A	281,640	178.25	97.05	1,580	2,900
LR-12-4B	266,730	179.54	96.95	1,490	2,750
<u>LR-12-4C</u>	<u>277,530</u>	<u>179.54</u>	<u>99.63</u>	<u>1,550</u>	<u>2,790</u>
AVG.	275,000	179.11	97.88	1,540	2,813

BLOCK NO.	D (PCF)	NV (CU. FT.)	GV (CU. FT.)
LR-12-4A	100.1	0.4353	0.7994
LR-12-4B	99.9	0.4208	0.7792
<u>LR-12-4C</u>	<u>99.9</u>	<u>0.4372</u>	<u>0.7879</u>
AVG.	99.9	0.4311	0.7888